LOOKING AHEAD

THE FUTURE FOR GROUP TRAINING
AN ECONOMIC AND INDUSTRY ANALYSIS

Group Training Australia

A REPORT FOR GROUP TRAINING AUSTRALIA

Prepared by the National Institute of Economic and Industry Research

CONTENTS

	Page no.
Contents	**I**
List of tables	**IV**
List of figures	**VII**
List of abbreviations	**XIV**
Project brief	**1**
Report structure	**2**
Executive summary	**3**
Key messages	**10**
PART A: GROUP TRAINING RECENT PERFORMANCE	**11**
1. Group training performance 2001–2009	12
1.1 A decade of change	12
1.2 Group training performance by industry	16
1.3 State and regional performance	18
1.4 Marketing efficiency	18
1.5 Not-in-employment population	19
1.6 Conclusions	22
PART B: INDUSTRY ANALYSIS: STAKEHOLDER ASSESSMENT	**23**
2. The Group Training Industry	24
2.1 Government policy continues to be important to GTOs	25
2.2 Growing competition among GTOs	26
2.3 AACs growing substitute for GTOs	26
2.4 Barriers to entry	27
2.5 No clear pitch or brand for group training	27
2.6 No standard cost analysis but most spent on supervision	28
2.7 Finding the right staff most challenging input	28
2.8 Long list of issues keep GTOs awake at night	29
2.9 Integrated service offer key characteristic of future for GTOs	29
3. Customer perceptions of Group Training Organisations	30
3.1 Employers don't see GTOs as increasing propensity to employ apprentices and trainees	31
3.2 Employer experience of group training better than direct employment	31
3.3 Simplicity, flexibility main values of group training	31
3.4 Cost the main negative experience and main threat to group training	32
3.5 Building customer relationship is the main opportunity for GTOs	32
3.6 Economic environment will be the main influence	33
3.7 Still marketing opportunities for group training	33
3.8 Ability to supervise and economy key to employing more apprentices and trainees	34
3.9 Skills development a key consideration	34
4. Government perceptions of Group Training Organisations	35
4.1 Relationships	37
4.2 Perceptions	38
4.3 Future issues	38
5. Group training industry analysis	39
5.1 Industry	40
5.2 Customers	40
5.2.1 Government	41
5.2.2 Employers	42
5.3 Suppliers	42
5.4 Substitutes	43
5.5 Barriers to entry	44

CONTENTS

Page no.

PART C:
THE GROUP TRAINING INDUSTRY: DRIVERS OF PERFORMANCE – A STATISTICAL ANALYSIS **45**

6. The characteristics and optimal environment for GTOs 46

6.1 Assessment methodology 46

6.2 The data base 46

6.3 The model 47

6.4 Performance indicators and drivers: A statistical analysis 47

6.4.1 The distribution of productivity and completion indicators 48

6.4.2 GTO enterprise-specific drivers 50

6.4.3 Distribution of market drivers 53

6.5 Factors affecting GTO productivity 57

6.6 Factors affecting completion rates 62

6.7 Conclusion 66

7. The efficiency of Group Training Organisations 67

7.1 DEA analysis: An overview 67

7.2 Efficiency analysis 68

7.3 Peer combinations 69

7.4 The potential improvement in performance 69

7.5 Additional insights: The comparison of peers 69

7.6 Correlation between efficiency and profitability 70

7.7 Conclusion 70

8. Ranking of performance of GTOs: The characteristics of better performing and poorer performing GTOs 77

8.1 An analysis of the top performing (fifth quintile) GTOs: Productivity 77

8.2 The characteristics of the bottom quintile of GTOs by productivity 78

8.3 The characteristics of second, third and fourth quintile GTOs by productivity 78

8.4 Conclusion weighted average performance indicator: Outcomes from quintile analysis 78

8.5 The importance of ownership 79

8.6 Productivity performance: Evaluation of business model types 79

8.7 Conclusion 79

9. Barriers to GTO growth: The evidence from time series State data 84

9.1 GTO market share: The a priori model 84

9.2 Drivers of GTO market share: The findings 85

9.3 The contribution of factors to the decline in GTO market share between 2000 and 2009 89

9.4 Conclusion 90

PART D:
THE APPRENTICE MARKET AND GTO SCENARIOS TO 2020 **91**

10. The market for apprentices by region – 1998 to 2020 92

10.1 The base case projections 92

11. Regional apprentice markets: The risks to growth 101

12. GTO industry scenarios: Constant market share 104

13. The current allocation of GTO resources and the 'optimal' GTO expansion trajectory 115

13.1 The regional distribution of GTO activity versus the overall market 115

13.2 'Optimal' GTO expansion trajectory 115

PART E:
CONCLUSIONS, POLICY IMPLICATIONS AND RECOMMENDATIONS **121**

14. Core findings 122

14.1 The apprentice market: The next decade 123

14.2 The elements in implementing a change strategy for the group training industry 125

14.3 Building a corporate business model 126

14.4 Performance measures to track and drive performance 128

CONTENTS

Page no.

14.5 Public policy issues 130

14.5.1 Government policy objectives for GTOs 130

14.5.2 Relationships with AACs 131

14.5.3 GTOs as policy partners for government 132

14.5.4 Developing the market for apprentices and trainees 132

14.6 Recommendations to Group Training Australia 133

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR 136

Apprentices in training: Australia 137
Australia: Other 142
Australia: All 147
New South Wales: Apprentices 152
New South Wales: Other 157
New South Wales: All 162
Victoria: Apprentices 167
Victoria: Other 172
Victoria: All 177
Queensland: Apprentices 182
Queensland: Other 187
Queensland: All 192
South Australia: Apprentices 197
South Australia: Other 202
South Australia: All 207
Western Australia: Apprentices 212
Western Australia: Other 217
Western Australia: All 222
Tasmania: Apprentices 227
Tasmania: Other 232
Tasmania: All 237
Northern Territory: Apprentices 242
Northern Territory: Other 247
Northern Territory: All 252
Australian Capital Territory: Apprentices 257
Australian Capital Territory: Other 262
Australian Capital Territory: All 267

Page no.

APPENDIX 2: COMPARISON OF PEERS 272

APPENDIX 3: PEER ANALYSIS 274

APPENDIX 4: SCENARIO DESCRIPTION 293

A4.1 Post the GFC: The drivers of growth and the world economy 293
A4.2 The factors which will dominate a post-GFC world, both in Australia and the rest of the world 293
A4.3 Lower overall world growth 293
A4.4 There will be an acceleration in the shift of economic power between countries and regions 293
A4.5 Public borrowing constraints to growth 294
A4.6 Climate change and carbon pricing 297
A4.7 Post GFC scenarios – the range of possibilities 299
A4.8 The Base scenario for the world economy 301
A4.9 The alternative world scenario 303
A4.10 The characteristics of the Low scenario 303
A4.11 The characteristics of the High scenario 303
A4.12 The outlook for the national economy 303
A4.13 The strategic factors 304
A4.14 Techniques for handling uncertainty 309

APPENDIX 5: MARKET FOR APPRENTICES BY INDUSTRY AND REGION 312

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING BY REGION – 2010–2020 369

APPENDIX 7: INDEX OF LOCALITIES AND REGION MEMBERSHIP 434

A7.1 Index of localities 434
A7.2 Index of region membership 443

LIST OF TABLES

		Page no.
1.1	Share of GT apprentice commencements in total commencements	20
1.2	Ratio of industry employment weighted by GT apprentice commencements to industry employment weighted by all apprentice commencements	20
1.3	Total commencement apprentice market growth since 2001	21
1.4	Not in employment population aged 15 to 44	21
7.1	Summary of peer analysis	69
7.2	Scale and technical efficiency by GTO	71
7.3	Benchmark peer – inefficient peer combination	72
7.4	Weights for peer enterprise importance	74
7.5	Potential improvement in performance	76
8.1(a)	Productivity – fifth quintile – quintile characteristics of selected drivers	80
8.1(b)	Productivity – frequency distribution: Fifth quintile productivity – selected drivers	80
8.1(c)	Fifth quintile by productivity correlation coefficient matrix	80
8.1(d)	Characteristics of fifth quintile GTOs by productivity	81
8.2	Characteristics of fourth quintile GTOs by productivity	81
8.3	Characteristics of third quintile GTOs by productivity	81
8.4	Characteristics of second quintile GTOs by productivity	82
8.5(a)	Productivity – first quintile – quintile characteristics of selected drivers	82
8.5(b)	Productivity – frequency distribution: First quintile productivity – selected drivers	82
8.5(c)	First quintile by productivity correlation coefficient matrix	83
8.5(d)	Characteristics of first quintile GTOs by productivity	83
8.6	Share of corporate models by quintile by productivity	83
9.1	Estimated coefficients GTO market share equation	85
9.2	Percentage point and percentage contribution of drivers to change in GTO apprentice commencement by State – 2000–2009	90
10.1	Resident employment – total employment	93
10.2	Resident employment – ratio of total employment (apprentice weighted) to total employment	95
10.3	Total apprentice commencements	97
10.4	Total apprentice in training	99
13.1	Distribution of in-training total apprentices versus GTO (from survey)	117
13.2	GTO market for apprentices for 500 field personnel	119
14.1	Regional ranking: Projected change in apprentices in training	124
14.2	Types of operational models	125
A3.1(a)	Productivity – fifth quintile – quintile characteristics of selected drivers	274
A3.1(b)	Productivity – frequency distribution: Fifth quintile productivity – selected drivers	274
A3.1(c)	Fifth quintile by productivity correlation coefficient matrix	275
A3.1(d)	Characteristics of fifth quintile GTOs by productivity	275
A3.2(a)	Productivity – fourth quintile – quintile characteristics of selected drivers	276
A3.2(b)	Productivity – frequency distribution: Fourth quintile productivity – selected drivers	276

LIST OF TABLES

Page no.

A3.2(c) Fourth quintile by productivity correlation coefficient matrix 277

A3.2(d) Characteristics of fourth quintile GTOs by productivity 277

A3.3(a) Productivity – third quintile – quintile characteristics of selected drivers 278

A3.3(b) Productivity – frequency distribution: Third quintile productivity – selected drivers 278

A3.3(c) Third quintile by productivity correlation coefficient matrix 279

A3.3(d) Characteristics of third quintile GTOs by productivity 279

A3.4(a) Productivity – second quintile – quintile characteristics of selected drivers 280

A3.4(b) Productivity – frequency distribution: Second quintile productivity – selected drivers 280

A3.4(c) Second quintile by productivity correlation coefficient matrix 281

A3.4(d) Characteristics of second quintile GTOs by productivity 281

A3.5(a) Productivity – first quintile – quintile characteristics of selected drivers 282

A3.5(b) Productivity – frequency distribution: First quintile productivity – selected drivers 282

A3.5(c) First quintile by productivity correlation coefficient matrix 283

A3.5(d) Characteristics of first quintile GTOs by productivity 283

A3.6(a) Average productivity and completion rates: Fifth quintile – quintile characteristics of selected drivers 284

A3.6(b) Average productivity and completion rates – frequency distribution: Fifth quintile productivity – selected drivers 284

A3.7(a) Average productivity and completion rates: Fourth quintile – quintile characteristics of selected drivers 284

Page no.

A3.7(b) Average productivity and completion rates – frequency distribution: Fourth quintile productivity – selected drivers 285

A3.8(a) Average productivity and completion rates: Third quintile – quintile characteristics of selected drivers 285

A3.8(b) Average productivity and completion rates – frequency distribution: Third quintile productivity – selected drivers 285

A3.9(a) Average productivity and completion rates: Second quintile – quintile characteristics of selected drivers 286

A3.9(b) Average productivity and completion rates – frequency distribution: Second quintile productivity – selected drivers 286

A3.10(a) Average productivity and completion rates: First quintile – quintile characteristics of selected drivers 286

A3.10(b) Average productivity and completion rates – frequency distribution: First quintile productivity – selected drivers 287

A3.11(a) Difference between average productivity-completion rate indicator and results for productivity indicator: Fifth quintile – quintile characteristics of selected drivers 287

A3.11(b) Difference between average productivity-completion rate indicator and results for productivity indicator – frequency distribution: Fifth quintile productivity – selected drivers 288

A3.12(a) Difference between average productivity-completion rate indicator and results for productivity indicator: Fourth quintile – quintile characteristics of selected drivers 288

A3.12(b) Difference between average productivity-completion rate indicator and results for productivity indicator – frequency distribution: Fourth quintile productivity – selected drivers 289

LIST OF TABLES

		Page no.
A3.13(a)	Difference between average productivity-completion rate indicator and results for productivity indicator: Third quintile – quintile characteristics of selected drivers	289
A3.13(b)	Difference between average productivity-completion rate indicator and results for productivity indicator – frequency distribution: Third quintile productivity – selected drivers	290
A3.14(a)	Difference between average productivity-completion rate indicator and results for productivity indicator: Second quintile – quintile characteristics of selected drivers	290
A3.14(b)	Difference between average productivity-completion rate indicator and results for productivity indicator – frequency distribution: Second quintile productivity – selected drivers	291
A3.15(a)	Difference between average productivity-completion rate indicator and results for productivity indicator: First quintile – quintile characteristics of selected drivers	291
A3.15(b)	Difference between average productivity-completion rate indicator and results for productivity indicator – frequency distribution: First quintile productivity – selected drivers	292
A3.16	Share of corporate models by quintile by productivity	292
A4.1	Debt stabilisation and primary balance	295
A4.2	Real GDP growth rate	302
A4.3	Summary statistics for national average annual per cent employment growth: 2010–2020	310
A4.4	Summary statistics for crowding out effects by probability	311
A5.1	Resident employment – agriculture	312
A5.2	Resident employment – mining	315
A5.3	Resident employment – manufacturing	318
A5.4	Resident employment – electricity, gas and water	321
A5.5	Resident employment – construction	324
A5.6	Resident employment – wholesale trade	327
A5.7	Resident employment – retail trade	330
A5.8	Resident employment – accommodation services	333
A5.9	Resident employment – transport, postal and warehousing	336
A5.10	Resident employment – telecommunications and information media	339
A5.11	Resident employment – financial services	342
A5.12	Resident employment – rental, hiring services	345
A5.13	Resident employment – professional services	348
A5.14	Resident employment – administrative and support services	351
A5.15	Resident employment – public administration and safety	354
A5.16	Resident employment – education and training	357
A5.17	Resident employment – health care	360
A5.18	Resident employment – arts and recreation services	363
A5.19	Resident employment – other services	366

LIST OF FIGURES

Page no.

1.1 Labour market for 15 to 24 year olds, full-time education 15–19 year olds 12

1.2 In-training, commencement and completion (all training) 13

1.3 In-training, commencement and completion (all training), GTOs 13

1.4 GTO share of in-training, commencement and completion (all training) 14

1.5 Group training share of in-training, commencements and completions (apprentices) 14

1.6 Share of in-training, commencement and completion (other training) 15

1.7 GTO share of in-training for all training categories by industry sector 16

1.8 Change in group training share (3 year average to previous 6 year), all training, in-training 17

1.9 Performance of GTOs by region 18

1.10 Share of GT apprentice commencements in total commencements 19

1.11 Not in employment population aged 15 to 44 19

2.1 Proportion of GTOs engaged in a range of activities 24

2.2 Importance of Government policy to success 25

2.3 Areas of competition between GTOs 26

2.4 Competitors/Substitutes GTOs 'fear most' 26

2.5 Barriers to entry 27

2.6 Pitch/Value proposition of GTOs 27

2.7 Future challenges for GTOs 28

2.8 Future for Group Training 29

3.1 Apprentices and trainees employed 30

3.2 Reasons for GT rating 31

3.3 Value of group training to employers 32

3.4 Negative influences identified by employers 32

3.5 Threats to group training 33

3.6 Group training opportunities 33

4.1 Critical issues to government 37

Page no.

4.2 Role of group training 38

5.1 Competitive forces analysis 39

6.1 Distribution of productivity 48

6.2 Distribution of completion rates 49

6.3 Distribution of years in existence 50

6.4 Distribution of proportion of industries covered 51

6.5 Distribution of apprentices and trainees per client 52

6.6 Distribution of market for apprentices 53

6.7 Distribution of market size per population aged 15 to 44 54

6.8 Distribution of unemployment rates by GTO catchment 55

6.9 Distribution of GTO catchment average business productivity 56

6.10 Predicted versus actual productivity equation 57

6.11 Contribution of scale to GTO productivity 58

6.12 Distribution of total apprentices and trainees per GTO 59

6.13 Distribution of productivity loss from sub-optimum market catchment 60

6.14 Distribution of productivity loss from unemployment rate deviation from optimal 61

6.15 Predicted versus actual completion equation 62

6.16 Distribution of loss in completion rate from apprentices and trainees per client deviation from optimal 63

6.17 Loss of completion rate from catchment productivity above minimum levels 64

6.18 Distribution of gains in completion rates to single industry focus 65

6.19 Loss in completion rate from sub-optimal unemployment rate 66

7.1 DEA – 14 GTOs, one performance indicator and two driver example 68

9.1 New South Wales – Actual versus predicted – GTO apprentice commencement market share 86

LIST OF FIGURES

Page no.

9.2 Victoria – Actual versus predicted – GTO apprentice commencement market share 86

9.3 Queensland – Actual versus predicted – GTO apprentice commencement market share 87

9.4 South Australia – Actual versus predicted – GTO apprentice commencement market share 87

9.5 Western Australia – Actual versus predicted – GTO apprentice commencement market share 88

9.6 Tasmania – Actual versus predicted – GTO apprentice commencement market share 88

9.7 Northern Territory – Actual versus predicted – GTO apprentice commencement market share 89

9.8 Australian Capital Territory – Actual versus predicted – GTO apprentice commencement market share 89

11.1(a) Australia: Cumulative probability for change in apprentices in training – 2010–2020 102

11.1(b) Australia: Macro growth versus crowding out – total apprentices in training – 2010–2020 102

11.2(a) Melbourne South East: Cumulative probability for change in apprentices in training – 2010–2020 103

11.2(b) Melbourne South East: Macro growth versus crowding out – total apprentices in training – 2010–2020 103

12.1(a) New South Wales: Cumulative probability – change in GTO apprentices in training – 2010–2020 105

12.1(b) New South Wales: Macro growth versus crowding out – change in GTO apprentices in training – 2010–2020 105

12.2(a) Victoria: Cumulative probability – change in GTO apprentices in training – 2010–2020 106

12.2(b) Victoria: Macro growth versus crowding out – change in GTO apprentices in training – 2010–2020 106

Page no.

12.3(a) Queensland: Cumulative probability – change in GTO apprentices in training – 2010–2020 107

12.3(b) Queensland: Macro growth versus crowding out – change in GTO apprentices in training – 2010–2020 107

12.4(a) South Australia: Cumulative probability – change in GTO apprentices in training – 2010–2020 108

12.4(b) South Australia: Macro growth versus crowding out – change in GTO apprentices in training – 2010–2020 108

12.5(a) Western Australia: Cumulative probability – change in GTO apprentices in training – 2010–2020 109

12.5(b) Western Australia: Macro growth versus crowding out – change in GTO apprentices in training – 2010–2020 109

12.6(a) Tasmania: Cumulative probability – change in GTO apprentices in training – 2010–2020 110

12.6(b) Tasmania: Macro growth versus crowding out – change in GTO apprentices in training – 2010–2020 110

12.7(a) Northern Territory: Cumulative probability – change in GTO apprentices in training – 2010–2020 111

12.7(b) Northern Territory: Macro growth versus crowding out – change in GTO apprentices in training – 2010–2020 111

12.8(a) Australian Capital Territory: Cumulative probability – change in GTO apprentices in training – 2010–2020 112

12.8(b) Australian Capital Territory: Macro growth versus crowding out – change in GTO apprentices in training – 2010–2020 112

12.9(a) Australia: Cumulative probability – change in GTO apprentices in training – 2010–2020 113

LIST OF FIGURES

		Page no.
12.9(b)	Australia: Macro growth versus crowding out – change in GTO apprentices in training – 2010–2020	113
12.10(a)	Australia: Cumulative probability for GTO total additional field staff to 2020	114
12.10(b)	Australia: Macro growth versus crowding out – GTO total additional field staff to 2020	114
14.1	The strategic dimension of business model choice	126
14.2	Operational requirements of operational model selection	126
14.3	Efficiency effectiveness trade-off for GTOs	128
A4.1	Annual and decadal mean temperature anomalies for Australia	297
A4.2	National scenarios for employment	300
A4.3	National employment: Plausible Composite scenario	301
A4.4	Australia – Household savings and equity withdrawal	305
A4.5	Australia – Household debt and savings	306
A4.6	Current account balance and foreign financing requirement as a % of GDP	307
A4.7	National average annual per cent employment growth: 2010–2020	310
A4.8	Crowding out effects by probability	311
A6.1(a)	ACT: Cumulative probability for change in apprentices in training – 2010–2020	369
A6.1(b)	ACT: Macro growth versus crowding out – total apprentices in training – 2010–2020	369
A6.2(a)	Adelaide Inner: Cumulative probability for change in apprentices in training – 2010–2020	370
A6.2(b)	Adelaide Inner: Macro growth versus crowding out – total apprentices in training – 2010–2020	370
A6.3(a)	Adelaide North: Cumulative probability for change in apprentices in training – 2010–2020	371
A6.3(b)	Adelaide North: Macro growth versus crowding out – total apprentices in training – 2010–2020	371
A6.4(a)	Adelaide South: Cumulative probability for change in apprentices in training – 2010–2020	372
A6.4(b)	Adelaide South: Macro growth versus crowding out – total apprentices in training – 2010–2020	372
A6.5(a)	Melbourne Inner: Cumulative probability for change in apprentices in training – 2010–2020	373
A6.5(b)	Melbourne Inner: Macro growth versus crowding out – total apprentices in training – 2010–2020	373
A6.6(a)	Melbourne East: Cumulative probability for change in apprentices in training – 2010–2020	374
A6.6(b)	Melbourne East: Macro growth versus crowding out – total apprentices in training – 2010–2020	374
A6.7(a)	Melbourne North: Cumulative probability for change in apprentices in training – 2010–2020	375
A6.7(b)	Melbourne North: Macro growth versus crowding out – total apprentices in training – 2010–2020	375
A6.8(a)	Melbourne North East: Cumulative probability for change in apprentices in training – 2010–2020	376
A6.8(b)	Melbourne North East: Macro growth versus crowding out – total apprentices in training – 2010–2020	376
A6.9(a)	Melbourne Outer South East: Cumulative probability for change in apprentices in training – 2010–2020	377

LIST OF FIGURES

Page no.

A6.9(b) Melbourne Outer South East: Macro growth versus crowding out – total apprentices in training – 2010–2020 377

A6.10(a) Melbourne South East: Cumulative probability for change in apprentices in training – 2010–2020 378

A6.10(b) Melbourne South East: Macro growth versus crowding out – total apprentices in training – 2010–2020 378

A6.11(a) Melbourne West: Cumulative probability for change in apprentices in training – 2010–2020 379

A6.11(b) Melbourne West: Macro growth versus crowding out – total apprentices in training – 2010–2020 379

A6.12(a) NSW Central Coast: Cumulative probability for change in apprentices in training – 2010–2020 380

A6.12(b) NSW Central Coast: Macro growth versus crowding out – total apprentices in training – 2010–2020 380

A6.13(a) NSW Central West: Cumulative probability for change in apprentices in training – 2010–2020 381

A6.13(b) NSW Central West: Macro growth versus crowding out – total apprentices in training – 2010–2020 381

A6.14(a) NSW Far West: Cumulative probability for change in apprentices in training – 2010–2020 382

A6.14(b) NSW Far West: Macro growth versus crowding out – total apprentices in training – 2010–2020 382

A6.15(a) NSW Hunter: Cumulative probability for change in apprentices in training – 2010–2020 383

A6.15(b) NSW Hunter: Macro growth versus crowding out – total apprentices in training – 2010–2020 383

A6.16(a) NSW Illawarra: Cumulative probability for change in apprentices in training – 2010–2020 384

Page no.

A6.16(b) NSW Illawarra: Macro growth versus crowding out – total apprentices in training – 2010–2020 384

A6.17(a) NSW Mid North Coast: Cumulative probability for change in apprentices in training – 2010–2020 385

A6.17(b) NSW Mid North Coast: Macro growth versus crowding out – total apprentices in training – 2010–2020 385

A6.18(a) NSW North: Cumulative probability for change in apprentices in training – 2010–2020 386

A6.18(b) NSW North: Macro growth versus crowding out – total apprentices in training – 2010–2020 386

A6.19(a) NSW Richmond Tweed: Cumulative probability for change in apprentices in training – 2010–2020 387

A6.19(b) NSW Richmond Tweed: Macro growth versus crowding out – total apprentices in training – 2010–2020 387

A6.20(a) NSW Riverina: Cumulative probability for change in apprentices in training – 2010–2020 388

A6.20(b) NSW Riverina: Macro growth versus crowding out – total apprentices in training – 2010–2020 388

A6.21(a) NSW Southern Tablelands: Cumulative probability for change in apprentices in training – 2010–2020 389

A6.21(b) NSW Southern Tablelands: Macro growth versus crowding out – total apprentices in training – 2010–2020 389

A6.22(a) NT Darwin: Cumulative probability for change in apprentices in training – 2010–2020 390

A6.22(b) NT Darwin: Macro growth versus crowding out – total apprentices in training – 2010–2020 390

A6.23(a) NT Lingiari: Cumulative probability for change in apprentices in training – 2010–2020 391

LIST OF FIGURES

Page no.

A6.23(b) NT Lingiari: Macro growth versus crowding out – total apprentices in training – 2010–2020 391

A6.24(a) Perth Central: Cumulative probability for change in apprentices in training – 2010–2020 392

A6.24(b) Perth Central: Macro growth versus crowding out – total apprentices in training – 2010–2020 392

A6.25(a) Perth Outer North: Cumulative probability for change in apprentices in training – 2010–2020 393

A6.25(b) Perth Outer North: Macro growth versus crowding out – total apprentices in training – 2010–2020 393

A6.26(a) Perth Outer South: Cumulative probability for change in apprentices in training – 2010–2020 394

A6.26(b) Perth Outer South: Macro growth versus crowding out – total apprentices in training – 2010–2020 394

A6.27(a) QLD Cairns: Cumulative probability for change in apprentices in training – 2010–2020 395

A6.27(b) QLD Cairns: Macro growth versus crowding out – total apprentices in training – 2010–2020 395

A6.28(a) QLD Darling Downs: Cumulative probability for change in apprentices in training – 2010–2020 396

A6.28(b) QLD Darling Downs: Macro growth versus crowding out – total apprentices in training – 2010–2020 396

A6.29(a) QLD Fitzroy: Cumulative probability for change in apprentices in training – 2010–2020 397

A6.29(b) QLD Fitzroy: Macro growth versus crowding out – total apprentices in training – 2010–2020 397

A6.30(a) QLD Mackay: Cumulative probability for change in apprentices in training – 2010–2020 398

Page no.

A6.30(b) QLD Mackay: Macro growth versus crowding out – total apprentices in training – 2010–2020 398

A6.31(a) QLD North: Cumulative probability for change in apprentices in training – 2010–2020 399

A6.31(b) QLD North: Macro growth versus crowding out – total apprentices in training – 2010–2020 399

A6.32(a) QLD Resource Region: Cumulative probability for change in apprentices in training – 2010–2020 400

A6.32(b) QLD Resource Region: Macro growth versus crowding out – total apprentices in training – 2010–2020 400

A6.33(a) QLD Wide Bay Burnett: Cumulative probability for change in apprentices in training – 2010–2020 401

A6.33(b) QLD Wide Bay Burnett: Macro growth versus crowding out – total apprentices in training – 2010–2020 401

A6.34(a) SA Mallee South East: Cumulative probability for change in apprentices in training – 2010–2020 402

A6.34(b) SA Mallee South East: Macro growth versus crowding out – total apprentices in training – 2010–2020 402

A6.35(a) SA Mid North Riverland: Cumulative probability for change in apprentices in training – 2010–2020 403

A6.35(b) SA Mid North Riverland: Macro growth versus crowding out – total apprentices in training – 2010–2020 403

A6.36(a) SA Spencer Gulf: Cumulative probability for change in apprentices in training – 2010–2020 404

A6.36(b) SA Spencer Gulf: Macro growth versus crowding out – total apprentices in training – 2010–2020 404

A6.37(a) SEQ Brisbane City: Cumulative probability for change in apprentices in training – 2010–2020 405

LIST OF FIGURES

Page no.

A6.37(b) SEQ Brisbane City: Macro growth versus crowding out – total apprentices in training – 2010–2020 405

A6.38(a) SEQ Brisbane South: Cumulative probability for change in apprentices in training – 2010–2020 406

A6.38(b) SEQ Brisbane South: Macro growth versus crowding out – total apprentices in training – 2010–2020 406

A6.39(a) SEQ Gold Coast: Cumulative probability for change in apprentices in training – 2010–2020 407

A6.39(b) SEQ Gold Coast: Macro growth versus crowding out – total apprentices in training – 2010–2020 407

A6.40(a) SEQ Moreton Bay: Cumulative probability for change in apprentices in training – 2010–2020 408

A6.40(b) SEQ Moreton Bay: Macro growth versus crowding out – total apprentices in training – 2010–2020 408

A6.41(a) SEQ Sunshine Coast: Cumulative probability for change in apprentices in training – 2010–2020 409

A6.41(b) SEQ Sunshine Coast: Macro growth versus crowding out – total apprentices in training – 2010–2020 409

A6.42(a) SEQ West Moreton: Cumulative probability for change in apprentices in training – 2010–2020 410

A6.42(b) SEQ West Moreton: Macro growth versus crowding out – total apprentices in training – 2010–2020 410

A6.43(a) Sydney Central: Cumulative probability for change in apprentices in training – 2010–2020 411

A6.43(b) Sydney Central: Macro growth versus crowding out – total apprentices in training – 2010–2020 411

A6.44(a) Sydney Eastern Beaches: Cumulative probability for change in apprentices in training – 2010–2020 412

Page no.

A6.44(b) Sydney Eastern Beaches: Macro growth versus crowding out – total apprentices in training – 2010–2020 412

A6.45(a) Sydney Northern Beaches: Cumulative probability for change in apprentices in training – 2010–2020 413

A6.45(b) Sydney Northern Beaches: Macro growth versus crowding out – total apprentices in training – 2010–2020 413

A6.46(a) Sydney Old West: Cumulative probability for change in apprentices in training – 2010–2020 414

A6.46(b) Sydney Old West: Macro growth versus crowding out – total apprentices in training – 2010–2020 414

A6.47(a) Sydney Outer North: Cumulative probability for change in apprentices in training – 2010–2020 415

A6.47(b) Sydney Outer North: Macro growth versus crowding out – total apprentices in training – 2010–2020 415

A6.48(a) Sydney Outer South West: Cumulative probability for change in apprentices in training – 2010–2020 416

A6.48(b) Sydney Outer South West: Macro growth versus crowding out – total apprentices in training – 2010–2020 416

A6.49(a) Sydney Outer West: Cumulative probability for change in apprentices in training – 2010–2020 417

A6.49(b) Sydney Outer West: Macro growth versus crowding out – total apprentices in training – 2010–2020 417

A6.50(a) Sydney Parramatta-Bankstown: Cumulative probability for change in apprentices in training – 2010–2020 418

A6.50(b) Sydney Parramatta-Bankstown: Macro growth versus crowding out – total apprentices in training – 2010–2020 418

A6.51(a) Sydney South: Cumulative probability for change in apprentices in training – 2010–2020 419

LIST OF FIGURES

Page no.

A6.51(b) Sydney South: Macro growth versus crowding out – total apprentices in training – 2010–2020 419

A6.52(a) TAS Hobart-South: Cumulative probability for change in apprentices in training – 2010–2020 420

A6.52(b) TAS Hobart-South: Macro growth versus crowding out – total apprentices in training – 2010–2020 420

A6.53(a) TAS North: Cumulative probability for change in apprentices in training – 2010–2020 421

A6.53(b) TAS North: Macro growth versus crowding out – total apprentices in training – 2010–2020 421

A6.54(a) TAS North West: Cumulative probability for change in apprentices in training – 2010–2020 422

A6.54(b) TAS North West: Macro growth versus crowding out – total apprentices in training – 2010–2020 422

A6.55(a) VIC Ballarat: Cumulative probability for change in apprentices in training – 2010–2020 423

A6.55(b) VIC Ballarat: Macro growth versus crowding out – total apprentices in training – 2010–2020 423

A6.56(a) VIC Bendigo: Cumulative probability for change in apprentices in training – 2010–2020 424

A6.56(b) VIC Bendigo: Macro growth versus crowding out – total apprentices in training – 2010–2020 424

A6.57(a) VIC Geelong: Cumulative probability for change in apprentices in training – 2010–2020 425

A6.57(b) VIC Geelong: Macro growth versus crowding out – total apprentices in training – 2010–2020 425

A6.58(a) VIC Gippsland: Cumulative probability for change in apprentices in training – 2010–2020 426

A6.58(b) VIC Gippsland: Macro growth versus crowding out – total apprentices in training – 2010–2020 426

Page no.

A6.59(a) VIC Mallee Wimmera: Cumulative probability for change in apprentices in training – 2010–2020 427

A6.59(b) VIC Mallee Wimmera: Macro growth versus crowding out – total apprentices in training – 2010–2020 427

A6.60(a) VIC North East: Cumulative probability for change in apprentices in training – 2010–2020 428

A6.60(b) VIC North East: Macro growth versus crowding out – total apprentices in training – 2010–2020 428

A6.61(a) VIC West: Cumulative probability for change in apprentices in training – 2010–2020 429

A6.61(b) VIC West: Macro growth versus crowding out – total apprentices in training – 2010–2020 429

A6.62(a) WA Gascoyne Goldfields: Cumulative probability for change in apprentices in training – 2010–2020 430

A6.62(b) WA Gascoyne Goldfields: Macro growth versus crowding out – total apprentices in training – 2010–2020 430

A6.63(a) WA Peel South West: Cumulative probability for change in apprentices in training – 2010–2020 431

A6.63(b) WA Peel South West: Macro growth versus crowding out – total apprentices in training – 2010–2020 431

A6.64(a) WA Pilbara Kimberley: Cumulative probability for change in apprentices in training – 2010–2020 432

A6.64(b) WA Pilbara Kimberley: Macro growth versus crowding out – total apprentices in training – 2010–2020 432

A6.65(a) WA Wheatbelt Great Southern: Cumulative probability for change in apprentices in training – 2010–2020 433

A6.65(b) WA Wheatbelt Great Southern: Macro growth versus crowding out – total apprentices in training – 2010–2020 433

LIST OF ABBREVIATIONS

AAC	Australian Apprenticeships Centre
ABS	Australian Bureau of Statistics
ALGA	Australian Local Government Association
FTE	Full Time Equivalent
GT	Group Training
GTA	Group Training Australia
GTO	Group Training Organisation
HR	Human Resources
JGTP	Joint Group Training Program
JSAP	Job Services Australia Provider
LGA	Local Government Area
NCVER	National Centre for Vocational Education Research
NFP	Not for Profit
NIEIR	National Institute of Economic and Industry Research
OH&S	Occupational Health and Safety
RTO	Registered Training Organisation
SME	Small and medium sized enterprise
TAFE	Technical and Further Education
TIP	Group Training Australian Apprenticeships Targeted Initiatives Program
VET	Vocational Education and Training

TERMS USED IN THIS REPORT

Australian Apprentice:	an apprentice or a trainee undergoing a period of indentured training.
Performance:	used as a general term based on measures such as commencements, completions and/or productivity although a specific definition is used in Chapter 6.
Productivity:	measured by Australian Apprentice per GTO FTE staff.
Completion Rates:	the proportion of Australian Apprentices completing indentured training.

PROJECT BRIEF

Group Training Australia (GTA) commissioned NIEIR to undertake an analysis of the group training industry to assist the national association, state associations and member organisations understand issues that will impact the future role of group training in Australia.

BACKGROUND

GTA identified a range of issues that are changing the environment in which group training operates. These include:

- the changing nature of training contracts between employers and apprentices/trainees;
- the emergence of Australian Apprenticeships Centres; and
- competency-based completions.

Other factors that will impact group training include:

- the decline in Australian manufacturing industry; and
- climate change and its impact on manufacturing and rural industries.

At the same time, group training organisations (GTOs) have been evolving their business models and engaging in a range of activities beyond traditional group training activities. Often these other activities subsidise group training activities.

The extent of change and 'factors conspiring to limit future growth in group training or even bring about its gradual decline' has caused GTA to ask whether 'after 30 odd years in business the group training product is reaching the end of its shelf life'.

GTA sought a study that would assist not only advocacy on behalf of GTOs but assist individual GTOs with information that could enhance their business strategies 'within an ever-changing environment'.

THE PROJECT

NIEIR was asked to examine industry trends, market size, industry growth, market share, barriers to entry, operating cost structures, differences between metropolitan and rural Australia. GTA was interested in the impact of these, and any other relevant issues, on group training and in a forecast for the industry in five to 10 years time. The study sought to identify the potential contribution group training could make to the ongoing process of skills formation as well as clarifying the value-add of group training and the dynamics and drivers of the industry.

The methodology involved a review of existing literature and previous studies, statistical data, quantitative and qualitative research with GTOs, host employers and government agencies; scenario development and econometric modelling and, an evaluation of public policy options.

OUTPUTS

Outputs envisaged for the project were:

- An economic and industry analysis of group training in Australia including past performance and future demand;
- A clear understanding of the group training business model(s) and their potential;
- An analytical approach for GTA and individual GTOs to develop future strategy;
- Recommendations on public policy initiatives that would assist in achieving the potential of group training; and
- A framework for benchmarking performance of GTOs.

REPORT STRUCTURE

The report is divided into five parts and 14 chapters.

Part A is the background which shows the statistical performance of the group training industry over recent years. The main fact is the substantial fall in the share of the group training industry in terms of total commencements for apprentices over the years 2001 to 2009. This was a significant motivation for the study.

Part B focuses on the findings of the stakeholder interviews. The stakeholder interviews are carried out from the perspective of the Group Training Organisations, customers, potential customers and government. Out of this qualitative structural analysis of the industry a basic framework for further analysis and change is developed.

Part C consists of the results of the statistical analysis of the quantitative survey results from GTOs, and statistical time series of GTO performance at the state level. The objective here is to: Test the veracity and qualitative importance of drivers of GTO performance; to place in perspective the suggestions developed from the stakeholder interviews, and; to test the evidence for industry change to improve performance.

Part D gives projections of commencements and total apprentices in training by industry and region to 2020.

Part E brings together conclusions and implications from the analysis and sets out a series of initiatives in the areas of future performance measurement, public policy issues and recommendations for Group Training Australia.

EXECUTIVE SUMMARY

Recent reports have highlighted the role of group training organisations (GTOs) as 'intermediaries' in the labour market linking employers seeking to develop their skilled labour force with employees seeking careers in skilled occupations. GTOs effectively facilitate this relationship; absorb risk and enhance outcomes for both parties. The National Workforce Development Strategy[1] identified intermediaries including GTOs as 'brokers of business and skills development' while the National Resources Sector Employment Taskforce[2] saw them as 'facilitators of skills development'. A recent NCVER report on 'high quality traineeships' identified the value of GTOs as 'contributing significantly to the quality of traineeships and critical to safeguarding employer interests while also protecting employees from potential exploitation'[3].

These observations come as GTOs struggle with competing demands placed on them and a business model that has inherent limitations. In response, many are transitioning themselves to a broader and more commercial focus to ensure their longer term survival. This transition brings the competing demands into sharper relief. As commercial organisations, GTOs will align themselves with what adds value to the customers who pay for their services (predominantly employers) and reduce or eliminate services that do not have a clear commercial driver (often the services government expects them to provide). Government policy makers expect GTOs to provide superior performance (in terms of promoting Australian Apprenticeships and achieving high completion rates); to work with the more expensive employer segments (SMEs), to deliver labour equity programs, and to provide input to public policy formulation (all services lacking a commercial driver).

Recognising two key customers and reconciling their competing demands is a key first step for GTOs in devising a strategy for the future of group training. At present there is some ambivalence in the attitude of GTOs to government and vice versa. GTOs generally see government income as a very small part of their overall revenue base compared to revenue from employers (less than five per cent) but also (predominantly) see government funding and government policy direction as vital to their future. For (most) policy makers GTOs have a special place due to the sheer number of apprentices and trainees employed but the relationship is moving to a more transactional basis. This follows a pattern identified by the Productivity Commission[4] in its recent report on the not-for-profit sector[5]. Government is constantly reviewing its payments to GTOs and looking for clearer measures of performance and demonstration of outcomes. It also funds organisations such as Australian Apprenticeships Centres (AACs) that compete with at least some of the services provided by GTOs.

Group training will not only need to respond to the challenging policy environment to define its future, it will need to respond to an ever changing business environment and learn from its experience through the oscillation of the economic cycle.

1 *Australian Workforce Futures: A national workforce development strategy*, Skills Australia, Canberra, 2010.

2 *Resourcing the Future: National Resources Sector Employment Taskforce,* Discussion Paper, Australian Government, Canberra, 2010.

3 *High Quality Traineeships: Identifying What Works,* Smith E, Comyn P, Brennan Kemmis R, Smith A, National Centre for Vocational Education Research (NCVER), Adelaide, 2009.

4 *Contribution of the Not For Profit Sector,* Productivity Commission Research Report, Productivity Commission, Canberra 2010.

5 GTOs include both 'for profit' and 'not for profit' organisations. Government policy initiatives tend to sit more comfortably with 'not for profit' organisations because they tend to not have a strong commercial driver but 'for profits' are not excluded (as evidenced by the GTO national registration system and national standards requirements to access government funding).

EXECUTIVE SUMMARY

THE GROUP TRAINING BUSINESS MODEL

Group training as a concept is now 30 years old, this study shows that while it continues to be a very significant employer of apprentices and trainees, it lost market share over the period from 2001 to 2009. This report has identified three factors contributing to this loss of market share:

- strong employment growth over the period undermined the competitiveness of the group training model (group training would appear to be less competitive in a tight market);
- group training didn't respond to the growth in the market for skills training either because it chose not to enter new segments that emerged or it did not have the capacity; and
- group training faced other challenges such as the emergence of Australian Apprenticeships Centres (AACs) promoting lower cost alternatives to employers through direct employment.

Examination of the performance of group training over this eight year period highlights some of the challenges the business model faces and why many GTOs are looking to expand their business base. The analysis found that:

- demand for group training (as measured by group training share of all apprentice commencements) is not uniform through the business cycle and is noticeably less in a tight market for skilled employees;
- demand for group training (same basis as above) is not uniform across regions and is influenced by labour market conditions (demand is lower where there is a high growth in commencements and group training is less successful where there are very high or very low rates of unemployment); and
- demand for group training varies across industries and tends to be strongest in traditional industries such as wholesale trade and transport (and to a lesser extent manufacturing, mining and telecommunications).

Responding to the changing market and business environment, GTOs have adopted a range of approaches or business models ranging from the traditional community service model to a model that sees group training as one service offered by an integrated corporate entity. NIEIR has defined four business model types for group training:

- a community model (reflecting the origins of group training);
- a regional model (regionally-based enterprises);
- an industry model (generally focused on one industry), and;
- a corporate model (national, multi-region, multi-product).

It would be wrong to imply that there is one optimal business model or that one model is right and others wrong. This will depend on the circumstances of the individual organisation (e.g. size, geographic spread, industry spread, purpose etc.). While models may have different levels of performance in terms of operational efficiency and completion rates, one model does not exhibit optimal performance in both.

EXECUTIVE SUMMARY

EVOLVING TOWARD A FUTURE MODEL

In general, there is a move by GTOs toward a more diverse service offer and greater geographic spread. However, responses to the changing business environment are not uniform. One of the objectives of this study was to understand the different responses and to understand the most performance-enhancing approaches to creating a future for group training. To do this NIEIR interrogated statistical data, quantitative survey data, qualitative survey data and NIEIR econometric models. It applied a range of analytical tools to this data. Some of the key findings are as follows.

- In general there is a clear trade off between higher levels of performance in terms of productivity (Australian Apprentices per GTO FTE staff) and completion rates (proportion of Australian Apprentices completing indentured training).
- For GTOs of the same scale and geographic structure, a focus on community objectives (labour market equity programs) can lower productivity by up to 25 per cent and lower completion rates by five to 10 per cent compared to GTOs with narrow commercial objectives.
- Corporate GTOs are over-represented in the best performing GTOs for productivity (Australian apprentices per GTO FTE staff) while regional GTOs are over-represented in the group with the lowest performance for productivity.
- Scale by itself does not lead to superior performance. Large scale GTOs are over-represented among the lowest performing GTOs. Expansion by industry and regions will not succeed unless it is well-resourced with the right people, relationships and resources.
- Industry diversification does not by itself improve performance. In fact, specialisation will in general improve performance.
- For GTOs with the same geographic structure and single industry focus, those that focus on high value trade skills (e.g. construction, mining) have productivity and completion levels of between 15 and 30 per cent higher than GTOs that focus on lower skills (e.g. hospitality).
- Geographic diversity by itself does not improve performance. Given similar scale, GTOs with more geographic diversity will have 25 per cent lower productivity and (potentially) a similar decline in completion rates compared to GTOs that operate in one region.

Current performance of GTOs was analysed by ranking GTOs based on effectiveness (productivity and completion rates) and comparing groups of peer GTOs (similar size, structure, focus) with the best performing GTO in that group. It showed performance could be improved through:

- targeted regional diversification (based, for instance on labour market conditions);
- tighter industry specialisation
- generally (with careful targeting) increasing Australian Apprentices per host employer; and
- diversifying services.

More effective GTOs tend to be distinguished from their less effective peers because they:

- have a strong management culture and clear organisational objectives;
- are optimised in terms of scale and/or regional markets;
- are industry specialists rather than industry generalists;
- have customers in high skill industries (with an appropriate scale of operation); and
- offer a diversity of services to meet customer needs.

EXECUTIVE SUMMARY

DEFINING A FUTURE FOR GROUP TRAINING

GTOs have a sense of where their future lies. Qualitative survey work with GTOs pointed strongly toward a more integrated service offer (group training plus other skilled employment-related services), demonstrated performance, strong expertise and brand. This is broadly consistent with how employers see the future. They want quality candidates to meet their skill requirements with minimal complexity at a competitive price. They want to work with trusted partners to develop skilled employees. Partnerships will be based on long-term relationships, quality supervision and value for money. While simply stated, delivering on a future for group training will require fundamental changes in how GTOs position themselves in the market, research their markets and customers, staff their organisations, think about the service they offer, manage and lead their organisations and control costs.

The future of group training organisations will be as genuine intermediaries in the labour market offering a suite of workforce development options that generate long-term value for their employer customers. Most will also seek to meet the needs of government customers as valued partners who can be relied on to deliver superior policy outcomes. A first step will be to define the business model that best suits each organisation.

Community business model

Not all GTOs will be the same. The community model will tend to have a close affinity with government policy objectives (labour equity programs) and work in areas that are less commercial making these GTOs more dependent on government support. To win support they will need clear performance measures; not generic measures but measures that demonstrate performance in more challenging markets where completion rates will be lower and costs higher (performance relative to a particular cohort rather than general rates). The strength of this model will be its relationships with employers in the community. But they will need to understand their market and not take it for granted. They will need to look at their costs and could improve efficiency through aggregation or sharing of back office services. They will need to look at their service offer and opportunities to strengthen this through alliances or agreements with third parties.

Corporate business model

Corporate GTOs will by definition work national markets strategically focusing on the most opportune segments with a comprehensive skilled workforce service offer. They will develop high level relationships with senior managers in customer organisations to understand their issues and recommend solutions. The solutions they offer may be group training; outsourced management of apprentices; recruitment; temporary staff or labour hire. They will be able to offer services of an RTO, an AAC, a Human Resource consultant or an agency (recruitment, temp, labour hire). The danger will be a lack of key management competencies, staff capabilities and strategic discipline (to avoid pursuing size for the sake of size or geographic spread for the sake of being national). They will be able to spread costs over a larger range of services but will need to ensure this opportunity results in competitive prices. They will need to put together management and staff teams that deliver a quality service at a competitive price and capture synergies through integration of the service offer rather than simply offering a range of services. The model does not necessarily abandon the community heritage of group training. For instance, an organisation may establish a business unit within its corporate structure to focus on labour equity programs or services for government customers. Tracking and benchmarking performance would be just as important to this model.

EXECUTIVE SUMMARY

Regional model

Regional GTOs will have elements of both the corporate model and the community model. The challenge here will be the discipline applied to market research and understanding their region as well as the opportunities for growth. Regional GTOs have the highest risk of being stuck in 'no-man's land' particularly if they are in a region with static or shrinking demand for apprentices and trainees. In trying to be 'all things to all people' they risk losing clarity about their customer base, what generates value and (more importantly) what does *not* generate value (either for customers or themselves). They will normally lack size and scale to maintain a competitive cost base, develop a comprehensive service offer, an optimal management structure and staff skills. In attempting to respond to changes in the operating environment they would be prone to making bad choices because they lack capacity to evaluate business options. The factors that give them an advantage in their home markets – relationship with employers – would work against them if they chose to expand to new regions (lack of relationships). For regional GTOs cooperation agreements to share back office services and broaden their product offer will be most important (if not mergers that achieve the same outcomes). They will be highly dependent on the networking opportunities to accelerate learning and adaptation to the changing business environment. Solid market research will be vital to developing their strategy for the future.

Industry model

Industry GTOs have the advantage of good relationships and a clear focus for their business. However, this report shows that some industries are more opportune for group training than others. Even in industries where there is a relatively strong opportunity for group training, relationships built on solid performance will be important (and an affiliation with the relevant industry association). Industry-based GTOs tend to be strongest in construction but have struggled in weaker skill areas such as hospitality. The main opportunity for improvement is through market research to understand customer requirements, lower costs and broaden the service offer to respond to market opportunities.

The risk for industry-based GTOs will be failing to demonstrate clear performance to customers; for other organisations in the industry (labour hire firms) to expand into group training or; to fail to secure customer relationships (creating an opportunity for competitors).

There are a number of issues that apply regardless of the business model selected. These include the following.

Performance measures

This report has stressed the need to develop a more solid basis for measuring and evaluating performance of GTOs. This will be necessary for negotiations with government. It will also be necessary as a driver for improved performance. Corporate GTOs will need to track performance relative to their peers. As well, regional GTOs will need to understand performance within their market and their market relative to others. Similarly industry GTOs will need to look at performance within their industry and their industry relative to other industries. The present level of performance tracking within the industry should be a major concern to participants.

Positioning in the market

A major handicap identified in this report is the external perception of group training (communicating the value proposition to customers) and the internal perception (many GTOs are locked into the concept of group training rather than understanding the service they offer). Group training describes a way of operating (a railway) rather than what it does (transport). GTOs need to focus on the services they provide to customers (and how that relates to what creates value for them) rather than communicating a concept. The precise words would need to be the subject of a separate exercise but essentially GTOs offer workforce development solutions to employers and a policy delivery platform to government. Emphasising service delivery has the potential to liberate thinking within GTOs and the group training movement generally and focus on customer needs.

EXECUTIVE SUMMARY

Market research

There is a concerning lack of market research. Scenarios forecasting demand through to 2020 developed for this report shows there are major problems on the horizon for GTOs in a number of key markets. In many parts of Australia demand for apprentices will be static or fall over the next 10 years while in other areas it will grow strongly. In some industries, there will be little growth while in others there will be strong growth. Some industries are more accustomed to working with group training and are therefore more prospective, others are not. GTOs need to understand their customer needs and develop the internal competence to respond to those needs.

People and competencies

This report notes that one reason group training lost market share was because it failed to respond to growth in the apprentice market over the past eight years. One reason was that group training did not have the capacity to respond to this market shift. GTOs will need to fundamentally rethink and rebuild their organisations around a service delivery role. Current staff competencies contribute to locking GTOs into the existing model. A limited range of competencies limits the ability of GTOs to respond to a shift in the market or seek new opportunities. Few GTOs have a marketing or market development function. Few have staff with the capacity to develop successful workforce development strategies for their customers. At least one has experimented with hiring different (more expensive) personnel and seen rewards from this. There is a tendency, perhaps stemming from the community foundation of GTOs, to work with lower paid staff with generally excellent interpersonal skills but limited professional competencies in, for instance, Human Resource strategies.

Management and leadership

People issues in GTOs go to the top in many cases with Boards that reflect solid community foundations but a limited range of professional competencies and senior staff who are often drawn from within the industry and whose thinking may be locked into the existing business model. One area for improvement identified in this report is strategic financial management. GTOs need to be able to track, benchmark and improve their performance and understand the impact different drivers have on their operations such as scale, employer (customer) characteristics, market characteristics (size, growth, and unemployment rates), economic conditions, internal skill and competency needs. GTOs will need skills in market research, marketing, mergers, acquisitions, alliances and product development. CEOs will need to think holistically and strategically but also understand the financial drivers of their business so 'babies are not thrown out with bathwater'.

RELATIONS WITH GOVERNMENT

Government will continue to be a key relationship for group training. It will set the policy environment in which GTOs operate and develop its own workforce development strategies. GTOs have the option to work with government policy makers as partners, helping them realise their policy goals, or move to an increasingly transactional relationship. To accept the offer of a partnership however will require GTOs to work with government on solutions rather than just present problems for policy makers to solve. They will need to accept that Government, like other customers, are interested in outcomes rather than the group training model for its own sake.

EXECUTIVE SUMMARY

Part of the solution policy makers are looking for can be solved by developing enhanced performance measures for group training organisations. As long as policy makers can only see general across-the-board performance measures, GTOs who take on high cost and lower performance elements of skills development (such as labour equity programs, working with SMEs, retaining 'out of trade' apprentices etc.) will have trouble communicating their performance and policy makers – no matter how supportive – will have trouble arguing for ongoing support with Treasury and Finance officials. On the other hand, Government needs to be clear it is asking GTOs to provide services that do not have a commercial driver and needs to recognise (and it largely does) that these services provide a public good that needs to be paid for.

Working with government as partners will assist GTOs gain recognition for issues they see as problems such as building the flow of people into apprenticeships and traineeships without adequate reference to the type of people moving into these trades and occupations. A number of GTOs have made the point that simply 'growing the size of the pipe' channelling people into Australian Apprenticeships does not ensure an improved skills outcome for industry. Ensuring programs are effectively targeted is an area where GTOs and government can become very effective partners. This partnership will not be effective however if GTOs are seen simply as protectors of the status quo as appears to be the case in the current debate over competency-based training.

To make this relationship work, GTOs will need to be flexible and take a broad perspective on workforce development (as opposed to group training). Equally, there are issues that Government will need to address and this report highlights government funding for AACs as an issue that requires resolution. It would appear to be inconsistent with Government commitment to competitive neutrality that organisations funded by Government are competing with GTOs in the provision of certain services (at no cost to employers) when GTOs need to charge for these services.

GROUP TRAINING AUSTRALIA

Group Training Australia (GTA) will have a key role in driving this agenda forward and providing the leadership required to steward GTOs through a process of evolution and change. It will be important that GTA approaches the task constructively and inclusively creating opportunities for individual GTOs to change. There are tasks that GTA will have to lead such as the development of the brand that represents the service offer being provided, development of performance measures, skills development, the industry's own workforce development strategy and creating opportunities for alliances and other forms of joint and cooperative action between GTOs that can reduce costs and enhance the service offer of GTOs. In short, GTA will need both the capacity and the mandate to provide leadership to the process of evolving the future of group training.

KEY MESSAGES

1. Group training is currently caught between competing demands of different customers (employers and governments) that are reflected in different GTO priorities. Some see their first obligation as community service while others see their first obligation as strong commercially viable intermediaries in the workforce. These objectives are not mutually exclusive but need to be recognised as separate and competing demands on GTOs; the 'two customers' approach.

2. The difficulty of reconciling these different demands of GTOs is highlighted by the observation that there is a trade-off between GTO commercial and community objectives. For GTOs of the same scale and geographic structure, a focus on community objectives can lower productivity (Australian Apprentices per GTO FTE staff) by up to 25 percent and completion rates (proportion of Australian Apprentices completing indentured training) by five to 10 per cent.

3. The competitiveness of group training with other forms of employment (e.g. direct employment) is not the same through the business cycle (it is less competitive in a tight market). Group training is not equally competitive across regions (demand is lower where there is high growth in commencements and is less successful where there are very high or very low rates of unemployment). Nor is it equal across industries (more successful in traditional industries such as wholesale trade and transport).

4. Four group training business models have been identified; community, corporate, regional and industry models. The report does not show that one model is better than others. The appropriateness of each model will depend on the circumstances of each GTO. However, for GTOs to optimise their performance, they need to be clear which model they are pursuing.

5. Growing size and scale, increasing geographic or industry diversity will not by themselves strengthen GTOs. Growth in size and scale needs to be well resourced with the right people, relationships and resources. Geographic diversification needs to be carefully targeted and, generally, industry specialisation will be more successful than industry diversity. GTOs in industries with higher value trade skills will be more successful than those in industries with lower value skills.

6. The future of group training will be as a genuine intermediary in the labour market offering a suite of workforce development options that generate long-term value for employer customers at competitive costs. Most will seek to meet the needs of government customers as valued partners in policy development who can deliver superior policy outcomes.

7. A major impediment to GTOs achieving this future is a focus on the mechanism (group training) rather than the service (workforce development). Emphasising service delivery to identified customers has the potential to liberate thinking within GTOs and the group training movement generally. It will allow GTOs to think broadly about the value they create for employers and developing broad-based long-term partnerships.

8. Delivering the future for group training will require fundamental changes to how GTOs position themselves in the market (their brand) and the service they offer. It will require comprehensive market research of customers (by industry and region); development of staff competencies and appropriate structures, and; managers who will lead GTOs through a period of change, negotiate shared service agreements or mergers, understand markets, innovate and tightly control costs.

PART A:
GROUP TRAINING RECENT PERFORMANCE

A

1. Group training performance 2001–2009 12

1.1 A decade of change 12

1.2 Group training performance by industry 16

1.3 State and regional performance 18

1.4 Marketing efficiency 18

1.5 Not-in-employment population 19

1.6 Conclusions 22

PART A:
GROUP TRAINING RECENT PERFORMANCE

1. GROUP TRAINING PERFORMANCE 2001–2009

This report coincides with a period of significant change for group training in Australia; a period where the challenges have been such that some GTOs have questioned whether the group training model has a future. Such voices are a minority. Even in the serious economic conditions experienced in 2009 the overwhelming majority of GTOs were optimistic about their future. In a survey conducted in mid-2009, 95 per cent said they were positive about their future and the future for group training. But there was also recognition that the future would be different. Through this report Group Training Australia (GTA) sought to gain insights into the drivers of change and the issues that will determine the future business model for successful group training organisations. The first issue will be to examine the changing market for apprenticeships and other forms of indentured training in Australia.

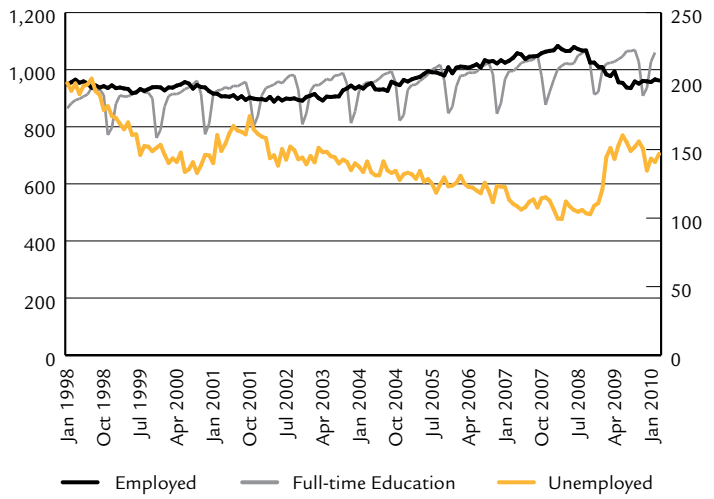
1.1 A decade of change

The past decade has seen pressure for change from a number of external sources; the size of the training market (for apprentices and trainees) has grown considerably; the share of this market held by group training organisations has declined; the nature of the market has changed with different types of training and skills development programs promoted by government; new actors have been introduced to the field traditionally occupied by group training organisations; the nature of training itself is changing with moves away from highly standardised training to more flexible competency-based models; government support for group training has changed and is increasingly seen as a fee for service activity by government agencies; Australia has seen a period of extremely tight labour market conditions and structural change in the Australian economy has seen the decline of industries traditionally served by group training (manufacturing).

At the same time group training organisations themselves are changing: GTOs have taken on a wider range of services such as training (RTOs) and apprentice accreditation (AACs); many have moved away from their traditional community base and see themselves as businesses, some are significant corporate entities. Many elements from the past survive. Personnel both at a Board and management level are often the same. The business model based around field officers who recruit, place and supervise apprentices and trainees survives in most organisations. Most continue to have a focus around a particular region or industry, although this is evolving. Key stakeholders such as government continue to see group training as it was at the start of the decade; community organisations that push the boundaries of the market for apprentices and trainees; carry apprentices and trainees when employers can't keep them on; service the SME market almost exclusively; provide superior supervision in terms of pastoral care and occupational health and safety.

This section will deal mainly with the changes in the external environment that are impacting group training and how it has performed over the past decade. Figure 1.1 shows that the labour market for 15 to 24 year olds, the main target market for Australian Apprentices, tightened progressively over the ten years to 2008. Full-time employment rose constantly from the early part of

Figure 1.1: Labour market for 15–24 year olds, full-time education 15–19 year olds



Source: ABS Labour Force, Australia (6202.0 March 2010).

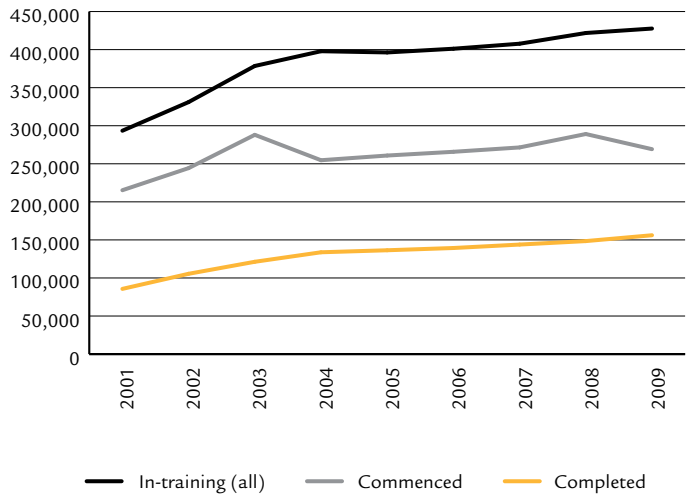
the decade while unemployment in the same age group (apart from 2000/2001) fell consistently until the onset of the Global Financial Crisis in late 2008 (right hand axis). People in this age group had many options. One was full-time education and the graph also shows 15-19 year olds in full-time education rising as consistently as employment (without the same drop-off for the Global Financial Crisis). The labour market for much of the period was regarded as being in a skills shortage with this description changing toward the end of the period to a skills crisis.

The period under review shows a steadily rising number of Australians in training (Figure 1.2 shows all forms of training). It needs to be remembered that there was an expansion in the scope of training with a greater emphasis on recognition of prior learning during this period as well as in-work training of people already employed but seeking to gain or upgrade qualifications. Completion rates rose more strongly than commencements.

In this market, it is apparent that group training was not growing as rapidly as the market as a whole. One reason proffered for this is that the growth of people 'in-work' seeking qualifications or to upgrade their qualifications was not an opportunity for GTOs. But this does not appear to be the only issue. Commencements grew very strongly early in this period and continued to rise slowly between 2004 and 2008 before falling with the onset of the GFC. Completion and 'in-training' broadly reflected this pattern although the ratio of completions to commencements in any one year improved over the period.

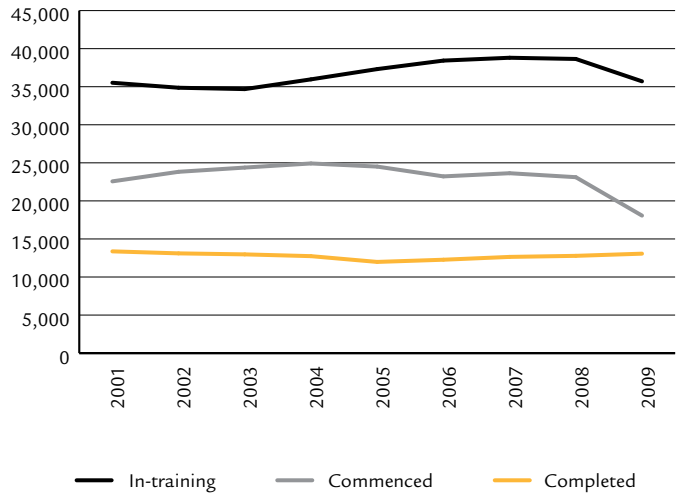
For GTOs (Figure 1.3), there was slow growth in commencements early in the period but from 2005 commencements declined (except for a slight uptick in 2007) and fell dramatically in 2009. The pattern for GTO 'in-training' and completions suggests there may have been a period of declining commencements immediately prior to the start of this data series. The decline in commencements for GTOs during a period of market growth suggests there were factors influencing GTO performance other than just the emergence of a new segment that was either not accessible or not of interest to GTOs.

Figure 1.2: In-training, commencement and completion (all training)



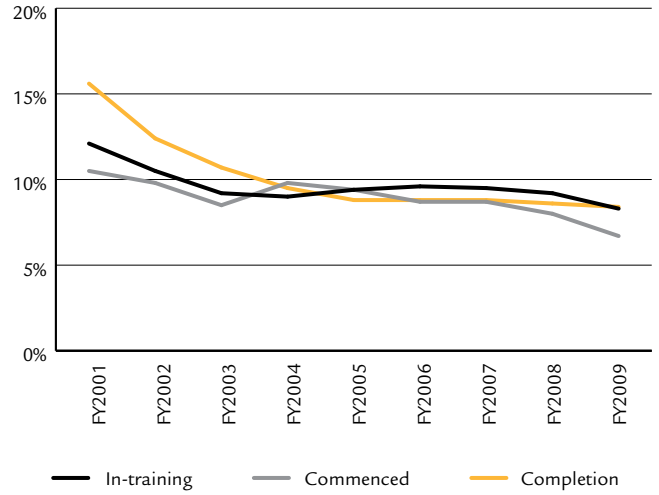
Source: NCVER/NIEIR.

Figure 1.3: In-training, commencement and completion (all training), GTOs



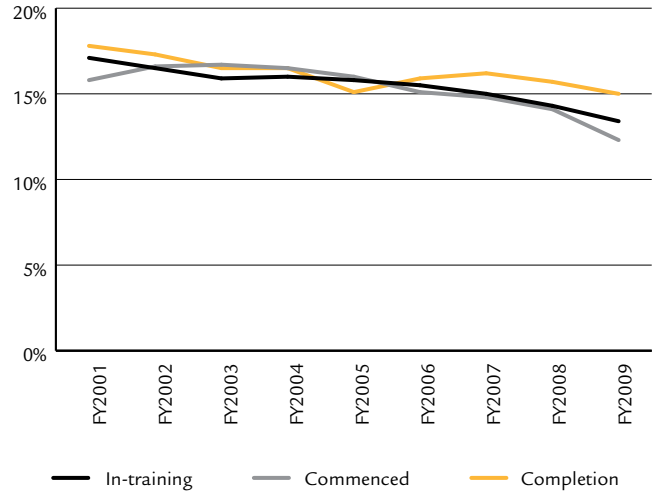
Source: NCVER/NIEIR.

Figure 1.4: GTO share of in-training, commencement and completion (all training)



Source: NCVER/NIEIR.

Figure 1.5: Group training share of in-training, commencements and completions (apprentices)



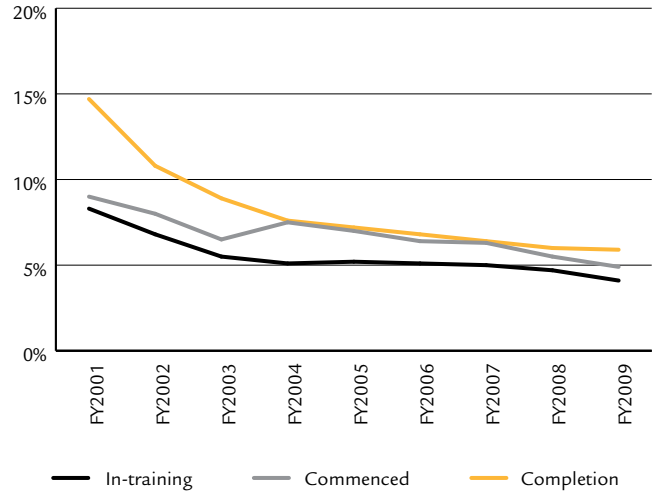
Source: NCVER/NIEIR.

The divergence is clearer when the data is put together as a ratio to reflect market share (Figure 1.4). Market share for GTOs (commencements, completions and in-training) all fell sharply early in the period and then steadied. However, market share of commencements began to fall again in 2004 falling from 9.8 per cent to 6.7 per cent in 2009. This brought down the group training share of people 'in-training' and could be expected to have an impact on completions in future years.

Looking more closely at the traditional market for group training, apprenticeship training (Figure 1.5), the graph shows a declining share of in-training, commencements and completions but with completions falling more slowly toward the end of the period. In terms of the business model, this graph raises questions about whether these trends are sustainable in the longer term and whether they reflect fundamental issues or are products of particular circumstances.

The situation for other training categories (Figure 1.6) shows steeper gradients and lower market shares at the end of the period. Group training lost market share of commencements in the early part of the period and although this turned up in 2004 it then continued to decline albeit at a slower pace. Completions held up better than commencements at the end of the period.

Figure 1.6: Share of in-training, commencement and completion (other training)

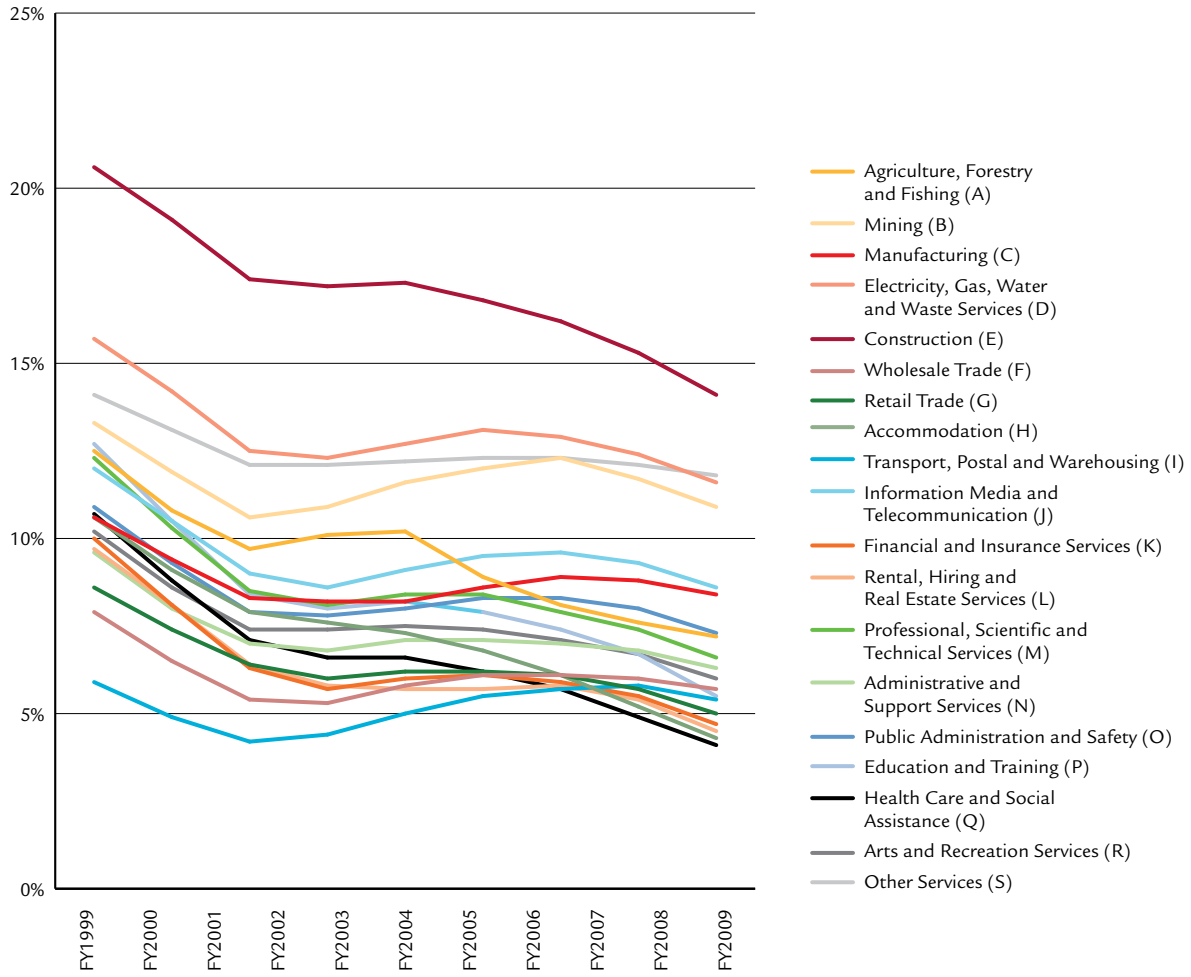


Source: NCVER/NIEIR.

Loss of market share provides an important backdrop to this report. It reflects the changing market in which GTOs operate with skill shortage seen as an important economic constraint, government investment in growing the market and, a range of opportunities for employers seeking to develop their workforce. It has been an important driver for change in the group training movement. Changes that are onging and will be discussed later in this report.

The loss of market share also highlights important issues that will need to be addressed in defining a future for group training. At least part of the explanation for loss of market share appears to be that the group training model is less suited to a tight labour market where employers are concerned about competition and poaching of staff. One employer made this point strongly to NIEIR in the course of this project. Another part of the explanation appears to be that GTOs did not respond to the changed market either because they were not interested or not able to respond. A third part is the emergence of substitutes such as AACs.

Figure 1.7: GTO share of in-training for all training categories by industry sector

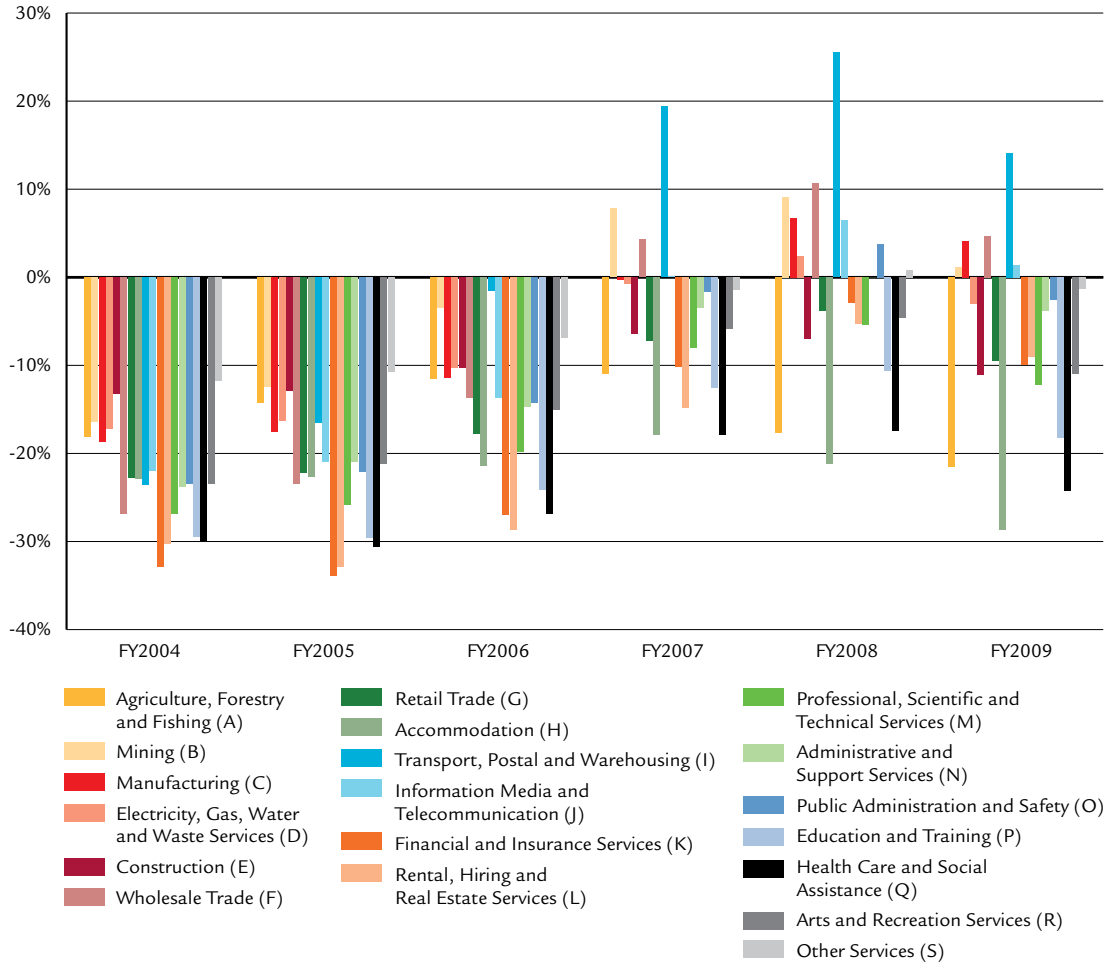


Source: NIEIR/NCVER.

1.2 Group training performance by industry

Figure 1.7 above shows the change in market share for group training by industry over the study period. It shows that the group training share of the training market varies by industry (construction being the highest) but also that the change in market share over the period has varied between industries with some holding steady (wholesale trade and transport) while others (such as construction, accommodation and health care) continued to fall. This variation is better illustrated in Figure 1.8 which shows the rate of change in GTO share for three year segments.

Figure 1.8: Change in group training share (3 year average to previous 6 year), all training, in training



Source: NIEIR/NCVER.

Figure 1.8 shows that while there were substantial falls in group training share across all sectors in the early part of the study period, over recent years group training has stabilised or reversed that situation in industries such as wholesale trade and transport (and to a lesser extent manufacturing, mining and telecommunications).

The issues operating here would appear to encompass all the issues mentioned in the previous section: growth in the market particularly for people 'in-work' seeking to upgrade qualifications; emergence of competitors or substitutes such as AACs promoting direct employment; a desire by employers in a tight labour and skills market to get closer to their people through direct employment, and; that a large part of the growth in the training market passed GTOs by either because they were not interested or not able to adapt to the areas where growth was occurring.

1.3 State and regional performance

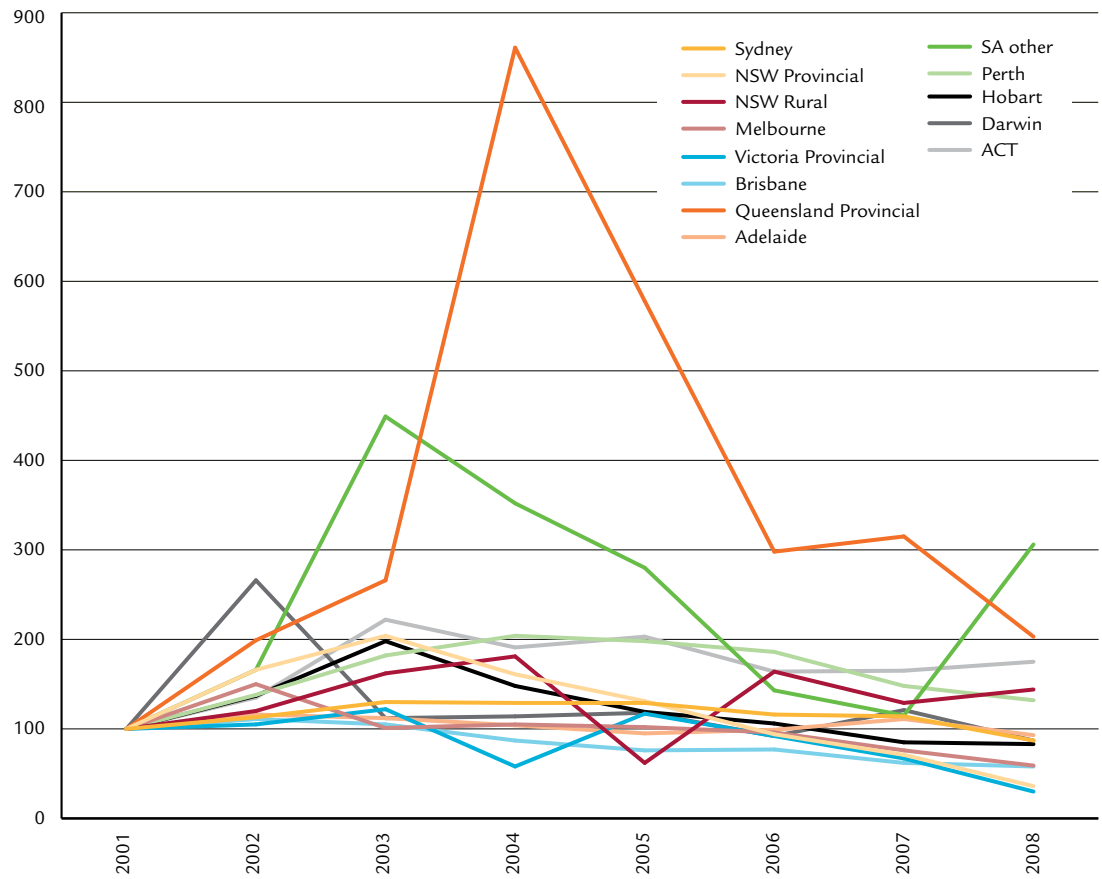
Figure 1.9 shows performance of GTOs by region based on apprenticeship data from Table 1.1 that uses an index where the base year (2001) has been set at 100. Again there is considerable variation in performance reflecting differences in the approach taken by GTOs in different regions as well as the different labour market circumstances. Non-metropolitan Queensland and non-metropolitan South Australia are relatively small regions in numbers and therefore more likely to be influenced by particular local factors however, their performance is clearly a stand-out. NSW rural has also performed strongly.

Having confirmed a decline in the group training market share, the challenge is to examine the background drivers to explain this decline. One measure is to examine the marketing efficiency of group training, the ability of group training to expand to accommodate additional demand and its performance in relation to the ratio of employed and unemployed.

1.4 Marketing efficiency

A measure of marketing efficiency is the ratio of industry employment, weighted by GTO apprentice commencements, to the sum of industry employment weighted by all apprentice commencements. This is given in Table 1.2. A ratio greater than 1 indicates that GTOs are shifting resources into industries with the fastest growing apprentice demand. A ratio of less than 1 indicates the reverse. The table indicates that between 1999 and 2008 marketing efficiency of GTOs generally improved. Early in the

Figure 1.9: Performance of GTOs by region



Source: NIEIR/NCVER.

period the weighted employment ratio was generally less than unity (1), which covered the time when some of the regions suffered the sharpest falls in their market share. Once lost, market share is difficult to regain.

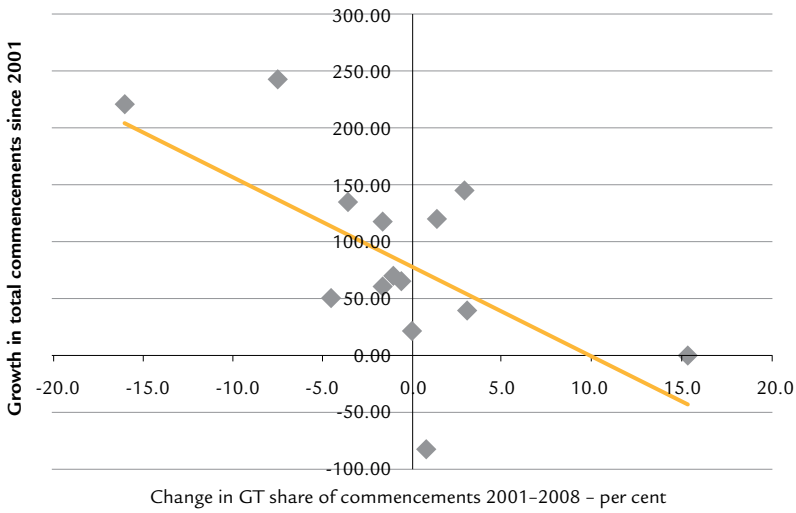
The regions in this category include:

(i) NSW Provincial;
(ii) NSW Rural;
(iii) Victoria Provincial;
(iv) Adelaide;
(v) Hobart; and
(vi) ACT.

On the positive side, marketing efficiency was high for Queensland Provincial and good in the large markets of Sydney, Brisbane and Melbourne. Perth outcomes possibly suffered from less than optimal marketing efficiency. It should be noted that marketing efficiency is a necessary but not a sufficient condition to maintain or enhance market share. GTOs may be well positioned in relative terms in the market place but they must also be willing to increase resources to grow absolute capacity.

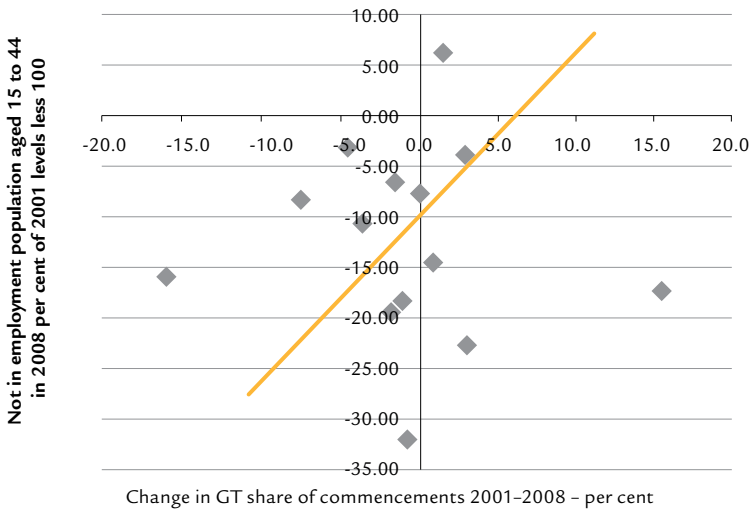
The evidence from elsewhere in this report is that the GTOs have been subject to a number of constraints (availability of field staff) that are a disincentive to expand service capacity (serve more host employers). The inference is that the faster the overall regional growth in commencements, the greater the loss in market share for GTOs. This hypothesis is given the support at the regional level from the results in Figure 1.10. GTO market share decline is strongly correlated with market growth.

Figure 1.10: Share of GT apprentice commencements in total commencements



Source: NIEIR

Figure 1.11: Not in employment population aged 15 to 44



Source: NIEIR

1.5 Not-in-employment population

Evidence elsewhere in this report also suggests that if the pool of unemployed (not-in-employment) contracted then the performance of GTOs, in terms of market share, could be expected to fall. In other words as labour markets tighten the market share of GTOs will decline. The results in Table 1.4 and Figure 1.11 gives some support to this hypothesis at the regional level. Contractions in GTO market share are strongly correlated with declines in the not-in-employment working age population.

Table 1.1: Share of GT apprentice commencements in total commencements (indicator with 2001 being 100)

	2001	2002	2003	2004	2005	2006	2007	2008	Change – 2008 less 2001 (%)
Sydney	100	113	130	129	129	116	114	87	-2.0
NSW Provincial	100	166	204	161	131	94	71	36	-13.7
NSW Rural	100	120	162	181	62	164	129	144	5.4
Melbourne	100	150	101	105	102	96	76	59	-7.2
Victoria Provincial	100	105	122	58	117	92	67	30	-15.8
Brisbane	100	111	105	87	76	77	62	58	-7.4
Queensland Provincial	100	199	266	861	578	298	315	203	10.6
Adelaide	100	116	112	104	95	99	111	93	-1.0
SA other	100	166	449	352	280	143	115	306	17.3
Perth	100	138	182	204	198	186	148	132	4.0
WA other	100	338	100	1260	503	1427	122	100	0.0
Hobart	100	137	198	148	119	106	85	83	-2.6
Darwin	100	266	112	114	118	92	121	87	-1.9
ACT	100	135	222	191	203	164	165	175	8.3

Table 1.2: Ratio of industry employment weighted by GT apprentice commencements to industry employment weighted by all apprentice commencements[1]

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Sydney	1.0299	1.0288	1.0211	1.0156	1.0061	1.0019	1.0000	1.0002	0.9933	0.9908
NSW Provincial	0.9043	0.9268	0.9120	0.9428	1.0104	1.0434	1.0055	0.9992	0.9985	0.9708
NSW Rural	0.8458	0.8454	0.8314	0.9656	0.9685	1.0425	1.0753	1.0406	1.1320	0.9238
Melbourne	1.0404	1.0404	1.0404	1.0184	1.1408	1.1355	1.2008	1.3147	1.2632	1.3626
Victoria Provincial	0.8760	0.8830	0.8885	0.8545	0.9527	1.0051	0.9413	0.9893	1.0213	1.0416
Brisbane	1.0188	1.0221	1.0203	1.0183	1.0152	1.0301	1.0152	1.0191	1.0272	1.0200
Queensland Provincial	1.3933	1.3329	1.3545	1.2100	1.2037	1.1466	0.8942	1.0702	0.9253	1.1677
Adelaide	0.8557	0.8613	0.8570	0.8718	0.9225	0.9291	0.9239	0.9070	0.9577	0.9293
SA other	0.0000	0.0000	0.0000	0.1966	2.7855	1.1365	0.7420	1.3340	0.0989	1.1966
Perth	0.7252	0.7252	0.7252	0.7190	0.8609	0.8541	0.8056	0.8181	0.7435	0.7797
WA other	0.0000	0.0000	0.0000	0.9859	0.0000	0.9243	1.0681	1.2140	1.2360	0.0000
Hobart	0.9098	0.9127	0.9166	0.9355	0.9371	0.9659	0.9597	0.9526	0.9395	0.9375
Darwin	0.9526	0.9073	0.8864	0.9198	0.9394	0.9290	0.9523	0.9471	0.9610	0.9479
ACT	0.8809	0.8318	0.8732	0.8809	0.9391	0.9327	0.9969	0.9912	1.0131	1.0279

1 To obtain a longer time series the weights are based on the narrow definition of apprentices.

Table 1.3: Total commencement apprentice market growth since 2001 (percentage)[2]

	2002	2003	2004	2005	2006	2007	2008
Sydney	9.79	15.56	35.56	40.10	45.55	51.49	61.79
NSW Provincial	1.26	43.90	74.73	172.18	210.74	224.09	241.21
NSW Rural	7.13	40.91	42.20	38.09	-56.52	-66.85	-80.22
Melbourne	7.70	18.61	30.15	31.03	28.16	36.52	52.11
Victoria Provincial	8.13	80.01	228.53	100.07	179.99	178.70	218.88
Brisbane	14.42	31.75	66.74	82.72	98.54	116.11	134.52
Queensland Provincial	-4.99	42.19	17.31	42.14	48.13	80.55	118.69
Adelaide	0.40	14.29	27.37	34.99	36.57	40.56	68.26
SA other	-53.94	-32.00	52.07	9.08	6.61	33.15	-0.33
Perth	7.06	27.86	50.22	83.91	119.21	145.02	145.40
WA other	18.27	-39.26	-78.83	-20.48	-81.31	9.72	23.39
Hobart	-10.22	12.14	53.65	68.07	73.36	72.45	116.79
Darwin	-24.86	-10.76	-1.67	25.79	41.19	39.89	66.79
ACT	-8.07	2.73	18.32	17.88	34.02	36.86	41.88

2 To obtain a longer time series, and to improve regional coverage, a considerable amount of data transformation had to be undertaken from the raw data. The data should only be used for indicative trend purposes.

Table 1.4: Not in employment population aged 15 to 44 (number)

	2001	2002	2003	2004	2005	2006	2007	2008	Not in employment population aged 15 to 44 in 2008 per cent of 2001 levels
Sydney	685702	697658	694901	695229	686308	692073	694303	678892	**99.0**
NSW Provincial	145234	141575	131445	133447	138140	137557	134016	129754	**89.3**
NSW Rural	293528	284337	289382	280046	275352	271790	262082	268568	**91.5**
Melbourne	533731	541795	546201	542777	529263	528261	518466	532577	**99.8**
Victoria Provincial	31090	31189	32326	32327	30569	32937	31962	29486	**94.8**
Brisbane	327569	325552	328830	320164	302912	303225	285706	290658	**88.7**
Queensland Provincial	96356	100659	106793	107550	105041	105631	102494	101006	**104.8**
Adelaide	169784	160779	154979	155104	146903	147021	150956	148427	**87.4**
SA other	77166	74303	75079	75037	72518	70249	70027	70406	**91.2**
Perth	211419	215064	216933	218510	204334	205113	209041	204295	**96.6**
WA other	112618	112179	109944	108009	103150	104673	104505	103059	**91.5**
Hobart	32375	33390	33015	33047	31434	29895	30743	28917	**89.3**
Darwin	13485	13951	12809	11979	13752	12308	11765	11587	**85.9**
ACT	52186	51504	52119	50240	47786	45392	45730	45798	**87.8**

1.6 Conclusions

In analysing the changes that have impacted group training over the past decade, there are a number of observations that will inform the choice group training needs to make. Group training lost market share generally, in most industries and in many regions during the decade to 2009.

An important issue to emerge from this analysis is that the group training model is more suited to certain labour market conditions than others. It does not perform well in the sort of tight labour market conditions that existed from the mid-1990s, particularly the years leading up to the Global Financial Crisis (GFC). As unemployment fell and skills shortages developed, employers were more inclined to employ directly rather than through a third party organisation (group training). At the same time, government initiatives designed to address skill shortages such as the emerging role for Australian Apprenticeships Centres (AACs), encouraged employers to employ directly. NIEIR estimates elsewhere in this report that a third of the loss of group training's market share can be accounted for by the labour market conditions that prevailed over the decade to 2009.

A further element in this market change was the response of group training to the expansion of the market for apprenticeships and traineeships. While it is argued that much of this expansion was in new forms of indentured training, group training either chose or was not able to respond to this expansion. This reflects potential rigidities in the group training model; constraints around the ability of group training to expand its pool of skilled staff (particularly in tight labour market conditions); the regions and sectors where group training is established, and; the inability or reluctance to adapt to changes in the market for its services (reflecting the view of this study that group training sees itself as a form of activity rather than a service provider responding to customer demand). It is estimated that this element accounts for a further one third of the loss of group training market share.

The final element in the loss of market share by group training is an amalgam of factors such as the emergence of substitutes for group training services, notably AACs but also including education providers (RTOs and TAFE); market intelligence on regions and customers; organisational issues; barriers to entry; lack of innovation (highlighted by the lack of new entrants to group training over the period).

These issues will be explored further in Chapter 9.

PART B:
INDUSTRY ANALYSIS: STAKEHOLDER ASSESSMENT

B

2. The Group Training Industry 24

- **2.1** Government policy continues to be important to GTOs 25
- **2.2** Growing competition among GTOs 26
- **2.3** AACs growing substitute for GTOs 26
- **2.4** Barriers to entry 27
- **2.5** No clear pitch or brand for group training 27
- **2.6** No standard cost analysis but most spent on supervision 28
- **2.7** Finding the right staff most challenging input 28
- **2.8** Long list of issues keep GTOs awake at night 29
- **2.9** Integrated service offer key characteristic of future for GTOs 29

3. Customer perceptions of Group Training Organisations 30

- **3.1** Employers don't see GTOs as increasing propensity to employ apprentices and trainees 31
- **3.2** Employer experience of group training better than direct employment 31
- **3.3** Simplicity, flexibility main values of group training 31
- **3.4** Cost the main negative experience and main threat to group training 32
- **3.5** Building customer relationship is the main opportunity for GTOs 32
- **3.6** Economic environment will be the main influence 33
- **3.7** Still marketing opportunities for group training 33
- **3.8** Ability to supervise and economy key to employing more apprentices and trainees 34
- **3.9** Skills development a key consideration 34

4. Government perceptions of Group Training Organisations 35

- **4.1** Relationships 37
- **4.2** Perceptions 38
- **4.3** Future issues 38

5. Group training industry analysis 39

- **5.1** Industry 40
- **5.2** Customers 40
- **5.2.1** Government 41
- **5.2.2** Employers 42
- **5.3** Suppliers 42
- **5.4** Substitutes 43
- **5.5** Barriers to entry 44

PART B:
INDUSTRY ANALYSIS: STAKEHOLDER ASSESSMENT

2. THE GROUP TRAINING INDUSTRY

This Part of the report will analyse detailed interviews with GTOs and their customers to look at their relationships, the dynamics of the industry and views about the future of group training. The observations in Chapter 2 will draw on structured interviews with a stratified sample of 20 GTOs conducted during November and December 2009.

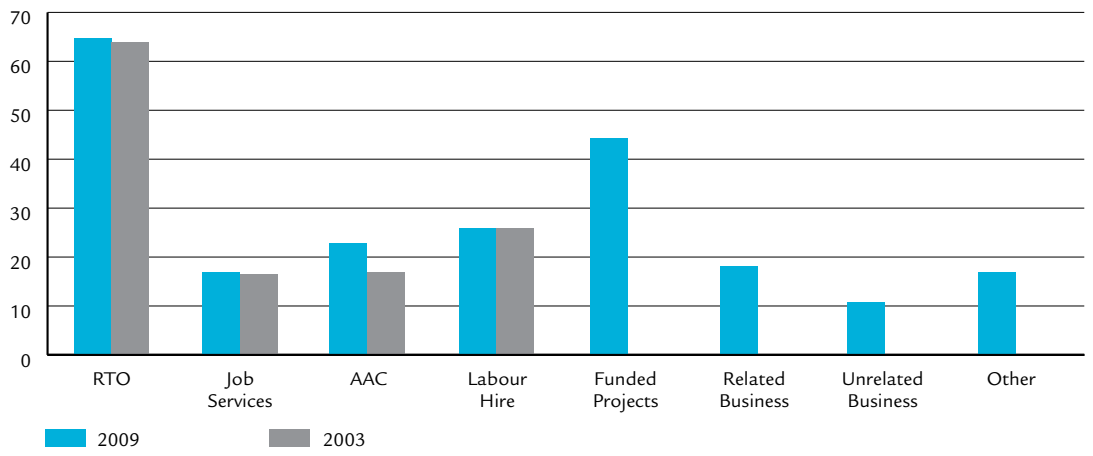
A key hypothesis for this report will be that there are four business models operating in group training at present. Some GTOs operate clearly within one model whereas some operate between the models. Each has its own limitation in terms of performance. A number of GTOs are moving or have moved between business models. Those that are under the greatest threat are GTOs between different models without the ability to move cleanly and clearly from one to the other. They are most likely to face pressure to merge or be acquired by other GTOs or in a worst case scenario; these are the GTOs at greatest risk of failure.

Historically, group training was founded on the basis of local community groups establishing themselves to promote the employment of apprentices. These groups may have been promoted by local government or some other geographically-based initiative to create apprenticeship opportunities and overcome barriers through the group training model. This operational model was based on community organisations that aimed to encourage employers to take on young people by overcoming resistance to a four year indenture commitment. The community model proactively marketed apprenticeships to young people in a community and worked with employers to create opportunities. The group training organisation developed a network of local employers with whom it would maintain a close relationship so as to identify and fill opportunities as they emerged. This model also emphasised a strong commitment to pastoral care for young people and was able to take on this responsibility particularly for SMEs who may not have had this capacity.

This community business model in many cases evolved into a regional business model. The model has similar objectives but developed a more commercial market-based approach (even though many of the organisations remained not for profit organisations). In doing so, some of the regional organisations have lost the strength (and protection) of their community base in exchange for commercial freedom to pursue new opportunities. Some of these subsequently evolved into the fourth business model, the corporate model.

The industry business model evolved in parallel with the first two and aimed to serve a specific industry's needs rather than a community. Here a group training organisation may have been established by an industry association, a trade union, a group of companies or a

Figure 2.1: Proportion of GTOs engaged in a range of activities



government initiative to promote the employment of apprentices in an industry to address skills shortages. This model is particularly prevalent in the building industry where the time-frame for projects and therefore the nature of employment made it difficult for employers to commit to four year indentures of apprentices. Group training offered the opportunities to move apprentices between employers with the ebbs and flows of projects. This model emphasised group training as an opportunity to manage and deal with industry skill shortages. Its emphasis on pastoral care was generally strong in the area of occupational health and safety (OH&S) and skills development as these were important to future employers. Where GTOs were sponsored by unions, there was a core duty to create awareness of safety and work conditions as well as a long-term association with the union.

The corporate model has emerged more recently from the diversification of group training (generally regional GTOs) as Boards and management have sought to create a more secure future for their organisations. This model has also been stimulated by government initiatives through employment and training policies that have created a raft of new organisations – Australian Apprenticeships Centres (AACs), Registered Training Organisations (RTOs), Job Services Australia Providers being the main ones. Many GTOs tendered and have successfully developed subsidiaries or related companies that provide these services. Figure 2.1 on the previous page shows the range of activities and the proportion of GTOs engaged in these activities. It shows the most common activity for GTOs is to also be a training provider however there has also been some growth in the number becoming AACs in recent years.

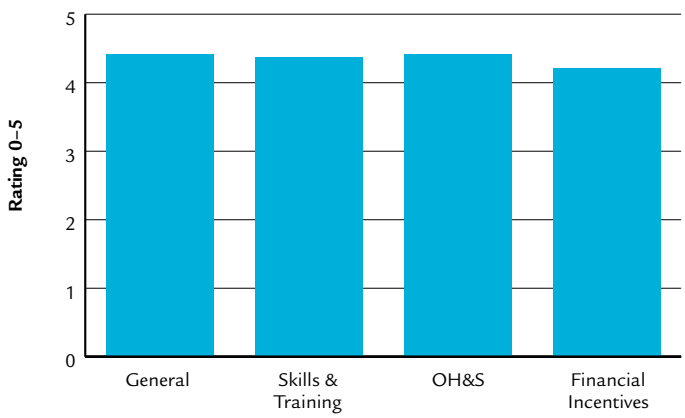
Another influence on the corporate model has been the geographic spread of GTOs. This may be prompted either by a desire to manage risk through geographic diversification; pursuit of business opportunities in under-serviced areas, or; through client relationships with organisations that have activities beyond the region of the GTO.

The corporate model is focused on group training as a business rather than as a community service or a service to a particular industry or trade. In this model, GTOs move beyond their community base, expand into different service offers and begin to develop new national or multi-state relationships. This model however is still in a relatively immature phase. At present, performance of GTOs tends to fall away as the size of the organisation grows. As a result, the corporate model can tend to move closer to a 'labour hire' offer than a group training service. It has been observed that many group training organisations moving toward the corporate model are under-equipped because of the qualifications and experience of Boards (often community representatives, local government and small business rather than national organisations and business) and management (often people promoted from within the organisation whose experience has been within a regional GTO).

2.1 Government policy continues to be important to GTOs

Government funding represents less than 5 percent of revenue for most GTOs. Yet government policy and funding continues to be an important issue with almost the entire sample rating the government policy environment at either a 4 or 5 on a scale of 1 to 5 in terms of its ability to affect the success of their organisation.

Figure 2.2: Importance of Government policy to success



When asked to think about government policy issues likely to impact their organisation in the next decade, three issues stood out – competency-based training, funding and further development of AACs. Competency-based training was nominated because of its ability to impact GTO core business (on the job training) and shorten the training period. It involves individual variation in the training period and challenges the current business model because of the requirement for greater flexibility and the potential for higher turnover of apprentices. The emergence of AACs and the increasing role government is creating for AACs (including an element of pastoral care) is seen as a major challenge for GTOs. While some 20 percent of GTOs are also AACs, they are increasingly seen as competitors offering a partial GTO service at no cost to employers.

2.2 Growing competition among GTOs

Other GTOs are seen as competitors although there was some ambivalence as in the past, when GTOs generally worked different regions or industries, there was less competition and many felt more cooperation. The emerging corporate model was seen as a growing force for competition although to this point the competition has tended to focus on larger national employers and has not resulted in any significant loss from traditional SME clients. Price, quality of candidates and pastoral care are the major and traditional areas of competition however the emerging threat to regional players is the ability of corporate GTOs to offer a 'bundle of services'. In fact, if the factors relating to the changing business model are aggregated (bundle of services, business model and relationships) this issue is as significant as price and candidates.

2.3 AACs growing substitute for GTOs

Beyond GTOs, direct employment is the main substitute for group training. However, many see growth of direct employment as being facilitated by increasingly pro-active AACs. Changing government requirements of AACs in relation to monitoring and oversight of apprentices is seen as pushing the AACs closer to a group training role. As a result AACs stand out as the competitor or substitute group training organisations 'fear most'. The growth of AACs is related

Figure 2.3: Areas of competition between GTOs

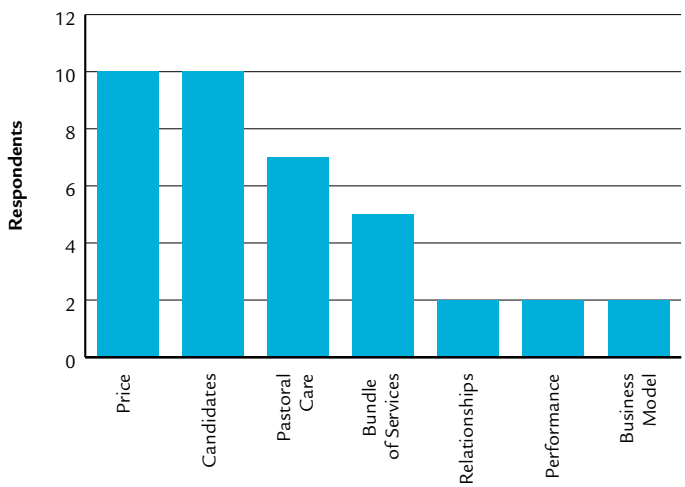
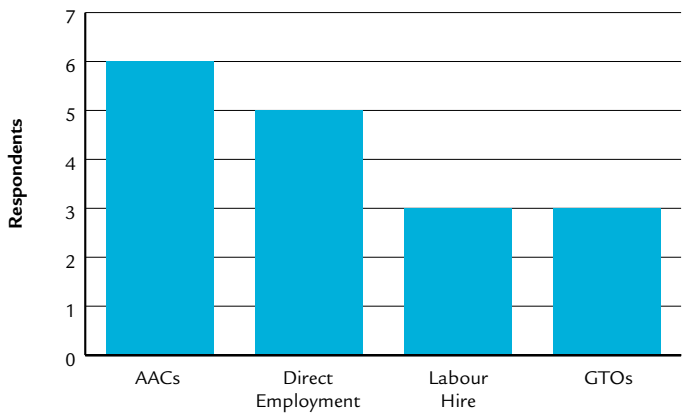


Figure 2.4: Competitors/substitutes GTOs 'fear most'



to fear of direct employment in so far as AACs promote direct employment. The reason GTOs fear this competition is that AACs can offer services free of charge that would otherwise be offered by GTOs (AACs are paid for by government whereas employers pay for GTO services). So price is seen as the major driver followed by customer relationships (AACs have a mandated relationship with every employer of apprentices).

The main emerging area of threat to GTOs is seen as industry associations and unions who use their existing membership or relationships (and in the case of unions industrial pressure) to build a client base for group training.

Figure 2.5: Barriers to entry

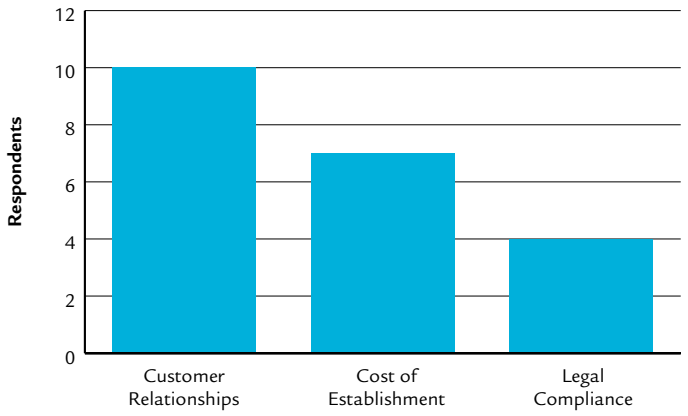
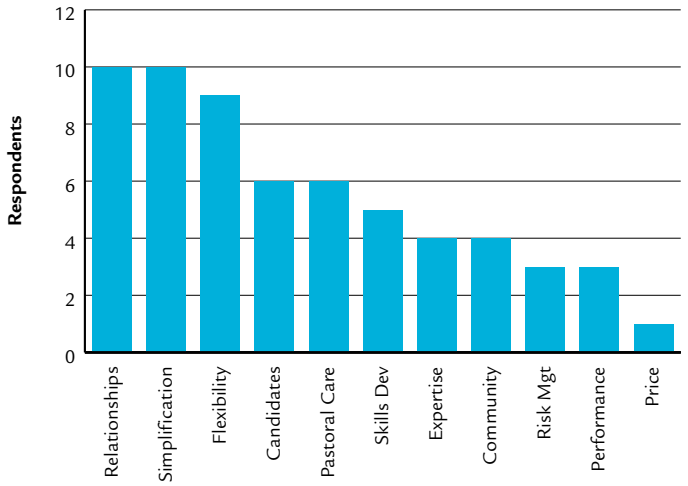


Figure 2.6: Pitch/value proposition of GTOs



2.4 Barriers to entry

The main barriers to entry for competitors and substitutes are seen as customer relationships (most regionally-based GTOs have a well-established reputation and relationships in their area), cost of establishment (building infrastructure and a customer base) and legal compliance (the ability to meet specific performance requirements for GTOs (to attract government funding) and other legal obligations as employers of apprentices and trainees.

2.5 No clear pitch or brand for group training

The diversity of messages GTOs seek to communicate to their clients indicates a major issue faced by GTOs is the complexity of the value proposition they seek to offer. Some simply give up and offer work through a suite of messages with a client until they find the one that resonates. The strongest message GTOs seek to communicate and the value proposition they offer most consistently is their ability to develop close relationships or partnerships with clients to provide apprenticeship services. This is matched by messages around removing the complexity from employing apprentices and offering flexibility ('don't need to keep an apprentice the whole time if circumstances change'). Price was only mentioned by one GTO as part of their pitch or value proposition (and that was in the context of removing complexity). Simplification of the message will require a less complex business proposition. This may actually be achieved by offering a wider suite of services.

The name group training implies an emphasis on what organisations do rather than the service they provide. Companies often become obsessed with what they do rather than the service they provide.

2.6 No standard cost analysis but most spent on supervision

It became clear through the interviews that GTOs did not have a standard approach to measuring and evaluating costs. A question about the gross margin solicited a range of responses around the theme of 'we don't calculate things that way' or 'I can't say' or 'I don't know'. However, it would appear that most operate on a gross margin of between 15 and 35 per cent with the vast majority of that margin (between half and three quarters) being spent on pastoral care and supervision with the balance spent on administration including payroll services. Many GTOs have field officers who undertake both recruitment and supervision of the apprentices. The response to this question illustrates why it has been difficult for GTA to develop performance measurement and benchmarking tools that can strengthen the industry's bargaining position with governments. It also highlights the danger that organisations attempting to manage their cost base will be tempted to reduce the quality of service provided by field staff and therefore undermine one of their key value propositions.

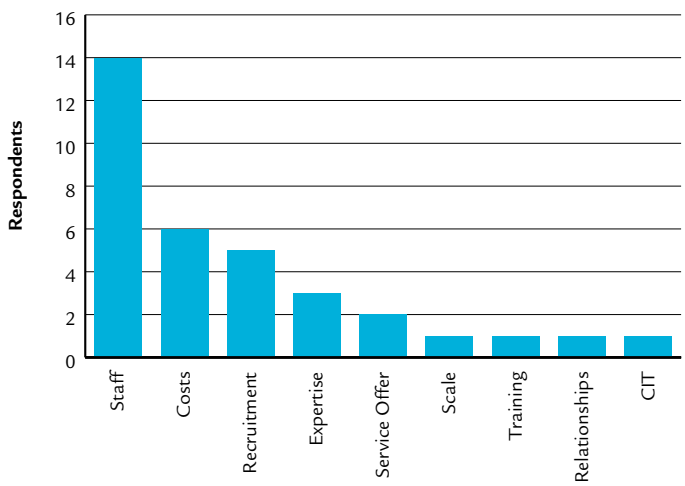
2.7 Finding the right staff most challenging input

The input GTOs find most challenging is the recruitment of staff, particularly field staff, who can deal with employers while providing supervision and care to apprentices and trainees. The next most challenging issue (despite these interviews being conducted during a period when it was difficult to place apprentices and trainees) was the recruitment of apprentices and trainees. Some identified this as a cyclical issue although others felt finding the 'right' apprentices and trainees a constant challenge. In this regard finding people with an interest in trades and the right attitude for the work available was the key issue. A substantial minority also identified the availability of training infrastructure (meaning the right courses for the jobs available) as a challenge while others felt computing and information technology systems and services a challenge (to provide efficient and competitive back office systems).

Asked to think about what would be challenging them in 10 years time however, the priorities changed with the introduction of costs, expertise, the ability to provide an integrated service offer and scale being issues GTOs are anticipating.

These issues reinforce the picture that emerges from the industry analysis emphasising the need to provide a more comprehensive service offer to clients underpinned by efficient, cost competitive back-office services and the scale and size to deliver these services being a fundamental challenge. Having the right combination of skills and people would be an essential underpinning of any new business model. The continuing evolution of group training will require different approaches to staffing with more specialist roles.

Figure 2.7: Future challenges for GTOs



2.8 Long list of issues keep GTOs awake at night

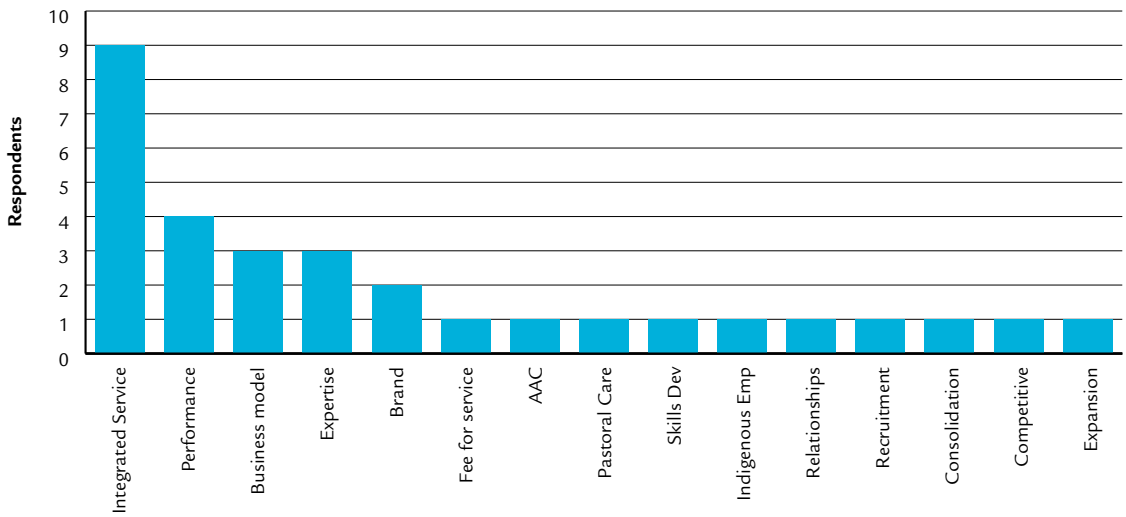
If the challenge can be relatively simply stated, part of the real challenge will be in getting GTOs to focus on what is really important. Asked what kept them awake at night, GTOs produced a long list of issues. Some 15 issues were mentioned as keeping GTOs awake with no one issue standing out. Finding the right staff was the leading issue followed by the economic environment, the business model, government policy and pastoral care (particularly safety). Then followed a long list of issues mentioned only once including the brand of group training, legal compliance, competition, recruitment, finance and training policies including competency-based training issues.

2.9 Integrated service offer key characteristic of future for GTOs

When asked to describe the future for group training, the provision of an integrated service offer was the main characteristic mentioned by GTOs. This was followed by solid performance against performance indicators, a clear business model, strong expertise and brand. Beyond these features a range of other issues were mentioned however all could be seen as complementary to this basic proposition of organisations offering a range of services related to the development of a skilled workforce for companies, industries and regions.

The next chapters look at the expectations of customers – employers and governments – and how their expectations fit with the direction being articulated by group training organisations.

Figure 2.8: Future for group training



3. CUSTOMER PERCEPTIONS OF GROUP TRAINING ORGANISATIONS

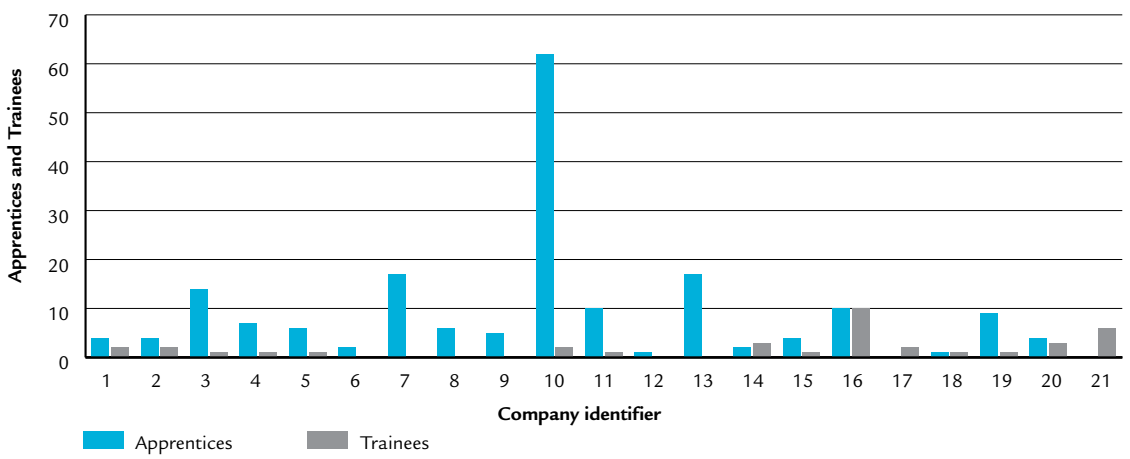
The industry analysis has identified two primary customers for group training; employers looking for skilled staff and, government looking to promote skills formation and social inclusion policies through group training organisations. Employers are clearly the most significant customer accounting for in excess of 95 percent of revenue for most GTOs. The views of employers will be considered in this chapter and the views of government will be considered in Chapter 4.

Employers were focused on fairly simple outcomes from group training; they want to meet their skills needs in the simplest, most flexible and cost effective manner. Simplicity and flexibility are major attractions of group training and cost is a major concern. The main opportunity for group training would appear to be in becoming a partner to industry, solving their skills problems and helping them become better businesses. In this regard, SMEs remain an important market although they can also be a more expensive market to serve because they have very little HR infrastructure, employ relatively small numbers of apprentices, can be geographically dispersed and have poor OH&S practices thereby creating a major risk for GTOs. However, there is a different opportunity to become a workforce development partner for an SME compared to a larger corporate with sophisticated HR infrastructure. Larger companies can be both an opportunity for GTOs (employers of large number of apprentices across multiple sites with good OH&S performance and good credit standing) and a threat (it is relatively easy for them to take their apprentice and trainee program in-house). It is apparent that there is considerable scope for improvement in marketing group training.

In the small sample of organisations interviewed by NIEIR who did not use group training, there was at least one who employed five trainees who was interested but had not been approached by a GTO.

Some 21 employers were surveyed for this study employing almost 190 apprentices (average 9 apprentices) and 24 trainees. Of this group, 16 employers were current customers of group training and five were not customers of group training. Nine industries were represented in the sample including automotive, building and construction, local government, hospitality, engineering services, a utility and an animal welfare organisation. There was considerable variation in the size of the organisations surveyed and consequently the number of apprentices and trainees employed.

Figure 3.1: Apprentices and trainees employed



3.1 Employers don't see GTOs as increasing propensity to employ apprentices and trainees

The survey offered only limited support for the contention that GTOs increase the propensity of employers to create work opportunities for apprentices and trainees. Of those who employ apprentices or trainees through GTOs, 80 percent said the existence of a group training program did not increase their propensity to employ. For most, the decision to employ an apprentice was based on economic conditions and their capacity to support an additional employee with work and adequate supervision. Of the 20 percent who said that group training had increased their propensity to employ an apprentice or trainee, they estimated that about half of their apprentices and trainees were employed as a result of group training services. The main reasons given were simplicity and flexibility of employment with pastoral care also mentioned by one employer.

3.2 Employer experience of group training better than direct employment

Of those employers who have utilised group training services, the experience of group training was generally superior to that of direct employment – although only marginally. Employers attributed an average rating of three out of five for direct employment and 3.8 out of five for group training. The strongest influence on this superior rating was that group training removed complexity and made it simpler to engage an apprentice or trainee. The relationship with the GTO was the next most commonly mentioned reason for the rating of group training followed by the pastoral care provided and the ability of group training to recruit apprentices and trainees. Other factors included the quality of candidates and flexibility of employment. However, there were also some cautions offered with employers mentioning 'poaching' of apprentices through rotation to other employers, antiquated systems and costs as reasons for marking group training down in their rating.

3.3 Simplicity, flexibility main values of group training

Removing complexity from the process of employing an apprentice or trainee was clearly the leading benefit identified by employers by a considerable margin – almost two thirds of employers who use group training identified this issue as a positive. Flexibility was the next most commonly mentioned positive attribute of group training. Positive customer relationships were also mentioned as an important positive attribute by employers with experience of group training.

In terms of the value created by group training, the most important issues were simplicity and flexibility followed by pastoral care, the ability to recruit apprentices and trainees and the quality of the candidates offered. The fairly tight list of value adding attributes of group training suggests a fair degree of consensus between employers (as distinct from GTOs). Also of interest was that not one employer identified these attributes as particular to their GTO but more general attributes of the group training model.

Figure 3.2: Reasons for GT rating

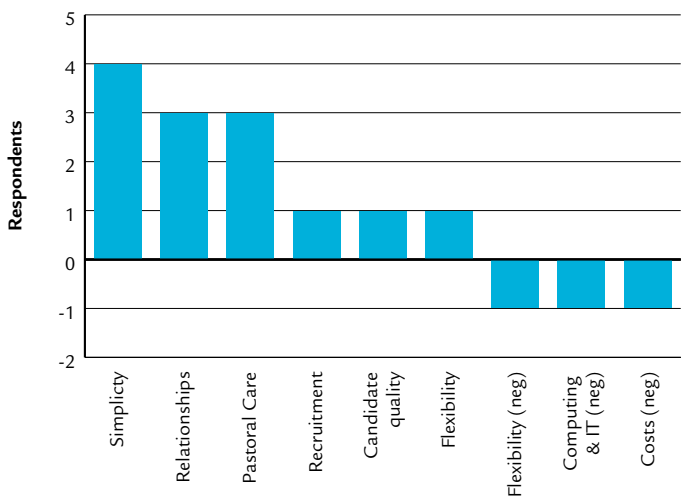
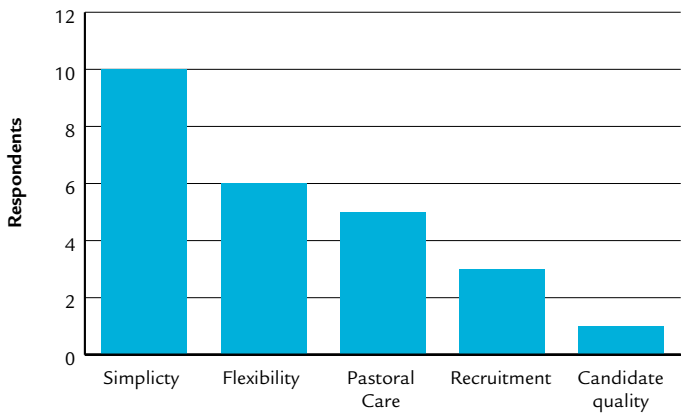


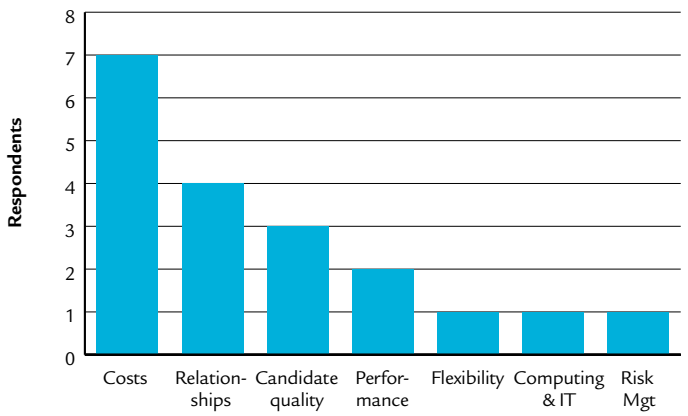
Figure 3.3: Value of group training to employers



3.4 Cost the main negative experience and main threat to group training

Employers were fairly clear on what they saw as the main negative issue in their experience with group training – costs. While a number said costs were not the main issue in their recruitment this was clearly the most frequently mentioned 'negative' and the main threat to group training. Other negative influences on employer decisions to use group training were the ability of GTOs to develop high quality relationships, the quality of candidates offered, the ability of GTOs to meet performance expectations, flexibility (seen as 'poaching' by one employer), inadequate operating and computing systems and risk management (only prepared to offer 50 percent of places to GTO).

Figure 3.4: Negative influences identified by employers



In terms of future threats to group training, after costs employers identified a diverse range of issues including the ability of GTOs to maintain quality relationships, their ability to source appropriate apprentices and trainees, industrial relations issues (internal versus external employment) followed by flexibility ('poaching'), economic conditions, the development of enterprise-based group training programs, simplicity, quality of candidates and the ability of employers to provide supervision.

3.5 Building customer relationship is the main opportunity for GTOs

While employers who have experience with GTOs offered a fairly long list of opportunities for the future, there was a fairly clear focus on the development of quality relationship and the provision of quality candidates who are managed with good pastoral care by the GTOs. After these issues others mentioned were costs, flexibility, recruitment and operating systems. The message from these employers seems to be that while they are primarily interested in gaining the benefits of simplicity and flexibility, and they are concerned about costs, they see the long term potential of group training in the provision of a quality service that meets their HR and skills development needs.

Figure 3.5: Threats to group training

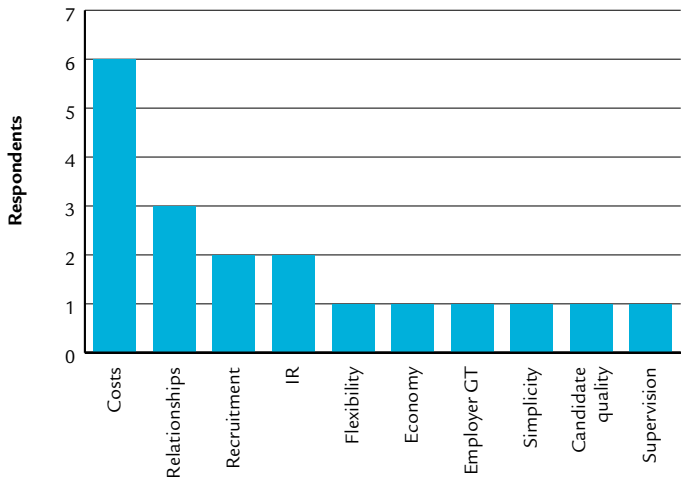
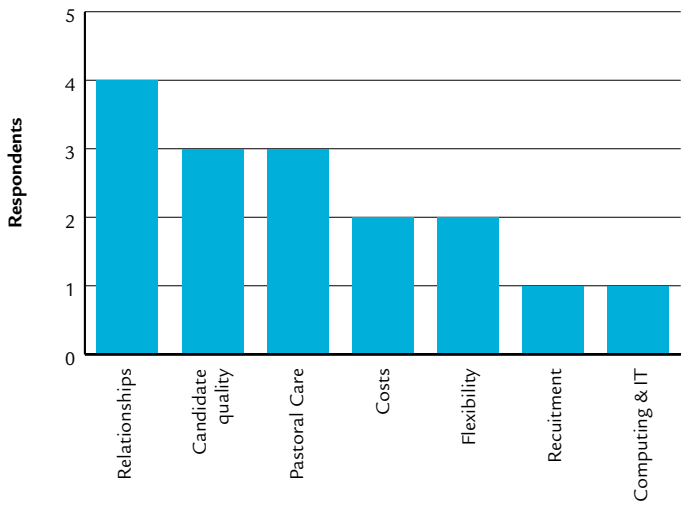


Figure 3.6: Group training opportunities



3.6 Economic environment will be the main influence

While employers can see a range of benefits from working with GTOs, the bottom line for them will always be their ability to employ based on prevailing economic conditions and the availability of appropriate supervisors.

3.7 Still marketing opportunities for group training

Of those employers who had not used group training, all except one knew of group training but interestingly all except one had not been contacted by a group training organisation. As a result, only two of the five said they had considered group training as an option for their business. All used direct employment of apprentices or trainees because, they believed it was cost effective; provided the quality of candidates they sought and, was consistent with employment policies around building a strong team loyal to the company brand. One felt direct employment was a flexible option appropriate to the size and scale of the operation.

3.8 Ability to supervise and economy key to employing more apprentices and trainees

Of the factors that would influence the decision of non-group training employers to take on more apprentices or trainees, the most common answer was the ability of the organisation to provide appropriate supervision. This suggests there is an opportunity for GTOs to market services that remove complexity and take away some of the burden of supervision. In one instance, the ratio of apprentices to qualified tradespeople was already high however in other instances it was not particularly high but simply the overall impact on the organisation of having to provide additional supervision that was an issue. Other factors mentioned were the economy, complexity of employing apprentices, flexibility in hiring and, the availability of training courses. Apart from the economy, all were issues that group training could assist in addressing.

3.9 Skills development a key consideration

Interestingly, for non-GTO employers skills development was a major issue that would influence their future engagement with apprentices and trainees. Other issues were the adequacy of AACs in providing advice, concerns about finding candidates for apprenticeships or traineeships, indigenous employment strategies, the economy and their ability to provide adequate supervision. Many of these issues are ones that GTOs could assist in resolving for these employers. It suggests some weaknesses in GTO marketing strategies – both the identification of potential customers and in communication with potential customers.

4. GOVERNMENT PERCEPTIONS OF GROUP TRAINING ORGANISATIONS

NIEIR undertook structured interviews with officials from five states and one territory as well as a range of Commonwealth Government officials. The interviews focused on three key areas; current relationships between government and GTOs, perceptions of GTOs and the future relationship between GTOs and government.

Government represents a distinctly different customer for group training services. The 'product' government is seeking is different and the payment is different. Government payments represent between one and five percent of revenue for most GTOs although a substantially higher proportion of discretionary cash flow (given that the bulk of employer payments are committed to wages and on-costs of apprentices and trainees). Whereas employers are generally looking for simplicity and flexibility in employing apprentices and trainees, governments see group training as a vehicle to implement various policy initiatives. These initiatives range from general skills development to labour market equity initiatives for disadvantaged groups (indigenous people, people with disabilities, people in remote areas), school to work transition, structural adjustment initiatives and counter-cyclical labour market initiatives (out-of-trades apprentices). Governments also have certain expectations of group training organisations. It expects they will promote skilled careers and expand the pool of candidates through school presentations and marketing activities; that they will offer superior employment conditions (pastoral care, close attention to occupational health and safety, remuneration and other conditions), and; that GTOs will achieve superior outcomes in terms of completion rates for apprentices and trainees. Further, government expects GTOs to engage with it in the development of labour market policies and training initiatives through constructive debate on policy options, as 'solution' providers and as 'pioneers' in implementing new initiatives.

Payment for services government expects from group training is principally through the Federal and State Government supported Joint Group Training Program (JGTP) and the Group Training Australian Apprentices Targeted Initiatives Program (TIP). The latter is currently under review and may not be continued or it will be substantially reworked possibly opening it up to a broader market than group training. GTOs can also access general government financial incentives available for the employment of apprentices and trainees[6] (although some make the decision to simply pass these benefits on to the employer). Arrangements for specific payments for group training services (JGTP and TIP) are constrained around specific government policy objectives and priority areas (for JGTP skills needs, disadvantaged groups, rural and remote and local community needs[7] and for TIP skills shortage areas, critical markets and under-serviced markets). However, JGTP is commonly seen as support for the general objectives of group training. Payment is restricted to group training organisations that are registered and comply with national standards. The standards are primarily a quality assurance mechanism to provide a consistent brand for group training as well as a consistent standard of performance and quality of operations. All states require GTOs to meet the standards in order to be eligible for government funding and three require GTOs to be registered under the standard.

6 Employers may be eligible for a range of financial supports from the Australian Government, such as: Commencement, Recommencement and Completion Incentives; Apprenticeship Training Vouchers; Australian School-based Apprenticeships Incentive; Incentives for Higher Technical Skills (Diploma and Advanced Diploma); Innovation Incentive; Mature Aged Worker Incentive; Rural and Regional Skills Shortage Incentives; Support for Adult Australian Apprentices; Targeted Assistance for Rural and Regional Areas across Australia. When a person with disability is employed, Disabled Australian Apprentice Wage Support and Assistance for Tutorial, Mentor and Interpreter Services are also available to employers. (http://www.jobaccess.gov.au/JOAC/Services/A-Z_list/Australian_Apprenticeship.htm)

7 Targeted outcomes will be determined by each State or Territory for each of the following national priority areas: (1) Skills Needs (Skill shortage areas in national and/or State skills shortage. (as identified by STAs), Traditional trades, Higher level skills); (2) Client Groups (Indigenous Australians, People with disabilities, People from culturally and linguistically diverse backgrounds, People in non-traditional trades (non female/male dominant occupations), Australian School-based Apprenticeships, Youth at risk, Out of trade apprentices, Adults over 21 years), and; (3) Geographical Locations (Rural and remote areas as defined by individual State Training Authorities).

Currently JGTP funding amounts to more than $26 million per annum ($13.4 million Commonwealth matched by the States). Priorities and eligibility for JGTP funding vary from state to state. In some states it is restricted to long-standing GTOs although this is being reviewed.

Governments overwhelmingly see GTOs as important to implementing their policy agenda and hold positive perceptions of group training. But there is a warning. Many of the officials spoken to for this project felt group training was losing its way and leaving its community service role behind with less focus on developing new markets, expanding existing markets, working with SMEs, offering quality pastoral care and superior skills development (for example, by rotating apprentices through a number of employers during indenture). A number of influential policy makers felt group training should return to its roots as community organisations rather than what some described as moving closer to labour hire organisations and others felt was 'trying to be all things to all people'. This feeling was causing a number of officials to question where the 'value-add' was for government from its support for group training. Many asked whether they would be able to justify continuing to seek and offer special support for group training if it lost what was to them 'special'.

Earlier it was noted that most GTOs regard government as having high importance to the success of their operations, many are also mindful of the relatively small proportion of their revenue that is derived from providing services to government. Some have flouted this financial independence in front of government officials making it clear they could live without government revenue. While the relationship is not hostile, it is not as strong as it may have been previously and some officials are clearly looking to take a firmer line with GTO funding. The situation is not helped by what some officials describe as a failure by group training organisations to engage in policy development with government. They felt GTOs had been negative rather than constructive in debate over competency-based training and were happy to bring problems or complaints to government rather than solutions. This is despite the fact that the national association and some (not all) state associations are seen as important contributors. Government is looking to group training to be a genuine partner in the development of policy solutions to the pressing issues of skills shortages, including disadvantaged groups in the labour force, school to work transition and life-long skills development in the labour force. The tension is to some extent a natural one with government officials driven by the need to develop and implement a policy agenda and GTOs focused on building and maintaining viable commercial operations.

There would appear to be scope for a wholesale revision of the relationship between government and GTOs including a review of funding arrangements. There is sympathy in some quarters for a rethink of what governments want to achieve from group training and how much it should pay for these services. There is recognition that along with closer targeting of funding to policy outcomes, government may need to increase payments in key policy areas to achieve genuine and demonstrable outcomes. For the moment, the glue that binds government and GTOs is their size and scale in terms of apprentices employed.

Interestingly, while many GTOs noted the appearance of AACs as a major threat to their viability, this did not appear to be observed by government officials as an issue (one mention). AACs are being seen by GTOs as taking on many of the functions they have traditionally provided to employers such as assistance throughout the indenture period, marketing apprenticeships and developing relationships with service providers such as Jobs Services Australia (JSA) and Registered Training Organisations (RTOs). A key difference however is that AACs are fully paid for by government whereas GTOs receive some funding support from government and cover the bulk of their costs by charging employers for the service.

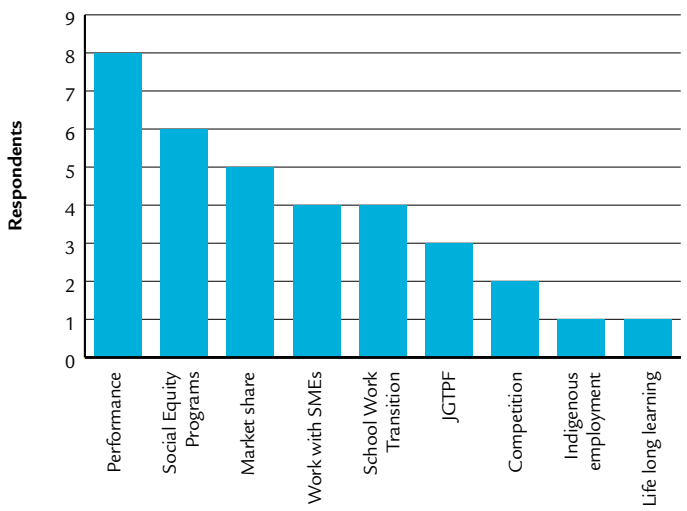
In competitive neutrality terms this could be seen as a contradiction. It could be argued that where GTOs are providing the same service as an AAC that government should provide equivalent financial support to the GTO. This will be returned to in a later Chapter on Public Policy options however there would appear to be a case for breaking down the distinction between AACs and GTOs in the provision of these basic apprenticeship services.

4.1 Relationships

As noted earlier, all government officials interviewed for this report identified GTOs as being important to their ability to deliver programs. The main areas where government agencies identified a relationship with GTOs was in broad functional categories such as implementation of government policy (including skills development and labour market initiatives), funding through JGTP and compliance (as regulators of compliance with the national standards for group training organisations). Some agencies also saw the market share of GTOs (in terms of the number of apprentices they employ) as an important driver of their relationship with GTOs.

When asked to define issues that were critical to their relationship with GTOs, government officials were fairly clear about their priorities. Almost every official emphasised the performance of GTOs in terms of their ability to grow the market for apprenticeships and their ability to deliver superior outcomes (mainly completion rates but also OH&S as well as pastoral care) as critical to their relationship. Another important factor was their ability to deliver labour market equity initiatives in areas of skills shortage, disadvantaged job seekers and rural areas. This was followed by the size and market share of GTOs, their ability to work with small and medium sized enterprises and school to work transition programs and funding of GTOs (mainly JGTP).

Figure 4.1: Critical issues to government

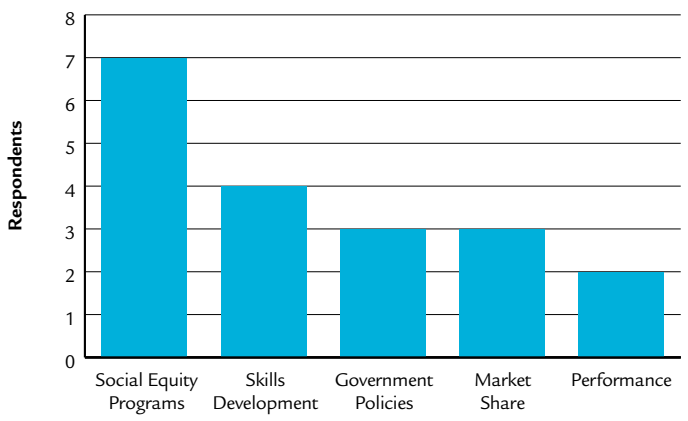


4.2 Perceptions

Perceptions were positive from all governments but with the warning signs noted earlier. A wide range of issues were identified as being a factor in this relationship with none standing out strongly. The few issues identified in multiple interviews were performance, pastoral care and government policy. Again this emphasised the expectations of government in terms of GTOs being vehicles for policy development and implementation as well as concern over their ability to deliver superior performance.

In terms of government perceptions of the role of GTOs in helping agencies achieve their objectives there was a much tighter range of views. Essentially the role identified was as organisations that work with government on development and implementation of various labour market equity initiatives; the development of skills to meet economic need; growing the market for apprenticeships and training, and; delivering superior outcomes in terms of completions, conditions and OH&S.

Figure 4.2: Role of group training



4.3 Future issues

Looking to the future for group training there was again a fairly wide range of views but several key issues stood out. The performance of group training (outcomes delivered) was seen as both an opportunity and a threat to the relationship between group training and government. Beyond that over-riding issue, government officials saw opportunities for GTOs to improve their relationship with government in areas such as labour equity programs, school to work transition, skills development and a range of other issues (mentioned only by one official). On the threats side, government officials were concerned about the potential political impact of business failure by group training organisations as well as their failure to engage on labour equity initiatives, their lack of initiative in offering solutions to government rather than problems, and the threat of GTOs morphing into labour hire companies.

Asked what GTOs would have to do to have increased relevance to government, officials were able to generate a fairly simple picture – deliver superior performance, engage on government policy initiatives (particularly labour equity), grow the market for apprentices and show initiative on government policy with a focus on solutions rather than problems.

PART B:
INDUSTRY ANALYSIS: STAKEHOLDER ASSESSMENT

B

5. GROUP TRAINING INDUSTRY ANALYSIS

The preceding chapters have established a range of issues relevant to the current business model or models of group training in Australia. In this chapter, those issues will be reassembled using the framework developed by Porter in his *Competitive strategy; Techniques for Analysing Industries and Competitors*[8]. Porter describes five 'forces' that affect industry development, competition and profitability. This five forces analysis provides a useful framework for analysing and understanding the group training industry. The forces are illustrated in the diagram below.

The elements of the Five Forces will be considered in the body of this chapter, for the moment, it is important to describe how different parts of the group training industry fit within this framework.

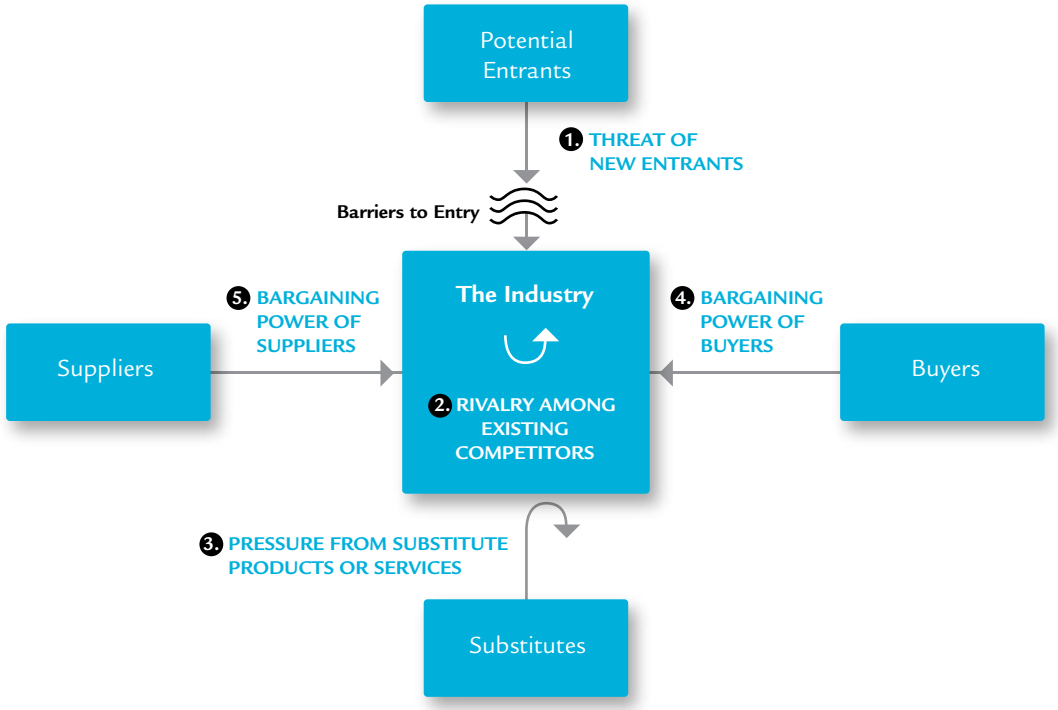
Industry in this study will refer to group training organisations and specifically the members of Group Training Australia who have participated in this study. It is recognised that many of these organisations have associations (indeed in some cases predominant associations) with other industries.

Buyers or **customers** are the two primary groups who purchase group training services from group training organisations; host employers and governments. But they may also include industry associations, councils and regional development organisations;

Suppliers are candidates for apprenticeships and traineeships as well as the labour required to operate a group training organisation. It also includes organisations that represent groups of candidates such as schools or unions.

8 *Competitive Strategy Techniques for Analysing Industries and Competitors*, Michael E Porter, The Free Press, New York 1980.

Figure 5.1: Competitive forces analysis



Source: Michael E Porter *Competitive Strategy*, Free Press, 1980

PART B:
INDUSTRY ANALYSIS: STAKEHOLDER ASSESSMENT

5.1 Industry

In analysing the industry, the five forces approach looks beyond size and composition to explore industry costs; fixed costs/value added; industry growth; over and under-capacity; industry growth, product differences, switching costs between competitors, brand identity, diversity of rivals and corporate stakes. In this analysis, the focus will be on understanding industry composition and structure; rivalry and competitiveness; costs and profitability.

A number of observations have been made in the preceding chapter that characterise the industry.

- Competition within the industry has traditionally been low where GTOs were generally confined to specific industries or regions but this is changing rapidly with the emergence of corporate GTOs that are expanding beyond their traditional domain.
- Most group training organisations have diversified in recent years taking on new roles as JSAPs, RTOs and AACs.
- With the expansion of some GTOs outside of their traditional base and into new activities there are a small number of emerging 'corporate GTOs' who are operating along more sophisticated business lines, more competitive to the point of being seen as predatory.
- The majority of GTOs are of a similar age with only a small number of new entrants to the industry over the past 10 years.
- There has been a reduction in the number of GTOs in recent years and while GTOs have grown in terms of the number of apprentices and trainees they have lost market share in the total market for apprenticeships and traineeships.
- There does not appear to be a consistent set of performance measures that would allow a comprehensive tracking of costs but:
  - (a) costs are a major concern for customers; and
  - (b) with growing competition there is growing awareness of costs and price.
- Switching costs between GTOs are not significant but customer relationships were identified as a significant issue for host employers in their allegiance to group training.
- There are a number of barriers to expansion for GTOs. Productivity is lower when GTOs expand beyond a single industry; when they are above a certain market size (productivity appears to decline with scale) and; when apprentices or trainees per client increases above a certain level.
- While the environment in which GTOs operate has changed, for many management has not changed and Boards have not changed substantially. In many cases GTOs continue to reflect their origins as community-based organisations.
- The confusing brand proposition of GTOs becomes apparent in interviews with GTOs as well as government and some employers. There is not a message or simple value proposition although host employer customers and government have firm (if somewhat contradictory) expectations of GTOs.
- Most GTOs do not appear to have sophisticated or well targeted marketing strategies relying heavily on traditional relationships and field staff to recruit candidates, supervise apprentices and trainees and market the service to new host employers.

5.2 Customers

The power of buyers is the impact they have on the industry. Where buyer power is strong, the relationship to the industry is what is called a monopsony – a market in which there are many suppliers and one buyer. In such a market, the buyer sets the price. While in reality few pure monopsonies exist there is often asymmetry between an industry and its customers.

There are two clear customer groups – government and employers – although there are some subgroups within these categories that can be identified.

5.2.1 Government

Although government is relatively small in terms of the share of revenue it provides to GTOs, government payments represent a significant portion of discretionary cash flow for GTOs and government purchasing of these services has elements of a monopsony. Governments effectively act as a buying cartel through the imposition of national standards and the application of a common framework through the JGTP. This increases the power of government within the industry (apart from its more general regulatory and policy development role). Governments have also used their power to stimulate substitutes for services traditionally offered by group training (AACs, schools).

As a customer group, State and Federal Governments are generally happy with group training but are concerned about two things:

1. as GTOs become more commercial they are less focused on government policy objectives; and
2. they are not able to prove conclusively that GTOs are better at meeting government expectations (expanding the pool of apprentices, high completion rates, better pastoral care and superior labour equity outcomes) than other options.

Government officials quote generalised completion rates but at the same time expect GTOs to focus on more difficult areas with greater barriers to completion. More sophisticated performance measures will need to be developed.

Many GTOs fail to see government as a customer for its services and continue to see it as a source of 'funding' (i.e. general support). It is apparent that government has in principle moved away from a 'funding' approach some time ago and has moved to a mind-set where it is a purchaser of 'outcomes' from the community sector. This not only means tight constraints around funding but over time will result in an increasingly burdensome reporting regime as the Productivity Commission noted recently:

> *The shift to competitive tendering and contracting for procuring government funded services has brought greater transparency, and in many cases enhanced efficiency, in the delivery of services. Yet it has also increasingly demanded greater prescription of how agencies are to function and deliver services. While the aim has been to drive improvements in service delivery, NFPs report being swamped by contractual regulation, a multiplicity of reporting requirements, micro management, restrictions on other activities and significantly greater compliance burdens.*
>
> *Governments often adopt a partial funding model for a range of services, even for contracts that are deemed to be purchase agreements. This requires NFPs to subsidise service costs from other revenue sources. A significant consequence, especially for community services, has been that wages have been squeezed to the point where many NFPs find it difficult to attract or retain professional staff, with implications for the quality of services.*[9]

Governments can be expected to become more targeted in terms of services demanded and accountability for funds provided.

Local government has a dual role as both an employer and a mechanism through which GTOs can provide services to government (overcoming regional skills gaps). A number of GTOs started as community organisations sponsored by local government or groups of municipalities in a region, perhaps auspiced by a regional development organisation.

9 *Contribution of the Not for Profit Sector,* Productivity Commission Research Report, Productivity Commission, Canberra January 2010.

5.2.2 Employers

Host employers are the major customer for group training although they are relatively dispersed and fragmented and therefore individually have limited power over group training organisations. They have relatively simple expectations of group training; reduce complexity, provide flexibility and maintain a competitive cost structure. Where employers work together through an industry association they can have more power to achieve specific and tailored results for members.

SMEs are the traditional customer base for GTOs. This is reflected in the industry structure, management arrangements and in the business model. Hence, GTOs tend to be less effective with larger organisations and appear most effective working with businesses that employ less than five trainees from a GTO. However SMEs will by definition be more expensive to service (geographically dispersed) and pose greater risks in terms of OH&S and credit. GTOs need to work in a cost-effective way with SMEs while still providing the service they expect. This would appear to be part of the reason industry based GTOs have some advantages.

GTOs are increasingly developing partnerships with national organisations; large companies, industry associations and franchises for the provision of apprentices and trainees or specialist services such as indigenous employment programs. This is one driver for the development of larger nationally-focused GTOs. It will also create an argument for a national registration process for GTOs to replace the state-based process and a move away from regionally focused organisations such as AACs that can inhibit partnerships with larger organisations and industry associations.

Industry associations represent interesting intermediaries between GTOs and SMEs providing the capacity to articulate more clearly a collective expectation of their members (buying power) and ability for GTOs to provide a tailored yet standardised service to a group of clients.

Future expectations of GTOs from this customer group are around the development of customer relationships to the point where GTOs can become more of a partner in meeting the skills needs of a business or industry. This will tend to drive GTOs toward an integrated service offer, national operations and higher skill requirements of staff employed by GTOs.

5.3 Suppliers

Powerful suppliers can exert an influence on industry by selling inputs (labour or raw materials) at a higher price to capture a higher share of industry profits. Where suppliers are weak, the reverse can be the case where the industry is able to maintain profits when prices are falling at the expense of suppliers.

Suppliers are both candidates for apprenticeships and traineeships and potential staff. The supply market for candidates is in three parts; the best candidates have options including professional careers (university) and direct employment with an employer of their choice. They will tend to be the lowest cost candidates to administer. The middle ground is for capable candidates. The supply of these candidates will be highly cyclical depending on economic conditions. During a downturn, there will be a plentiful supply and during periods of tight demand and skills shortage GTOs will need to devote considerable energy to marketing and recruitment of candidates. The third group of candidates are those on the edge of the labour market with significant barriers to employment. They may be long term unemployed, people with employment disadvantages, people who are jobless as a result of industry restructuring and need to be re-skilled. The first group of candidates are of particular interest to employers but of relatively minor interest to government; the second group are of greater interest to government particularly during a downturn, and; the third group are of particular interest to government labour market and social equity strategies.

For each of these groups of candidates there will be cost implications to GTOs. The majority of candidates will be from the middle group where costs are highest at the extremes of the cycle. In periods of high employment, there can be considerable cost in marketing careers that are often thought of as low paid and low prestige careers. In a tight labour market employers are also likely to prefer direct employment to establish a stronger bond with employees. During periods of high unemployment potential candidates will feel let down and marginalised making it more difficult to find jobs with already reluctant employers (or employers who are simply not employing). For the third group, costs will be higher because of the additional supervision required, the difficulty of finding host employers and the higher risks of non-completion.

Candidates can at times be represented by groups with the potential to become competitors to GTOs. For instance, school VET coordinators will often be a point of contact for GTOs but as one GTO pointed out, after one year of a partnership, the school VET coordinator decided to approach the host employers (who had been identified by the GTO) and offer a direct relationship with the school. Unions represent existing workers but also operate GTOs. Unions can have leverage over both candidates (where they are members of the organisation) and host employers (where they provide coverage for a site). At least one industry-based GTO feared the potential for a union in his industry to begin operating as a GTO in direct competition.

Skilled labour is a crucial input to GTOs. Currently field staff need a particular skill set in order to be able to deal with recruitment, pastoral care, working with the employer and marketing. Salaries paid to field staff are generally low and reflect the origins of GTOs in community organisations and their traditional relationships with SMEs. However, if GTOs are going to move down the path of creating partnerships with business around skills and workforce development; if GTOs are going to continue to consolidate, and; if GTOs are going to become more sophisticated in the marketing of their services, they will need to pay more for more highly skilled staff and more specialised staff. For instance, one GTO spoken with hired a highly experienced person to develop a customer relationship and marketing strategy. This person was able to liaise at a CEO or HR manager level (rather than supervisor level) and offer strategic advice that resulted in the provision of several different services to clients and additional placements. The cost of this person was at least 50 percent more than that organisation's field staff. GTOs interested in pursuing an integrated service provider model will need to be prepared to compete with the corporate sector for quality staff with at least mid-career experience. An appropriate comparison may be a mid-level manager in a corporate HR department.

5.4 Substitutes

In Porter's model, substitute products are alternative products that could be provided by other industries. In more general consideration of this area, a substitute product is one that can impact the demand for services provided by the industry. The preceding chapters have identified a range of substitutes that have taken market share from group training and threaten to continue to erode its market position.

AACs have been the most significant new player over recent years that have facilitated direct employment of apprentices and trainees and provided some of the same services provided by GTOs. They have been able to do so at no cost to employers as AACs do not charge employers for their services; they are a free service promoting apprenticeships and linking employers to a range of incentives available. A number of GTOs are AACs. GTOs see AACs as becoming more competitive with GTOs in the future rather than less as contract obligations for AACs include a range of services that had previously been provided by GTOs. As noted earlier, there would appear to be a case for Government to offer GTOs the ability to be paid for providing AAC services where this is undertaken by the GTO.

The development of AACs has largely facilitated growth in direct employment of apprentices and trainees. This is the traditional option for employers who either did not know about GTOs, preferred not to engage with a third party employer or felt that they could manage apprentices and trainees more cost effectively themselves. This underlines the need for GTOs to demonstrate a clear value-add over direct employment.

Other government sponsored substitutes have emerged in the education and training area with Schools and TAFE starting to have some limited involvement in the provision of GTO services.

It would appear substitutes will continue to erode the market for group training without a clear statement about the additional value of group training.

5.5 Barriers to entry

Barriers to entry are issues that impact the ability of new firms to enter the market and compete with existing participants. Issues may include entry-deterring pricing, regulations, patents and proprietary knowledge, asset specificity and economies of scale.

Barriers to entry for group training are essentially the cost of building relationships and infrastructure in a given region and the cost of compliance particularly with the national standards for group training. Direct competition between GTOs would appear to be growing as organisations scale-up, reduce costs and offer an integrated range of services. To date, these larger GTOs do not appear to be competing in regional areas where a GTO is strong with good long term relationships. However, they are taking on national clients with regional operations which limit the market for smaller regional GTOs.

The lack of new entrants to the group training market would appear to be due to poor returns from group training (many said that if the existing participants were other than not-for-profits there would be even fewer participants). Thus the industry is said to be unattractive from a profit maximisation perspective although participants did fear industry associations and unions setting up competitors in existing markets. The lack of new entrants however may be a contributor to the industry's current predicament, limiting innovation and adaptation within the industry.

GTOs also note that where there is no history of a company, industry or region working with group training, employers are not accustomed to working with third parties to manage their apprentices and trainees. They point out that this is an important barrier to entering new markets dominated by direct employment.

PART C:
THE GROUP TRAINING INDUSTRY: DRIVERS OF PERFORMANCE – A STATISTICAL ANALYSIS

C

6. The characteristics and optimal environment for GTOs 46

6.1 Assessment methodology 46

6.2 The data base 46

6.3 The model 47

6.4 Performance indicators and drivers: A statistical analysis 47

6.4.1 The distribution of productivity and completion indicators 48

6.4.2 GTO enterprise-specific drivers 50

6.4.3 Distribution of market drivers 53

6.5 Factors affecting GTO productivity 57

6.6 Factors affecting completion rates 62

6.7 Conclusion 66

7. The efficiency of Group Training Organisations 67

7.1 DEA analysis: An overview 67

7.2 Efficiency analysis 68

7.3 Peer combinations 69

7.4 The potential improvement in performance 69

7.5 Additional insights: The comparison of peers 69

7.6 Correlation between efficiency and profitability 70

7.7 Conclusion 70

8. Ranking of performance of GTOs: The characteristics of better performing and poorer performing GTOs 77

8.1 An analysis of the top performing (fifth quintile) GTOs: Productivity 77

8.2 The characteristics of the bottom quintile of GTOs by productivity 78

8.3 The characteristics of second, third and fourth quintile GTOs by productivity 78

8.4 Conclusion weighted average performance indicator: Outcomes from quintile analysis 78

8.5 The importance of ownership 79

8.6 Productivity performance: Evaluation of business model types 79

8.7 Conclusion 79

9. Barriers to GTO growth: The evidence from time series State data 84

9.1 GTO market share: The a priori model 84

9.2 Drivers of GTO market share: The findings 85

9.3 The contribution of factors to the decline in GTO market share between 2000 and 2009 89

9.4 Conclusion 90

PART C:
THE GROUP TRAINING INDUSTRY: DRIVERS OF PERFORMANCE – A STATISTICAL ANALYSIS

6. THE CHARACTERISTICS AND OPTIMAL ENVIRONMENT FOR GTOs

This Part builds on the analysis undertaken in Parts A and B through a detailed examination of results from a quantitative survey of group training organisations who are members of GTA. From the analysis in Part A there is a need to further examine the question of why the market share of GTOs in total apprentice and trainee commencements, in particular apprentice commencements, fell so consistently in nearly every State and Territory over an eight year period? The analysis in Part A and the stakeholder analysis in Part B suggests the reasons for the fall in GTO market share include:

(i) failure to expand the capacity of GTOs to respond to market growth;

(ii) growing competition from non-GTO labour market service providers;

(iii) failure to diversify, both regionally and by industry; and

(iv) failure to innovate and diversify services in response to customer needs.

What has not been addressed so far is whether the optimal size of a GTO may be significantly less than the largest scale organisations that currently exist. Scale brings many benefits but if there are significant barriers to expansion that offset the economies, at least for some GTO operational models, then scale enhancement (size, growth) is of little use as the centrepiece of strategy. Scale may be achievable but the negative consequences on performance may place an organisation at risk.

6.1 Assessment methodology

The methodology adopted in this chapter is to use the results from the GTO quantitative survey conducted by NIEIR during 2009 to quantify the drivers of GTO performance.

For the analysis of this and the next chapter there are two performance indicators adopted. They are:

(i) GTO productivity, as measured by the number in training (apprentices plus trainees) divided by group training full time equivalent employment; and

(ii) GTO completion rates or the per cent of apprentices and trainees who start with a GTO who actually complete their course.

These measures are used by GTOs themselves and customer stakeholders such as government to assess GTO performance. Apprentices and trainees per employee is a proxy for GTO cost efficiency (unit cost) while completion rates are a proxy for efficiency in the utilisation of resource (completions mean the investment in a particular trainee or apprentice is realised for the GTO, the employer and government). Prima facie, the most efficient GTOs would be those enterprises that simultaneously had high productivity (with inferred lower costs and high profitability) and high completion rates (with efficient use of resources because appropriate candidates were selected and they were appropriately managed through their indenture). That is, these GTOs would be considered high performance GTOs.

6.2 The data base

A GTO performance will not only be determined by structural features associated with the enterprise it, prima facie, will be determined by the environment in which the GTO operates. General environmental factors would include:

(i) market for GTO services as measured by employment, employment growth or total apprentices and trainees;

(ii) the unemployment rate; and

(iii) the size and productivity/ profitability of businesses.

Hence, given information from the survey of the regions in which GTOs operate, the GTO survey data base was merged with NIEIR's data base for regional indicators. The definition of a region is the same as used in the survey.

6.3 The model

The prime model describing GTO performance took the form:

$$GTOP1_i = \alpha_{i,1} + \alpha_{i,2}\, SCALE + \alpha_{i,3}\, SCALE^2 + \alpha_{i,4}\, SPC + \alpha_{i,5}\, SPC^2 + \alpha_{i,6}\, STANDA + \alpha_{i,7}\, indc + \alpha_{i,8}\, indc^2 + \alpha_{i,9}\, unr + \alpha_{i,10}\, unr^2 + \alpha_{i,11}\, ms + \alpha_{i,12}\, ms^2 + \alpha_{i,13}\, porpr + \alpha_{i,14}\, yevre + \alpha_{i,15}\, bprod$$

Where:

GTOP1$_i$ = GTO performance indicator *i*:
i = 1. Productivity
2. Completion rates

SCALE = Scale of GTO or number of people in training.

SPC = Number of trainees per client or host density.

STANDA = 1. If GTO stand alone

2. If GTO belongs to another enterprise.

indc = Percentage of 1-digit ANZSIC industries covered by GTO services. A value of 100 would mean that the GTO would offer services in all industries.

unr = Proxy for regional unemployment rate or one minus employment of those aged 15 to 44 divided by regional population of those aged 15 to 44.

ms = Market size per GTO series of total trainees in a region (whether traditional apprentices or other trainees) divided by region population or trainee/apprentice market density.

porpr = Proportion of revenue from other services.

yevre = Years the GTO has been in operation.

bprod = Region business productivity or NIEIR business value added for a region divided by regional total employment.

The polynomial (that is the variables that are squared) variables reflect the expectation that some variables may initially have a positive or negative impact on performance. However, after a certain threshold is reached, the influence of the driver reverses from positive to negative or vice versa.

6.4 Performance indicators and drivers: A statistical analysis

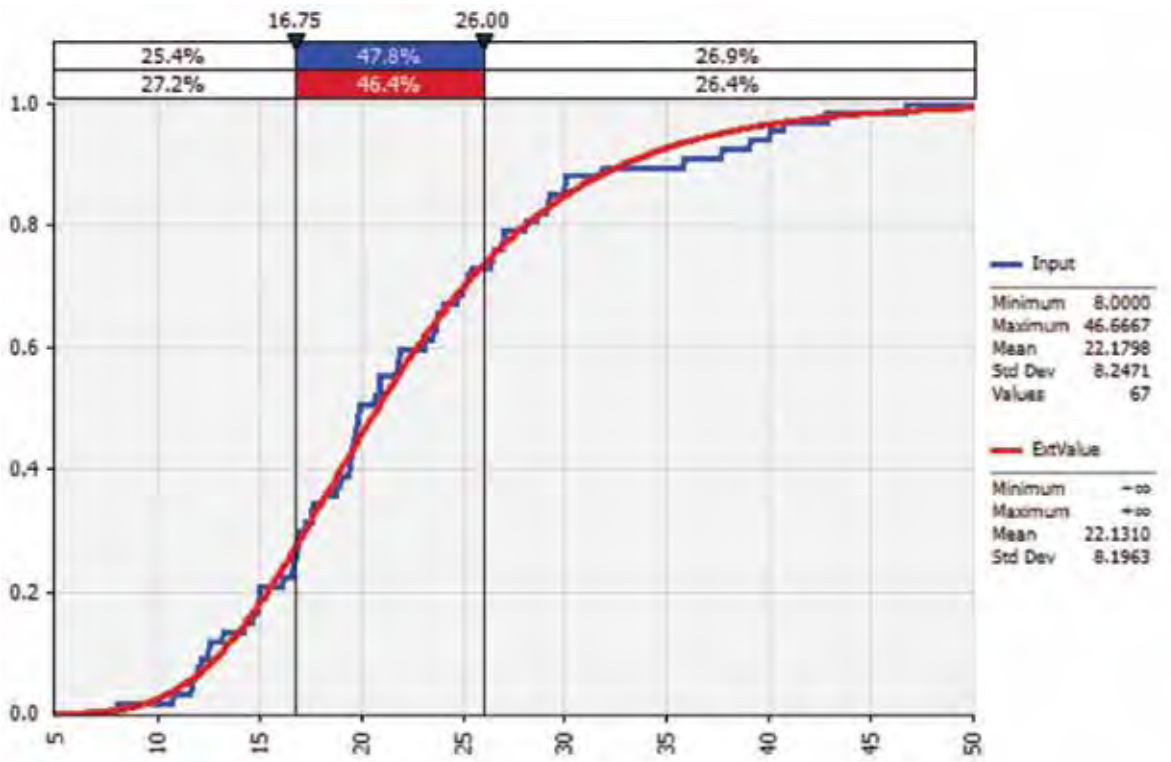
From the survey 73 GTOs responded. However, this was culled to 67 to eliminate GTOs that had just started or had outlier values for performance indicators or drivers. That is, there are 67 respondents that returned values for responses which were within plausible ranges.

The technique of actual and fitted distribution will be used to profile the distribution of performance indicators and drivers across GTOs and their associated regional catchment. In the graphs below, blue is the actual data and red the fitted data. The blue line is generated from the estimated distribution function that best fits the data. The selected distribution function and its estimated percentage are given at the top of each figure.

6.4.1 The distribution of productivity and completion indicators

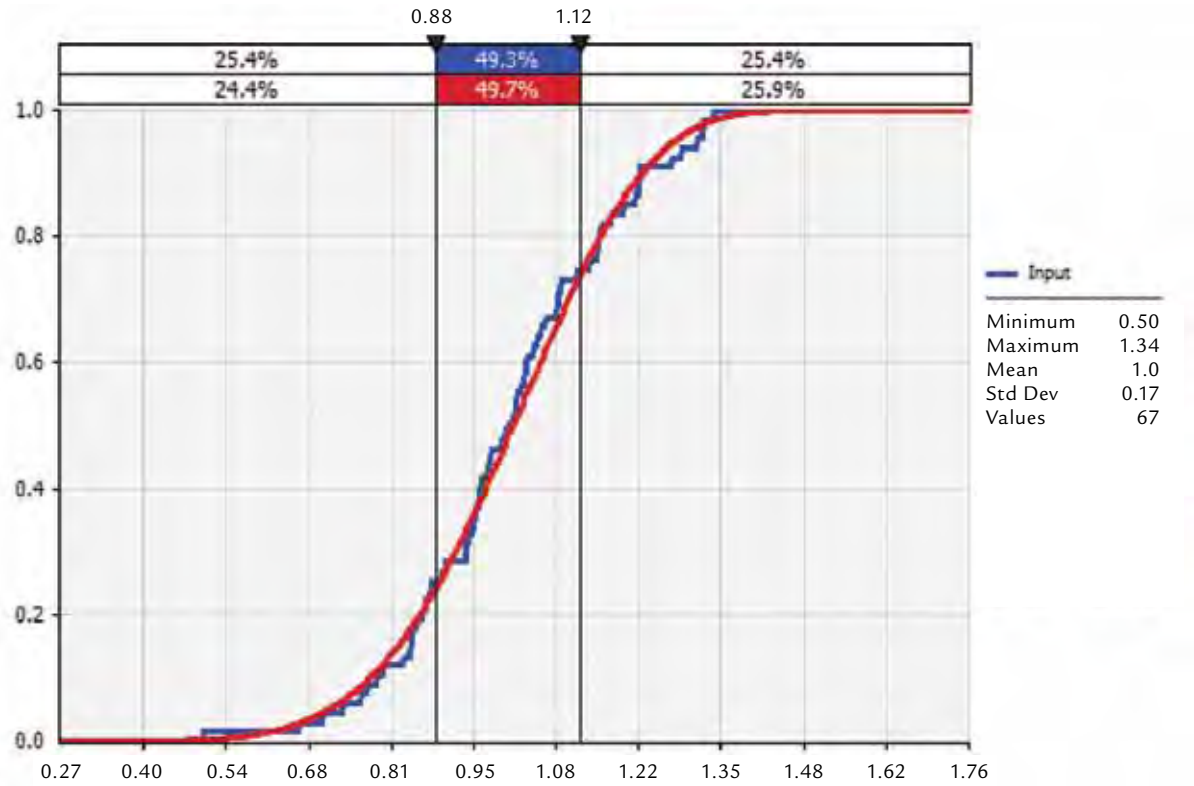
Figure 6.1 shows the distribution of GTO productivity across the 67 survey respondents (where productivity is the number of apprentices and trainees in training divided by the full time equivalent staff of the GTO). It shows that the minimum productivity among the 67 GTOs is 8 and the maximum is 47. One quarter of GTOs have a productivity of 17 or less, while a quarter have a productivity of 26 or more and almost half are between 17 and 26. The mean is 22.

Figure 6.1: Distribution of productivity



The distribution of weighted average completion rates across apprentices and trainees from the survey results is shown in Figure 6.2 (the proportion who start with a GTO and complete their training with the GTO). Because of the uncertainty surrounding completion rates the mean is normalised to unity. How to read the graph is as follows. If the mean completion rate is thought to be 65 per cent, then 25.4 per cent of respondents will have a completion rate less than 65 * 0.88, or 57 per cent. Conversely, 25.4 per cent of respondents will have a completion rate of 1.12 * 65, or 73 per cent. The GTO with the highest completion rate was 87 per cent.

Figure 6.2: Distribution of completion rates



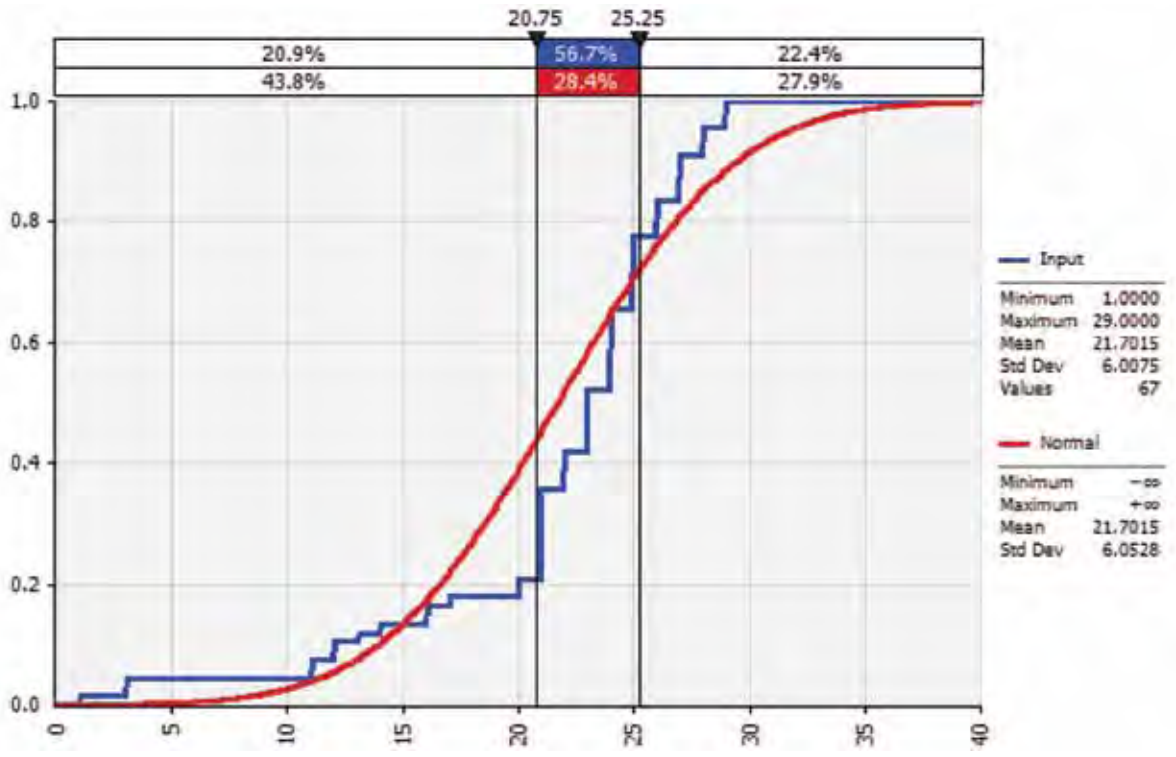
6.4.2 GTO enterprise-specific drivers

This section will look at a spectrum of drivers that could influence productivity and completion rates for GTOs.

Years of operation

Figure 6.3 shows that the distribution of years in existence of a GTO is relatively numerically distributional around the mean of 22 years. The standard duration is 6, which means that two-thirds of firms have been in existence for between 16 and 28 years. The percentage of firms under 10 years old is 5 per cent. The failure of the sector to introduce new firms over the last decade is a potential factor in the loss of GTO market share (reflecting a lack of competition and innovation).

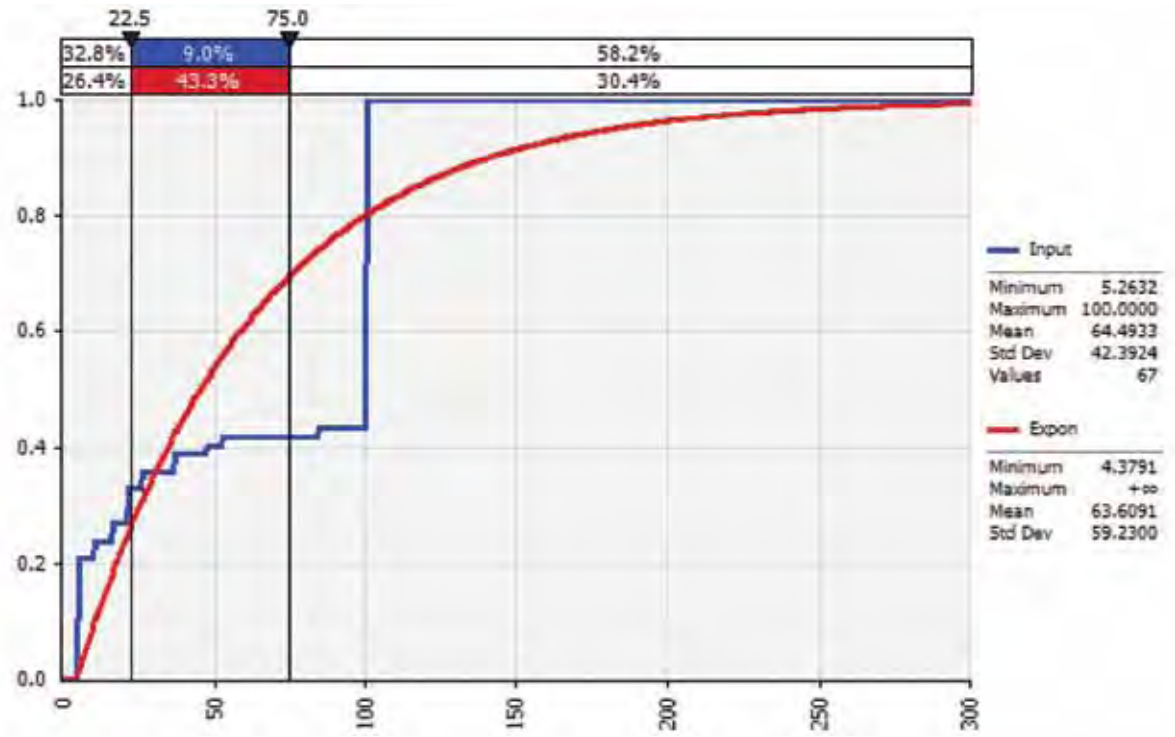
Figure 6.3: Distribution of years in existence



Industry concentration

Figure 6.4 shows the industry concentration of GTO services. The important observations from this table are that one fifth of firms (0.2 on the vertical axis) focus on one industry (5.2 per cent on the horizontal axis signifies one industry) and almost 60 per cent of GTOs offer services in all industries (100 per cent on the horizontal axis).

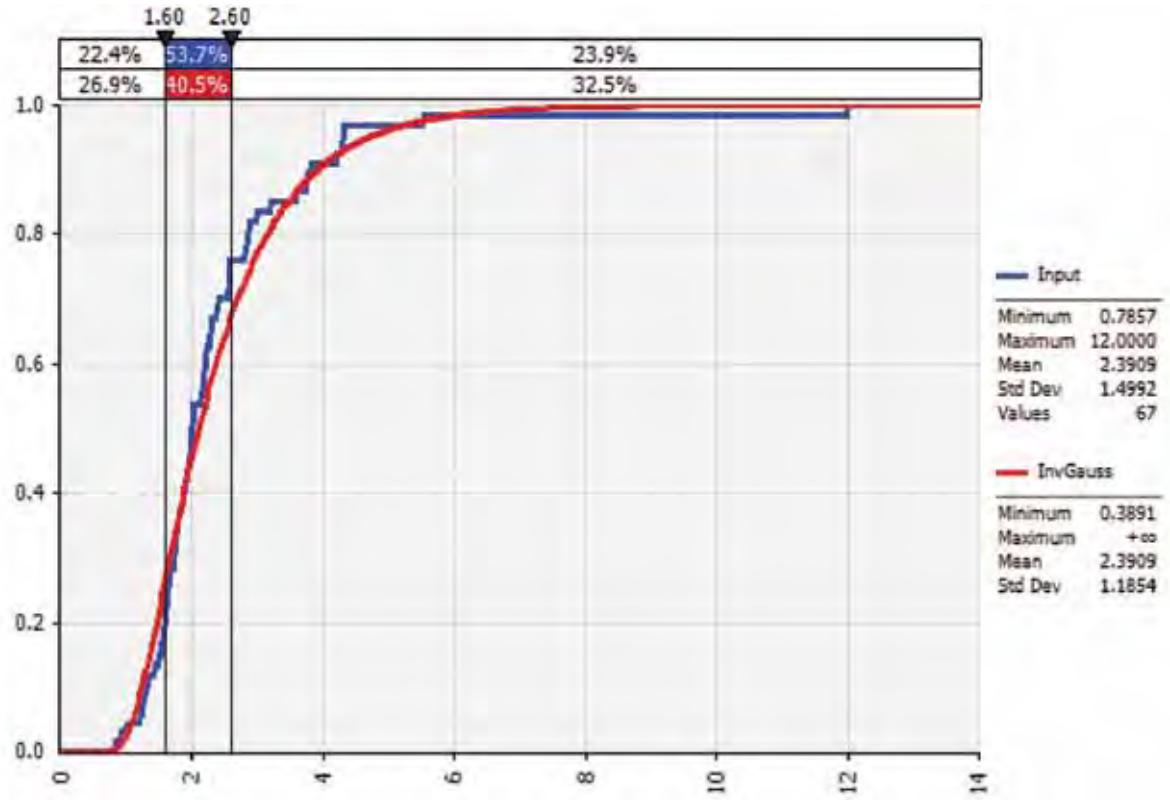
Figure 6.4: Distribution of proportion of industries covered



Employer concentration

Figure 6.5 shows the distribution of the number of apprentices and trainees per client. Although there is a wide range between maximum and minimum, the reality is that two-thirds of GTOs have between 1 and 4 apprentices and trainees per client with over 50 per cent having ratios of between 1.6 and 2.6. Whatever the reason, GTOs are restricted to clients requiring the management of relatively small numbers of apprentices and trainees.

Figure 6.5: Distribution of apprentices and trainees per client



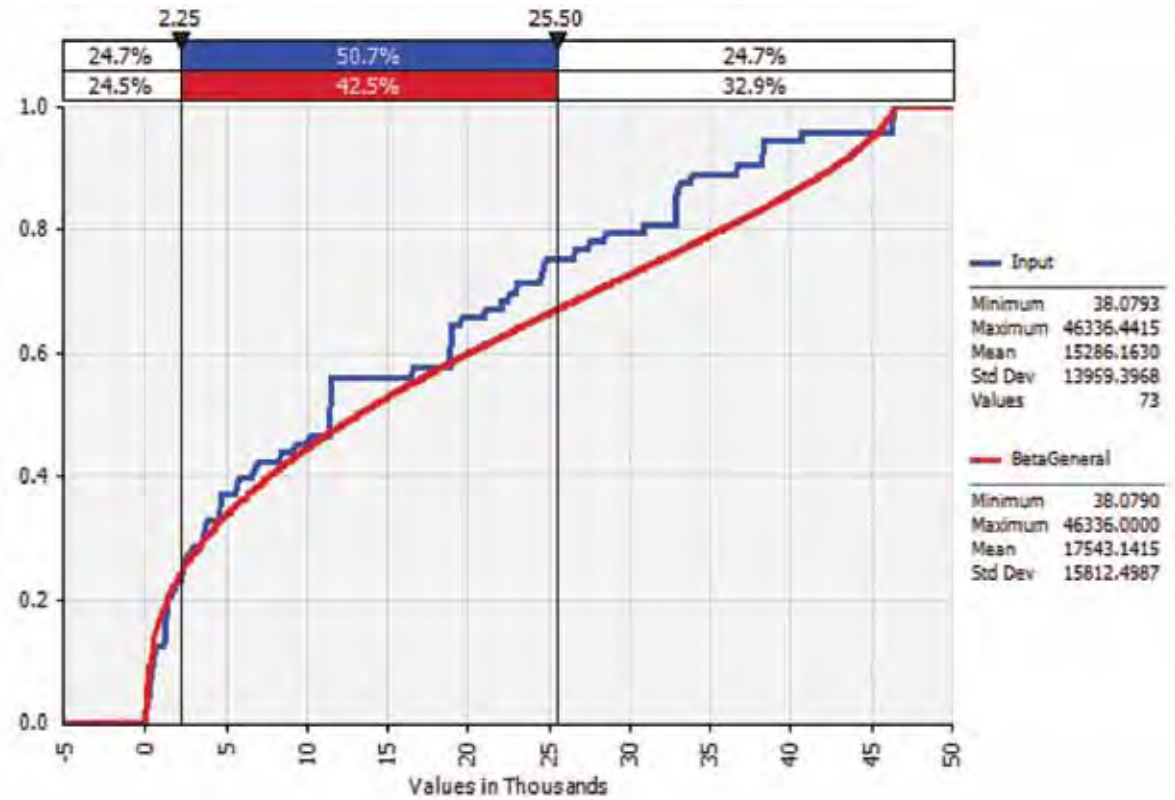
6.4.3 Distribution of market drivers

The next step was an analysis of the regional markets in which GTOs operated.

Market size

Figure 6.6 shows the size of the market catchment for each GTO in the sample. The market is represented by the total apprentices (excluding other training) in the catchment of the GTO. The mean market size is 15,000. However, for capital city originated enterprises it can extend to a maximum of 46,000.

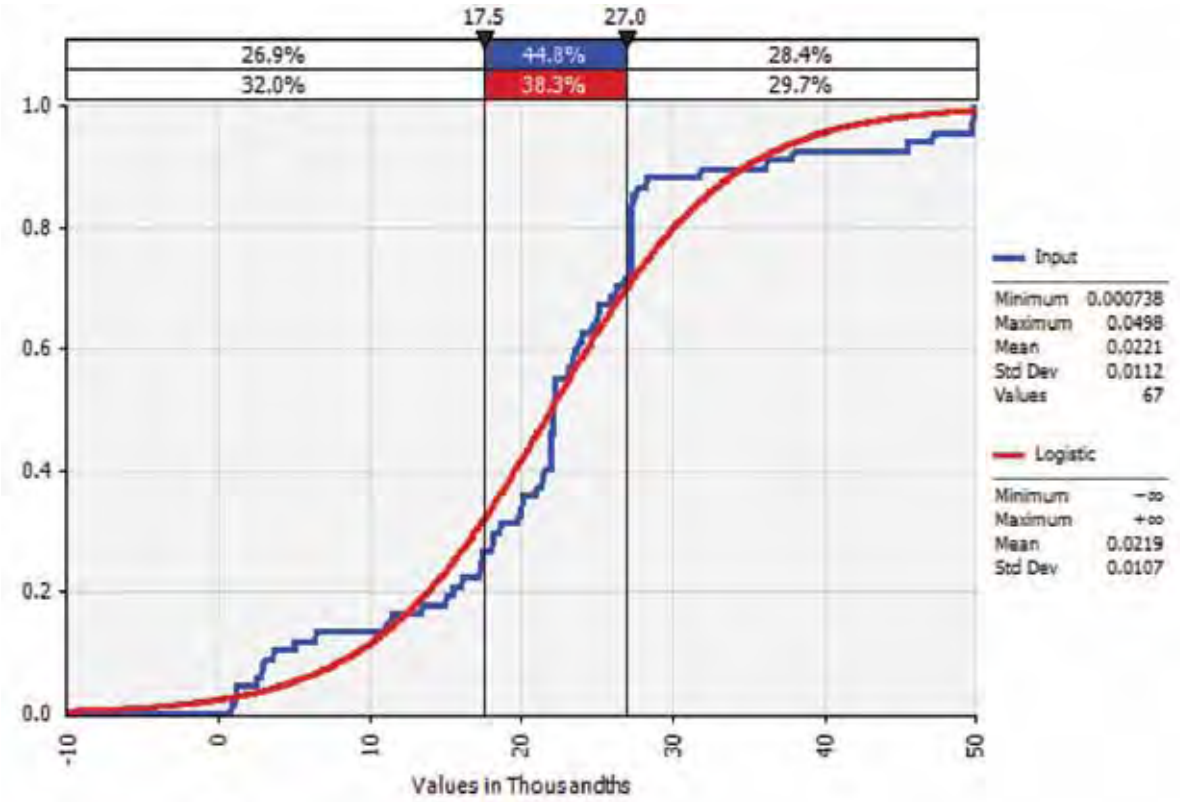
Figure 6.6: Distribution of market for apprentices



Market concentration

Figure 6.7 shows there is considerable variation in market size on a per capita basis (where the denominator is the population aged 15 to 44). The mean is 22 apprentices in training per 1,000 population. However, the minimum is 0.7 per 1,000 and the maximum is 50 per 1,000. Twenty seven firms face a market of less than 17.5 per 1,000, while 28.4 per cent of GTOs face a market greater than 27 per 1,000. Forty five per cent of GTOs work in markets where the concentration is between 17.5 and 27 per 1,000.

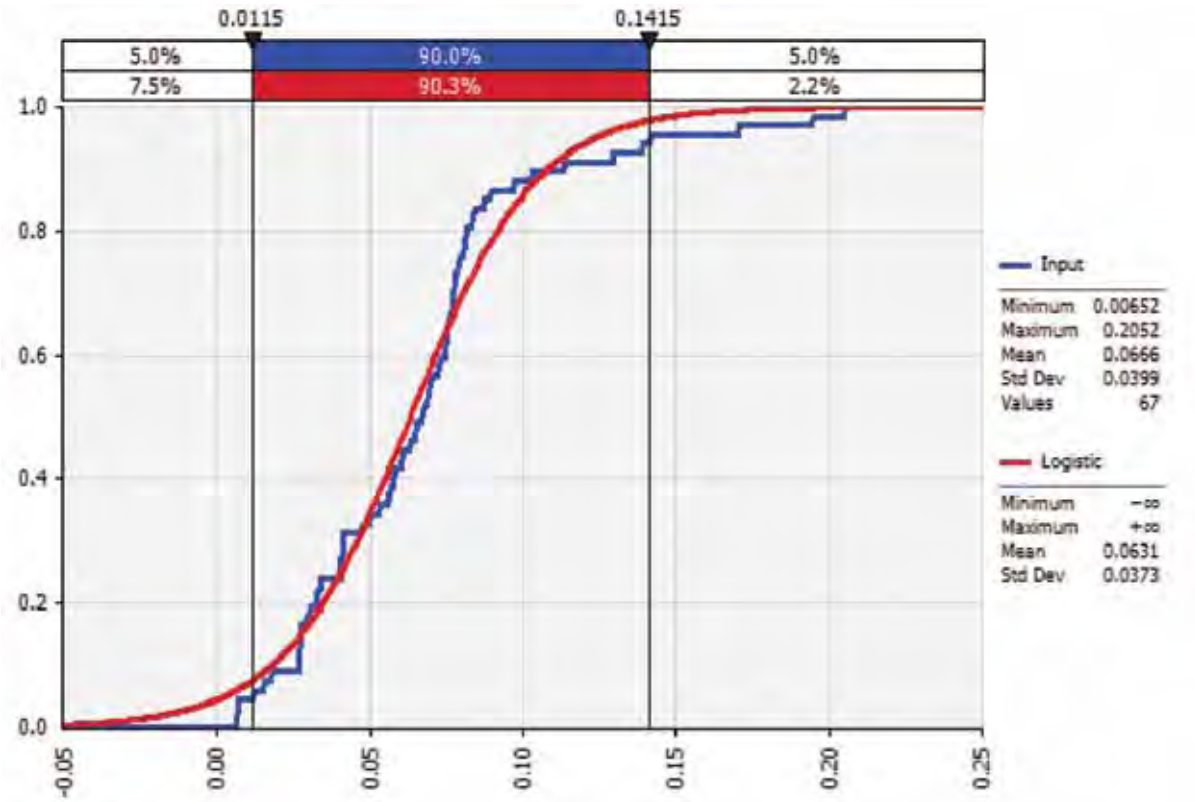
Figure 6.7: Distribution of market size per population aged 15 to 44



Regional unemployment

Figure 6.8 shows the distribution of the regional 'proxy' unemployment rate across the 67 GTO catchments. The unemployment rates are measured by one minus the sector of employment aged 15 to 44 divided by population aged 15 to 44. The mean unemployment rate is 6.7 per cent. Half of the enterprises face an unemployment rate of between 3.8 and 7.8 per cent, although one firm faces an unemployment rate of 21 per cent.

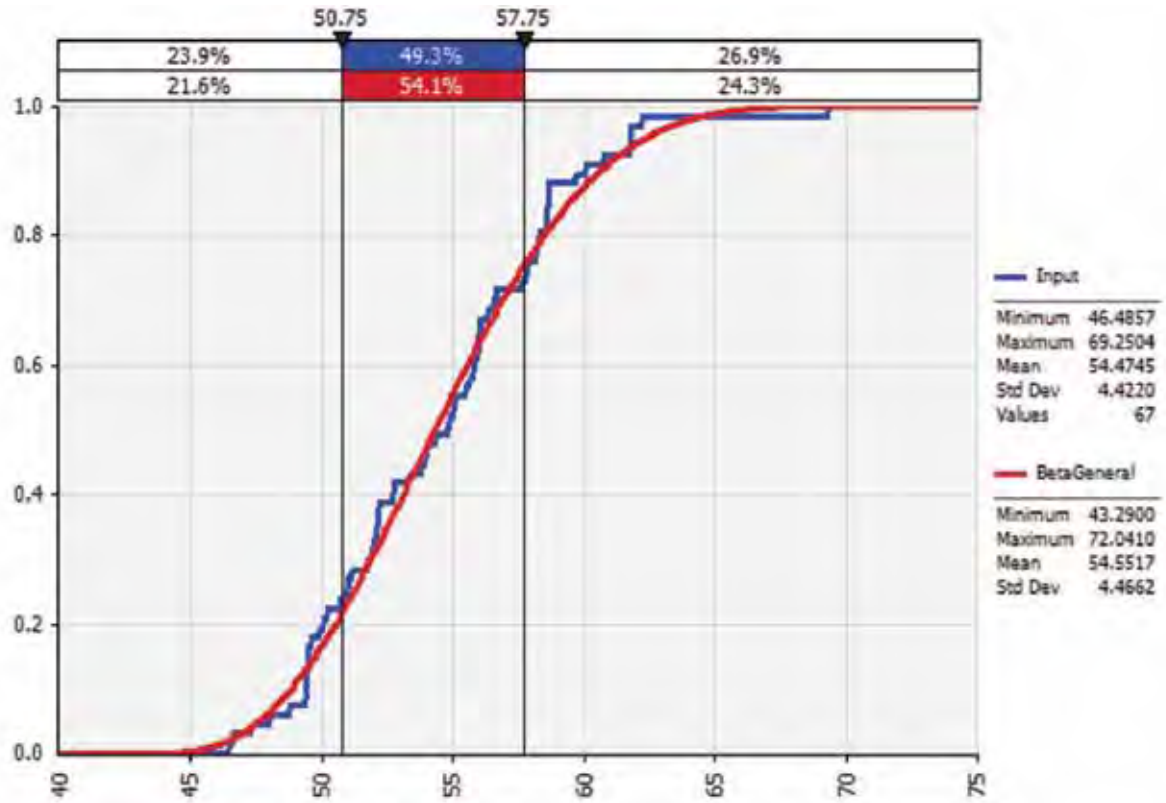
Figure 6.8: Distribution of unemployment rates by GTO catchment



Business productivity

Figure 6.9 shows the distribution of business productivity across the catchment for the individual GTOs in the survey. Almost half of GTOs operate in catchments where productivity is between $50,000 and $58,000 but the maximum ranges up to $70,000.

Figure 6.9: Distribution of GTO catchment average business productivity ($'000)



6.5 Factors affecting GTO productivity

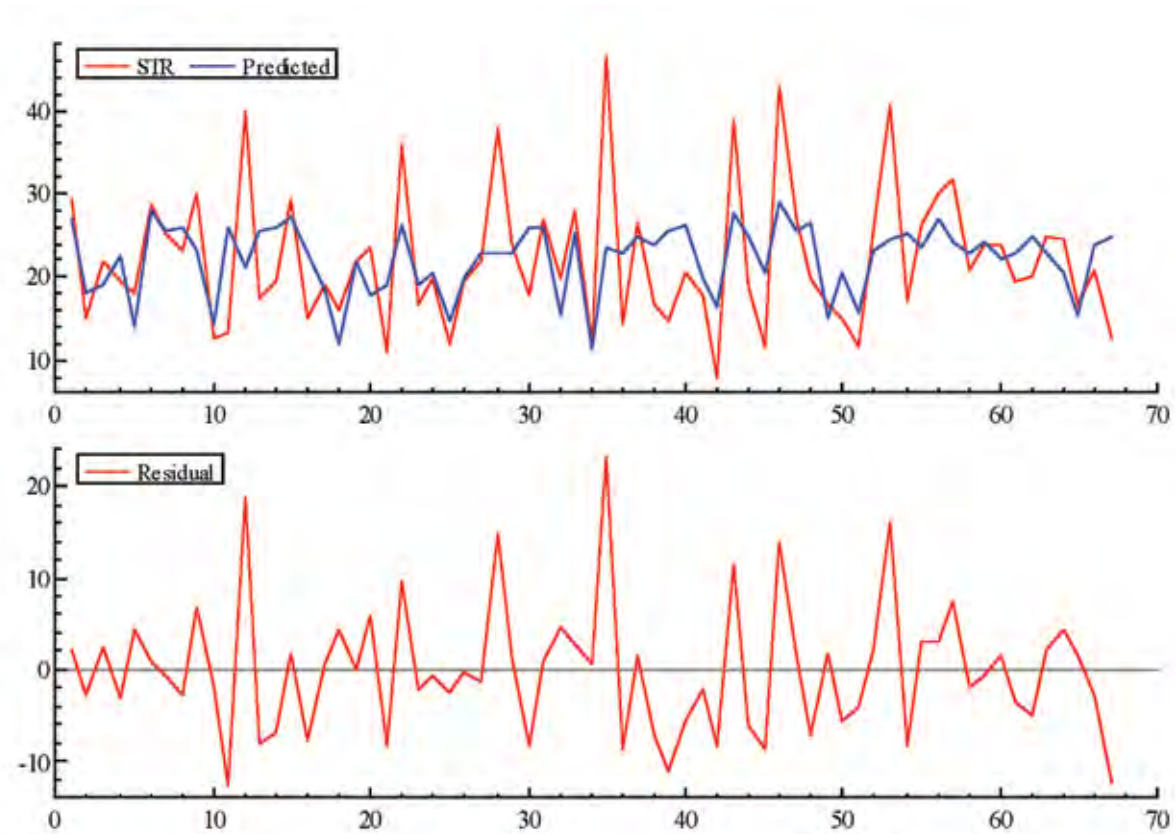
The foregoing analysis provides the basis for an analysis of drivers of optimal productivity of GTOs (as measured by apprentices and trainees per GTO FTE). The optimum drivers and environment for a GTO can be calculated from the cross-section equations for the productivity indicators.

The estimated equation for productivity is:

$$
\begin{aligned}
Prod \;=\; & 15.93 - 0.000005 * SCALC^2 \qquad (6.1)\\
& (9.5) \qquad (1.6)\\
+\; & 2.24 \,.\, SPC - 0.243 \,.\, SPC^2\\
& (1.3) \qquad (1.6)\\
+\; & 160.6 \,.\, unr - 876.2 \,.\, unr^2\\
& (1.4) \qquad (1.8)\\
+\; & 0.502 \,.\, porpr - 0.014 \,.\, indc\\
& (1.2) \qquad (1.1)\\
+\; & 441.3 \,.\, ms - 8633.6 \,.\, ms^2\\
& (1.4) \qquad (1.4)\\
& R2 = 0.27 \;\; D.W. = 2.4
\end{aligned}
$$

The graph of predicted versus actual for this equation is given in Figure 6.10.

Figure 6.10: Predicted versus actual productivity equation

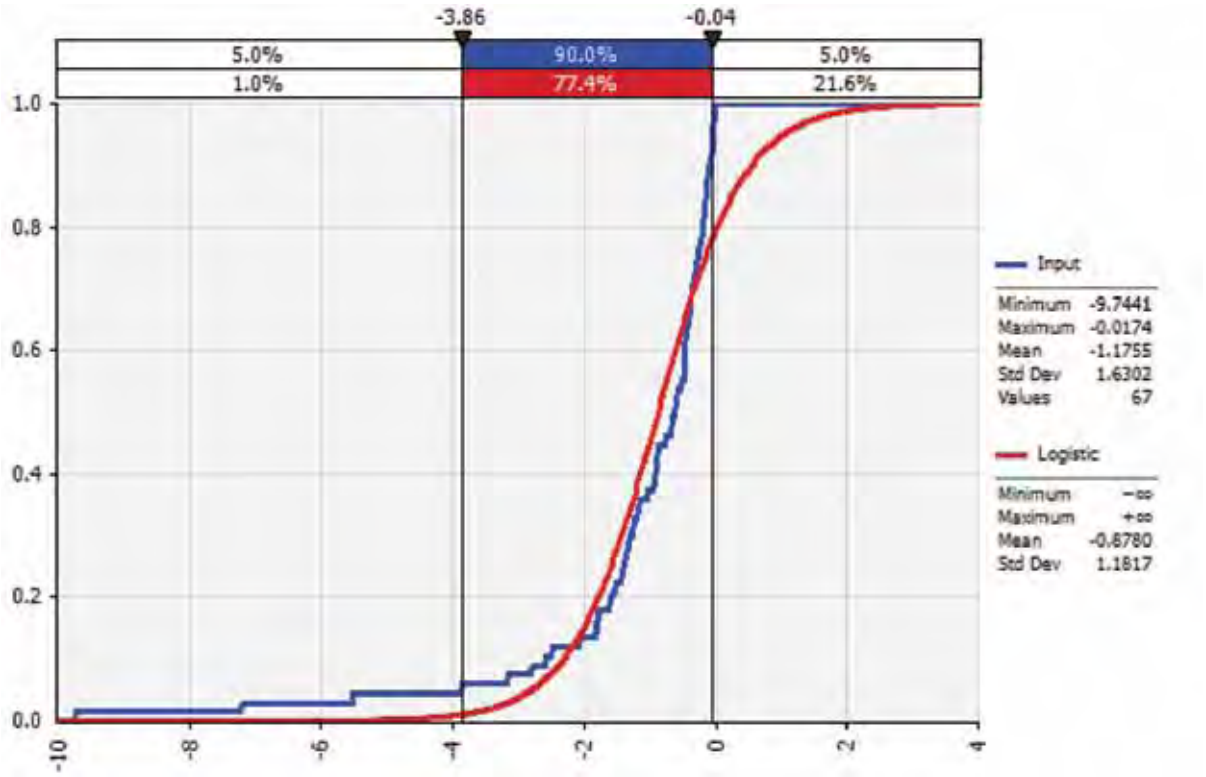


The estimated coefficients from the equation provide the following conclusion in regard to the influence of the drivers on productivity.

Scale effects

The first aspect to note is that there are diseconomies of scale. That is, productivity declines with scale. Put simply the larger the enterprise then, all else being equal, the less productivity. Figure 6.11 indicates that for most GTOs in the sample the scale effect reduces productivity by between 0 and 4 apprentices and trainees per employed person, or an average productivity decline of 10 per cent. This offers a partial explanation of why most firms have remained at below 900 apprentices and trainees, as for Figure 6.12.

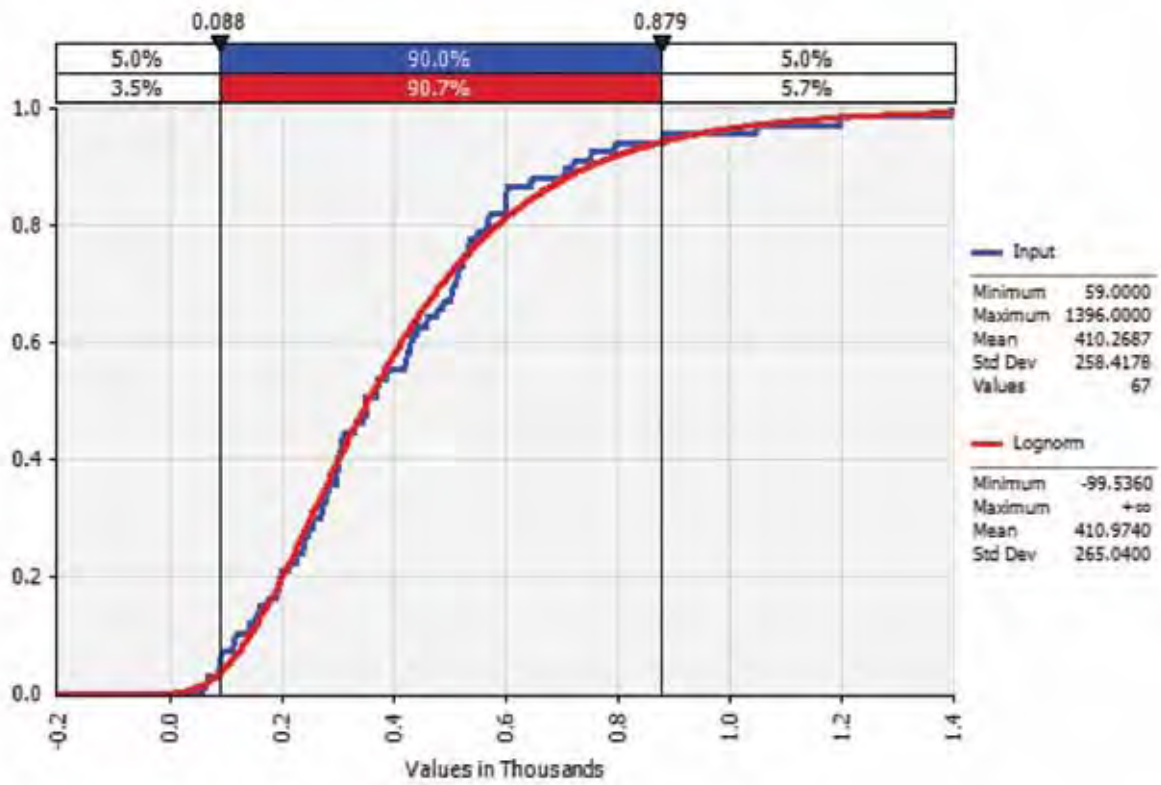
Figure 6.11: Contribution of scale to GTO productivity



Apprentices and trainees per client

Apprentices and trainees per client has a non-linear effect. Initially increases in apprentices and trainees per client increases productivity. However, the coefficients indicate the maximum productivity effect is at 4.6 apprentices and trainees per client. However, at that point productivity declines. From Figure 6.5, only two enterprises have an apprentices and trainees per client ratio of greater than 4.6. Hence there are productivity gains to be achieved if strengths could be employed to increase apprentices and trainees per client to the optimum level of apprentices and trainees per client. The productivity gain across all the GTOs would average 2 times per person employed, or an average productivity increase of 10 per cent.

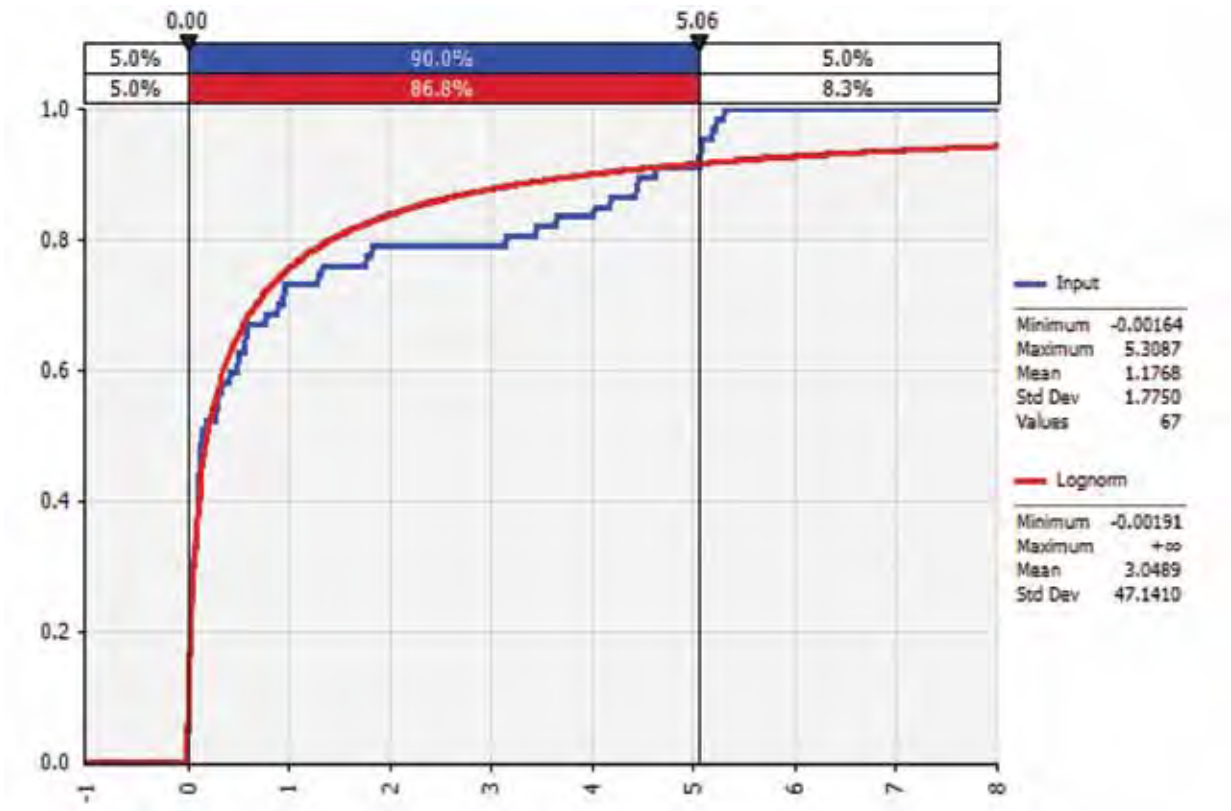
Figure 6.12: Distribution of total apprentices and trainees per GTO



Market size

The market size also has a non-linear impact. Initially market size increases allows an increase in productivity. Above a maximum market size productivity starts to decline. The optimum market size is 25 per 1,000 population. The average gain in productivity, if all GTOs created the optimum market catchment, would be 1.2 (Figure 6.13) or a productivity gain of 5 per cent.

Figure 6.13: Distribution of productivity loss from sub-optimum market catchment



Unemployment rate

The unemployment rate prevailing in the catchment also has a non-linear impact on enterprise productivity. Initially increases in the unemployment rate increase enterprise productivity (one reason would be greater choice and better qualified candidates). After an optimum point, however, enterprise productivity declines as the unemployment rate increases.

One reason for this would be marginalisation with respect to employment that would limit the incentive to expand training opportunities. The optimum unemployment rate is 9.2 per cent. If all GTOs operated in catchments where the optimum unemployment rate prevailed, the productivity would be increased by an average of 1.93 (Figure 6.14), giving a productivity increase of 8.8 per cent. The fall in the unemployment rate over the past decade could partly explain the GTOs' declining performance.

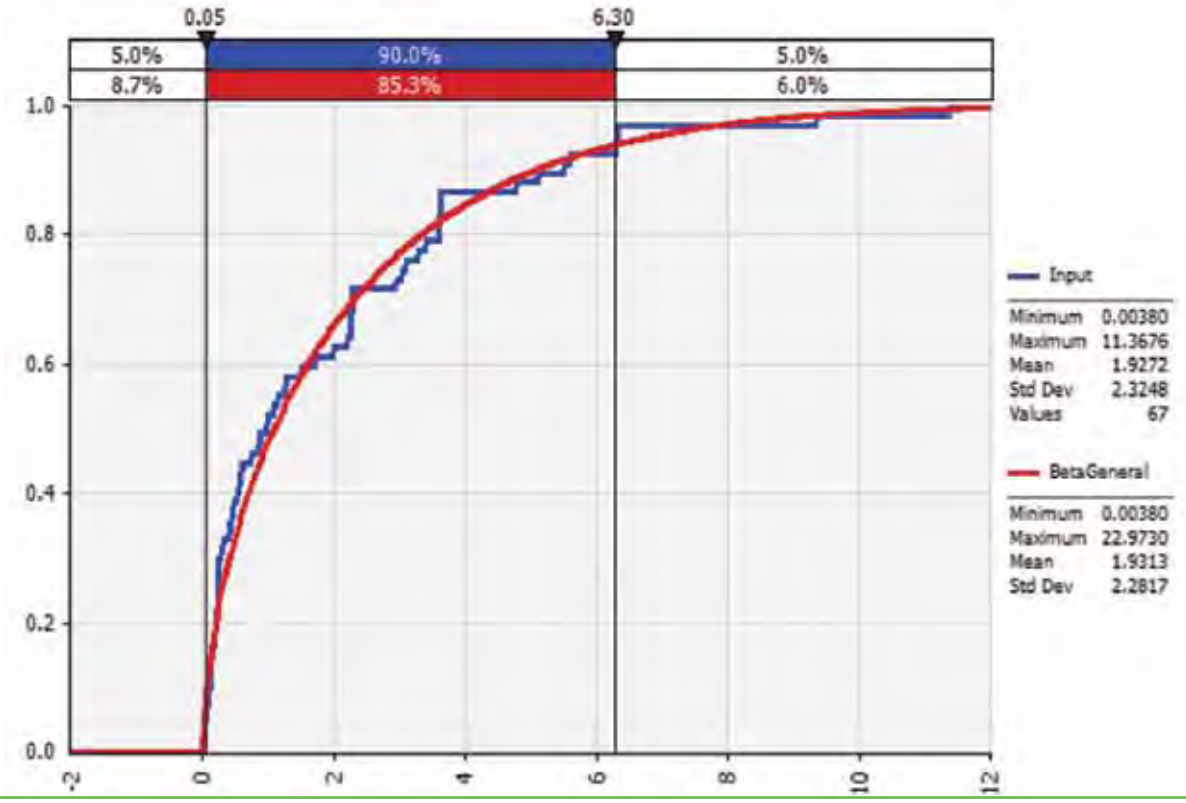
Other sources of income

Diversification of income sources will increase productivity by spreading fixed costs over a larger revenue pool. From equation (6.1), if a GTO goes from zero to 10 per cent in other sources of income, then productivity would increase by 0.92 or an average of 4 per cent.

Industry specialisation

Diversification of industries serviced will reduce productivity. If a GTO goes from offering services in one industry to offering services across all industries, the productivity would decline by 1.3 or an average of 6 per cent.

Figure 6.14: Distribution of productivity loss from unemployment rate deviation from optimal



6.6 Factors affecting completion rates

The estimated equation for weighted average completion rates is:

$$
\begin{aligned}
WCOMR = \; & 103.5 + 5.66 \,.\, SPC - 0.354 \,.\, SPC^2 \qquad (6.2)\\
& \quad (5.6) \quad (2.2) \qquad (1.6)\\
& + 98.38\, unr - 425.8\, unr^2\\
& \quad (1.0) \qquad (0.9)\\
& + 0.924 \,.\, porpr - 0.127 \,.\, indc\\
& \quad (1.6) \qquad (3.7)\\
& - 0.6996\, bprod\\
& \quad (2.2)
\end{aligned}
$$

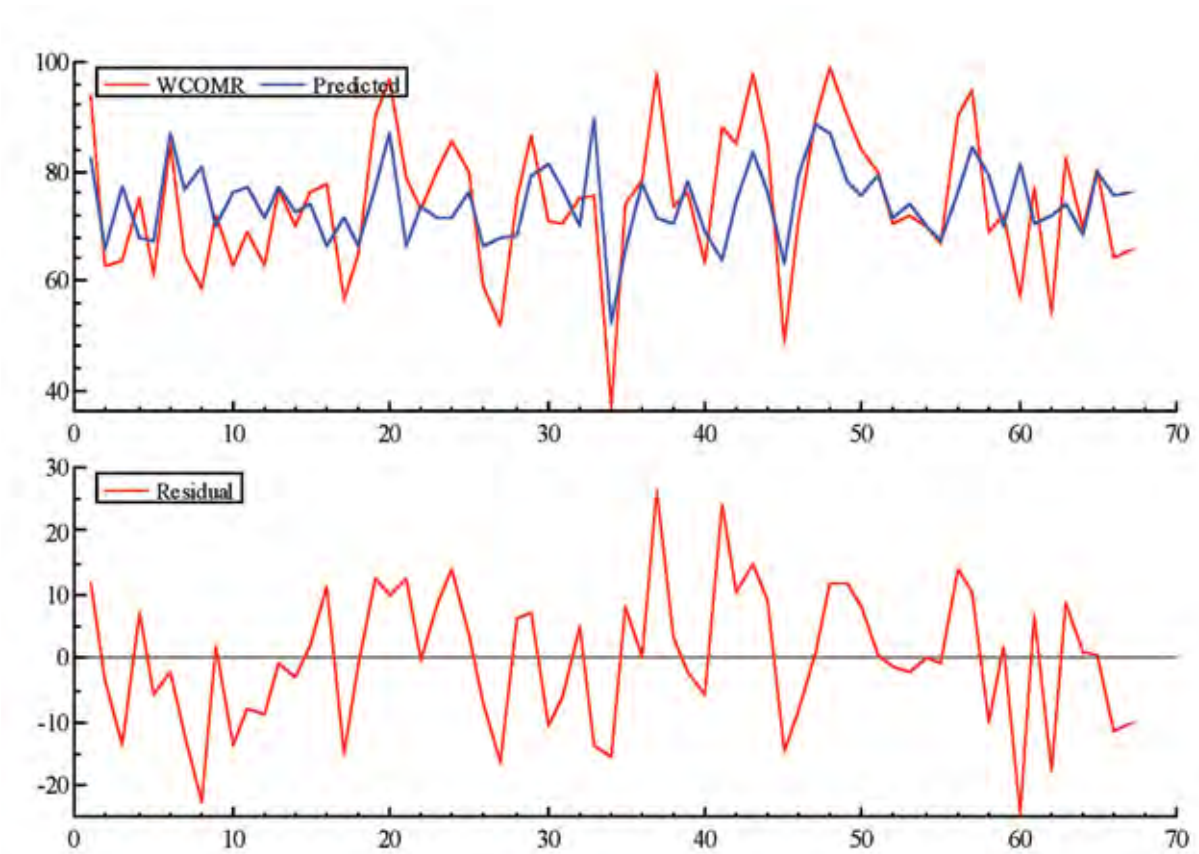
The plot of the actuals and predicted is given in Figure 6.15.

The estimated coefficients lead to the following conclusions.

Scale

The scale of enterprises has no influence on completion rates.

Figure 6.15: Predicted versus actual completion equation



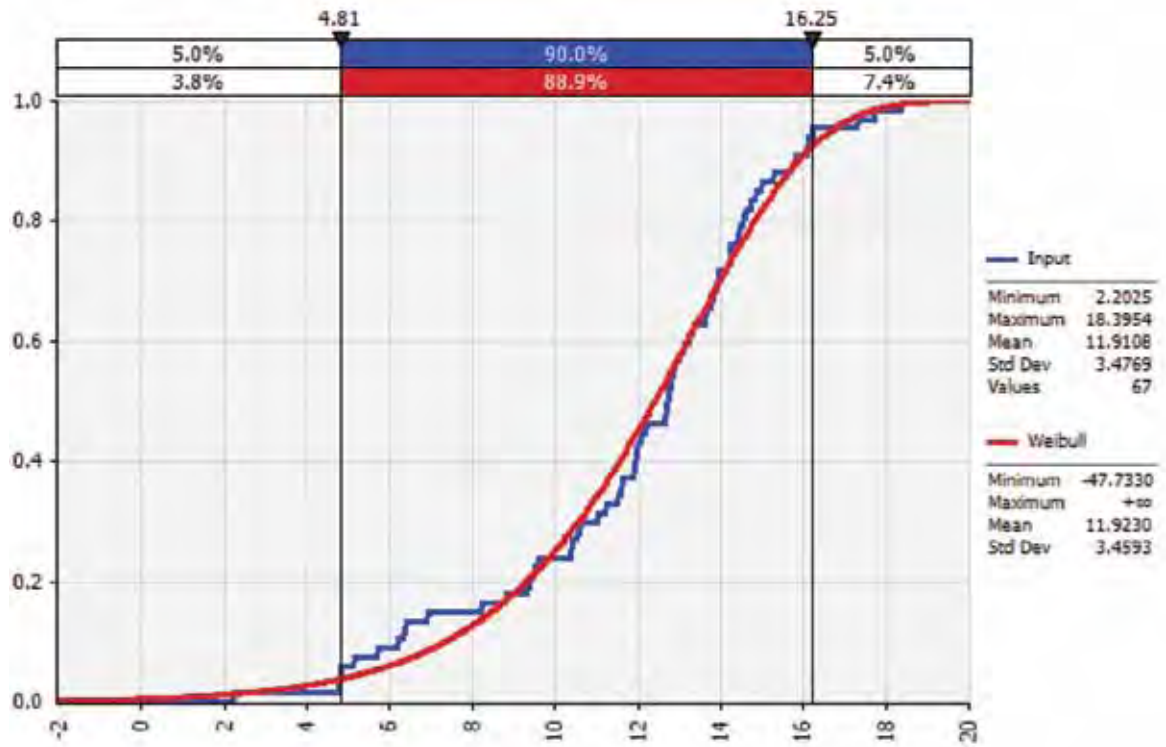
Apprentices and trainees per client

Apprentices and trainees per client operate on completion rates in a very similar way to the influence of apprentices and trainees per client on enterprise productivity. The optimum number of apprentices and trainees per client is 8. That is, increases in apprentices and trainees per client to 8 will increase completion rates. After 8 apprentices and trainees per client completion rates would fall. Figure 6.16 indicates that the mean loss in completion rates for apprentices and trainees per client not being at optimum is 12 percentage points. As the average completion rate across the 67 GTOs in the sample is 74 per cent, this means that the loss in completion rates from apprentices and trainees per client not being at optimum level is 14 per cent.

Market size

Market size had no influence on completion rates.

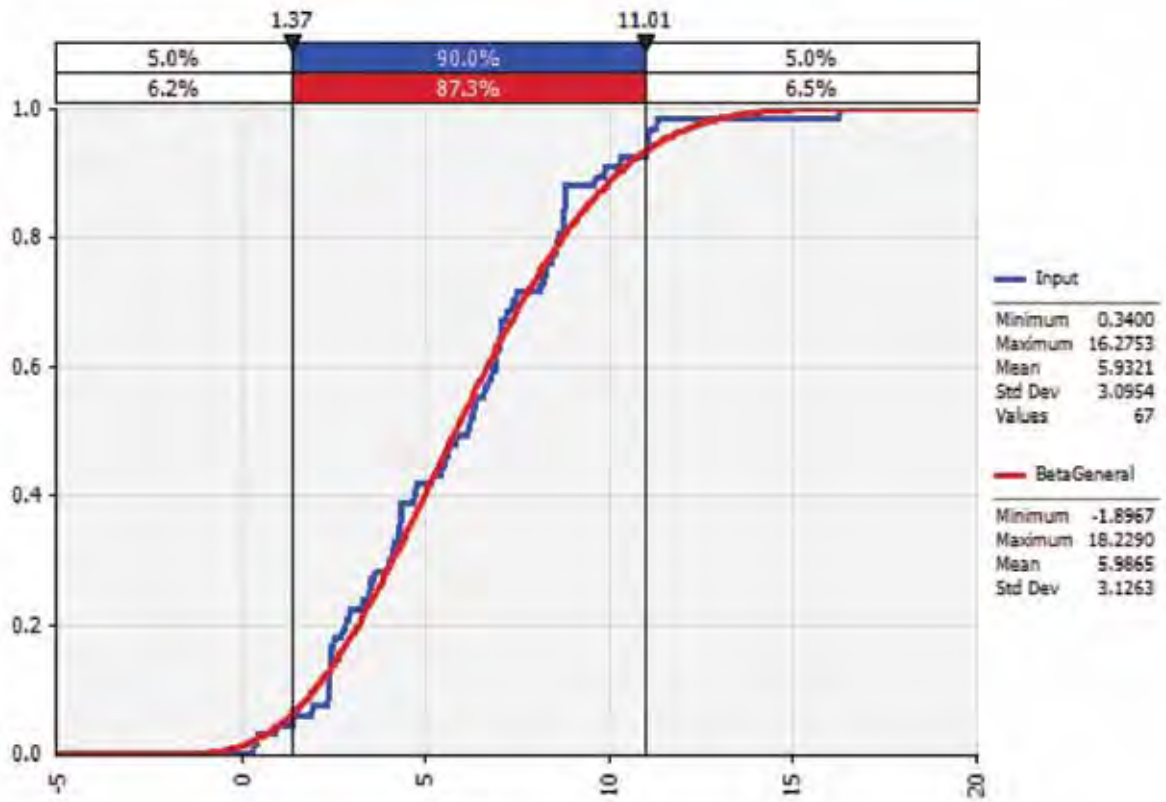
Figure 6.16: Distribution of loss in completion rate from apprentices and trainees per client deviation from optimal



Business productivity

From Figure 6.9, the range of business productivity across the GTO catchments is $46,000 to $69,000. Examining the impact of this variation on completion rates shows that compared to the lowest productivity catchment, a GTO operating in the highest productivity catchment would expect a loss in completion rate of 0.6996 * 23 or 16 percentage points. From Figure 6.17, the loss is 5 percentage points which represents a completion rate loss of 7.5 per cent. One reason for business productivity having a negative impact on completion rates is that the higher the business productivity the higher the wages on alternative employment and the higher the inducement to change employers which may or may not involve a discontinuation of an apprenticeship or traineeship.

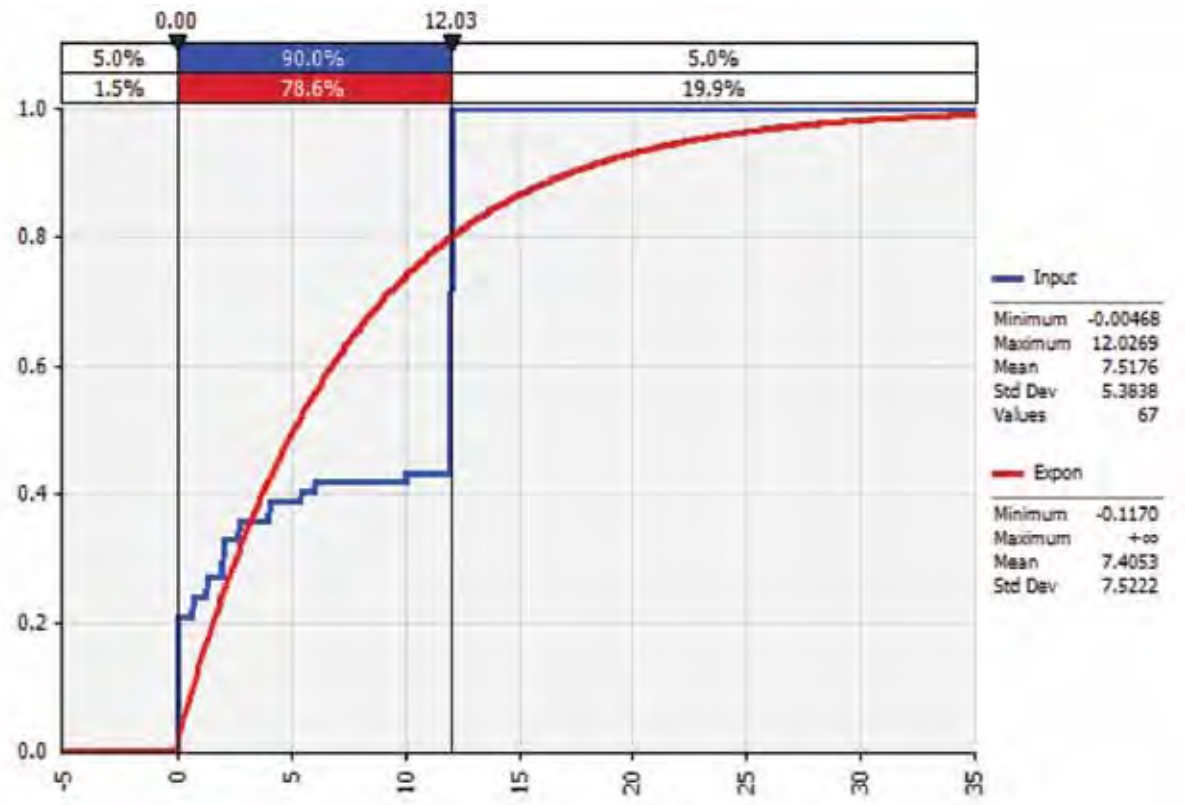
Figure 6.17: Loss of completion rate from catchment productivity above minimum levels



Industry specialisation

Industry diversification (GTOs seeking to work with multiple industries) has a strong negative impact on completion rates. A GTO that goes from a single industry focus to an all industry focus would, all else being equal, reduce completion rates by 12 percentage points or a mean decline of 14 per cent. From Figure 6.18 the mean gain is 7.5 percentage points in completion rates.

Figure 6.18: Distribution of gains in completion rates to single industry focus



Unemployment rates

Unemployment rates operate on completion rates in a similar manner to how unemployment rates operate on GTO productivity. The optimum unemployment rate is 11.5 per cent. The loss in completion rate for sub-optimal unemployment rates (tight labour market or high unemployment) is a relatively low 1.7 percentage points.

6.7 Conclusion

The first conclusion from the analysis is that the variation in performance and performance driver factors are large between GTOs. A 'one cap fits all' model for a GTO structure and conduct would not be appropriate.

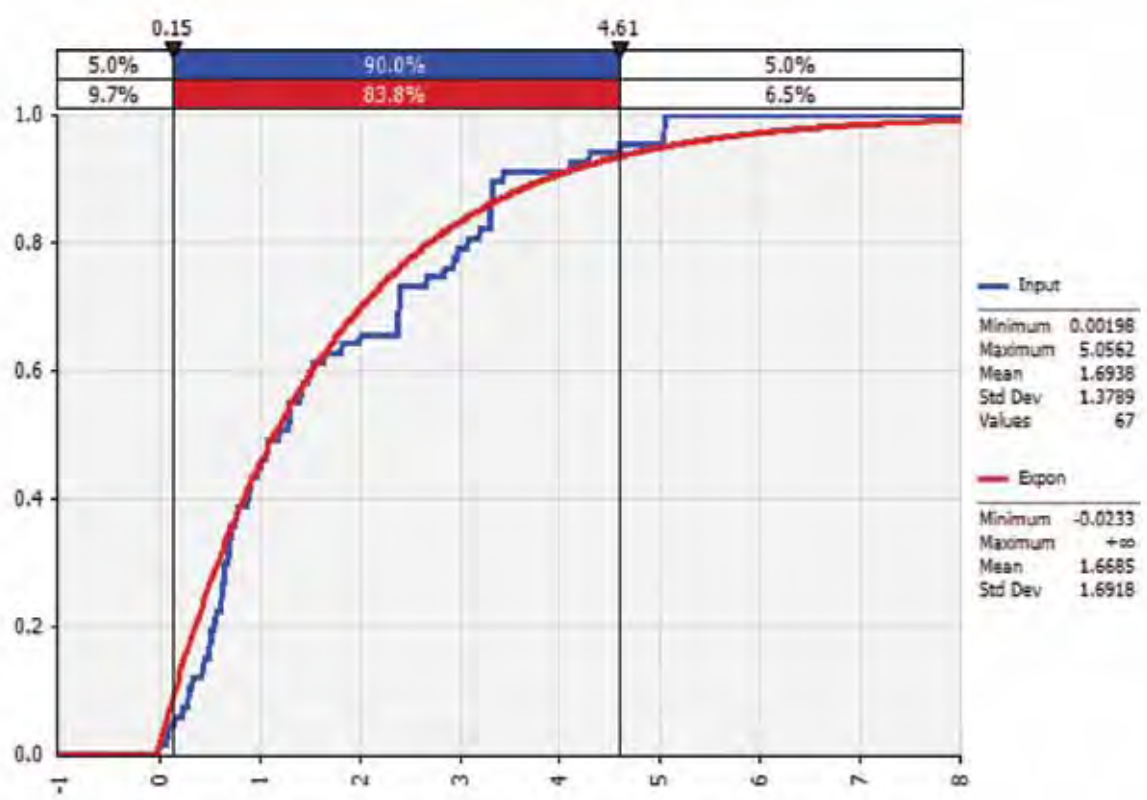
Secondly, given the current structure of GTOs, there are limits to the benefits of scale expansion if productivity and completion rate performance is to be maintained or improved. These limits are imposed in terms of both the operational characteristics of GTOs and the market environment.

This indicates that while scale enhancement may well be vital in terms of long run growth potential (this chapter analyses cross-section data) an objective of simply diversifying industry and regional focus without any other complementary strategy could well be unsuccessful.

If there are constraints on the growth of GTOs then it follows that the barriers to entry for new start-up GTOs are likely to be a severe constraint on overall GTO industry growth.

GTOs seeking to build and maintain market position will need a strategic plan that integrates well-crafted human resource and organisational development plans to support growth as well as sophisticated market research to identify options and constraints. Simply growing the existing business model has a good probability of not achieving overall organisational goals.

Figure 6.19: Loss in completion rate from sub-optimal unemployment rate



PART C:
THE GROUP TRAINING INDUSTRY: DRIVERS OF PERFORMANCE – A STATISTICAL ANALYSIS

C

7. THE EFFICIENCY OF GROUP TRAINING ORGANISATIONS

This chapter will look at the performance of individual GTOs against peer groups to further examine drivers of performance. It will seek to identify better performing GTOs and the issues that set them apart from their peers.

The previous section focused on the drivers of performance in terms of average impact on individual enterprises. However, as can be seen from the plots of the difference between predicted and actual values (equations (7.1) and (7.2)), the performance of some individual enterprises varies considerably from the average. This is because some enterprises will be at best practice or efficient given their drivers, while others will have a poorer performance in terms of the outcome for both productivity and completion rates.

By categorising individual GTOs as peers of other GTOs (a peer group is a group of GTOs that are most alike in terms of scale, industry focus, regional focus and market environment) and by working out which is the better performing GTO and the poorer performing GTO, some insight may be gained into how the poorer performing GTOs could improve. Data Envelope Analysis (DEA) is a technique that allows this objective to be achieved.

7.1 DEA analysis: An overview

DEA analysis is a performance measurement technique used for evaluating the relative efficiency of decision making units (DMU) which, in the case of this study, is GTOs.

The mathematics of DEA can be explained in terms of the inputs (drivers) and outputs (performance indicators) adopted for this study.

The efficiency of GTO *i* can be expressed as:

$$\sum_i = \sum_{j=1}^{2} pi_j w_j / \sum_{j=1}^{10} d_{i,j} v_j \qquad (7.1)$$

Where pi_j represents either the productivity or completion rate performance indicators. That is, the two performance indicators adopted for this study. Correspondingly, the di_j represents the independent variables in equations (1) and (2) adopted for this study. The core problem of a DEA analysis is to estimate the weights wj, vj so as to enable the efficiency indices, equation (7.1), to be calculated.

This is done in the following manner. A separate linear programming problem is solved for each GTO where, subject to a number of constraints, the objective function is the maximisation of:

$$\sum_{j=1}^{2} pi_j w_j \qquad (7.2)$$

One set of constraints is that the GTO under investigation cannot select weights that would cause the efficiency of any GTO (including the GTO under investigation) to be greater than 100 per cent. That is, equation (7.2) is maximised subject to the constraint that:

$$\sum_{j=1}^{j=1\ 2} i \quad pi_{m,j} w_j \leq \sum_{j=1}^{10} d_{m,j} v_j \qquad (7.3)$$

m = 1, . . . n

where *n* is the number of GTOs that, as will be seen below, for this study are set at 108.

Also, it is required that the sum of weighted inputs for each GTO equal 1, or:

$$\sum_{j=1}^{10} v_{m,j} = 1 \qquad (7.4)$$

m = 1, . . . n

It is also required that:

$v_{m,j} \geq 0,\ w_{m,j} \geq 0$

Efficient GTOs have an efficiency score of 100 per cent.

It should be noted that in specifying the inputs or drivers in the case of this study, more is better. It has already been established performance is negatively related to scale. That is, firm size. Hence, for DEA analysis the reciprocal of scale is the appropriate input variables.

If a GTO is found to be inefficient then DEA can be used to estimate the improvement in the performance indicators if it was operating at maximum efficiency driver inputs left unchanged. This will be done with one output (the unemployment rate) and two drivers, namely:

(i) apprentices and trainees per client; and

(ii) catchment unemployment rate.

This allows the process to be demonstrated graphically as in Figure 7.1. For 14 GTOs each GTO is evaluated in turn using the methodology outlined above and it is found that in terms of the resident employment ratio GTO 1, 6, 10, 12 and 14 are efficient with the GTO defining the efficiency frontier of the figure, with the other GTOs found to be inefficient. GTO 5 was found particularly inefficient with an efficiency score of less than 50. This is because point 5 is closer to the origin than the efficiency frontier. The efficiency frontier is described by the actual driver values of the efficiency GTOs. DEA analysis can then be used to measure the improvement in the employment ratio if it used its drivers as efficiently as a weighted combination of GTOs 6 and 10, which are the GTOs most like GTO 5 in terms of driver structure, but are also efficient. GTOs 6 and 10 are called the peers of GTO 5. Because 6 and 10 are efficient and 5 is not, 6 and 10 represent the benchmark peers to 5, or the peers which should be used as role models for changes in structure and conduct to improve performance.

By improving its efficiency, in terms of a weighted average combination of driver efficiency exhibited by GTOs 6 and 10, a GTO can move to point 5(a) in the frontier without changing its driver inputs.

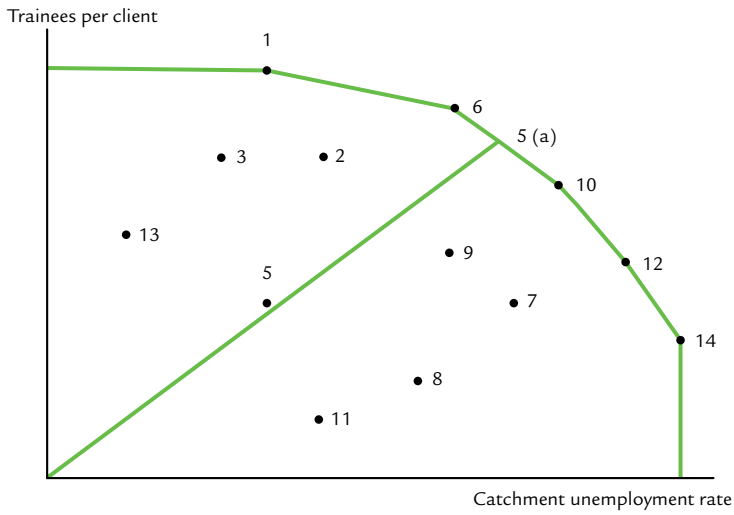
The analysis outlined above is for an 'output oriented' approach to benchmarking. The dual of this is the 'input oriented' approach which takes performance indicators as fixed and calculates the reduction in driver inputs necessary to achieve maximum efficiency. Both approaches are adopted here with the input oriented approach used to estimate the degree to which individual drivers are not being exploited for an inefficient GTO.

By improving its efficiency, in terms of a weighted average combination of driver efficiency exhibited by GTOs 6 and 10, a GTO can move to point 5(a) in the frontier without changing its driver inputs. Thus, DEA will be used to assess which firms lie below the production efficiency frontier in relation to the two performance indicators and what are the most appropriate peer GTOs that should be used to guide the improvement in efficiency for individual inefficient GTOs.

7.2 Efficiency analysis

Table 7.2 shows the efficiency index for each of the 67 firms. The results show that 38 firms, or 57 per cent, are rated efficient in that the enterprises are judged to be operating on the production possibility frontier of the GTO sector. This is a very high percentage and reflects the diversity of environments facing GTOs. To see this assume that all GTOs are the same scale and face exactly the same market environment in terms of market size, industry structure, unemployment rates, etc. In this case all GTOs would be peer to each other and

Figure 7.1: DEA – 14 GTOs, one performance indicator and two driver example



there would be only one benchmark peer. At the other extreme is the case where the conditions under which all GTOs operate are so different that it is impossible to link any two GTOs as being 'alike' in terms of scale and market in catchment size. In this case there are no peers and all GTOs would be judged as doing the best they could, which is being efficient, under their own unique circumstances.

7.3 Peer combinations

A key element of the study is to use the firm survey to assess what are the best practice GTOs and what other enterprises could best benefit from the conduct and structure of the best practice enterprises. Table 7.3 links inefficient enterprises with their best practice peers. That is, best practice enterprises which are 'most like' the inefficient enterprises. From the table enterprise 1 is inefficient, but there is not a best practice peer which is like it.

On the other hand, from Table 7.3, enterprise 6, or survey respondent 6 (SR6), is inefficient. However, there are five other best practice enterprises which resemble enterprise SR6. That is, had drivers that are not too different from the drivers of enterprise SR6. Therefore, as long as at least one of enterprise SR37, SR10, SR48, SR24 or SR43 have had a detailed interview, then it is possible that insight can be gained into how enterprise SR6 could change its structure and/or conduct to improve its performance

If the project has done surveys of more than one peer enterprise for inefficient enterprise SR6, then the question becomes which of the surveyed firms is the most important. The weights for answering this are given in Table 7.4. For enterprise SR6 the highest importance is given to the structure and conduct of enterprise 59.

7.4 The potential improvement in performance

If the inefficient firms could adopt strategies to render them as efficient as their peers, then Table 7.5 shows the percentage increase in performance that could be expected. Thus, enterprise 6 could expect a 9.1 per cent increase in both completion rates and productivity.

For the sector as a whole the overall increase in completion rates would be 3.9 per cent and 7.6 per cent for productivity.

7.5 Additional insights: The comparison of peers

The information in the tables offers limited insights. The broad conclusion thus far would be that the scale, structure and market environment of GTOs is diverse and no one cap fits all strategy to improve performance will be successful. However, this is already apparent from the statistical analysis of the previous chapter. The next step is to compare the less efficient peers in Table 7.2 with their most important benchmark peers from Tables 7.3 and 7.4.

For example, from the tables, survey respondent number 63 (SR63) is identified as efficient and a moderate peer benchmark to SR4 (identified as less efficient). SR4 is a region specific (metropolitan) GTO operating across all industries. The GTO acknowledges that poor performance may make it difficult to hold service standards. SR4's solution to its current difficulties is to focus on stable public sector-based industries and take over other GTOs. SR63 is a strong sole region-focused enterprise that is managing to maintain competitiveness.

A full description of this analysis is included at Appendix 2. The main findings in relation to the more efficient GTOs are summarised in Table 7.1 below.

Table 7.1: Summary of peer analysis

Characteristic	Occurrence in peer analysis
Industry specialisation	♦♦
Management culture	♦♦♦
Service offer	♦♦♦♦
Type of industry (skill levels)	♦♦
Scale optimisation	♦♦♦
Geographic optimisation	♦♦♦♦
Scale of customers	♦

7.6 Correlation between efficiency and profitability

In the industry survey of Part B, six GTOs that were interviewed were identified by the DEA analysis as being inefficient. Five of the six firms interviewed have a gross margin of between 1 and 15 per cent. The majority of the remaining firms that nominated a gross margin and were deemed efficient in terms of their peers had gross margins in excess of 20 per cent. Quality of management will be a key issue for improving performance of GTOs.

7.7 Conclusion

Three features stand out from the comparison of inefficient peers with their benchmark peers. The three features will be designated as 'rules'.

Rule one For GTOs of the same scale and geographic structure, a focus on community objectives (labour market equity programs) can lower productivity by up to 25 per cent and lower completion rates by five to 10 per cent compared to GTOs with narrow commercial objectives.

Rule two For similar GTOs with the same geographical structure and same single industry focus, those that focus on traditional high value trade skills (e.g. construction and mining) have productivity and completion rates between 15 and 30 per cent) higher than GTOs that focus on lower skill service sectors (hospitality etc).

Rule three Given similar GTOs in scale, organisations with greater geographical diversity will have around 25 per cent lower productivity and possibly a reduction in completion rates of up to 25 per cent compared to GTOs that operate in one region.

Table 7.2: Scale and technical efficiency by GTO

	Efficiency index		
Enterprise	**Technical**	**Scale**	**Rating**
1	0.977	0.977	not efficient
2	1.000	1.000	efficient
3	1.000	1.000	efficient
4	0.990	1.000	not efficient
5	1.000	1.000	efficient
6	0.910	0.991	not efficient
7	1.000	1.000	efficient
8	0.710	1.000	not efficient
9	1.000	1.000	efficient
10	1.000	1.000	efficient
11	0.808	1.000	not efficient
12	1.000	1.000	efficient
13	0.934	0.981	not efficient
14	0.593	0.714	not efficient
15	0.961	0.978	not efficient
16	1.000	1.000	efficient
17	0.953	0.953	not efficient
18	1.000	1.000	efficient
19	1.000	1.000	efficient
20	1.000	1.000	efficient
21	1.000	1.000	efficient
22	1.000	1.000	efficient
23	1.000	1.000	efficient
24	1.000	1.000	efficient
25	0.885	0.929	not efficient
26	1.000	1.000	efficient
27	0.827	0.827	not efficient
28	1.000	1.000	efficient
29	1.000	1.000	efficient
30	0.767	1.000	not efficient
31	0.849	1.000	not efficient
32	1.000	1.000	efficient
33	1.000	1.000	efficient
34	0.689	0.689	not efficient

	Efficiency index		
Enterprise	**Technical**	**Scale**	**Rating**
35	1.000	1.000	efficient
36	1.000	1.000	efficient
37	1.000	1.000	efficient
38	0.899	0.951	not efficient
39	1.000	1.000	efficient
40	0.645	0.839	not efficient
41	1.000	1.000	efficient
42	1.000	1.000	efficient
43	1.000	1.000	efficient
44	0.913	0.913	not efficient
45	0.879	0.879	not efficient
46	1.000	1.000	efficient
47	1.000	1.000	efficient
48	1.000	1.000	efficient
49	1.000	1.000	efficient
50	1.000	1.000	efficient
51	0.917	1.000	not efficient
52	1.000	1.000	efficient
53	1.000	1.000	efficient
54	0.681	0.896	not efficient
55	0.933	1.000	not efficient
56	0.859	0.907	not efficient
57	1.000	1.000	efficient
58	0.997	0.997	not efficient
59	0.760	0.869	not efficient
60	0.843	0.843	not efficient
61	1.000	1.000	efficient
62	0.802	0.977	not efficient
63	1.000	1.000	efficient
64	1.000	1.000	efficient
65	0.754	0.789	not efficient
66	0.854	0.854	not efficient
67	0.742	1.000	not efficient

Table 7.3: Benchmark peer – inefficient peer combination

Enterprise	Benchmark peer	Benchmark peer	Benchmark peer	Benchmark peer	Benchmark peer	Benchmark peer
1	1					
2	2					
3	3					
4	28	63	23	50	22	2
5	5					
6	37	10	48	24	43	
7	7					
8	57	20	28	19		
9	9					
10	10					
11	42	41	63			
12	12					
13	61	63	24	16	26	
14	35	41	24			
15	23	63	35	22		
16	16					
17	17					
18	18					
19	19					
20	20					
21	21					
22	22					
23	23					
24	24					
25	41	21	50			
26	26					
27	27					
28	28					
29	29					
30	19	43				
31	37	28	57	19		
32	32					
33	33					
34	34					
35	35					
36	36					
37	37					
38	63	39	18	16		
39	39					

Table 7.3: Benchmark peer – inefficient peer combination (continued)

Enterprise	Benchmark peer	Benchmark peer	Benchmark peer	Benchmark peer	Benchmark peer	Benchmark peer
40	24	63	41	35		
41	41					
42	42					
43	43					
44	44					
45	45					
46	46					
47	47					
48	48					
49	49					
50	50					
51	20	18	42	37	19	
52	52					
53	53					
54	41	1	63	43	37	24
55	35	23	64	7	2	
56	20	1	43	57	37	35
57	57					
58	58					
59	41	35	24			
60	60					
61	61					
62	23	64	45	22	7	2
63	63					
64	64					
65	24	63	41			
66	66					
67	41	63	19	23	37	

Table 7.4: Weights for peer enterprise importance

Enterprise	Benchmark peer	Benchmark peer	Benchmark peer	Benchmark peer	Benchmark peer	Benchmark peer
1	1.00					
2	1.00					
3	1.00					
4	0.07	0.27	0.02	0.31	0.01	0.325
5	1.00					
6	0.10	0.07	0.02	0.23	0.59	
7	1.00					
8	0.07	0.15	0.62	0.17		
9	1.00					
10	1.00					
11	0.34	0.40	0.27			
12	1.00					
13	0.06	0.49	0.08	0.36	0.01	
14	0.15	0.21	0.64			
15	0.48	0.08	0.35	0.10		
16	1.00					
17	1.00					
18	1.00					
19	1.00					
20	1.00					
21	1.00					
22	1.00					
23	1.00					
24	1.00					
25	0.17	0.12	0.70			
26	1.00					
27	1.00					
28	1.00					
29	1.00					
30	0.71	0.29				
31	0.13	0.55	0.06	0.26		
32	1.00					
33	1.00					
34	1.00					
35	1.00					
36	1.00					
37	1.00					
38	0.59	0.01	0.19	0.21		
39	1.00					

Table 7.4: Weights for peer enterprise importance (continued)

Enterprise	Benchmark peer	Benchmark peer	Benchmark peer	Benchmark peer	Benchmark peer	Benchmark peer
40	0.15	0.70	0.03	0.13		
41	1.00					
42	1.00					
43	1.00					
44	1.00					
45	1.00					
46	1.00					
47	1.00					
48	1.00					
49	1.00					
50	1.00					
51	0.00	0.15	0.01	0.14	0.69	
52	1.00					
53	1.00					
54	0.00	0.18	0.21	0.02	0.44	0.142
55	0.29	0.21	0.19	0.19	0.12	
56	0.00	0.15	0.21	0.05	0.50	0.093
57	1.00					
58	1.00					
59	0.03	0.28	0.69			
60	1.00					
61	1.00					
62	0.05	0.11	0.13	0.25	0.35	0.113
63	1.00					
64	1.00					
65	0.20	0.59	0.21			
66	1.00					
67	0.01	0.12	0.67	0.10	0.11	

Table 7.5: Potential improvement in performance – per cent increase

Enterprise	Completion rates	Productivity
1	0.0	0.1
2	0.0	0.0
3	0.0	0.0
4	1.0	1.2
5	0.1	0.0
6	9.1	9.1
7	0.0	0.2
8	41.0	41.0
9	0.0	0.0
10	0.0	0.0
11	23.8	23.8
12	0.0	0.0
13	5.0	19.1
14	20.4	20.1
15	1.8	1.9
16	0.0	0.0
17	0.0	0.0
18	0.1	0.3
19	0.0	0.0
20	0.0	0.0
21	0.0	0.5
22	0.0	0.0
23	0.0	0.0
24	0.0	0.0
25	5.0	23.6
26	0.0	0.1
27	0.1	0.0
28	0.0	0.1
29	0.0	0.0
30	30.4	51.2
31	17.8	17.6
32	0.1	0.0
33	0.1	0.0
34	-0.1	0.0
35	0.0	0.1
36	0.0	0.0
37	0.0	0.0
38	5.9	25.6
39	0.0	0.3
40	30.0	29.9
41	0.0	0.2
42	0.0	0.0
43	0.0	0.0
44	0.0	0.3
45	0.0	0.0
46	0.0	0.1
47	0.0	0.0
48	0.0	0.2
49	0.0	0.2
50	0.0	0.0
51	9.0	83.2
52	0.0	0.0
53	0.0	0.1
54	31.5	53.6
55	7.1	7.3
56	5.6	5.6
57	0.0	0.2
58	0.0	0.1
59	14.2	14.5
60	0.0	-0.1
61	0.1	0.1
62	21.9	22.2
63	0.0	0.0
64	0.0	0.1
65	4.7	34.2
66	0.0	0.0
67	34.8	77.0
Total	**3.9**	**7.6**

8. RANKING OF PERFORMANCE OF GTOs: THE CHARACTERISTICS OF BETTER PERFORMING AND POORER PERFORMING GTOs

A final step in developing insights into the drivers of better performing GTOs is ranking all 67 survey respondents by a performance indicator and analysing their associated driver characteristics. This involves digging a little deeper below the general statistical driver analysis of the previous chapters.

The general methodology of this chapter will be to rank the GTOs in quintiles by performance indicators and then determine what quintile or category the related drivers belong to. The two performance indicators are:

(i) productivity (apprentices and trainees per FTE GTO staff); and

(ii) average of productivity and completion rates.

In this analysis, GTOs are segmented into five quintiles. The fifth quintile contains the 20 per cent of GTOs with the **highest** rankings in terms of the performance indicator selected. The first quintile has the 20 per cent of GTOs with the **lowest** rankings in terms of the performance indicator selected. The remaining three quintiles contain those GTOs whose ranking in terms of the performance indicator is between that GTO which is at the 20 per cent mark in terms of rankings and the GTO which is at the 80 per cent mark in terms of rankings. The top performing GTO is ranked at 100 per cent and the bottom at 0 per cent.

The associated performance driver variables will also be ranked by quintile or other categories. A full set of tables produced through this analysis is included at Appendix 3.

8.1 An analysis of the top performing (fifth quintile) GTOs: Productivity

The characteristics of the most productive GTOs is critical to developing a strategy for the development of the industry. The most productive GTOs are defined by those that fall within the top fifth quintile of GTOs when ranked by productivity levels. That is, the top 20 per cent of GTOs in terms of productivity. Tables 8.1(a) and 8.1(b) provide an overview of this group of GTOs. For example, Table 8.1(a) shows 46 per cent of GTOs in the top quintile by productivity have a single region focus; 15 per cent have a State focus and 39 per cent have a national focus. Continuing on with an additional example, from Table 8.1(b), 15.4 per cent of firms in the top fifth quintile of GTOs ranked by productivity are firms whose scale (size by apprentices and trainees) falls in the first, which is lowest quintile, when GTOs are ranked by scale.

Table 8.1(d) presents the core conclusions in relation to the top (fifth) quintile of GTOs in terms of productivity. The other income measure is an indicator of diversity of services. In terms of completion rates, over half of the top quintile by productivity are in the third quintile of completion rates. The third quintile is defined by completion rates of between 70.8 per cent and 76.4 per cent. The top quintile of completion rates is above 85 per cent. That is, 20 per cent of GTOs have completion rates of 85 per cent or greater.

Perhaps the only major surprise in the results is the role of scale. There are larger national organisations in the top quintile. However, the top quintile has, other than the second quintile, the largest share of firms in the first to third quintile by scale. That is, it contains relatively small scale organisations. To be productive beyond a minimum size scale is not binding. That is not to say scale is irrelevant to productivity as shown in Table 8.1 (c).

Scale is positively correlated with host diversity (apprentices and trainees per host). That is, the bigger the scale the higher the number of apprentices and trainees per host which, up to a point, has already been demonstrated earlier will add to productivity. Secondly, scale is positively correlated with industry diversity. That is, to expand by diversifying industry catchment it is necessary to have higher scale to maintain the quality of service across all industries.

In relation to scale, the message from Table set 8.1 is that it is possible to be productive with a relatively small scale, single industry focus/single region focus. However if growth is the objective then this will have to come by regional diversification. Further to maintain productivity with scale enhancement, there will have to be increases in industry diversification. There will be some losses in completion performance.

The high correlation coefficient between unemployment rates and industry diversity indicates that firms which are operating in high unemployment environments maintain their high productivity by diversifying across industries in order to maintain the quality and quantity of choice in the catchment. This is shown by the high negative correlation coefficient between the unemployment rate and the diversity of the apprentice market. That is, the higher the unemployment rate the lower the demand for apprentices per capita.

The question then becomes, what are the characteristics of the small regionally-focused best performing GTOs? The characteristics are one of either operating in high growth non-metropolitan resource driven regions of Western Australia or Queensland or alternatively operating in the mining/manufacturing/construction industries in a metropolitan region.

As expected, the negative correlation between productivity and completion rates is not weak with a correlation coefficient of -0.5.

8.2 The characteristics of the bottom quintile of GTOs by productivity

At the other end of the spectrum that is of interest is the characteristics of GTOs that are in the bottom (or first) quintile of GTOs when ranked by productivity. That is, the GTOs that represent the 20 per cent of GTOs with the lowest level of productivity. The relevant data is given in table set 5.

From Table 8.5(a), the bottom quintile of GTOs by productivity performance are dominated by large scale low productive firms. Sixty per cent of firms are in the fourth and fifth quintile by scale. This compares to 15 per cent from the fourth quintile firms by productivity, 58 per cent from the third quintile GTOs by productivity and just under 40 per cent for second quintile GTOs by productivity (Appendix 3).

Table 8.5(d) summarises the main features of bottom quintile firms by productivity. The results are strong evidence against the position that size and industry diversity are sufficient conditions for high productivity.

The correlation matrix for bottom quintile GTOs by productivity in Table 8.5(c) offers additional insights. For first quintile firms scale is moderately positively related to geographical reach with the bigger the GTO the more likely that it will operate at a State or national level and the moderate correlation between scale and productivity. The strong correlation between unemployment and strategy focus also are indicators of the fact that a number of the bottom GTO enterprises by productivity operate in regions of high unemployment. Apprentice market density is correlated with both scale and productivity. That is, compared to other low ranked productivity firms, if a GTO is operating in a strong market for apprentices and has scale and, to some extent, industry diversity, then it will perform relatively well in terms of productivity.

8.3 The characteristics of second, third and fourth quintile GTOs by productivity

The results (Appendix 3) are perhaps to be expected. Like the fifth quintile, there is a negative correlation between productivity and completion rates for the second and third quintiles. Compared to the other quintiles the third quintile has the strongest negative correlation between productivity and industry diversity. The fourth quintile is unique in that it does have the lowest correlation between the unemployment rate and industry diversity compared with the other quintiles. The third and fourth quintile are similar to the first quintile in that there is no correlation between scale and industry diversity.

8.4 Conclusion weighted average performance indicator: Outcomes from quintile analysis

Table sets A3.5 to Table set A3.10 (Appendix 3) give the outcome for the weighted average productivity and completion rate indicators. Table sets A3.11 to A3.15 (Appendix 3) give the difference in results between the two performance measures. The key results from this analysis are that to improve completion rates relative to productivity, then:

1. for the middle ranked GTOs on performance (fourth to second quintiles) a national or State geographic focus compared to a specific regional focus is desirable;

2. increase in scale toward the fourth and fifth quintile would improve total performance; and
3. increase the density of host employment would probably improve performance for most, but not all, GTOs.

These results however should not be read in isolation from other findings in this report that stress that broader geographic focus, scale and density of host employment do not improve performance in isolation of other considerations.

8.5 The importance of ownership

Eighty per cent of survey respondents were independent operators. That is, one fifth of respondents were a subsidiary or division of another entity.

In terms of the fifth or top quintile, based on the productivity indicator, 31 per cent of GTOs were owned by another entity. This did not change for the average productivity/completion indicator. For the bottom quintile by the productivity indicator only 13 per cent were not independent. This was not changed on the combined productivity/completion rate performance indicator. For the second quintile, only one or 8 per cent of the total was not independent. For the fourth quintile, 38 per cent was not independent.

The evidence is, therefore, that if a GTO is owned or part of another organisation then the probability is that its performance will be relatively high compared to similar other GTOs. Irrespective of this, the data indicates that this is especially the case for smaller scale GTOs.

8.6 Productivity performance: Evaluation of business model types

In terms of business models, Table 8.6 indicates that the corporate business model is over-represented in the best performing quintile by productivity and the regional business model is over-represented in the lowest quintile. The substitution of the corporate business model for the regional business model for a number of GTOs could improve performance. That means having a focus on innovative value-adding services, a strong commercial focus or broader national focus (although as noted above, not necessarily in isolation from other changes).

8.7 Conclusion

The main conclusions from this performance analysis are:

1. A narrow focus in terms of geography and industry is not a bad attribute for GTOs. A small regional focus and narrow industry focus do not stop a GTO from ranking high levels of productivity provided they operate in (large) metropolitan regions or fast growing non-metropolitan regions.
2. However, if growth is the objective, then:
   (i) regional diversification;
   (ii) industry diversification;
   (iii) diverse offering of services; and
   (iv) service innovation,

   are core elements of a growth strategy. However, benefits from such a strategy will not be realised unless a degree of scale is reached to spread overhead costs and allow a degree of personnel specialisation to enable quality service offerings.
3. As noted elsewhere in this report, there is a trade-off between productivity and completion rates – the higher the completion rates the lower the productivity.
4. The higher the unemployment rate in a catchment the higher the degree of industry diversification required to maintain productivity.
5. Scale and industry diversity without service innovation (and diversity of services), everything else being equal, is unlikely to achieve high productivity and indeed may result in lower levels of productivity than regional GTOs of similar size.
6. Ownership by another entity or being part of another entity (trade association, union, community body, etc.) is associated with higher productivity and completion rate performance.
7. Adopting a wider geographical focus, scale of GTO and density of host employment would increase overall performance if productivity and completion rates are both taken into account (but not in isolation of other initiatives identified above).

Table 8.1(a): Productivity – fifth quintile – quintile characteristics of selected drivers

Geographic focus	Frequency by category	Strategy focus	Frequency by category	Industry diversity	Frequency by category
		Community	0.0	Single	15.4
Regional	46.2	Passive	23.1	Several	7.7
State	15.4	Market size	30.8	Fairly diverse	23.1
National	38.5	Innovation	46.2	All industries	53.8
Total	**100.0**	**Total**	**100.0**	**Total**	**100.0**

Table 8.1(b): Productivity – frequency distribution: Fifth quintile productivity – selected drivers

Quintile	Scale	Unemployment rate	Host density	Other income	Market density	Completion rate
First quintile	15.4	7.7	0.0	0.0	7.7	7.7
Second quintile	38.5	23.1	23.1	30.8	23.1	0.0
Third quintile	23.1	30.8	23.1	23.1	30.8	53.8
Fourth quintile	0.0	30.8	30.8	7.7	38.5	0.0
Fifth quintile	23.1	7.7	23.1	38.5	0.0	38.5
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Table 8.1(c): Fifth quintile by productivity correlation coefficient matrix

	Product-ivity	Host density	Share of other income	Industry diversity	Unemploy-ment rate	Apprentice market density	Scale	Geo-graphy focus	Strategy focus	Com-pletion rate
Productivity	1.00									
Host density	-0.08	1.00								
Share of other income	-0.23	-0.15	1.00							
Industry diversity	0.31	0.17	-0.06	1.00						
Unemploy-ment rate	0.08	0.04	-0.49	0.62	1.00					
Apprentice market density	-0.03	0.01	0.16	-0.39	-0.63	1.00				
Scale	-0.11	0.55	-0.29	0.52	0.37	-0.09	1.00			
Geography focus	-0.02	0.44	-0.12	0.35	0.17	0.48	0.33	1.00		
Strategy focus	0.32	0.44	-0.06	0.09	-0.33	0.56	0.45	0.44	1.00	
Completion rate	-0.45	0.02	0.20	-0.82	-0.65	0.50	-0.24	-0.04	0.17	1.00

Table 8.1(d): Characteristics of fifth quintile (i.e. top) GTOs by productivity

The top quintile GTOs by productivity, when compared to the characteristics of other quintiles, have:	
1.	A larger share of GTOs with a national geographical focus.
2.	The largest share of GTOs with a strategic objective of growing markets by industry, geographical or service diversification.
3.	Have the second lowest share of GTOs operating in a single industry.
4.	Have a scale which is relatively low in comparison with other quintiles.
5.	Operate in regions where the unemployment rate is not high or not low.
6.	Have the highest share of GTOs which offer the most diverse range of services.
7.	Have no GTOs that have a community focus, that is, focus on pathways to employment for disadvantaged workers.
8.	Have a relatively diverse industry focus.
9.	Tend to trade off productivity with lower completion rates.
10.	Half of the top performing GTOs by productivity have a single region focus.

Table 8.2: Characteristics of fourth quintile GTOs by productivity

Compared to the other quintiles firms in the fourth quintile (or the GTOs in the second highest productivity group), tend to have:	
1.	Medium sized GTOs with scale concentrated in the third and fourth quintiles by GTO size.
2.	Relative poor or relatively good completion rates.
3.	Tend to service SME businesses or customers.
4.	Have less diversity of non-GTO services than the top quintiles.
5.	Have few national originated GTOs.
6.	Nearly half the GTOs are dependent on the external market for growth, that is, not pro-active.
7.	Tend to focus on one or a small number of industries.

Table 8.3: Characteristics of third quintile GTOs by productivity

Compared to other quintiles, firms in the third quintile (or middle quintile) by productivity tend to be:	
1.	State oriented in geographical focus.
2.	Offering services to either a small number or all industries.
3.	Consist of GTOs that are either small or large.
4.	Operate in relatively low unemployment regions.
5.	Are not driven in service innovation.
6.	Tend to operate in low density apprentice markets.
7.	Have low completion rates.

Table 8.4: Characteristics of second quintile GTOs by productivity

Compared to other quintiles, firms in the fourth quintile tend to have the following characteristics:	
1.	Tend to be small or medium sized.
2.	Service SME customers.
3.	Offer limited non-GTO services.
4.	Have average completion rates.
5.	Have a strong single region focus.
6.	Do not rely on service innovation to drive growth.
7.	Operate across all industries.

Table 8.5(a): Productivity – first quintile – quintile characteristics of selected drivers

Geographic focus	Frequency by category	Strategy focus	Frequency by category	Industry diversity	Frequency by category
		Community	20.0	Single	6.7
Regional	53.3	Passive	26.7	Several	13.3
State	20.0	Market size	20.0	Fairly diverse	6.7
National	26.7	Innovation	33.3	All industries	73.3
Total	**100.0**	**Total**	**100.0**	**Total**	**100.0**

Table 8.5(b): Productivity – frequency distribution: First quintile productivity – selected drivers

Quintile	Scale	Unemployment rate	Host density	Other income	Market density	Completion rate
First quintile	13.3	23.1	14.3	0.0	33.3	21.4
Second quintile	13.3	15.4	28.6	60.0	0.0	21.4
Third quintile	13.3	15.4	7.1	6.7	13.3	7.1
Fourth quintile	20.0	15.4	21.4	20.0	6.7	50.0
Fifth quintile	40.0	30.8	28.6	13.3	46.7	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Table 8.5(c): First quintile by productivity correlation coefficient matrix

	Product-ivity	Host density	Share of other income	Industry diversity	Unemploy-ment rate	Apprentice market density	Scale	Geo-graphy focus	Strategy focus	Com-pletion rate
Productivity	1.00									
Host density	0.03	1.00								
Share of other income	0.19	0.16	1.00							
Industry diversity	0.23	0.26	0.33	1.00						
Unemploy-ment rate	-0.44	0.31	0.04	0.37	1.00					
Apprentice market density	0.54	-0.13	-0.16	-0.47	-0.81	1.00				
Scale	0.47	-0.07	0.29	-0.13	-0.07	0.27	1.00			
Geography focus	0.31	0.15	0.41	-0.32	0.05	0.06	0.66	1.00		
Strategy focus	0.17	-0.59	-0.13	-0.32	-0.57	0.52	0.41	-0.13	1.00	
Completion rate	0.23	0.39	0.22	-0.12	-0.11	0.20	0.50	0.45	-0.19	1.00

Table 8.5(d): Characteristics of first quintile (i.e. bottom) GTOs by productivity

Compared to other quintile GTOs in the bottom quintile by productivity tend to:	
1.	Have a large share of large scale GTOs.
2.	Have low levels of non-GTO services.
3.	Operate in regions with high unemployment.
4.	Have relatively high completion rates.
5.	Tend to operate in markets with high market density for apprentices.
6.	Have a high concentration of GTOs offering services to all industries.
7.	Have a high concentration of GTOs with community service objectives.
8.	Have higher host density (larger customers) compared to at least the second to fourth quintiles.

Table 8.6: Share of corporate models by quintile by productivity

Quintile	Industry	Community	Regional	Corporate
Fifth quintile	15.4	0.0	30.8	53.8
Fourth quintile	46.2	0.0	30.8	23.1
Third quintile	30.8	7.7	23.1	38.5
Second quintile	23.1	7.7	53.8	15.4
First quintile	6.7	20.0	53.3	33.3

PART C:
THE GROUP TRAINING INDUSTRY: DRIVERS OF PERFORMANCE – A STATISTICAL ANALYSIS

9. BARRIERS TO GTO GROWTH: THE EVIDENCE FROM TIME SERIES STATE DATA

The statistical analysis of the quantitative survey indicated there were barriers to expansion of GTOs due to a range of internal and market factors. These factors operated in a 'static' market since it was based on a cross-section analysis of GTOs in 2008–09. This finding was reinforced by the conclusions from the performance quintile analysis where the best performing GTOs tended to be in mid range of scale, while the worst performing GTOs were over-represented by large GTOs. These findings are only loosely or not related to the finding from the stakeholder survey of Part B that resource constraints are an obstacle to GTOs growing their services in line with general market growth. This is because the analysis of the past three chapters was based on cross section data for a given year. To test the resource constraint hypothesis time series data must be used. This will be done in this Chapter.

GTOs cannot grow without growing their skilled labour base and the skills set required for a quality field operation are high. The skills required have to enable the operation to be efficient across:

(i) recruitment;

(ii) pastoral care;

(iii) employer relations; and

(iv) marketing and networking.

These skills take time to develop and if the market for apprentices is growing strongly then if adequate provision for supply enhancement has not been made, the share of the GTO sector in total commencements would be expected to fall sharply.

This chapter examines the time series data evidence of growth in demand and change in the ability of GTOs to meet this demand. It will test the skilled labour supply constraint hypothesis as a factor in the decline in GTO market share and examine other issues that may have been relevant. The field operative skills constraint barrier to GTO growth for existing GTOs is linked to another constraint to growth, namely barriers to entry from new GTO start-ups. As has been pointed out, there are a number of factors that contribute to barriers to entry (development of customer relationships), but one of the most important barrier would be the availability of skilled staff to support a fast growing new start-up.

Although the previous chapters dealing with the GTO survey results examined apprentices and trainees, the reality is that the GTOs in the survey were in the main focused on apprentices. Hence, the analysis of this chapter is focused on apprentices only.

9.1 GTO market share: The a priori model

The time series a priori model for GTO market share is given by:

$$\ln(SC_i) = a_{1,i} + a_2 \,.\, \ln(ur_i) + a_3 \ln(ct_i/emp_i) + a_4 \ln(tempg_i) + a_{5,i}\, time \qquad (9.1)$$

$$i = \begin{cases} 1. \text{ New South Wales} \\ 2. \text{ Victoria} \\ 3. \text{ Queensland} \\ 4. \text{ South Australia} \\ 5. \text{ Western Australia} \\ 6. \text{ Tasmania} \\ 7. \text{ Northern Territory} \\ 8. \text{ Australian Capital Territory} \end{cases}$$

Where:

SC_i = share of GTO in total apprentice commencements in State i;

ur_i = unemployment rate aged 15 to 24 in State i;

ct_i = total apprentice commencements in State i;

emp_i = total employment aged 15 to 34 in State i;

$tempg_i$ = employment aged 15 to 34 growth per capita since 1998 for State i. The population denominator is population aged 15 to 34.

From the competitive advantages offered by GTOs it would be thought that the signs of a_3 would be positive. That is, as the demand for apprentices increases, relative to the capacity of existing industry, it would be expected that employers would turn to GTOs because of:

(i) diminishing supply potential which can be offset by tapping into GTO networks; and

(ii) reduced capacity of employers to manage apprenticeships and therefore the incentive to out-service.

However, if a_3 is negative, then it indicates that there is a long run capacity problem in the GTO industry. That is, chronic quality skills shortages and barriers to entry in the GTO sector have not allowed the GTO sector to expand in line with market growth.

The a priori sign of a_4 would be expected to be negative. That is, as employment growth accelerates on a trend basis the competitiveness of the GTO model would be expected to decline. This is because:

(i) the employment flexibility of the GTO model is less required because it is more likely that apprentices will be fully employed in the host employer organisation; and

(ii) the greater the likelihood of poaching of labour by the rotation aspect of the GTO model.

The sign of a_2 would be expected to be positive if the GTO sector predominately pursued community objectives such as pathways to employment by disadvantaged labour force members. If it was negative it would indicate that the GTO sector is basically corporate in objectives and therefore as the unemployment rate rose the services of GTO networking was not a competitive edge because employers could place directly or rely on lower cost labour firms. The greater the importance of the corporate model the more likely a_2 is negative. However, the high negative correlation between the *ct* and *tempg* variable forced the choice of one.

9.2 Drivers of GTO market share: The findings

The estimated coefficients of equation (9.1) were derived by applying the model to State time series data from 2000 to 2009 calendar years. The coefficient parameter estimates are given in Table 9.1. The plots of fitted versus actual for the GTO market share variables are given in Figures 9.1 to 9.8.

The key finding is that the a_3 and a_4 variables are both negative and therefore justify the above a priori expectation.

The trend variable is negative indicating that other factors, such as the cost of GTO services and competition from other entities, has generally been negative. The exception is South Australia where a small positive trend is indicated from the data. In general, the influence of the trend variable has been to reduce the GT commencement market share by around 4 per cent per annum. New South Wales and the ACT, however, have a significantly lower negative trend.

Table 9.1: Estimated coefficients GTO market share equation

Variable	Coefficient	t value	Jurisdiction
Constant	2.400	90.6569	NSW
Constant	2.210	64.0958	VIC
Constant	2.675	63.0139	QLD
Constant	2.730	105.708	SA
Constant	2.847	72.8197	WA
Constant	2.657	49.5801	TAS
Constant	2.260	35.0010	NT
Constant	2.510	52.5628	ACT
Trend	-0.027	Implicit	NSW
Trend	-0.039	Implicit	VIC
Trend	-0.048	Implicit	QLD
Trend	0.009	Implicit	SA
Trend	-0.036	Implicit	WA
Trend	-0.056	Implicit	TAS
Trend	-0.048	Implicit	NT
Trend	-0.018	Implicit	ACT
Employment intensity	-2.035	-15.2801	ALL
Total commencements	-0.270	-23.6382	ALL

Note: Because of limited degrees of freedom, the trend variable is calculated implicitly to make the beginning and end share in Figures 9.1 to 9.8 the same.

Figure 9.1: New South Wales – Actual versus predicted GTO apprentice commencement market share (2000 = 100) – per cent

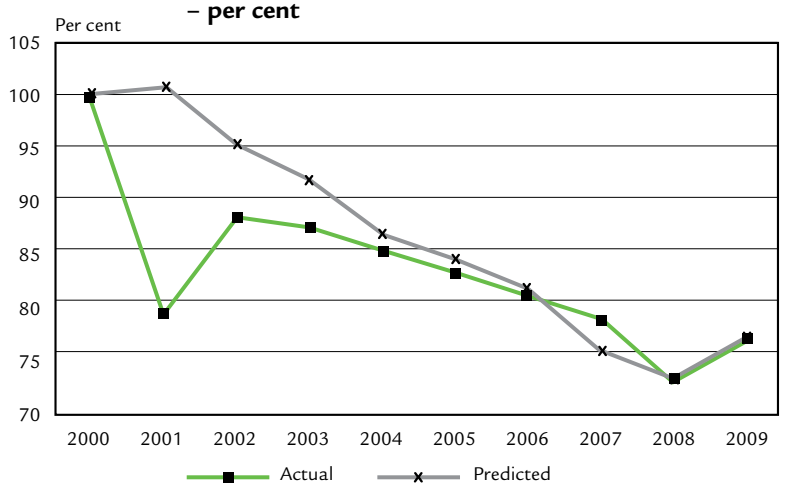


Figure 9.2: Victoria – Actual versus predicted GTO apprentice commencement market share (2000 = 100) – per cent

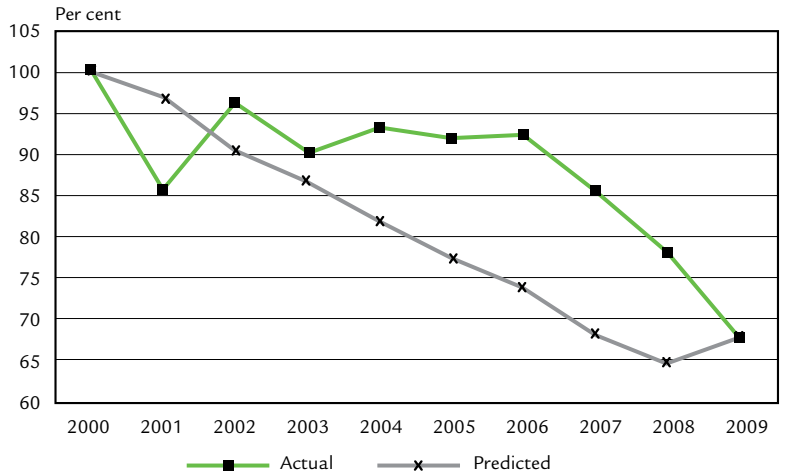


Figure 9.3: Queensland – Actual versus predicted GTO apprentice commencement market share (2000 = 100) – per cent

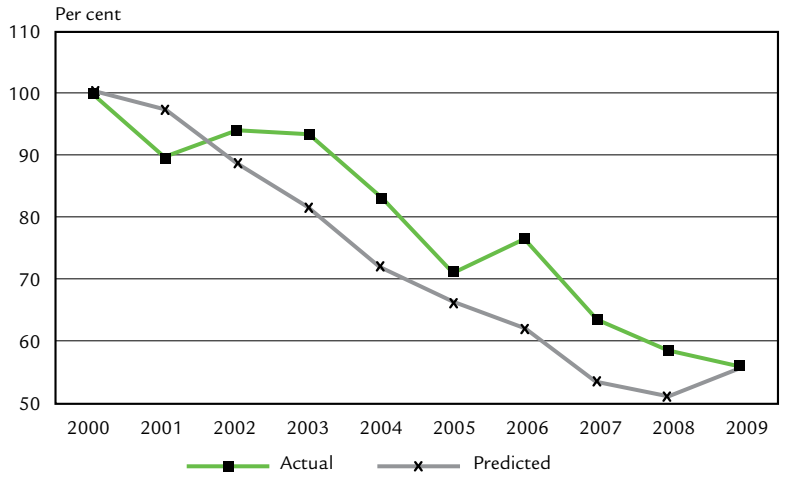


Figure 9.4: South Australia – Actual versus predicted GTO apprentice commencement market share (2000 = 100) – per cent

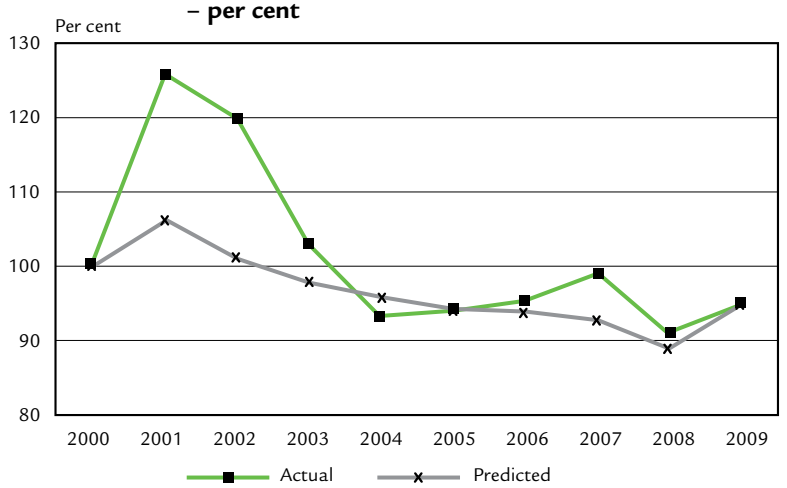


Figure 9.5: Western Australia – Actual versus predicted GTO apprentice commencement market share (2000 = 100) – per cent

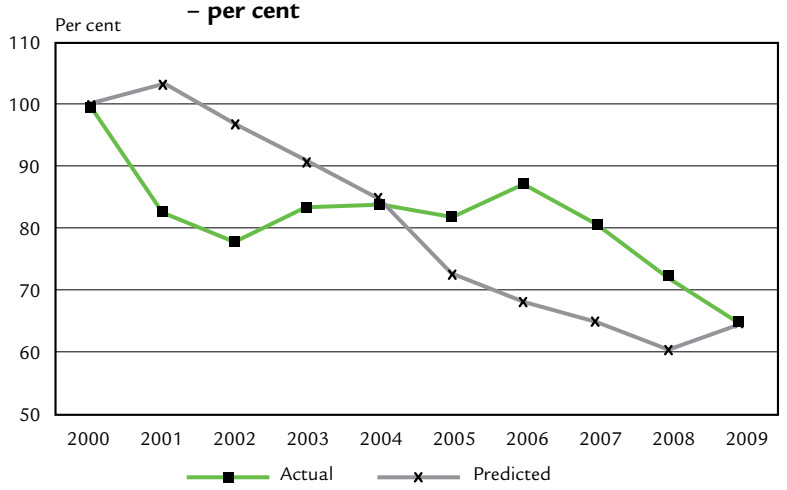


Figure 9.6: Tasmania – Actual versus predicted GTO apprentice commencement market share (2000 = 100) – per cent

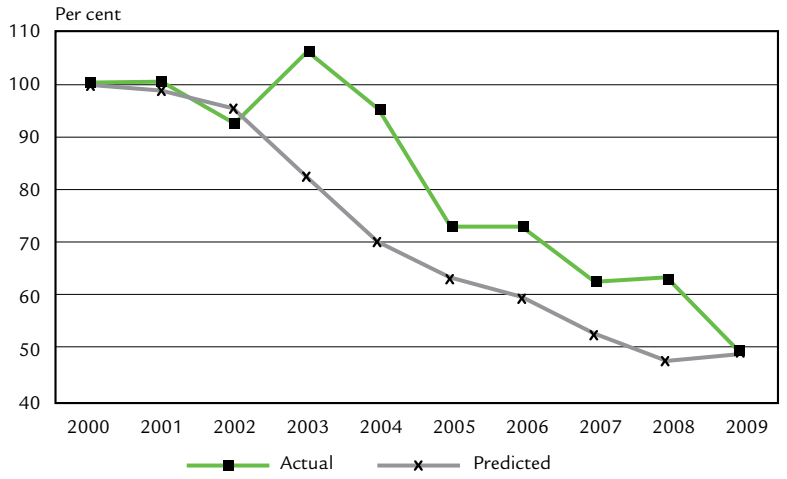


Figure 9.7: Northern Territory – Actual versus predicted GTO apprentice commencement market share (2000 = 100) – per cent

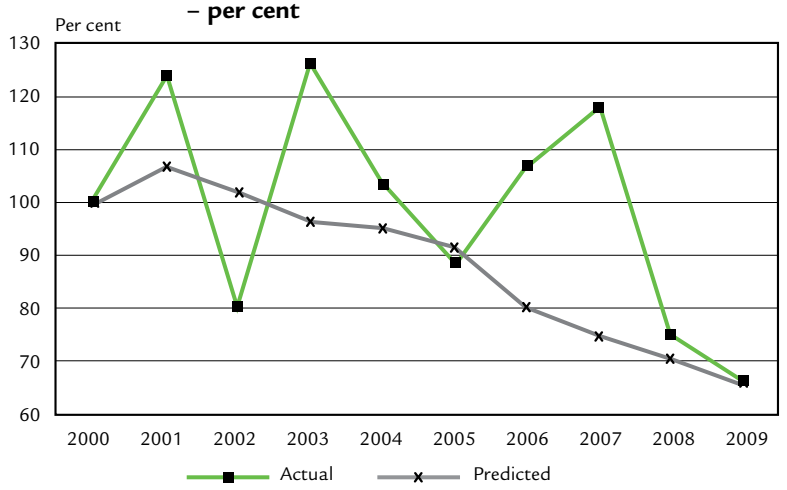
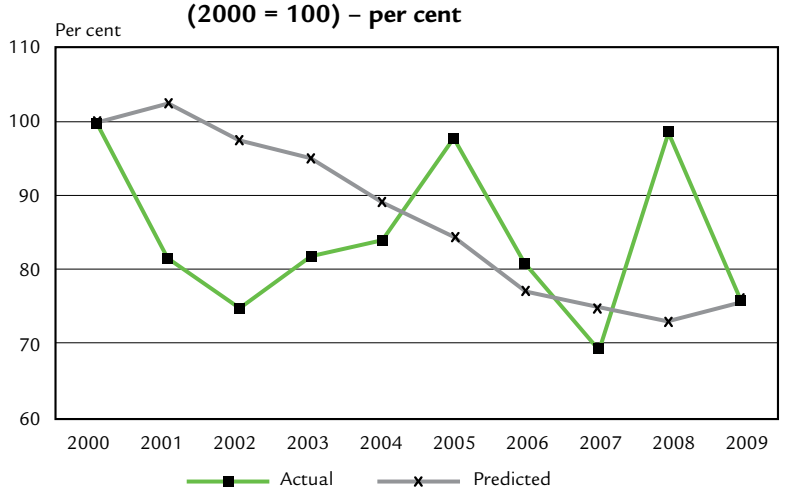


Figure 9.8: Australian Capital Territory – Actual versus predicted GTO apprentice commencement market share (2000 = 100) – per cent



9.3 The contribution of factors to the decline in GTO market share between 2000 and 2009

Table 9.2 uses the coefficients of Table 9.1 to decompose the drivers of the decline in GTO market share between 2000 and 2009. Thus, for Victoria the change in employment resulted in a 14.2 percentage point decline in the GTO market share (or 44 per cent of the total decline) in that State. The increase in total commencements resulted in a 4.6 percentage point decline, or 14.1 per cent of the total decline. The two factors together explained most of the decline. The percentage point contribution of employment change was highest in Queensland and South Australia.

The contribution of the increase in commencement intensity was to the decline in GTO apprentice commencement share was highest in New South Wales.

The conclusion from Table 9.2 is that across Australia two thirds of the decline in market share between 2000 and 2009 was due to the changes in employment and apprentice commencement. This means that one third of the decline was due to other factors, such as the increase in competition for GTOs.

It should also be noted that the employment growth variable reflects the influence of declining unemployment rates. Given the negative sign of the employment variable, it would also indicate the decline in the general market (though not in some regions) for organisations to develop employment pathways for potential apprentices.

Table 9.2: Percentage point and percentage contribution of drivers to change in GTO apprentice commencement by State – 2000–2009

	Percentage point contribution				Percentage contribution to total GTO share change			
	Commence-ments	Employ-ment	Other	Total	Commence-ments	Employ-ment	Other	Total
NSW	-3.6	-4.0	-16.3	**-23.9**	15.1	16.8	68.1	**100.0**
VIC	-4.6	-14.2	-13.6	**-32.4**	14.1	44.0	41.9	**100.0**
QLD	-5.8	-34.9	-3.5	**-44.2**	13.0	79.1	7.9	**100.0**
SA	-4.4	-14.1	13.1	**-5.3**	82.1	264.7	-246.8	**100.0**
WA	-8.5	-21.7	-5.2	**-35.4**	24.1	61.2	14.7	**100.0**
TAS	-9.8	-6.0	-34.9	**-50.8**	19.4	11.8	68.6	**100.0**
NT	9.3	-14.8	-28.4	**-33.9**	-27.5	43.6	83.9	**100.0**
ACT	-4.5	-17.9	-1.9	**-24.2**	18.5	73.8	7.7	**100.0**
Weighted average	-4.8	-15.7	-10.1	**-30.6**	15.7	51.3	33.0	**100.0**

9.4 Conclusion

The evidence from the time series statistical analysis is that the decline in GTO apprentice commencement market share between 2000 and 2009 was due to three factors.

The first factor is that the period was one of strong employment growth. In periods of strong employment growth the need for flexibility in the placement of apprentices declines and the need to develop direct loyalty ties with apprentices increases. It also reflects the influence of declining unemployment rates on the GTO market. In this environment the value added by lower cost lower service competition becomes more competitive. On a weighted average basis the contribution of the strong employment growth conditions is approximately estimated to have contributed around half of the overall decline in GTO market share.

The second factor is the increase in apprentice intensity or total apprentice commencements growth. This also is estimated to have contributed around 16 per cent of the overall decline in GTO market share. The contribution of this factor is interpreted as representing the failure of the GTO industry to respond to the changing market by expanding capacity in terms of skilled field staff (along with other obstacles to GTO expansion identified in earlier Chapters). Elements of this factor may also be captured in the first or employment growth factor (above).

The final factor represents a range of other negatives to GTO growth, such as growth of competitors, changes to the way the apprenticeship system operates, etc. This is estimated to have contributed a third to the overall decline.

PART D:
THE APPRENTICE MARKET AND GTO SCENARIOS TO 2020

D

10. The market for apprentices by region – 1998 to 2020 92

10.1 The base case projections 92

11. Regional apprentice markets: The risks to growth 101

12. GTO industry scenarios: Constant market share 104

13. The current allocation of GTO resources and the 'optimal' GTO expansion trajectory 115

13.1 The regional distribution of GTO activity versus the overall market 115

13.2 'Optimal' GTO expansion trajectory 115

PART D:
THE APPRENTICE MARKET AND GTO SCENARIOS TO 2020

10. THE MARKET FOR APPRENTICES BY REGION – 1998 TO 2020

This Part provides projections for employment of apprentices by Industry and Region. The analysis is intended to understand the future market opportunities for GTOs and identify regions with growth potential for GTOs and where there is no or little growth potential.

The projections build on NIEIR standard scenarios for the period (detailed in Appendix 4). They use NIEIR's regional econometric models and the sum of the distributions from Figures A4.1 and A4.4 (Appendix 4). Results by industry and region are provided in Appendix 5. Regions used for this analysis correspond to regions in the ALGA/NIEIR *State of the Regions* reports and the NIEIR GTO quantitative survey. A list of regions and Local Government Areas (LGAs) included in those regions is provided at Appendix 7.

10.1 The base case projections

The base case projections for resident employment, apprentice commencements, completions and in-training are given in Tables 10.1 to 10.4. by region. Estimates for apprentices in training are determined by the propensity of each industry to support apprenticeships. Completion and drop-out rates reflect the average corresponding State expansion for the last five years. The level of commencements is the number of additional apprentices required in training total.

Table 10.1 shows the base case for resident employment projections and the distribution of the change in employment over the forecast period. Table 10.2 uses an index where 1998 equals 100 to show the change in apprentice employment to total employment over the period. This highlights the shift toward some regions (for example resource regions) and away from others.

Table 10.3 shows total projected apprentice commencements by region and Table 10.4 shows the total in-training over the forecast period. These tables reinforce the trend toward growth and decline in different regions over the period. Areas of decline are obviously going to be more challenging for GTOs based in those regions while areas of growth would appear to be regions of challenge and opportunity for GTOs.

The bottom line figure is that the total apprentices in training for the base case are projected to increase from 189,000 in 2010 to 252,000 by 2020.

Table 10.1: Resident employment – total employment

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
ACT	150885	182237	193708	207659	222614	3919	2868	2790	2991	1.8	1.8
Adelaide Inner	161514	188757	204116	227184	252861	3405	3840	4614	5135	1.9	1.9
Adelaide North	190474	221882	239071	256582	275375	3926	4297	3502	3759	2.3	2.2
Adelaide South	152159	178607	191791	206301	221908	3306	3296	2902	3122	1.8	1.8
Melbourne Central	199351	255259	285270	321197	361649	6989	7503	7185	8090	2.4	2.6
Melbourne East	262797	288666	309424	325474	342356	3234	5189	3210	3376	3.2	2.9
Melbourne North	218437	248177	267608	286413	306539	3717	4858	3761	4025	2.6	2.5
Melbourne North East	260045	289104	309979	332964	357654	3632	5219	4597	4938	3.1	2.9
Melbourne Outer South East	196567	260153	272344	297285	324509	7948	3048	4988	5445	2.4	2.6
Melbourne South East	240116	252210	264775	273056	281595	1512	3141	1656	1708	2.9	2.6
Melbourne West	189574	248075	275462	312853	355318	7313	6847	7478	8493	2.3	2.5
NSW Central Coast	112693	132703	142899	154090	166158	2501	2549	2238	2414	1.4	1.3
NSW Central West	101104	109966	115287	118859	122542	1108	1330	714	737	1.2	1.1
NSW Far West	38250	36908	37005	36243	35496	-168	24	-152	-149	0.5	0.4
NSW Hunter	230881	268771	286355	302111	318733	4736	4396	3151	3324	2.8	2.7
NSW Illawarra	151711	179793	189385	199662	210497	3510	2398	2055	2167	1.8	1.8
NSW Mid North Coast	87931	107047	115703	124718	134435	2390	2164	1803	1944	1.1	1.1
NSW North	69829	73036	74854	74995	75136	401	455	28	28	0.8	0.7
NSW Richmond Tweed	70330	86592	95107	102932	111402	2033	2129	1565	1694	0.8	0.9
NSW Riverina	85664	92910	97359	98690	100039	906	1112	266	270	1.0	0.9
NSW Southern Tablelands	81191	99274	104116	109666	115512	2260	1210	1110	1169	1.0	1.0
NT Darwin	56851	70956	85719	102772	123218	1763	3691	3411	4089	0.7	0.7
NT Lingiari	31673	28363	32515	33260	34022	-414	1038	149	152	0.4	0.3
Perth Central	240569	295244	327451	356743	388656	6834	8052	5859	6383	2.9	3.0
Perth Outer North	198705	252293	287903	323409	363294	6699	8903	7101	7977	2.4	2.6
Perth Outer South	196723	240980	272025	300787	332591	5532	7761	5753	6361	2.4	2.4
QLD Cairns	91547	101833	111351	116128	121111	1286	2379	956	997	1.1	1.0
QLD Darling Downs	87034	100568	109664	116401	123552	1692	2274	1347	1430	1.0	1.0
QLD Fitzroy	80562	94104	105203	125841	150528	1693	2775	4128	4937	1.0	1.0
QLD Mackay	64885	78282	88152	99404	112094	1675	2467	2251	2538	0.8	0.8
QLD North	88341	103046	113900	124669	136455	1838	2714	2154	2357	1.1	1.0
QLD Resource region	40459	39962	42582	47074	52041	-62	655	898	993	0.5	0.4
QLD Wide Bay Burnett	79203	100749	114021	126476	140291	2693	3318	2491	2763	1.0	1.0

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Table 10.1: Resident employment – total employment (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
SA Mallee South East	38529	43986	46149	47399	48682	682	541	250	257	0.5	0.4
SA Mid North Riverland	48801	55928	57723	58756	59807	891	449	207	210	0.6	0.6
SA Spencer Gulf	41264	42958	45502	46563	47649	212	636	212	217	0.5	0.4
SEQ Brisbane City	419082	550159	609116	649742	693078	16385	14739	8125	8667	5.0	5.6
SEQ Brisbane South	153508	198353	222851	252673	286487	5606	6124	5964	6763	1.8	2.0
SEQ Gold Coast	151960	220840	254819	290558	331309	8610	8495	7148	8150	1.8	2.2
SEQ Moreton Bay	118479	164105	187145	214085	244904	5703	5760	5388	6164	1.4	1.7
SEQ Sunshine Coast	88152	130878	147443	170416	196970	5341	4141	4595	5311	1.1	1.3
SEQ West Moreton	84760	104589	120229	149161	185056	2479	3910	5786	7179	1.0	1.1
Sydney Central	263423	340415	369240	394582	421664	9624	7206	5068	5416	3.2	3.4
Sydney Eastern Beaches	122207	136043	142279	147855	153650	1729	1559	1115	1159	1.5	1.4
Sydney Northern Beaches	134297	145420	152800	158071	163523	1390	1845	1054	1091	1.6	1.5
Sydney Old West	137562	150308	158154	166112	174472	1593	1961	1592	1672	1.7	1.5
Sydney Outer North	189601	204961	212498	217810	223254	1920	1884	1062	1089	2.3	2.1
Sydney Outer South West	162328	196079	205566	228247	253431	4219	2372	4536	5037	2.0	2.0
Sydney Outer West	259044	305053	321456	350960	383171	5751	4101	5901	6442	3.1	3.1
Sydney Parramatta-Bankstown	266409	285577	300259	309466	318954	2396	3671	1841	1898	3.2	2.9
Sydney South	207313	229805	235980	242936	250098	2812	1544	1391	1432	2.5	2.3
TAS Hobart-South	93801	109480	119567	126852	134582	1960	2522	1457	1546	1.1	1.1
TAS North	52944	60809	63960	66241	68603	983	788	456	472	0.6	0.6
TAS North West	43034	47204	50790	53050	55412	521	896	452	472	0.5	0.5
VIC Ballarat	59743	70484	76607	84146	92427	1343	1531	1508	1656	0.7	0.7
VIC Bendigo	83810	101463	108246	118327	129348	2207	1696	2016	2204	1.0	1.0
VIC Geelong	81239	95738	105222	112329	119916	1812	2371	1421	1517	1.0	1.0
VIC Gippsland	87875	102199	107735	113559	119697	1791	1384	1165	1228	1.1	1.0
VIC Mallee Wimmera	53087	56217	60730	60857	60984	391	1128	25	25	0.6	0.6
VIC North East	89672	104801	108892	114245	119861	1891	1023	1071	1123	1.1	1.1
VIC West	58203	71407	78104	84750	91960	1651	1674	1329	1442	0.7	0.7
WA Gascoyne Goldfields	53546	53731	58766	66755	75830	23	1259	1598	1815	0.6	0.5
WA Peel South West	79787	104671	120147	135030	151757	3111	3869	2977	3345	1.0	1.1
WA Pilbara Kimberley	33803	36667	40894	49363	59586	358	1057	1694	2045	0.4	0.4
WA Wheatbelt Great Southern	47730	53942	59169	64348	69981	776	1307	1036	1127	0.6	0.5
Total	**8313044**	**9880778**	**10710141**	**11587145**	**12556285**	**195967**	**207341**	**175401**	**193828**	**100.0**	**100.0**

Table 10.2: Resident employment – Ratio of total employment (apprentice weighted) to total employment

	1998	2006	2010	2015	2020
ACT	100	100	102	97	93
Adelaide Inner	100	99	101	98	95
Adelaide North	100	95	91	88	84
Adelaide South	100	102	101	98	96
Melbourne Central	100	87	97	93	88
Melbourne East	100	103	100	98	95
Melbourne North	100	95	94	90	86
Melbourne North East	100	105	100	97	95
Melbourne Outer South East	100	105	102	99	97
Melbourne South East	100	95	89	85	82
Melbourne West	100	98	93	89	86
NSW Central Coast	100	96	95	91	88
NSW Central West	100	109	104	102	100
NSW Far West	100	113	121	120	121
NSW Hunter	100	107	102	99	96
NSW Illawarra	100	91	91	87	84
NSW Mid North Coast	100	107	109	106	104
NSW North	100	119	118	116	115
NSW Richmond Tweed	100	110	112	110	108
NSW Riverina	100	107	115	114	112
NSW Southern Tablelands	100	124	105	103	102
NT Darwin	100	91	94	97	100
NT Lingiari	100	97	99	97	95
Perth Central	100	97	100	99	97
Perth Outer North	100	103	107	106	105
Perth Outer South	100	101	100	99	97
QLD Cairns	100	93	101	99	97
QLD Darling Downs	100	127	122	120	119
QLD Fitzroy	100	109	114	112	110
QLD Mackay	100	106	110	108	106
QLD North	100	103	119	119	118
QLD Resource region	100	103	106	107	108
QLD Wide Bay Burnett	100	106	123	123	121

continued next page

Table 10.2: Resident employment – Ratio of total employment (apprentice weighted) to total employment (continued)

	1998	2006	2010	2015	2020
SA Mallee South East	100	110	112	110	110
SA Mid North Riverland	100	120	114	112	111
SA Spencer Gulf	100	105	97	95	93
SEQ Brisbane City	100	93	98	95	92
SEQ Brisbane South	100	111	108	106	104
SEQ Gold Coast	100	112	113	110	108
SEQ Moreton Bay	100	108	98	95	92
SEQ Sunshine Coast	100	112	105	101	98
SEQ West Moreton	100	108	115	111	109
Sydney Central	100	84	85	82	79
Sydney Eastern Beaches	100	84	88	86	83
Sydney Northern Beaches	100	88	89	86	83
Sydney Old West	100	90	93	90	87
Sydney Outer North	100	97	103	99	96
Sydney Outer South West	100	95	92	89	86
Sydney Outer West	100	103	99	97	94
Sydney Parramatta-Bankstown	100	95	90	87	84
Sydney South	100	90	91	87	85
TAS Hobart-South	100	99	100	97	95
TAS North	100	110	111	110	108
TAS North West	100	107	99	97	95
VIC Ballarat	100	109	110	107	105
VIC Bendigo	100	103	97	94	92
VIC Geelong	100	96	98	95	91
VIC Gippsland	100	120	99	98	97
VIC Mallee Wimmera	100	111	112	111	110
VIC North East	100	119	98	96	94
VIC West	100	107	120	118	115
WA Gascoyne Goldfields	100	103	110	111	111
WA Peel South West	100	103	106	103	102
WA Pilbara Kimberley	100	115	120	124	129
WA Wheatbelt Great Southern	100	100	110	110	111
Total	**100**	**101**	**100**	**98**	**96**

Table 10.3: Total apprentice commencements

	Number				Per cent of total			
	2007	2010	2015	2020	2007	2010	2015	2020
ACT	1255	1149	1105	1188	1.6	1.8	1.3	1.1
Adelaide Inner	1933	2024	2415	2880	2.5	3.1	2.7	2.8
Adelaide North	1183	1321	1204	1465	1.5	2.1	1.4	1.4
Adelaide South	673	663	617	748	0.9	1.0	0.7	0.7
Melbourne Central	4567	3740	4918	7655	6.0	5.8	5.6	7.3
Melbourne East	1871	1586	2277	2469	2.4	2.5	2.6	2.4
Melbourne North	1361	1713	1804	2020	1.8	2.7	2.1	1.9
Melbourne North East	1173	1065	1493	1495	1.5	1.7	1.7	1.4
Melbourne Outer South East	992	739	882	804	1.3	1.1	1.0	0.8
Melbourne South East	1628	1229	1419	1605	2.1	1.9	1.6	1.5
Melbourne West	938	1285	1192	1611	1.2	2.0	1.4	1.5
NSW Central Coast	437	437	763	823	0.6	0.7	0.9	0.8
NSW Central West	1064	752	896	850	1.4	1.2	1.0	0.8
NSW Far West	332	187	275	283	0.4	0.3	0.3	0.3
NSW Hunter	1983	1723	2055	1998	2.6	2.7	2.3	1.9
NSW Illawarra	712	1404	1743	1581	0.9	2.2	2.0	1.5
NSW Mid North Coast	1015	837	1049	1025	1.3	1.3	1.2	1.0
NSW North	714	478	555	536	0.9	0.7	0.6	0.5
NSW Richmond Tweed	755	727	885	878	1.0	1.1	1.0	0.8
NSW Riverina	1014	785	861	778	1.3	1.2	1.0	0.7
NSW Southern Tablelands	868	439	567	455	1.1	0.7	0.6	0.4
NT Darwin	410	379	441	1459	0.5	0.6	0.5	1.4
NT Lingiari	344	261	311	454	0.4	0.4	0.4	0.4
Perth Central	3299	2419	3817	6819	4.3	3.8	4.3	6.5
Perth Outer North	1196	1245	2055	3047	1.6	1.9	2.3	2.9
Perth Outer South	1000	802	1095	1839	1.3	1.2	1.2	1.8
QLD Cairns	1054	746	1199	1353	1.4	1.2	1.4	1.3
QLD Darling Downs	1145	587	1201	1015	1.5	0.9	1.4	1.0
QLD Fitzroy	989	604	1718	2354	1.3	0.9	2.0	2.3
QLD Mackay	908	635	1555	2016	1.2	1.0	1.8	1.9
QLD North	1214	656	1224	1888	1.6	1.0	1.4	1.8
QLD Resource region	490	234	601	717	0.6	0.4	0.7	0.7
QLD Wide Bay Burnett	1221	692	1168	1349	1.6	1.1	1.3	1.3

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Table 10.3: Total apprentice commencements (continued)

	Number				Per cent of total			
	2007	2010	2015	2020	2007	2010	2015	2020
SA Mallee South East	280	375	255	247	0.4	0.6	0.3	0.2
SA Mid North Riverland	458	402	338	301	0.6	0.6	0.4	0.3
SA Spencer Gulf	440	250	265	266	0.6	0.4	0.3	0.3
SEQ Brisbane City	5664	4326	6524	7080	7.4	6.7	7.4	6.8
SEQ Brisbane South	1391	845	1668	2078	1.8	1.3	1.9	2.0
SEQ Gold Coast	3075	2143	3097	3684	4.0	3.3	3.5	3.5
SEQ Moreton Bay	816	502	634	692	1.1	0.8	0.7	0.7
SEQ Sunshine Coast	999	905	1158	1938	1.3	1.4	1.3	1.9
SEQ West Moreton	766	797	1478	2351	1.0	1.2	1.7	2.3
Sydney Central	3847	4148	4725	5112	5.0	6.4	5.4	4.9
Sydney Eastern Beaches	526	415	483	456	0.7	0.6	0.5	0.4
Sydney Northern Beaches	954	392	566	646	1.2	0.6	0.6	0.6
Sydney Old West	778	510	709	948	1.0	0.8	0.8	0.9
Sydney Outer North	1146	956	1144	942	1.5	1.5	1.3	0.9
Sydney Outer South West	885	623	1095	837	1.2	1.0	1.2	0.8
Sydney Outer West	672	813	1049	1023	0.9	1.3	1.2	1.0
Sydney Parramatta-Bankstown	1505	1187	1307	1460	2.0	1.8	1.5	1.4
Sydney South	1114	655	748	690	1.5	1.0	0.9	0.7
TAS Hobart-South	806	939	1190	1251	1.1	1.5	1.4	1.2
TAS North	609	583	877	813	0.8	0.9	1.0	0.8
TAS North West	474	380	557	561	0.6	0.6	0.6	0.5
VIC Ballarat	880	564	759	857	1.1	0.9	0.9	0.8
VIC Bendigo	803	730	1053	821	1.0	1.1	1.2	0.8
VIC Geelong	764	1813	2251	1671	1.0	2.8	2.6	1.6
VIC Gippsland	1530	541	714	594	2.0	0.8	0.8	0.6
VIC Mallee Wimmera	762	451	474	407	1.0	0.7	0.5	0.4
VIC North East	648	842	894	700	0.8	1.3	1.0	0.7
VIC West	597	1513	1835	1687	0.8	2.4	2.1	1.6
WA Gascoyne Goldfields	572	460	1054	1330	0.7	0.7	1.2	1.3
WA Peel South West	1943	994	2301	3209	2.5	1.5	2.6	3.1
WA Pilbara Kimberley	566	388	639	1534	0.7	0.6	0.7	1.5
WA Wheatbelt Great Southern	654	360	709	692	0.9	0.6	0.8	0.7
Total	**76665**	**64346**	**87909**	**104332**	**100.0**	**100.0**	**100.0**	**100.0**

Table 10.4: Total apprentice in training

	Number				Per cent of total			
	2007	2010	2015	2020	2007	2010	2015	2020
ACT	2877	3036	2995	3190	1.5	1.6	1.4	1.3
Adelaide Inner	4311	5107	6032	7271	2.3	2.7	2.8	2.9
Adelaide North	3058	3228	3202	3682	1.6	1.7	1.5	1.5
Adelaide South	1677	1682	1633	1886	0.9	0.9	0.8	0.7
Melbourne Central	8717	10605	11291	17554	4.6	5.6	5.2	6.9
Melbourne East	4578	4835	5646	6267	2.4	2.6	2.6	2.5
Melbourne North	3501	4306	4604	5071	1.9	2.3	2.1	2.0
Melbourne North East	3148	3134	3797	3873	1.7	1.7	1.7	1.5
Melbourne Outer South East	3081	2484	2456	2186	1.6	1.3	1.1	0.9
Melbourne South East	4883	4077	3697	4047	2.6	2.2	1.7	1.6
Melbourne West	2798	2993	3078	3693	1.5	1.6	1.4	1.5
NSW Central Coast	1559	1503	1867	2169	0.8	0.8	0.9	0.9
NSW Central West	2471	2337	2472	2352	1.3	1.2	1.1	0.9
NSW Far West	723	720	729	752	0.4	0.4	0.3	0.3
NSW Hunter	5705	5401	5564	5456	3.0	2.9	2.6	2.2
NSW Illawarra	3350	3574	4521	4398	1.8	1.9	2.1	1.7
NSW Mid North Coast	2176	2201	2729	2768	1.2	1.2	1.3	1.1
NSW North	1618	1532	1549	1477	0.9	0.8	0.7	0.6
NSW Richmond Tweed	1552	1849	2288	2355	0.8	1.0	1.1	0.9
NSW Riverina	2462	2625	2518	2221	1.3	1.4	1.2	0.9
NSW Southern Tablelands	2075	1465	1631	1353	1.1	0.8	0.7	0.5
NT Darwin	838	1122	735	2262	0.4	0.6	0.3	0.9
NT Lingiari	792	778	603	782	0.4	0.4	0.3	0.3
Perth Central	7909	8282	9180	14212	4.2	4.4	4.2	5.6
Perth Outer North	3150	3531	4531	7211	1.7	1.9	2.1	2.9
Perth Outer South	2815	2629	2787	3805	1.5	1.4	1.3	1.5
QLD Cairns	2405	2587	2889	3215	1.3	1.4	1.3	1.3
QLD Darling Downs	2794	1924	2808	2734	1.5	1.0	1.3	1.1
QLD Fitzroy	2581	2190	3607	5188	1.4	1.2	1.7	2.1
QLD Mackay	2049	2171	3301	4504	1.1	1.1	1.5	1.8
QLD North	2689	2348	2778	3852	1.4	1.2	1.3	1.5
QLD Resource region	1209	800	1319	1666	0.6	0.4	0.6	0.7
QLD Wide Bay Burnett	2691	2746	2873	3184	1.4	1.5	1.3	1.3

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Table 10.4: Total apprentice in training (continued)

	Number				Per cent of total			
	2007	2010	2015	2020	2007	2010	2015	2020
SA Mallee South East	857	791	742	693	0.5	0.4	0.3	0.3
SA Mid North Riverland	1172	970	977	870	0.6	0.5	0.4	0.3
SA Spencer Gulf	854	827	765	728	0.5	0.4	0.4	0.3
SEQ Brisbane City	13367	13783	15790	17239	7.1	7.3	7.3	6.8
SEQ Brisbane South	3155	2825	3743	4734	1.7	1.5	1.7	1.9
SEQ Gold Coast	5985	6380	7855	8267	3.2	3.4	3.6	3.3
SEQ Moreton Bay	2075	1920	1732	1673	1.1	1.0	0.8	0.7
SEQ Sunshine Coast	3066	2512	2735	3898	1.6	1.3	1.3	1.5
SEQ West Moreton	2149	2135	3055	4916	1.1	1.1	1.4	1.9
Sydney Central	9253	10860	12239	13310	4.9	5.8	5.6	5.3
Sydney Eastern Beaches	1211	1308	1416	1242	0.6	0.7	0.7	0.5
Sydney Northern Beaches	1795	1810	1544	1715	1.0	1.0	0.7	0.7
Sydney Old West	1656	1756	1824	2250	0.9	0.9	0.8	0.9
Sydney Outer North	2453	2617	3175	2668	1.3	1.4	1.5	1.1
Sydney Outer South West	2165	1927	2627	2671	1.2	1.0	1.2	1.1
Sydney Outer West	3175	2761	2810	2795	1.7	1.5	1.3	1.1
Sydney Parramatta-Bankstown	4549	3878	3669	3708	2.4	2.1	1.7	1.5
Sydney South	2419	2034	2095	1915	1.3	1.1	1.0	0.8
TAS Hobart-South	2345	2586	2945	3068	1.3	1.4	1.4	1.2
TAS North	1557	1643	2104	2110	0.8	0.9	1.0	0.8
TAS North West	1352	1179	1371	1399	0.7	0.6	0.6	0.6
VIC Ballarat	1659	1495	1832	2126	0.9	0.8	0.8	0.8
VIC Bendigo	2290	1904	2618	2367	1.2	1.0	1.2	0.9
VIC Geelong	2461	4061	5622	4974	1.3	2.2	2.6	2.0
VIC Gippsland	2859	2092	2060	1709	1.5	1.1	0.9	0.7
VIC Mallee Wimmera	1488	1233	1304	1152	0.8	0.7	0.6	0.5
VIC North East	2671	1948	2422	2039	1.4	1.0	1.1	0.8
VIC West	1863	3325	4556	4568	1.0	1.8	2.1	1.8
WA Gascoyne Goldfields	1285	1239	2282	3147	0.7	0.7	1.0	1.2
WA Peel South West	3495	3094	5025	7225	1.9	1.6	2.3	2.9
WA Pilbara Kimberley	1256	1085	1184	3207	0.7	0.6	0.5	1.3
WA Wheatbelt Great Southern	1344	1060	1695	1802	0.7	0.6	0.8	0.7
Total	**187523**	**188842**	**217523**	**252820**	**100.0**	**100.0**	**100.0**	**100.0**

11. REGIONAL APPRENTICE MARKETS: THE RISKS TO GROWTH

Chapter 10 outlined the base case and indicated the risks that apply to the aggregation. This chapter and Appendix 6 analyse the risks to those forecasts. It gives the results for all regions quantified by the risk for the apprentice market. The statistic that is used for the risk analysis is the change in apprentices in training between 2010 and 2020.

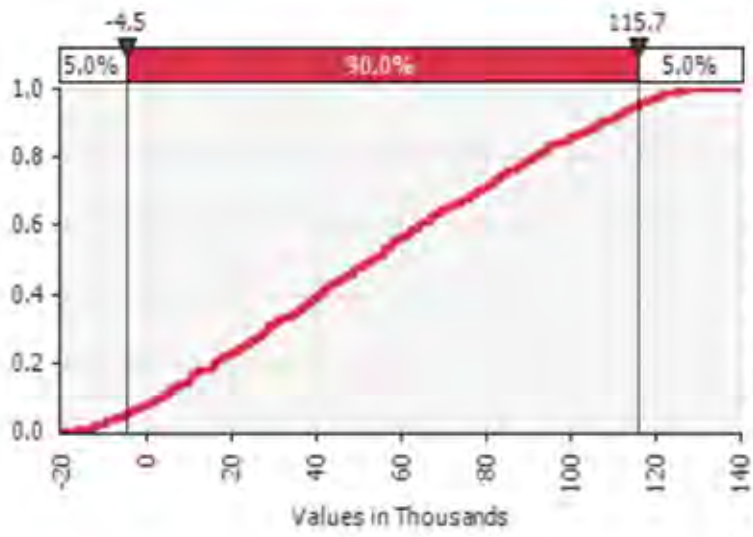
Figure 11.1(a) gives the result for Australia. It shows that there is a 50 per cent probability that the change in apprentices in training at the national level will be 60,582 and a 25 per cent probability that the change will be as low as 23,785. However, there is also a 25 per cent probability that the increase in the number of apprentices in training will be greater than 102,905. This shows the most probable outcome and the range of possibilities as well as the upper and lower extremes of those probabilities.

As an example, the results are also shown for Melbourne South East (Figures 11.2(a) and 11.2(b)). Here there is a 50 per cent probability of a slight fall in apprentices in training between 2010 and 2020. There is a 25 per cent probability that the change in apprentices will be 542 or above. The Melbourne South East example is used to bring attention to Figure 11.1(b) by contrasting it with Figure 11.2(b). The high correlation coefficient of 0.79 indicates that the region is sensitive to macroeconomic risks, as would be expected.

However, the high correlation coefficient of 0.66 indicates that the region is also sensitive to crowding out risks, as also would be expected. The latter is in contrast to the national coefficient for crowding out of only 0.04 (from Table 11.1(b)). This emphasises the variability in risks between regions and the shortcomings of aggregated national totals.

By 'crowding out risks' is meant the (negative) sensitivity of a region's apprentice demand to the expansion of apprenticeship demand in other regions. Thus, the expansion of apprenticeship demand in Western Australian regions to support mining expansion may destroy jobs and hence apprentice demand in South East Australian manufacturing regions.

Figure 11.1(a): Australia: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-29700	5%	-11353
Maximum	160973	10%	-1302
Mean	63385	15%	7641
Std Dev	48225	20%	16097
Variance	2325654996	25%	23785
Skewness	0.098075553	30%	31499
Kurtosis	1.949186845	35%	39175
Median	60582	40%	46077
Mode	70677	45%	53103
Left X	-11353	50%	60582
Left P	5%	55%	68468
Right X	142594	60%	77228
Right P	95%	65%	85476
Diff X	153947	70%	94046
Diff P	90%	75%	102905
#Errors	0	80%	112920
Filter Min	Off	85%	121694
Filter Max	Off	90%	132019
#Filtered	0	95%	142594

Figure 11.1(b): Australia: Macro growth versus crowding out – total apprentices in training – 2010–2020

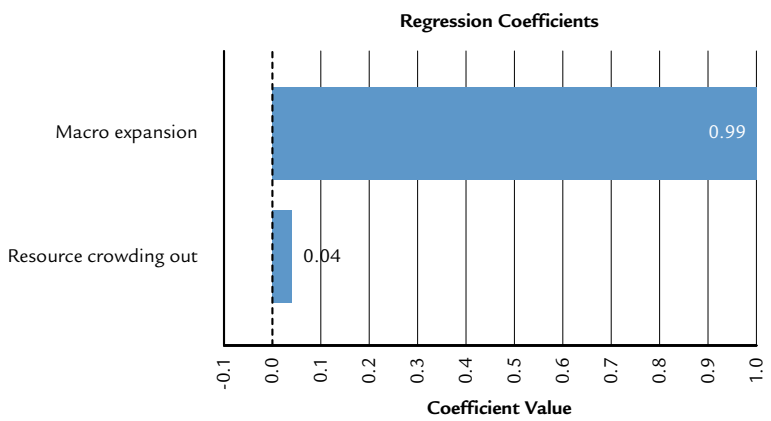
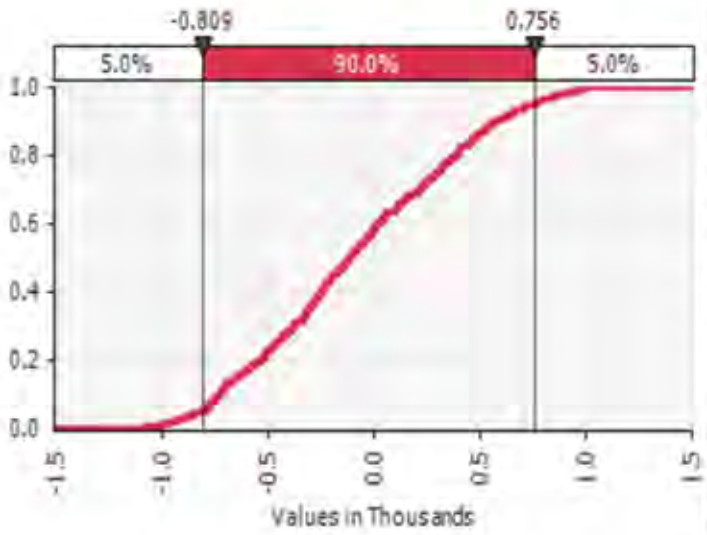


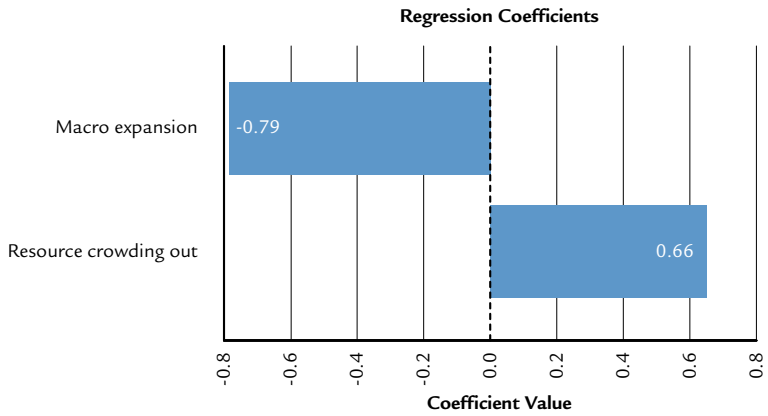
Figure 11.2(a): Melbourne South East: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-1349	5%	-948
Maximum	1396	10%	-782
Mean	37	15%	-653
Std Dev	634	20%	-556
Variance	402285.3774	25%	-455
Skewness	0.132524212	30%	-368
Kurtosis	2.118660993	35%	-277
Median	-9	40%	-196
Mode	-136	45%	-108
Left X	-948	50%	-9
Left P	5%	55%	82
Right X	1118	60%	191
Right P	95%	65%	307
Diff X	2067	70%	420
Diff P	90%	75%	542
#Errors	0	80%	664
Filter Min	Off	85%	789
Filter Max	Off	90%	932
#Filtered	0	95%	1118

Figure 11.2(b): Melbourne South East: Macro growth versus crowding out – total apprentices in training – 2010–2020



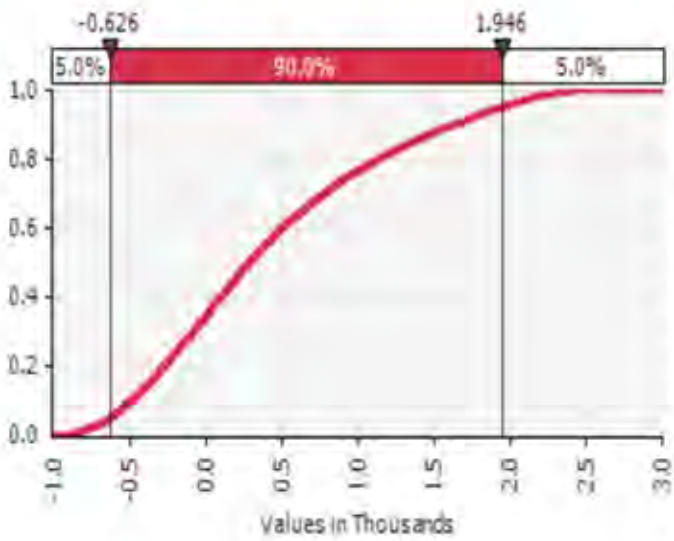
12. GTO INDUSTRY SCENARIOS: CONSTANT MARKET SHARE

This chapter shows forecasts for the GTO industry in terms of total apprentices in training on the assumption that the market share of GTOs for each of the 65 regions, in terms of the apprentice in-training market, is held constant at estimated 2010 levels to 2020. The data is aggregated into States and Territories. Results at the national level are shown in Figure 12.9(a). The main sources of risk are also shown (macro risk or resource crowding out).

The national mean expectation is that the GTO market will grow by 7,138 between 2010 and 2020. There is a 25 per cent probability that it will be below a growth of 2,894. Also, there is a 25 per cent probability the change will be above 11,360.

Figure 12.10(a) shows the probability distribution for the growth in GTO total additional field staff for 2010-2020. It shows that the number of field staff will probably need to grow by between 230 and 240 to deal with the mean expected growth in GTO apprentices in training.

Figure 12.1(a): New South Wales: Cumulative probability – change in GTO apprentices in training – 2010–2020 (number)



Summary Statistics for NSW:

Statistics		Percentile	
Minimum	-943.401	5%	-626.406
Maximum	2518.397	10%	-494.262
Mean	429.175	15%	-377.886
Std Dev	779.717	20%	-271.015
Variance	607958.8044	25%	-181.611
Skewness	0.578785001	30%	-84.418
Kurtosis	2.52116097	35%	10.891
Median	282.709	40%	91.466
Mode	-90.188	45%	189.724
Left X	-626.406	50%	282.709
Left P	5%	55%	389.370
Right X	1945.558	60%	497.323
Right P	95%	65%	638.132
Diff X	2571.964	70%	777.739
Diff P	90%	75%	937.107
#Errors	0	80%	1136.626
Filter Min	Off	85%	1358.234
Filter Max	Off	90%	1627.578
#Filtered	0	95%	1945.558

Figure 12.1(b): New South Wales: Macro growth versus crowding out – change in GTO apprentices in training – 2010–2020

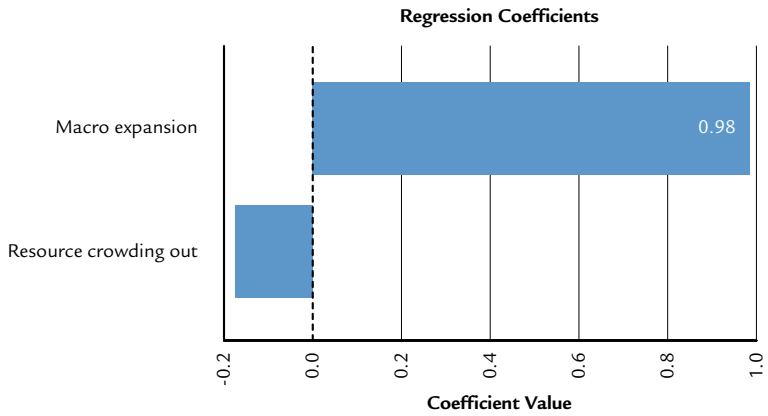
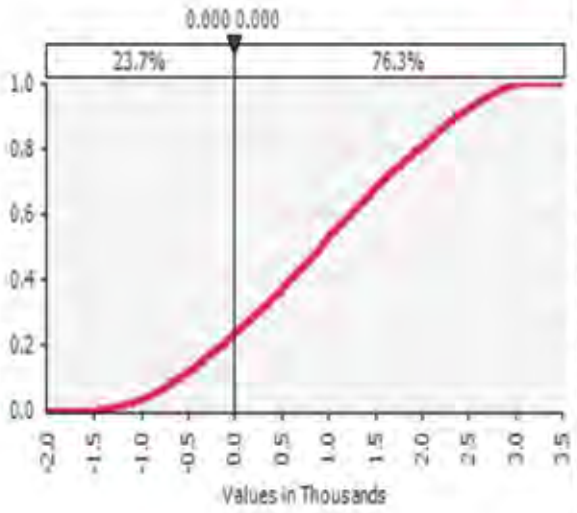


Figure 12.2(a): Victoria: Cumulative probability – change in GTO apprentices in training – 2010–2020 (number)



Summary Statistics for Vic			
Statistics		Percentile	
Minimum	-1584.703	5%	-872.892
Maximum	3139.431	10%	-587.727
Mean	900.148	15%	-353.401
Std Dev	1085.062	20%	-133.448
Variance	1177360.402	25%	50.825
Skewness	-0.05865482	30%	242.932
Kurtosis	2.106618244	35%	424.102
Median	911.944	40%	587.284
Mode	871.419	45%	763.100
Left X	-872.892	50%	911.944
Left P	5%	55%	1058.858
Right X	2630.068	60%	1238.774
Right P	95%	65%	1408.081
Diff X	3502.960	70%	1565.463
Diff P	90%	75%	1763.268
#Errors	0	80%	1967.441
Filter Min	Off	85%	2155.036
Filter Max	Off	90%	2372.598
#Filtered	0	95%	2630.068

Figure 12.2(b): Victoria: Macro growth versus crowding out – change in GTO apprentices in training – 2010–2020

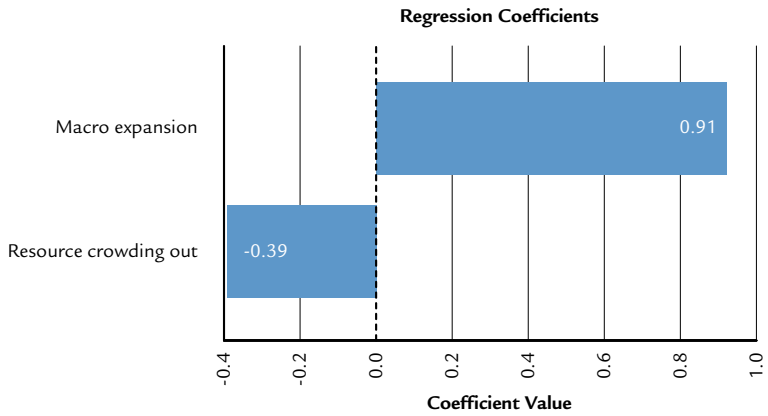
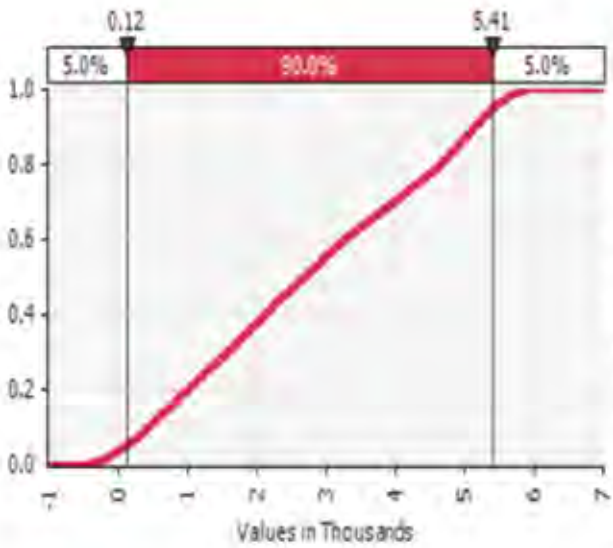


Figure 12.3(a): Queensland: Cumulative probability – change in GTO apprentices in training – 2010–2020 (number)



Summary Statistics for Qld:			
Statistics		Percentile	
Minimum	-574.510	5%	116.459
Maximum	6136.694	10%	445.699
Mean	2762.191	15%	726.518
Std Dev	1728.759	20%	1001.344
Variance	2988609.164	25%	1288.298
Skewness	0.036408078	30%	1578.979
Kurtosis	1.807754282	35%	1843.757
Median	2682.231	40%	2114.710
Mode	5121.671	45%	2386.374
Left X	116.459	50%	2682.231
Left P	5%	55%	2962.570
Right X	5414.674	60%	3274.075
Right P	95%	65%	3629.418
Diff X	5298.215	70%	3985.894
Diff P	90%	75%	4324.099
#Errors	0	80%	4658.265
Filter Min	Off	85%	4902.691
Filter Max	Off	90%	5142.043
#Filtered	0	95%	5414.674

Figure 12.3(b): Queensland: Macro growth versus crowding out – change in GTO apprentices in training – 2010–2020

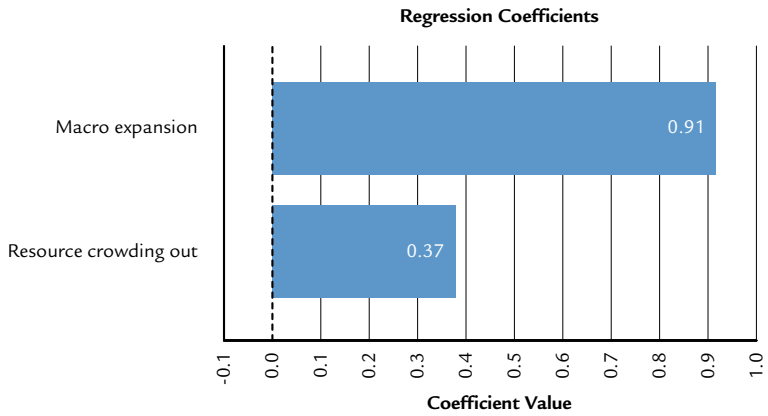
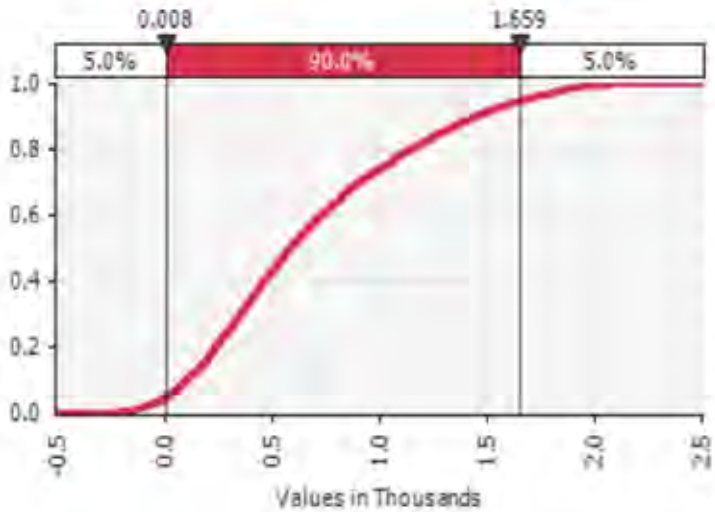


Figure 12.4(a): South Australia: Cumulative probability – change in GTO apprentices in training – 2010–2020 (number)



Summary Statistics for SA:			
Statistics		Percentile	
Minimum	-263.626	5%	7.866
Maximum	2154.175	10%	104.180
Mean	685.766	15%	179.547
Std Dev	505.565	20%	239.580
Variance	255596.1681	25%	296.591
Skewness	0.620621932	30%	354.687
Kurtosis	2.648901059	35%	407.948
Median	583.138	40%	460.717
Mode	243.190	45%	521.673
Left X	7.866	50%	583.138
Left P	5%	55%	650.191
Right X	1658.565	60%	728.831
Right P	95%	65%	813.185
Diff X	1650.698	70%	905.538
Diff P	90%	75%	1022.785
#Errors	0	80%	1141.211
Filter Min	Off	85%	1276.539
Filter Max	Off	90%	1440.233
#Filtered	0	95%	1658.565

Figure 12.4(b): South Australia: Macro growth versus crowding out – change in GTO apprentices in training – 2010–2020

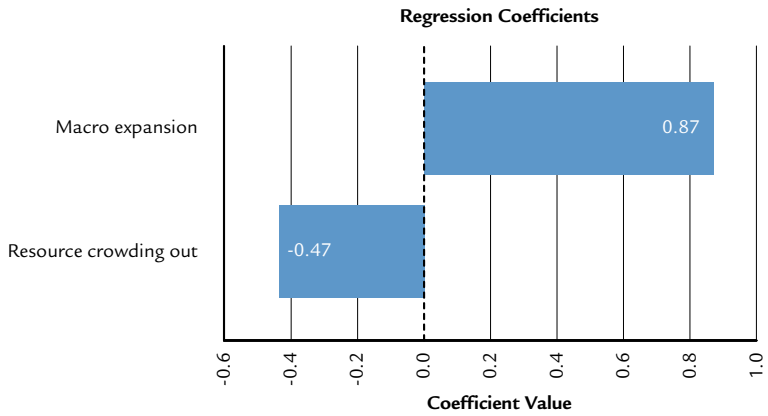
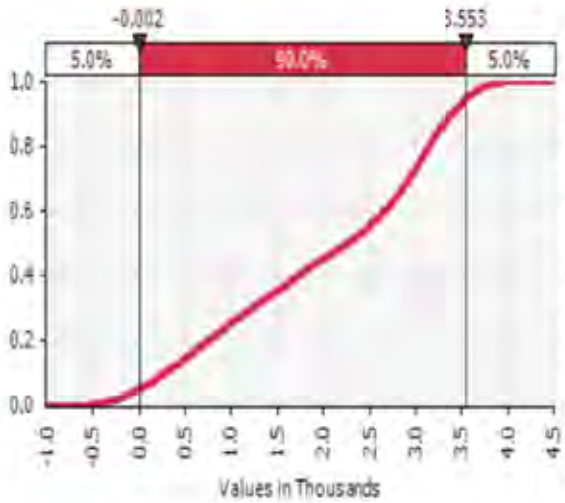


Figure 12.5(a): Western Australia: Cumulative probability – change in GTO apprentices in training – 2010–2020 (number)



Summary Statistics for WA:

Statistics		Percentile	
Minimum	-621.261	5%	-1.503
Maximum	4157.920	10%	294.065
Mean	2013.459	15%	526.424
Std Dev	1175.297	20%	756.476
Variance	1381322.824	25%	978.798
Skewness	-0.35644944	30%	1230.994
Kurtosis	1.888901892	35%	1484.046
Median	2256.390	40%	1731.854
Mode	3133.007	45%	1979.744
Left X	-1.503	50%	2256.390
Left P	5%	55%	2486.221
Right X	3552.610	60%	2664.220
Right P	95%	65%	2802.405
Diff X	3554.113	70%	2933.817
Diff P	90%	75%	3041.342
#Errors	0	80%	3142.453
Filter Min	Off	85%	3256.688
Filter Max	Off	90%	3387.637
#Filtered	0	95%	3552.610

Figure 12.5(b): Western Australia: Macro growth versus crowding out – change in GTO apprentices in training – 2010–2020

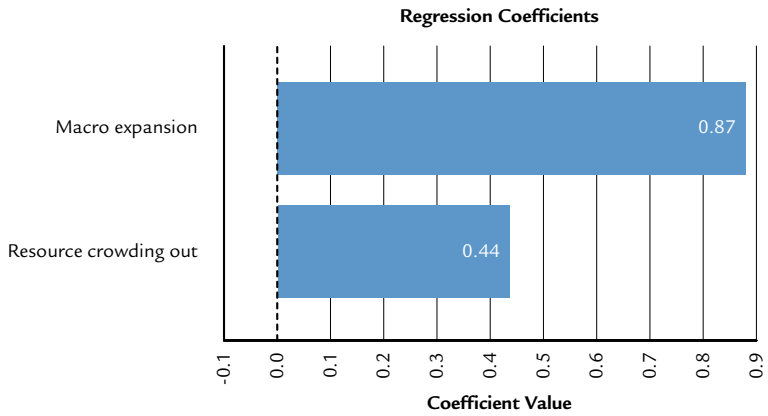
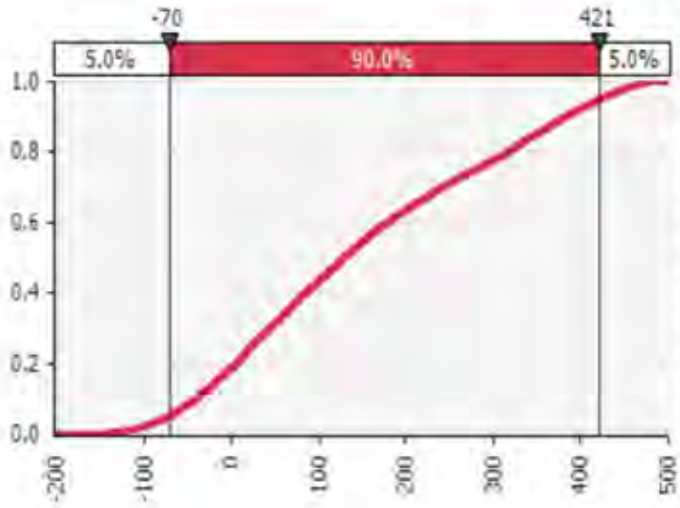


Figure 12.6(a): Tasmania: Cumulative probability – change in GTO apprentices in training – 2010–2020 (number)



Summary Statistics for Tas:			
Statistics		Percentile	
Minimum	-150.942	5%	-70.095
Maximum	488.279	10%	-39.945
Mean	151.783	15%	-16.569
Std Dev	155.624	20%	5.446
Variance	24218.69929	25%	23.077
Skewness	0.289713942	30%	44.263
Kurtosis	2.026042702	35%	64.817
Median	128.783	40%	85.042
Mode	17.966	45%	107.859
Left X	-70.095	50%	128.783
Left P	5%	55%	152.220
Right X	421.303	60%	179.049
Right P	95%	65%	208.376
Diff X	491.398	70%	240.881
Diff P	90%	75%	279.749
#Errors	0	80%	316.742
Filter Min	Off	85%	348.180
Filter Max	Off	90%	382.141
#Filtered	0	95%	421.303

Figure 12.6(b): Tasmania: Macro growth versus crowding out – change in GTO apprentices in training – 2010–2020

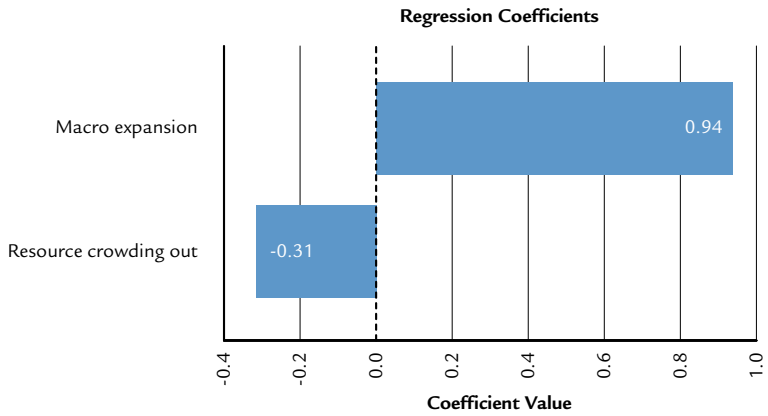
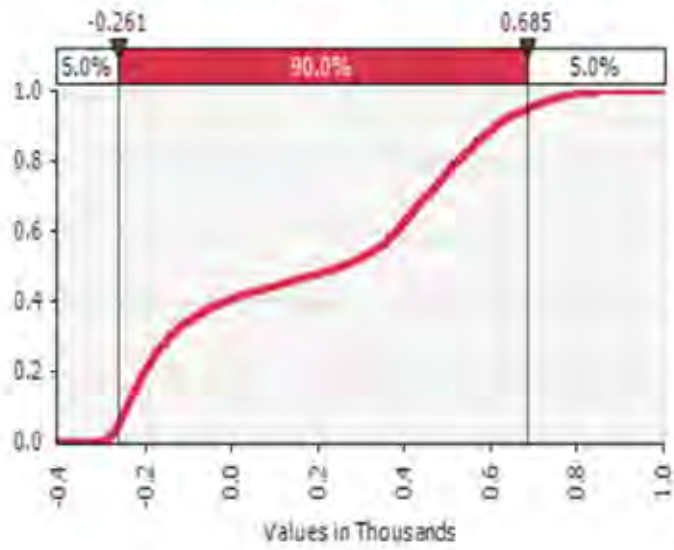


Figure 12.7(a): Northern Territory: Cumulative probability – change in GTO apprentices in training – 2010–2020 (number)



Summary Statistics for NT:

Statistics		Percentile	
Minimum	-308.576	5%	-260.901
Maximum	934.152	10%	-241.022
Mean	187.498	15%	-220.669
Std Dev	340.955	20%	-200.698
Variance	116250.1144	25%	-174.557
Skewness	0.019074277	30%	-140.507
Kurtosis	1.487849838	35%	-92.019
Median	253.470	40%	-12.458
Mode	-226.071	45%	121.269
Left X	-260.901	50%	253.470
Left P	5%	55%	334.765
Right X	684.683	60%	381.940
Right P	95%	65%	417.533
Diff X	945.584	70%	452.106
Diff P	90%	75%	487.530
#Errors	0	80%	524.134
Filter Min	Off	85%	564.823
Filter Max	Off	90%	611.759
#Filtered	0	95%	684.683

Figure 12.7(b): Northern Territory: Macro growth versus crowding out – change in GTO apprentices in training – 2010–2020

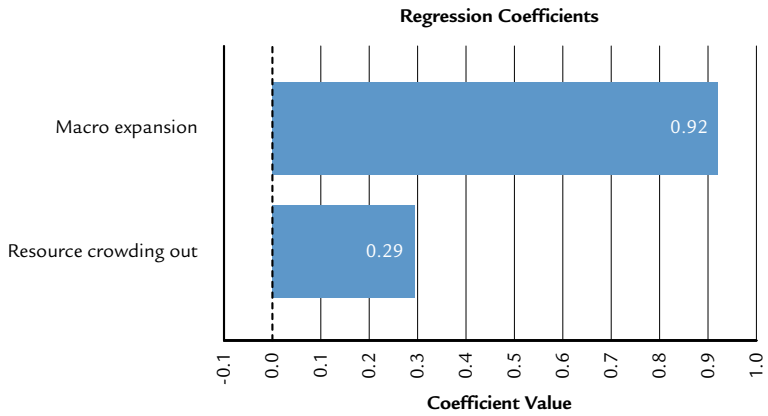
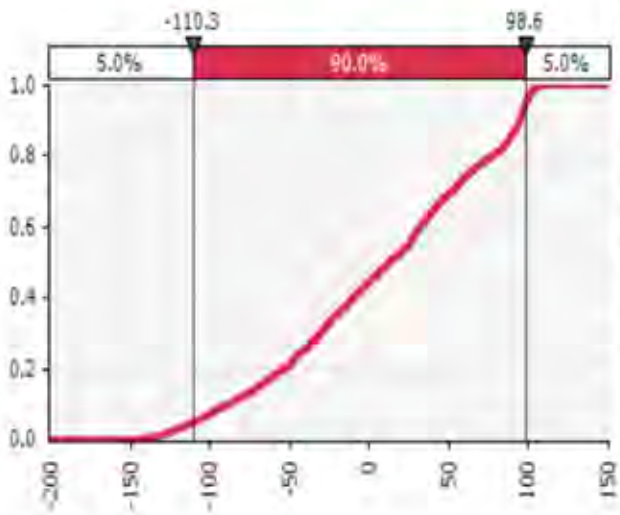


Figure 12.8(a): Australian Capital Territory: Cumulative probability – change in GTO apprentices in training – 2010–2020 (number)



Summary Statistics for ACT:

Statistics		Percentile	
Minimum	-151.608	5%	-110.312
Maximum	108.346	10%	-88.050
Mean	7.225	15%	-69.337
Std Dev	65.749	20%	-53.276
Variance	4322.909835	25%	-41.519
Skewness	-0.30024773	30%	-30.596
Kurtosis	2.092887909	35%	-21.043
Median	12.531	40%	-9.939
Mode	94.641	45%	1.214
Left X	-110.312	50%	12.531
Left P	5%	55%	24.685
Right X	98.616	60%	31.975
Right P	95%	65%	41.449
Diff X	208.928	70%	51.726
Diff P	90%	75%	62.780
#Errors	0	80%	76.876
Filter Min	Off	85%	88.169
Filter Max	Off	90%	94.356
#Filtered	0	95%	98.616

Figure 12.8(b): Australian Capital Territory: Macro growth versus crowding out – change in GTO apprentices in training – 2010–2020

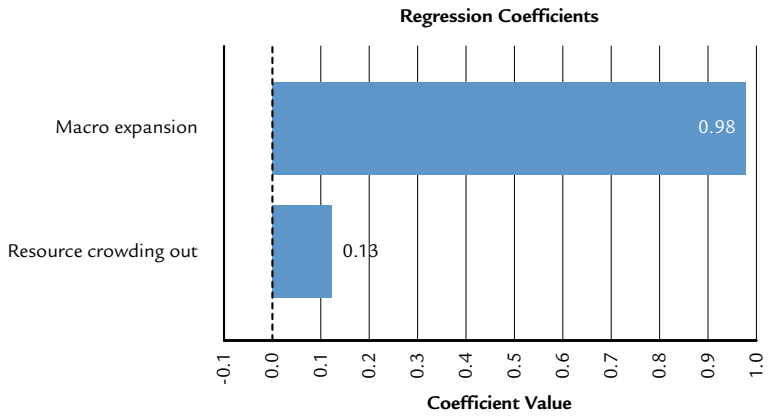
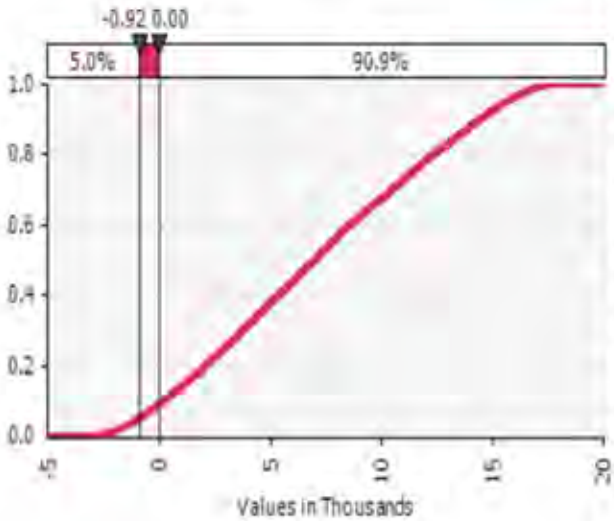


Figure 12.9(a): Australia: Cumulative probability – change in GTO apprentices in training – 2010–2020 (number)



Summary Statistics for Australia:			
Statistics		Percentile	
Minimum	-3184.886	5%	-915.455
Maximum	17815.155	10%	172.781
Mean	7138.787	15%	1162.751
Std Dev	5181.488	20%	2046.375
Variance	26847817.17	25%	2894.045
Skewness	0.076687775	30%	3714.014
Kurtosis	1.977008336	35%	4534.493
Median	6991.112	40%	5366.040
Mode	4301.052	45%	6147.651
Left X	-915.455	50%	6991.112
Left P	5%	55%	7750.335
Right X	15596.120	60%	8563.470
Right P	95%	65%	9462.113
Diff X	16511.575	70%	10401.155
Diff P	90%	75%	11360.143
#Errors	0	80%	12316.787
Filter Min	Off	85%	13366.433
Filter Max	Off	90%	14392.268
#Filtered	0	95%	15596.120

Figure 12.9(b): Australia: Macro growth versus crowding out – change in GTO apprentices in training – 2010–2020

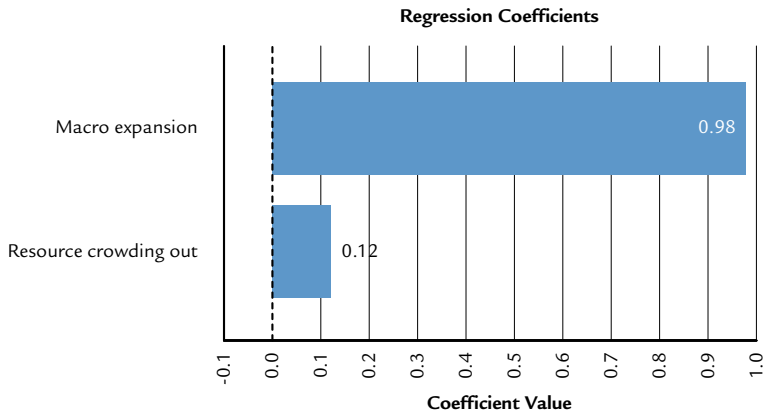
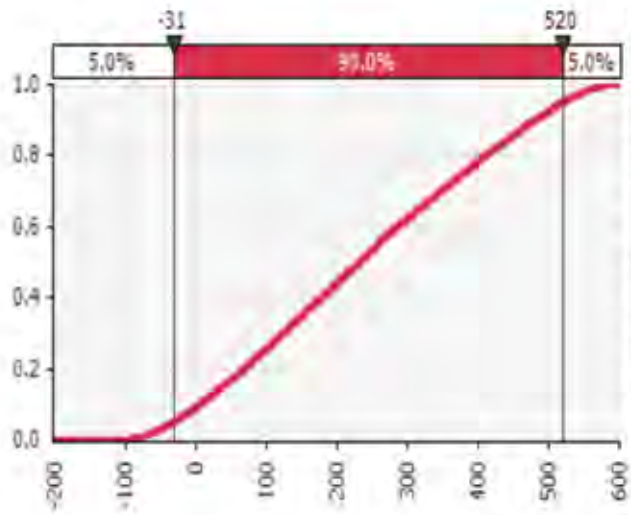
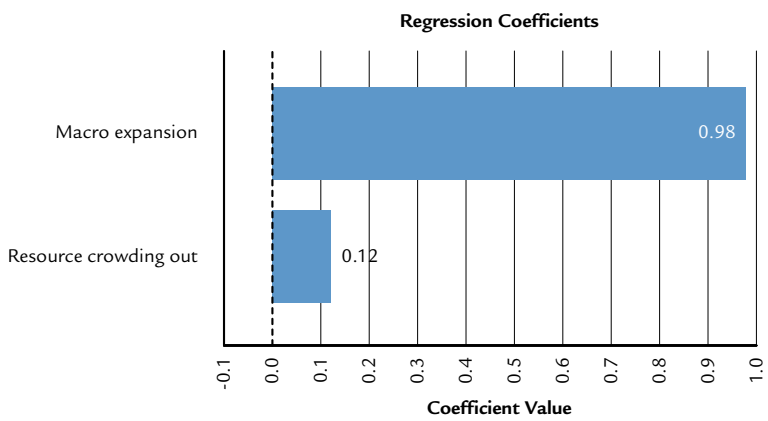


Figure 12.10(a): Australia: Cumulative probability for GTO total additional field staff to 2020



Summary Statistics for Australia			
Statistics		Percentile	
Minimum	-106.163	5%	-30.515
Maximum	593.839	10%	5.759
Mean	237.960	15%	38.758
Std Dev	172.716	20%	68.213
Variance	29830.90797	25%	96.468
Skewness	0.076687775	30%	123.800
Kurtosis	1.977008336	35%	151.150
Median	233.037	40%	178.868
Mode	143.368	45%	204.922
Left X	-30.515	50%	233.037
Left P	5%	55%	258.344
Right X	519.871	60%	285.449
Right P	95%	65%	315.404
Diff X	550.386	70%	346.705
Diff P	90%	75%	378.671
#Errors	0	80%	410.560
Filter Min	Off	85%	445.548
Filter Max	Off	90%	479.742
#Filtered	0	95%	519.871

Figure 12.10(b): Australia: Macro growth versus crowding out – GTO total additional field staff to 2020



PART D:
THE APPRENTICE MARKET AND GTO SCENARIOS TO 2020

D

13. THE CURRENT ALLOCATION OF GTO RESOURCES AND THE 'OPTIMAL' GTO EXPANSION TRAJECTORY

A theme of this Part has been the variability between regions and the need for GTOs to understand that variability in order to optimise their markets and resource allocation. This chapter builds on that analysis. The previous chapter examined the case where current regional GTO market share was held constant at current levels over the 2010-2020 period. This chapter examines the case of determining the 'optimum' expansion trajectory by taking into account the factors where GTOs appear to possess a competitive advantage.

13.1 The regional distribution of GTO activity versus the overall market

Initially the current distribution of GTO resources will be compared to the distribution of the market for apprentices.

The first column of Table 13.1 shows the distribution of apprentices (that is, excluding other) in training across the regions. Thus, 1.6 per cent of total apprentices in training, given the national total, are in the ACT for 2009, while 2.7 per cent were located in Adelaide Inner, and so on.

The second column gives the allocation of GTO apprentices in training from the NIEIR GTO survey. As the survey only listed the metropolitan regions as a whole, by necessity, the survey totals had to be prorated across the metropolitan area sub-regions on the basis of NIEIR's estimates of total apprentices in training.

The third column gives the difference between the second and first columns. A negative difference indicates that the GTO's share of apprentices in a region is less than the region's share of total apprentices. A positive difference indicates the reverse, that is, the region's share of GTO apprentices is greater than the region's share of total apprentices.

A positive difference for a region indicates that the region's GTOs have an above average share (compared to the share of GTOs across all regions) of the local apprentices in training market. It is a prima facie indicator that the local GTO or GTOs is/are producing above average performance(s).

The standout regions in terms of the performance of the GTOs are Adelaide, NSW Central West, Northern Territory, Queensland non-metropolitan regions and Victoria's more remote non-metropolitan regions.

13.2 'Optimal' GTO expansion trajectory

Earlier chapters of the study have documented that the performance of GTOs improves, at least in terms of productivity and completion rates, when:

(i) the slower the growth in apprentices;

(ii) the lower the apprentices in training relative to the not in employment catchment; and

(iii) the higher the not in employment rate to a given threshold.

Using the quantitative rules established earlier, together with an inputted GTO market share and productivity, it is possible to scan for the optimum expansion trajectory across the regions. Optimum in the sense of maximising productivity based on a notional allocation of a fixed number of additional field staff.

The results of this optimisation exercise are given in Table 13.2. The third column of the table gives the market expansion factor. This represents the total change in apprentices in training by region from Chapter 10, plus the unexploited market potential from Table 13.1. From Table 13.1, if this sum is negative then the entry in the table is zero. In other words there is no or limited potential for expansion within this market.

The proportional expansion in column one of Table 13.2 is based on a uniform allocation of 500 field staff across the regions on the basis of the oscillation derived from column three. Given that this results in a total of 14,631 apprentices in training, then the productivity is 29.2 (per FTE).

Column two optimises the allocation of the 500 additional field staff to improve productivity. This results in 15,750 apprentices in training, or a productivity of 31.4. Those regions which obtain above average (compared to the change in the apprentice market) distribution of labour resources are designated with the description 'favour' in Table 13.2. From Table 13.2, the region 'not in favour' consists of the slow growing/declining non-metropolitan regions and the heavily concentrated, in terms of apprentices, metropolitan regions.

The main message from the results, however, is that the shift from a proportional growth strategy to an optimum growth strategy does not require a major change of emphasis. For the Corporate Business Model it would require paying attention to the prospects in the metropolitan suburban regions and the moderate growing non-metropolitan regions.

In terms of targets, for the case of the allocation of 500 additional field staff, it would require targeting a marginal market share of approximately 15 per cent in the favoured regions and 8 to 10 per cent for the other regions where apprentice growth is positive.

Table 13.1: Distribution of in-training total apprentices versus GTO (from survey)

	Total apprentices	GTO (survey)	GTO less total market
ACT	1.6	1.5	-0.1
Adelaide Inner	2.7	5.5	2.8
Adelaide North	1.7	3.5	1.8
Adelaide South	0.9	1.8	0.9
Melbourne Central	5.6	3.8	-1.9
Melbourne East	2.6	1.7	-0.8
Melbourne North	2.3	1.5	-0.8
Melbourne North East	1.7	1.1	-0.5
Melbourne Outer South East	1.3	0.9	-0.4
Melbourne South East	2.2	1.4	-0.7
Melbourne West	1.6	1.1	-0.5
NSW Central Coast	0.8	0.4	-0.4
NSW Central West	1.2	5.5	4.3
NSW Far West	0.4	0.4	0.0
NSW Hunter	2.9	3.1	0.2
NSW Illawarra	1.9	1.3	-0.6
NSW Mid North Coast	1.2	0.6	-0.6
NSW North	0.8	2.2	1.3
NSW Richmond Tweed	1.0	0.9	-0.1
NSW Riverina	1.4	2.0	0.6
NSW Southern Tablelands	0.8	0.4	-0.3
NT Darwin	0.6	1.4	0.8
NT Lingiari	0.4	2.6	2.2
Perth Central	4.4	3.9	-0.4
Perth Outer North	1.9	1.7	-0.2
Perth Outer South	1.4	1.3	-0.1
QLD Cairns	1.4	1.0	-0.3
QLD Darling Downs	1.0	2.9	1.9
QLD Fitzroy	1.2	1.9	0.7
QLD Mackay	1.1	2.5	1.4
QLD North	1.2	1.7	0.5
QLD Resource region	0.4	0.3	-0.2
QLD Wide Bay Burnett	1.5	2.0	0.5
SA Mallee South East	0.4	1.4	0.9
SA Mid North Riverland	0.5	0.7	0.1
SA Spencer Gulf	0.4	1.6	1.2
SEQ Brisbane City	7.3	4.9	-2.4
SEQ Brisbane South	1.5	1.0	-0.5
SEQ Gold Coast	3.4	2.3	-1.1

continued next page

Table 13.1: Distribution of in training total apprentices versus GTO (from survey) (continued)

	Total apprentices	GTO (survey)	GTO less total market
SEQ Moreton Bay	1.0	0.7	-0.3
SEQ Sunshine Coast	1.3	0.9	-0.4
SEQ West Moreton	1.1	0.8	-0.4
Sydney Central	5.8	2.4	-3.4
Sydney Eastern Beaches	0.7	0.3	-0.4
Sydney Northern Beaches	1.0	0.4	-0.6
Sydney Old West	0.9	0.4	-0.5
Sydney Outer North	1.4	0.6	-0.8
Sydney Outer South West	1.0	0.4	-0.6
Sydney Outer West	1.5	0.6	-0.9
Sydney Parramatta-Bankstown	2.1	0.9	-1.2
Sydney South	1.1	0.4	-0.6
TAS Hobart-South	1.4	1.9	0.5
TAS North	0.9	0.6	-0.2
TAS North West	0.6	0.4	-0.2
VIC Ballarat	0.8	0.5	-0.3
VIC Bendigo	1.0	1.1	0.1
VIC Geelong	2.2	1.2	-0.9
VIC Gippsland	1.1	2.8	1.7
VIC Mallee Wimmera	0.7	1.2	0.6
VIC North East	1.0	1.2	0.1
VIC West	1.8	1.0	-0.8
WA Gascoyne Goldfields	0.7	0.8	0.2
WA Peel South West	1.6	1.7	0.1
WA Pilbara Kimberley	0.6	0.7	0.1
WA Wheatbelt Great Southern	0.6	0.6	0.0
Total	**100.0**	**100.0**	**0.0**

Table 13.2: GTO market for apprentices for 500 field personnel

	GTO				
	Proportional expansion	'Optimal' expansion	Market expansion	Market share	Market status
ACT	42	23	439	5	
Adelaide Inner	205	177	2165	8	
Adelaide North	43	44	453	10	favour
Adelaide South	19	31	204	15	favour
Melbourne Central	1158	701	12198	6	
Melbourne East	363	510	3825	13	favour
Melbourne North	275	398	2896	14	favour
Melbourne North East	217	340	2290	15	favour
Melbourne Outer South East	88	175	932	19	favour
Melbourne South East	189	311	1988	16	favour
Melbourne West	207	348	2182	16	favour
NSW Central Coast	203	322	2142	15	favour
NSW Central West	1	0	15	0	
NSW Far West	3	0	32	0	
NSW Hunter	5	0	55	0	
NSW Illawarra	235	264	2480	11	favour
NSW Mid North Coast	272	334	2861	12	favour
NSW North	0	0	0	0	
NSW Richmond Tweed	69	81	726	11	favour
NSW Riverina	0	0	0	0	
NSW Southern Tablelands	97	139	1017	14	favour
NT Darwin	108	84	1139	7	
NT Lingiari	0	0	4	0	
Perth Central	651	522	6858	8	
Perth Outer North	387	533	4076	13	favour
Perth Outer South	140	244	1470	17	favour
QLD Cairns	136	145	1434	10	favour
QLD Darling Downs	77	105	809	13	favour
QLD Fitzroy	285	279	2998	9	
QLD Mackay	221	209	2333	9	
QLD North	143	164	1503	11	favour
QLD Resource region	129	134	1364	10	favour
QLD Wide Bay Burnett	42	59	438	13	favour
SA Mallee South East	0	0	0	0	
SA Mid North Riverland	0	0	0	0	
SA Spencer Gulf	0	0	0	0	
SEQ Brisbane City	965	738	10164	7	

continued next page

Table 13.2: GTO market for apprentices for 500 field personnel (continued)

	GTO				
	Proportional expansion	'Optimal' expansion	Market expansion	Market share	Market status
SEQ Brisbane South	312	345	3284	10	favour
SEQ Gold Coast	474	426	4993	9	
SEQ Moreton Bay	65	41	688	6	
SEQ Sunshine Coast	248	279	2609	11	favour
SEQ West Moreton	363	417	3820	11	favour
Sydney Central	1678	1263	17676	7	
Sydney Eastern Beaches	168	254	1768	14	favour
Sydney Northern Beaches	232	333	2443	14	favour
Sydney Old West	281	418	2956	14	favour
Sydney Outer North	353	506	3720	14	favour
Sydney Outer South West	327	493	3445	14	favour
Sydney Outer West	371	555	3905	14	favour
Sydney Parramatta-Bankstown	500	758	5268	14	favour
Sydney South	259	375	2733	14	favour
TAS Hobart-South	46	61	482	13	favour
TAS North	100	91	1051	9	
TAS North West	82	82	862	9	favour
VIC Ballarat	134	172	1412	12	favour
VIC Bendigo	44	59	462	13	favour
VIC Geelong	383	291	4038	7	
VIC Gippsland	0	0	0	0	
VIC Mallee Wimmera	0	0	0	0	
VIC North East	9	9	92	10	favour
VIC West	382	266	4029	7	
WA Gascoyne Goldfields	181	170	1908	9	
WA Peel South West	392	375	4131	9	
WA Pilbara Kimberley	201	195	2122	9	
WA Wheatbelt Great Southern	71	99	744	13	favour
Total	**14631**	**15750**	**154130**	**10**	**favour**

PART E:
CONCLUSIONS, POLICY IMPLICATIONS AND RECOMMENDATIONS

E

14. Core findings 122

14.1 The apprentice market: The next decade 123

14.2 The elements in implementing a change strategy for the group training industry 125

14.3 Building a corporate business model 126

14.4 Performance measures to track and drive performance 128

14.5 Public policy issues 130

14.5.1 Government policy objectives for GTOs 130

14.5.2 Relationships with AACs 131

14.5.3 GTOs as policy partners for government 132

14.5.4 Developing the market for apprentices and trainees 132

14.6 Recommendations to Group Training Australia 133

PART E:
CONCLUSIONS, POLICY IMPLICATIONS AND RECOMMENDATIONS

14. CORE FINDINGS

Group training has an important place in the Australian market for skills development not only because of the widespread nature of group training and the number of Australian Apprentices employed by GTOs but because of the nature of the employers and employees they deal with. GTOs are also in an important position because they are able to aggregate and specialise in dealing with Australian Apprentices. However this report has identified some important challenges GTOs face in defining their future.

Examination of the performance of group training from 2000 to 2009 found that:

1. demand for group training (as measured by group training share of all apprentice employment) is not uniform through the business cycle and is noticeably less in a tight market for skilled employees;
2. demand for group training (same basis as above) is not uniform across regions and is influenced by labour market conditions (demand is lower where there is a high growth in commencements and group training is less successful where there are very high or very low rates of unemployment);
3. demand for group training varies across industries and tends to be strongest in traditional industries such as wholesale trade and transport;
4. in general there is a clear trade off between higher levels of performance in terms of productivity (Australian Apprentices per GTO FTE staff) and completion rates (proportion of Australian Apprentices completing indentured training);
5. for GTOs of the same scale and geographic structure, a focus on community objectives (labour equity programs) can lower productivity by up to 25 per cent and lower completion rates by five to 10 per cent compared to GTOs with narrow commercial objectives;
6. corporate GTOs are over-represented in the best performing GTOs for productivity (Australian Apprentices per GTO FTE staff) while regional GTOs are over-represented in the group with the lowest performance for productivity;
7. scale by itself does not lead to superior performance. Large scale GTOs are over-represented among the lowest performing GTOs. Expansion by industry and regions will not succeed unless it is well resourced with the right people, relationships and resources;
8. industry diversification does not by itself improve performance. In fact, specialisation will in general improve performance;
9. for GTOs with the same geographic structure and single industry focus, those that focus on high value trade skills (e.g. construction, mining) have productivity and completion levels of between 15 and 30 per cent higher than GTOs that focus on lower skills (e.g. hospitality); and
10. geographic diversity by itself does not improve performance. Given similar scale, GTOs with more geographic diversity will have 25 per cent lower productivity and (potentially) a similar decline in completion rates compared to GTOs that operate in one region.

Ranking GTOs based on effectiveness (productivity and completion rates) and comparing groups of peer GTOs (similar size, structure, focus) with the best performing GTO in that group showed performance could be improved through:

- targeted regional diversification (based, for instance on labour market conditions);
- tighter industry specialisation;
- generally (with careful targeting) increasing Australian Apprentices per host employer; and
- diversifying services.

More effective GTOs tend to be distinguished from their less effective peers because they:

- have a strong management culture and clear organisational objectives;
- are optimised in terms of scale and/or regional markets;
- are industry specialists rather than industry generalists;
- have customers in high skill industries (with an appropriate scale of operation); and
- offer a diversity of services to meet customer needs.

If less efficient GTOs adopted strategies to render them as efficient as their peers, then performance of some could improve by up to 40 per cent. For the sector as a whole the overall increase in completion rates would be 3.9 per cent higher and 7.6 per cent for productivity. Less efficient GTOs tend to be associated with lower gross margins (revenue minus cost of apprentices). Firms identified as more efficient have gross margins above 20 per cent.

14.1 The apprentice market: The next decade

The core economic drivers of the apprentice market over the next decade will be the rate of economic growth and the industries that benefit. The reality is that the Global Financial Crisis (GFC) marked a structural turning point in the world political-economy, being somewhere between the oil price shock of 1973–1979 and the ending of World War II.

The rise of the Asian developing economies, the fall of the developed economies into debt constrained growth and the policy response to climate change means that the world will settle into a growth rate of between 3 and 4 per cent and not in excess of 5 per cent, which was the case in the five years before the GFC.

Domestically, despite the continuation of the resource development driver of growth:

- the return of high current account deficits;
- high household debt;
- high CO_2 intensity; and
- the weakening of economic linkages between the States,

will mean that Australia is unlikely to maintain the high sustained 2 per cent plus employment growth rates of the last one to two decades. While the actual growth rate will be less than the historical outcomes, the high resource development potential of the economy will place a floor under the employment growth rate of around 1 per cent per annum. A base case scenario is near the midpoint of these two polar cases of 1.6 per cent per annum total employment growth between 2010 and 2020.

In terms of the regions, accelerated resource development within a constrained economy could well accelerate the shift of employment from the south-east Australian States to the resource states.

Given the risks associated with the macroeconomic outlook, the study finds that a plausible range for the change in apprentices in training between 2010 and 2020 is between 24,000 and 103,000, with a mean expectation of near 64,000.

Table 14.1 gives the regional ranking for the change in apprentices in training between 2010 and 2020. Fifty eight per cent of the change is in the top ten regions. Fifteen regions are projected to experience a fall in apprentice in training, while 26 regions have a 25 per cent probability that the number of apprentices in training will fall between 2010 and 2020.

Table 14.1: Regional ranking: Projected change in apprentices in training (number)

Region	Change in apprentices in training 2010–2020	Region	Change in apprentices in training 2010–2020
Melbourne Central	6949	NSW Richmond Tweed	506
Perth Central	5930	Sydney Old West	494
WA Peel South West	4131	TAS Hobart-South	482
Perth Outer North	3680	TAS North	467
SEQ Brisbane City	3456	VIC Bendigo	462
QLD Fitzroy	2998	Adelaide North	453
SEQ West Moreton	2780	QLD Wide Bay Burnett	438
Sydney Central	2450	TAS North West	220
QLD Mackay	2333	Adelaide South	204
Adelaide Inner	2165	ACT	154
WA Pilbara Kimberley	2122	VIC North East	92
SEQ Brisbane South	1909	NSW Hunter	55
WA Gascoyne Goldfields	1908	Sydney Outer North	50
SEQ Gold Coast	1887	Sydney Outer West	35
QLD North	1503	NSW Far West	32
Melbourne East	1432	NSW Central West	15
SEQ Sunshine Coast	1386	NT Lingiari	4
VIC West	1243	Melbourne South East	-30
Perth Outer South	1176	NSW North	-54
NT Darwin	1139	Sydney Eastern Beaches	-66
VIC Geelong	912	VIC Mallee Wimmera	-81
QLD Resource region	865	Sydney Northern Beaches	-95
NSW Illawarra	824	SA Mallee South East	-98
QLD Darling Downs	809	SA Spencer Gulf	-100
Melbourne North	765	SA Mid North Riverland	-100
Sydney Outer South West	744	NSW Southern Tablelands	-112
WA Wheatbelt Great Southern	742	Sydney South	-118
Melbourne North East	738	Sydney Parramatta-Bankstown	-170
Melbourne West	700	SEQ Moreton Bay	-247
NSW Central Coast	666	Melbourne Outer South East	-297
VIC Ballarat	631	VIC Gippsland	-383
QLD Cairns	629	NSW Riverina	-404
NSW Mid North Coast	567	**Total**	**63978**

In order to maintain its market share across all regions, it is estimated that the group training industry will need to employ a net additional 240 field officers over the next decade, although this could be as high as 450 if Australia becomes aggressive about climate change and balance of payments and debt pressures are less binding than what is currently considered to be the likely case. There is only a relatively small probability that employing less than 100 additional staff will be more than what is required to maintain market share.

If an aggressive approach is taken to expansion of the GTO sector, based on employment of up to a net additional 500 field staff, then for maximum gains in terms of productivity and completion rates the target should be a marginal market share of 15 per cent in suburban regions and moderate gains in non-metropolitan regions where the current GTO model performs well. For other regions the target should be between 8 and 10 per cent marginal market share. An FTE to apprentices ratio in excess of 30 will be required.

14.2 The elements in implementing a change strategy for the group training industry

Many GTOs need to review the nature of their business, how they think about customers, the services they offer and how they communicate that service. As noted earlier, the name group training reflects a focus on how organisations do things rather than what they do for their customers. To some extent this is not unusual for a community not-for-profit organisation.

With the increasing tendency toward more corporate styles of operating, GTOs will need to be very clear about what their customers are interested in rather than what they see themselves as providing. The exception of course would be those organisations that see their future as remaining community-based not for profits. However, these organisations will also need to understand that government will be their major customers and will increasingly demand levels of performance supported by evidence of delivery against a set of performance measures.

These observations combined to develop a sequence of steps which would represent the implementation of a likely successful strategy to improve the performance of the GTO industry.

Step one: Understand the dynamics and requirements of the four operational models, of which three are business models, which a GTO can select.

The four business models, are given in Table 14.2. The strategic dimension of model selection is illustrated (Figure 14.1) as well as the operational characteristics (Figure 14.2). The regional model, if it is to be sustainable on a long run basis, must have strong regional branding as serving the local area for the benefit of the local area.

More often than not community models would require ownership by larger bodies, while for the industry model this would almost certainly be the case, be it in the form of industry associations, combinations of large scale employers or unions.

Table 14.2: Types of operational models

1.	**Corporate**	Multi-regional (including multi-State), multi-industry focused on efficiency and profitability.
2.	**Regional**	Single region focus multi-industry.
3.	**Industry**	Single region or multi-region/State focused on one or two industries.
4.	**Community**	Single or multi-regional, multi-industry focused on development of employment pathways for disadvantaged labour force members.

Figure 14.1: The strategic dimension of business model choice

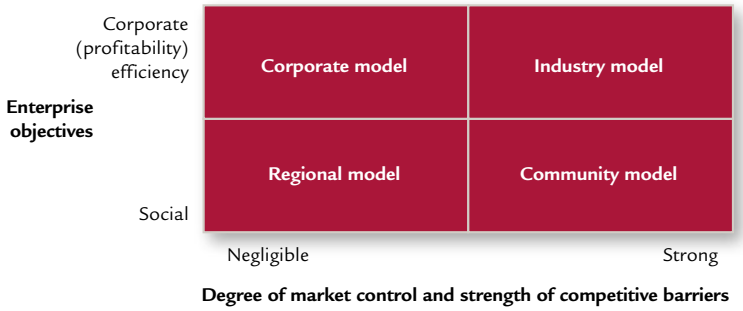
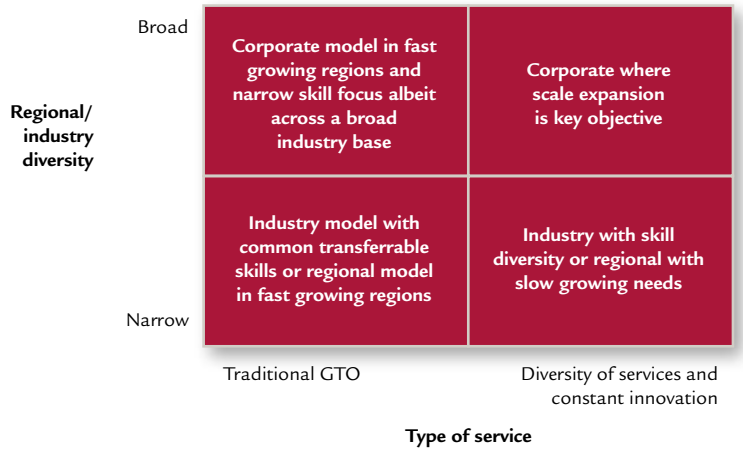


Figure 14.2: Operational requirements of operational model selection



Step two: Convert to an operational model type.

Commit to an operational model type which may involve strengthening an existing model or changing to a new business model or becoming more defined in terms of a given model type.

Step three: Understand the role of individual drivers in determining performance.

In terms of the operational model selected, understand the role of:

- scale;
- host employer characteristics;
- the market conditions (size/growth/unemployment); and
- own employee skill requirements

in driving productivity, profitability and client performance outcomes and optimise resource size and allocation across regions and industries to maximise performance.

Step four: Reduce costs by out-sourcing, off-shoring and collaborative ventures to fund expansion strategies of cost efficient (from customer perspective) expansion and investment in quality skills and service innovation.

Step five: Simultaneously with Steps one to four: participate in collaborative structures within the GTO industry to develop the quality skill formation that the industry will need for successful expansion.

14.3 Building a corporate business model

Evolution of the corporate business model within the group training industry has been a relatively recent development. As has been indicated in previous chapters, this model remains problematic: Becoming larger does not mean becoming more efficient; becoming more efficient can result in reduced effectiveness; expanding the geographic footprint of a GTO can reduce both efficiency and effectiveness, and diversifying to more industries can reduce efficiency. This report has found that the lack of suitably qualified staff is a significant constraint. It has found that organisations with a wider range of services can be more efficient. Development of a corporate business model is transforming the group training industry from its traditional community base.

Evolution of this business model will be driven by what the customers want but constrained by what the industry can deliver. Not all organisations pursuing this model are efficient or effective at present. It will need to be conceptualised in a clear and distinctive brand, driven by continuous improvement and measured by robust performance indicators.

One example of transformation in a service-based industry is the finance section. While this transformation has its shortcomings, it is based on: Driving down the cost of back-office services through technology, out-sourcing, off-shoring and other strategies while investing in front office staff and services intended to enhance the customer services offer and satisfaction. Things still go wrong with the front office and NIEIR is not suggesting group training consider off-shoring strategies, but it does appear that the general approach of looking to scale-up, share or otherwise improve the efficiency with which back office services are delivered has the best opportunity to meet host employer customer expectations for competitive costs. On the other hand, front office services (customer facing services) will be crucial to building ongoing relationship and fulfilling the service expectations of clients. In particular, the expectation that GTOs will understand their business and provide the range of services they need.

Like financial services, the traditional distinction between banking and investing (even superannuation and insurance) will disappear if customers are to be provided with the one-stop-shop that they appear to be looking for. This is not to say that group training services will disappear, but they will be offered as part of a package tailored to customer or industry needs for skills and workforce development. This proposal would therefore support the general move toward an integrated service offer that has been evident within group training for several years but is now being driven harder by larger national GTOs. The package of services will include services being provided by AACs and RTOs but is also likely to include labour hire and general recruitment services. However, like financial services, all GTOs won't necessarily need to be all the different elements of the service offer. They may simply be the packager and marketer of services for other organisations. Crucially however, the successful GTOs will hold the customer relationships.

Further development of the corporate business model does not mean other models will cease to exist. Industry-based and regionally based GTOs could adapt to this approach through partnerships or other relationships that allowed for shared back-office services with access to size, scale and technology that could keep costs down. They could share access to supplementary services that could complete their service offer to customers. They could share training and staff development opportunities. Group Training Australia could be either a catalyst or a provider of these shared services. The individual group training organisations would then focus on their front office services and building the team required to service their client base. Some organisations might focus on providing services to government (meeting policy needs) or services to host employers. Organisations might develop specialist programs to deliver policy outcomes government is seeking to purchase. This would send a clear message to government in terms of whether the resources provided to deliver those services were adequate or whether the government needed to increase its payments in order to achieve the results it is seeking.

The larger corporate entities would seek to deliver the whole package themselves by scaling up to become major national players in the area of skills formation and workforce development. Some GTOs are well on the way to achieving the scale required. However, they are still developing the staff, skills and infrastructure to deliver and many still struggle with the separate and existing brands of group training, labour hire, AAC etc. This is partly driven by government policy that requires clear separation between services provided by an AAC and services provided by a GTO. However, while there may be an argument for the regulatory function of an AAC to be independent, there is not the same argument for the service functions of an AAC.

The corporate model envisages GTOs forming a strong relationship with employers and industry groups to deliver workforce development services. To do this GTOs will require staff that are sufficiently skilled to work with HR Managers and CEOs offering packaged solutions rather than a set of separate and confusing services.

This model requires an up-skilling of GTOs; it will involve specialisation and the recruitment of higher level staff in key functional areas. Current field officers who primarily supervise apprentices and trainees would continue to be valuable members of the team but will need to develop a wider range of skills or most likely work with other professionals.

A key issue for the corporate model is that branding needs to be simpler. The main offer to employers is that these organisations are 'your partners in developing your skilled workforce'. Messaging is not the focus of this project however, the concept is that GTOs transform into a simple one-stop-shop offer to employers and industries to build competitive advantage through a skilled workforce. This does not mean abandoning the current offer of reducing complexity and maximising flexibility for employers; these features would be incorporated into a broader offer of workforce development solutions. GTOs would do both the thinking and the footwork to deliver solutions rather than just a product. Group training would be one item on a menu of workforce solutions. Marketing would become a specialist function with each organisation identifying opportunities based on those industries and businesses that needed assistance or support or could benefit from an outsourcing arrangement for skills development. Specialist marketers would identify gaps to target the skills development offer.

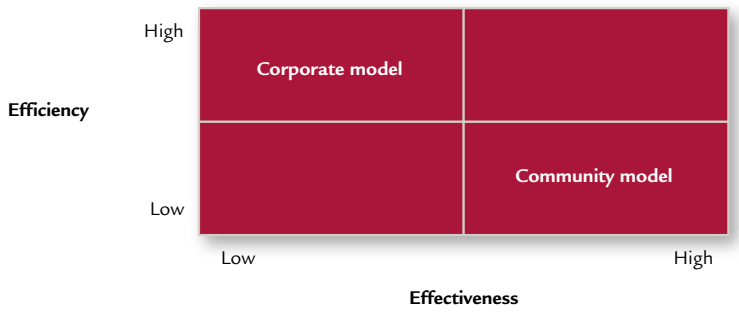
14.4 Performance measures to track and drive performance

This report has shown that there is a clear trade-off between basic measures of efficiency of operations (as measured by apprentices and trainees per FTE GTO staff) and effectiveness (as measured by apprentices and trainees completing their training programs). The report has also shown that 'one cap does not fit all' or there is no right and wrong answer. Different business and operational models will tolerate different trade-offs between efficiency and effectiveness. This can be illustrated by way of a two by two matrix that resembles but is not identical to Figure 14.1. The corporate model and the community model have a relatively clear sense of priorities (this is not to say the corporate model is not concerned about effectiveness or that the community sector is not concerned about efficiency). The industry and regional models tend to be less clearly defined.

How GTOs choose to position themselves within this matrix is a matter of judgement based on the mission and objectives of the individual organisation and the business or operational model selected. That is not a reason for failing to measure either efficiency or effectiveness.

As noted above, decisions on appropriate performance measures and the use of performance measures by an organisation need to be structured around the objectives of the organisations, the business model and the market in which the business operates. The measures cascade from these broad objectives and market decisions to specific, measurable indicators of performance. The following list builds on measures identified and used in this report. Numbers in brackets indicate optimal performance identified in this report. At a minimum, key high level measures would include: apprentices and trainees per FTE GTO staff; drop-out rate for apprentices and trainees; Gross Margin on operations, and; completion rates for apprentices and trainees.

Figure 14.3: Efficiency effectiveness trade-off for GTOs



PART E:
CONCLUSIONS, POLICY IMPLICATIONS AND RECOMMENDATIONS

E

1. General measures of efficiency
   - 1.1 Apprentices and trainees per FTE GTO staff (Mean 22; Max 47)
   - 1.2 Apprentices and trainees per host employer (Mean 2.4; Max 8)
   - 1.3 Field officer service time per apprentice or trainee
   - 1.4 Trainee and apprentice downtime
2. Measures of cost efficiency
   - 2.1 Revenue per apprentice and trainee
   - 2.2 Gross margin (revenue minus wages and statutory on-costs for apprentices and trainees) per apprentice and trainee
   - 2.3 Gross margin as a proportion of total revenue (25 per cent)
   - 2.4 Recruitment costs per apprentice and trainee
   - 2.5 Supervision costs per apprentice and trainee
   - 2.6 Back office/processing costs per apprentice or trainee
   - 2.7 Marketing costs per apprentice or trainee
3. Measures of staff efficiency
   - 3.1 Field officer supervision time as a proportion of total hours worked
   - 3.2 Active hosts (all hosts minus hosts without transaction for past 12 months)
   - 3.3 Revenue per host
4. Measures of market performance
   - 3.1 Regional markets
   - 3.1.1 Population
   - 3.1.2 Apprentices and trainees
     - 3.1.2.1 Resident apprentices (Mean 15,286; Max 46,336)
     - 3.1.2.2 Employed
   - 3.1.3 Workforce
   - 3.1.4 Resident apprentices in training per (15-44) population (Mean 22; Max 50)
   - 3.1.5 Apprentices and trainees (employed) as proportion of workforce
   - 3.1.6 Unemployment rate (Mean 6.7)
   - 3.1.7 GTO share of employed apprentices and trainees
   - 3.1.8 GTO share of resident apprentices and trainees
4. Industry markets (defined by ANZSIC Code)
   - 4.1 Industries served (1)
   - 4.2 Industry workforce
   - 4.3 Apprentices and trainees
   - 4.4 GTO share of apprentices and trainees
   - 4.5 Industry bodies (associations, unions, other organisations)
   - 4.6 Partnership agreements with industry bodies
5. Measures of effectiveness
   - 5.1 Average number of apprentices per year
   - 5.2 Average number of trainees per year
   - 5.3 Average number of apprentices and trainees in target group for labour equity programs (long-term unemployed, indigenous, people with disability, people from culturally and linguistically different background);
   - 5.4 Average number of apprentices and trainees from rural and remote areas.
   - 5.5 Proportion of apprentices and trainees who start with GTO and finish with GTO
     - 5.5.1 Proportion for labour market equity group apprentices and trainees
     - 5.5.2 Proportion for rural and remote apprentices and trainees
     - 5.5.3 Proportion for all apprentices and trainees (Mean 74; Max 99)
   - 5.6 Proportion of apprentices and trainees who leave GTO but intend to stay in training
     - 5.6.1 Proportion for labour market equity group apprentices and trainees
     - 5.6.2 Proportion for rural and remote apprentices and trainees
     - 5.6.3 Proportion for all apprentices and trainees
   - 5.7 Proportion of apprentices and trainees who discontinue training
     - 5.7.1 Proportion for labour market equity group apprentices and trainees
     - 5.7.2 Proportion for rural and remote apprentices and trainees
     - 5.7.3 Proportion for all apprentices and trainees.

In order to create an effective tool for working with government and to create effective and useful industry benchmarks, this data would need to be collected by individual GTOs and aggregated in an industry database. The industry database would create measures of best practice as well as average practice.

14.5 Public policy issues

This section will explore three key issues in relations between government and GTOs:

- Government objectives for GTOs;
- relationship with other initiatives such as AACs; and
- GTOs as a policy partner for government.

14.5.1 Government policy objectives for GTOs

This project has found that government is looking to GTOs as a tool for expanding the pool of apprentices and trainees beyond what it might otherwise be; in other words it expects GTOs to:

- attract people who may not otherwise be attracted to an apprenticeship or traineeship though marketing activities or making it more attractive to these people because of higher standards of supervision and pastoral care;
- provide access to apprenticeships and traineeships for people whose access may otherwise be impaired due to:
  - long-term unemployment;
  - disability;
  - culturally and linguistically diverse backgrounds; and
  - aboriginal background.

Government also expects GTOs to keep apprentices and trainees in employment when non-GTO employers are shedding employees due, for example, to economic downturn.

To achieve these outcomes, governments expect GTOs to work with higher costs due to:

- higher recruitment costs (identifying and encouraging candidates);
- higher levels of pastoral care and supervision;
- candidates are often less attractive to employers (higher placement costs); and
- apprentices and trainees who are more likely not to complete their training.

Government also expects GTOs to work with more costly employers such as SMEs who have:

- poorer understanding of HR issues and will require more supervision;
- fewer apprentices resulting in higher per person supervision costs;
- poorer OH&S standards resulting in higher insurance costs;
- poorer credit standing and more likely to be slow payers or default; and
- are more likely to return apprentices and trainees (higher rotation costs).

NIEIR has estimated that productivity is lower and completion rates are lower from running community model GTOs (closest to government expectations): For GTOs of the same scale and geographic structure, a focus on community objectives (labour market equity programs) can lower productivity by up to 25 per cent and lower completion rates by five to 10 per cent compared to GTOs with narrow commercial objectives.

Equally, there are currently strong incentives for GTOs to specialise in higher value sectors. Also in Chapter 9, NIEIR noted: For similar GTOs with the same geographical structure and same single industry focus, organisations that focus on traditional high value trade skills in construction and mining have higher productivity (between 15 and 30 per cent) and better completion rates (between 15 and 30 per cent) compared to GTOs that focus on lower skill service sectors (hospitality etc).

At present, government funding (principally through JGTP) accounts for less than five percent of revenue for GTOs – in some cases less than two percent. While it is an important source of revenue –

and vital for some of the smaller GTOs – many are moving to reduce their dependency on government support through diversification and a stronger focus on efficient multi-regional organisations. In other words, moving away from the service delivery model many government officials expect of GTOs. A substantial proportion of GTOs have been moving away from the traditional community GTO for some time. It would appear that the price paid by government for GTO services does not reward the additional costs involved and threats to this income stream from policy changes are two factors driving this change.

Over time, it is expected that these trends will continue as government continues to move away from 'funding' approaches to performance-based service delivery contracts; as officials who were involved in the development of group training move on and are replaced by people who see GTOs as deliverers of services, and; as group training organisations focus on business efficiency to sustain their financial viability in many cases at the expense of effectiveness in terms of services that deliver government policy outcomes. In other words, the relationship between government and GTOs is likely to become more transactional. In addressing this trend, the group training movement will need to develop a closer relationship between prices governments pay and services delivered.

Where there is a mismatch between supply and demand the answer will involve availability and price. In this case, it would seem there is a need to clearly define the products being sought by government and the cost of providing those services. Government is seeking a differentiated or specific group training service. This needs to be defined and the additional cost of providing this tailored service clarified. Most group training organisations do not appear to have the ability to cost the provision of labour market services to marginalised job seekers or other government target groups. Hence, a number of measures have been built into the performance measures outlined in the previous chapter. These measures will allow GTOs and GTA to understand the additional costs involved in meeting government demand. This may mean less funding for general group training but should mean more funding for specific services.

GTA needs to develop a very clear understanding of the additional cost of meeting government service expectations; it needs to negotiate a fair price for these services. GTOs will then have the choice as to whether they wish to build their business around providing this service or pursue an approach that does not seek to offer specific services to government. The first part of developing this understanding is to implement the performance measurement and benchmarking process outlined in the previous chapter. The second part is to negotiate service agreements with government for the provision of tailored services.

14.5.2 Relationships with AACs

The Federal Government has an alternative delivery mechanism for basic services provided to employers by GTOs. AACs have two key functions; a quasi-regulatory function to register training contracts and assess, approve and process incentives to employers and benefits to apprentices and, a business support function designed to market apprenticeships and assist employers to employ apprentices. The second covers part of the service that is also provided by GTOs. In the case of GTOs it is a fee for service function and, in the case of AACs it is a free service funded by taxpayers. GTOs report that recent changes in contractual arrangements between the Federal Government and AACs place increasing emphasis on employer support and support for apprentices bringing them closer to the services offered by GTOs. As noted already in this report, GTOs are concerned about a growing encroachment of AACs into GTO services.

For employers an AAC is a free service. Where common services are offered it is not on the basis of competitive neutrality because the AAC service is paid for by government. There would be a strong argument for GTOs that the business support services provided by AACs should be on the basis of competitive neutrality. This could be through GTOs having access to the same financial support AACs receive for providing this service or by AACs being required to charge for business advisory services.

Either approach would remove the current benefit the government funded service delivery operators (AACs) receive over the private sector provider of these services. Either way this would resolve a major concern GTOs have about substitutes entering their market with an unfair advantage. Equally, governments should be cautious about funding other entities such as TAFEs and educational organisations to provide services normally undertaken by GTOs due to risks being in conflict with COAG agreements on competitive neutrality.

14.5.3 GTOs as policy partners for government

While relations between GTOs, their association Group Training Australia (and various state bodies) and government officials is generally good and productive, a number of government officials expressed frustration that GTOs were not engaging constructively in the development of new policy approaches such as competency-based training and social equity programs. To a large extent this reflects GTA doing its job of protecting and promoting the interests of members. However officials felt the relationship could be more productive and valuable as a partnership to develop and pilot initiatives rather than the traditional relationship between lobbyists and government officials. Senior government officials are looking to group training organisations and their association to come to government with solutions to policy dilemmas rather than waiting for government to propose solutions and then being critical or supportive.

The proposal is for a subtle change of emphasis from group training; in understanding the issues government is grappling with and how GTOs can help solve those issues or work through to find the most appropriate solution. For example, one government official expressed appreciation for the way group training had identified the need to develop new green skills and some group training organisations had taken the lead in this area. It does not necessarily mean the individual GTO will be able to monopolise that policy solution but it does allow group training to position itself within government as an innovative group of organisations and it means GTOs are part of developing the solution rather than passively waiting for the answer and then queuing up for a share. Along the way it generates income for group training organisations for developing and piloting options and it ensures that group training remains a central part of government approaches rather than being marginalised as just another service provider.

14.5.4 Developing the market for apprentices and trainees

This report has highlighted a number of difficulties with expanding the supply of candidates for apprenticeships and traineeships. Some are related to the GTO business model and the ability of GTOs to respond to market changes but some are clearly related to the market or supply side availability of suitable candidates. A number of GTOs have pointed out that the emphasis of government policies on growing supply per se could result in resources being wasted by pushing people who may not be suited to skilled trades into apprenticeships and traineeships. With a raft of policy documents currently in the public domain, it is important there is a clear understanding of supply side constraints on building a skilled workforce. Pushing the wrong people into skilled jobs will waste government resources, GTO resources and ultimately the resources of employers who may then give-up on participation in training programs. GTOs are best placed to partner with government to ensure there is quality as well as quantity of supply.

14.6 Recommendations to Group Training Australia

After 12 months of research, NIEIR developed a view on a range of issues and opportunities for Group Training Australia (and the various state associations) to assist the group training movement transition to stronger business models that will allow GTOs to adapt to changing requirements and expectations.

This report provides an important start in terms of understanding where group training is effective and where it is less effective; the strengths and weaknesses and the relationship of group training to general market conditions at a point in time and in a region.

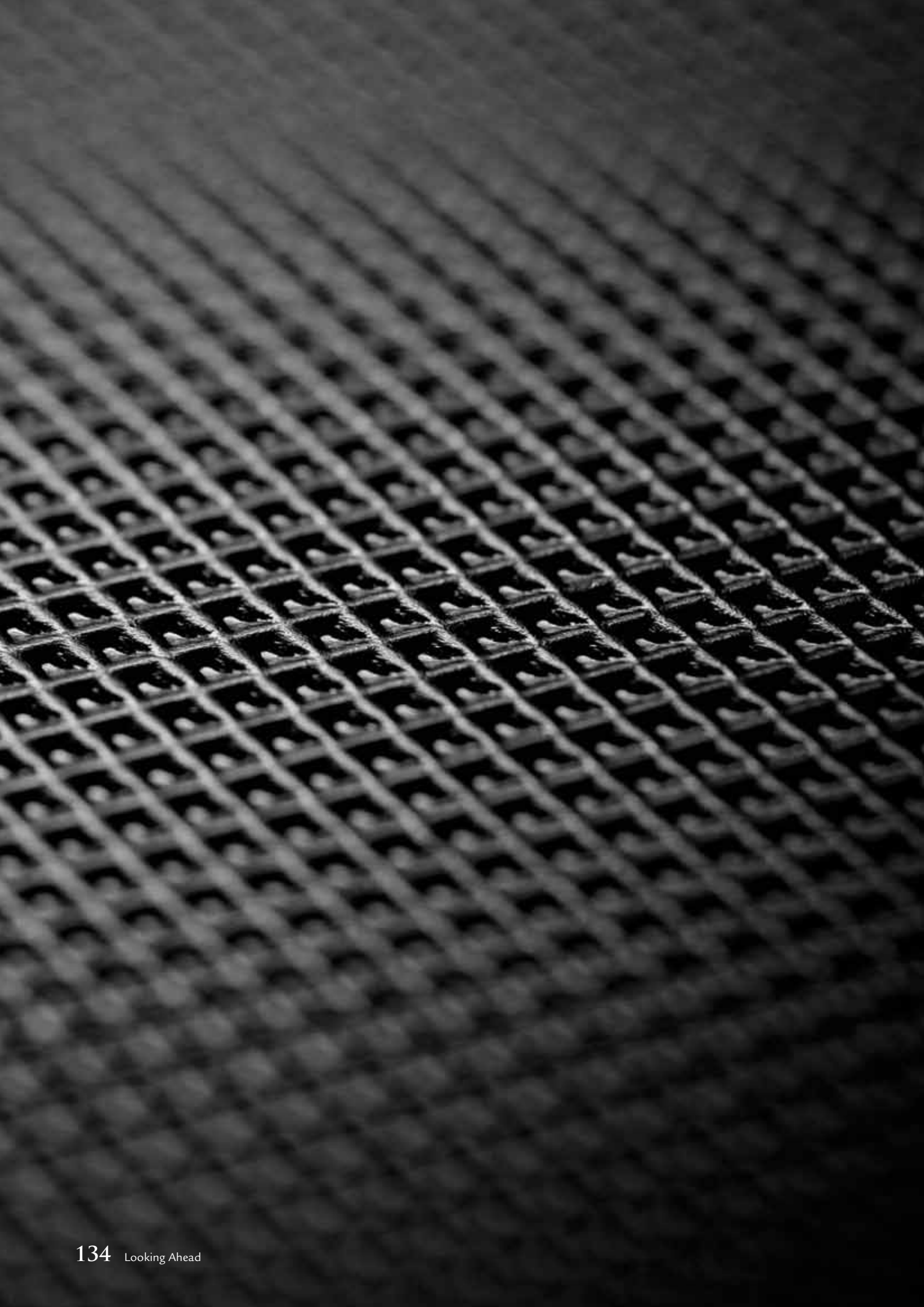
GTA will need to be able to offer sophisticated market advice to members and it will need to support members making a transition to new and different business models; it will need to have different conversations with government.

Group training itself will transition over the coming years. Indeed this report expects a transition to fewer pure group training organisations and a predominance of integrated services delivery organisations providing workplace development solutions to business.

To continue to be effective, GTA will need to transition itself in line with changes in the industry it serves and look to take on a broader representative role for organisations operating in the workforce development and training area.

Specific initiatives for this project include the following.

1. Promote clarity of thinking about different business models and organisational models for group training that will allow GTOs to think through their business strategy and where they wish to be positioned in the market for training services.
2. Develop a capacity to support aggregation of back-office services through a range of measures (mergers, acquisitions, partnerships, alliances, clustering) that best fit the needs of individual GTOs (there is evidence of this already taking place).
3. Develop a market intelligence capacity and tool for GTOs to understand regional issues and opportunities as well as individual industry issues and opportunities (areas where GTO model will be strong and not strong).
4. Develop a new and more holistic approach to branding group training that covers the range of workforce development opportunities GTOs engage in now and will continue to develop in the future (rather than just group training).
5. Promote opportunities for new services that complement traditional services as discussed in Chapter 4 of the National Workforce Development Strategy Report.
6. Encourage GTOs wishing to investigate and understand the implications of different combinations of service delivery and the value creation opportunities of each (AACs, RTOs etc.).
7. Encourage specialisation within an industry where possible with a clear recognition of risks and rewards of each (encourage partnerships with industry associations where appropriate).
8. Continue to build a workforce development capacity for group training through skills development for traditional roles and model job descriptions and skill requirements for new and emerging roles in more diversified organisations.
9. Implement a program to spread collection of data on standard performance measures within GTOs and collation of this data by GTA to support benchmarking and negotiation with government (strong model of costs and pricing).
10. Negotiate with government a pricing structure for the services they are seeking from GTOs based on additional costs and opportunities lost through delivering high cost services in response to government demand.
11. Pursue competitive neutrality with AACs and other government supported organisations for the delivery of the same or like services.
12. Strengthen the policy and innovation capacity of GTA to lead discussion with government and development of new services that meet government objectives.
13. Examine the implications for GTA of GTOs moving from group training providers to integrated workforce development providers (internal resources, structure, branding, fees and costs).



LOOKING AHEAD

THE FUTURE FOR GROUP TRAINING
AN ECONOMIC AND INDUSTRY ANALYSIS

APPENDICES

APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR 136

Apprentices in training: Australia 137
Australia: Other 142
Australia: All 147
New South Wales: Apprentices 152
New South Wales: Other 157
New South Wales: All 162
Victoria: Apprentices 167
Victoria: Other 172
Victoria: All 177
Queensland: Apprentices 182
Queensland: Other 187
Queensland: All 192
South Australia: Apprentices 197
South Australia: Other 202
South Australia: All 207
Western Australia: Apprentices 212
Western Australia: Other 217
Western Australia: All 222
Tasmania: Apprentices 227
Tasmania: Other 232
Tasmania: All 237
Northern Territory: Apprentices 242
Northern Territory: Other 247
Northern Territory: All 252
Australian Capital Territory: Apprentices 257
Australian Capital Territory: Other 262
Australian Capital Territory: All 267

APPENDIX 2: COMPARISON OF PEERS 272

APPENDIX 3: PEER ANALYSIS 274

APPENDIX 4: SCENARIO DESCRIPTION 293

A4.1 Post the GFC: The drivers of growth and the world economy 293
A4.2 The factors which will dominate a post-GFC world, both in Australia and the rest of the world 293
A4.3 Lower overall world growth 293
A4.4 There will be an acceleration in the shift of economic power between countries and regions 293
A4.5 Public borrowing constraints to growth 294
A4.6 Climate change and carbon pricing 297
A4.7 Post GFC scenarios – the range of possibilities 299
A4.8 The Base scenario for the world economy 301
A4.9 The alternative world scenario 303
A4.10 The characteristics of the Low scenario 303
A4.11 The characteristics of the High scenario 303
A4.12 The outlook for the national economy 303
A4.13 The strategic factors 304
A4.14 Techniques for handling uncertainty 309

APPENDIX 5: MARKET FOR APPRENTICES BY INDUSTRY AND REGION 312

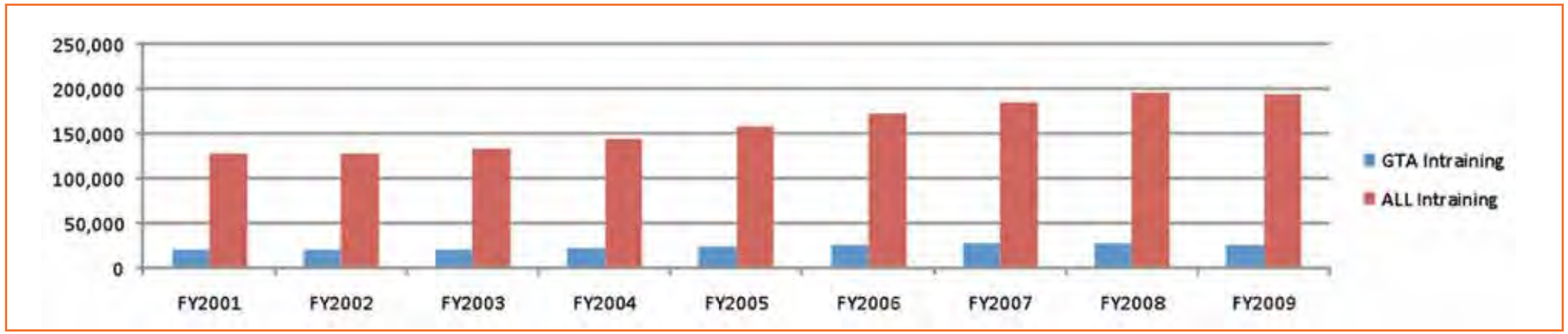
APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING BY REGION – 2010–2020 369

APPENDIX 7: INDEX OF LOCALITIES AND REGION MEMBERSHIP 434

A7.1 Index of localities 434
A7.2 Index of region membership 443

APPRENTICES IN TRAINING: AUSTRALIA

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	21,750	21,151	21,308	22,916	25,045	26,818	27,739	28,047	**26,108**
ALL Intraining	127,257	128,097	133,994	143,574	158,302	173,202	184,652	196,017	**194,545**
GTA Commenced	7,242	8,205	9,210	10,656	10,999	10,907	11,357	11,739	**8,177**
ALL Commenced	45,838	49,431	55,243	64,763	68,740	72,035	76,665	83,475	**66,549**
GTA Completed	4,415	4,491	4,700	4,815	4,177	4,847	5,621	6,171	**6,313**
ALL Completed	24,798	25,979	28,429	29,142	27,673	30,563	34,771	39,187	**42,012**



APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

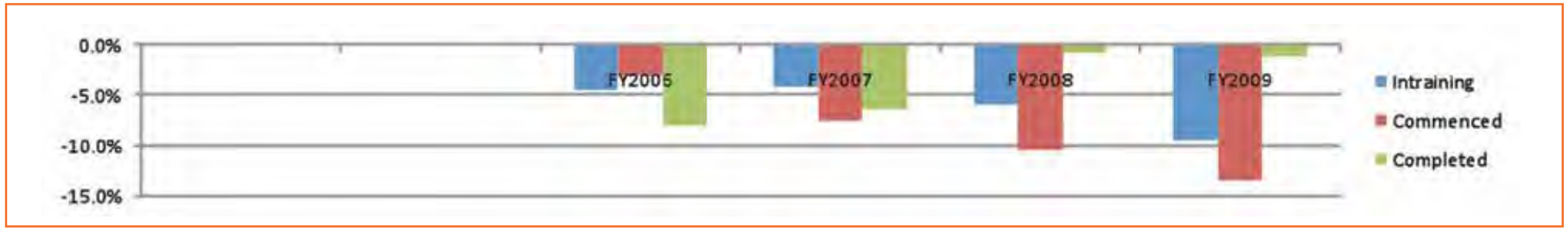
1

APPRENTICES IN TRAINING: AUSTRALIA (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	16.5%	21.8%	19.3%	**9.5%**
ALL Intraining	22.0%	27.2%	27.1%	**21.1%**
GTA Commenced	32.1%	18.5%	10.2%	**-4.0%**
ALL Commenced	36.6%	28.3%	23.0%	**10.3%**
GTA Completed	1.7%	4.6%	21.5%	**30.8%**
ALL Completed	10.3%	11.3%	22.6%	**32.7%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	17.1%	16.5%	15.9%	16.0%	15.8%	15.5%	15.0%	14.3%	**13.4%**
Commenced	15.8%	16.6%	16.7%	16.5%	16.0%	15.1%	14.8%	14.1%	**12.3%**
Completed	17.8%	17.3%	16.5%	16.5%	15.1%	15.9%	16.2%	15.7%	**15.0%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	-4.5%	-4.2%	-6.0%	**-9.6%**
Commenced	-3.0%	-7.6%	-10.4%	**-13.5%**
Completed	-8.0%	-6.4%	-0.8%	**-1.1%**



APPRENTICES IN TRAINING: AUSTRALIA (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	12.6%	12.1%	12.0%	12.4%	12.7%	12.8%	12.6%	12.0%	**11.3%**
Mining (B)	16.5%	16.1%	15.5%	15.9%	16.1%	16.1%	15.9%	15.2%	**14.4%**
Manufacturing (C)	14.1%	13.6%	13.1%	13.3%	13.3%	13.3%	12.9%	12.2%	**11.5%**
Electricity, Gas, Water and Waste Services (D)	20.0%	19.5%	18.5%	18.2%	17.6%	17.1%	16.5%	15.8%	**15.1%**
Construction (E)	21.8%	21.0%	19.9%	19.6%	19.2%	18.5%	17.8%	16.8%	**15.6%**
Wholesale Trade (F)	16.5%	16.0%	15.5%	15.5%	15.3%	15.0%	14.5%	13.8%	**13.0%**
Retail Trade (G)	15.8%	15.3%	15.0%	14.9%	14.4%	14.0%	13.3%	12.5%	**11.5%**
Accommodation (H)	15.3%	14.8%	14.7%	14.3%	13.2%	12.2%	11.0%	9.4%	**7.9%**
Transport, Postal and Warehousing (I)	17.3%	16.8%	16.2%	16.5%	16.5%	16.4%	16.0%	15.3%	**14.8%**
Information Media and Telecommunication (J)	16.7%	16.2%	15.3%	14.9%	14.5%	14.3%	14.0%	13.6%	**13.0%**
Financial and Insurance Services (K)	16.6%	16.0%	15.5%	15.5%	15.3%	15.1%	14.6%	14.0%	**13.3%**
Rental, Hiring and Real Estate Services (L)	16.4%	15.9%	15.4%	15.7%	15.7%	15.5%	15.2%	14.5%	**13.8%**
Professional, Scientific and Technical Services (M)	17.9%	17.3%	16.5%	16.4%	16.3%	16.0%	15.5%	14.8%	**14.0%**
Administrative and Support Services (N)	15.2%	14.5%	14.2%	14.4%	14.8%	14.8%	14.5%	13.9%	**12.9%**
Public Administration and Safety (O)	11.9%	11.5%	11.2%	11.4%	11.5%	11.4%	11.2%	10.8%	**10.2%**
Education and Training (P)	15.9%	15.4%	14.9%	15.0%	14.8%	14.5%	14.0%	13.2%	**12.2%**
Health Care and Social Assistance (Q)	13.3%	12.9%	12.7%	12.5%	12.0%	11.5%	10.8%	9.9%	**8.9%**
Arts and Recreation Services (R)	12.3%	11.8%	11.6%	11.6%	11.8%	11.8%	11.6%	11.1%	**10.4%**
Other Services (S)	15.6%	15.1%	14.6%	14.9%	15.0%	14.9%	14.7%	14.4%	**14.1%**

APPENDICES

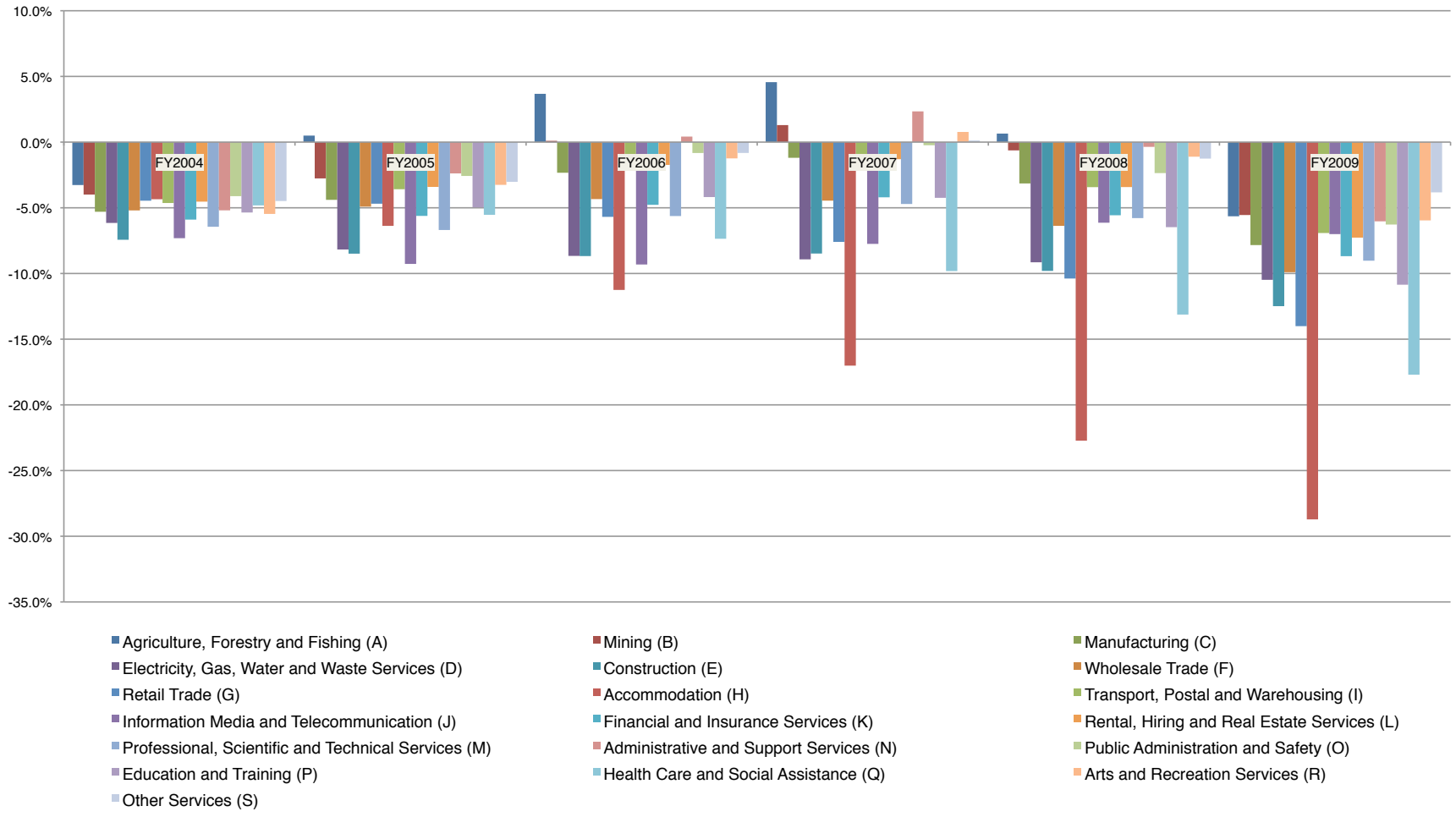
APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

APPRENTICES IN TRAINING: AUSTRALIA (continued)

GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	-3.3%	0.5%	3.7%	4.6%	0.6%	**-5.6%**
Mining (B)	-4.0%	-2.8%	0.1%	1.3%	-0.6%	**-5.5%**
Manufacturing (C)	-5.3%	-4.4%	-2.3%	-1.2%	-3.1%	**-7.8%**
Electricity, Gas, Water and Waste Services (D)	-6.2%	-8.2%	-8.7%	-8.9%	-9.1%	**-10.5%**
Construction (E)	-7.4%	-8.5%	-8.7%	-8.5%	-9.8%	**-12.5%**
Wholesale Trade (F)	-5.2%	-4.9%	-4.3%	-4.5%	-6.4%	**-9.9%**
Retail Trade (G)	-4.5%	-4.7%	-5.7%	-7.6%	-10.4%	**-14.0%**
Accommodation (H)	-4.3%	-6.4%	-11.3%	-17.0%	-22.7%	**-28.7%**
Transport, Postal and Warehousing (I)	-4.6%	-3.6%	-1.8%	-1.3%	-3.4%	**-6.9%**
Information Media and Telecommunication (J)	-7.3%	-9.3%	-9.3%	-7.7%	-6.1%	**-7.0%**
Financial and Insurance Services (K)	-5.9%	-5.6%	-4.8%	-4.2%	-5.6%	**-8.7%**
Rental, Hiring and Real Estate Services (L)	-4.5%	-3.4%	-1.7%	-1.3%	-3.4%	**-7.3%**
Professional, Scientific and Technical Services (M)	-6.4%	-6.7%	-5.6%	-4.7%	-5.8%	**-9.0%**
Administrative and Support Services (N)	-5.2%	-2.4%	0.4%	2.3%	-0.4%	**-6.0%**
Public Administration and Safety (O)	-4.1%	-2.6%	-0.8%	-0.2%	-2.4%	**-6.3%**
Education and Training (P)	-5.4%	-5.0%	-4.2%	-4.2%	-6.5%	**-10.9%**
Health Care and Social Assistance (Q)	-4.8%	-5.5%	-7.4%	-9.8%	-13.1%	**-17.7%**
Arts and Recreation Services (R)	-5.5%	-3.3%	-1.2%	0.8%	-1.1%	**-6.0%**
Other Services (S)	-4.5%	-3.0%	-0.8%	0.1%	-1.3%	**-3.8%**

APPRENTICES IN TRAINING: AUSTRALIA (continued)



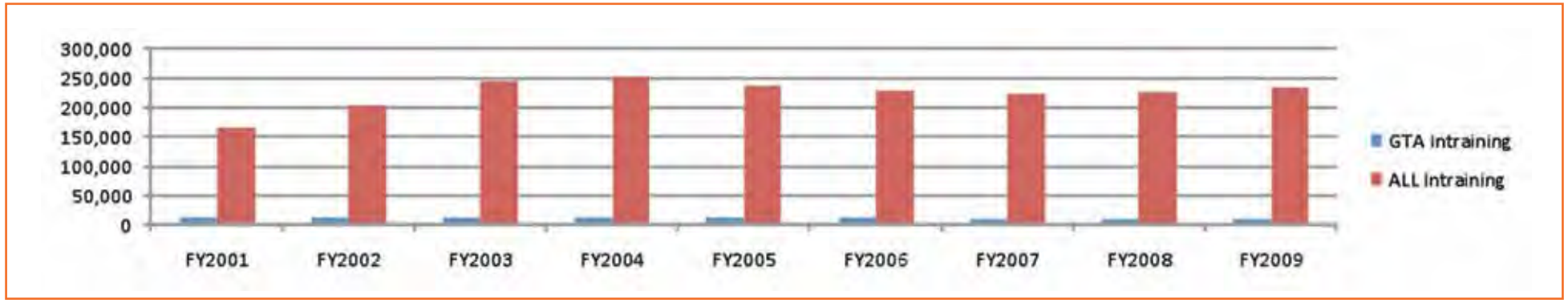
APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

AUSTRALIA: OTHER

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	13,769	13,715	13,377	13,051	12,270	11,613	11,066	10,599	**9,598**
ALL Intraining	166,164	202,940	244,501	254,307	237,975	227,953	223,087	225,799	**233,111**
GTA Commenced	15,324	15,615	15,168	14,262	13,507	12,312	12,278	11,375	**9,889**
ALL Commenced	169,436	194,869	232,789	189,908	192,101	193,710	194,813	205,627	**202,628**
GTA Completed	8,955	8,614	8,273	7,925	7,805	7,423	7,020	6,609	**6,752**
ALL Completed	60,843	79,497	92,823	104,598	108,723	108,792	109,119	109,247	**114,107**

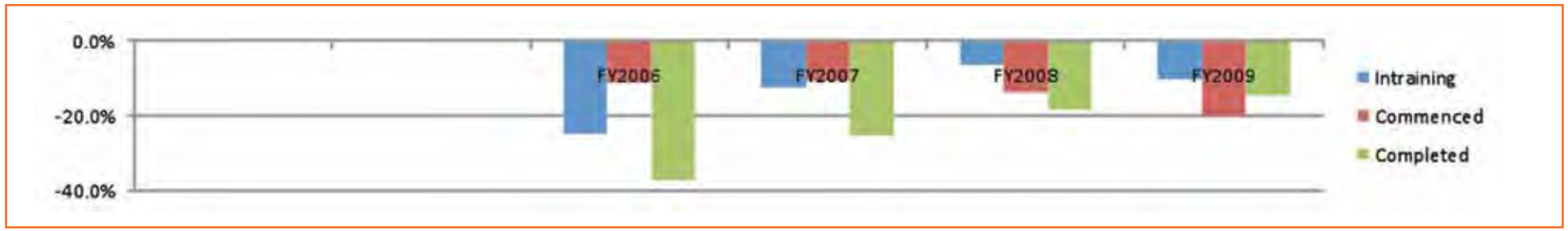


AUSTRALIA: OTHER (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	-9.6%	-12.9%	-14.0%	**-15.4%**
ALL Intraining	17.4%	-1.8%	-8.1%	**-5.3%**
GTA Commenced	-13.1%	-15.4%	-16.2%	**-16.3%**
ALL Commenced	-3.6%	-6.0%	-3.4%	**4.8%**
GTA Completed	-10.4%	-10.3%	-12.3%	**-12.0%**
ALL Completed	38.1%	18.0%	6.9%	**3.2%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	8.3%	6.8%	5.5%	5.1%	5.2%	5.1%	5.0%	4.7%	**4.1%**
Commenced	9.0%	8.0%	6.5%	7.5%	7.0%	6.4%	6.3%	5.5%	**4.9%**
Completed	14.7%	10.8%	8.9%	7.6%	7.2%	6.8%	6.4%	6.0%	**5.9%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	-25.0%	-12.4%	-6.4%	**-10.5%**
Commenced	-11.4%	-10.7%	-13.6%	**-20.0%**
Completed	-37.4%	-25.2%	-18.4%	**-14.7%**



APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

AUSTRALIA: OTHER (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	12.4%	10.4%	9.1%	9.4%	9.4%	7.6%	6.4%	5.8%	**5.4%**
Mining (B)	9.0%	7.2%	5.9%	5.9%	6.1%	6.3%	6.7%	6.3%	**5.8%**
Manufacturing (C)	6.9%	5.6%	4.6%	4.2%	3.8%	4.0%	4.3%	4.4%	**4.1%**
Electricity, Gas, Water and Waste Services (D)	9.2%	7.5%	6.1%	5.7%	5.9%	6.3%	6.3%	5.9%	**5.6%**
Construction (E)	15.9%	12.6%	10.1%	10.0%	10.4%	10.4%	10.3%	9.6%	**8.5%**
Wholesale Trade (F)	5.6%	4.6%	3.7%	3.4%	3.6%	3.6%	3.5%	3.5%	**3.2%**
Retail Trade (G)	6.0%	5.0%	4.2%	3.6%	3.5%	3.4%	3.3%	2.9%	**2.5%**
Accommodation (H)	8.9%	7.3%	6.1%	5.7%	5.6%	5.1%	4.5%	3.8%	**3.1%**
Transport, Postal and Warehousing (I)	3.6%	2.9%	2.5%	2.4%	2.6%	2.8%	2.7%	2.8%	**2.5%**
Information Media and Telecommunication (J)	7.7%	6.3%	5.0%	4.6%	4.7%	4.8%	4.8%	4.5%	**4.1%**
Financial and Insurance Services (K)	9.7%	7.9%	6.0%	5.4%	5.8%	5.8%	5.6%	5.1%	**4.4%**
Rental, Hiring and Real Estate Services (L)	8.2%	6.7%	5.1%	4.3%	4.1%	4.0%	4.0%	3.6%	**2.9%**
Professional, Scientific and Technical Services (M)	10.4%	8.4%	6.7%	6.1%	6.1%	5.9%	5.3%	5.0%	**4.7%**
Administrative and Support Services (N)	7.5%	6.1%	5.1%	4.9%	4.7%	4.4%	4.1%	3.9%	**3.5%**
Public Administration and Safety (O)	10.4%	8.4%	6.7%	6.5%	6.6%	7.0%	6.9%	6.6%	**5.9%**
Education and Training (P)	12.2%	9.9%	7.7%	7.2%	7.3%	6.9%	6.4%	5.6%	**4.5%**
Health Care and Social Assistance (Q)	10.3%	8.3%	6.5%	6.0%	6.0%	5.5%	5.0%	4.3%	**3.5%**
Arts and Recreation Services (R)	9.2%	7.4%	6.0%	6.1%	6.1%	5.8%	5.4%	4.9%	**4.2%**
Other Services (S)	9.2%	7.6%	6.1%	5.5%	5.1%	5.2%	5.2%	5.2%	**4.6%**

AUSTRALIA: OTHER (continued)

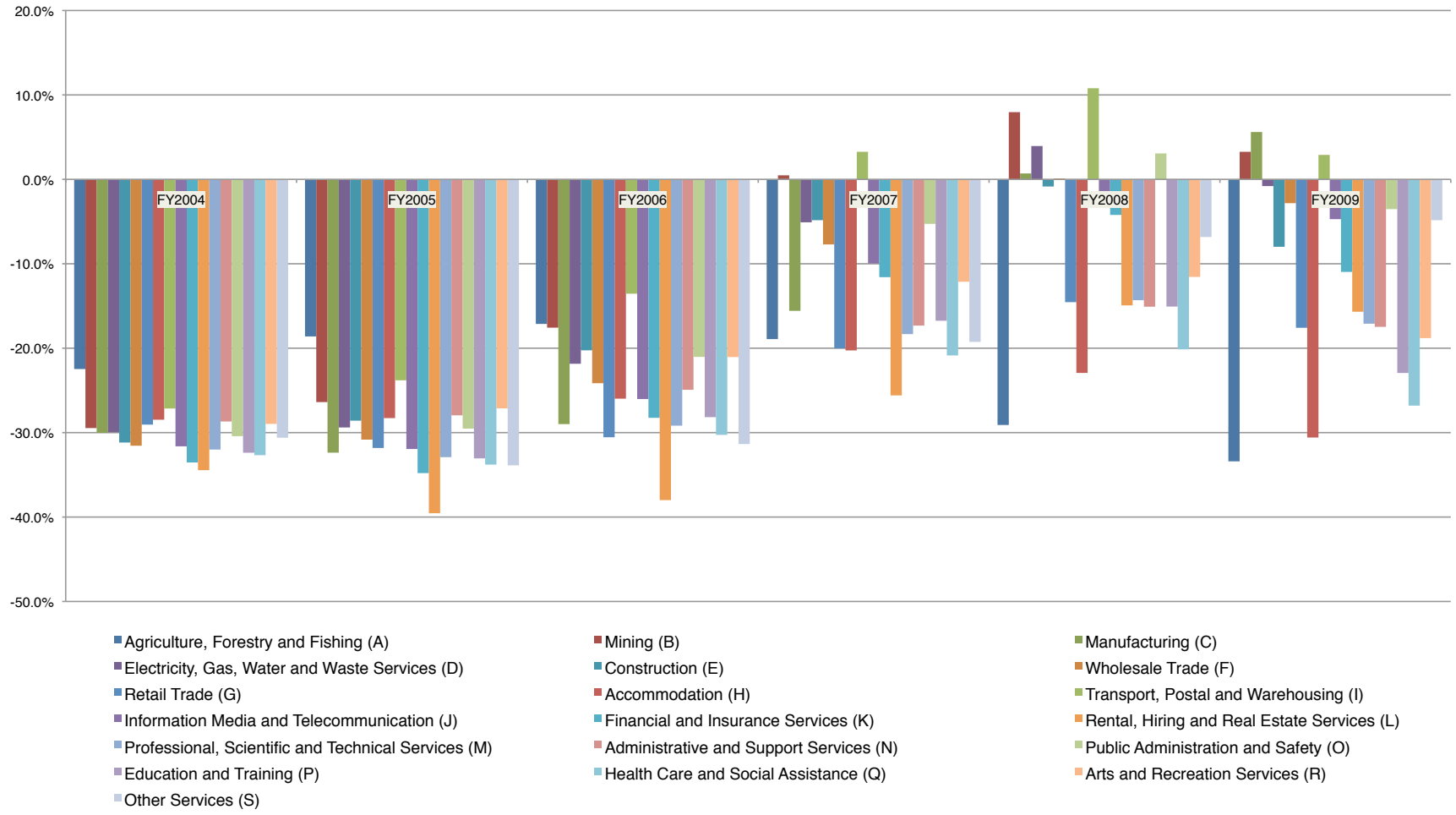
GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	-22.5%	-18.6%	-17.1%	-18.9%	-29.1%	**-33.4%**
Mining (B)	-29.5%	-26.4%	-17.6%	0.5%	8.0%	**3.3%**
Manufacturing (C)	-30.0%	-32.4%	-29.0%	-15.6%	0.7%	**5.6%**
Electricity, Gas, Water and Waste Services (D)	-29.9%	-29.4%	-21.8%	-5.1%	3.9%	**-0.8%**
Construction (E)	-31.2%	-28.6%	-20.3%	-4.8%	-0.8%	**-8.0%**
Wholesale Trade (F)	-31.6%	-30.8%	-24.1%	-7.7%	0.1%	**-2.8%**
Retail Trade (G)	-29.1%	-31.8%	-30.5%	-20.0%	-14.5%	**-17.6%**
Accommodation (H)	-28.5%	-28.3%	-26.0%	-20.3%	-22.9%	**-30.6%**
Transport, Postal and Warehousing (I)	-27.1%	-23.8%	-13.5%	3.3%	10.8%	**2.9%**
Information Media and Telecommunication (J)	-31.6%	-31.9%	-26.0%	-10.0%	-1.5%	**-4.7%**
Financial and Insurance Services (K)	-33.5%	-34.8%	-28.2%	-11.6%	-4.2%	**-11.0%**
Rental, Hiring and Real Estate Services (L)	-34.4%	-39.5%	-38.0%	-25.6%	-14.9%	**-15.7%**
Professional, Scientific and Technical Services (M)	-32.0%	-32.9%	-29.2%	-18.3%	-14.3%	**-17.1%**
Administrative and Support Services (N)	-28.7%	-28.0%	-24.9%	-17.3%	-15.1%	**-17.5%**
Public Administration and Safety (O)	-30.4%	-29.5%	-21.0%	-5.3%	3.1%	**-3.5%**
Education and Training (P)	-32.4%	-33.1%	-28.2%	-16.7%	-15.1%	**-22.9%**
Health Care and Social Assistance (Q)	-32.7%	-33.8%	-30.3%	-20.9%	-20.1%	**-26.8%**
Arts and Recreation Services (R)	-29.0%	-27.1%	-21.0%	-12.1%	-11.6%	**-18.8%**
Other Services (S)	-30.6%	-33.9%	-31.4%	-19.3%	-6.8%	**-4.8%**

APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

AUSTRALIA: OTHER (continued)

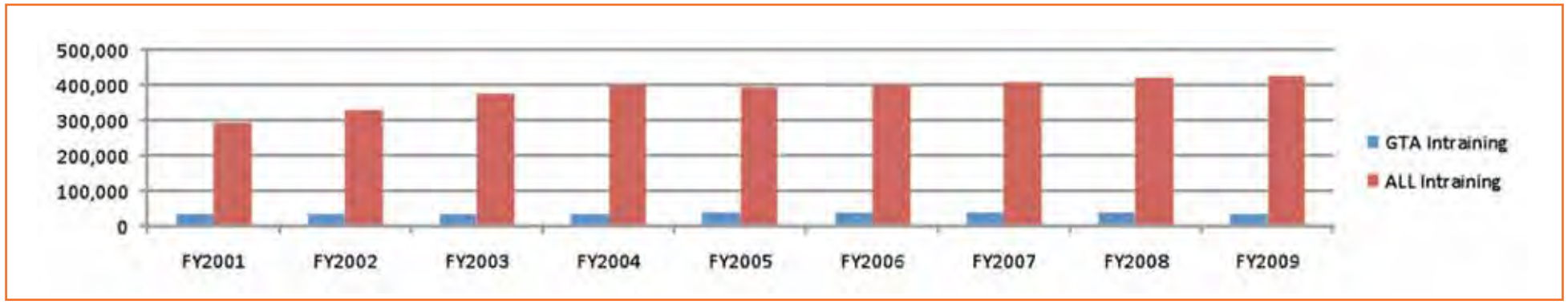


APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

AUSTRALIA: ALL

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	35,519	34,865	34,685	35,967	37,314	38,431	38,805	38,646	**35,706**
ALL Intraining	293,421	331,037	378,495	397,880	396,277	401,155	407,739	421,816	**427,655**
GTA Commenced	22,566	23,820	24,378	24,918	24,506	23,219	23,635	23,114	**18,066**
ALL Commenced	215,274	244,300	288,032	254,671	260,841	265,745	271,478	289,102	**269,177**
GTA Completed	13,370	13,105	12,973	12,740	11,982	12,270	12,641	12,780	**13,066**
ALL Completed	85,641	105,476	121,252	133,740	136,396	139,355	143,890	148,434	**156,119**



APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

AUSTRALIA: ALL (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	6.3%	8.6%	7.3%	**1.3%**
ALL Intraining	19.2%	8.8%	5.0%	**5.2%**
GTA Commenced	2.7%	-2.4%	-5.2%	**-10.8%**
ALL Commenced	4.5%	1.4%	2.8%	**6.2%**
GTA Completed	-6.2%	-5.0%	0.0%	**4.0%**
ALL Completed	31.1%	16.4%	10.3%	**9.5%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	12.1%	10.5%	9.2%	9.0%	9.4%	9.6%	9.5%	9.2%	**8.3%**
Commenced	10.5%	9.8%	8.5%	9.8%	9.4%	8.7%	8.7%	8.0%	**6.7%**
Completed	15.6%	12.4%	10.7%	9.5%	8.8%	8.8%	8.8%	8.6%	**8.4%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	-11.8%	-0.8%	2.3%	**-3.6%**
Commenced	-2.7%	-4.1%	-8.0%	**-16.1%**
Completed	-30.0%	-19.2%	-9.7%	**-5.0%**

AUSTRALIA: ALL (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	12.5%	10.8%	9.7%	10.1%	10.2%	8.9%	8.1%	7.6%	**7.2%**
Mining (B)	13.3%	11.9%	10.6%	10.9%	11.6%	12.0%	12.3%	11.7%	**10.9%**
Manufacturing (C)	10.6%	9.4%	8.3%	8.2%	8.2%	8.6%	8.9%	8.8%	**8.4%**
Electricity, Gas, Water and Waste Services (D)	15.7%	14.2%	12.5%	12.3%	12.7%	13.1%	12.9%	12.4%	**11.6%**
Construction (E)	20.6%	19.1%	17.4%	17.2%	17.3%	16.8%	16.2%	15.3%	**14.1%**
Wholesale Trade (F)	7.9%	6.5%	5.4%	5.3%	5.8%	6.1%	6.1%	6.0%	**5.7%**
Retail Trade (G)	8.6%	7.4%	6.4%	6.0%	6.2%	6.2%	6.1%	5.7%	**5.0%**
Accommodation (H)	10.6%	9.1%	7.9%	7.6%	7.3%	6.8%	6.1%	5.2%	**4.3%**
Transport, Postal and Warehousing (I)	5.9%	4.9%	4.2%	4.4%	5.0%	5.5%	5.7%	5.8%	**5.4%**
Information Media and Telecommunication (J)	12.0%	10.5%	9.0%	8.6%	9.1%	9.5%	9.6%	9.3%	**8.6%**
Financial and Insurance Services (K)	10.0%	8.1%	6.3%	5.7%	6.0%	6.1%	5.9%	5.5%	**4.7%**
Rental, Hiring and Real Estate Services (L)	9.7%	8.1%	6.4%	5.8%	5.7%	5.7%	5.8%	5.4%	**4.5%**
Professional, Scientific and Technical Services (M)	12.3%	10.3%	8.5%	8.1%	8.4%	8.4%	7.9%	7.4%	**6.6%**
Administrative and Support Services (N)	9.6%	8.0%	7.0%	6.8%	7.1%	7.1%	7.0%	6.8%	**6.3%**
Public Administration and Safety (O)	10.9%	9.3%	7.9%	7.8%	8.0%	8.3%	8.3%	8.0%	**7.3%**
Education and Training (P)	12.7%	10.5%	8.4%	8.0%	8.2%	7.9%	7.4%	6.7%	**5.5%**
Health Care and Social Assistance (Q)	10.7%	8.8%	7.1%	6.6%	6.6%	6.2%	5.7%	4.9%	**4.1%**
Arts and Recreation Services (R)	10.2%	8.6%	7.4%	7.4%	7.5%	7.4%	7.1%	6.7%	**6.0%**
Other Services (S)	14.1%	13.1%	12.1%	12.1%	12.2%	12.3%	12.3%	12.1%	**11.8%**

APPENDICES

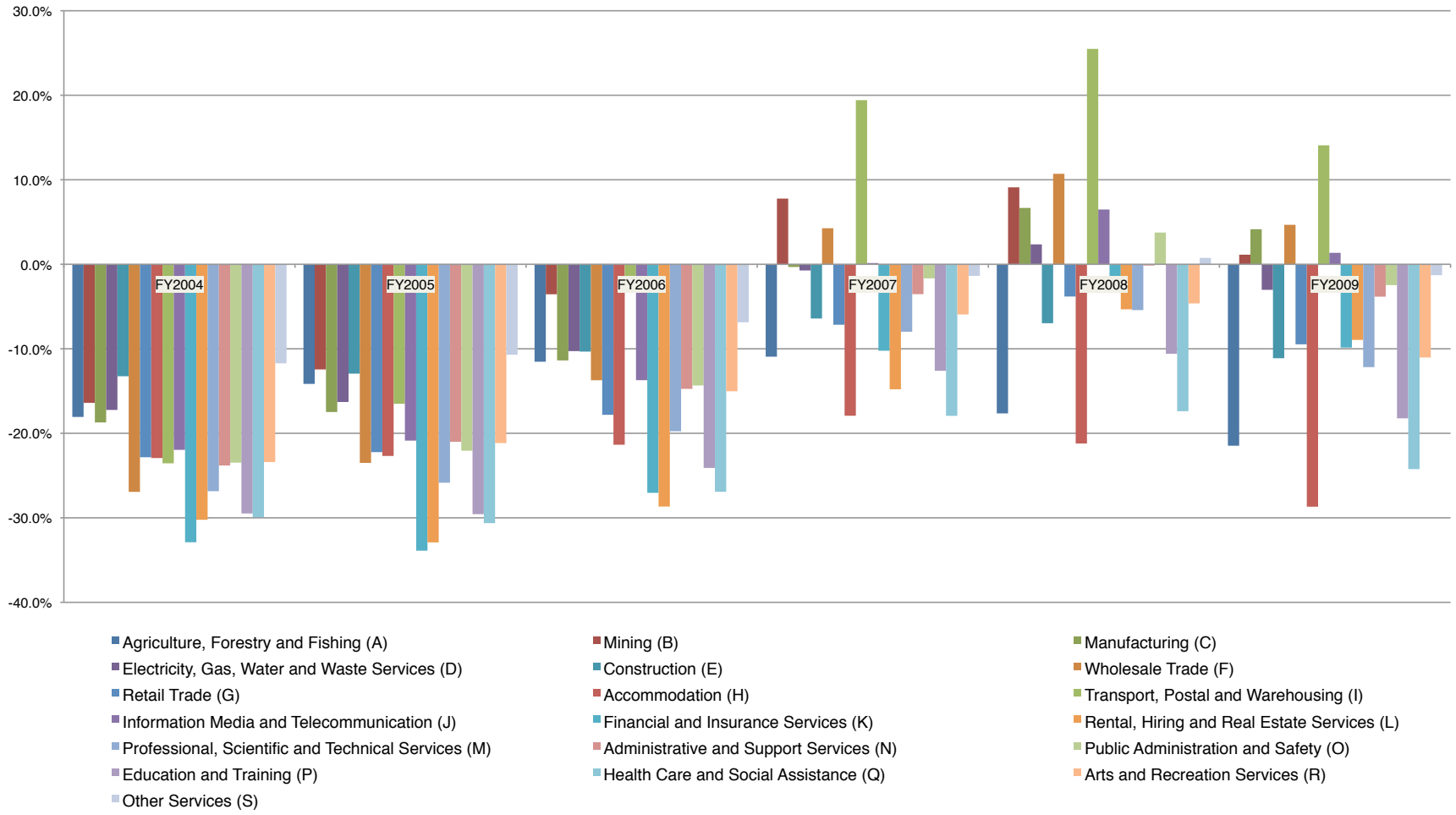
APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

AUSTRALIA: ALL (continued)

GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	-18.1%	-14.2%	-11.5%	-10.9%	-17.6%	**-21.5%**
Mining (B)	-16.4%	-12.4%	-3.5%	7.8%	9.1%	**1.1%**
Manufacturing (C)	-18.7%	-17.5%	-11.4%	-0.3%	6.7%	**4.1%**
Electricity, Gas, Water and Waste Services (D)	-17.2%	-16.3%	-10.3%	-0.7%	2.4%	**-3.0%**
Construction (E)	-13.2%	-12.9%	-10.3%	-6.4%	-7.0%	**-11.1%**
Wholesale Trade (F)	-26.9%	-23.5%	-13.7%	4.3%	10.7%	**4.7%**
Retail Trade (G)	-22.8%	-22.2%	-17.8%	-7.2%	-3.8%	**-9.5%**
Accommodation (H)	-22.9%	-22.7%	-21.4%	-17.9%	-21.2%	**-28.7%**
Transport, Postal and Warehousing (I)	-23.6%	-16.5%	-1.5%	19.4%	25.5%	**14.1%**
Information Media and Telecommunication (J)	-22.0%	-20.9%	-13.7%	0.1%	6.5%	**1.4%**
Financial and Insurance Services (K)	-32.9%	-33.9%	-27.0%	-10.2%	-2.9%	**-9.9%**
Rental, Hiring and Real Estate Services (L)	-30.2%	-32.9%	-28.7%	-14.8%	-5.3%	**-9.0%**
Professional, Scientific and Technical Services (M)	-26.8%	-25.8%	-19.8%	-8.0%	-5.4%	**-12.2%**
Administrative and Support Services (N)	-23.8%	-21.0%	-14.7%	-3.5%	0.0%	**-3.8%**
Public Administration and Safety (O)	-23.5%	-22.1%	-14.3%	-1.7%	3.8%	**-2.5%**
Education and Training (P)	-29.5%	-29.6%	-24.1%	-12.6%	-10.6%	**-18.2%**
Health Care and Social Assistance (Q)	-29.9%	-30.6%	-26.9%	-17.9%	-17.4%	**-24.2%**
Arts and Recreation Services (R)	-23.4%	-21.2%	-15.0%	-5.9%	-4.6%	**-11.0%**
Other Services (S)	-11.7%	-10.7%	-6.9%	-1.4%	0.8%	**-1.3%**

AUSTRALIA: ALL (continued)



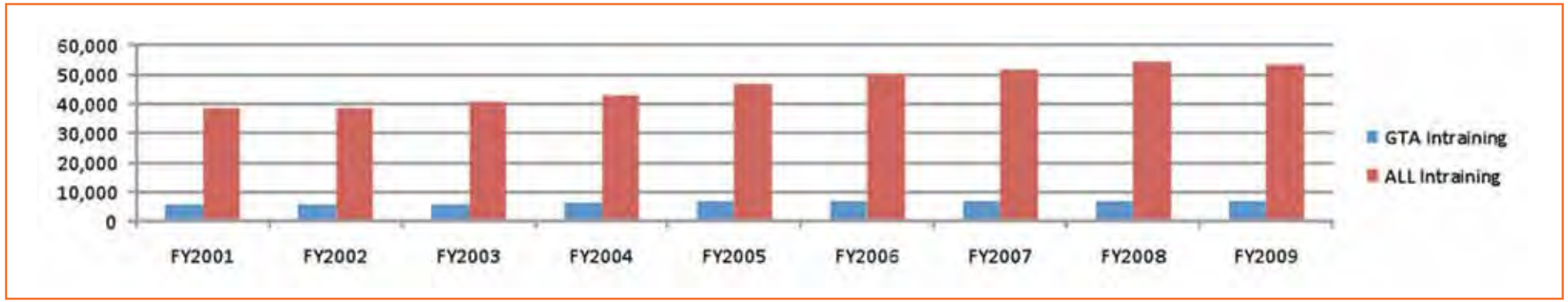
APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

NEW SOUTH WALES: APPRENTICES

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	5,784	5,603	5,816	6,227	6,784	7,153	7,104	7,152	**6,692**
ALL Intraining	38,398	38,751	40,639	43,046	46,753	50,016	51,777	54,224	**53,525**
GTA Commenced	2,058	2,135	2,499	2,798	3,016	2,763	2,865	3,066	**2,175**
ALL Commenced	13,458	14,749	15,700	18,348	19,118	19,564	20,321	21,638	**17,797**
GTA Completed	1,039	1,083	1,272	1,304	1,109	1,192	1,476	1,505	**1,584**
ALL Completed	7,441	7,366	8,203	8,779	7,967	8,890	9,821	10,409	**11,090**



NEW SOUTH WALES: APPRENTICES

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	17.2%	19.2%	13.7%	**3.9%**
ALL Intraining	18.7%	21.3%	19.6%	**14.1%**
GTA Commenced	28.2%	16.3%	4.6%	**-5.5%**
ALL Commenced	29.9%	20.9%	15.7%	**4.8%**
GTA Completed	6.2%	3.2%	13.2%	**26.6%**
ALL Completed	11.4%	9.6%	16.7%	**22.2%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	15.1%	14.5%	14.3%	14.5%	14.5%	14.3%	13.7%	13.2%	**12.5%**
Commenced	15.3%	14.5%	15.9%	15.2%	15.8%	14.1%	14.1%	14.2%	**12.2%**
Completed	14.0%	14.7%	15.5%	14.9%	13.9%	13.4%	15.0%	14.5%	**14.3%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	-1.3%	-1.6%	-4.8%	**-8.9%**
Commenced	-1.2%	-3.6%	-9.7%	**-10.3%**
Completed	-4.5%	-6.0%	-3.1%	**3.8%**

APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

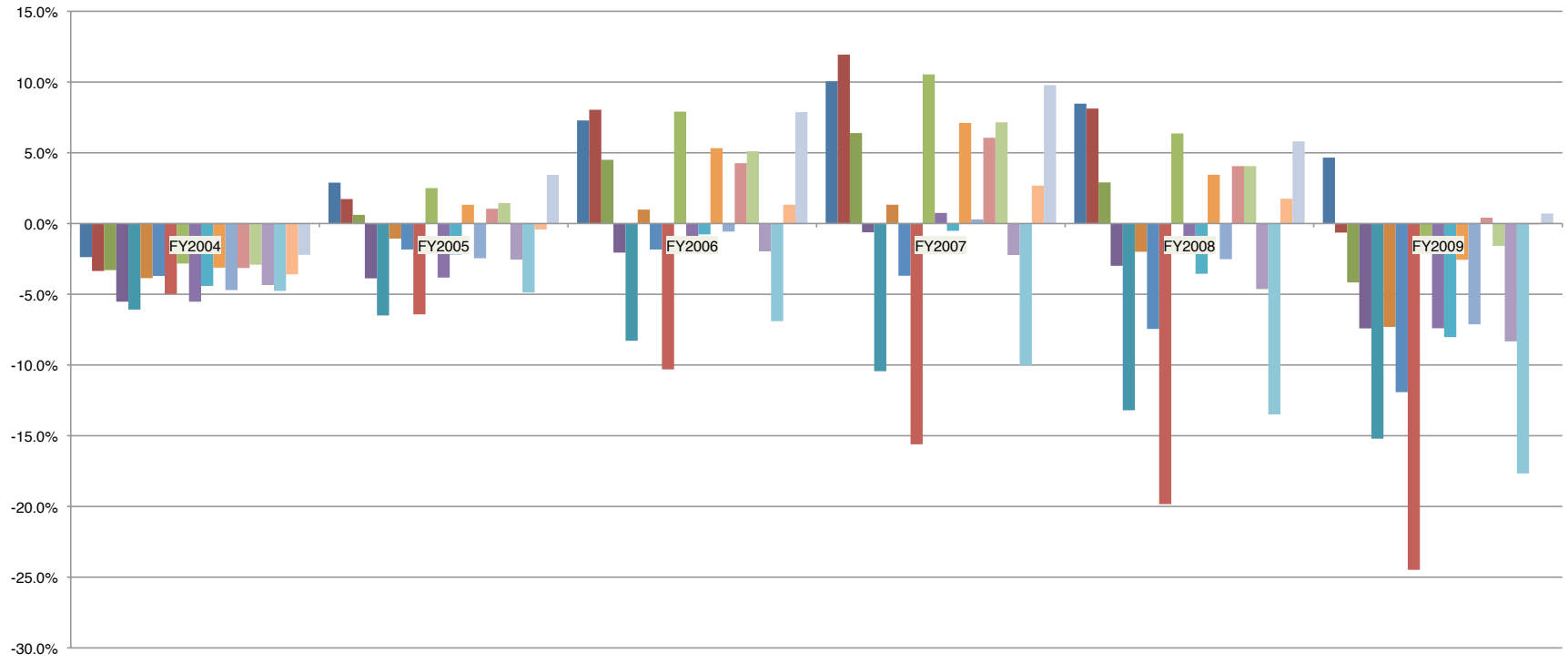
NEW SOUTH WALES: APPRENTICES (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	10.6%	10.2%	10.2%	10.7%	11.1%	11.4%	11.6%	11.7%	**11.5%**
Mining (B)	13.9%	13.3%	13.2%	13.7%	14.6%	15.3%	15.1%	14.4%	**13.8%**
Manufacturing (C)	12.5%	12.0%	12.0%	12.3%	12.7%	13.1%	12.8%	12.2%	**11.6%**
Electricity, Gas, Water and Waste Services (D)	15.4%	14.8%	14.4%	14.4%	14.7%	14.6%	14.1%	13.6%	**12.8%**
Construction (E)	18.7%	17.9%	17.5%	17.3%	16.7%	15.7%	14.8%	14.1%	**13.2%**
Wholesale Trade (F)	14.9%	14.3%	14.3%	14.5%	14.7%	14.8%	14.2%	13.6%	**12.9%**
Retail Trade (G)	15.2%	14.6%	14.6%	14.7%	14.5%	14.3%	13.4%	12.8%	**12.1%**
Accommodation (H)	16.8%	16.1%	16.0%	15.7%	14.4%	13.7%	12.2%	11.0%	**9.9%**
Transport, Postal and Warehousing (I)	15.4%	14.8%	14.8%	15.4%	16.3%	16.8%	16.6%	16.1%	**15.5%**
Information Media and Telecommunication (J)	11.6%	11.1%	10.9%	10.8%	11.1%	11.1%	10.8%	10.3%	**9.3%**
Financial and Insurance Services (K)	14.7%	14.1%	14.0%	14.1%	14.3%	14.1%	13.6%	13.1%	**12.4%**
Rental, Hiring and Real Estate Services (L)	14.4%	13.8%	13.7%	14.2%	14.8%	15.1%	14.8%	14.4%	**13.8%**
Professional, Scientific and Technical Services (M)	14.8%	14.2%	14.0%	14.2%	14.4%	14.3%	13.8%	13.3%	**12.6%**
Administrative and Support Services (N)	11.7%	11.2%	11.2%	11.6%	11.9%	12.0%	12.0%	12.0%	**11.6%**
Public Administration and Safety (O)	10.2%	9.8%	9.9%	10.1%	10.5%	10.8%	10.6%	10.4%	**10.0%**
Education and Training (P)	12.4%	11.9%	11.8%	11.9%	11.8%	11.7%	11.3%	10.9%	**10.2%**
Health Care and Social Assistance (Q)	14.1%	13.5%	13.4%	13.3%	12.6%	12.3%	11.3%	10.5%	**9.7%**
Arts and Recreation Services (R)	9.9%	9.5%	9.5%	9.7%	9.8%	9.8%	9.8%	9.9%	**9.6%**
Other Services (S)	13.6%	13.1%	13.2%	13.7%	14.5%	14.8%	14.5%	14.5%	**14.3%**

NEW SOUTH WALES: APPRENTICES (continued)

GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	-2.4%	2.9%	7.3%	10.0%	8.5%	**4.7%**
Mining (B)	-3.4%	1.7%	8.0%	11.9%	8.1%	**-0.6%**
Manufacturing (C)	-3.3%	0.6%	4.5%	6.4%	2.9%	**-4.2%**
Electricity, Gas, Water and Waste Services (D)	-5.5%	-3.9%	-2.1%	-0.6%	-3.0%	**-7.4%**
Construction (E)	-6.1%	-6.5%	-8.3%	-10.4%	-13.2%	**-15.2%**
Wholesale Trade (F)	-3.9%	-1.1%	1.0%	1.3%	-2.0%	**-7.3%**
Retail Trade (G)	-3.7%	-1.8%	-1.8%	-3.7%	-7.5%	**-11.9%**
Accommodation (H)	-5.0%	-6.4%	-10.3%	-15.6%	-19.8%	**-24.5%**
Transport, Postal and Warehousing (I)	-2.8%	2.5%	7.9%	10.5%	6.4%	**-0.9%**
Information Media and Telecommunication (J)	-5.5%	-3.8%	-1.8%	0.7%	-1.3%	**-7.4%**
Financial and Insurance Services (K)	-4.4%	-2.2%	-0.8%	-0.5%	-3.6%	**-8.0%**
Rental, Hiring and Real Estate Services (L)	-3.1%	1.3%	5.3%	7.1%	3.4%	**-2.6%**
Professional, Scientific and Technical Services (M)	-4.7%	-2.5%	-0.6%	0.3%	-2.5%	**-7.1%**
Administrative and Support Services (N)	-3.1%	1.0%	4.3%	6.1%	4.1%	**0.4%**
Public Administration and Safety (O)	-2.9%	1.5%	5.1%	7.2%	4.1%	**-1.6%**
Education and Training (P)	-4.3%	-2.6%	-2.0%	-2.2%	-4.6%	**-8.3%**
Health Care and Social Assistance (Q)	-4.8%	-4.9%	-6.9%	-10.0%	-13.5%	**-17.7%**
Arts and Recreation Services (R)	-3.6%	-0.4%	1.3%	2.7%	1.8%	**0.0%**
Other Services (S)	-2.2%	3.4%	7.9%	9.8%	5.8%	**0.7%**

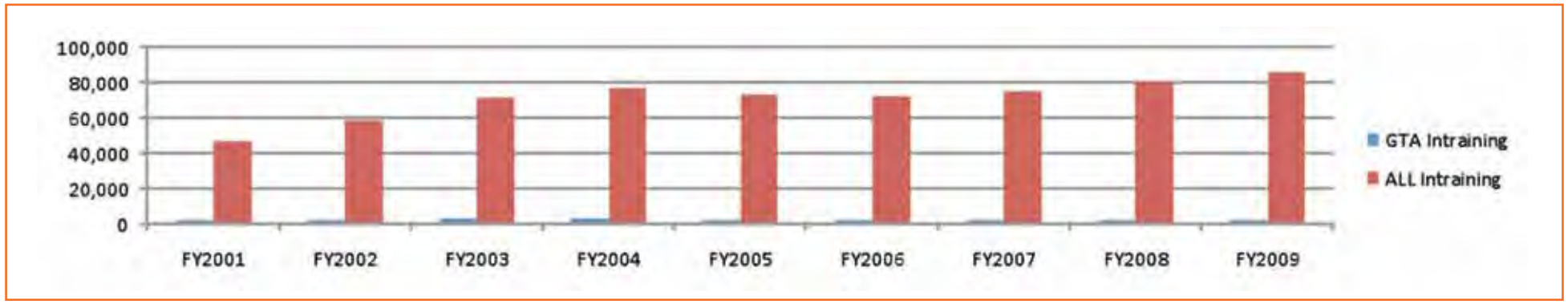
NEW SOUTH WALES: APPRENTICES (continued)



- Agriculture, Forestry and Fishing (A)
- Mining (B)
- Manufacturing (C)
- Electricity, Gas, Water and Waste Services (D)
- Construction (E)
- Wholesale Trade (F)
- Retail Trade (G)
- Accommodation (H)
- Transport, Postal and Warehousing (I)
- Information Media and Telecommunication (J)
- Financial and Insurance Services (K)
- Rental, Hiring and Real Estate Services (L)
- Professional, Scientific and Technical Services (M)
- Administrative and Support Services (N)
- Public Administration and Safety (O)
- Education and Training (P)
- Health Care and Social Assistance (Q)
- Arts and Recreation Services (R)
- Other Services (S)

NEW SOUTH WALES: OTHER

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	2,757	2,881	3,045	3,091	2,729	2,382	2,290	2,410	**2,376**
ALL Intraining	47,492	58,961	71,577	77,245	73,653	72,329	74,875	80,449	**86,542**
GTA Commenced	3,085	3,291	3,581	3,404	3,002	2,411	2,514	2,598	**2,290**
ALL Commenced	46,703	53,752	62,499	55,708	53,260	54,668	58,819	67,308	**66,582**
GTA Completed	1,661	1,867	1,983	1,966	1,820	1,586	1,350	1,323	**1,563**
ALL Completed	14,136	22,403	25,347	27,122	29,961	29,042	30,537	32,721	**36,179**



APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

NEW SOUTH WALES: OTHER (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	-5.5%	-17.9%	-20.1%	**-13.7%**
ALL Intraining	25.4%	6.3%	2.3%	**8.3%**
GTA Commenced	-11.4%	-22.9%	-24.7%	**-16.0%**
ALL Commenced	0.4%	-3.0%	5.4%	**17.8%**
GTA Completed	-2.5%	-18.2%	-26.2%	**-21.2%**
ALL Completed	39.2%	19.6%	12.0%	**15.5%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	5.8%	4.9%	4.3%	4.0%	3.7%	3.3%	3.1%	3.0%	**2.7%**
Commenced	6.6%	6.1%	5.7%	6.1%	5.6%	4.4%	4.3%	3.9%	**3.4%**
Completed	11.8%	8.3%	7.8%	7.2%	6.1%	5.5%	4.4%	4.0%	**4.3%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	-26.4%	-23.5%	-21.9%	**-20.0%**
Commenced	-12.5%	-20.3%	-28.2%	**-28.4%**
Completed	-32.7%	-31.8%	-34.1%	**-31.9%**

NEW SOUTH WALES: OTHER (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	8.5%	7.2%	6.8%	9.2%	10.6%	5.9%	3.4%	3.6%	**4.3%**
Mining (B)	5.5%	4.6%	3.9%	3.9%	3.3%	3.0%	3.6%	3.9%	**4.4%**
Manufacturing (C)	5.4%	4.5%	4.1%	3.9%	3.1%	2.9%	2.9%	3.2%	**3.3%**
Electricity, Gas, Water and Waste Services (D)	5.6%	4.7%	4.3%	3.9%	3.6%	4.1%	4.0%	4.1%	**4.5%**
Construction (E)	9.2%	7.8%	6.6%	5.8%	5.5%	5.9%	5.7%	5.4%	**5.3%**
Wholesale Trade (F)	5.1%	4.3%	3.7%	3.2%	2.9%	2.7%	2.4%	2.3%	**2.4%**
Retail Trade (G)	4.7%	3.9%	3.3%	3.1%	2.8%	2.4%	2.2%	2.1%	**1.7%**
Accommodation (H)	6.4%	5.4%	4.8%	4.5%	4.2%	3.3%	2.9%	2.6%	**1.9%**
Transport, Postal and Warehousing (I)	2.2%	1.9%	1.6%	1.5%	1.4%	1.5%	1.6%	1.8%	**1.8%**
Information Media and Telecommunication (J)	5.9%	5.0%	4.3%	3.8%	3.3%	3.2%	3.1%	2.9%	**2.9%**
Financial and Insurance Services (K)	6.6%	5.6%	5.0%	4.6%	4.0%	3.7%	3.5%	3.4%	**2.8%**
Rental, Hiring and Real Estate Services (L)	4.7%	3.9%	3.4%	2.9%	2.4%	2.2%	2.1%	1.9%	**1.6%**
Professional, Scientific and Technical Services (M)	7.0%	5.9%	5.3%	5.0%	4.2%	3.8%	3.2%	3.5%	**4.0%**
Administrative and Support Services (N)	5.3%	4.5%	4.0%	3.8%	3.6%	2.8%	2.4%	2.3%	**2.0%**
Public Administration and Safety (O)	6.8%	5.7%	5.1%	5.2%	4.7%	4.4%	4.2%	4.2%	**3.8%**
Education and Training (P)	7.2%	6.1%	5.2%	4.9%	4.7%	4.0%	3.6%	3.2%	**2.6%**
Health Care and Social Assistance (Q)	7.0%	5.9%	5.2%	5.0%	4.8%	4.0%	3.7%	3.2%	**2.3%**
Arts and Recreation Services (R)	6.8%	5.8%	4.9%	4.8%	4.5%	3.8%	3.3%	2.9%	**2.3%**
Other Services (S)	7.5%	6.3%	5.2%	4.4%	4.0%	3.5%	3.5%	3.4%	**2.8%**

APPENDICES

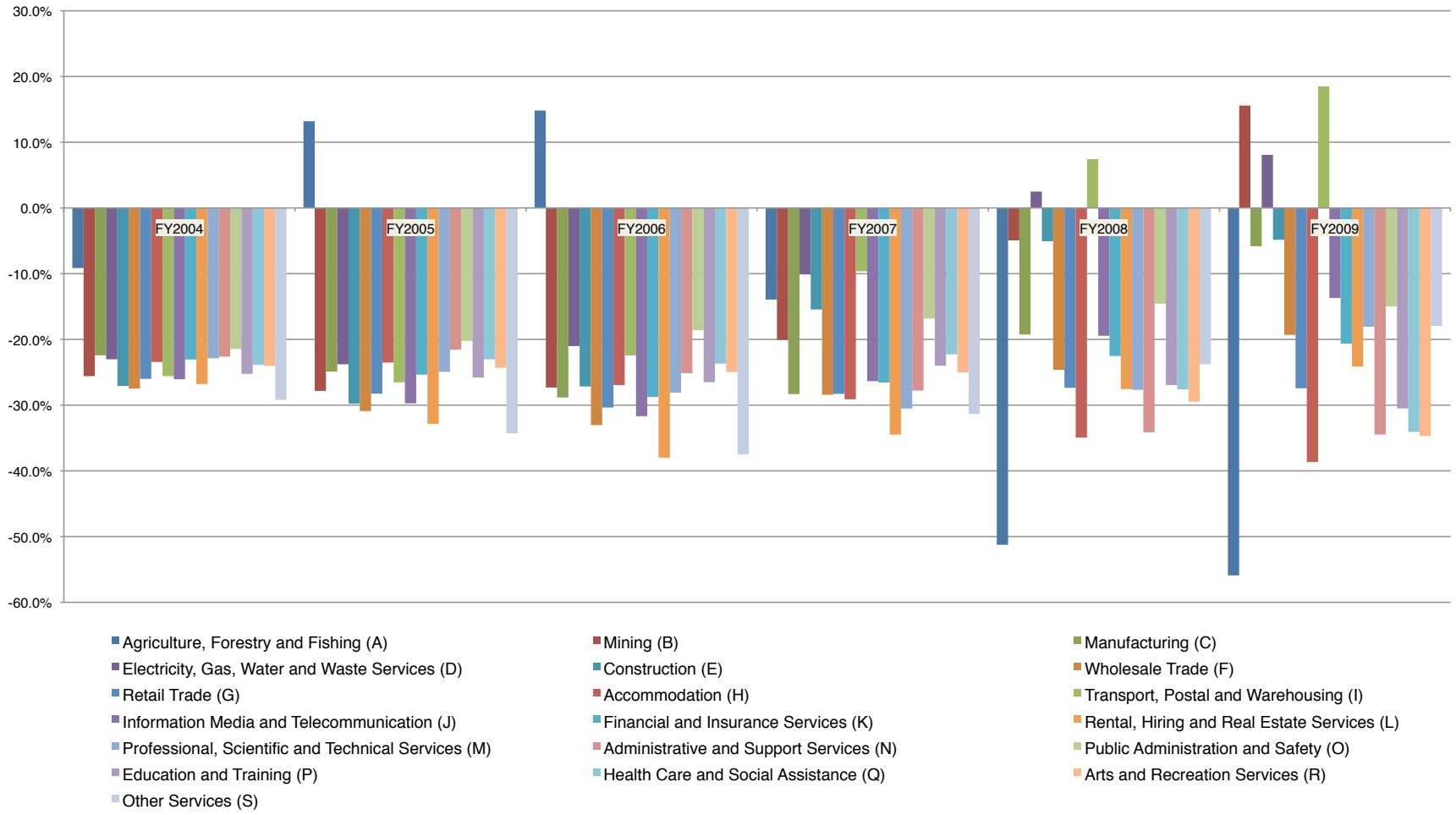
APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

NEW SOUTH WALES: OTHER (continued)

GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	-9.1%	13.2%	14.8%	-13.9%	-51.2%	**-55.9%**
Mining (B)	-25.6%	-27.8%	-27.3%	-20.1%	-4.9%	**15.6%**
Manufacturing (C)	-22.4%	-24.9%	-28.8%	-28.3%	-19.3%	**-5.8%**
Electricity, Gas, Water and Waste Services (D)	-23.0%	-23.8%	-21.0%	-10.1%	2.5%	**8.1%**
Construction (E)	-27.1%	-29.8%	-27.2%	-15.4%	-5.1%	**-4.9%**
Wholesale Trade (F)	-27.5%	-30.9%	-33.0%	-28.4%	-24.6%	**-19.3%**
Retail Trade (G)	-26.0%	-28.3%	-30.4%	-28.3%	-27.4%	**-27.4%**
Accommodation (H)	-23.4%	-23.5%	-27.0%	-29.1%	-34.9%	**-38.6%**
Transport, Postal and Warehousing (I)	-25.6%	-26.5%	-22.4%	-9.6%	7.4%	**18.5%**
Information Media and Telecommunication (J)	-26.1%	-29.7%	-31.7%	-26.4%	-19.5%	**-13.7%**
Financial and Insurance Services (K)	-23.1%	-25.4%	-28.7%	-26.6%	-22.5%	**-20.6%**
Rental, Hiring and Real Estate Services (L)	-26.8%	-32.8%	-38.0%	-34.5%	-27.6%	**-24.1%**
Professional, Scientific and Technical Services (M)	-22.9%	-24.9%	-28.1%	-30.5%	-27.7%	**-18.1%**
Administrative and Support Services (N)	-22.6%	-21.6%	-25.1%	-27.8%	-34.1%	**-34.5%**
Public Administration and Safety (O)	-21.5%	-20.2%	-18.6%	-16.8%	-14.6%	**-15.0%**
Education and Training (P)	-25.2%	-25.8%	-26.5%	-24.0%	-26.9%	**-30.5%**
Health Care and Social Assistance (Q)	-23.9%	-23.0%	-23.7%	-22.3%	-27.6%	**-34.1%**
Arts and Recreation Services (R)	-24.0%	-24.3%	-25.0%	-25.0%	-29.5%	**-34.7%**
Other Services (S)	-29.2%	-34.3%	-37.5%	-31.3%	-23.8%	**-17.9%**

NEW SOUTH WALES: OTHER (continued)



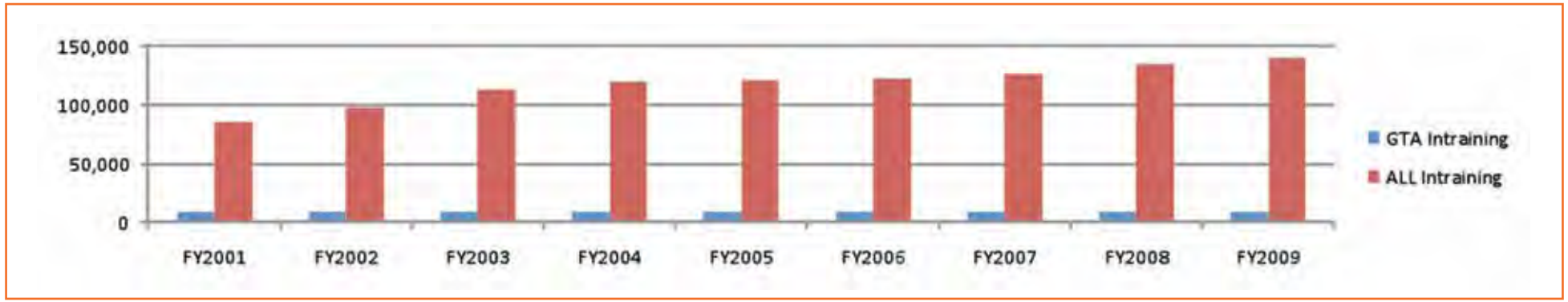
APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

NEW SOUTH WALES: ALL

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	8,541	8,483	8,861	9,318	9,513	9,535	9,393	9,562	**9,068**
ALL Intraining	85,890	97,712	112,216	120,292	120,406	122,345	126,653	134,673	**140,067**
GTA Commenced	5,143	5,426	6,080	6,202	6,018	5,174	5,379	5,664	**4,465**
ALL Commenced	60,161	68,501	78,199	74,056	72,378	74,232	79,140	88,946	**84,379**
GTA Completed	2,700	2,950	3,255	3,270	2,929	2,778	2,826	2,828	**3,146**
ALL Completed	21,577	29,769	33,550	35,901	37,928	37,932	40,358	43,130	**47,269**



NEW SOUTH WALES: ALL (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	9.6%	6.7%	2.9%	**-1.2%**
ALL Intraining	22.7%	11.9%	8.7%	**10.6%**
GTA Commenced	4.5%	-6.4%	-11.4%	**-10.8%**
ALL Commenced	6.7%	2.3%	7.9%	**14.4%**
GTA Completed	0.8%	-9.9%	-10.8%	**-2.0%**
ALL Completed	31.6%	17.1%	13.1%	**17.0%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	9.9%	8.7%	7.9%	7.7%	7.9%	7.8%	7.4%	7.1%	**6.5%**
Commenced	8.5%	7.9%	7.8%	8.4%	8.3%	7.0%	6.8%	6.4%	**5.3%**
Completed	12.5%	9.9%	9.7%	9.1%	7.7%	7.3%	7.0%	6.6%	**6.7%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	-11.6%	-5.0%	-5.2%	**-10.4%**
Commenced	-2.4%	-8.3%	-17.7%	**-22.0%**
Completed	-24.8%	-23.2%	-21.3%	**-16.3%**

APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

NEW SOUTH WALES: ALL (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	9.3%	8.2%	7.9%	9.6%	10.7%	7.4%	5.9%	6.1%	**6.4%**
Mining (B)	8.8%	7.6%	6.9%	7.3%	7.8%	8.4%	8.8%	8.4%	**8.3%**
Manufacturing (C)	9.0%	8.0%	7.5%	7.5%	7.5%	7.9%	8.1%	8.0%	**7.8%**
Electricity, Gas, Water and Waste Services (D)	11.8%	10.5%	9.7%	9.5%	10.1%	10.6%	10.2%	9.5%	**8.7%**
Construction (E)	17.0%	15.8%	14.9%	14.6%	14.5%	13.8%	13.0%	12.3%	**11.4%**
Wholesale Trade (F)	7.1%	6.0%	5.2%	4.8%	4.9%	4.9%	4.7%	4.5%	**4.6%**
Retail Trade (G)	8.0%	6.9%	6.1%	5.9%	6.1%	6.0%	5.6%	5.2%	**4.5%**
Accommodation (H)	9.4%	8.0%	7.3%	7.1%	6.7%	5.9%	5.2%	4.6%	**3.8%**
Transport, Postal and Warehousing (I)	4.3%	3.6%	3.1%	3.1%	3.4%	4.0%	4.2%	4.5%	**4.5%**
Information Media and Telecommunication (J)	8.7%	7.7%	7.0%	6.6%	6.7%	6.9%	6.7%	6.1%	**5.4%**
Financial and Insurance Services (K)	6.9%	5.9%	5.3%	4.8%	4.3%	3.9%	3.8%	3.6%	**3.0%**
Rental, Hiring and Real Estate Services (L)	6.1%	5.2%	4.5%	3.9%	3.5%	3.4%	3.3%	3.1%	**2.6%**
Professional, Scientific and Technical Services (M)	9.3%	8.0%	7.2%	6.9%	6.5%	6.2%	5.3%	5.1%	**5.1%**
Administrative and Support Services (N)	6.7%	5.7%	5.2%	5.1%	5.1%	4.5%	4.0%	4.0%	**3.7%**
Public Administration and Safety (O)	8.1%	7.1%	6.6%	6.8%	6.7%	6.7%	6.4%	6.2%	**5.7%**
Education and Training (P)	7.9%	6.7%	5.8%	5.5%	5.4%	4.7%	4.3%	3.9%	**3.2%**
Health Care and Social Assistance (Q)	8.1%	6.9%	6.1%	5.9%	5.7%	5.0%	4.5%	4.0%	**3.0%**
Arts and Recreation Services (R)	7.9%	6.9%	6.2%	6.1%	5.9%	5.5%	5.1%	4.7%	**4.1%**
Other Services (S)	12.4%	11.5%	11.1%	11.3%	11.9%	12.1%	11.9%	11.8%	**11.4%**

NEW SOUTH WALES: ALL (continued)

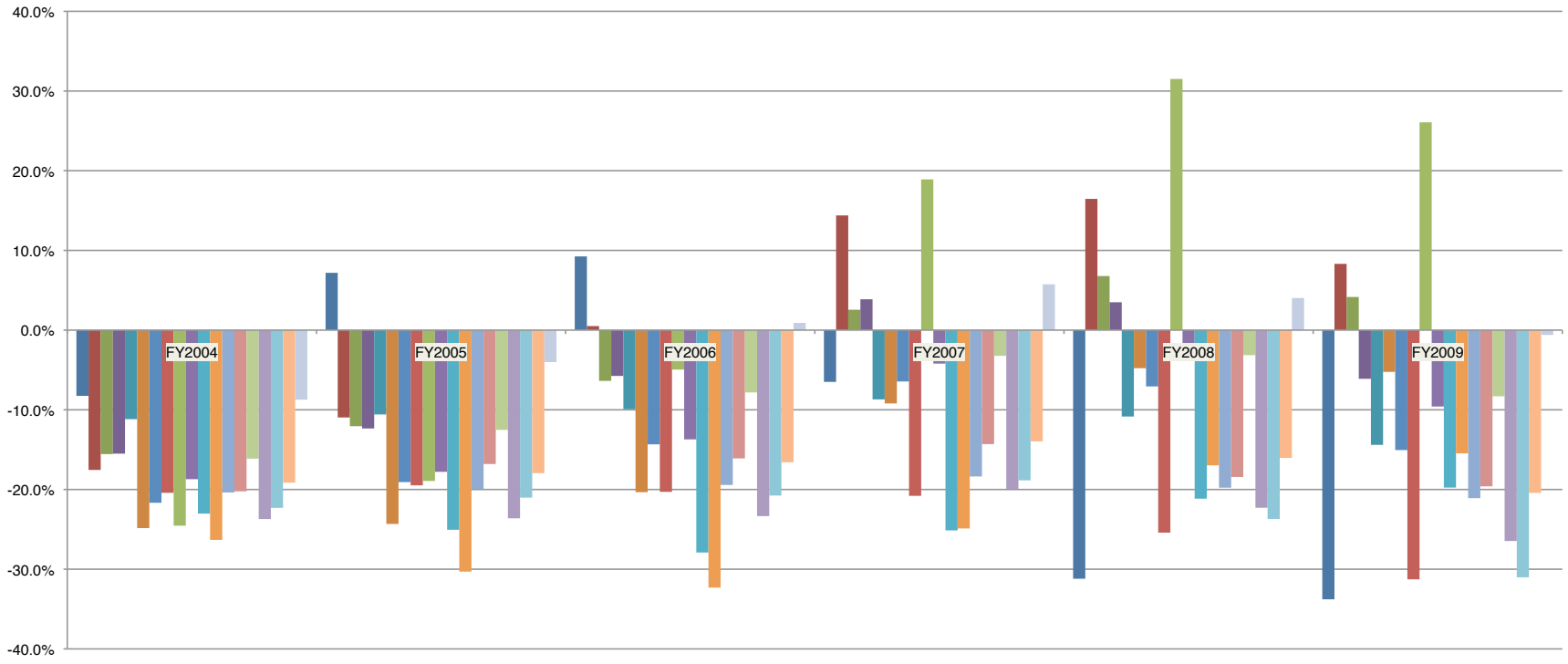
GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	-8.3%	7.2%	9.2%	-6.5%	-31.2%	**-33.8%**
Mining (B)	-17.5%	-11.0%	0.5%	14.4%	16.5%	**8.3%**
Manufacturing (C)	-15.6%	-12.1%	-6.4%	2.6%	6.8%	**4.2%**
Electricity, Gas, Water and Waste Services (D)	-15.5%	-12.3%	-5.8%	3.9%	3.5%	**-6.1%**
Construction (E)	-11.2%	-10.6%	-9.9%	-8.7%	-10.8%	**-14.4%**
Wholesale Trade (F)	-24.8%	-24.3%	-20.3%	-9.2%	-4.8%	**-5.2%**
Retail Trade (G)	-21.7%	-19.1%	-14.3%	-6.4%	-7.1%	**-15.1%**
Accommodation (H)	-20.4%	-19.5%	-20.3%	-20.8%	-25.4%	**-31.3%**
Transport, Postal and Warehousing (I)	-24.5%	-18.9%	-4.9%	18.9%	31.5%	**26.1%**
Information Media and Telecommunication (J)	-18.7%	-17.8%	-13.7%	-4.2%	-2.3%	**-9.6%**
Financial and Insurance Services (K)	-23.0%	-25.1%	-27.9%	-25.1%	-21.1%	**-19.8%**
Rental, Hiring and Real Estate Services (L)	-26.3%	-30.3%	-32.3%	-24.9%	-17.0%	**-15.5%**
Professional, Scientific and Technical Services (M)	-20.4%	-19.9%	-19.4%	-18.4%	-19.8%	**-21.1%**
Administrative and Support Services (N)	-20.2%	-16.8%	-16.1%	-14.3%	-18.4%	**-19.6%**
Public Administration and Safety (O)	-16.1%	-12.5%	-7.8%	-3.2%	-3.1%	**-8.3%**
Education and Training (P)	-23.7%	-23.6%	-23.3%	-19.9%	-22.3%	**-26.5%**
Health Care and Social Assistance (Q)	-22.3%	-21.0%	-20.8%	-18.8%	-23.7%	**-31.0%**
Arts and Recreation Services (R)	-19.1%	-17.9%	-16.6%	-14.0%	-16.0%	**-20.4%**
Other Services (S)	-8.7%	-4.0%	0.9%	5.7%	4.0%	**-0.6%**

APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

NEW SOUTH WALES: ALL (continued)



- Agriculture, Forestry and Fishing (A)
- Mining (B)
- Manufacturing (C)
- Electricity, Gas, Water and Waste Services (D)
- Construction (E)
- Wholesale Trade (F)
- Retail Trade (G)
- Accommodation (H)
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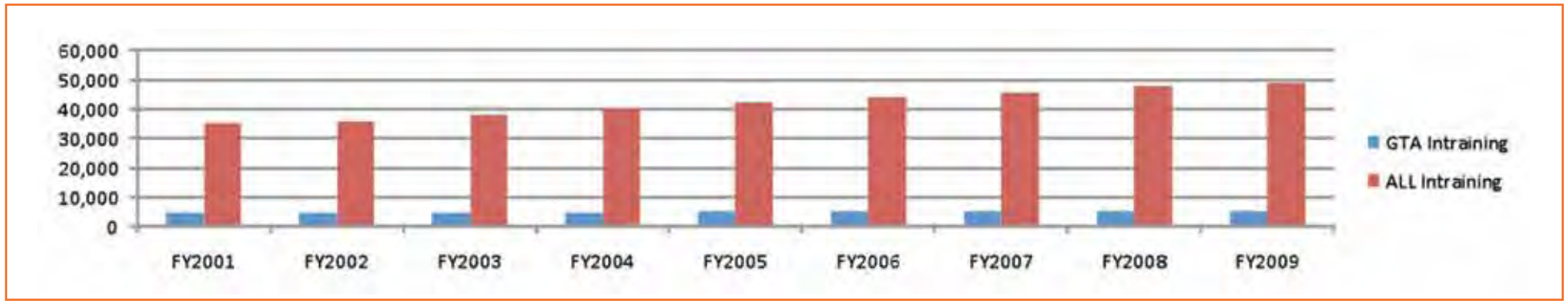
- Public Administration and Safety (O)
- Education and Training (P)
- Health Care and Social Assistance (Q)
- Arts and Recreation Services (R)
- Other Services (S)

VICTORIA: APPRENTICES

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	4,809	4,565	4,687	4,827	5,140	5,326	5,293	5,351	**5,126**
ALL Intraining	35,149	36,137	38,132	40,389	42,587	44,195	45,536	47,773	**48,871**
GTA Commenced	1,389	1,824	1,921	2,108	2,223	2,118	2,010	2,249	**1,668**
ALL Commenced	13,386	14,418	15,981	17,759	17,657	17,414	18,516	20,645	**17,735**
GTA Completed	982	916	1,019	984	909	1,019	1,062	1,100	**1,162**
ALL Completed	5,774	6,573	7,023	7,282	7,614	8,088	8,649	8,851	**9,402**



VICTORIA: APPRENTICES (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	8.8%	11.9%	9.0%	**3.1%**
ALL Intraining	16.2%	15.4%	13.5%	**11.8%**
GTA Commenced	25.6%	8.5%	2.0%	**-8.1%**
ALL Commenced	20.7%	11.3%	10.1%	**7.7%**
GTA Completed	-0.2%	2.4%	9.2%	**14.1%**
ALL Completed	18.7%	16.6%	16.7%	**17.0%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	13.7%	12.6%	12.3%	12.0%	12.1%	12.1%	11.6%	11.2%	**10.5%**
Commenced	10.4%	12.7%	12.0%	11.9%	12.6%	12.2%	10.9%	10.9%	**9.4%**
Completed	17.0%	13.9%	14.5%	13.5%	11.9%	12.6%	12.3%	12.4%	**12.4%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	-6.6%	-3.1%	-4.0%	**-7.6%**
Commenced	4.5%	-2.6%	-7.0%	**-14.9%**
Completed	-16.3%	-12.3%	-6.6%	**-2.6%**

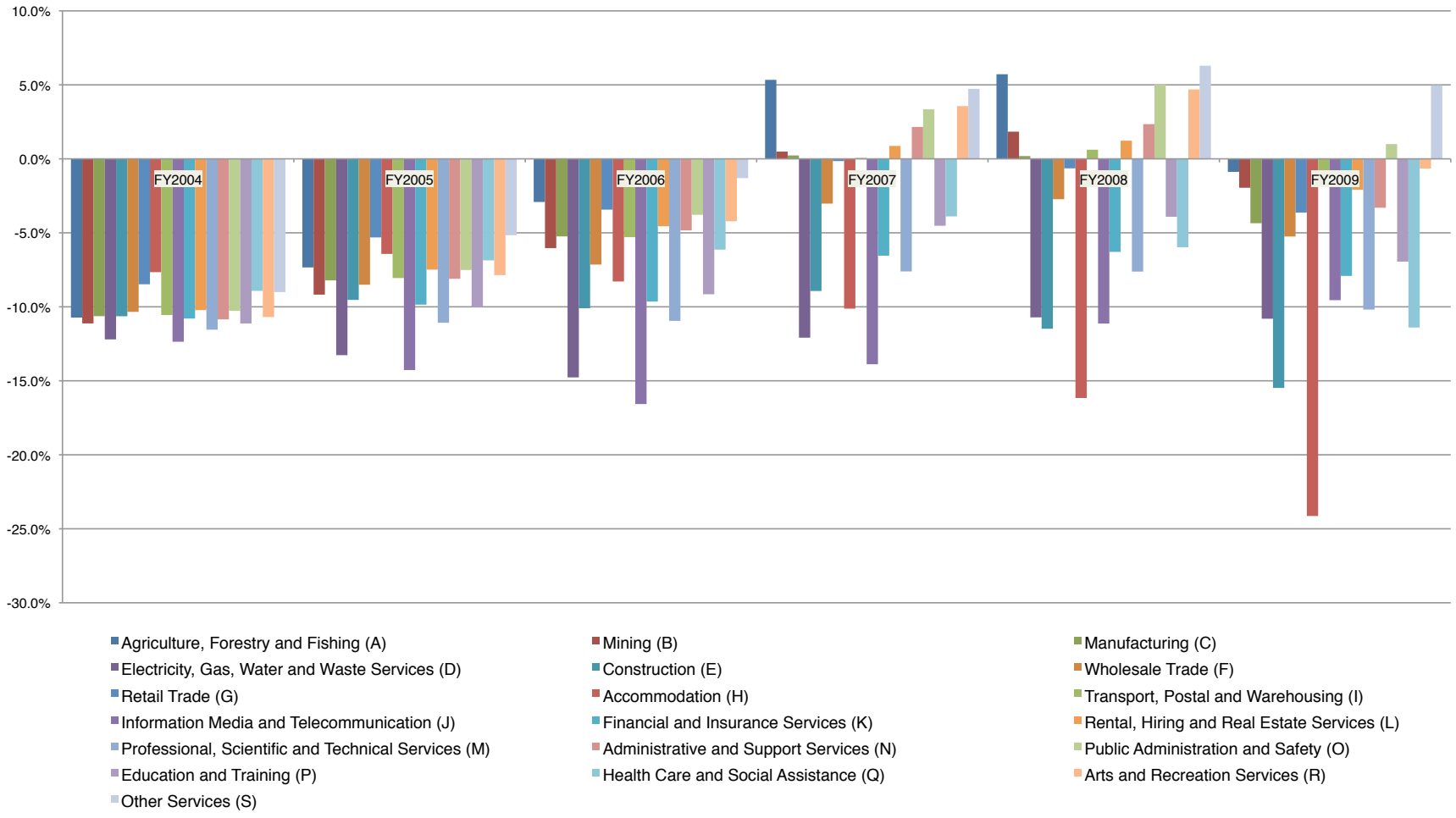
VICTORIA: APPRENTICES (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	14.3%	13.2%	12.8%	12.4%	13.0%	13.7%	13.6%	13.0%	**12.1%**
Mining (B)	12.0%	11.1%	10.6%	10.3%	10.5%	10.9%	10.8%	10.4%	**9.9%**
Manufacturing (C)	12.4%	11.4%	11.1%	10.8%	11.0%	11.3%	11.0%	10.6%	**10.0%**
Electricity, Gas, Water and Waste Services (D)	15.7%	14.5%	13.9%	12.9%	12.4%	12.2%	11.6%	11.2%	**10.7%**
Construction (E)	15.8%	14.6%	14.1%	13.5%	13.5%	13.0%	12.0%	11.4%	**10.3%**
Wholesale Trade (F)	13.9%	12.8%	12.4%	12.0%	12.1%	12.2%	11.9%	11.5%	**11.0%**
Retail Trade (G)	10.6%	9.8%	9.7%	9.6%	9.7%	9.8%	9.7%	9.4%	**9.0%**
Accommodation (H)	6.5%	6.0%	6.1%	5.9%	5.5%	5.6%	5.1%	4.0%	**3.8%**
Transport, Postal and Warehousing (I)	16.6%	15.3%	14.7%	14.4%	14.7%	14.9%	14.8%	14.4%	**14.1%**
Information Media and Telecommunication (J)	14.1%	13.0%	12.5%	11.5%	10.9%	10.7%	10.3%	10.0%	**9.6%**
Financial and Insurance Services (K)	15.0%	13.9%	13.5%	12.9%	12.8%	12.6%	12.2%	11.8%	**11.3%**
Rental, Hiring and Real Estate Services (L)	14.4%	13.2%	12.8%	12.6%	12.9%	13.1%	13.0%	12.7%	**12.2%**
Professional, Scientific and Technical Services (M)	15.2%	14.0%	13.5%	12.8%	12.7%	12.6%	12.0%	11.4%	**10.7%**
Administrative and Support Services (N)	14.9%	13.7%	13.3%	12.8%	13.3%	13.8%	13.6%	12.9%	**12.1%**
Public Administration and Safety (O)	10.5%	9.7%	9.4%	9.2%	9.5%	9.9%	9.9%	9.7%	**9.2%**
Education and Training (P)	14.2%	13.1%	12.7%	12.0%	12.0%	12.2%	11.8%	11.3%	**10.6%**
Health Care and Social Assistance (Q)	8.0%	7.4%	7.3%	7.1%	7.0%	7.1%	6.8%	6.2%	**5.8%**
Arts and Recreation Services (R)	13.1%	12.0%	11.7%	11.3%	11.7%	12.3%	12.3%	11.8%	**11.1%**
Other Services (S)	14.3%	13.2%	12.9%	12.9%	13.3%	13.6%	13.9%	14.0%	**13.9%**

VICTORIA: APPRENTICES (continued)

GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	-10.7%	-7.3%	-2.9%	5.3%	5.7%	**-0.9%**
Mining (B)	-11.1%	-9.2%	-6.0%	0.5%	1.8%	**-2.0%**
Manufacturing (C)	-10.6%	-8.2%	-5.2%	0.2%	0.2%	**-4.4%**
Electricity, Gas, Water and Waste Services (D)	-12.2%	-13.3%	-14.8%	-12.1%	-10.7%	**-10.8%**
Construction (E)	-10.6%	-9.5%	-10.1%	-8.9%	-11.5%	**-15.5%**
Wholesale Trade (F)	-10.3%	-8.5%	-7.1%	-3.0%	-2.7%	**-5.2%**
Retail Trade (G)	-8.5%	-5.3%	-3.4%	-0.2%	-0.6%	**-3.6%**
Accommodation (H)	-7.7%	-6.4%	-8.3%	-10.1%	-16.2%	**-24.1%**
Transport, Postal and Warehousing (I)	-10.6%	-8.1%	-5.3%	0.1%	0.6%	**-1.8%**
Information Media and Telecommunication (J)	-12.4%	-14.3%	-16.6%	-13.9%	-11.1%	**-9.6%**
Financial and Insurance Services (K)	-10.8%	-9.9%	-9.6%	-6.5%	-6.3%	**-7.9%**
Rental, Hiring and Real Estate Services (L)	-10.2%	-7.5%	-4.6%	0.9%	1.2%	**-2.1%**
Professional, Scientific and Technical Services (M)	-11.5%	-11.1%	-10.9%	-7.6%	-7.6%	**-10.2%**
Administrative and Support Services (N)	-10.8%	-8.1%	-4.8%	2.2%	2.3%	**-3.3%**
Public Administration and Safety (O)	-10.3%	-7.5%	-3.8%	3.3%	5.0%	**1.0%**
Education and Training (P)	-11.1%	-10.0%	-9.2%	-4.5%	-3.9%	**-6.9%**
Health Care and Social Assistance (Q)	-8.9%	-6.9%	-6.1%	-3.9%	-6.0%	**-11.4%**
Arts and Recreation Services (R)	-10.7%	-7.9%	-4.2%	3.6%	4.7%	**-0.7%**
Other Services (S)	-9.0%	-5.2%	-1.3%	4.7%	6.3%	**5.0%**

VICTORIA: APPRENTICES (continued)



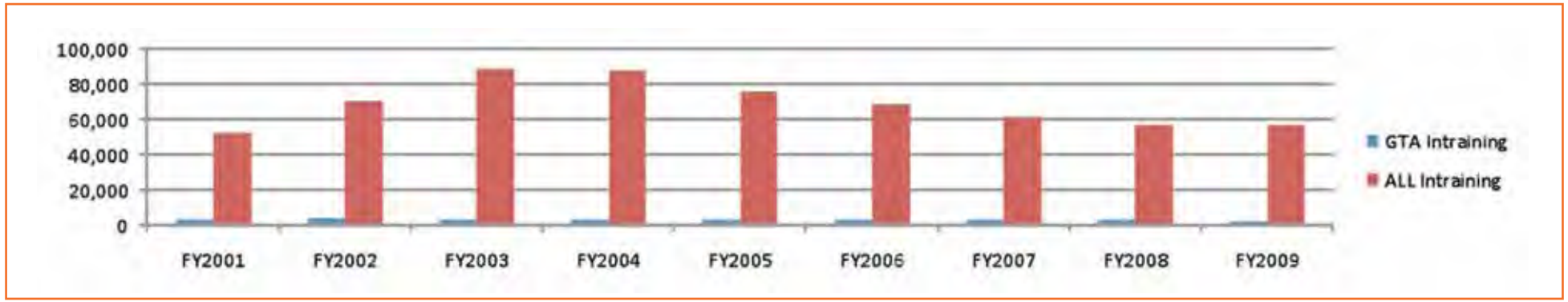
APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

VICTORIA: OTHER

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	3,766	3,889	3,715	3,595	3,545	3,341	3,127	3,116	**2,882**
ALL Intraining	52,926	70,289	88,622	88,378	76,164	68,926	61,986	57,319	**56,735**
GTA Commenced	4,359	4,460	4,281	3,964	3,973	3,505	3,540	3,427	**3,037**
ALL Commenced	58,305	68,507	90,715	58,310	61,780	62,060	54,648	52,694	**54,270**
GTA Completed	2,412	2,418	2,238	1,900	2,188	2,081	1,956	1,901	**2,025**
ALL Completed	17,193	22,206	29,749	35,569	36,707	35,366	33,422	32,116	**31,357**

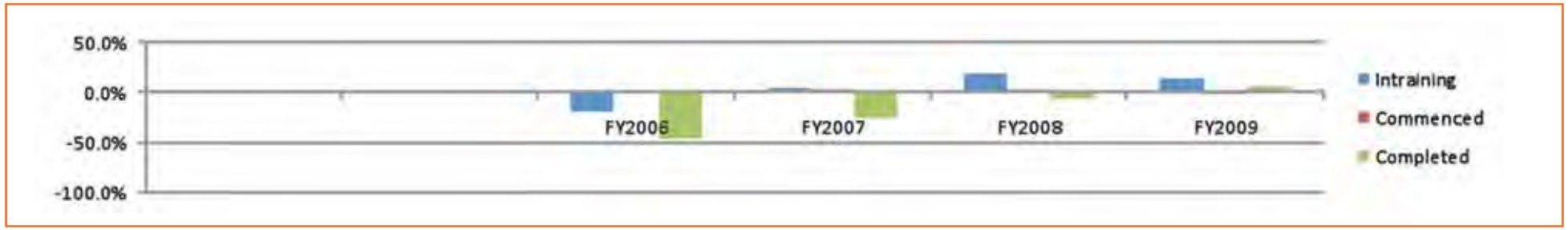


VICTORIA: OTHER (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	-7.8%	-10.6%	-11.7%	**-12.9%**
ALL Intraining	10.2%	-16.3%	-25.6%	**-24.6%**
GTA Commenced	-12.7%	-13.3%	-14.3%	**-12.6%**
ALL Commenced	-16.3%	-17.9%	-19.6%	**-11.3%**
GTA Completed	-12.7%	-5.0%	-6.1%	**-4.7%**
ALL Completed	55.7%	20.5%	-1.1%	**-10.0%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	7.1%	5.5%	4.2%	4.1%	4.7%	4.8%	5.0%	5.4%	**5.1%**
Commenced	7.5%	6.5%	4.7%	6.8%	6.4%	5.6%	6.5%	6.5%	**5.6%**
Completed	14.0%	10.9%	7.5%	5.3%	6.0%	5.9%	5.9%	5.9%	**6.5%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	-19.4%	5.5%	18.7%	**14.7%**
Commenced	0.9%	2.9%	3.8%	**-1.6%**
Completed	-47.0%	-25.5%	-6.2%	**6.1%**



APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

VICTORIA: OTHER (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	12.8%	9.9%	8.0%	8.1%	10.1%	10.5%	9.6%	9.4%	**8.8%**
Mining (B)	6.5%	5.1%	3.8%	3.7%	4.3%	4.7%	5.2%	5.7%	**5.6%**
Manufacturing (C)	6.3%	4.9%	3.8%	3.2%	3.0%	3.5%	3.9%	4.4%	**4.1%**
Electricity, Gas, Water and Waste Services (D)	7.2%	5.6%	4.1%	4.0%	5.1%	5.9%	6.3%	6.6%	**6.3%**
Construction (E)	11.1%	8.7%	6.7%	6.6%	8.1%	8.4%	8.5%	9.5%	**9.6%**
Wholesale Trade (F)	4.6%	3.6%	2.8%	2.7%	3.3%	3.5%	3.6%	4.0%	**3.8%**
Retail Trade (G)	4.6%	3.6%	2.9%	2.8%	3.2%	3.2%	3.2%	3.5%	**3.5%**
Accommodation (H)	7.5%	5.8%	4.5%	4.5%	5.2%	4.5%	4.0%	3.6%	**3.5%**
Transport, Postal and Warehousing (I)	3.6%	2.8%	2.2%	2.3%	2.8%	3.0%	2.8%	3.1%	**2.9%**
Information Media and Telecommunication (J)	6.1%	4.7%	3.5%	3.5%	4.5%	5.0%	5.4%	5.8%	**5.5%**
Financial and Insurance Services (K)	10.3%	8.0%	5.4%	5.1%	7.4%	8.6%	8.7%	8.4%	**7.2%**
Rental, Hiring and Real Estate Services (L)	7.4%	5.7%	3.8%	4.0%	5.2%	5.5%	5.8%	5.5%	**5.3%**
Professional, Scientific and Technical Services (M)	10.2%	7.9%	5.5%	4.9%	6.0%	6.2%	6.3%	6.6%	**5.4%**
Administrative and Support Services (N)	6.9%	5.4%	4.1%	4.1%	4.9%	5.0%	5.1%	5.4%	**4.7%**
Public Administration and Safety (O)	8.8%	6.8%	4.7%	5.4%	7.0%	8.0%	8.5%	9.5%	**8.4%**
Education and Training (P)	14.7%	11.4%	8.1%	8.1%	9.8%	9.5%	9.8%	9.7%	**8.0%**
Health Care and Social Assistance (Q)	8.9%	6.9%	5.1%	4.8%	5.3%	5.1%	5.2%	5.0%	**4.6%**
Arts and Recreation Services (R)	8.0%	6.2%	4.7%	5.5%	6.3%	6.3%	6.6%	7.1%	**6.3%**
Other Services (S)	7.2%	5.6%	4.2%	4.1%	4.2%	4.3%	4.9%	5.7%	**5.2%**

VICTORIA: OTHER (continued)

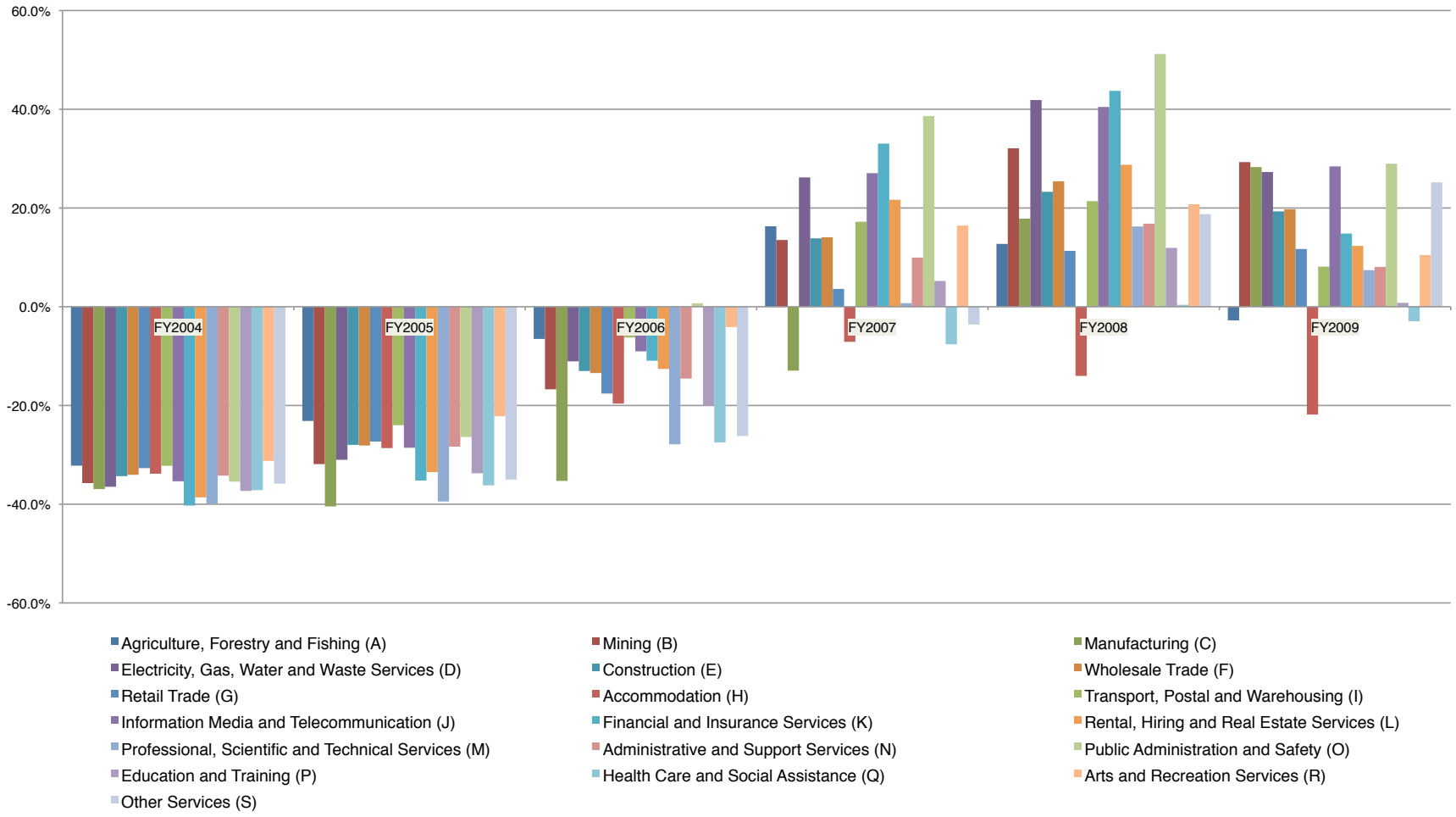
GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	-32.2%	-23.1%	-6.5%	16.3%	12.7%	**-2.8%**
Mining (B)	-35.7%	-31.9%	-16.7%	13.5%	32.1%	**29.3%**
Manufacturing (C)	-36.9%	-40.4%	-35.3%	-12.9%	17.8%	**28.3%**
Electricity, Gas, Water and Waste Services (D)	-36.5%	-31.0%	-11.1%	26.2%	41.9%	**27.3%**
Construction (E)	-34.3%	-28.0%	-13.0%	13.9%	23.3%	**19.3%**
Wholesale Trade (F)	-34.0%	-28.1%	-13.4%	14.1%	25.4%	**19.7%**
Retail Trade (G)	-32.7%	-27.3%	-17.6%	3.6%	11.3%	**11.7%**
Accommodation (H)	-33.8%	-28.6%	-19.6%	-7.1%	-14.0%	**-21.8%**
Transport, Postal and Warehousing (I)	-32.2%	-24.0%	-6.2%	17.2%	21.4%	**8.1%**
Information Media and Telecommunication (J)	-35.4%	-28.6%	-9.0%	27.1%	40.5%	**28.4%**
Financial and Insurance Services (K)	-40.3%	-35.2%	-10.9%	33.0%	43.7%	**14.8%**
Rental, Hiring and Real Estate Services (L)	-38.6%	-33.5%	-12.6%	21.7%	28.8%	**12.3%**
Professional, Scientific and Technical Services (M)	-39.9%	-39.4%	-27.9%	0.7%	16.3%	**7.4%**
Administrative and Support Services (N)	-34.2%	-28.3%	-14.5%	10.0%	16.8%	**8.1%**
Public Administration and Safety (O)	-35.4%	-26.4%	0.7%	38.6%	51.2%	**29.0%**
Education and Training (P)	-37.3%	-33.7%	-20.0%	5.2%	11.9%	**0.8%**
Health Care and Social Assistance (Q)	-37.1%	-36.2%	-27.5%	-7.6%	0.4%	**-2.9%**
Arts and Recreation Services (R)	-31.2%	-22.2%	-4.1%	16.4%	20.8%	**10.5%**
Other Services (S)	-35.8%	-35.0%	-26.2%	-3.6%	18.7%	**25.2%**

APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

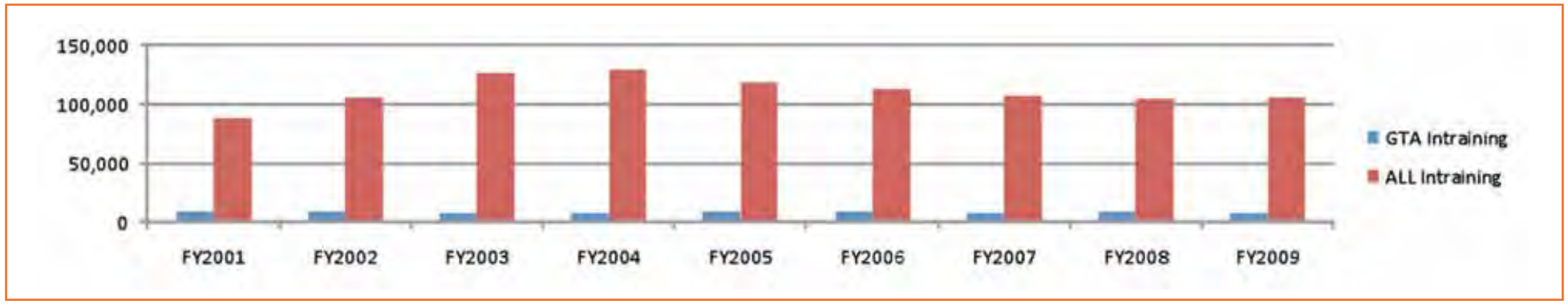
1

VICTORIA: OTHER (continued)



VICTORIA: ALL

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	8,575	8,454	8,402	8,422	8,685	8,667	8,419	8,466	**8,008**
ALL Intraining	88,075	106,426	126,753	128,767	118,750	113,121	107,522	105,092	**105,606**
GTA Commenced	5,748	6,284	6,202	6,072	6,196	5,623	5,550	5,676	**4,705**
ALL Commenced	71,691	82,925	106,696	76,069	79,437	79,474	73,164	73,339	**72,005**
GTA Completed	3,394	3,334	3,257	2,884	3,097	3,100	3,018	3,001	**3,186**
ALL Completed	22,967	28,779	36,772	42,851	44,321	43,454	42,071	40,967	**40,759**



APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

VICTORIA: ALL (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	1.3%	1.9%	0.2%	**-3.4%**
ALL Intraining	12.3%	-6.2%	-13.0%	**-11.8%**
GTA Commenced	-1.9%	-6.4%	-8.8%	**-11.0%**
ALL Commenced	-10.1%	-12.7%	-13.8%	**-7.0%**
GTA Completed	-9.1%	-2.7%	-1.3%	**1.4%**
ALL Completed	47.6%	19.8%	2.1%	**-5.2%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	9.7%	7.9%	6.6%	6.5%	7.3%	7.7%	7.8%	8.1%	**7.6%**
Commenced	8.0%	7.6%	5.8%	8.0%	7.8%	7.1%	7.6%	7.7%	**6.5%**
Completed	14.8%	11.6%	8.9%	6.7%	7.0%	7.1%	7.2%	7.3%	**7.8%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	-11.5%	8.0%	15.0%	**9.1%**
Commenced	6.8%	5.1%	3.7%	**-4.4%**
Completed	-40.8%	-21.6%	-4.2%	**7.0%**

VICTORIA: ALL (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	13.4%	11.1%	9.6%	9.5%	11.2%	11.7%	11.3%	11.1%	**10.4%**
Mining (B)	9.4%	7.8%	6.6%	6.6%	7.2%	7.8%	8.1%	8.3%	**8.1%**
Manufacturing (C)	9.2%	7.6%	6.4%	6.0%	6.0%	6.6%	7.2%	7.5%	**7.2%**
Electricity, Gas, Water and Waste Services (D)	11.3%	9.3%	7.7%	7.3%	8.4%	9.1%	9.2%	9.2%	**8.9%**
Construction (E)	15.0%	13.4%	12.4%	12.1%	12.5%	12.2%	11.4%	11.1%	**10.2%**
Wholesale Trade (F)	5.9%	4.6%	3.7%	3.7%	4.4%	4.8%	5.0%	5.4%	**5.3%**
Retail Trade (G)	6.0%	4.8%	4.1%	4.0%	4.5%	4.7%	4.8%	5.1%	**4.9%**
Accommodation (H)	7.2%	5.8%	4.8%	4.8%	5.3%	4.8%	4.3%	3.7%	**3.5%**
Transport, Postal and Warehousing (I)	5.3%	4.1%	3.4%	3.6%	4.4%	4.8%	4.7%	5.3%	**5.1%**
Information Media and Telecommunication (J)	9.1%	7.4%	6.0%	5.8%	6.8%	7.4%	7.6%	7.8%	**7.6%**
Financial and Insurance Services (K)	10.5%	8.2%	5.5%	5.3%	7.5%	8.8%	8.8%	8.5%	**7.4%**
Rental, Hiring and Real Estate Services (L)	8.4%	6.6%	4.6%	4.9%	6.3%	6.7%	7.0%	6.8%	**6.5%**
Professional, Scientific and Technical Services (M)	11.1%	8.8%	6.6%	6.0%	7.2%	7.5%	7.6%	7.9%	**6.7%**
Administrative and Support Services (N)	9.4%	7.6%	6.2%	6.1%	7.2%	7.6%	7.9%	8.2%	**7.6%**
Public Administration and Safety (O)	9.2%	7.4%	5.5%	6.0%	7.5%	8.4%	8.8%	9.6%	**8.6%**
Education and Training (P)	14.6%	11.6%	8.5%	8.5%	10.0%	9.9%	10.1%	10.0%	**8.4%**
Health Care and Social Assistance (Q)	8.8%	7.0%	5.2%	5.0%	5.4%	5.3%	5.3%	5.1%	**4.7%**
Arts and Recreation Services (R)	9.7%	7.8%	6.4%	6.9%	7.7%	8.0%	8.3%	8.6%	**7.9%**
Other Services (S)	12.5%	10.9%	10.0%	10.1%	10.7%	11.0%	11.5%	11.7%	**11.6%**

APPENDICES

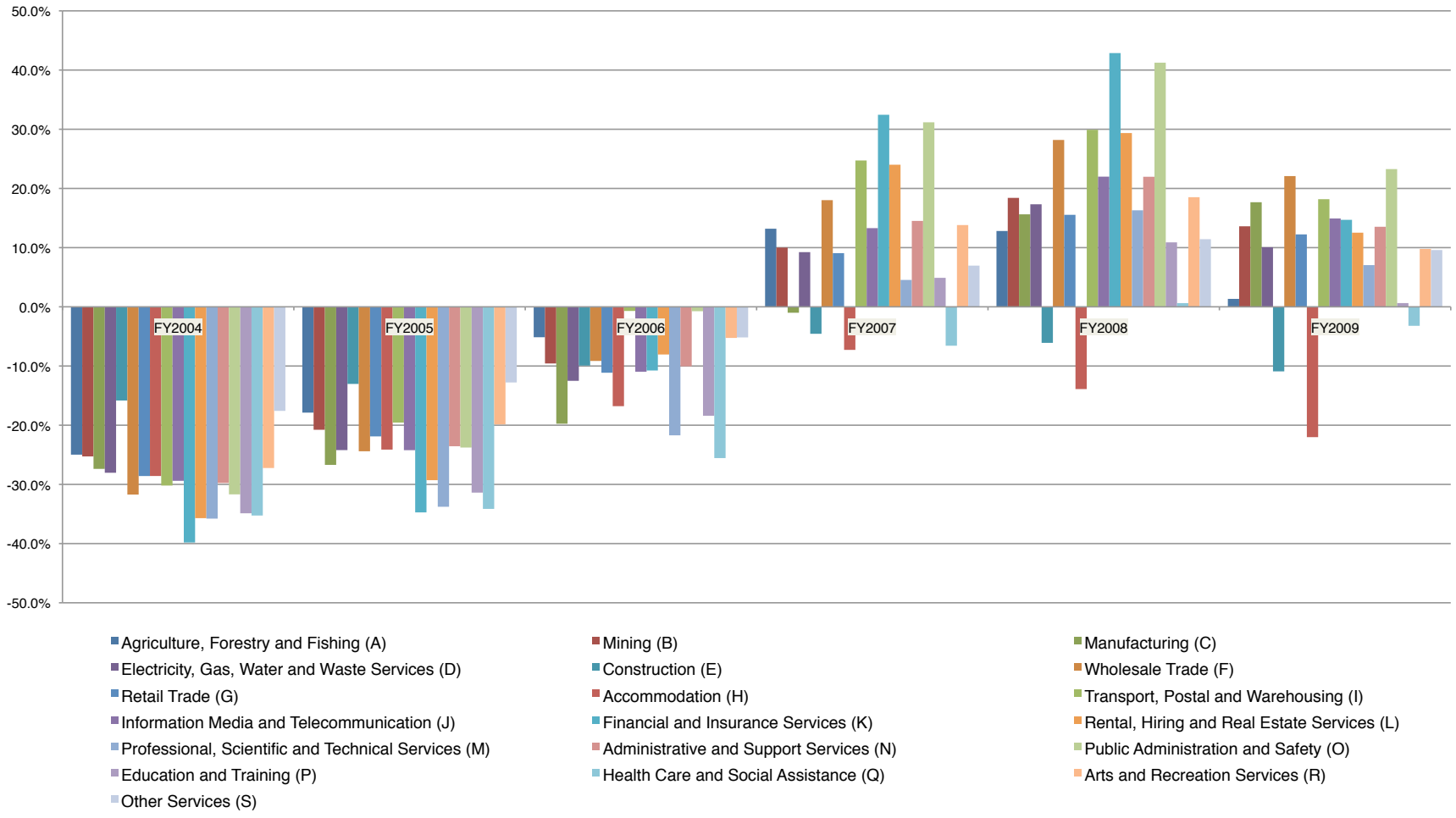
APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

VICTORIA: ALL (continued)

GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	-25.0%	-17.9%	-5.1%	13.2%	12.8%	**1.3%**
Mining (B)	-25.3%	-20.8%	-9.6%	10.0%	18.4%	**13.6%**
Manufacturing (C)	-27.4%	-26.7%	-19.8%	-1.0%	15.6%	**17.7%**
Electricity, Gas, Water and Waste Services (D)	-28.0%	-24.2%	-12.5%	9.2%	17.3%	**10.1%**
Construction (E)	-15.8%	-13.0%	-9.9%	-4.6%	-6.1%	**-10.9%**
Wholesale Trade (F)	-31.7%	-24.4%	-9.1%	18.0%	28.2%	**22.1%**
Retail Trade (G)	-28.6%	-21.9%	-11.1%	9.1%	15.5%	**12.2%**
Accommodation (H)	-28.6%	-24.1%	-16.8%	-7.3%	-13.9%	**-22.0%**
Transport, Postal and Warehousing (I)	-30.2%	-19.6%	-0.7%	24.7%	29.9%	**18.2%**
Information Media and Telecommunication (J)	-29.4%	-24.2%	-11.0%	13.3%	22.0%	**14.9%**
Financial and Insurance Services (K)	-39.8%	-34.7%	-10.8%	32.4%	42.9%	**14.7%**
Rental, Hiring and Real Estate Services (L)	-35.7%	-29.3%	-8.1%	24.0%	29.4%	**12.5%**
Professional, Scientific and Technical Services (M)	-35.8%	-33.8%	-21.7%	4.5%	16.3%	**7.0%**
Administrative and Support Services (N)	-29.8%	-23.6%	-10.1%	14.5%	22.0%	**13.5%**
Public Administration and Safety (O)	-31.7%	-23.8%	-0.7%	31.2%	41.2%	**23.3%**
Education and Training (P)	-34.9%	-31.4%	-18.4%	4.9%	10.9%	**0.6%**
Health Care and Social Assistance (Q)	-35.3%	-34.1%	-25.6%	-6.6%	0.6%	**-3.2%**
Arts and Recreation Services (R)	-27.2%	-19.9%	-5.3%	13.8%	18.5%	**9.8%**
Other Services (S)	-17.6%	-12.8%	-5.2%	7.0%	11.4%	**9.6%**

VICTORIA: ALL (continued)



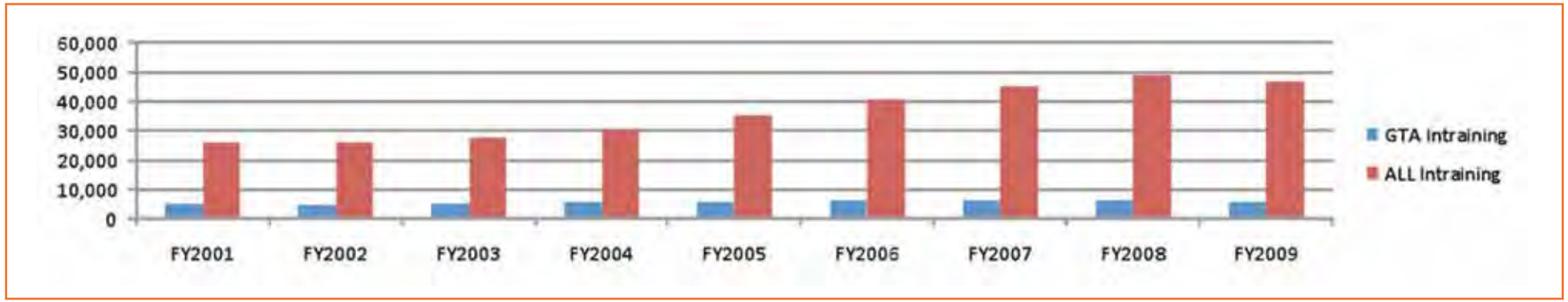
APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

QUEENSLAND: APPRENTICES

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	5,032	4,991	5,277	5,702	6,100	6,336	6,596	6,440	**5,746**
ALL Intraining	25,799	25,929	27,573	30,408	35,514	40,665	45,192	48,809	**46,810**
GTA Commenced	1,772	2,138	2,469	2,995	2,719	2,757	2,878	2,811	**1,778**
ALL Commenced	9,148	10,446	12,064	15,200	16,671	18,108	19,731	21,437	**14,915**
GTA Completed	1,007	1,065	1,179	1,209	1,006	1,237	1,399	1,616	**1,499**
ALL Completed	5,412	5,771	6,635	6,642	6,040	7,018	8,321	10,430	**11,308**



QUEENSLAND: APPRENTICES (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	18.6%	19.2%	13.4%	**3.5%**
ALL Intraining	34.4%	44.6%	44.0%	**32.1%**
GTA Commenced	32.8%	9.9%	3.2%	**-11.9%**
ALL Commenced	57.9%	44.6%	34.9%	**12.2%**
GTA Completed	6.2%	5.5%	25.3%	**30.8%**
ALL Completed	10.6%	12.2%	33.4%	**52.6%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	19.5%	19.2%	19.1%	18.8%	17.2%	15.6%	14.6%	13.2%	**12.3%**
Commenced	19.4%	20.5%	20.5%	19.7%	16.3%	15.2%	14.6%	13.1%	**11.9%**
Completed	18.6%	18.5%	17.8%	18.2%	16.7%	17.6%	16.8%	15.5%	**13.3%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	-11.0%	-17.1%	-21.2%	**-22.2%**
Commenced	-15.0%	-23.9%	-24.0%	**-22.7%**
Completed	-4.3%	-6.1%	-5.1%	**-13.2%**

APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

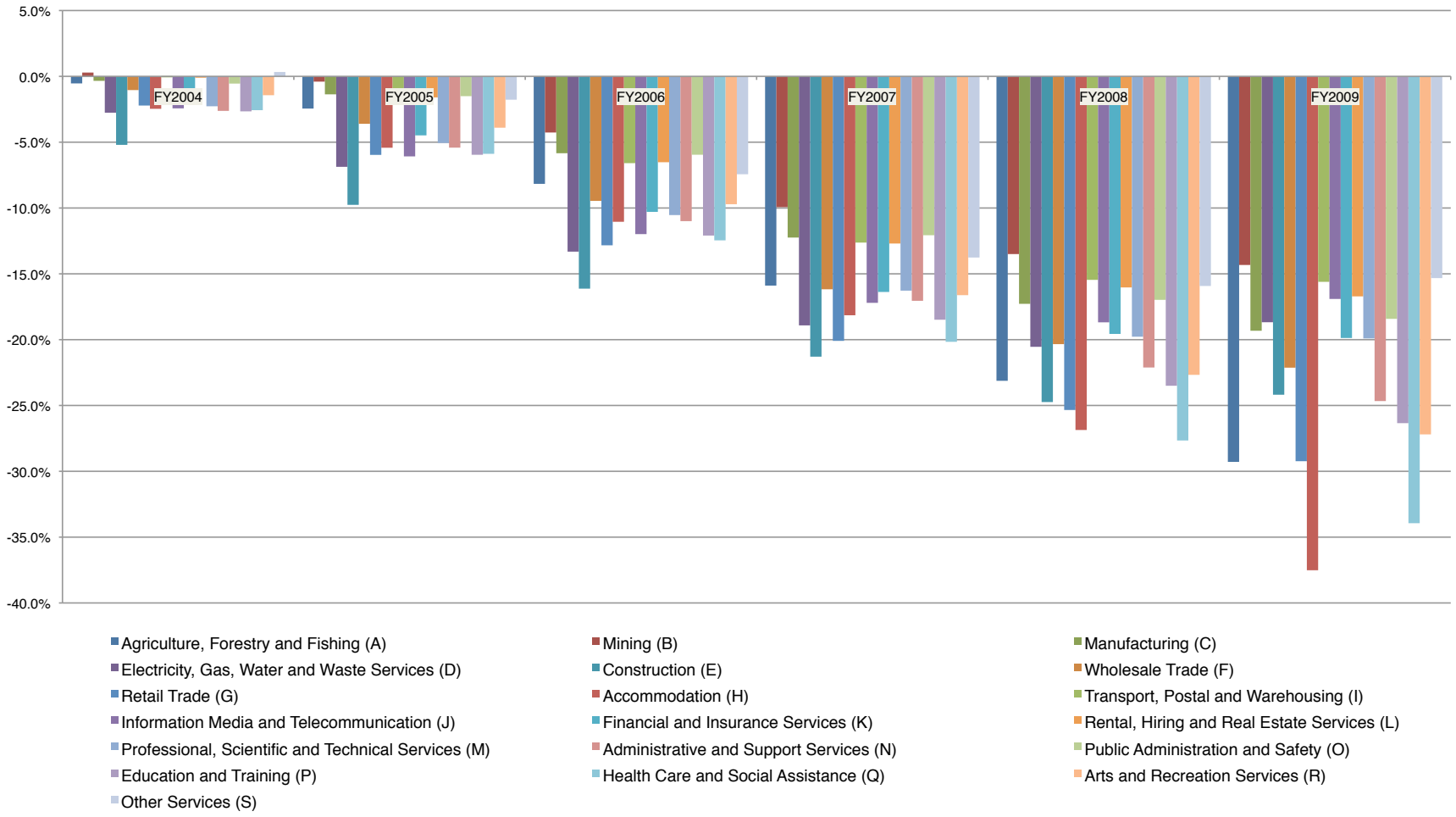
QUEENSLAND: APPRENTICES (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	18.0%	17.8%	18.0%	18.0%	16.4%	15.1%	13.7%	11.5%	**9.8%**
Mining (B)	15.6%	15.4%	15.7%	15.9%	14.8%	14.1%	13.5%	12.6%	**12.3%**
Manufacturing (C)	15.5%	15.3%	15.5%	15.6%	14.5%	13.4%	12.7%	11.6%	**10.9%**
Electricity, Gas, Water and Waste Services (D)	21.6%	21.3%	21.2%	20.4%	18.3%	16.8%	15.9%	14.8%	**14.4%**
Construction (E)	24.1%	23.8%	23.0%	21.8%	20.0%	17.6%	16.3%	14.8%	**13.9%**
Wholesale Trade (F)	19.2%	18.9%	19.1%	18.9%	17.1%	15.8%	14.8%	13.3%	**12.2%**
Retail Trade (G)	22.3%	22.0%	22.0%	21.4%	19.1%	17.3%	15.9%	13.5%	**11.5%**
Accommodation (H)	29.5%	29.1%	29.0%	28.3%	26.0%	23.7%	21.0%	16.1%	**11.6%**
Transport, Postal and Warehousing (I)	16.6%	16.4%	16.7%	16.8%	15.3%	14.4%	13.9%	12.9%	**12.4%**
Information Media and Telecommunication (J)	19.5%	19.2%	19.2%	18.6%	16.8%	15.6%	14.9%	13.9%	**13.6%**
Financial and Insurance Services (K)	18.9%	18.6%	18.7%	18.4%	16.7%	15.4%	14.6%	13.3%	**12.5%**
Rental, Hiring and Real Estate Services (L)	16.3%	16.1%	16.3%	16.4%	15.0%	14.1%	13.5%	12.5%	**11.9%**
Professional, Scientific and Technical Services (M)	19.8%	19.5%	19.4%	19.0%	17.5%	16.0%	15.1%	13.8%	**13.2%**
Administrative and Support Services (N)	19.8%	19.5%	19.4%	19.0%	17.5%	15.8%	14.7%	13.0%	**11.7%**
Public Administration and Safety (O)	13.1%	13.0%	13.0%	13.1%	12.3%	11.3%	10.8%	9.9%	**9.3%**
Education and Training (P)	20.4%	20.1%	20.0%	19.4%	17.7%	16.0%	14.8%	12.9%	**11.5%**
Health Care and Social Assistance (Q)	22.8%	22.5%	22.4%	21.8%	19.8%	17.6%	15.7%	12.9%	**10.5%**
Arts and Recreation Services (R)	16.8%	16.6%	16.6%	16.4%	15.0%	13.7%	12.6%	10.8%	**9.4%**
Other Services (S)	14.8%	14.6%	14.9%	15.0%	13.4%	12.6%	12.3%	11.5%	**10.9%**

QUEENSLAND: APPRENTICES (continued)

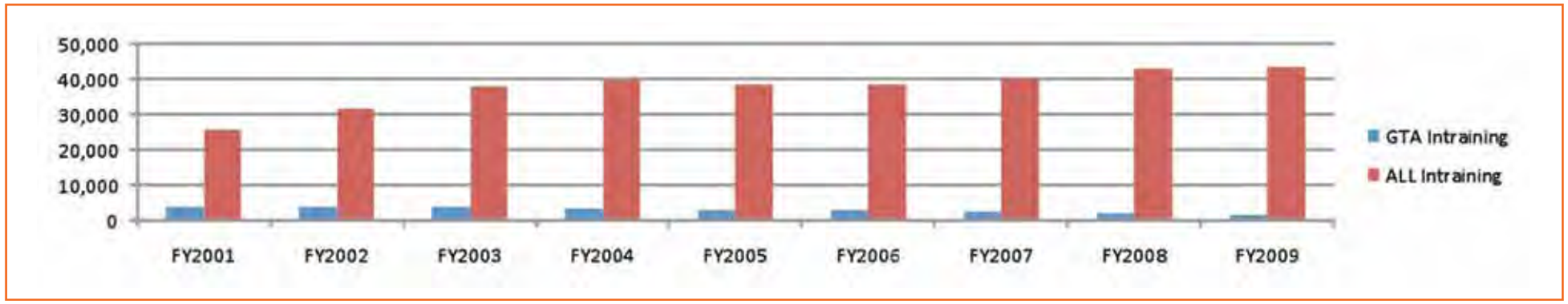
GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	-0.5%	-2.4%	-8.2%	-15.9%	-23.1%	**-29.3%**
Mining (B)	0.3%	-0.4%	-4.3%	-9.9%	-13.5%	**-14.3%**
Manufacturing (C)	-0.3%	-1.4%	-5.8%	-12.2%	-17.3%	**-19.3%**
Electricity, Gas, Water and Waste Services (D)	-2.8%	-6.9%	-13.3%	-18.9%	-20.5%	**-18.7%**
Construction (E)	-5.2%	-9.8%	-16.1%	-21.3%	-24.7%	**-24.2%**
Wholesale Trade (F)	-1.0%	-3.6%	-9.5%	-16.2%	-20.3%	**-22.1%**
Retail Trade (G)	-2.2%	-6.0%	-12.8%	-20.1%	-25.3%	**-29.2%**
Accommodation (H)	-2.5%	-5.4%	-11.0%	-18.1%	-26.9%	**-37.5%**
Transport, Postal and Warehousing (I)	0.0%	-1.6%	-6.6%	-12.6%	-15.5%	**-15.6%**
Information Media and Telecommunication (J)	-2.4%	-6.1%	-12.0%	-17.2%	-18.7%	**-16.9%**
Financial and Insurance Services (K)	-1.6%	-4.5%	-10.3%	-16.4%	-19.6%	**-19.9%**
Rental, Hiring and Real Estate Services (L)	0.0%	-1.6%	-6.5%	-12.7%	-16.0%	**-16.7%**
Professional, Scientific and Technical Services (M)	-2.3%	-5.1%	-10.5%	-16.3%	-19.8%	**-19.9%**
Administrative and Support Services (N)	-2.6%	-5.4%	-11.0%	-17.0%	-22.1%	**-24.7%**
Public Administration and Safety (O)	-0.6%	-1.5%	-6.0%	-12.1%	-17.0%	**-18.4%**
Education and Training (P)	-2.7%	-6.0%	-12.1%	-18.5%	-23.5%	**-26.3%**
Health Care and Social Assistance (Q)	-2.6%	-5.9%	-12.5%	-20.2%	-27.7%	**-33.9%**
Arts and Recreation Services (R)	-1.4%	-3.9%	-9.7%	-16.6%	-22.7%	**-27.2%**
Other Services (S)	0.3%	-1.8%	-7.4%	-13.8%	-15.9%	**-15.3%**

QUEENSLAND: APPRENTICES (continued)



QUEENSLAND: OTHER

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	4,007	3,908	4,067	3,601	3,187	2,957	2,619	2,182	**1,818**
ALL Intraining	25,920	31,858	38,132	40,007	38,553	38,404	40,515	43,072	**43,698**
GTA Commenced	4,263	4,455	4,482	3,466	3,282	2,884	2,734	2,124	**1,883**
ALL Commenced	29,039	34,819	39,209	34,354	35,252	36,899	41,172	43,167	**39,005**
GTA Completed	2,247	2,360	2,476	2,382	1,980	1,994	1,965	1,579	**1,409**
ALL Completed	11,914	15,563	18,027	20,628	20,457	21,481	22,198	22,535	**23,007**



QUEENSLAND: OTHER (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	-18.7%	-24.3%	-28.5%	**-32.1%**
ALL Intraining	22.0%	6.8%	4.5%	**8.8%**
GTA Commenced	-27.0%	-28.2%	-31.1%	**-30.0%**
ALL Commenced	3.3%	4.6%	11.4%	**15.8%**
GTA Completed	-10.3%	-17.7%	-19.0%	**-22.1%**
ALL Completed	37.5%	18.3%	12.0%	**8.3%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	15.5%	12.3%	10.7%	9.0%	8.3%	7.7%	6.5%	5.1%	**4.2%**
Commenced	14.7%	12.8%	11.4%	10.1%	9.3%	7.8%	6.6%	4.9%	**4.8%**
Completed	18.9%	15.2%	13.7%	11.5%	9.7%	9.3%	8.9%	7.0%	**6.1%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	-35.0%	-29.8%	-31.2%	**-37.2%**
Commenced	-30.0%	-30.7%	-37.2%	**-39.8%**
Completed	-36.1%	-31.2%	-28.1%	**-27.9%**

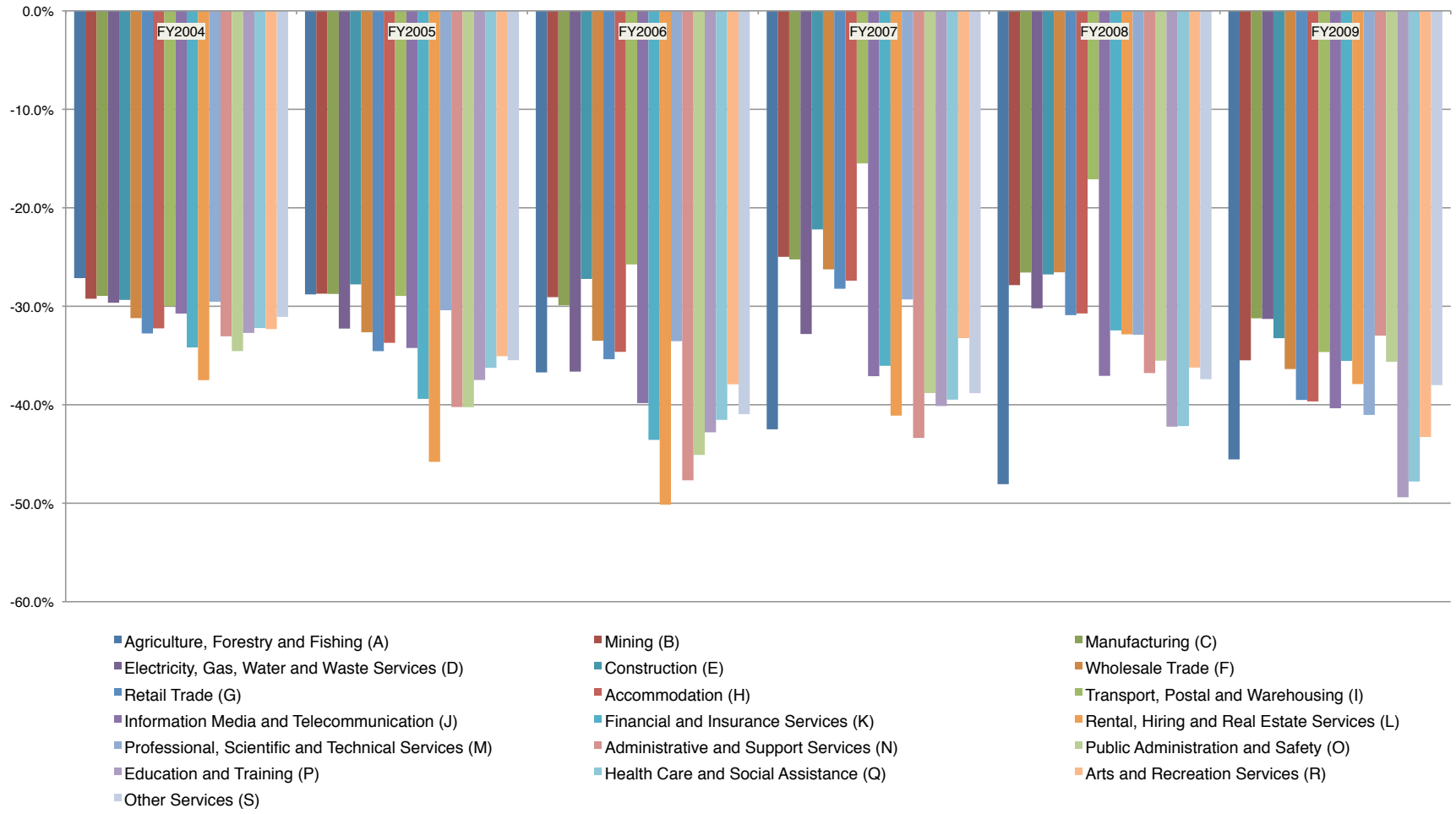
QUEENSLAND: OTHER (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	19.5%	15.5%	14.2%	13.0%	10.2%	7.9%	6.4%	5.1%	**5.5%**
Mining (B)	13.7%	10.9%	9.7%	8.6%	8.1%	7.6%	6.2%	5.2%	**4.3%**
Manufacturing (C)	12.1%	9.6%	8.6%	7.6%	7.0%	6.6%	5.7%	4.8%	**4.2%**
Electricity, Gas, Water and Waste Services (D)	19.0%	15.1%	13.6%	11.5%	9.6%	9.2%	8.2%	6.9%	**5.7%**
Construction (E)	22.2%	17.6%	15.4%	14.1%	13.7%	12.4%	10.5%	8.7%	**7.6%**
Wholesale Trade (F)	10.9%	8.7%	7.6%	6.3%	5.9%	5.8%	4.9%	3.8%	**2.8%**
Retail Trade (G)	12.2%	9.7%	8.2%	6.7%	6.5%	6.2%	5.0%	3.7%	**3.1%**
Accommodation (H)	16.0%	12.7%	10.9%	9.0%	8.7%	8.2%	6.7%	4.9%	**4.0%**
Transport, Postal and Warehousing (I)	9.6%	7.6%	6.7%	5.8%	5.8%	6.2%	5.1%	3.9%	**2.6%**
Information Media and Telecommunication (J)	17.0%	13.5%	12.1%	9.8%	8.3%	7.6%	6.4%	5.0%	**3.9%**
Financial and Insurance Services (K)	14.7%	11.6%	9.9%	7.4%	6.6%	6.4%	5.5%	4.2%	**3.4%**
Rental, Hiring and Real Estate Services (L)	15.6%	12.4%	9.9%	6.9%	5.9%	6.1%	5.3%	3.9%	**2.5%**
Professional, Scientific and Technical Services (M)	15.8%	12.6%	11.4%	9.5%	8.8%	8.2%	6.8%	5.0%	**3.8%**
Administrative and Support Services (N)	14.0%	11.1%	9.7%	7.3%	5.5%	5.4%	5.0%	3.8%	**3.4%**
Public Administration and Safety (O)	18.3%	14.5%	12.3%	9.1%	8.0%	7.6%	6.3%	5.0%	**4.6%**
Education and Training (P)	16.9%	13.5%	11.6%	9.2%	7.8%	7.0%	5.7%	3.7%	**2.7%**
Health Care and Social Assistance (Q)	17.9%	14.2%	12.2%	10.0%	8.5%	7.5%	6.1%	4.3%	**3.2%**
Arts and Recreation Services (R)	15.5%	12.3%	10.6%	8.5%	7.9%	7.4%	5.7%	4.2%	**3.7%**
Other Services (S)	18.0%	14.3%	12.6%	10.3%	8.3%	7.8%	6.6%	5.1%	**4.7%**

QUEENSLAND: OTHER (continued)

GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	-27.1%	-28.8%	-36.7%	-42.5%	-48.1%	**-45.5%**
Mining (B)	-29.2%	-28.7%	-29.1%	-25.0%	-27.9%	**-35.5%**
Manufacturing (C)	-28.9%	-28.7%	-29.9%	-25.2%	-26.6%	**-31.2%**
Electricity, Gas, Water and Waste Services (D)	-29.6%	-32.3%	-36.6%	-32.8%	-30.2%	**-31.3%**
Construction (E)	-29.4%	-27.8%	-27.2%	-22.2%	-26.8%	**-33.2%**
Wholesale Trade (F)	-31.2%	-32.6%	-33.5%	-26.3%	-26.6%	**-36.4%**
Retail Trade (G)	-32.8%	-34.6%	-35.4%	-28.2%	-30.9%	**-39.5%**
Accommodation (H)	-32.2%	-33.7%	-34.6%	-27.4%	-30.7%	**-39.7%**
Transport, Postal and Warehousing (I)	-30.0%	-29.0%	-25.8%	-15.5%	-17.1%	**-34.6%**
Information Media and Telecommunication (J)	-30.7%	-34.2%	-39.8%	-37.1%	-37.1%	**-40.4%**
Financial and Insurance Services (K)	-34.2%	-39.4%	-43.6%	-36.0%	-32.5%	**-35.5%**
Rental, Hiring and Real Estate Services (L)	-37.5%	-45.8%	-50.1%	-41.1%	-32.8%	**-37.9%**
Professional, Scientific and Technical Services (M)	-29.5%	-30.4%	-33.5%	-29.3%	-32.9%	**-41.0%**
Administrative and Support Services (N)	-33.1%	-40.2%	-47.7%	-43.4%	-36.8%	**-33.0%**
Public Administration and Safety (O)	-34.6%	-40.2%	-45.1%	-38.8%	-35.5%	**-35.6%**
Education and Training (P)	-32.7%	-37.5%	-42.8%	-40.1%	-42.2%	**-49.4%**
Health Care and Social Assistance (Q)	-32.2%	-36.3%	-41.5%	-39.5%	-42.2%	**-47.8%**
Arts and Recreation Services (R)	-32.3%	-35.1%	-37.9%	-33.2%	-36.2%	**-43.3%**
Other Services (S)	-31.1%	-35.5%	-41.0%	-38.8%	-37.4%	**-38.0%**

QUEENSLAND: OTHER (continued)



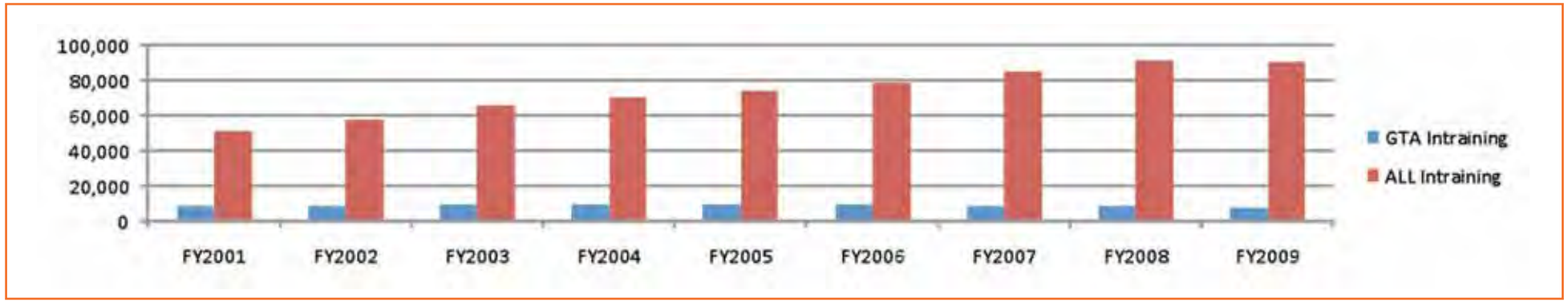
APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

QUEENSLAND: ALL

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	9,039	8,899	9,344	9,303	9,287	9,294	9,215	8,622	**7,564**
ALL Intraining	51,719	57,787	65,704	70,414	74,067	79,069	85,707	91,882	**90,508**
GTA Commenced	6,035	6,593	6,951	6,461	6,001	5,641	5,612	4,935	**3,661**
ALL Commenced	38,187	45,265	51,273	49,554	51,923	55,007	60,903	64,604	**53,920**
GTA Completed	3,254	3,425	3,655	3,591	2,986	3,231	3,364	3,195	**2,908**
ALL Completed	17,326	21,334	24,662	27,270	26,497	28,499	30,519	32,965	**34,315**



QUEENSLAND: ALL (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	2.2%	0.9%	-2.9%	**-8.9%**
ALL Intraining	27.6%	23.2%	22.1%	**19.9%**
GTA Commenced	-7.5%	-13.8%	-16.6%	**-21.5%**
ALL Commenced	16.2%	14.9%	18.2%	**14.7%**
GTA Completed	-5.1%	-10.2%	-4.3%	**-3.5%**
ALL Completed	29.9%	16.7%	17.3%	**18.9%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	17.5%	15.4%	14.2%	13.2%	12.5%	11.8%	10.8%	9.4%	**8.4%**
Commenced	15.8%	14.6%	13.6%	13.0%	11.6%	10.3%	9.2%	7.6%	**6.8%**
Completed	18.8%	16.1%	14.8%	13.2%	11.3%	11.3%	11.0%	9.7%	**8.5%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	-20.4%	-18.2%	-20.2%	**-24.0%**
Commenced	-20.7%	-24.6%	-28.9%	**-32.2%**
Completed	-28.0%	-23.6%	-18.4%	**-18.4%**

APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

QUEENSLAND: ALL (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	19.3%	15.8%	14.6%	13.6%	11.2%	9.2%	7.8%	6.6%	**6.6%**
Mining (B)	14.9%	13.4%	12.8%	12.6%	12.1%	11.6%	10.7%	9.9%	**9.3%**
Manufacturing (C)	14.3%	12.9%	12.4%	12.0%	11.4%	10.8%	10.0%	9.0%	**8.4%**
Electricity, Gas, Water and Waste Services (D)	20.8%	19.2%	18.5%	17.3%	15.6%	14.7%	13.9%	12.8%	**12.2%**
Construction (E)	23.6%	22.0%	20.6%	19.3%	18.2%	16.3%	14.8%	13.2%	**12.3%**
Wholesale Trade (F)	13.9%	12.0%	11.0%	10.2%	9.9%	9.7%	8.8%	7.6%	**5.8%**
Retail Trade (G)	15.6%	13.2%	11.8%	10.7%	10.5%	9.9%	8.7%	7.1%	**6.0%**
Accommodation (H)	19.9%	16.8%	15.0%	13.4%	13.1%	12.2%	10.3%	7.7%	**6.0%**
Transport, Postal and Warehousing (I)	12.0%	10.3%	9.5%	9.1%	9.2%	9.6%	8.8%	7.8%	**6.1%**
Information Media and Telecommunication (J)	18.5%	16.6%	15.8%	14.5%	13.1%	12.5%	11.8%	10.8%	**9.9%**
Financial and Insurance Services (K)	14.8%	11.9%	10.1%	7.8%	7.0%	6.8%	5.9%	4.6%	**3.7%**
Rental, Hiring and Real Estate Services (L)	15.7%	13.1%	11.0%	8.6%	7.7%	7.9%	7.2%	6.0%	**4.3%**
Professional, Scientific and Technical Services (M)	16.7%	13.9%	12.8%	11.4%	10.8%	10.3%	9.1%	7.6%	**6.5%**
Administrative and Support Services (N)	15.6%	13.1%	11.8%	9.9%	8.4%	8.4%	8.2%	7.1%	**6.4%**
Public Administration and Safety (O)	16.1%	13.9%	12.5%	10.4%	9.5%	9.0%	8.0%	6.9%	**6.3%**
Education and Training (P)	17.5%	14.3%	12.5%	10.5%	9.2%	8.6%	7.5%	5.5%	**4.3%**
Health Care and Social Assistance (Q)	18.5%	15.1%	13.2%	11.2%	9.8%	8.7%	7.3%	5.3%	**4.1%**
Arts and Recreation Services (R)	15.8%	13.3%	11.9%	10.2%	9.6%	9.2%	7.8%	6.2%	**5.5%**
Other Services (S)	15.4%	14.5%	14.3%	13.7%	12.1%	11.4%	10.9%	9.9%	**9.4%**

QUEENSLAND: ALL (continued)

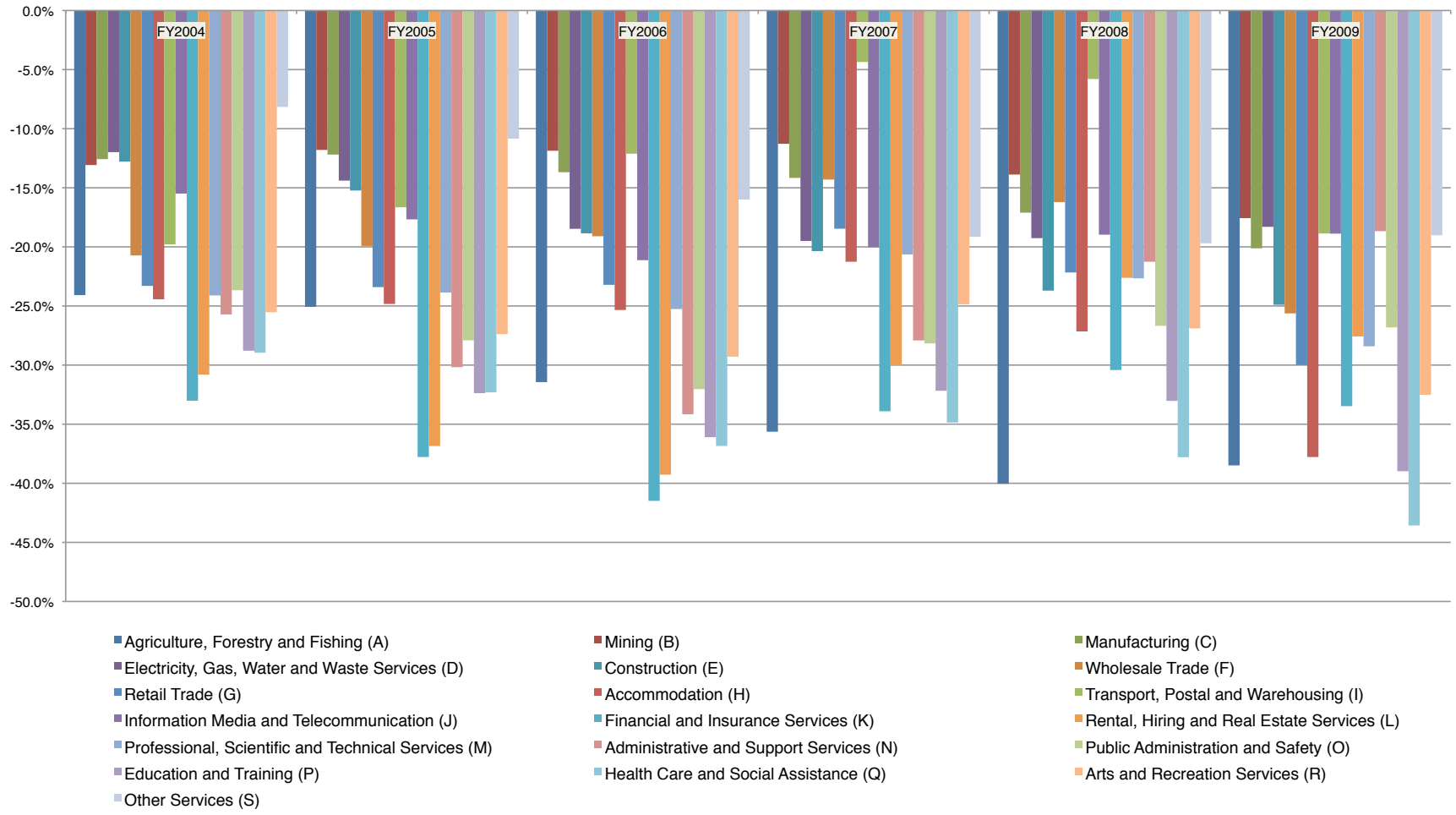
GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	-24.1%	-25.1%	-31.4%	-35.6%	-40.0%	**-38.5%**
Mining (B)	-13.1%	-11.8%	-11.9%	-11.3%	-13.9%	**-17.6%**
Manufacturing (C)	-12.6%	-12.2%	-13.7%	-14.2%	-17.1%	**-20.1%**
Electricity, Gas, Water and Waste Services (D)	-12.0%	-14.4%	-18.5%	-19.5%	-19.3%	**-18.3%**
Construction (E)	-12.8%	-15.2%	-18.9%	-20.4%	-23.7%	**-24.9%**
Wholesale Trade (F)	-20.7%	-19.9%	-19.1%	-14.3%	-16.2%	**-25.6%**
Retail Trade (G)	-23.3%	-23.4%	-23.2%	-18.5%	-22.2%	**-30.0%**
Accommodation (H)	-24.4%	-24.8%	-25.3%	-21.3%	-27.2%	**-37.8%**
Transport, Postal and Warehousing (I)	-19.8%	-16.6%	-12.1%	-4.4%	-5.8%	**-18.9%**
Information Media and Telecommunication (J)	-15.5%	-17.7%	-21.1%	-20.0%	-19.0%	**-18.9%**
Financial and Insurance Services (K)	-33.0%	-37.8%	-41.5%	-33.9%	-30.4%	**-33.5%**
Rental, Hiring and Real Estate Services (L)	-30.8%	-36.8%	-39.3%	-30.0%	-22.6%	**-27.6%**
Professional, Scientific and Technical Services (M)	-24.1%	-23.9%	-25.3%	-20.6%	-22.7%	**-28.4%**
Administrative and Support Services (N)	-25.7%	-30.2%	-34.2%	-27.9%	-21.3%	**-18.7%**
Public Administration and Safety (O)	-23.7%	-27.9%	-32.0%	-28.2%	-26.7%	**-26.8%**
Education and Training (P)	-28.8%	-32.4%	-36.1%	-32.2%	-33.0%	**-39.0%**
Health Care and Social Assistance (Q)	-29.0%	-32.3%	-36.8%	-34.9%	-37.8%	**-43.6%**
Arts and Recreation Services (R)	-25.5%	-27.4%	-29.3%	-24.9%	-26.9%	**-32.5%**
Other Services (S)	-8.2%	-10.8%	-16.0%	-19.1%	-19.7%	**-19.0%**

APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

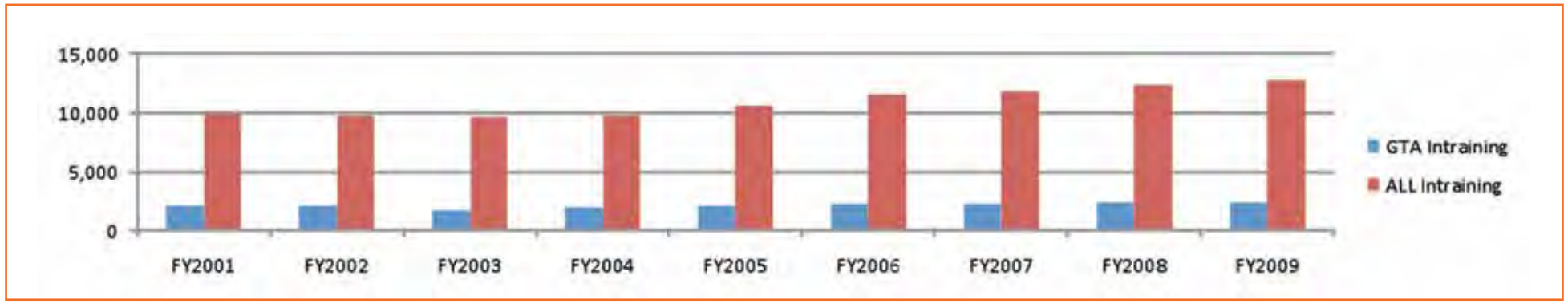
1

QUEENSLAND: ALL (continued)



SOUTH AUSTRALIA: APPRENTICES

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	2,140	2,199	1,774	1,945	2,109	2,243	2,254	2,354	**2,374**
ALL Intraining	9,938	9,806	9,666	9,830	10,612	11,498	11,829	12,420	**12,835**
GTA Commenced	692	857	743	762	764	756	864	1,000	**789**
ALL Commenced	3,535	3,535	4,028	4,509	4,765	4,820	4,967	5,930	**5,191**
GTA Completed	469	511	390	434	357	477	534	530	**507**
ALL Completed	2,044	2,111	2,500	2,383	1,995	2,184	2,569	2,879	**2,583**

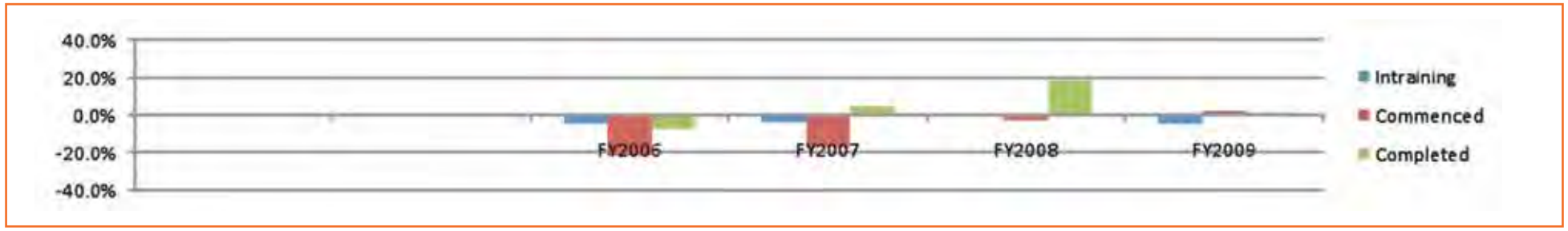


SOUTH AUSTRALIA: APPRENTICES (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	3.0%	11.6%	17.6%	**10.9%**
ALL Intraining	8.6%	15.8%	18.7%	**16.1%**
GTA Commenced	-0.4%	0.9%	15.5%	**16.3%**
ALL Commenced	27.0%	20.5%	18.2%	**14.1%**
GTA Completed	-7.4%	2.5%	30.5%	**23.9%**
ALL Completed	-1.4%	-3.5%	11.0%	**22.4%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	21.5%	22.4%	18.4%	19.8%	19.9%	19.5%	19.1%	19.0%	**18.5%**
Commenced	19.6%	24.2%	18.4%	16.9%	16.0%	15.7%	17.4%	16.9%	**15.2%**
Completed	22.9%	24.2%	15.6%	18.2%	17.9%	21.8%	20.8%	18.4%	**19.6%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	-5.0%	-3.5%	-0.8%	**-4.5%**
Commenced	-21.9%	-17.6%	-2.8%	**1.7%**
Completed	-7.7%	4.3%	18.0%	**1.5%**



SOUTH AUSTRALIA: APPRENTICES (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	6.2%	6.5%	6.3%	8.8%	9.2%	8.9%	8.5%	9.5%	**9.1%**
Mining (B)	16.5%	17.1%	13.7%	13.7%	12.8%	12.2%	11.9%	12.1%	**11.9%**
Manufacturing (C)	15.7%	16.4%	13.2%	13.7%	12.9%	12.1%	11.6%	11.6%	**11.6%**
Electricity, Gas, Water and Waste Services (D)	30.9%	32.1%	25.6%	24.9%	22.7%	21.2%	20.5%	20.2%	**19.3%**
Construction (E)	40.1%	41.8%	34.1%	35.5%	34.4%	32.8%	31.0%	29.5%	**27.5%**
Wholesale Trade (F)	17.7%	18.4%	15.0%	16.2%	16.3%	16.1%	15.8%	15.9%	**16.0%**
Retail Trade (G)	12.4%	12.9%	10.4%	11.3%	12.2%	12.6%	12.5%	12.8%	**13.2%**
Accommodation (H)	1.8%	1.9%	1.6%	1.7%	2.0%	2.1%	2.0%	2.1%	**2.1%**
Transport, Postal and Warehousing (I)	23.0%	24.0%	19.3%	20.7%	21.4%	21.3%	21.1%	21.1%	**21.7%**
Information Media and Telecommunication (J)	28.6%	29.8%	23.5%	22.0%	19.5%	18.5%	18.3%	18.4%	**17.2%**
Financial and Insurance Services (K)	18.7%	19.4%	15.8%	16.7%	16.4%	15.9%	15.5%	15.6%	**15.4%**
Rental, Hiring and Real Estate Services (L)	18.6%	19.4%	15.7%	16.6%	16.8%	16.7%	16.7%	16.9%	**16.9%**
Professional, Scientific and Technical Services (M)	28.4%	29.6%	24.0%	24.6%	23.2%	21.9%	21.0%	20.5%	**19.6%**
Administrative and Support Services (N)	9.4%	9.8%	9.3%	12.4%	12.6%	12.2%	12.1%	13.2%	**12.5%**
Public Administration and Safety (O)	12.6%	13.1%	10.9%	11.8%	11.5%	11.2%	11.1%	11.5%	**11.3%**
Education and Training (P)	16.8%	17.5%	15.8%	18.5%	17.5%	16.7%	16.6%	17.3%	**16.1%**
Health Care and Social Assistance (Q)	6.5%	6.8%	5.7%	6.3%	6.6%	6.7%	6.6%	6.8%	**6.6%**
Arts and Recreation Services (R)	8.0%	8.4%	7.8%	9.9%	10.0%	9.9%	9.9%	10.8%	**10.0%**
Other Services (S)	20.1%	20.9%	16.7%	17.7%	19.0%	19.5%	19.7%	20.1%	**20.6%**

APPENDICES

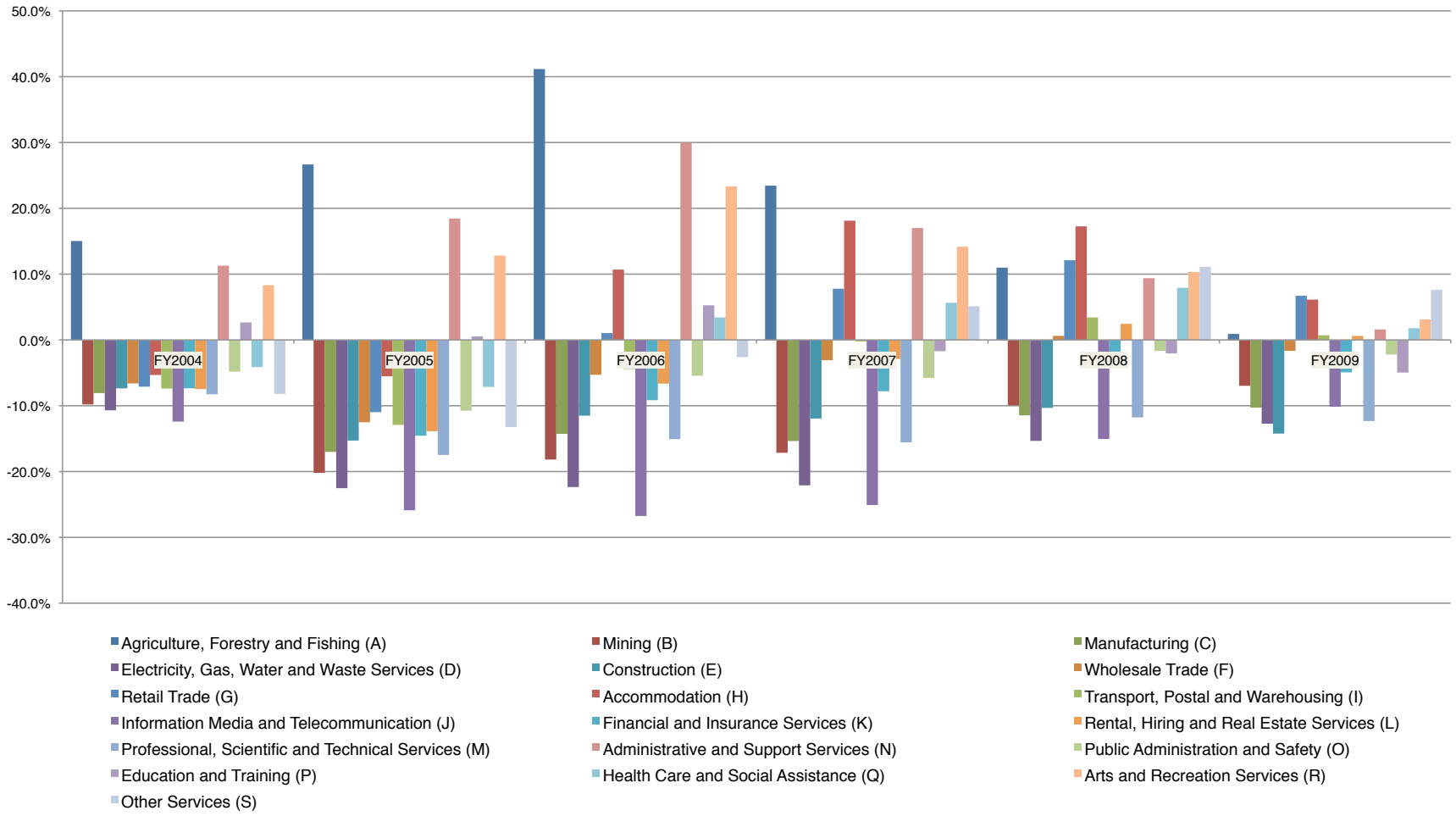
APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

SOUTH AUSTRALIA: APPRENTICES (continued)

GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	15.0%	26.7%	41.2%	23.4%	11.0%	**0.9%**
Mining (B)	-9.8%	-20.2%	-18.2%	-17.1%	-9.9%	**-7.0%**
Manufacturing (C)	-8.1%	-17.0%	-14.3%	-15.4%	-11.5%	**-10.3%**
Electricity, Gas, Water and Waste Services (D)	-10.7%	-22.5%	-22.4%	-22.1%	-15.3%	**-12.7%**
Construction (E)	-7.4%	-15.3%	-11.5%	-11.9%	-10.3%	**-14.2%**
Wholesale Trade (F)	-6.6%	-12.5%	-5.3%	-3.1%	0.6%	**-1.7%**
Retail Trade (G)	-7.1%	-11.0%	1.0%	7.8%	12.1%	**6.7%**
Accommodation (H)	-5.3%	-5.5%	10.7%	18.1%	17.3%	**6.1%**
Transport, Postal and Warehousing (I)	-7.4%	-12.9%	-4.4%	-0.2%	3.4%	**0.7%**
Information Media and Telecommunication (J)	-12.4%	-25.9%	-26.7%	-25.1%	-15.0%	**-10.1%**
Financial and Insurance Services (K)	-7.3%	-14.5%	-9.2%	-7.8%	-3.6%	**-4.9%**
Rental, Hiring and Real Estate Services (L)	-7.5%	-13.9%	-6.6%	-2.9%	2.4%	**0.6%**
Professional, Scientific and Technical Services (M)	-8.3%	-17.5%	-15.1%	-15.6%	-11.8%	**-12.3%**
Administrative and Support Services (N)	11.3%	18.4%	30.0%	17.0%	9.4%	**1.6%**
Public Administration and Safety (O)	-4.8%	-10.8%	-5.4%	-5.8%	-1.7%	**-2.2%**
Education and Training (P)	2.7%	0.5%	5.3%	-1.7%	-2.1%	**-5.0%**
Health Care and Social Assistance (Q)	-4.1%	-7.1%	3.4%	5.6%	7.9%	**1.8%**
Arts and Recreation Services (R)	8.3%	12.8%	23.3%	14.2%	10.3%	**3.1%**
Other Services (S)	-8.2%	-13.2%	-2.6%	5.1%	11.1%	**7.6%**

SOUTH AUSTRALIA: APPRENTICES (continued)



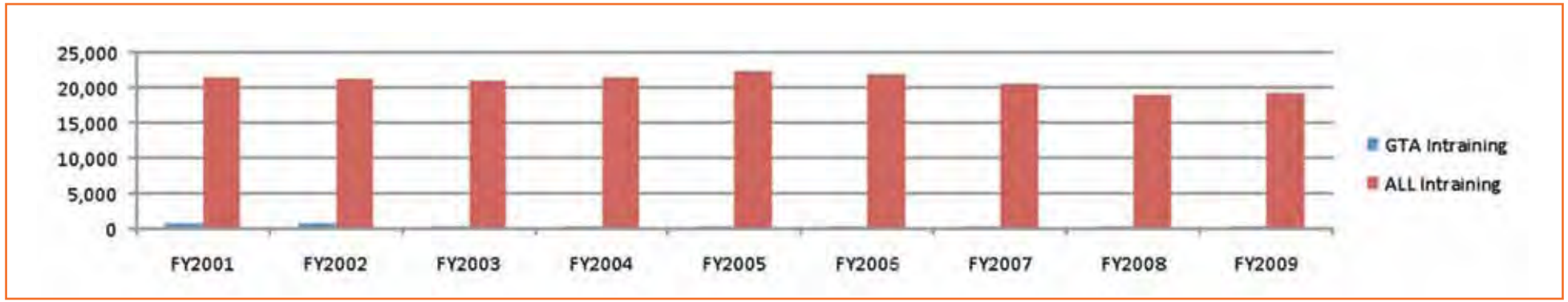
APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

SOUTH AUSTRALIA: OTHER

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	742	731	292	352	361	372	319	305	**305**
ALL Intraining	21,586	21,364	21,125	21,593	22,441	22,088	20,619	19,109	**19,182**
GTA Commenced	787	860	319	461	377	413	339	361	**308**
ALL Commenced	16,883	15,897	16,929	16,253	17,000	15,843	15,695	15,827	**15,633**
GTA Completed	525	573	193	197	256	218	212	165	**178**
ALL Completed	7,327	8,497	8,296	7,903	7,203	7,985	9,558	8,452	**8,461**

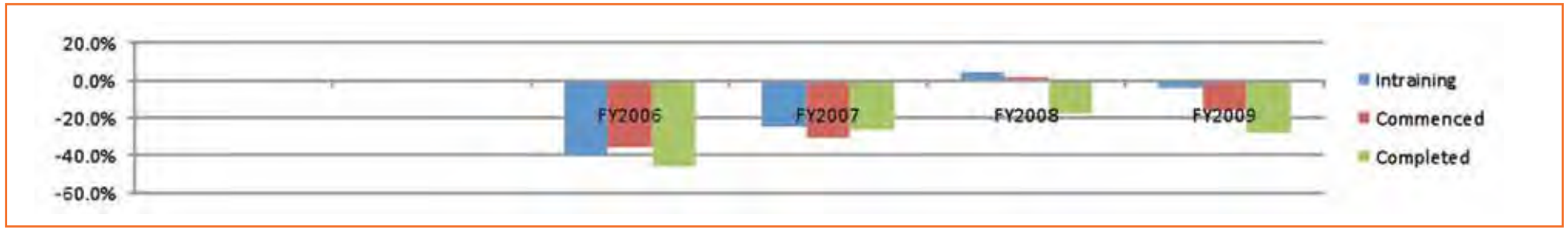


SOUTH AUSTRALIA: OTHER (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	-38.5%	-23.5%	-0.9%	**-14.4%**
ALL Intraining	3.2%	1.7%	-5.1%	**-10.9%**
GTA Commenced	-36.4%	-31.2%	-3.8%	**-19.4%**
ALL Commenced	-1.2%	-1.1%	-5.6%	**-4.0%**
GTA Completed	-48.0%	-28.8%	-7.9%	**-17.2%**
ALL Completed	-4.3%	0.2%	11.1%	**14.6%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	3.4%	3.4%	1.4%	1.6%	1.6%	1.7%	1.5%	1.6%	**1.6%**
Commenced	4.7%	5.4%	1.9%	2.8%	2.2%	2.6%	2.2%	2.3%	**2.0%**
Completed	7.2%	6.7%	2.3%	2.5%	3.6%	2.7%	2.2%	2.0%	**2.1%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	-40.3%	-24.7%	4.5%	**-3.8%**
Commenced	-35.9%	-31.1%	1.6%	**-16.3%**
Completed	-45.9%	-26.5%	-17.6%	**-28.5%**



APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

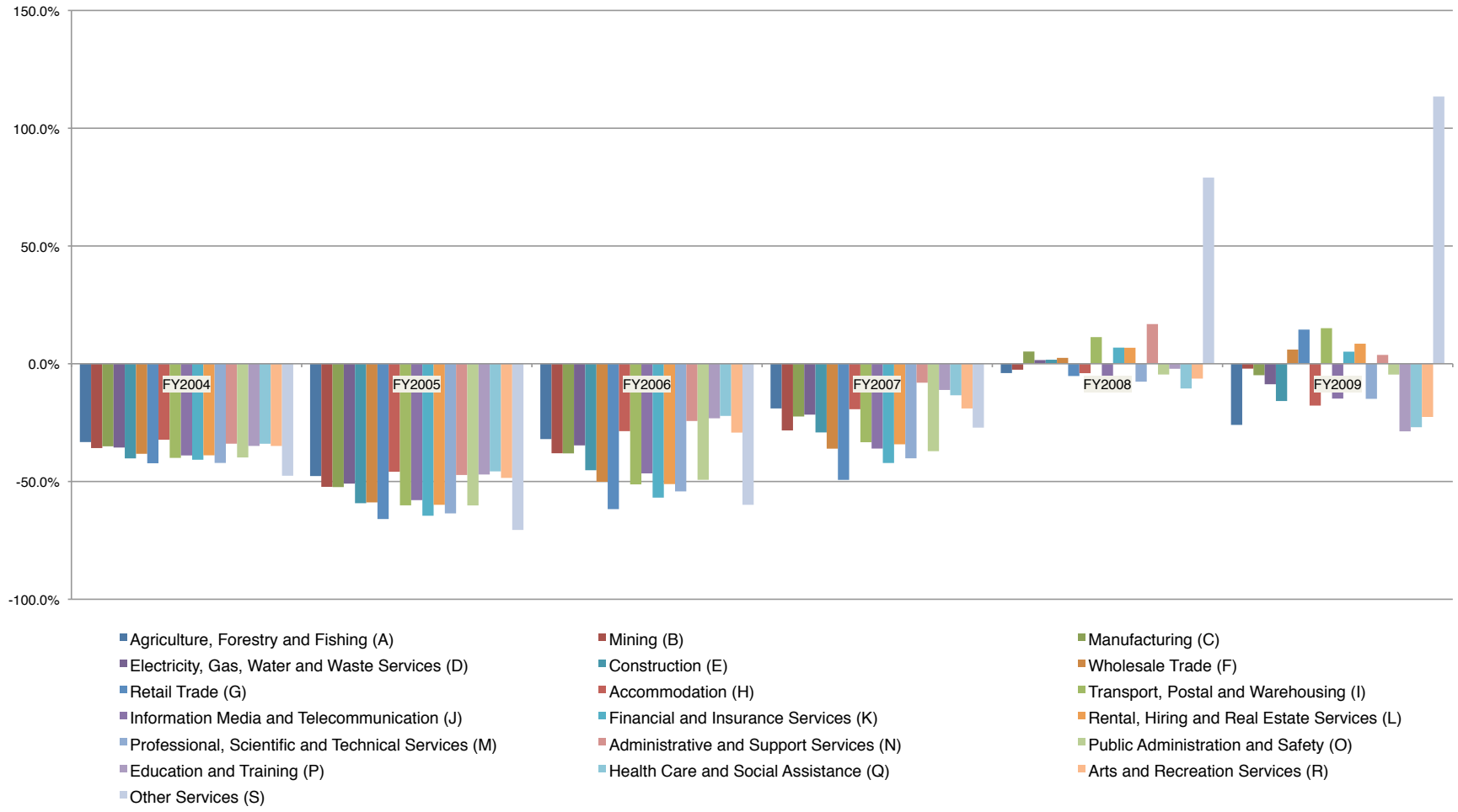
SOUTH AUSTRALIA: OTHER (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	5.3%	5.2%	2.4%	2.9%	2.9%	2.9%	2.7%	2.3%	**1.5%**
Mining (B)	3.6%	3.6%	1.5%	1.9%	1.8%	1.7%	1.5%	1.8%	**2.0%**
Manufacturing (C)	2.8%	2.8%	1.2%	1.5%	1.3%	1.5%	1.5%	1.3%	**1.3%**
Electricity, Gas, Water and Waste Services (D)	4.5%	4.5%	1.9%	2.4%	2.4%	2.4%	2.1%	2.3%	**2.1%**
Construction (E)	13.3%	13.2%	5.0%	5.6%	5.7%	6.0%	5.2%	5.3%	**4.1%**
Wholesale Trade (F)	3.4%	3.3%	1.4%	1.5%	1.2%	1.3%	1.4%	1.5%	**1.4%**
Retail Trade (G)	1.7%	1.7%	0.7%	0.6%	0.5%	0.5%	0.5%	0.6%	**0.6%**
Accommodation (H)	3.4%	3.3%	1.5%	2.0%	2.0%	1.9%	1.7%	1.7%	**1.5%**
Transport, Postal and Warehousing (I)	1.4%	1.4%	0.6%	0.6%	0.5%	0.5%	0.6%	0.7%	**0.6%**
Information Media and Telecommunication (J)	4.6%	4.6%	1.8%	2.0%	2.0%	1.9%	1.6%	1.8%	**1.7%**
Financial and Insurance Services (K)	4.6%	4.5%	1.8%	1.7%	1.3%	1.7%	1.7%	1.8%	**1.5%**
Rental, Hiring and Real Estate Services (L)	2.4%	2.4%	1.0%	1.0%	0.9%	1.0%	1.1%	1.1%	**1.0%**
Professional, Scientific and Technical Services (M)	6.0%	6.0%	2.3%	2.2%	2.1%	2.2%	1.9%	1.9%	**1.7%**
Administrative and Support Services (N)	2.7%	2.7%	1.1%	1.6%	1.6%	1.8%	1.6%	1.7%	**1.9%**
Public Administration and Safety (O)	5.0%	5.0%	2.0%	2.1%	1.9%	2.1%	1.7%	1.9%	**2.1%**
Education and Training (P)	6.5%	6.5%	2.5%	3.7%	4.1%	4.1%	3.1%	2.9%	**2.5%**
Health Care and Social Assistance (Q)	6.1%	6.1%	2.4%	3.6%	3.9%	3.8%	2.8%	2.3%	**3.2%**
Arts and Recreation Services (R)	4.7%	4.7%	1.9%	2.6%	2.8%	2.7%	2.1%	2.1%	**2.0%**
Other Services (S)	3.2%	3.2%	1.0%	0.8%	1.0%	1.2%	1.5%	2.4%	**2.5%**

SOUTH AUSTRALIA: OTHER (continued)

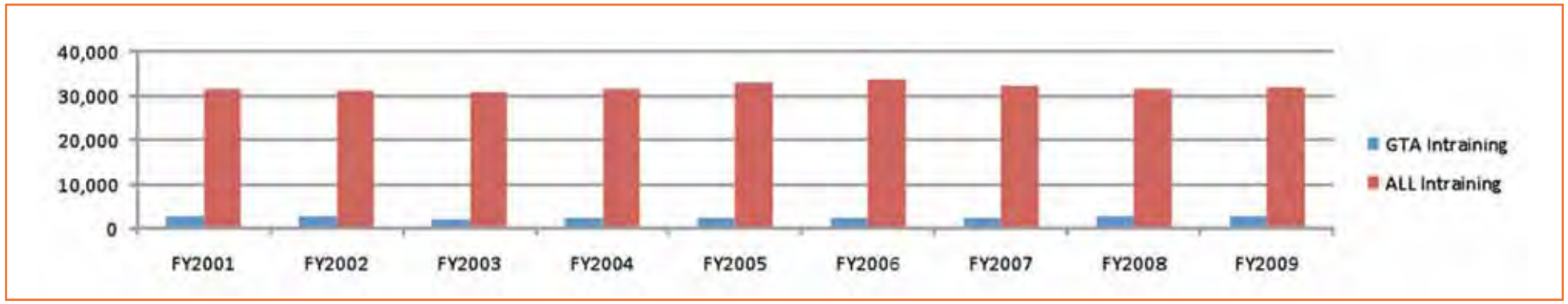
GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	-33.3%	-47.7%	-32.0%	-19.0%	-4.0%	**-26.0%**
Mining (B)	-35.8%	-52.3%	-38.0%	-28.3%	-2.5%	**-2.1%**
Manufacturing (C)	-35.1%	-52.4%	-38.1%	-22.4%	5.2%	**-4.9%**
Electricity, Gas, Water and Waste Services (D)	-35.6%	-50.9%	-34.7%	-21.6%	1.6%	**-8.7%**
Construction (E)	-40.2%	-59.2%	-45.2%	-29.2%	1.7%	**-15.8%**
Wholesale Trade (F)	-38.2%	-58.9%	-50.1%	-36.1%	2.5%	**6.0%**
Retail Trade (G)	-42.3%	-65.9%	-61.7%	-49.3%	-5.2%	**14.5%**
Accommodation (H)	-32.3%	-45.9%	-28.6%	-19.3%	-4.0%	**-17.8%**
Transport, Postal and Warehousing (I)	-40.0%	-60.1%	-51.2%	-33.3%	11.3%	**15.1%**
Information Media and Telecommunication (J)	-38.9%	-57.9%	-46.6%	-36.0%	-10.4%	**-14.8%**
Financial and Insurance Services (K)	-40.8%	-64.5%	-56.9%	-42.1%	6.8%	**5.1%**
Rental, Hiring and Real Estate Services (L)	-38.9%	-59.9%	-51.1%	-34.2%	6.8%	**8.5%**
Professional, Scientific and Technical Services (M)	-42.1%	-63.5%	-54.2%	-40.2%	-7.6%	**-14.9%**
Administrative and Support Services (N)	-33.9%	-47.2%	-24.3%	-8.1%	16.8%	**3.7%**
Public Administration and Safety (O)	-39.8%	-60.2%	-49.3%	-37.1%	-4.6%	**-4.6%**
Education and Training (P)	-34.9%	-47.0%	-23.2%	-11.1%	-2.1%	**-28.7%**
Health Care and Social Assistance (Q)	-34.0%	-45.7%	-22.2%	-13.4%	-10.5%	**-27.0%**
Arts and Recreation Services (R)	-34.9%	-48.5%	-29.2%	-19.0%	-6.3%	**-22.6%**
Other Services (S)	-47.6%	-70.6%	-59.9%	-27.1%	79.1%	**113.5%**

SOUTH AUSTRALIA: OTHER (continued)



SOUTH AUSTRALIA: ALL

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	2,882	2,930	2,067	2,297	2,470	2,616	2,573	2,658	**2,679**
ALL Intraining	31,523	31,170	30,791	31,422	33,052	33,585	32,449	31,529	**32,017**
GTA Commenced	1,479	1,717	1,062	1,223	1,141	1,169	1,203	1,361	**1,098**
ALL Commenced	20,418	19,432	20,957	20,762	21,765	20,663	20,662	21,757	**20,824**
GTA Completed	994	1,084	583	631	613	695	746	695	**685**
ALL Completed	9,371	10,608	10,796	10,286	9,198	10,169	12,127	11,331	**11,044**



APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

SOUTH AUSTRALIA: ALL (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	-6.3%	5.0%	14.9%	**7.2%**
ALL Intraining	4.9%	6.1%	2.4%	**-2.1%**
GTA Commenced	-17.0%	-12.2%	9.0%	**3.6%**
ALL Commenced	3.9%	3.2%	-0.6%	**0.1%**
GTA Completed	-27.1%	-10.6%	16.9%	**9.7%**
ALL Completed	-3.6%	-0.6%	11.1%	**16.4%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	9.1%	9.4%	6.7%	7.3%	7.5%	7.8%	7.9%	8.4%	**8.4%**
Commenced	7.2%	8.8%	5.1%	5.9%	5.2%	5.7%	5.8%	6.3%	**5.3%**
Completed	10.6%	10.2%	5.4%	6.1%	6.7%	6.8%	6.2%	6.1%	**6.2%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	-10.6%	-1.0%	12.4%	**9.6%**
Commenced	-20.6%	-15.5%	9.5%	**3.3%**
Completed	-25.1%	-9.7%	5.1%	**-5.8%**

SOUTH AUSTRALIA: ALL (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	5.5%	5.5%	3.0%	3.7%	3.8%	3.8%	3.6%	3.4%	**2.6%**
Mining (B)	10.3%	10.6%	7.8%	8.3%	7.8%	7.7%	7.7%	8.2%	**8.3%**
Manufacturing (C)	8.0%	8.3%	6.2%	6.8%	6.4%	6.4%	6.4%	6.7%	**6.7%**
Electricity, Gas, Water and Waste Services (D)	17.6%	18.2%	13.8%	14.1%	13.3%	13.2%	13.3%	13.8%	**13.2%**
Construction (E)	33.6%	34.9%	27.2%	29.1%	28.6%	28.0%	26.6%	25.4%	**23.0%**
Wholesale Trade (F)	6.5%	6.7%	4.4%	4.7%	4.6%	4.8%	5.2%	5.5%	**5.3%**
Retail Trade (G)	3.1%	3.1%	1.9%	1.9%	1.9%	2.1%	2.2%	2.5%	**2.6%**
Accommodation (H)	3.1%	3.1%	1.5%	2.0%	2.0%	1.9%	1.7%	1.7%	**1.6%**
Transport, Postal and Warehousing (I)	3.6%	3.7%	2.6%	2.9%	3.0%	3.3%	3.6%	4.1%	**4.3%**
Information Media and Telecommunication (J)	15.8%	16.4%	11.9%	11.5%	10.6%	10.4%	10.6%	11.2%	**10.4%**
Financial and Insurance Services (K)	5.1%	5.2%	2.4%	2.3%	1.9%	2.3%	2.3%	2.5%	**2.3%**
Rental, Hiring and Real Estate Services (L)	4.5%	4.5%	2.8%	2.9%	2.9%	3.1%	3.3%	3.7%	**3.7%**
Professional, Scientific and Technical Services (M)	12.4%	12.7%	8.5%	8.9%	8.8%	8.8%	8.6%	8.9%	**7.8%**
Administrative and Support Services (N)	4.1%	4.2%	2.6%	3.2%	3.4%	3.7%	3.6%	4.1%	**4.2%**
Public Administration and Safety (O)	7.4%	7.6%	4.7%	4.8%	4.7%	4.7%	4.4%	5.0%	**5.1%**
Education and Training (P)	8.6%	8.7%	5.0%	6.0%	6.3%	6.3%	5.5%	5.6%	**4.8%**
Health Care and Social Assistance (Q)	6.2%	6.2%	2.8%	4.0%	4.2%	4.1%	3.2%	2.8%	**3.6%**
Arts and Recreation Services (R)	5.7%	5.8%	3.5%	4.2%	4.4%	4.3%	3.8%	4.1%	**3.8%**
Other Services (S)	13.5%	14.0%	9.9%	9.6%	10.4%	11.8%	13.3%	15.6%	**16.7%**

APPENDICES

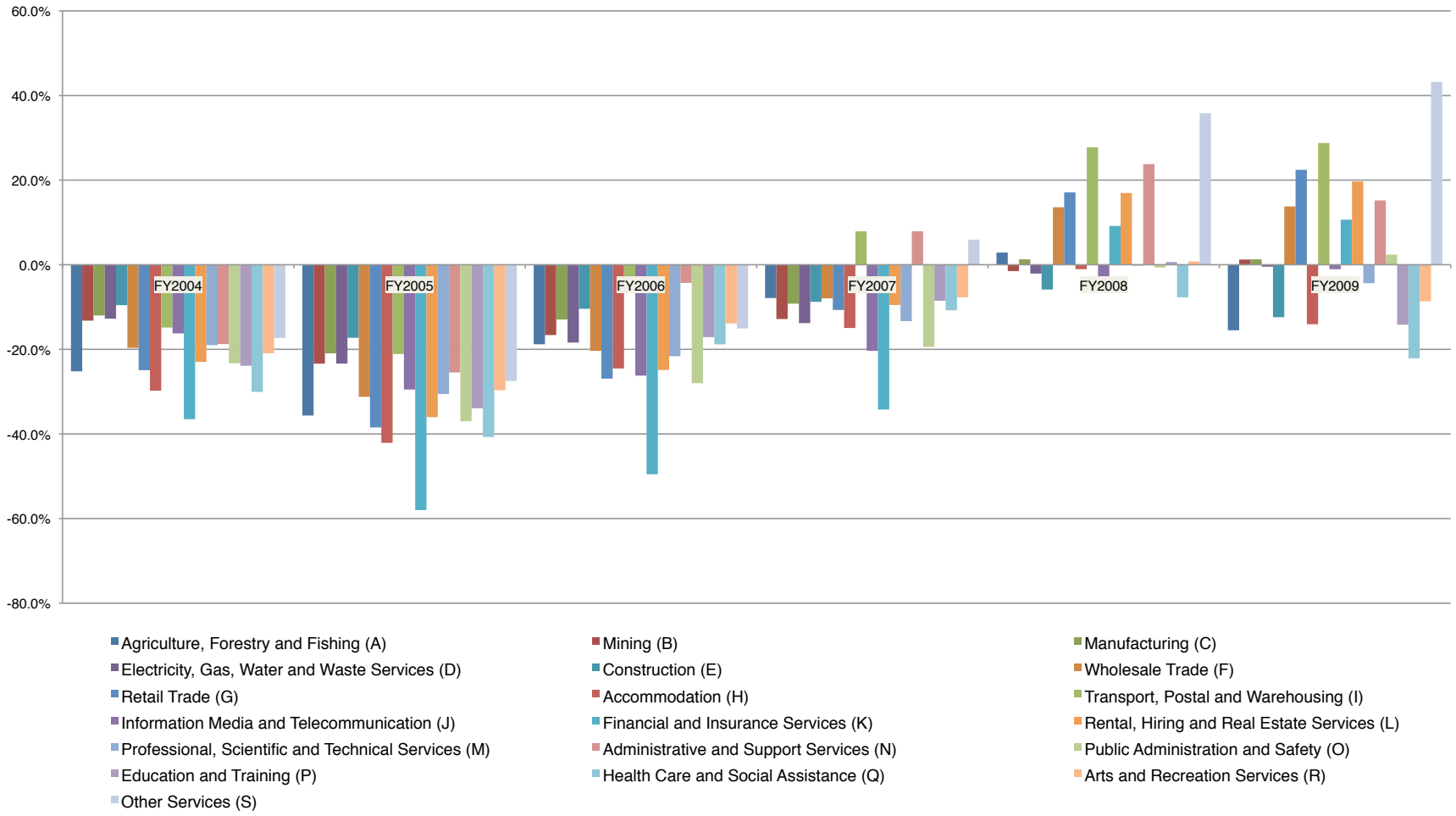
APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

SOUTH AUSTRALIA: ALL (continued)

GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	-25.2%	-35.6%	-18.8%	-7.9%	2.9%	**-15.5%**
Mining (B)	-13.2%	-23.4%	-16.6%	-12.8%	-1.5%	**1.2%**
Manufacturing (C)	-12.0%	-20.9%	-12.9%	-9.2%	1.3%	**1.3%**
Electricity, Gas, Water and Waste Services (D)	-12.7%	-23.4%	-18.4%	-13.8%	-2.1%	**-0.5%**
Construction (E)	-9.6%	-17.3%	-10.4%	-8.8%	-5.9%	**-12.4%**
Wholesale Trade (F)	-19.7%	-31.2%	-20.4%	-8.0%	13.6%	**13.8%**
Retail Trade (G)	-24.9%	-38.5%	-26.9%	-10.7%	17.1%	**22.4%**
Accommodation (H)	-29.8%	-42.1%	-24.5%	-15.0%	-1.1%	**-14.1%**
Transport, Postal and Warehousing (I)	-14.9%	-21.1%	-6.3%	7.9%	27.8%	**28.8%**
Information Media and Telecommunication (J)	-16.2%	-29.5%	-26.2%	-20.3%	-5.1%	**-1.1%**
Financial and Insurance Services (K)	-36.5%	-58.0%	-49.5%	-34.2%	9.2%	**10.6%**
Rental, Hiring and Real Estate Services (L)	-23.0%	-36.0%	-24.9%	-9.5%	17.0%	**19.7%**
Professional, Scientific and Technical Services (M)	-19.0%	-30.6%	-21.6%	-13.3%	0.1%	**-4.4%**
Administrative and Support Services (N)	-18.8%	-25.5%	-4.3%	7.9%	23.8%	**15.2%**
Public Administration and Safety (O)	-23.3%	-37.0%	-28.0%	-19.4%	-0.7%	**2.4%**
Education and Training (P)	-23.9%	-33.9%	-17.1%	-8.5%	0.6%	**-14.2%**
Health Care and Social Assistance (Q)	-30.1%	-40.7%	-18.8%	-10.8%	-7.7%	**-22.1%**
Arts and Recreation Services (R)	-20.9%	-29.7%	-13.9%	-7.7%	0.8%	**-8.6%**
Other Services (S)	-17.3%	-27.5%	-15.1%	5.9%	35.8%	**43.2%**

SOUTH AUSTRALIA: ALL (continued)



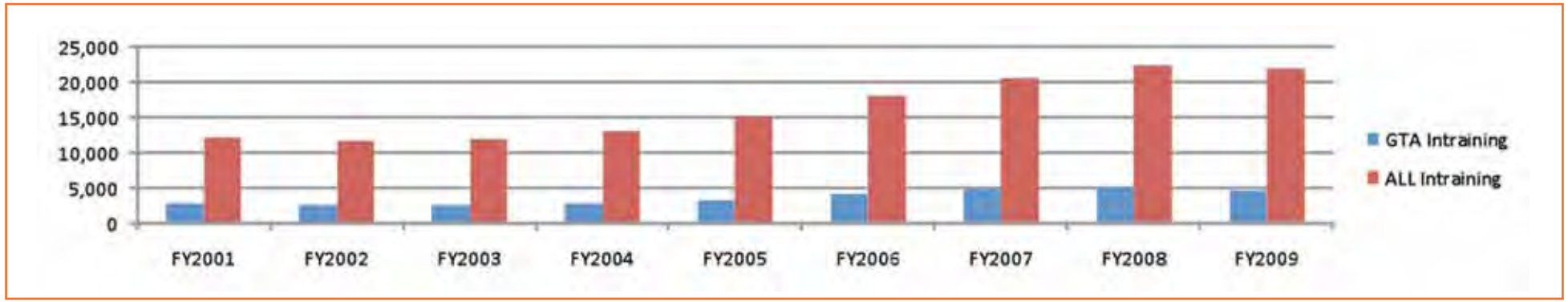
APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

WESTERN AUSTRALIA: APPRENTICES

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	2,876	2,677	2,602	2,903	3,441	4,178	4,880	5,164	**4,691**
ALL Intraining	12,170	11,675	12,001	13,145	15,138	18,048	20,735	22,480	**21,948**
GTA Commenced	879	834	1,076	1,357	1,629	1,915	2,124	1,961	**1,292**
ALL Commenced	3,759	4,051	4,818	5,648	6,928	8,239	9,231	9,249	**7,051**
GTA Completed	686	672	586	643	551	656	831	1,031	**1,207**
ALL Completed	2,902	2,820	2,713	2,751	2,619	2,976	3,645	4,419	**5,349**

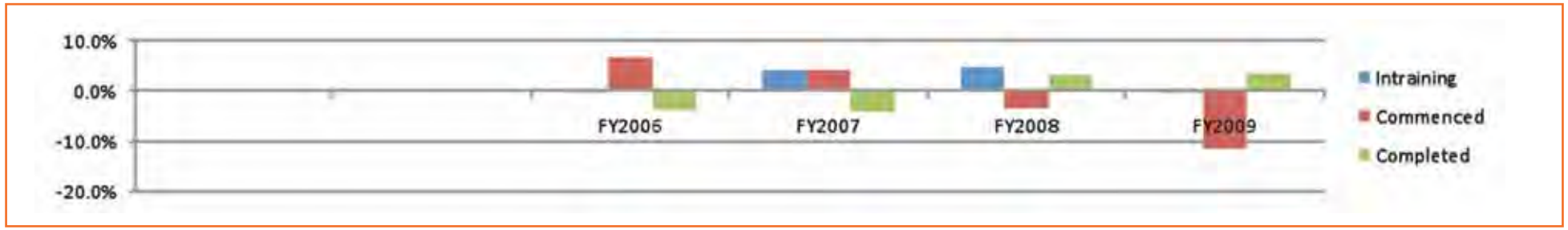


WESTERN AUSTRALIA: APPRENTICES (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	29.0%	52.8%	59.0%	**40.0%**
ALL Intraining	29.3%	46.4%	52.1%	**40.6%**
GTA Commenced	75.7%	73.5%	47.7%	**9.7%**
ALL Commenced	64.8%	68.1%	53.6%	**22.7%**
GTA Completed	-4.8%	7.2%	41.5%	**65.9%**
ALL Completed	-1.1%	11.5%	36.6%	**60.7%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	23.6%	22.9%	21.7%	22.1%	22.7%	23.1%	23.5%	23.0%	**21.4%**
Commenced	23.4%	20.6%	22.3%	24.0%	23.5%	23.2%	23.0%	21.2%	**18.3%**
Completed	23.6%	23.8%	21.6%	23.4%	21.0%	22.0%	22.8%	23.3%	**22.6%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	-0.4%	4.1%	4.7%	**-0.1%**
Commenced	6.8%	4.2%	-3.5%	**-11.6%**
Completed	-3.8%	-4.2%	3.3%	**3.4%**



APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

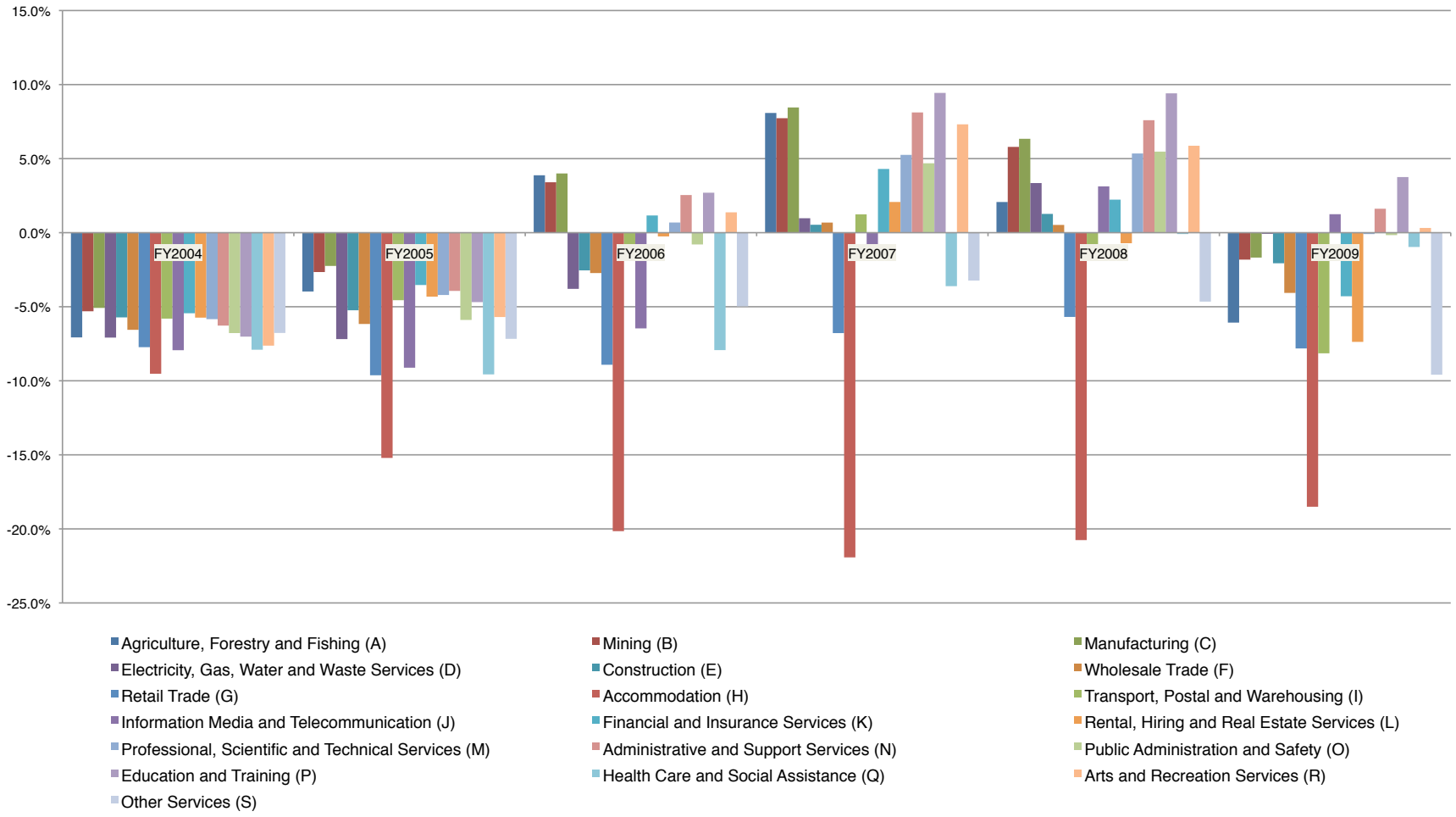
WESTERN AUSTRALIA: APPRENTICES (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	14.7%	14.3%	13.2%	13.6%	15.0%	15.2%	14.2%	13.3%	**13.6%**
Mining (B)	18.7%	18.1%	17.1%	17.8%	18.7%	19.2%	19.2%	18.4%	**17.1%**
Manufacturing (C)	17.4%	16.8%	16.0%	16.6%	17.6%	18.0%	18.1%	17.3%	**16.0%**
Electricity, Gas, Water and Waste Services (D)	26.8%	26.0%	24.4%	24.3%	24.8%	25.2%	25.5%	25.3%	**23.5%**
Construction (E)	36.7%	35.6%	33.9%	34.3%	34.6%	34.6%	35.1%	34.3%	**31.9%**
Wholesale Trade (F)	20.6%	20.0%	18.8%	18.9%	19.3%	19.4%	19.3%	18.6%	**17.4%**
Retail Trade (G)	19.5%	19.0%	17.7%	17.4%	17.1%	16.8%	16.5%	15.9%	**14.7%**
Accommodation (H)	15.5%	15.0%	14.0%	12.9%	11.8%	10.8%	10.2%	9.8%	**9.0%**
Transport, Postal and Warehousing (I)	21.2%	20.6%	19.4%	20.0%	20.5%	20.3%	19.9%	18.6%	**17.3%**
Information Media and Telecommunication (J)	27.8%	26.9%	25.1%	24.6%	24.8%	25.2%	25.7%	25.9%	**24.0%**
Financial and Insurance Services (K)	22.2%	21.5%	20.4%	21.0%	21.8%	21.9%	21.9%	20.8%	**19.3%**
Rental, Hiring and Real Estate Services (L)	20.8%	20.2%	19.0%	19.6%	20.2%	20.1%	19.7%	18.5%	**17.2%**
Professional, Scientific and Technical Services (M)	24.5%	23.8%	22.5%	23.0%	23.9%	24.4%	24.7%	24.1%	**22.5%**
Administrative and Support Services (N)	23.0%	22.3%	20.9%	21.5%	23.0%	23.5%	23.5%	23.3%	**22.2%**
Public Administration and Safety (O)	16.8%	16.3%	15.2%	15.4%	16.0%	16.5%	16.6%	16.1%	**15.1%**
Education and Training (P)	19.3%	18.7%	17.4%	17.8%	19.3%	19.9%	19.8%	19.8%	**19.4%**
Health Care and Social Assistance (Q)	16.9%	16.4%	15.4%	15.0%	14.9%	15.0%	15.2%	15.1%	**14.1%**
Arts and Recreation Services (R)	16.2%	15.7%	14.5%	14.7%	16.0%	16.3%	15.8%	15.6%	**15.7%**
Other Services (S)	21.3%	20.7%	19.4%	19.5%	19.6%	19.3%	18.8%	17.6%	**16.3%**

WESTERN AUSTRALIA: APPRENTICES (continued)

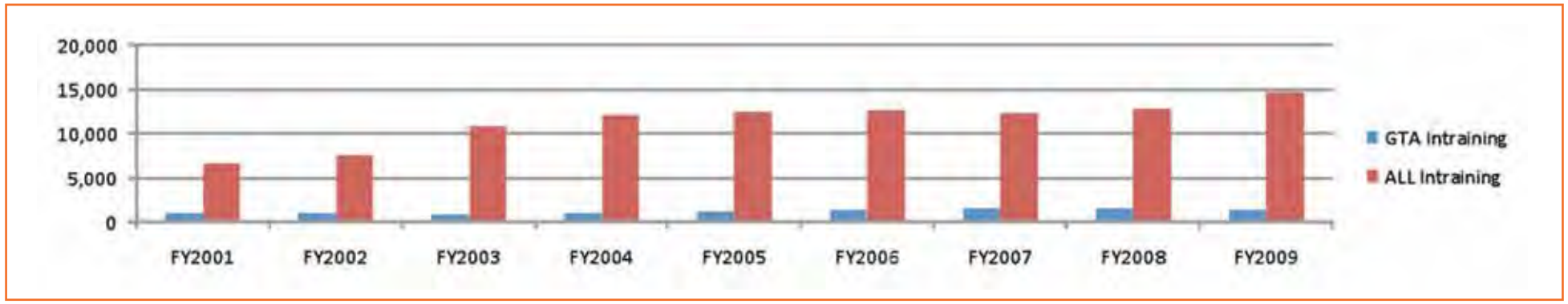
GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	-7.1%	-4.0%	3.9%	8.1%	2.1%	**-6.1%**
Mining (B)	-5.3%	-2.7%	3.4%	7.7%	5.8%	**-1.8%**
Manufacturing (C)	-5.1%	-2.2%	4.0%	8.5%	6.3%	**-1.7%**
Electricity, Gas, Water and Waste Services (D)	-7.1%	-7.2%	-3.8%	1.0%	3.4%	**0.0%**
Construction (E)	-5.7%	-5.2%	-2.5%	0.5%	1.3%	**-2.1%**
Wholesale Trade (F)	-6.6%	-6.2%	-2.7%	0.7%	0.5%	**-4.1%**
Retail Trade (G)	-7.7%	-9.6%	-8.9%	-6.8%	-5.7%	**-7.8%**
Accommodation (H)	-9.5%	-15.2%	-20.2%	-21.9%	-20.8%	**-18.5%**
Transport, Postal and Warehousing (I)	-5.8%	-4.6%	-0.8%	1.2%	-1.6%	**-8.1%**
Information Media and Telecommunication (J)	-7.9%	-9.1%	-6.5%	-1.2%	3.1%	**1.2%**
Financial and Insurance Services (K)	-5.4%	-3.5%	1.2%	4.3%	2.2%	**-4.3%**
Rental, Hiring and Real Estate Services (L)	-5.7%	-4.3%	-0.3%	2.1%	-0.7%	**-7.4%**
Professional, Scientific and Technical Services (M)	-5.8%	-4.2%	0.7%	5.3%	5.3%	**-0.1%**
Administrative and Support Services (N)	-6.3%	-3.9%	2.5%	8.1%	7.6%	**1.6%**
Public Administration and Safety (O)	-6.8%	-5.9%	-0.8%	4.7%	5.5%	**-0.2%**
Education and Training (P)	-7.0%	-4.7%	2.7%	9.4%	9.4%	**3.8%**
Health Care and Social Assistance (Q)	-7.9%	-9.6%	-7.9%	-3.6%	0.0%	**-1.0%**
Arts and Recreation Services (R)	-7.6%	-5.7%	1.4%	7.3%	5.9%	**0.3%**
Other Services (S)	-6.8%	-7.2%	-5.0%	-3.2%	-4.7%	**-9.6%**

WESTERN AUSTRALIA: APPRENTICES (continued)



WESTERN AUSTRALIA: OTHER

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	1,124	958	878	1,070	1,223	1,357	1,515	1,530	**1,453**
ALL Intraining	6,718	7,657	10,822	12,090	12,414	12,772	12,287	12,923	**14,707**
GTA Commenced	1,231	1,217	1,168	1,546	1,663	1,849	1,934	1,924	**1,658**
ALL Commenced	7,550	10,219	10,761	12,319	13,086	13,212	13,226	15,001	**16,406**
GTA Completed	1,156	520	573	687	739	879	896	988	**1,013**
ALL Completed	4,108	3,786	4,350	5,737	6,915	7,864	7,087	7,233	**8,230**

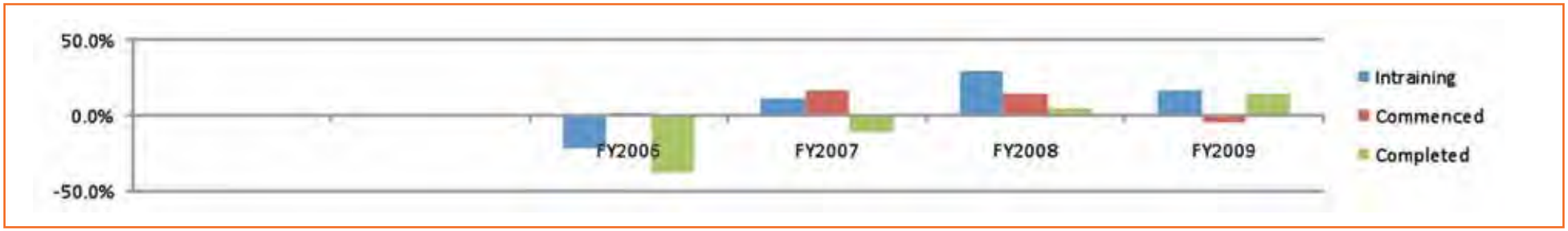


WESTERN AUSTRALIA: OTHER (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	23.3%	40.9%	38.8%	**23.2%**
ALL Intraining	47.9%	22.6%	7.5%	**7.1%**
GTA Commenced	39.9%	38.5%	30.4%	**9.1%**
ALL Commenced	35.4%	18.7%	14.6%	**15.6%**
GTA Completed	2.5%	41.2%	38.2%	**25.7%**
ALL Completed	67.6%	57.6%	30.5%	**9.9%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	16.7%	12.5%	8.1%	8.9%	9.9%	10.6%	12.3%	11.8%	**9.9%**
Commenced	16.3%	11.9%	10.9%	12.5%	12.7%	14.0%	14.6%	12.8%	**10.1%**
Completed	28.1%	13.7%	13.2%	12.0%	10.7%	11.2%	12.6%	13.7%	**12.3%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	-21.5%	11.3%	29.8%	**16.1%**
Commenced	0.5%	17.0%	14.8%	**-4.3%**
Completed	-38.5%	-11.3%	4.6%	**14.1%**



WESTERN AUSTRALIA: OTHER (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	21.9%	16.4%	10.8%	14.7%	15.5%	14.7%	18.8%	19.4%	**15.4%**
Mining (B)	11.3%	8.5%	5.6%	6.2%	8.0%	8.8%	11.5%	11.1%	**9.2%**
Manufacturing (C)	15.6%	11.7%	7.2%	7.9%	9.0%	9.3%	10.3%	11.0%	**10.7%**
Electricity, Gas, Water and Waste Services (D)	16.0%	11.9%	7.9%	9.1%	10.5%	11.3%	13.2%	12.8%	**11.4%**
Construction (E)	38.8%	29.1%	18.3%	16.9%	17.5%	18.1%	22.8%	22.7%	**18.4%**
Wholesale Trade (F)	8.9%	6.7%	4.2%	4.9%	6.7%	7.0%	8.3%	8.1%	**7.5%**
Retail Trade (G)	8.8%	6.6%	4.3%	4.6%	5.7%	6.1%	8.1%	7.5%	**5.6%**
Accommodation (H)	20.5%	15.3%	11.1%	13.8%	12.1%	13.2%	13.5%	11.8%	**9.5%**
Transport, Postal and Warehousing (I)	2.9%	2.2%	1.5%	2.1%	4.0%	4.9%	6.2%	6.5%	**5.7%**
Information Media and Telecommunication (J)	14.8%	11.0%	7.5%	7.3%	6.4%	7.3%	9.4%	9.2%	**8.8%**
Financial and Insurance Services (K)	24.8%	18.6%	11.0%	11.3%	15.8%	17.3%	16.2%	13.7%	**11.5%**
Rental, Hiring and Real Estate Services (L)	16.5%	12.3%	7.8%	8.6%	10.6%	10.8%	10.5%	9.1%	**7.1%**
Professional, Scientific and Technical Services (M)	20.7%	15.5%	9.6%	10.5%	11.8%	13.1%	13.7%	12.3%	**10.2%**
Administrative and Support Services (N)	16.7%	12.5%	8.3%	9.5%	9.7%	10.5%	12.6%	12.1%	**10.8%**
Public Administration and Safety (O)	14.6%	10.9%	7.3%	8.7%	7.7%	9.2%	10.7%	10.7%	**10.2%**
Education and Training (P)	19.8%	14.8%	10.1%	10.7%	11.1%	11.4%	11.4%	9.8%	**8.4%**
Health Care and Social Assistance (Q)	28.9%	21.6%	13.1%	13.0%	12.6%	12.8%	12.3%	10.4%	**8.8%**
Arts and Recreation Services (R)	15.4%	11.5%	8.2%	9.4%	8.2%	8.6%	9.9%	9.5%	**8.5%**
Other Services (S)	21.9%	16.4%	11.3%	11.2%	9.8%	11.2%	12.0%	11.2%	**9.4%**

APPENDICES

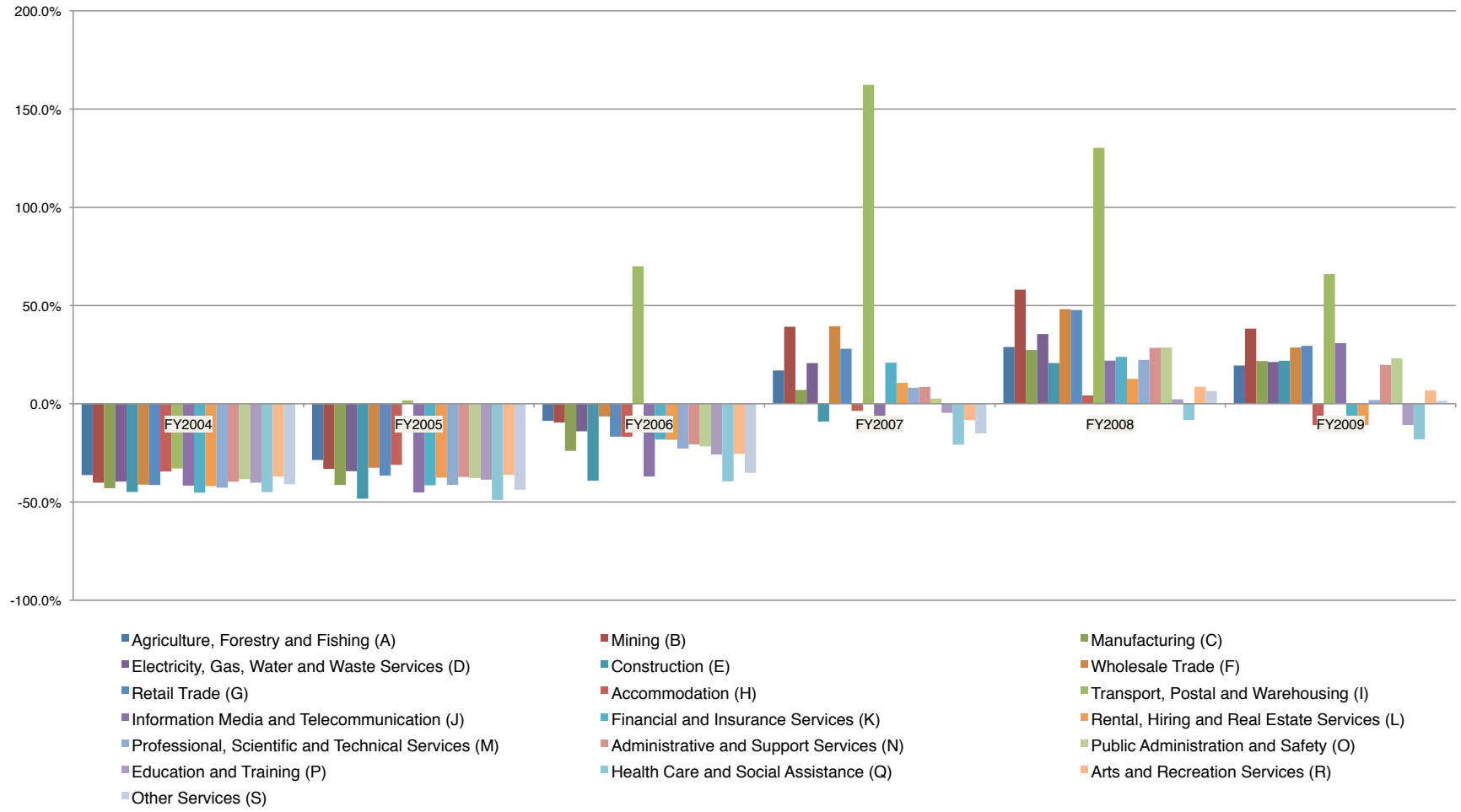
APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

WESTERN AUSTRALIA: OTHER (continued)

GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	-36.3%	-28.6%	-8.7%	17.0%	28.9%	**19.5%**
Mining (B)	-40.2%	-33.2%	-9.5%	39.2%	58.1%	**38.3%**
Manufacturing (C)	-43.0%	-41.4%	-24.0%	7.0%	27.4%	**21.7%**
Electricity, Gas, Water and Waste Services (D)	-39.6%	-34.3%	-14.0%	20.7%	35.5%	**21.2%**
Construction (E)	-44.9%	-48.3%	-39.2%	-9.1%	20.7%	**21.9%**
Wholesale Trade (F)	-41.2%	-32.6%	-6.5%	39.5%	48.1%	**28.6%**
Retail Trade (G)	-41.3%	-36.5%	-16.8%	28.0%	47.7%	**29.5%**
Accommodation (H)	-34.5%	-31.1%	-16.8%	-3.6%	4.3%	**-10.9%**
Transport, Postal and Warehousing (I)	-32.9%	1.7%	70.0%	162.3%	130.3%	**66.0%**
Information Media and Telecommunication (J)	-41.7%	-45.1%	-37.0%	-10.3%	21.9%	**30.9%**
Financial and Insurance Services (K)	-45.2%	-41.5%	-18.2%	20.9%	23.8%	**-7.0%**
Rental, Hiring and Real Estate Services (L)	-41.9%	-37.6%	-18.4%	10.6%	12.7%	**-10.8%**
Professional, Scientific and Technical Services (M)	-42.7%	-41.3%	-22.8%	8.2%	22.3%	**1.9%**
Administrative and Support Services (N)	-39.6%	-37.3%	-20.7%	8.5%	28.4%	**19.8%**
Public Administration and Safety (O)	-38.4%	-37.8%	-21.7%	2.7%	28.6%	**23.1%**
Education and Training (P)	-40.2%	-38.6%	-25.8%	-4.6%	2.3%	**-10.8%**
Health Care and Social Assistance (Q)	-45.0%	-48.9%	-39.5%	-20.8%	-8.2%	**-18.1%**
Arts and Recreation Services (R)	-37.1%	-36.2%	-25.5%	-8.3%	8.7%	**6.7%**
Other Services (S)	-41.0%	-43.8%	-35.2%	-15.1%	6.5%	**1.5%**

WESTERN AUSTRALIA: OTHER (continued)



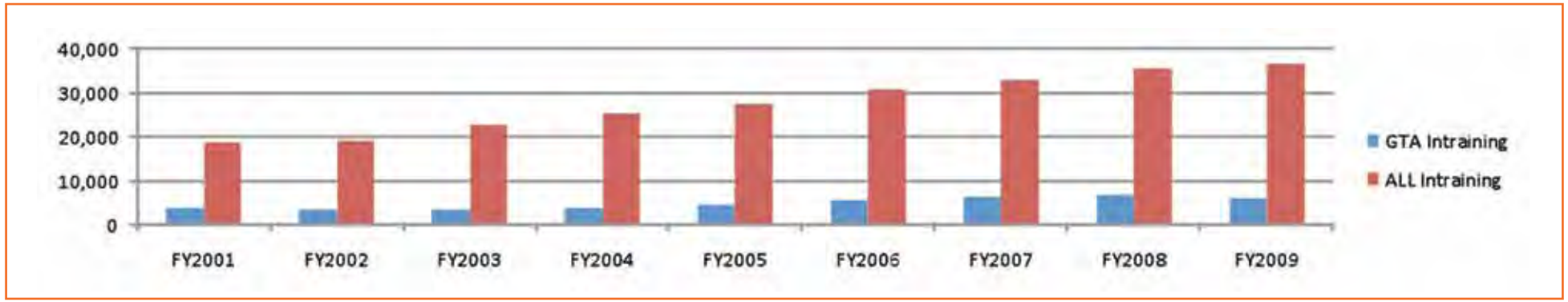
APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

WESTERN AUSTRALIA: ALL

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	4,000	3,635	3,479	3,973	4,665	5,535	6,395	6,693	**6,144**
ALL Intraining	18,888	19,331	22,823	25,235	27,552	30,820	33,021	35,403	**36,655**
GTA Commenced	2,110	2,051	2,244	2,903	3,292	3,764	4,058	3,885	**2,950**
ALL Commenced	11,309	14,270	15,579	17,967	20,014	21,451	22,457	24,250	**23,457**
GTA Completed	1,842	1,192	1,159	1,330	1,290	1,535	1,727	2,019	**2,219**
ALL Completed	7,010	6,606	7,063	8,488	9,534	10,840	10,732	11,652	**13,579**



WESTERN AUSTRALIA: ALL (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	27.5%	49.7%	53.7%	**35.7%**
ALL Intraining	37.0%	35.6%	31.3%	**25.7%**
GTA Commenced	55.5%	54.4%	38.7%	**9.4%**
ALL Commenced	44.4%	33.7%	27.3%	**18.1%**
GTA Completed	-0.9%	23.7%	39.7%	**43.6%**
ALL Completed	39.6%	40.4%	32.4%	**24.6%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	21.2%	18.8%	15.2%	15.7%	16.9%	18.0%	19.4%	18.9%	**16.8%**
Commenced	18.7%	14.4%	14.4%	16.2%	16.4%	17.5%	18.1%	16.0%	**12.6%**
Completed	26.3%	18.0%	16.4%	15.7%	13.5%	14.2%	16.1%	17.3%	**16.3%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	-8.3%	9.0%	17.3%	**8.7%**
Commenced	5.7%	15.9%	9.8%	**-6.9%**
Completed	-28.6%	-12.6%	4.3%	**14.8%**

APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

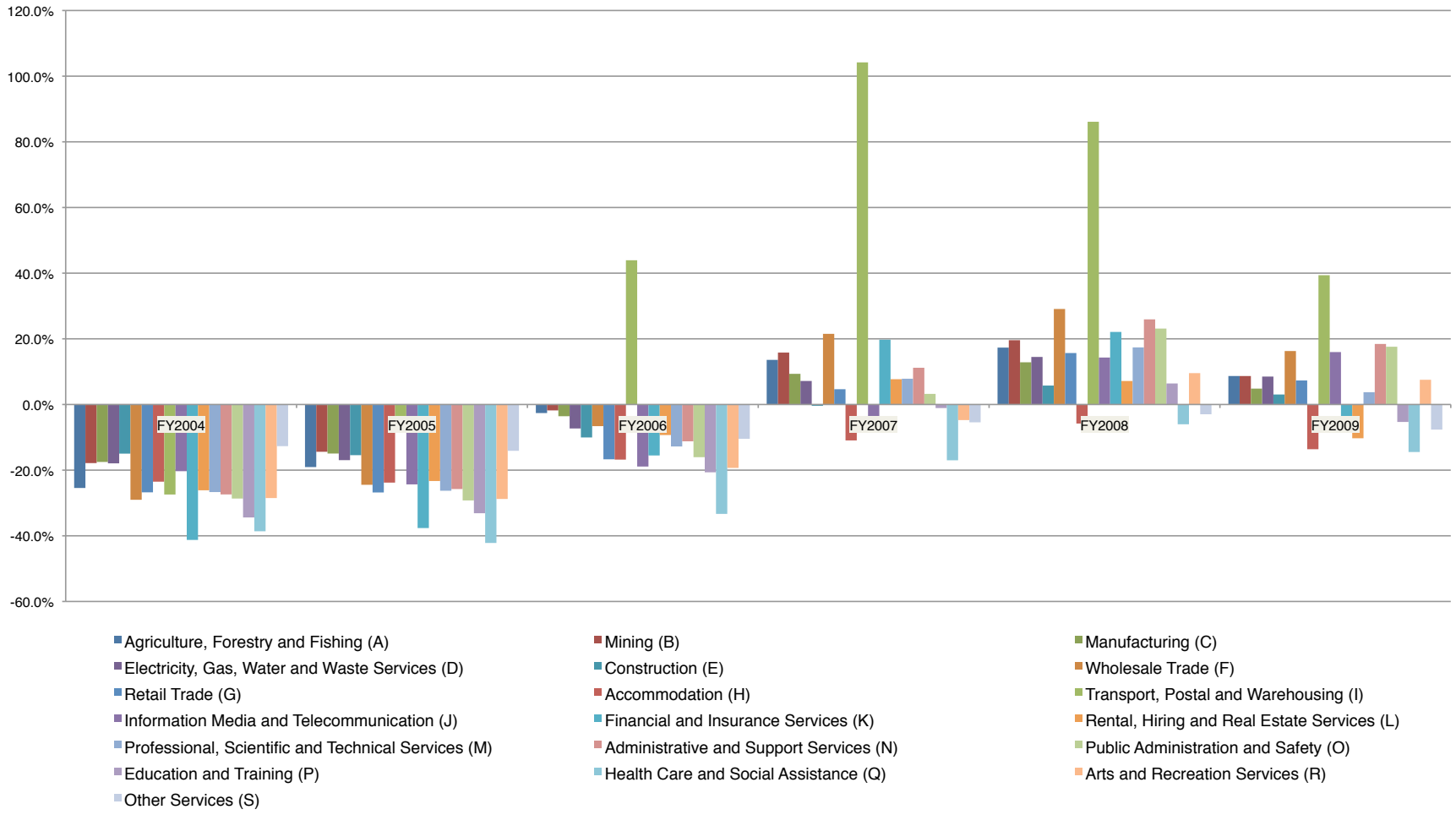
WESTERN AUSTRALIA: ALL (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	18.5%	15.5%	11.7%	14.3%	15.3%	14.8%	16.9%	16.7%	**14.7%**
Mining (B)	16.7%	15.2%	12.8%	13.2%	15.0%	15.8%	16.9%	16.3%	**14.5%**
Manufacturing (C)	16.9%	15.4%	12.9%	13.6%	14.8%	15.3%	15.8%	15.5%	**14.5%**
Electricity, Gas, Water and Waste Services (D)	24.1%	22.1%	18.6%	18.8%	20.2%	21.1%	22.4%	22.4%	**20.4%**
Construction (E)	37.0%	34.4%	30.2%	29.9%	30.6%	31.0%	32.7%	32.1%	**29.4%**
Wholesale Trade (F)	13.7%	11.6%	8.6%	9.0%	11.1%	11.6%	12.8%	12.6%	**11.4%**
Retail Trade (G)	14.4%	12.5%	9.7%	9.4%	10.4%	10.7%	12.0%	11.4%	**9.3%**
Accommodation (H)	17.8%	15.2%	12.3%	13.4%	12.0%	12.3%	12.2%	11.1%	**9.3%**
Transport, Postal and Warehousing (I)	6.7%	5.5%	4.1%	5.1%	8.5%	9.9%	11.5%	11.3%	**9.9%**
Information Media and Telecommunication (J)	24.3%	22.2%	18.5%	17.4%	16.8%	18.5%	20.7%	21.1%	**19.4%**
Financial and Insurance Services (K)	24.4%	19.0%	11.9%	12.2%	16.5%	18.0%	17.0%	14.6%	**12.3%**
Rental, Hiring and Real Estate Services (L)	18.8%	16.2%	12.4%	13.0%	14.9%	15.2%	14.9%	13.2%	**10.6%**
Professional, Scientific and Technical Services (M)	22.9%	19.9%	15.2%	15.4%	16.8%	18.4%	19.2%	18.0%	**15.2%**
Administrative and Support Services (N)	19.6%	16.6%	12.6%	13.6%	14.3%	15.6%	17.7%	17.6%	**16.1%**
Public Administration and Safety (O)	15.5%	12.9%	9.6%	10.6%	9.9%	11.4%	12.9%	12.7%	**11.9%**
Education and Training (P)	19.7%	15.7%	11.3%	11.8%	12.4%	12.9%	13.1%	11.8%	**10.2%**
Health Care and Social Assistance (Q)	25.6%	20.4%	13.5%	13.4%	13.0%	13.3%	12.9%	11.3%	**9.7%**
Arts and Recreation Services (R)	15.7%	13.0%	9.9%	10.8%	9.9%	10.5%	11.7%	11.4%	**10.4%**
Other Services (S)	21.4%	20.1%	18.0%	17.9%	17.6%	17.7%	17.6%	16.5%	**15.0%**

WESTERN AUSTRALIA: ALL (continued)

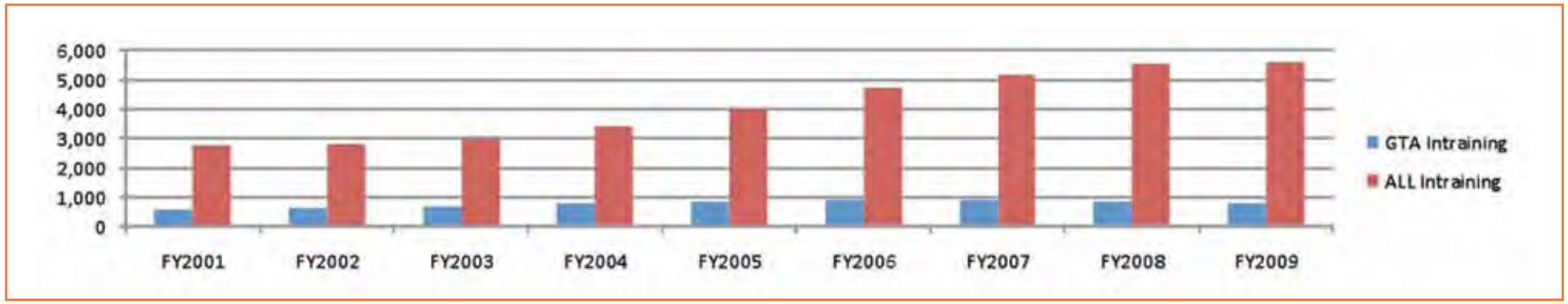
GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	-25.4%	-19.1%	-2.6%	13.6%	17.3%	**8.7%**
Mining (B)	-17.8%	-14.4%	-1.8%	15.8%	19.6%	**8.7%**
Manufacturing (C)	-17.5%	-14.9%	-3.6%	9.3%	12.9%	**4.8%**
Electricity, Gas, Water and Waste Services (D)	-17.9%	-17.0%	-7.3%	7.2%	14.5%	**8.5%**
Construction (E)	-15.0%	-15.4%	-10.0%	-0.2%	5.8%	**3.0%**
Wholesale Trade (F)	-29.0%	-24.5%	-6.6%	21.5%	29.1%	**16.3%**
Retail Trade (G)	-26.8%	-26.8%	-16.7%	4.6%	15.7%	**7.3%**
Accommodation (H)	-23.5%	-23.8%	-16.8%	-10.9%	-5.8%	**-13.6%**
Transport, Postal and Warehousing (I)	-27.4%	-4.2%	43.9%	104.2%	86.1%	**39.4%**
Information Media and Telecommunication (J)	-20.3%	-24.3%	-18.9%	-3.7%	14.3%	**16.0%**
Financial and Insurance Services (K)	-41.3%	-37.6%	-15.5%	19.7%	22.1%	**-6.0%**
Rental, Hiring and Real Estate Services (L)	-26.1%	-23.3%	-9.3%	7.7%	7.2%	**-10.3%**
Professional, Scientific and Technical Services (M)	-26.7%	-26.3%	-12.8%	7.8%	17.4%	**3.7%**
Administrative and Support Services (N)	-27.4%	-25.8%	-11.2%	11.2%	25.9%	**18.4%**
Public Administration and Safety (O)	-28.7%	-29.2%	-16.1%	3.2%	23.1%	**17.6%**
Education and Training (P)	-34.4%	-33.1%	-20.7%	-1.1%	6.4%	**-5.3%**
Health Care and Social Assistance (Q)	-38.6%	-42.2%	-33.3%	-17.0%	-6.0%	**-14.5%**
Arts and Recreation Services (R)	-28.5%	-28.8%	-19.3%	-4.8%	9.5%	**7.5%**
Other Services (S)	-12.7%	-14.1%	-10.5%	-5.4%	-3.0%	**-7.7%**

WESTERN AUSTRALIA: ALL (continued)



TASMANIA: APPRENTICES

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	605	651	701	786	874	904	893	874	**789**
ALL Intraining	2,793	2,839	2,962	3,431	4,038	4,746	5,149	5,567	**5,593**
GTA Commenced	223	212	284	347	345	270	274	323	**208**
ALL Commenced	1,096	984	1,229	1,684	1,842	1,900	1,890	2,376	**1,988**
GTA Completed	127	125	139	154	145	133	167	243	**204**
ALL Completed	622	649	695	711	729	702	944	1,280	**1,356**



TASMANIA: APPRENTICES (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	31.0%	24.9%	13.1%	**-0.3%**
ALL Intraining	42.1%	50.9%	48.2%	**33.5%**
GTA Commenced	33.8%	5.5%	-11.2%	**-16.3%**
ALL Commenced	64.0%	44.5%	29.7%	**15.3%**
GTA Completed	10.5%	6.5%	24.0%	**42.1%**
ALL Completed	9.0%	15.6%	37.0%	**67.1%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	21.7%	22.9%	23.7%	22.9%	21.6%	19.0%	17.3%	15.7%	**14.1%**
Commenced	20.3%	21.5%	23.1%	20.6%	18.7%	14.2%	14.5%	13.6%	**10.5%**
Completed	20.4%	19.3%	20.0%	21.7%	19.9%	18.9%	17.7%	19.0%	**15.0%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	-6.8%	-16.5%	-23.7%	**-25.9%**
Commenced	-17.6%	-27.3%	-32.3%	**-28.0%**
Completed	1.4%	-7.2%	-9.6%	**-14.5%**

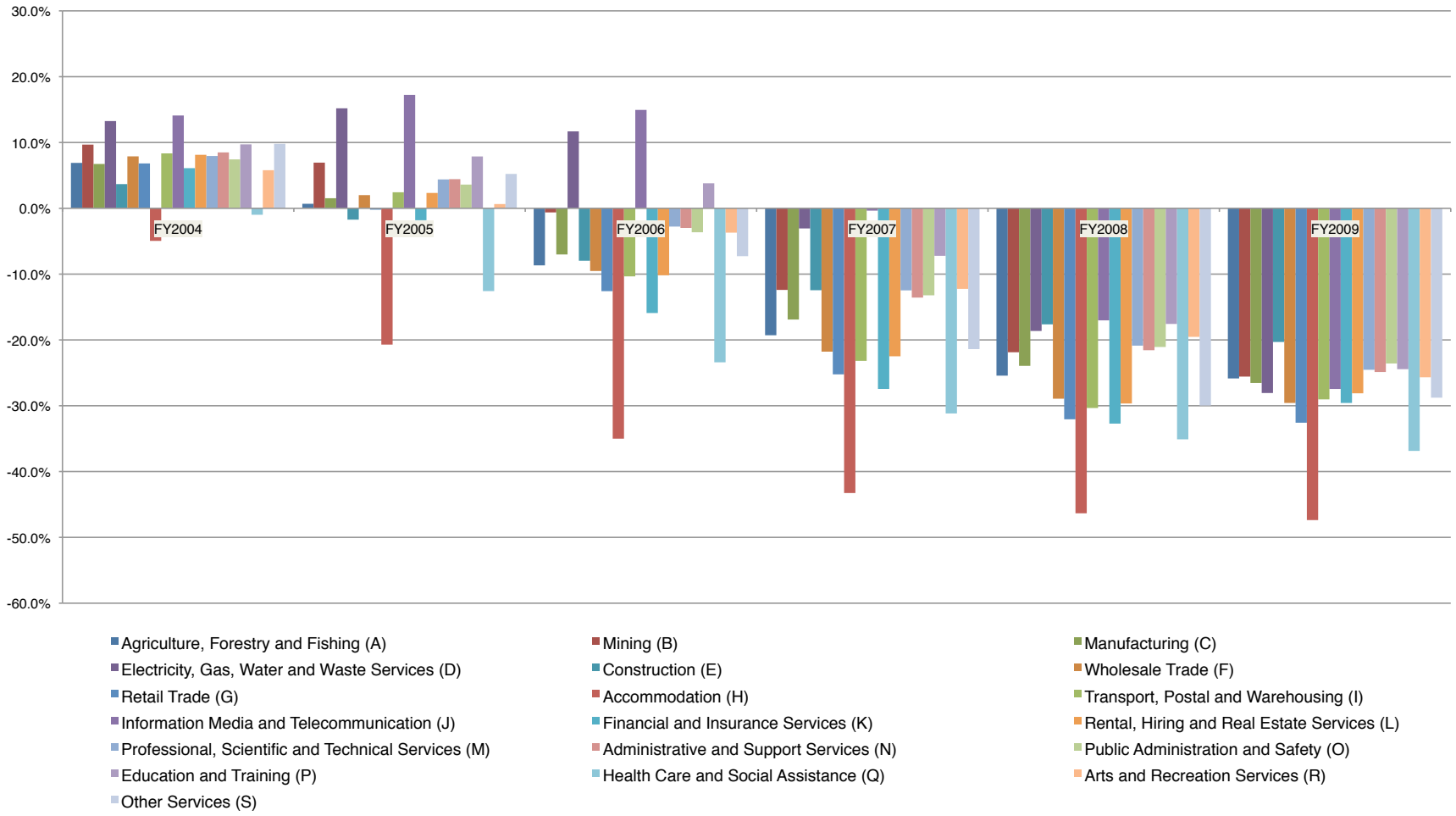
TASMANIA: APPRENTICES (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	16.7%	17.7%	18.2%	17.7%	16.1%	14.2%	12.9%	11.6%	**11.1%**
Mining (B)	21.6%	22.9%	23.9%	24.3%	23.2%	20.4%	18.6%	16.7%	**15.3%**
Manufacturing (C)	18.1%	19.2%	19.7%	19.2%	18.0%	15.8%	14.4%	13.1%	**11.5%**
Electricity, Gas, Water and Waste Services (D)	28.6%	30.3%	31.8%	35.0%	34.9%	31.3%	27.8%	23.6%	**21.4%**
Construction (E)	22.5%	23.8%	23.9%	22.3%	22.1%	20.2%	19.0%	17.1%	**15.4%**
Wholesale Trade (F)	23.6%	25.0%	26.2%	25.3%	22.9%	19.5%	17.4%	16.0%	**14.3%**
Retail Trade (G)	22.1%	23.3%	24.3%	23.1%	20.6%	17.2%	15.0%	13.9%	**12.1%**
Accommodation (H)	14.8%	15.8%	14.8%	11.7%	9.9%	7.9%	6.2%	5.4%	**3.9%**
Transport, Postal and Warehousing (I)	26.0%	27.5%	29.2%	27.9%	25.2%	21.1%	18.7%	17.5%	**16.4%**
Information Media and Telecommunication (J)	26.3%	27.8%	29.3%	32.8%	33.1%	29.9%	26.6%	22.4%	**20.5%**
Financial and Insurance Services (K)	28.2%	29.7%	31.3%	28.6%	25.4%	21.0%	18.6%	17.7%	**16.5%**
Rental, Hiring and Real Estate Services (L)	28.6%	30.2%	32.0%	30.5%	27.8%	23.3%	20.8%	19.4%	**18.5%**
Professional, Scientific and Technical Services (M)	24.0%	25.5%	26.2%	26.1%	25.1%	22.4%	20.6%	18.3%	**16.6%**
Administrative and Support Services (N)	21.8%	23.1%	23.8%	24.0%	22.4%	20.2%	18.6%	16.3%	**15.2%**
Public Administration and Safety (O)	16.5%	17.5%	18.0%	17.8%	17.1%	15.2%	13.9%	12.6%	**11.8%**
Education and Training (P)	20.8%	22.0%	22.6%	23.8%	22.9%	21.2%	19.4%	16.5%	**15.4%**
Health Care and Social Assistance (Q)	14.1%	14.9%	14.3%	12.5%	11.2%	9.5%	8.0%	7.1%	**5.8%**
Arts and Recreation Services (R)	15.7%	16.6%	16.5%	16.7%	15.6%	14.7%	13.4%	11.2%	**10.3%**
Other Services (S)	26.0%	27.5%	29.4%	28.7%	26.3%	21.9%	19.2%	18.1%	**17.5%**

TASMANIA: APPRENTICES (continued)

GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	6.9%	0.7%	-8.7%	-19.3%	-25.4%	**-25.9%**
Mining (B)	9.7%	6.9%	-0.6%	-12.4%	-21.9%	**-25.6%**
Manufacturing (C)	6.7%	1.5%	-7.0%	-16.9%	-23.9%	**-26.5%**
Electricity, Gas, Water and Waste Services (D)	13.3%	15.2%	11.7%	-3.1%	-18.6%	**-28.1%**
Construction (E)	3.7%	-1.7%	-8.0%	-12.4%	-17.6%	**-20.3%**
Wholesale Trade (F)	7.9%	2.0%	-9.5%	-21.8%	-28.9%	**-29.6%**
Retail Trade (G)	6.8%	-0.1%	-12.6%	-25.2%	-32.1%	**-32.6%**
Accommodation (H)	-4.9%	-20.7%	-35.0%	-43.3%	-46.3%	**-47.4%**
Transport, Postal and Warehousing (I)	8.3%	2.4%	-10.3%	-23.2%	-30.3%	**-29.0%**
Information Media and Telecommunication (J)	14.1%	17.2%	15.0%	-0.4%	-17.0%	**-27.5%**
Financial and Insurance Services (K)	6.1%	-1.8%	-15.9%	-27.4%	-32.7%	**-29.6%**
Rental, Hiring and Real Estate Services (L)	8.1%	2.3%	-10.2%	-22.5%	-29.7%	**-28.1%**
Professional, Scientific and Technical Services (M)	8.0%	4.4%	-2.8%	-12.5%	-20.9%	**-24.5%**
Administrative and Support Services (N)	8.5%	4.4%	-3.0%	-13.6%	-21.6%	**-24.9%**
Public Administration and Safety (O)	7.4%	3.6%	-3.6%	-13.2%	-21.1%	**-23.6%**
Education and Training (P)	9.7%	7.9%	3.8%	-7.2%	-17.6%	**-24.4%**
Health Care and Social Assistance (Q)	-1.0%	-12.6%	-23.4%	-31.2%	-35.1%	**-36.9%**
Arts and Recreation Services (R)	5.8%	0.6%	-3.7%	-12.2%	-19.5%	**-25.7%**
Other Services (S)	9.8%	5.2%	-7.3%	-21.4%	-30.0%	**-28.8%**

TASMANIA: APPRENTICES (continued)



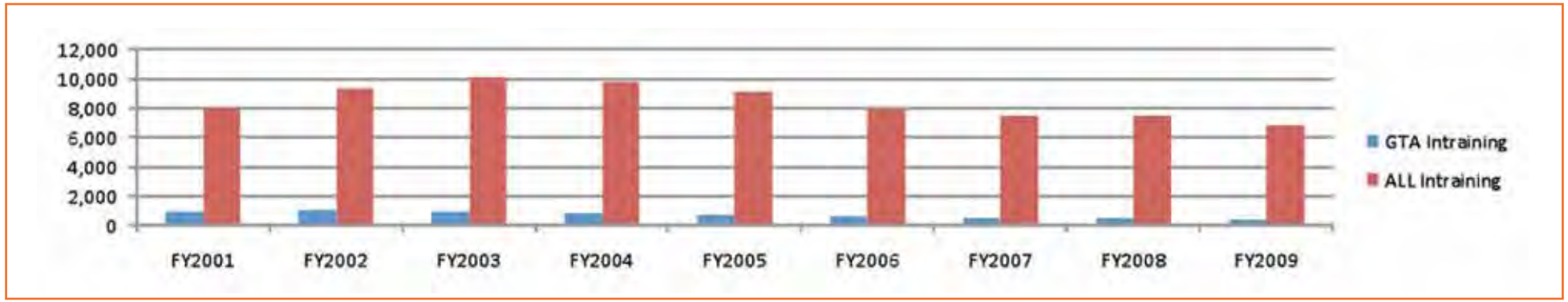
APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

TASMANIA: OTHER

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	977	1,009	1,000	849	679	584	557	529	**354**
ALL Intraining	8,056	9,385	10,100	9,753	9,123	7,938	7,469	7,521	**6,815**
GTA Commenced	1,110	940	873	812	595	574	565	475	**351**
ALL Commenced	7,026	7,746	7,614	7,493	6,239	5,504	5,931	6,197	**5,403**
GTA Completed	683	621	587	593	545	384	311	330	**290**
ALL Completed	3,700	4,749	4,824	5,271	4,650	4,202	3,646	3,714	**4,154**



TASMANIA: OTHER (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	-29.2%	-36.3%	-34.0%	**-31.9%**
ALL Intraining	-2.6%	-16.1%	-20.9%	**-18.7%**
GTA Commenced	-32.2%	-33.9%	-29.2%	**-29.8%**
ALL Commenced	-14.1%	-22.7%	-17.4%	**-8.9%**
GTA Completed	-19.5%	-31.1%	-40.6%	**-38.8%**
ALL Completed	6.4%	-15.8%	-21.6%	**-18.5%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	12.1%	10.7%	9.9%	8.7%	7.4%	7.4%	7.5%	7.0%	**5.2%**
Commenced	15.8%	12.1%	11.5%	10.8%	9.5%	10.4%	9.5%	7.7%	**6.5%**
Completed	18.5%	13.1%	12.2%	11.3%	11.7%	9.1%	8.5%	8.9%	**7.0%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	-28.3%	-24.2%	-16.2%	**-16.3%**
Commenced	-21.8%	-14.4%	-13.3%	**-23.1%**
Completed	-26.5%	-19.5%	-24.4%	**-24.0%**

APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

TASMANIA: OTHER (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	11.5%	10.2%	10.1%	9.6%	8.0%	7.8%	7.7%	7.0%	**4.7%**
Mining (B)	10.2%	9.0%	8.9%	9.0%	9.0%	8.9%	8.8%	8.1%	**5.7%**
Manufacturing (C)	10.8%	9.5%	9.0%	8.0%	7.5%	7.2%	8.2%	9.0%	**5.2%**
Electricity, Gas, Water and Waste Services (D)	14.7%	13.0%	12.4%	12.2%	10.6%	8.6%	8.6%	7.9%	**7.8%**
Construction (E)	15.1%	13.8%	13.1%	12.7%	12.5%	10.9%	10.9%	10.1%	**9.2%**
Wholesale Trade (F)	10.8%	9.6%	8.6%	7.3%	6.4%	7.0%	7.4%	6.9%	**4.4%**
Retail Trade (G)	19.5%	17.2%	14.9%	9.9%	7.7%	9.7%	9.5%	6.1%	**3.0%**
Accommodation (H)	11.9%	10.6%	9.2%	7.4%	6.2%	6.1%	5.7%	6.0%	**3.1%**
Transport, Postal and Warehousing (I)	7.6%	6.7%	6.7%	7.2%	6.9%	6.8%	6.7%	7.0%	**5.9%**
Information Media and Telecommunication (J)	14.0%	12.3%	11.5%	10.6%	8.8%	8.6%	8.6%	7.3%	**6.4%**
Financial and Insurance Services (K)	13.8%	12.2%	11.0%	10.0%	7.5%	6.4%	7.0%	6.6%	**5.9%**
Rental, Hiring and Real Estate Services (L)	22.3%	19.8%	18.0%	15.1%	9.6%	6.0%	5.9%	5.0%	**5.2%**
Professional, Scientific and Technical Services (M)	11.0%	9.7%	10.0%	10.1%	9.0%	7.8%	8.3%	9.3%	**8.5%**
Administrative and Support Services (N)	7.9%	7.0%	7.1%	7.8%	7.0%	6.3%	6.1%	6.6%	**5.3%**
Public Administration and Safety (O)	12.3%	10.9%	10.2%	10.2%	8.2%	7.3%	7.3%	7.3%	**6.4%**
Education and Training (P)	8.2%	7.3%	6.5%	6.3%	5.3%	4.8%	4.6%	4.8%	**4.1%**
Health Care and Social Assistance (Q)	7.9%	7.1%	6.3%	6.1%	5.2%	4.8%	4.6%	5.1%	**3.9%**
Arts and Recreation Services (R)	10.9%	9.6%	9.2%	8.6%	7.2%	6.7%	6.4%	6.8%	**5.2%**
Other Services (S)	10.5%	9.7%	10.0%	10.3%	9.2%	8.2%	8.3%	7.5%	**7.6%**

TASMANIA: OTHER (continued)

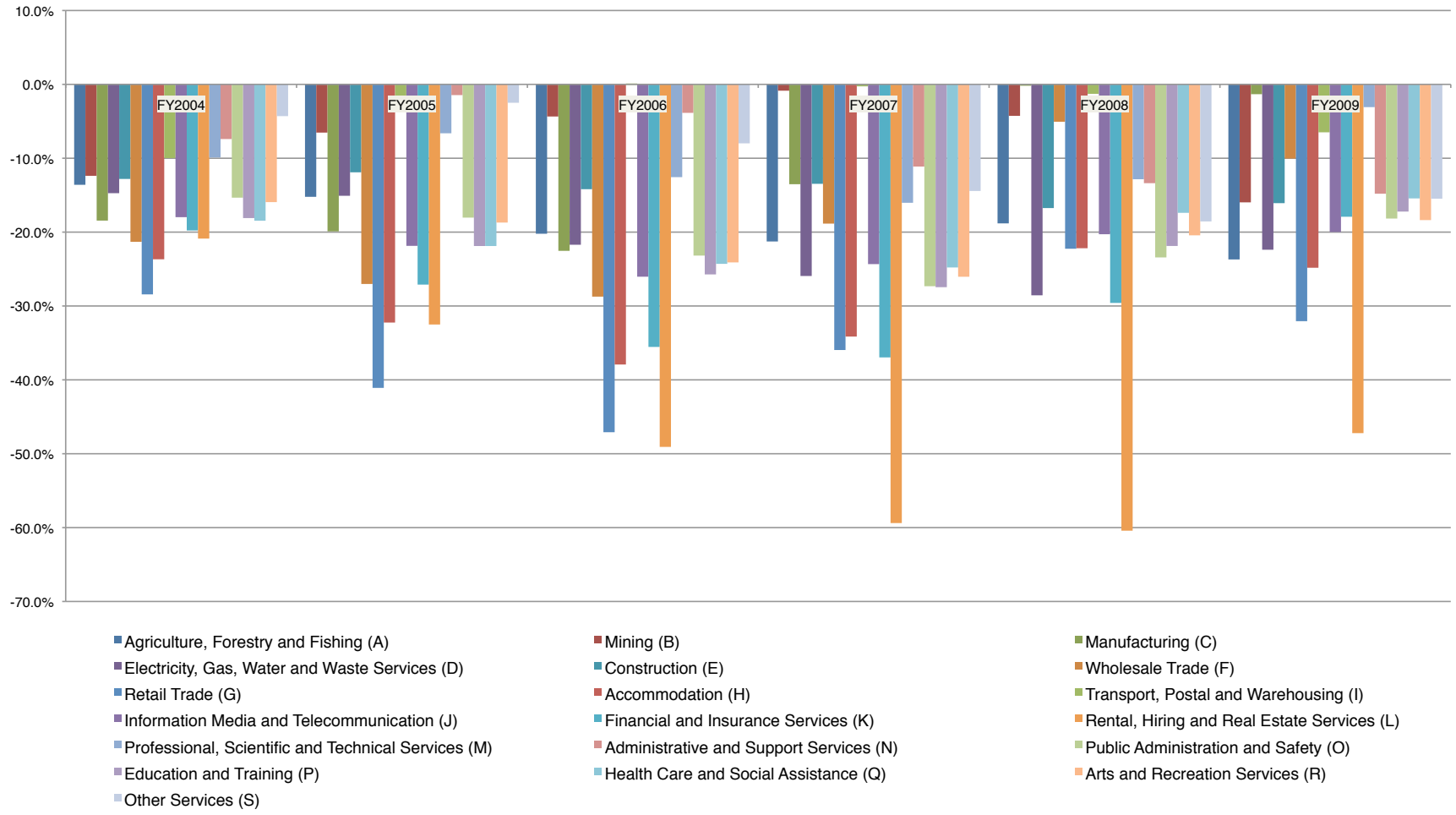
GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	-13.6%	-15.2%	-20.2%	-21.3%	-18.8%	**-23.7%**
Mining (B)	-12.4%	-6.5%	-4.3%	-0.9%	-4.3%	**-16.0%**
Manufacturing (C)	-18.4%	-19.9%	-22.5%	-13.5%	-0.2%	**-1.3%**
Electricity, Gas, Water and Waste Services (D)	-14.7%	-15.1%	-21.7%	-25.9%	-28.6%	**-22.4%**
Construction (E)	-12.8%	-11.9%	-14.2%	-13.5%	-16.7%	**-16.1%**
Wholesale Trade (F)	-21.3%	-27.0%	-28.7%	-18.9%	-5.1%	**-10.0%**
Retail Trade (G)	-28.4%	-41.1%	-47.1%	-36.0%	-22.3%	**-32.1%**
Accommodation (H)	-23.7%	-32.2%	-37.9%	-34.1%	-22.2%	**-24.8%**
Transport, Postal and Warehousing (I)	-10.0%	-3.1%	0.1%	-0.3%	-1.3%	**-6.5%**
Information Media and Telecommunication (J)	-18.0%	-21.9%	-26.0%	-24.3%	-20.3%	**-20.0%**
Financial and Insurance Services (K)	-19.8%	-27.1%	-35.5%	-37.0%	-29.6%	**-17.9%**
Rental, Hiring and Real Estate Services (L)	-20.9%	-32.5%	-49.1%	-59.4%	-60.4%	**-47.2%**
Professional, Scientific and Technical Services (M)	-9.9%	-6.6%	-12.6%	-16.0%	-12.8%	**-3.1%**
Administrative and Support Services (N)	-7.4%	-1.5%	-3.9%	-11.1%	-13.4%	**-14.8%**
Public Administration and Safety (O)	-15.3%	-18.0%	-23.2%	-27.3%	-23.4%	**-18.2%**
Education and Training (P)	-18.1%	-21.9%	-25.7%	-27.5%	-21.9%	**-17.2%**
Health Care and Social Assistance (Q)	-18.5%	-21.9%	-24.3%	-24.8%	-17.4%	**-15.4%**
Arts and Recreation Services (R)	-15.9%	-18.7%	-24.1%	-26.0%	-20.4%	**-18.4%**
Other Services (S)	-4.3%	-2.5%	-8.0%	-14.4%	-18.6%	**-15.5%**

APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

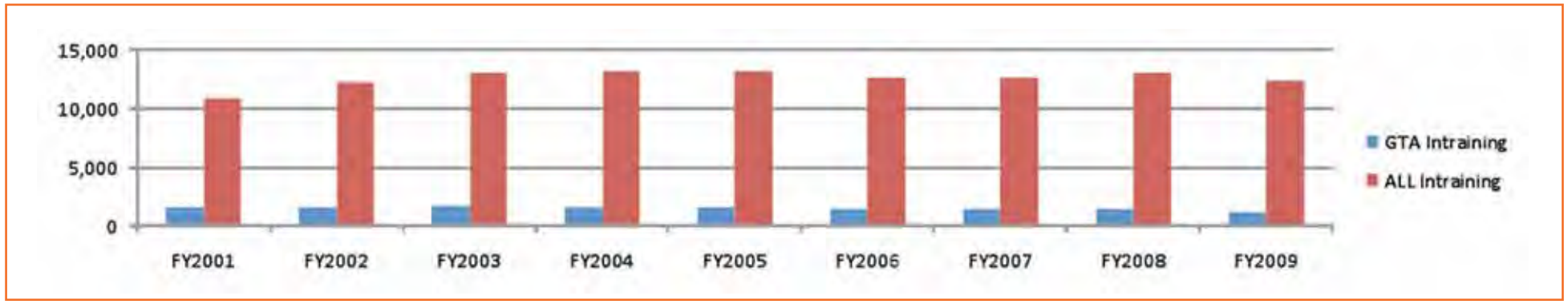
1

TASMANIA: OTHER (continued)



TASMANIA: ALL

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	1,582	1,659	1,701	1,636	1,553	1,487	1,449	1,402	**1,143**
ALL Intraining	10,849	12,224	13,062	13,184	13,160	12,683	12,618	13,089	**12,408**
GTA Commenced	1,333	1,152	1,157	1,159	940	844	839	798	**559**
ALL Commenced	8,122	8,730	8,843	9,177	8,081	7,404	7,821	8,573	**7,391**
GTA Completed	810	746	726	747	690	517	478	573	**494**
ALL Completed	4,322	5,398	5,519	5,982	5,379	4,904	4,590	4,994	**5,510**



APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

TASMANIA: ALL (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	-5.4%	-10.1%	-11.3%	**-14.6%**
ALL Intraining	8.0%	0.0%	-2.6%	**-2.3%**
GTA Commenced	-19.2%	-24.4%	-23.8%	**-25.4%**
ALL Commenced	-4.0%	-12.9%	-8.8%	**-3.6%**
GTA Completed	-14.4%	-24.1%	-27.5%	**-20.9%**
ALL Completed	6.7%	-12.0%	-14.2%	**-7.2%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	14.6%	13.6%	13.0%	12.4%	11.8%	11.7%	11.5%	10.7%	**9.2%**
Commenced	16.4%	13.2%	13.1%	12.6%	11.6%	11.4%	10.7%	9.3%	**7.6%**
Completed	18.7%	13.8%	13.2%	12.5%	12.8%	10.5%	10.4%	11.5%	**9.0%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	-12.7%	-10.2%	-8.9%	**-12.6%**
Commenced	-16.5%	-13.2%	-15.8%	**-22.6%**
Completed	-21.6%	-14.4%	-15.7%	**-13.9%**

TASMANIA: ALL (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	11.9%	10.7%	10.6%	10.2%	8.8%	8.6%	8.5%	7.7%	**5.7%**
Mining (B)	13.7%	12.8%	13.1%	14.1%	14.5%	14.4%	13.9%	12.6%	**11.0%**
Manufacturing (C)	13.8%	13.1%	13.0%	12.9%	12.9%	12.2%	12.0%	11.5%	**9.4%**
Electricity, Gas, Water and Waste Services (D)	21.6%	20.9%	21.2%	23.4%	23.7%	22.3%	21.1%	18.4%	**17.3%**
Construction (E)	20.1%	20.3%	20.1%	19.4%	19.7%	18.2%	17.0%	15.0%	**13.4%**
Wholesale Trade (F)	12.7%	11.6%	11.0%	10.4%	9.9%	10.5%	10.6%	10.0%	**8.3%**
Retail Trade (G)	19.9%	18.0%	16.0%	11.5%	9.5%	11.0%	10.6%	7.8%	**5.3%**
Accommodation (H)	12.3%	11.2%	9.8%	7.9%	6.6%	6.4%	5.8%	5.9%	**3.3%**
Transport, Postal and Warehousing (I)	9.3%	8.3%	8.3%	9.0%	9.1%	9.1%	9.0%	9.2%	**8.6%**
Information Media and Telecommunication (J)	18.3%	17.3%	17.2%	18.7%	18.5%	18.9%	18.3%	16.1%	**15.1%**
Financial and Insurance Services (K)	13.9%	12.4%	11.1%	10.1%	7.6%	6.6%	7.2%	6.8%	**6.1%**
Rental, Hiring and Real Estate Services (L)	23.1%	21.0%	19.5%	16.9%	11.8%	8.3%	8.0%	7.0%	**7.4%**
Professional, Scientific and Technical Services (M)	12.8%	11.6%	11.9%	12.3%	11.7%	11.1%	11.7%	11.9%	**11.0%**
Administrative and Support Services (N)	9.6%	8.8%	9.0%	10.1%	9.8%	9.5%	9.4%	9.5%	**8.3%**
Public Administration and Safety (O)	12.9%	11.7%	11.0%	11.2%	9.4%	8.6%	8.6%	8.4%	**7.6%**
Education and Training (P)	8.7%	7.8%	7.1%	7.0%	6.2%	5.9%	5.7%	5.9%	**5.2%**
Health Care and Social Assistance (Q)	8.3%	7.4%	6.6%	6.4%	5.6%	5.1%	4.8%	5.3%	**4.1%**
Arts and Recreation Services (R)	11.3%	10.2%	9.7%	9.3%	8.1%	7.7%	7.4%	7.6%	**6.1%**
Other Services (S)	21.4%	21.7%	23.0%	22.8%	21.1%	18.3%	16.6%	15.8%	**15.7%**

APPENDICES

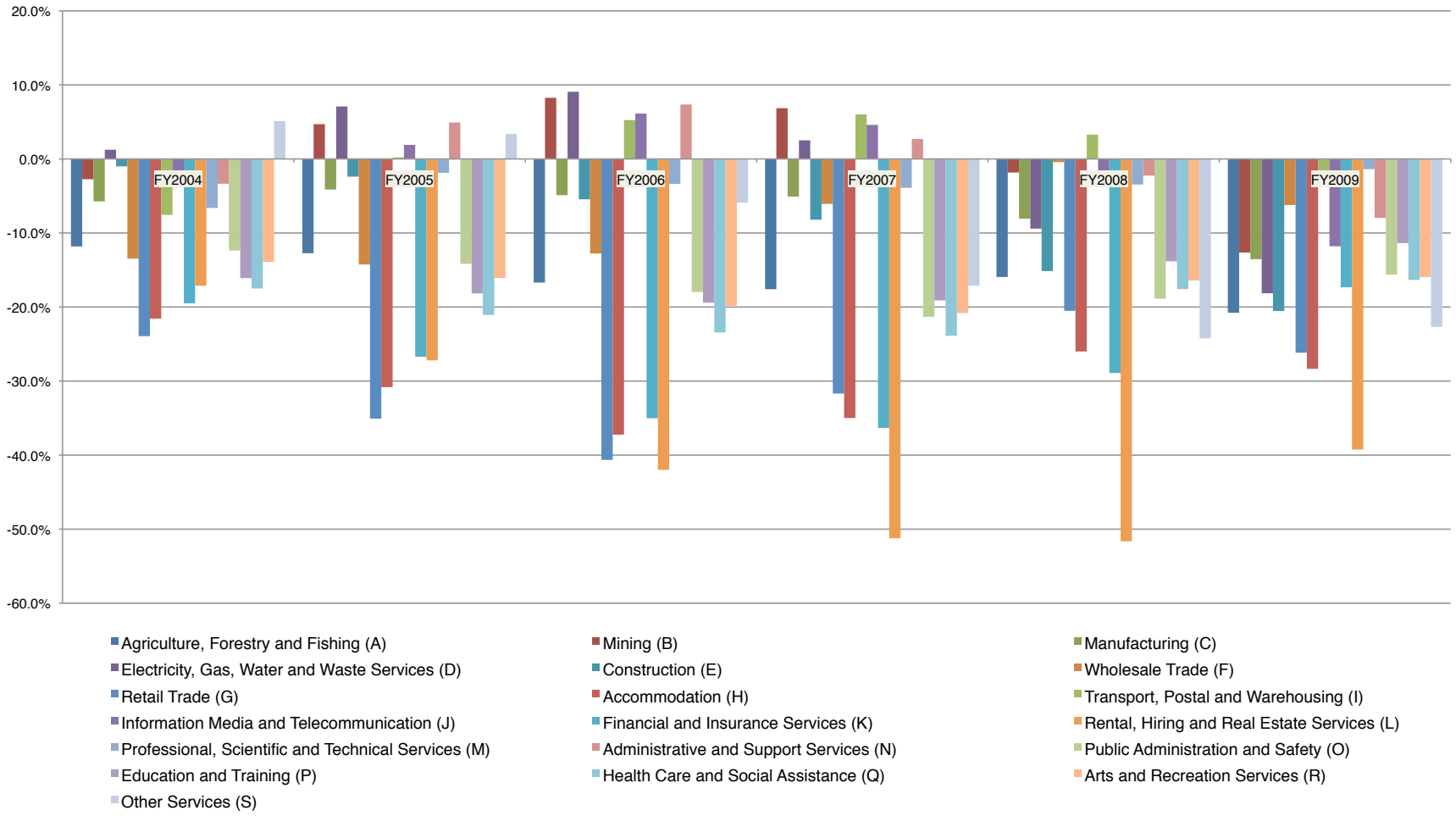
APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

TASMANIA: ALL (continued)

GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	-11.8%	-12.7%	-16.7%	-17.6%	-15.9%	**-20.8%**
Mining (B)	-2.7%	4.7%	8.3%	6.9%	-1.8%	**-12.6%**
Manufacturing (C)	-5.7%	-4.1%	-4.9%	-5.1%	-8.1%	**-13.5%**
Electricity, Gas, Water and Waste Services (D)	1.2%	7.1%	9.1%	2.5%	-9.4%	**-18.1%**
Construction (E)	-1.0%	-2.4%	-5.4%	-8.2%	-15.1%	**-20.5%**
Wholesale Trade (F)	-13.5%	-14.3%	-12.8%	-6.1%	-0.4%	**-6.2%**
Retail Trade (G)	-23.9%	-35.1%	-40.6%	-31.7%	-20.5%	**-26.2%**
Accommodation (H)	-21.6%	-30.8%	-37.2%	-35.0%	-26.0%	**-28.4%**
Transport, Postal and Warehousing (I)	-7.6%	0.2%	5.2%	6.0%	3.3%	**-1.7%**
Information Media and Telecommunication (J)	-3.0%	1.9%	6.1%	4.6%	-2.1%	**-11.8%**
Financial and Insurance Services (K)	-19.5%	-26.7%	-35.0%	-36.3%	-28.9%	**-17.3%**
Rental, Hiring and Real Estate Services (L)	-17.1%	-27.2%	-42.0%	-51.2%	-51.6%	**-39.2%**
Professional, Scientific and Technical Services (M)	-6.6%	-1.9%	-3.4%	-3.9%	-3.5%	**-1.4%**
Administrative and Support Services (N)	-3.3%	4.9%	7.4%	2.7%	-2.2%	**-8.0%**
Public Administration and Safety (O)	-12.4%	-14.2%	-18.0%	-21.3%	-18.9%	**-15.6%**
Education and Training (P)	-16.1%	-18.2%	-19.4%	-19.1%	-13.8%	**-11.4%**
Health Care and Social Assistance (Q)	-17.5%	-21.1%	-23.4%	-23.9%	-17.6%	**-16.3%**
Arts and Recreation Services (R)	-13.9%	-16.1%	-19.8%	-20.8%	-16.4%	**-15.9%**
Other Services (S)	5.1%	3.4%	-5.9%	-17.1%	-24.2%	**-22.7%**

TASMANIA: ALL (continued)



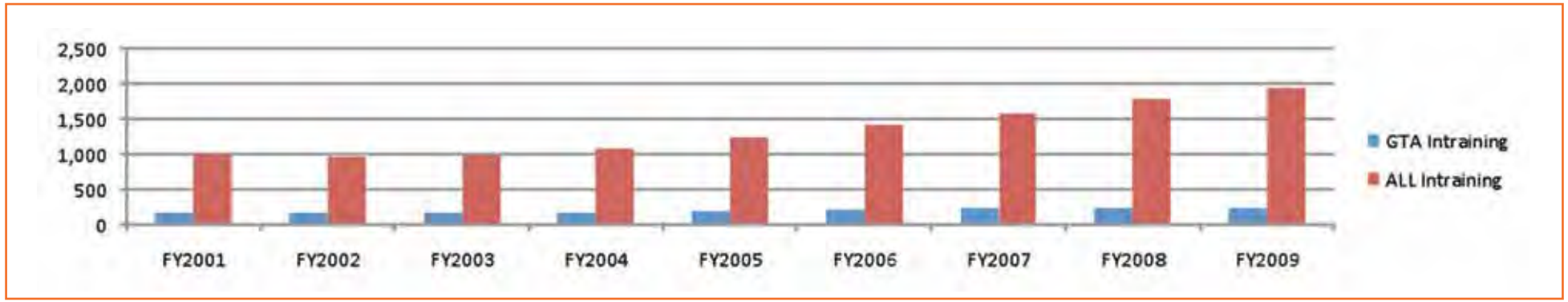
APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

NORTHERN TERRITORY: APPRENTICES

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	181	165	165	177	192	215	236	247	**236**
ALL Intraining	1,018	974	1,002	1,090	1,246	1,418	1,592	1,789	**1,946**
GTA Commenced	79	62	76	89	100	102	127	115	**78**
ALL Commenced	539	405	481	530	678	761	754	899	**727**
GTA Completed	31	38	48	31	32	43	45	30	**44**
ALL Completed	271	245	227	199	230	260	288	299	**360**



NORTHERN TERRITORY: APPRENTICES (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	14.3%	26.9%	30.7%	**23.1%**
ALL Intraining	25.4%	38.8%	43.7%	**41.9%**
GTA Commenced	34.2%	45.0%	29.8%	**10.0%**
ALL Commenced	38.2%	54.9%	42.9%	**20.8%**
GTA Completed	-9.4%	2.6%	6.3%	**12.5%**
ALL Completed	-7.3%	15.9%	29.1%	**37.5%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	17.8%	16.9%	16.5%	16.2%	15.4%	15.2%	14.8%	13.8%	**12.1%**
Commenced	14.7%	15.3%	15.8%	16.8%	14.7%	13.4%	16.8%	12.8%	**10.7%**
Completed	11.4%	15.5%	21.1%	15.6%	13.9%	16.5%	15.6%	10.0%	**12.3%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	-8.6%	-8.5%	-9.0%	**-12.9%**
Commenced	-1.7%	-6.0%	-9.1%	**-10.2%**
Completed	-4.3%	-11.8%	-16.7%	**-17.6%**

APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

NORTHERN TERRITORY: APPRENTICES (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	12.0%	11.4%	10.7%	9.5%	10.0%	11.6%	11.4%	8.3%	**7.8%**
Mining (B)	19.6%	18.6%	18.0%	17.9%	17.4%	16.7%	15.9%	14.3%	**13.3%**
Manufacturing (C)	18.4%	17.5%	16.9%	16.5%	15.7%	15.3%	14.4%	13.0%	**12.2%**
Electricity, Gas, Water and Waste Services (D)	20.1%	19.2%	19.8%	20.9%	19.9%	18.4%	17.6%	16.5%	**14.0%**
Construction (E)	20.6%	19.6%	19.5%	18.2%	15.6%	15.3%	15.0%	13.6%	**11.5%**
Wholesale Trade (F)	19.1%	18.2%	17.6%	17.8%	17.5%	17.3%	16.8%	15.3%	**13.6%**
Retail Trade (G)	15.9%	15.1%	14.2%	13.7%	13.5%	14.0%	14.0%	13.4%	**11.9%**
Accommodation (H)	10.5%	9.9%	9.7%	7.5%	4.6%	5.6%	5.2%	2.9%	**2.9%**
Transport, Postal and Warehousing (I)	19.7%	18.8%	17.4%	17.1%	17.2%	17.1%	16.6%	15.3%	**14.6%**
Information Media and Telecommunication (J)	21.4%	20.3%	21.8%	23.6%	22.5%	20.3%	19.1%	17.8%	**14.8%**
Financial and Insurance Services (K)	3.3%	3.2%	3.2%	2.5%	5.3%	5.7%	5.3%	1.5%	**3.6%**
Rental, Hiring and Real Estate Services (L)	20.3%	19.3%	18.0%	17.5%	17.2%	17.2%	17.0%	16.2%	**14.5%**
Professional, Scientific and Technical Services (M)	21.3%	20.3%	20.6%	20.8%	19.5%	18.5%	17.6%	16.0%	**13.6%**
Administrative and Support Services (N)	14.5%	13.8%	13.6%	14.4%	16.8%	17.6%	17.5%	15.1%	**12.2%**
Public Administration and Safety (O)	15.0%	14.3%	14.1%	14.2%	13.6%	12.8%	12.4%	11.9%	**10.7%**
Education and Training (P)	13.4%	12.8%	12.7%	12.8%	14.3%	15.4%	15.4%	13.0%	**10.4%**
Health Care and Social Assistance (Q)	12.5%	11.9%	11.6%	10.4%	9.0%	9.6%	9.4%	8.0%	**7.1%**
Arts and Recreation Services (R)	11.6%	11.1%	11.2%	11.3%	12.2%	13.0%	13.1%	10.9%	**8.7%**
Other Services (S)	18.6%	17.7%	16.5%	16.8%	17.3%	17.0%	17.1%	17.2%	**15.5%**

NORTHERN TERRITORY: APPRENTICES (continued)

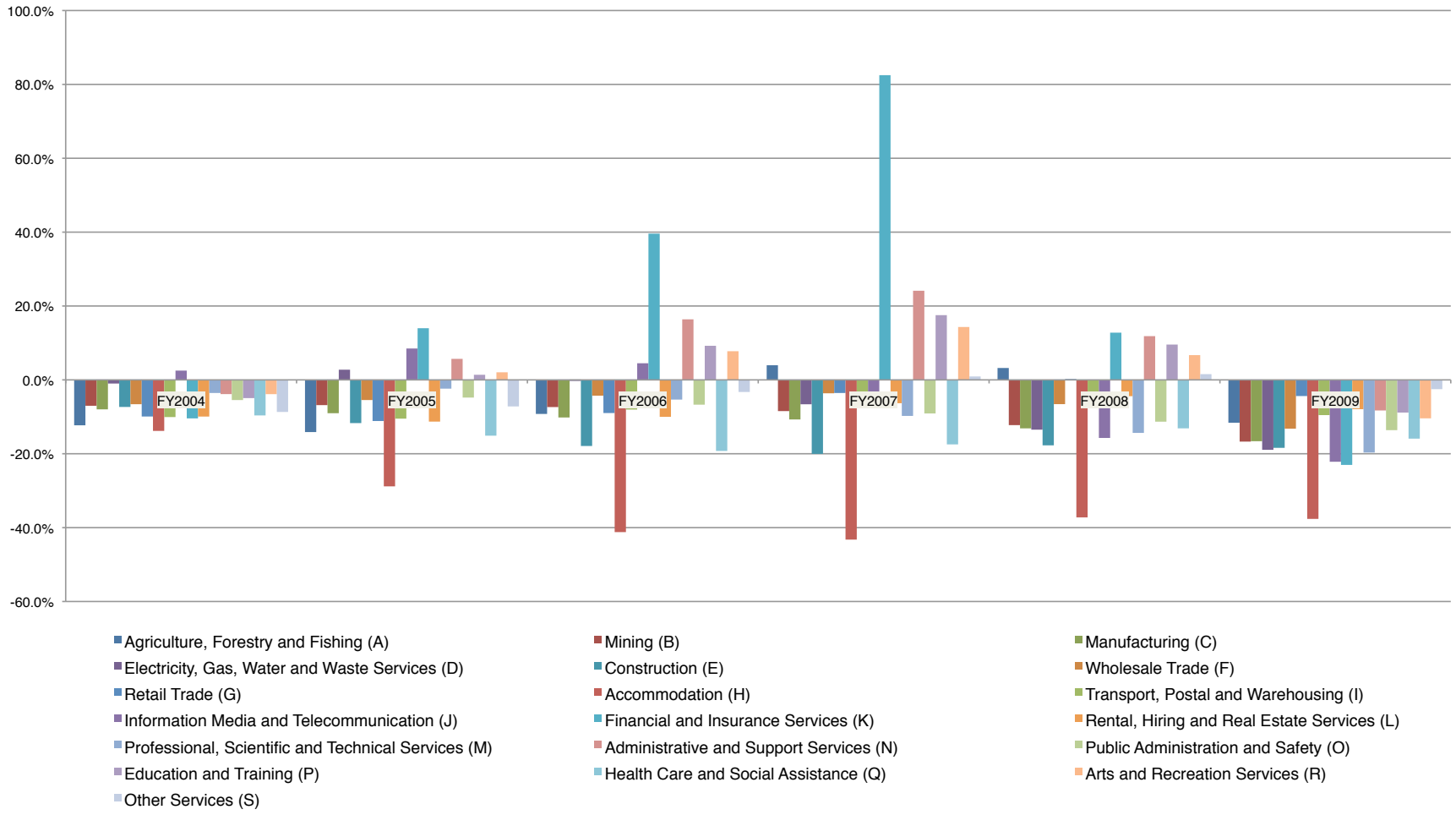
GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	-12.3%	-14.1%	-9.2%	4.0%	3.2%	**-11.6%**
Mining (B)	-7.0%	-6.8%	-7.4%	-8.5%	-12.3%	**-16.7%**
Manufacturing (C)	-8.0%	-9.0%	-10.2%	-10.7%	-13.1%	**-16.6%**
Electricity, Gas, Water and Waste Services (D)	-1.0%	2.8%	0.1%	-6.6%	-13.5%	**-18.9%**
Construction (E)	-7.3%	-11.7%	-17.9%	-20.0%	-17.7%	**-18.4%**
Wholesale Trade (F)	-6.6%	-5.5%	-4.3%	-3.6%	-6.6%	**-13.2%**
Retail Trade (G)	-9.9%	-11.1%	-9.0%	-3.6%	0.2%	**-4.4%**
Accommodation (H)	-13.8%	-28.8%	-41.2%	-43.2%	-37.2%	**-37.6%**
Transport, Postal and Warehousing (I)	-10.1%	-10.5%	-8.0%	-4.3%	-5.2%	**-9.5%**
Information Media and Telecommunication (J)	2.5%	8.5%	4.5%	-5.9%	-15.7%	**-22.2%**
Financial and Insurance Services (K)	-10.4%	14.0%	39.6%	82.5%	12.8%	**-23.0%**
Rental, Hiring and Real Estate Services (L)	-9.9%	-11.3%	-10.0%	-6.3%	-4.4%	**-7.9%**
Professional, Scientific and Technical Services (M)	-3.5%	-2.4%	-5.3%	-9.8%	-14.4%	**-19.7%**
Administrative and Support Services (N)	-3.9%	5.7%	16.4%	24.1%	11.8%	**-8.3%**
Public Administration and Safety (O)	-5.5%	-4.8%	-6.7%	-9.1%	-11.3%	**-13.6%**
Education and Training (P)	-4.9%	1.4%	9.2%	17.5%	9.6%	**-8.8%**
Health Care and Social Assistance (Q)	-9.6%	-15.1%	-19.2%	-17.5%	-13.1%	**-15.9%**
Arts and Recreation Services (R)	-3.9%	2.0%	7.8%	14.3%	6.7%	**-10.4%**
Other Services (S)	-8.7%	-7.2%	-3.3%	0.9%	1.6%	**-2.5%**

APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

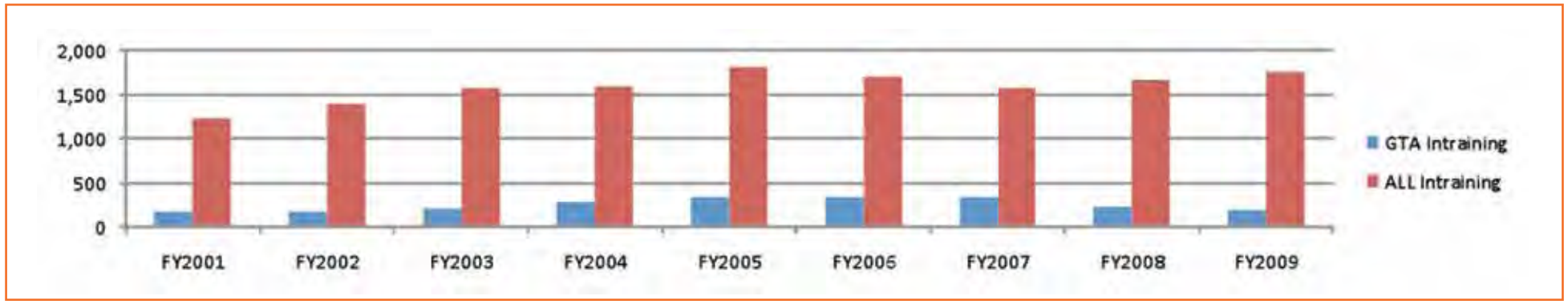
1

NORTHERN TERRITORY: APPRENTICES (continued)



NORTHERN TERRITORY: OTHER

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	180	176	211	279	343	347	339	238	**200**
ALL Intraining	1,241	1,403	1,583	1,593	1,821	1,706	1,573	1,664	**1,765**
GTA Commenced	213	163	251	281	332	341	266	257	**152**
ALL Commenced	1,460	1,508	1,593	1,444	1,912	1,487	1,494	1,784	**1,696**
GTA Completed	109	107	95	75	121	167	169	162	**108**
ALL Completed	773	794	883	676	821	812	736	748	**713**

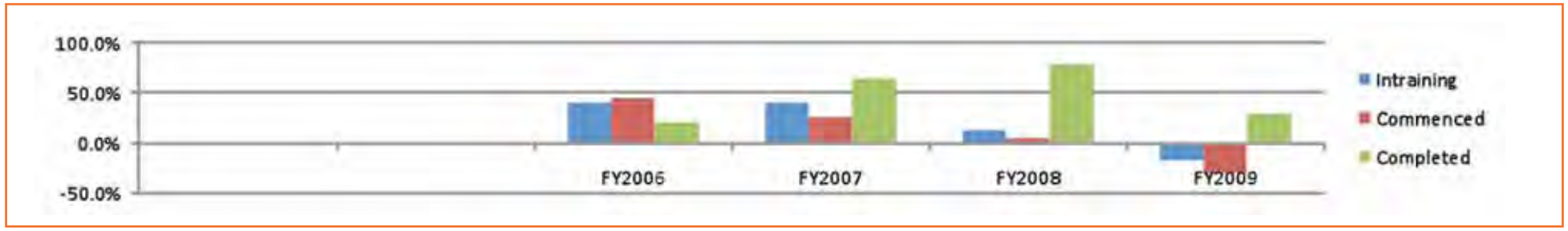


NORTHERN TERRITORY: OTHER (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	71.1%	54.8%	11.0%	**-19.8%**
ALL Intraining	21.1%	11.4%	-1.1%	**-2.3%**
GTA Commenced	52.2%	35.1%	0.0%	**-29.2%**
ALL Commenced	6.2%	7.7%	-3.7%	**2.7%**
GTA Completed	16.7%	65.0%	71.1%	**21.1%**
ALL Completed	-5.8%	0.7%	-3.5%	**-4.9%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	14.5%	12.5%	13.3%	17.5%	18.9%	20.4%	21.6%	14.3%	**11.3%**
Commenced	14.6%	10.8%	15.8%	19.5%	17.4%	22.9%	17.8%	14.4%	**9.0%**
Completed	14.1%	13.5%	10.8%	11.1%	14.7%	20.6%	23.0%	21.7%	**15.2%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	40.5%	40.2%	13.2%	**-16.8%**
Commenced	45.2%	26.2%	4.9%	**-31.1%**
Completed	21.0%	64.9%	78.1%	**29.0%**



NORTHERN TERRITORY: OTHER (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	17.6%	15.6%	16.2%	23.6%	29.7%	26.5%	25.1%	20.2%	**15.6%**
Mining (B)	12.5%	10.8%	11.9%	14.7%	19.9%	20.3%	21.1%	15.7%	**11.8%**
Manufacturing (C)	12.0%	10.3%	11.4%	17.1%	19.7%	19.3%	17.9%	14.1%	**11.8%**
Electricity, Gas, Water and Waste Services (D)	15.0%	13.1%	13.8%	19.9%	19.7%	20.8%	24.3%	16.3%	**14.1%**
Construction (E)	19.0%	16.6%	16.4%	25.3%	19.1%	19.4%	21.7%	15.2%	**15.0%**
Wholesale Trade (F)	10.2%	8.8%	10.6%	13.1%	17.5%	17.2%	15.4%	10.9%	**8.2%**
Retail Trade (G)	8.9%	7.7%	8.8%	10.8%	14.8%	14.5%	13.2%	10.4%	**6.0%**
Accommodation (H)	13.4%	11.6%	12.4%	15.2%	14.9%	17.0%	18.9%	12.2%	**8.7%**
Transport, Postal and Warehousing (I)	8.5%	7.3%	9.2%	13.0%	16.9%	19.6%	21.5%	12.7%	**11.2%**
Information Media and Telecommunication (J)	15.8%	13.6%	13.9%	16.1%	19.1%	22.1%	24.0%	15.0%	**12.2%**
Financial and Insurance Services (K)	19.7%	17.0%	19.1%	24.5%	28.2%	37.0%	36.3%	21.4%	**18.5%**
Rental, Hiring and Real Estate Services (L)	14.2%	12.2%	12.7%	18.0%	21.0%	22.9%	26.2%	16.1%	**12.9%**
Professional, Scientific and Technical Services (M)	16.2%	13.9%	15.4%	21.6%	22.2%	26.1%	28.8%	17.7%	**15.6%**
Administrative and Support Services (N)	12.9%	11.3%	11.1%	13.3%	15.6%	17.5%	18.8%	12.3%	**10.0%**
Public Administration and Safety (O)	17.9%	15.5%	16.0%	20.3%	21.0%	23.4%	26.0%	17.1%	**14.0%**
Education and Training (P)	16.0%	13.7%	14.2%	15.8%	16.9%	20.8%	21.0%	11.3%	**9.0%**
Health Care and Social Assistance (Q)	16.3%	14.0%	14.6%	17.3%	16.8%	19.9%	22.1%	12.0%	**8.8%**
Arts and Recreation Services (R)	15.6%	13.5%	14.0%	16.7%	17.4%	20.5%	21.5%	12.6%	**10.2%**
Other Services (S)	16.3%	14.0%	14.2%	18.8%	18.0%	16.2%	18.1%	14.5%	**11.7%**

APPENDICES

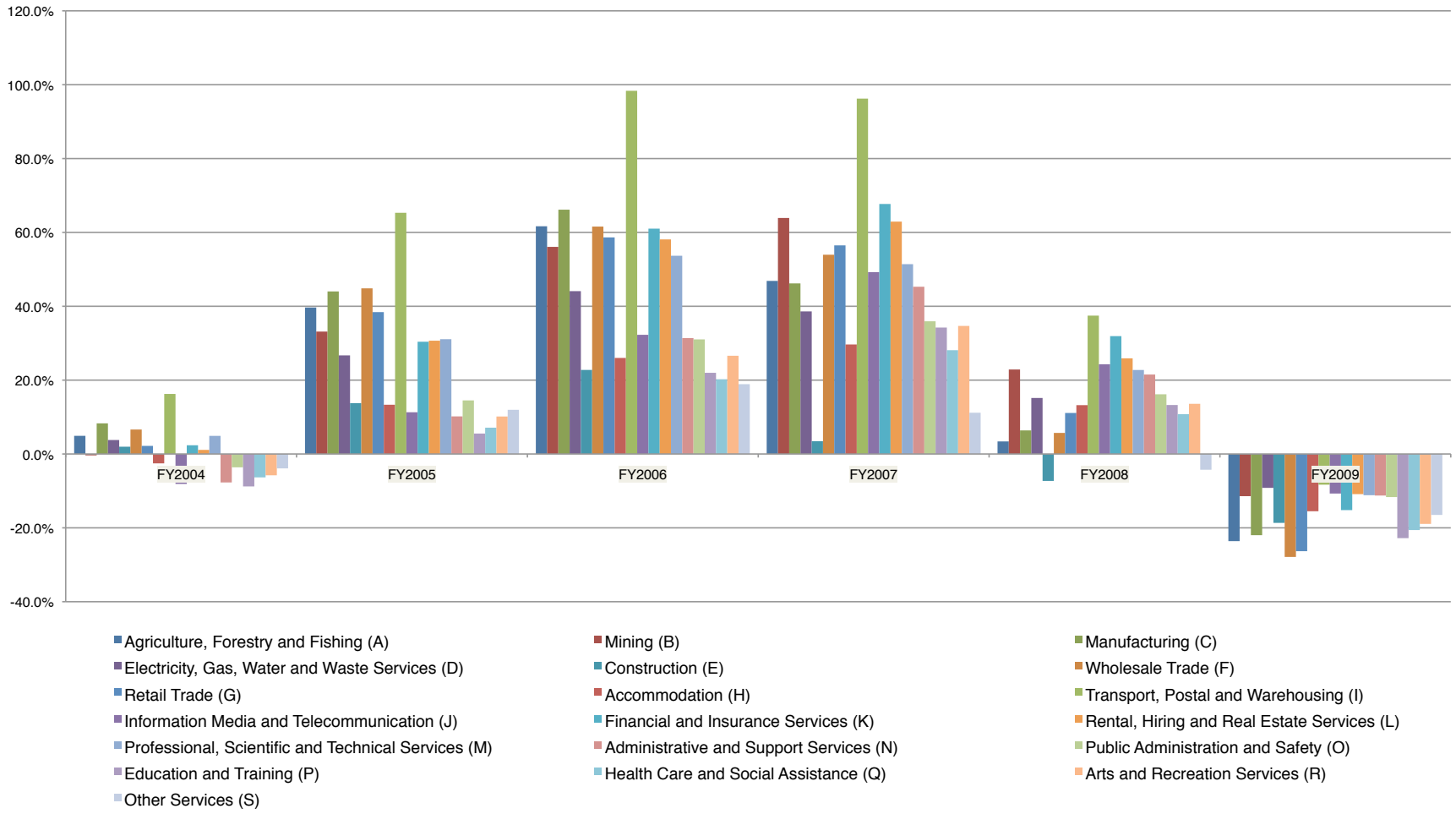
APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

NORTHERN TERRITORY: OTHER (continued)

GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	4.9%	39.7%	61.7%	46.9%	3.4%	**-23.6%**
Mining (B)	0.0%	33.1%	56.1%	63.9%	22.9%	**-11.4%**
Manufacturing (C)	8.3%	44.0%	66.2%	46.2%	6.4%	**-22.0%**
Electricity, Gas, Water and Waste Services (D)	3.8%	26.7%	44.1%	38.6%	15.2%	**-9.2%**
Construction (E)	2.0%	13.8%	22.8%	3.5%	-7.3%	**-18.7%**
Wholesale Trade (F)	6.6%	44.9%	61.6%	54.0%	5.7%	**-27.9%**
Retail Trade (G)	2.2%	38.4%	58.6%	56.5%	11.1%	**-26.3%**
Accommodation (H)	-2.5%	13.3%	26.0%	29.7%	13.2%	**-15.5%**
Transport, Postal and Warehousing (I)	16.3%	65.3%	98.3%	96.2%	37.5%	**-8.3%**
Information Media and Telecommunication (J)	-8.1%	11.3%	32.3%	49.2%	24.3%	**-10.7%**
Financial and Insurance Services (K)	2.4%	30.4%	61.0%	67.7%	31.9%	**-15.2%**
Rental, Hiring and Real Estate Services (L)	1.1%	30.7%	58.1%	62.9%	25.9%	**-10.9%**
Professional, Scientific and Technical Services (M)	4.9%	31.1%	53.7%	51.4%	22.7%	**-11.2%**
Administrative and Support Services (N)	-7.7%	10.2%	31.4%	45.3%	21.5%	**-11.3%**
Public Administration and Safety (O)	-3.6%	14.5%	31.0%	35.9%	16.2%	**-11.7%**
Education and Training (P)	-8.8%	5.5%	22.0%	34.2%	13.3%	**-22.8%**
Health Care and Social Assistance (Q)	-6.3%	7.1%	20.2%	28.1%	10.8%	**-20.6%**
Arts and Recreation Services (R)	-5.8%	10.2%	26.6%	34.7%	13.6%	**-18.9%**
Other Services (S)	-3.9%	12.0%	18.9%	11.2%	-4.3%	**-16.5%**

NORTHERN TERRITORY: OTHER (continued)



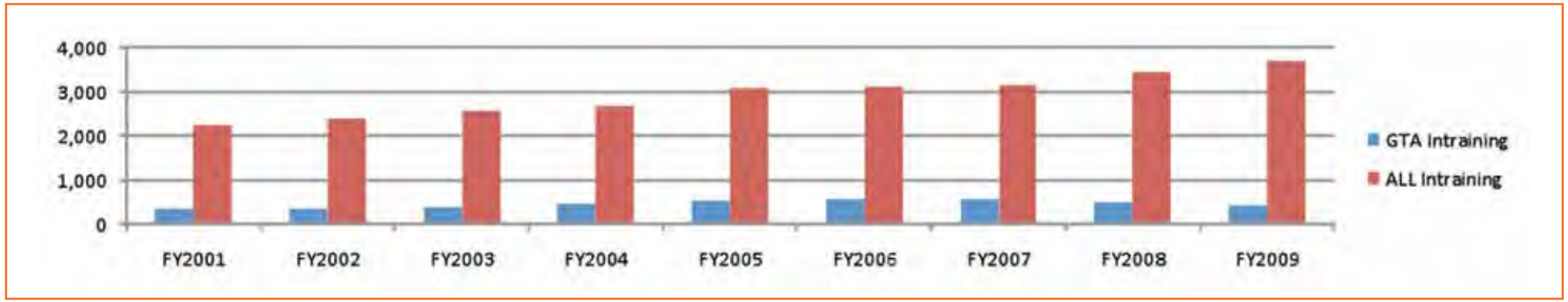
APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

NORTHERN TERRITORY: ALL

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	361	341	376	455	536	562	575	485	**436**
ALL Intraining	2,258	2,377	2,586	2,683	3,067	3,124	3,165	3,453	**3,712**
GTA Commenced	292	225	327	370	432	443	393	372	**230**
ALL Commenced	1,999	1,913	2,074	1,974	2,590	2,248	2,248	2,683	**2,423**
GTA Completed	140	145	143	106	153	210	214	192	**153**
ALL Completed	1,044	1,039	1,110	875	1,051	1,072	1,024	1,047	**1,073**

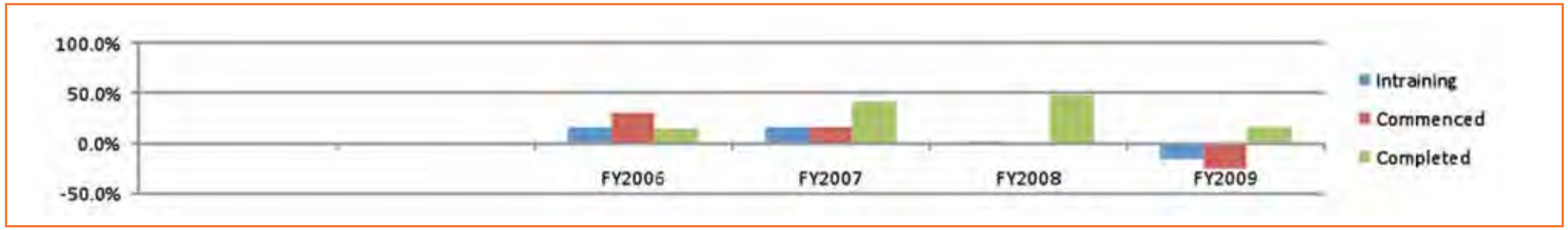


NORTHERN TERRITORY: ALL (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	44.1%	42.7%	18.7%	**-3.7%**
ALL Intraining	22.9%	22.4%	16.9%	**16.4%**
GTA Commenced	47.5%	37.5%	7.0%	**-20.1%**
ALL Commenced	13.8%	18.9%	8.2%	**8.0%**
GTA Completed	9.6%	46.4%	53.2%	**19.1%**
ALL Completed	-6.1%	4.1%	3.5%	**4.9%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	16.0%	14.3%	14.6%	17.0%	17.5%	18.0%	18.2%	14.1%	**11.7%**
Commenced	14.6%	11.8%	15.8%	18.7%	16.7%	19.7%	17.5%	13.9%	**9.5%**
Completed	13.4%	14.0%	12.9%	12.1%	14.6%	19.6%	20.9%	18.3%	**14.2%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	16.9%	17.0%	2.5%	**-16.1%**
Commenced	30.9%	16.4%	-0.3%	**-25.9%**
Completed	14.9%	41.3%	48.7%	**15.6%**



APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

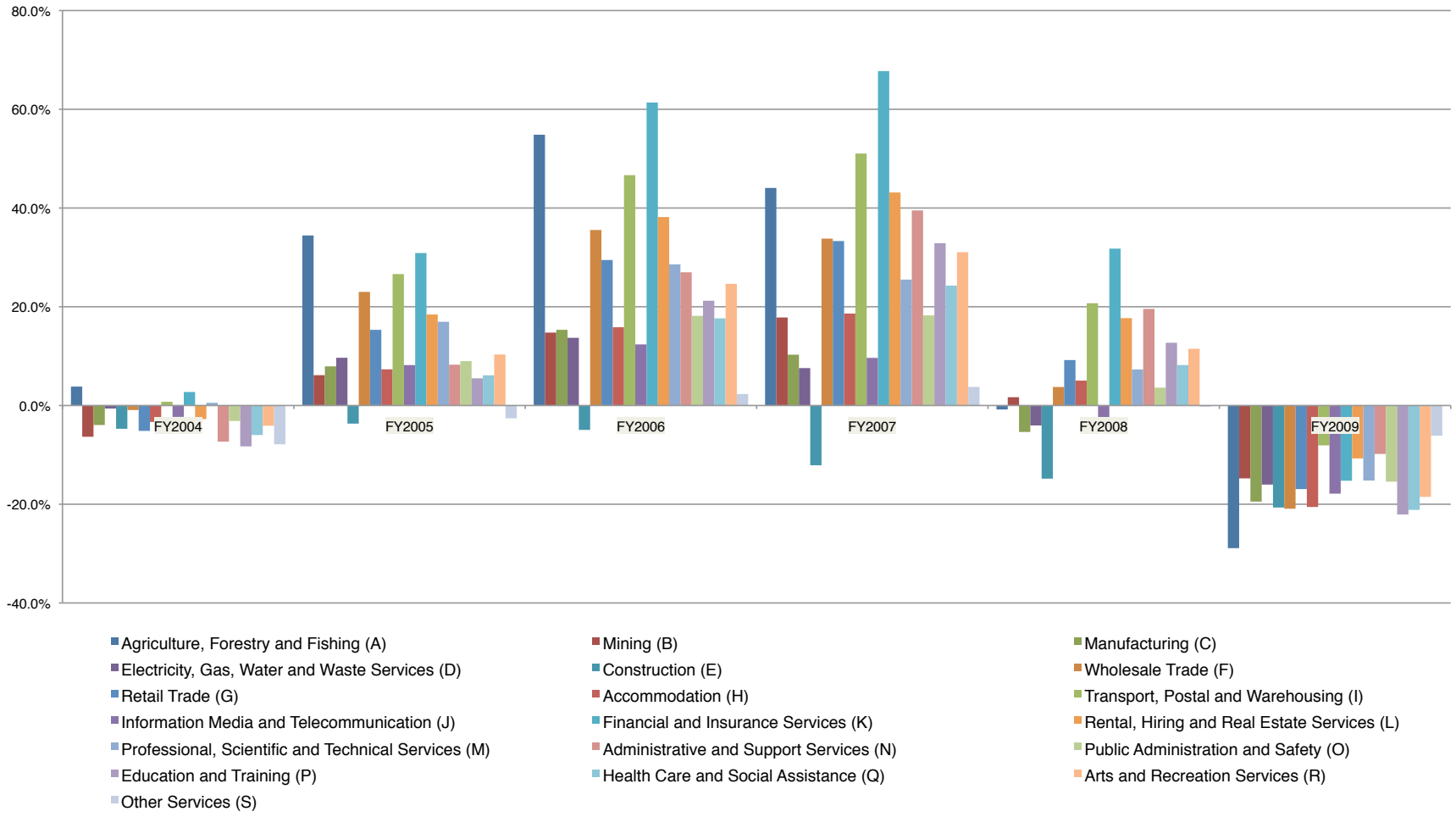
NORTHERN TERRITORY: ALL (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	15.5%	14.2%	14.5%	19.5%	25.7%	23.0%	20.6%	15.6%	**12.3%**
Mining (B)	16.5%	14.9%	15.0%	16.4%	18.5%	18.2%	17.8%	14.8%	**12.8%**
Manufacturing (C)	15.7%	14.2%	14.3%	16.7%	17.4%	16.8%	15.7%	13.3%	**12.1%**
Electricity, Gas, Water and Waste Services (D)	18.3%	16.7%	17.4%	20.5%	19.8%	19.3%	19.6%	16.4%	**14.0%**
Construction (E)	20.1%	18.6%	18.4%	20.6%	17.0%	16.8%	16.9%	14.0%	**12.2%**
Wholesale Trade (F)	12.7%	11.2%	12.3%	14.4%	17.5%	17.3%	15.9%	12.6%	**10.3%**
Retail Trade (G)	11.1%	9.8%	10.2%	11.6%	14.3%	14.3%	13.5%	11.7%	**8.3%**
Accommodation (H)	12.6%	11.2%	11.8%	13.5%	13.0%	14.7%	15.6%	9.9%	**7.2%**
Transport, Postal and Warehousing (I)	12.0%	10.5%	11.5%	14.3%	17.0%	18.5%	19.3%	13.8%	**12.7%**
Information Media and Telecommunication (J)	19.5%	17.8%	18.6%	20.7%	21.2%	20.9%	20.6%	17.0%	**14.1%**
Financial and Insurance Services (K)	19.5%	16.8%	18.9%	24.3%	28.0%	36.7%	36.0%	21.2%	**18.3%**
Rental, Hiring and Real Estate Services (L)	15.5%	13.6%	13.8%	17.9%	20.0%	21.3%	23.5%	16.1%	**13.3%**
Professional, Scientific and Technical Services (M)	18.0%	15.9%	17.0%	21.3%	21.2%	23.0%	24.0%	16.9%	**14.7%**
Administrative and Support Services (N)	13.4%	11.9%	11.7%	13.5%	15.9%	17.5%	18.4%	13.2%	**10.7%**
Public Administration and Safety (O)	16.6%	15.0%	15.3%	18.0%	18.3%	19.1%	19.7%	14.7%	**12.4%**
Education and Training (P)	15.8%	13.6%	14.1%	15.6%	16.7%	20.4%	20.5%	11.4%	**9.1%**
Health Care and Social Assistance (Q)	15.9%	13.8%	14.3%	16.7%	16.2%	18.9%	20.6%	11.6%	**8.6%**
Arts and Recreation Services (R)	14.7%	13.0%	13.5%	15.7%	16.5%	19.1%	19.7%	12.3%	**9.9%**
Other Services (S)	18.0%	16.6%	15.8%	17.3%	17.5%	16.8%	17.4%	16.5%	**14.6%**

NORTHERN TERRITORY: ALL (continued)

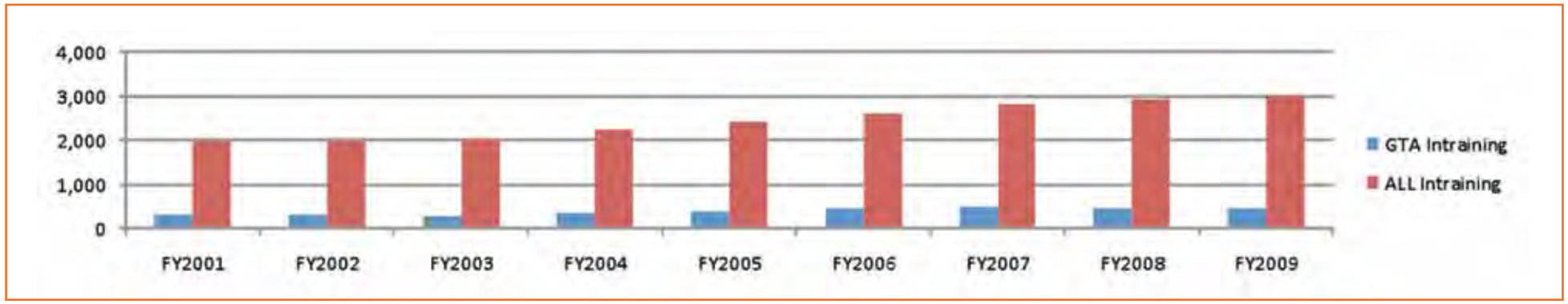
GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	3.8%	34.4%	54.8%	44.1%	-0.8%	**-28.9%**
Mining (B)	-6.3%	6.1%	14.8%	17.8%	1.7%	**-14.8%**
Manufacturing (C)	-4.0%	7.9%	15.3%	10.3%	-5.4%	**-19.5%**
Electricity, Gas, Water and Waste Services (D)	-0.6%	9.7%	13.7%	7.6%	-4.0%	**-16.0%**
Construction (E)	-4.7%	-3.7%	-4.9%	-12.1%	-14.8%	**-20.7%**
Wholesale Trade (F)	-0.9%	23.0%	35.5%	33.8%	3.7%	**-20.9%**
Retail Trade (G)	-5.1%	15.3%	29.5%	33.3%	9.2%	**-16.9%**
Accommodation (H)	-3.3%	7.3%	15.9%	18.6%	5.0%	**-20.6%**
Transport, Postal and Warehousing (I)	0.8%	26.6%	46.7%	51.0%	20.7%	**-8.1%**
Information Media and Telecommunication (J)	-2.3%	8.2%	12.4%	9.6%	-3.5%	**-17.9%**
Financial and Insurance Services (K)	2.7%	30.9%	61.4%	67.7%	31.8%	**-15.2%**
Rental, Hiring and Real Estate Services (L)	-2.7%	18.4%	38.2%	43.1%	17.7%	**-10.7%**
Professional, Scientific and Technical Services (M)	0.5%	17.0%	28.6%	25.5%	7.3%	**-15.2%**
Administrative and Support Services (N)	-7.3%	8.3%	27.0%	39.5%	19.6%	**-9.8%**
Public Administration and Safety (O)	-3.1%	9.0%	18.2%	18.2%	3.6%	**-15.4%**
Education and Training (P)	-8.3%	5.5%	21.2%	32.9%	12.7%	**-22.1%**
Health Care and Social Assistance (Q)	-6.0%	6.1%	17.6%	24.3%	8.2%	**-21.1%**
Arts and Recreation Services (R)	-4.1%	10.3%	24.6%	31.0%	11.5%	**-18.5%**
Other Services (S)	-7.9%	-2.6%	2.3%	3.8%	0.0%	**-6.1%**

NORTHERN TERRITORY: ALL (continued)



AUSTRALIAN CAPITAL TERRITORY: APPRENTICES

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	324	301	286	349	406	464	484	466	**454**
ALL Intraining	1,993	1,988	2,019	2,236	2,415	2,616	2,842	2,954	**3,016**
GTA Commenced	150	143	142	200	203	226	215	214	**187**
ALL Commenced	917	843	942	1,085	1,081	1,229	1,255	1,301	**1,146**
GTA Completed	74	81	67	56	68	90	107	116	**107**
ALL Completed	332	444	433	395	479	445	534	620	**563**

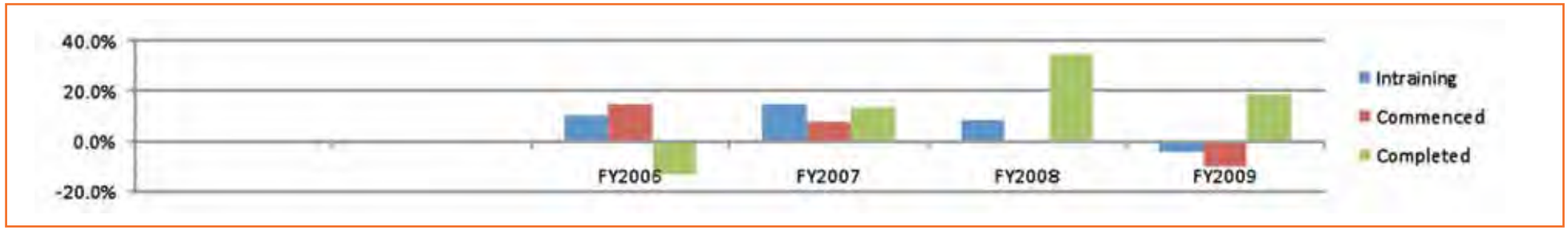


AUSTRALIAN CAPITAL TERRITORY: APPRENTICES (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	33.8%	44.4%	35.7%	**15.2%**
ALL Intraining	21.1%	26.1%	26.1%	**21.3%**
GTA Commenced	44.6%	32.8%	20.2%	**-2.0%**
ALL Commenced	25.6%	24.2%	21.8%	**9.0%**
GTA Completed	-3.6%	29.9%	63.9%	**54.1%**
ALL Completed	9.1%	14.6%	22.3%	**30.2%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	16.2%	15.2%	14.2%	15.6%	16.8%	17.7%	17.0%	15.8%	**15.0%**
Commenced	16.4%	17.0%	15.1%	18.4%	18.8%	18.4%	17.1%	16.4%	**16.3%**
Completed	22.3%	18.2%	15.5%	14.2%	14.2%	20.2%	20.0%	18.7%	**18.9%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	10.0%	14.7%	8.4%	**-4.6%**
Commenced	14.9%	7.6%	-0.6%	**-10.2%**
Completed	-13.2%	13.7%	34.5%	**18.7%**



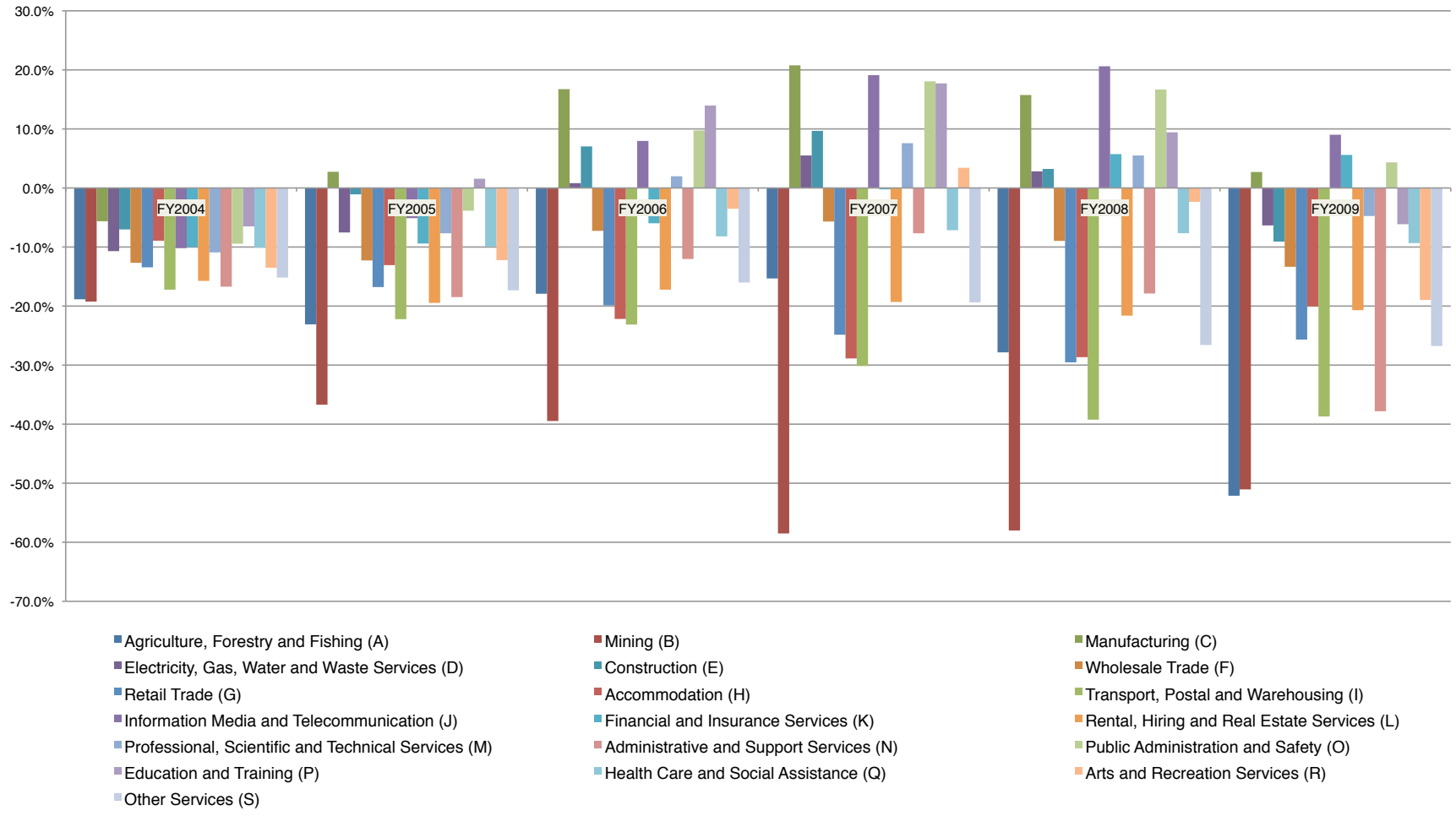
AUSTRALIAN CAPITAL TERRITORY: APPRENTICES (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	14.4%	13.4%	11.1%	10.5%	10.4%	11.0%	8.1%	3.9%	**3.2%**
Mining (B)	7.7%	7.4%	5.1%	6.2%	3.1%	2.9%	1.7%	1.4%	**2.9%**
Manufacturing (C)	9.4%	8.8%	8.2%	9.6%	10.2%	11.0%	10.9%	10.6%	**10.2%**
Electricity, Gas, Water and Waste Services (D)	15.8%	14.8%	13.5%	14.1%	14.9%	15.6%	14.3%	13.9%	**13.6%**
Construction (E)	30.3%	28.2%	27.2%	29.1%	30.6%	32.0%	30.0%	27.5%	**25.8%**
Wholesale Trade (F)	14.1%	13.2%	11.6%	12.1%	12.2%	11.8%	10.9%	10.0%	**10.3%**
Retail Trade (G)	10.1%	9.4%	8.4%	8.4%	7.6%	6.3%	5.7%	5.1%	**5.8%**
Accommodation (H)	6.3%	5.9%	5.8%	5.6%	4.5%	3.8%	3.9%	3.6%	**3.7%**
Transport, Postal and Warehousing (I)	13.2%	12.4%	10.0%	10.3%	9.5%	7.6%	5.8%	4.8%	**6.2%**
Information Media and Telecommunication (J)	9.7%	9.1%	8.3%	8.7%	9.6%	10.8%	10.6%	10.7%	**10.4%**
Financial and Insurance Services (K)	9.9%	9.3%	8.8%	8.7%	8.5%	9.0%	9.2%	9.3%	**9.2%**
Rental, Hiring and Real Estate Services (L)	8.3%	7.8%	6.5%	6.8%	6.3%	5.7%	5.0%	4.6%	**5.3%**
Professional, Scientific and Technical Services (M)	14.1%	13.2%	11.9%	12.5%	13.3%	14.1%	13.0%	12.6%	**12.3%**
Administrative and Support Services (N)	14.7%	13.7%	11.8%	11.3%	11.7%	12.4%	9.9%	6.3%	**5.8%**
Public Administration and Safety (O)	8.4%	7.8%	7.1%	7.8%	8.4%	9.2%	9.1%	8.9%	**8.6%**
Education and Training (P)	19.6%	18.3%	17.3%	19.4%	21.1%	22.5%	21.2%	19.5%	**18.4%**
Health Care and Social Assistance (Q)	7.0%	6.5%	6.1%	6.3%	5.9%	5.8%	5.8%	5.3%	**5.2%**
Arts and Recreation Services (R)	12.0%	11.1%	10.0%	10.0%	10.5%	11.4%	10.2%	8.1%	**7.5%**
Other Services (S)	12.5%	11.7%	9.9%	10.2%	10.0%	8.5%	7.2%	6.4%	**7.4%**

AUSTRALIAN CAPITAL TERRITORY: APPRENTICES (continued)

GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	-18.9%	-23.1%	-17.9%	-15.3%	-27.8%	**-52.1%**
Mining (B)	-19.2%	-36.7%	-39.5%	-58.5%	-58.0%	**-51.1%**
Manufacturing (C)	-5.6%	2.7%	16.7%	20.8%	15.7%	**2.7%**
Electricity, Gas, Water and Waste Services (D)	-10.7%	-7.5%	0.8%	5.5%	2.8%	**-6.3%**
Construction (E)	-7.0%	-1.1%	7.0%	9.7%	3.2%	**-9.1%**
Wholesale Trade (F)	-12.7%	-12.3%	-7.3%	-5.7%	-9.0%	**-13.4%**
Retail Trade (G)	-13.4%	-16.8%	-19.9%	-24.9%	-29.5%	**-25.7%**
Accommodation (H)	-8.9%	-13.1%	-22.2%	-28.9%	-28.7%	**-20.0%**
Transport, Postal and Warehousing (I)	-17.2%	-22.2%	-23.1%	-30.1%	-39.2%	**-38.7%**
Information Media and Telecommunication (J)	-10.2%	-5.1%	8.0%	19.1%	20.6%	**9.0%**
Financial and Insurance Services (K)	-10.0%	-9.4%	-6.0%	-0.2%	5.7%	**5.6%**
Rental, Hiring and Real Estate Services (L)	-15.7%	-19.5%	-17.2%	-19.3%	-21.6%	**-20.7%**
Professional, Scientific and Technical Services (M)	-10.9%	-7.7%	2.0%	7.6%	5.5%	**-4.7%**
Administrative and Support Services (N)	-16.7%	-18.5%	-12.0%	-7.7%	-17.9%	**-37.8%**
Public Administration and Safety (O)	-9.4%	-3.9%	9.7%	18.1%	16.7%	**4.3%**
Education and Training (P)	-6.5%	1.6%	14.0%	17.7%	9.4%	**-6.1%**
Health Care and Social Assistance (Q)	-10.1%	-9.9%	-8.2%	-7.2%	-7.7%	**-9.3%**
Arts and Recreation Services (R)	-13.5%	-12.2%	-3.5%	3.4%	-2.4%	**-19.0%**
Other Services (S)	-15.2%	-17.3%	-16.0%	-19.4%	-26.6%	**-26.8%**

AUSTRALIAN CAPITAL TERRITORY: APPRENTICES (continued)



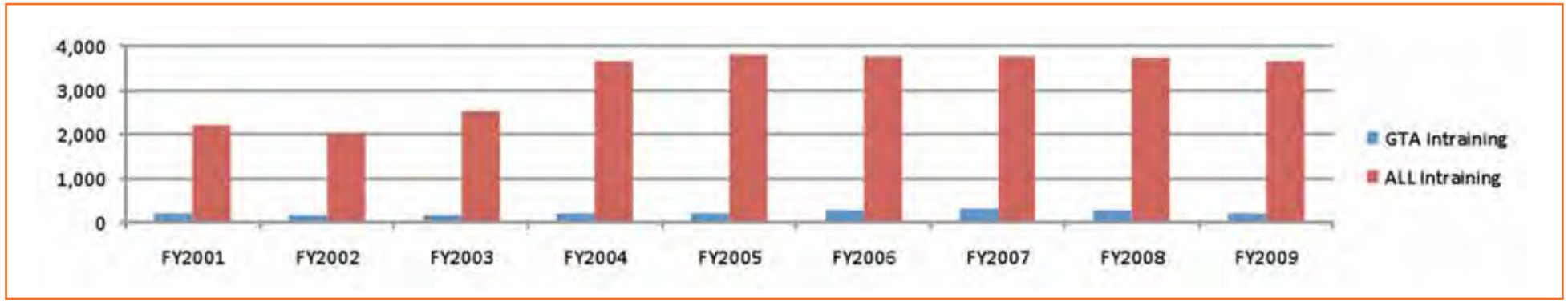
APPENDICES

APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

AUSTRALIAN CAPITAL TERRITORY: OTHER

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	218	164	170	214	202	273	302	290	**209**
ALL Intraining	2,227	2,023	2,542	3,648	3,809	3,792	3,763	3,742	**3,667**
GTA Commenced	276	229	213	328	283	335	386	209	**209**
ALL Commenced	2,470	2,421	3,469	4,027	3,572	4,037	3,828	3,649	**3,632**
GTA Completed	162	148	128	125	156	114	161	161	**167**
ALL Completed	1,692	1,499	1,347	1,692	2,009	2,040	1,935	1,728	**2,007**

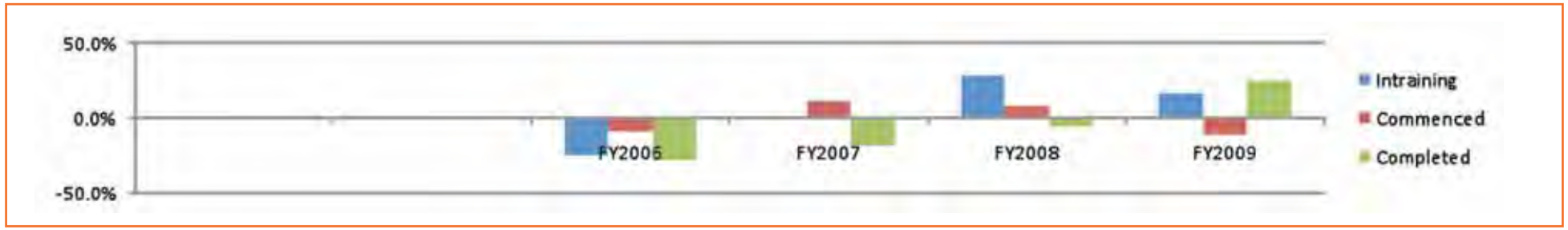


AUSTRALIAN CAPITAL TERRITORY: OTHER (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	24.9%	41.8%	47.5%	**16.3%**
ALL Intraining	65.6%	38.4%	13.0%	**-0.7%**
GTA Commenced	31.8%	30.4%	12.9%	**-15.0%**
ALL Commenced	39.2%	15.3%	4.0%	**-4.5%**
GTA Completed	-9.8%	7.5%	6.6%	**23.8%**
ALL Completed	26.5%	31.9%	13.0%	**-1.2%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	9.8%	8.1%	6.7%	5.9%	5.3%	7.2%	8.0%	7.8%	**5.7%**
Commenced	11.2%	9.5%	6.1%	8.1%	7.9%	8.3%	10.1%	5.7%	**5.8%**
Completed	9.6%	9.9%	9.5%	7.4%	7.8%	5.6%	8.3%	9.3%	**8.3%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	-25.2%	-0.6%	28.6%	**17.0%**
Commenced	-9.0%	10.8%	8.6%	**-11.5%**
Completed	-28.4%	-19.0%	-5.8%	**25.2%**



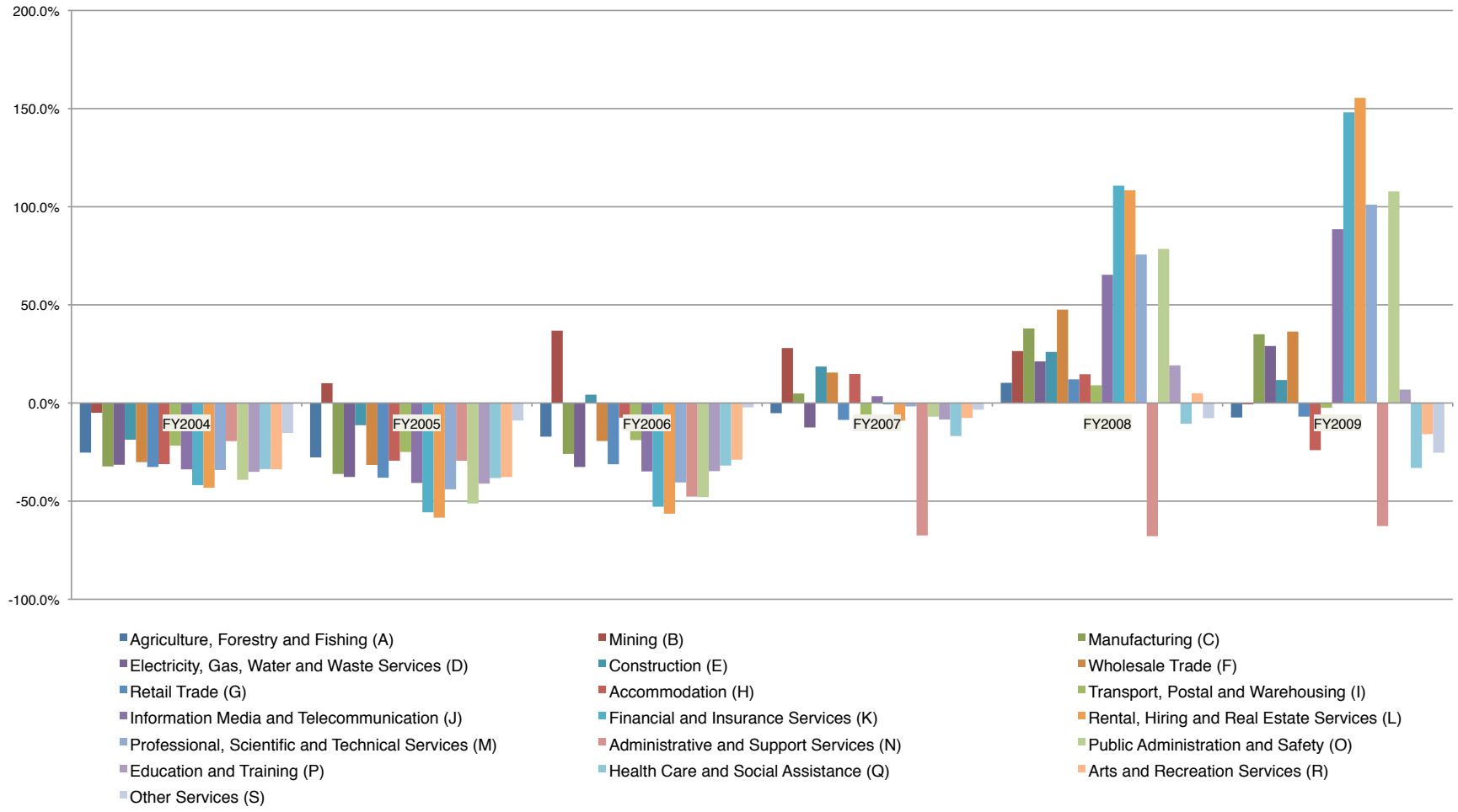
AUSTRALIAN CAPITAL TERRITORY: OTHER (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	25.1%	20.7%	17.0%	18.4%	14.2%	19.4%	19.7%	15.7%	**12.8%**
Mining (B)	8.0%	6.6%	6.2%	9.9%	8.0%	10.6%	10.6%	9.3%	**8.5%**
Manufacturing (C)	6.1%	5.0%	3.9%	3.4%	3.3%	4.4%	5.2%	5.1%	**4.8%**
Electricity, Gas, Water and Waste Services (D)	14.2%	11.7%	9.3%	8.1%	6.8%	8.9%	9.9%	10.6%	**10.1%**
Construction (E)	23.0%	19.0%	17.1%	19.9%	18.8%	22.8%	24.8%	22.8%	**21.3%**
Wholesale Trade (F)	2.8%	2.3%	2.0%	1.6%	1.7%	2.5%	2.7%	2.7%	**2.5%**
Retail Trade (G)	3.8%	3.1%	2.5%	2.0%	1.9%	2.6%	2.5%	2.1%	**1.4%**
Accommodation (H)	12.1%	10.0%	7.0%	8.0%	8.4%	10.5%	9.7%	6.5%	**4.1%**
Transport, Postal and Warehousing (I)	2.9%	2.4%	2.1%	2.3%	1.6%	2.2%	2.2%	2.1%	**1.6%**
Information Media and Telecommunication (J)	6.3%	5.2%	4.3%	3.0%	2.9%	4.3%	5.7%	6.8%	**6.8%**
Financial and Insurance Services (K)	11.7%	9.7%	6.8%	4.0%	3.5%	5.9%	11.0%	13.1%	**8.9%**
Rental, Hiring and Real Estate Services (L)	11.4%	9.4%	6.1%	3.9%	3.0%	4.9%	9.8%	12.3%	**7.8%**
Professional, Scientific and Technical Services (M)	8.5%	7.0%	5.8%	4.0%	3.3%	5.4%	7.8%	9.7%	**8.0%**
Administrative and Support Services (N)	21.4%	17.7%	17.2%	16.9%	7.4%	5.2%	4.2%	3.9%	**2.8%**
Public Administration and Safety (O)	11.1%	9.1%	6.8%	4.3%	3.7%	6.1%	9.0%	11.3%	**8.9%**
Education and Training (P)	10.6%	8.7%	6.7%	5.1%	5.2%	6.7%	7.0%	6.7%	**4.5%**
Health Care and Social Assistance (Q)	10.1%	8.4%	6.5%	5.3%	5.4%	6.5%	5.0%	3.9%	**2.5%**
Arts and Recreation Services (R)	10.4%	8.6%	6.6%	5.4%	5.7%	7.0%	6.3%	5.2%	**3.7%**
Other Services (S)	7.3%	6.0%	6.2%	6.3%	5.7%	7.1%	5.1%	4.6%	**4.5%**

AUSTRALIAN CAPITAL TERRITORY: OTHER (continued)

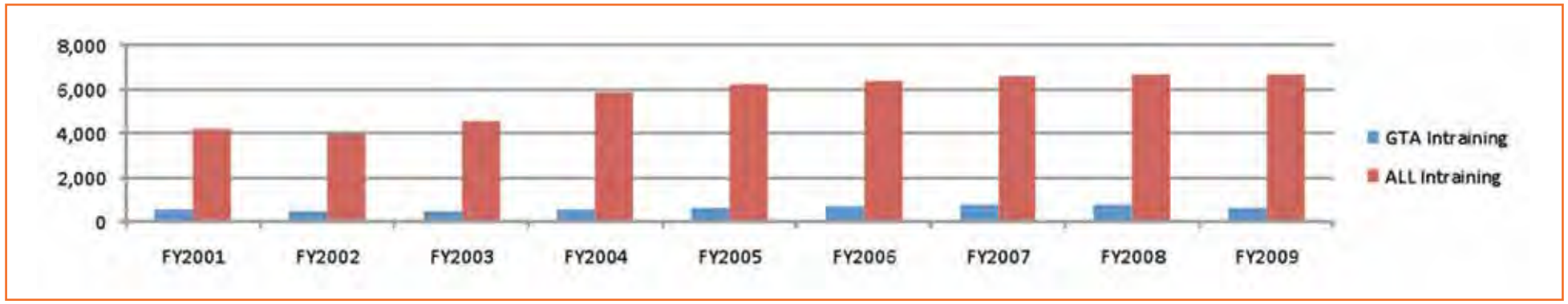
GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	-25.3%	-27.7%	-17.1%	-5.2%	10.3%	**-7.4%**
Mining (B)	-5.0%	10.1%	36.8%	28.0%	26.5%	**-0.4%**
Manufacturing (C)	-32.3%	-36.1%	-25.9%	4.8%	38.0%	**35.0%**
Electricity, Gas, Water and Waste Services (D)	-31.5%	-37.7%	-32.6%	-12.5%	21.2%	**29.0%**
Construction (E)	-18.7%	-11.3%	4.2%	18.6%	26.0%	**11.7%**
Wholesale Trade (F)	-30.1%	-31.6%	-19.4%	15.5%	47.6%	**36.4%**
Retail Trade (G)	-32.6%	-38.1%	-31.2%	-8.6%	12.1%	**-6.9%**
Accommodation (H)	-31.1%	-29.4%	-7.5%	14.8%	14.7%	**-24.0%**
Transport, Postal and Warehousing (I)	-21.7%	-25.0%	-18.9%	-12.8%	9.0%	**-2.5%**
Information Media and Telecommunication (J)	-33.8%	-40.7%	-34.9%	3.5%	65.3%	**88.6%**
Financial and Insurance Services (K)	-41.8%	-55.7%	-52.8%	-0.5%	110.7%	**148.1%**
Rental, Hiring and Real Estate Services (L)	-43.2%	-58.4%	-56.4%	-9.0%	108.4%	**155.5%**
Professional, Scientific and Technical Services (M)	-34.1%	-44.0%	-40.5%	-1.7%	75.7%	**101.1%**
Administrative and Support Services (N)	-19.4%	-29.4%	-47.7%	-67.5%	-67.8%	**-62.7%**
Public Administration and Safety (O)	-39.1%	-51.2%	-47.9%	-7.0%	78.5%	**107.8%**
Education and Training (P)	-35.1%	-41.1%	-34.7%	-8.4%	19.2%	**6.8%**
Health Care and Social Assistance (Q)	-33.7%	-38.2%	-31.9%	-16.8%	-10.6%	**-33.1%**
Arts and Recreation Services (R)	-33.8%	-37.7%	-28.9%	-7.6%	4.9%	**-15.9%**
Other Services (S)	-15.3%	-8.9%	-2.2%	-3.4%	-7.7%	**-25.3%**

AUSTRALIAN CAPITAL TERRITORY: OTHER (continued)



AUSTRALIAN CAPITAL TERRITORY: ALL

Category	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
GTA Intraining	542	465	456	564	608	736	786	756	**663**
ALL Intraining	4,219	4,011	4,561	5,884	6,223	6,407	6,605	6,696	**6,684**
GTA Commenced	426	372	355	528	486	561	601	423	**397**
ALL Commenced	3,387	3,264	4,411	5,112	4,653	5,266	5,083	4,950	**4,778**
GTA Completed	236	229	195	181	224	204	268	277	**274**
ALL Completed	2,024	1,943	1,780	2,087	2,488	2,485	2,469	2,348	**2,570**

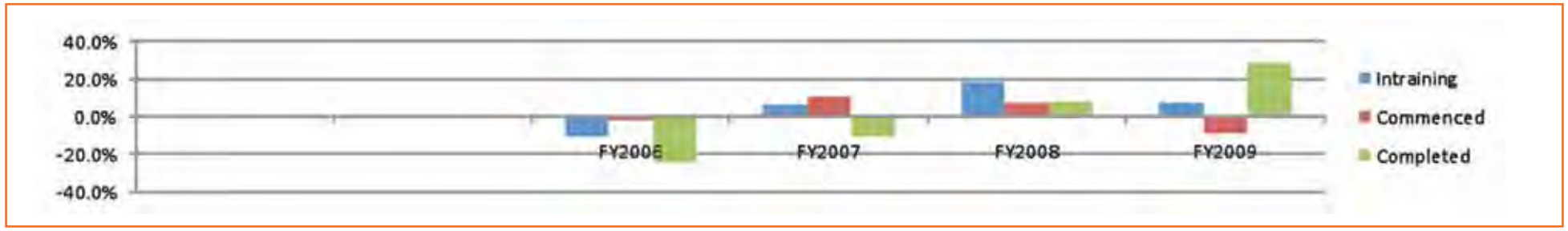


AUSTRALIAN CAPITAL TERRITORY: ALL (continued)

Category Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
GTA Intraining	30.4%	43.5%	40.0%	**15.6%**
ALL Intraining	44.7%	33.1%	18.2%	**7.9%**
GTA Commenced	36.6%	31.3%	15.8%	**-9.8%**
ALL Commenced	35.9%	17.3%	7.9%	**-1.5%**
GTA Completed	-7.7%	15.0%	24.8%	**34.4%**
ALL Completed	22.8%	28.1%	14.9%	**4.6%**

Category Share (GT to ALL)	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Intraining	12.8%	11.6%	10.0%	9.6%	9.8%	11.5%	11.9%	11.3%	**9.9%**
Commenced	12.6%	11.4%	8.0%	10.3%	10.4%	10.7%	11.8%	8.5%	**8.3%**
Completed	11.7%	11.8%	11.0%	8.7%	9.0%	8.2%	10.9%	11.8%	**10.7%**

Category Share Change In Growth (Previous 3 year average to Previous 4–6 years)	FY2006	FY2007	FY2008	FY2009
Intraining	-10.4%	6.4%	18.1%	**7.4%**
Commenced	-1.9%	10.6%	7.6%	**-8.8%**
Completed	-24.8%	-10.7%	7.8%	**28.7%**



AUSTRALIAN CAPITAL TERRITORY: ALL (continued)

GT Intraining Industry Share	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	18.5%	16.1%	13.4%	14.2%	12.3%	15.3%	13.6%	9.4%	**7.5%**
Mining (B)	7.9%	6.9%	5.8%	8.8%	6.8%	8.3%	7.4%	6.4%	**6.4%**
Manufacturing (C)	8.1%	7.4%	6.4%	6.6%	7.0%	8.0%	8.5%	8.4%	**8.5%**
Electricity, Gas, Water and Waste Services (D)	15.3%	13.9%	12.1%	11.6%	11.5%	13.0%	12.8%	12.9%	**12.7%**
Construction (E)	28.8%	26.5%	25.0%	26.8%	27.8%	29.9%	28.8%	26.5%	**25.1%**
Wholesale Trade (F)	6.2%	5.8%	4.8%	3.9%	4.2%	4.9%	5.2%	5.2%	**5.7%**
Retail Trade (G)	6.0%	5.5%	4.5%	3.8%	3.5%	3.7%	3.5%	3.1%	**2.8%**
Accommodation (H)	10.2%	8.5%	6.6%	7.3%	7.3%	8.7%	8.2%	5.8%	**4.0%**
Transport, Postal and Warehousing (I)	5.2%	4.8%	3.8%	3.8%	2.7%	3.0%	2.8%	2.6%	**2.4%**
Information Media and Telecommunication (J)	8.2%	7.5%	6.4%	5.4%	6.0%	7.6%	8.4%	9.2%	**9.2%**
Financial and Insurance Services (K)	11.7%	9.7%	6.8%	4.1%	3.6%	5.9%	11.0%	13.0%	**8.9%**
Rental, Hiring and Real Estate Services (L)	10.7%	9.0%	6.2%	4.1%	3.3%	5.0%	9.3%	11.6%	**7.6%**
Professional, Scientific and Technical Services (M)	10.4%	9.2%	7.5%	5.7%	5.4%	7.6%	9.3%	10.6%	**9.3%**
Administrative and Support Services (N)	19.4%	16.4%	15.7%	15.5%	8.5%	7.0%	5.6%	4.5%	**3.6%**
Public Administration and Safety (O)	10.3%	8.7%	6.9%	4.8%	4.5%	6.6%	9.0%	10.8%	**8.8%**
Education and Training (P)	12.7%	11.1%	8.9%	7.6%	8.1%	9.8%	10.1%	9.4%	**7.1%**
Health Care and Social Assistance (Q)	9.7%	8.1%	6.5%	5.4%	5.4%	6.4%	5.1%	4.0%	**2.7%**
Arts and Recreation Services (R)	10.9%	9.5%	7.5%	6.5%	6.9%	8.1%	7.3%	5.9%	**4.5%**
Other Services (S)	11.2%	10.4%	8.8%	9.0%	8.6%	8.0%	6.5%	5.8%	**6.6%**

APPENDICES

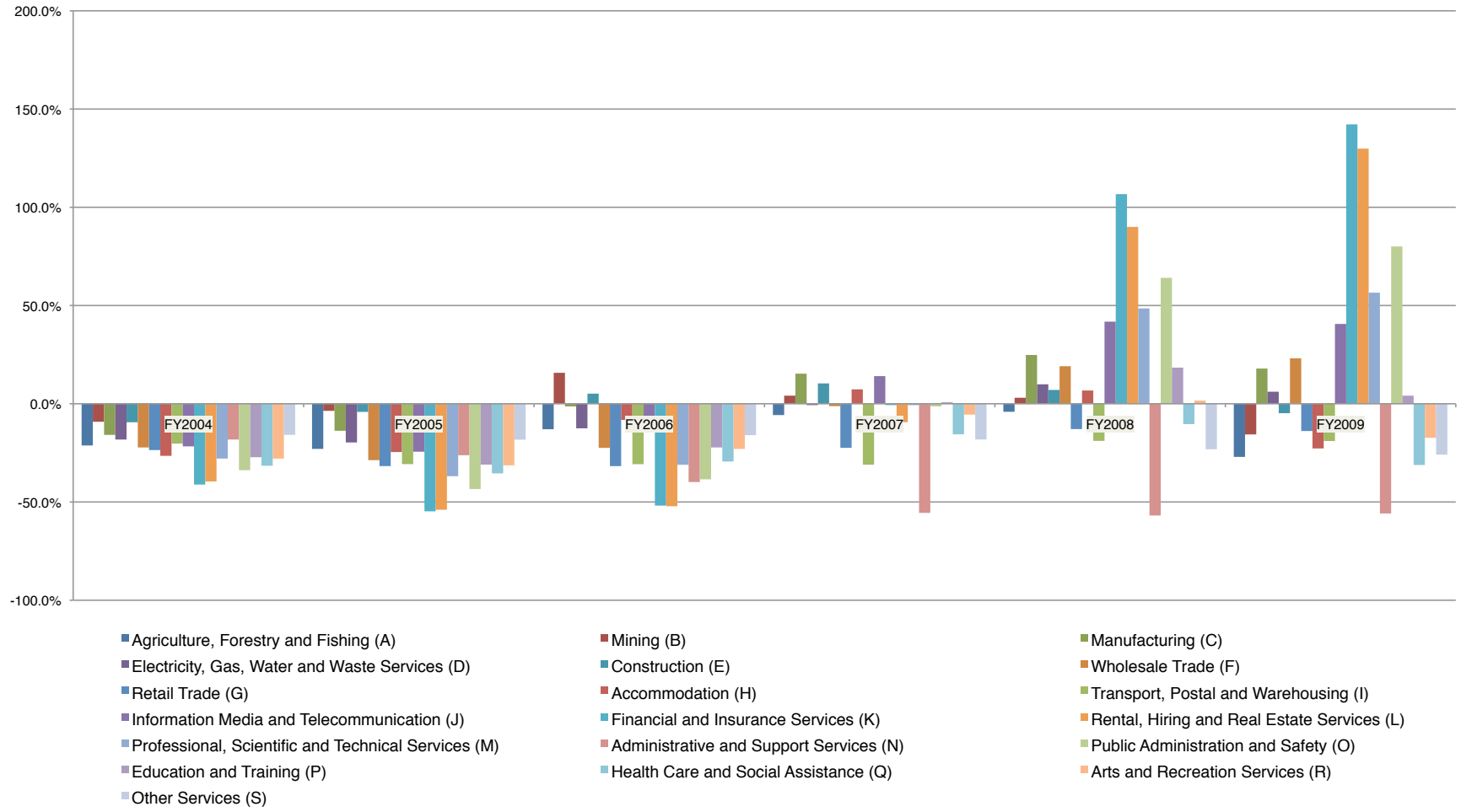
APPENDIX 1: GTO PERFORMANCE BY STATE AND INDUSTRY SECTOR

1

AUSTRALIAN CAPITAL TERRITORY: ALL (continued)

GT Intraining Industry Change In Share (Previous 3 year average to Previous 4–6 years)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture, Forestry and Fishing (A)	-21.2%	-23.0%	-13.0%	-5.8%	-4.1%	**-27.0%**
Mining (B)	-9.2%	-3.6%	15.7%	4.1%	3.0%	**-15.6%**
Manufacturing (C)	-15.8%	-13.8%	-1.4%	15.3%	24.8%	**17.9%**
Electricity, Gas, Water and Waste Services (D)	-18.2%	-19.7%	-12.5%	-0.7%	9.9%	**6.1%**
Construction (E)	-9.4%	-4.1%	5.1%	10.4%	7.0%	**-4.8%**
Wholesale Trade (F)	-22.3%	-28.7%	-22.4%	-1.2%	19.1%	**23.1%**
Retail Trade (G)	-23.6%	-31.7%	-31.7%	-22.4%	-12.9%	**-13.9%**
Accommodation (H)	-26.5%	-24.6%	-8.2%	7.3%	6.7%	**-22.7%**
Transport, Postal and Warehousing (I)	-20.3%	-30.7%	-30.8%	-31.0%	-18.9%	**-19.0%**
Information Media and Telecommunication (J)	-21.7%	-24.4%	-13.7%	14.1%	41.8%	**40.6%**
Financial and Insurance Services (K)	-41.1%	-54.7%	-51.8%	-0.5%	106.7%	**142.2%**
Rental, Hiring and Real Estate Services (L)	-39.5%	-53.9%	-52.2%	-9.4%	90.0%	**129.9%**
Professional, Scientific and Technical Services (M)	-27.9%	-36.9%	-31.0%	-0.6%	48.5%	**56.5%**
Administrative and Support Services (N)	-18.2%	-26.2%	-39.8%	-55.5%	-56.9%	**-55.8%**
Public Administration and Safety (O)	-33.8%	-43.4%	-38.5%	-1.3%	64.1%	**80.1%**
Education and Training (P)	-27.2%	-31.0%	-22.2%	0.8%	18.4%	**4.1%**
Health Care and Social Assistance (Q)	-31.6%	-35.4%	-29.4%	-15.5%	-10.3%	**-31.2%**
Arts and Recreation Services (R)	-27.9%	-31.3%	-23.0%	-5.5%	1.6%	**-17.3%**
Other Services (S)	-15.8%	-18.3%	-16.0%	-18.2%	-23.1%	**-25.9%**

AUSTRALIAN CAPITAL TERRITORY: ALL (continued)



APPENDICES

APPENDIX 2: COMPARISON OF PEERS

2

In Chapter 7, a comparison was undertaken between the less efficient peers in Table 7.2 with their most important benchmark peers from Tables 7.3 and 7.4. The discussion below highlights a number of peer groups and identifies key issues from responses to the quantitative survey as well as the qualitative stakeholder interviews undertaken for this study.

From the tables, survey respondent number 63 (SR63) is identified as efficient and a moderate peer benchmark to SR4 (identified as not efficient). SR4 is a region specific (metropolitan) GTO operating across all industries. The GTO acknowledges that poor performance may make it difficult to hold service standards. SR4 solution to its current difficulties is to focus on stable public sector based industries and take over other GTOs. SR63 is a strong sole region-focused enterprise that is managing to maintain competitiveness.

SR43 (efficient) is a strong benchmark peer to SR6 (not efficient). SR43 is a single region (metropolitan), single industry-focused GTO focused on providing a flexible high quality service to customers. SR6 is similar in terms of regional focus in another metropolitan city with a similar outline focus. Other than a general growth target, SR6 did not outline any strategy to improve performance. The difference between the two GTOs appears to be management culture, one aggressive and innovative the other passive.

SR28 (efficient) is a strong peer benchmark to SR8 (not efficient). Both are regionally diverse in a State, while the former is focused on one State, the latter operates across a number of States. Both are specialised in the same occupational categories. SR8 is focused on growth by amalgamations (presumably irrespective of State) while SR28 is focused on expanding regional diversity within one State. It is focusing on higher qualification trainees and controlling improving its service delivery qualities. Again the difference appears to be one of management culture.

SR41 (efficient) is a moderate peer to SR11 (not efficient). SR41 is focused on a single fast growing non-metropolitan region. Its focus is on staff training and system improvement to improve service quality. SR11 is also a single (metropolitan) region-focused GTO. However, its focus is on developing pathways for disadvantaged labour market participants (whether young or older aged) into employment. This is a contrast to SR41 where the focus is on customer service delivery requirements.

SR63 (efficient) is a strong peer benchmark to SR13 (not efficient). They are both similar with a strong single non-metropolitan regional focus. The difference is preference in profitability mainly due to SR63 being focused on a strong growing region and SR13 focused on a smaller much slower growing region.

SR24 (efficient) is a strong peer benchmark to SR14 (not efficient). Both are similar with a strong non-metropolitan single region focus. Both regions have similar growth records. SR24 had a slightly wider underlying focus (agriculture, manufacturing and construction, compared to agriculture and maintenance). SR14 is focused on building its links to schools and youth programs, while SR24 is focused on offering whatever diversified quality services that were required to sign up new hosts.

SR15's sub-optimal performance level is small.

SR50 (efficient) was a strong peer benchmark for SR25 (not efficient). Both were competitors in the same geographical regions. SR50 was focused on the customer market in that market growth was being driven by diversifying services by region to attract new host employers. SR25 by contrast was focused on offering more diverse services with local community partnerships to support operations in more remote areas. The difference reflects the trade off between corporate and community objectives.

SR19 (efficient) is a strong benchmark peer to SR30 (not efficient). Both operate in the same single metropolitan region. Both are focused on one industry (though different industries). The only difference between the two organisations is that SR30 was focused on a relatively lower skilled industry where apprenticeships are difficult to attract and the other on a more highly skilled industry where the rewards for apprenticeships are high.

SR19 (efficient) is also a (moderate) benchmark peer for SR31 (not efficient). SR31 focuses on the same skills as SR30 and hence the reason for SR19 as a peer is the same. The reason for the weak peer status of SR19 is that SR31 operates across a number of metropolitan and non-metropolitan areas in the one State with a similar scale to SR19. SR31's inefficiency is due to it not growing the scale necessary to optimise its performance given its diversity. SR28, the most important benchmark peer to SR31, has the same geographical structure. However, it operates in the industries with relatively high skilled trade apprenticeships.

SR63 (efficient) is a strong peer to SR38 and SR40 (not efficient). The major difference between the GTOs is regional structure (for a similar scale). SR63 is focused on a single non-metropolitan region. SR38 operates across a number of regions in a number of States, while SR40 operates across a number of regions in the same State. The difference is that SR63 has optimised its geographical reach given its scale.

SR19 is also a strong peer benchmark to SR51. The key difference is that SR51 is focused on servicing the SME market. Focusing on small scale host employers costs productivity.

SR37 is a moderate peer benchmark to SR54. That is, they are similar in all respects except that SR54 is focused across a number of industries, whereas SR37 is focused over one industry. This simply demonstrates again that all else being equal industry specialisation gives a productivity advantage.

SR55 and SR56 are only moderately inefficient and have no strong peer benchmarks. SR24 is a strong peer to SR59. Both are similar and focus on similar relatively slow growing provincial areas. SR59 seems to be focusing on a too narrow geographical area within its general region, compared to SR24 which has a focus on operating across the entirety of its regional catchment. SR59 recognises this and is increasing its staff in the expectation of capturing economies of scale by broadening the catchment within its region.

SR7 is a relatively weak benchmark peer to SR62. The two organisations operate on a single non-metropolitan dimension of similar size. The difference appears to be one of management culture. One management has growth as a core objective, the other does not. SR7 is proactive in looking for opportunities to expand, especially into new regions as well as increasing market share in existing regions. SR62 is, partly because of geographical constraints, forced to accept market driven growth outcomes for growth.

SR19 is also a small benchmark peer to SR67. The difference between the two is one of industry diversity. SR19 is single industry focused while SR67 is diverse across a number of industries. The focus of SR67 is on offering quality skills development strategies to host employers. It might well be a case where the scale of the enterprise vis-a-vis the diversity of the industry focus prevented quality industry expertise being accumulated in the GTO.

In summary, factors affecting relative performance identified through this analysis are: industry specialisation; management culture; (regional) market conditions and circumstance; service offer (diversified to meet customer needs); corporate strategy and objectives; type of industry (high/low skill); scale optimisation; geographic market optimisation; customer scale.

Table A3.1(a): Productivity – fifth quintile – quintile characteristics of selected drivers

Geographic focus	Frequency by category	Strategy focus	Frequency by category	Industry diversity	Frequency by category
		Community	0.0	Single	15.4
Regional	46.2	Passive	23.1	Several	7.7
State	15.4	Market size	30.8	Fairly diverse	23.1
National	38.5	Innovation	46.2	All industries	53.8
Total	**100.0**	**Total**	**100.0**	**Total**	**100.0**

Table A3.1(b): Productivity – frequency distribution: Fifth quintile productivity – selected drivers

Quintile	Scale	Unemployment rate	Host density	Other income	Market density	Completion rate
First quintile	15.4	7.7	0.0	0.0	7.7	7.7
Second quintile	38.5	23.1	23.1	30.8	23.1	0.0
Third quintile	23.1	30.8	23.1	23.1	30.8	53.8
Fourth quintile	0.0	30.8	30.8	7.7	38.5	0.0
Fifth quintile	23.1	7.7	23.1	38.5	0.0	38.5
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Table A3.1(c): Fifth quintile by productivity correlation coefficient matrix

	Productivity	Host density	Share of other income	Industry diversity	Unemployment rate	Apprentice market density	Scale	Geography focus	Strategy focus	Completion rate
Productivity	1.00									
Host density	-0.08	1.00								
Share of other income	-0.23	-0.15	1.00							
Industry diversity	0.31	0.17	-0.06	1.00						
Unemployment rate	0.08	0.04	-0.49	0.62	1.00					
Apprentice market density	-0.03	0.01	0.16	-0.39	-0.63	1.00				
Scale	-0.11	0.55	-0.29	0.52	0.37	-0.09	1.00			
Geography focus	-0.02	0.44	-0.12	0.35	0.17	0.48	0.33	1.00		
Strategy focus	0.32	0.44	-0.06	0.09	-0.33	0.56	0.45	0.44	1.00	
Completion rate	-0.45	0.02	0.20	-0.82	-0.65	0.50	-0.24	-0.04	0.17	1.00

Table A3.1(d): Characteristics of fifth quintile (i.e. top) GTOs by productivity

The top quintile GTOs by productivity, when compared to the characteristics of other quintiles, have:	
1.	A larger share of GTOs with a national geographical focus.
2.	The largest share of GTOs with a strategic objective of growing markets by industry, geographical or service diversification.
3.	Have the second lowest share of GTOs operating in a single industry.
4.	Have a scale which is relatively low in comparison with other quintiles.
5.	Operate in regions where the unemployment rate is not high or not low.
6.	Have the highest share of GTOs which offer the most diverse range of services.
7.	Have no GTOs that have a community focus, that is, focus on pathways to employment for disadvantaged workers.
8.	Have a relatively diverse industry focus.
9.	Tend to trade off productivity with lower completion rates.
10.	Half of the top performing GTOs by productivity have a single region focus.

Table A3.2(a): Productivity – fourth quintile – quintile characteristics of selected drivers

Geographic focus	Frequency by category	Strategy focus	Frequency by category	Industry diversity	Frequency by category
		Community	0.0	Single	30.8
Regional	61.5	Passive	61.5	Several	23.1
State	23.1	Market size	23.1	Fairly diverse	7.7
National	15.4	Innovation	15.4	All industries	38.5
Total	**100.0**	**Total**	**100.0**	**Total**	**100.0**

Table A3.2(b): Productivity – frequency distribution: Fourth quintile productivity – selected drivers

Quintile	Scale	Unemployment rate	Host density	Other income	Market density	Completion rate
First quintile	15.4	23.1	38.5	0.0	23.1	7.7
Second quintile	15.4	23.1	15.4	53.8	15.4	38.5
Third quintile	30.8	15.4	15.4	23.1	30.8	15.4
Fourth quintile	38.5	30.8	7.7	15.4	15.4	7.7
Fifth quintile	0.0	7.7	23.1	7.7	15.4	30.8
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Table A3.2(c): Fourth quintile by productivity correlation coefficient matrix

	Productivity	Host density	Share of other income	Industry diversity	Unemployment rate	Apprentice market density	Scale	Geography focus	Strategy focus	Completion rate
Productivity	1.00									
Host density	0.19	1.00								
Share of other income	0.06	-0.35	1.00							
Industry diversity	-0.25	-0.45	0.42	1.00						
Unemployment rate	0.46	-0.17	0.09	0.33	1.00					
Apprentice market density	-0.45	0.06	-0.14	-0.17	-0.77	1.00				
Scale	-0.24	0.05	0.23	-0.02	-0.28	0.39	1.00			
Geography focus	-0.16	-0.29	-0.06	0.45	0.20	-0.02	-0.05	1.00		
Strategy focus	-0.04	-0.21	-0.01	0.05	0.29	-0.13	-0.08	0.31	1.00	
Completion rate	0.07	0.36	-0.31	-0.40	-0.25	0.39	-0.13	-0.54	-0.17	1.00

Table A3.2(d): Characteristics of fourth quintile (i.e. top) GTOs by productivity

Compared to the other quintiles firms in the fourth quintile (or the GTOs in the second highest productivity group), tend to have:	
1.	Medium sized GTOs with scale concentrated in the third and fourth quintiles by GTO size.
2.	Relative poor or relatively good completion rates.
3.	Tend to service SME businesses or customers.
4.	Have less diversity of non-GTO services than the top quintiles.
5.	Have few national originated GTOs.
6.	Nearly half the GTOs are dependent on the external market for growth, that is, not pro-active.
7.	Tend to focus on one or a small number of industries.

Table A3.3(a): Productivity – third quintile – quintile characteristics of selected drivers

Geographic focus	Frequency by category	Strategy focus	Frequency by category	Industry diversity	Frequency by category
		Community	7.7	Single	30.8
Regional	46.2	Passive	46.2	Several	15.4
State	38.5	Market size	30.8	Fairly diverse	0.0
National	15.4	Innovation	15.4	All industries	53.8
Total	**100.0**	**Total**	**100.0**	**Total**	**100.0**

Table A3.3(b): Productivity – frequency distribution: Third quintile productivity – selected drivers

Quintile	Scale	Unemployment rate	Host density	Other income	Market density	Completion rate
First quintile	25.0	23.1	23.1	0.0	7.7	46.2
Second quintile	8.3	23.1	15.4	46.2	38.5	15.4
Third quintile	8.3	23.1	23.1	30.8	15.4	7.7
Fourth quintile	25.0	15.4	30.8	7.7	23.1	7.7
Fifth quintile	33.3	15.4	7.7	15.4	15.4	23.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Table A3.3(c): Third quintile by productivity correlation coefficient matrix

	Productivity	Host density	Share of other income	Industry diversity	Unemployment rate	Apprentice market density	Scale	Geography focus	Strategy focus	Completion rate
Productivity	1.00									
Host density	0.31	1.00								
Share of other income	-0.46	-0.16	1.00							
Industry diversity	-0.51	-0.25	0.24	1.00						
Unemployment rate	0.09	-0.28	0.19	0.56	1.00					
Apprentice market density	0.44	0.63	-0.25	-0.58	-0.50	1.00				
Scale	0.11	0.13	-0.12	0.10	0.38	-0.03	1.00			
Geography focus	0.31	0.21	-0.49	0.03	0.31	0.12	0.56	1.00		
Strategy focus	0.01	-0.23	-0.16	-0.34	-0.05	-0.38	-0.01	0.02	1.00	
Completion rate	-0.34	0.09	0.12	-0.33	-0.32	-0.14	-0.08	-0.32	0.28	1.00

Table A3.3(d): Characteristics of third quintile (i.e. top) GTOs by productivity

Compared to other quintiles, firms in the third quintile (or middle quintile) by productivity tend to be:	
1.	State oriented in geographical focus.
2.	Offering services to either a small number or all industries.
3.	Consist of GTOs that are either small or large.
4.	Operate in relatively low unemployment regions.
5.	Are not driven in service innovation.
6.	Tend to operate in low density apprentice markets.
7.	Have low completion rates.

Table A3.4(a): Productivity – second quintile – quintile characteristics of selected drivers

Geographic focus	Frequency by category	Strategy focus	Frequency by category	Industry diversity	Frequency by category
		Community	7.7	Single	23.1
Regional	61.5	Passive	46.2	Several	0.0
State	15.4	Market size	30.8	Fairly diverse	7.7
National	23.1	Innovation	15.4	All industries	69.2
Total	**100.0**	**Total**	**100.0**	**Total**	**100.0**

Table A3.4(b): Productivity – frequency distribution: Second quintile productivity – selected drivers

Quintile	Scale	Unemployment rate	Host density	Other income	Market density	Completion rate
First quintile	30.8	8.3	23.1	0.0	25.0	15.4
Second quintile	23.1	16.7	15.4	38.5	25.0	23.1
Third quintile	30.8	16.7	30.8	38.5	8.3	15.4
Fourth quintile	7.7	8.3	7.7	15.4	25.0	30.8
Fifth quintile	7.7	50.0	23.1	7.7	16.7	15.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Table A3.4(c): Second quintile by productivity correlation coefficient matrix

	Productivity	Host density	Share of other income	Industry diversity	Unemployment rate	Apprentice market density	Scale	Geography focus	Strategy focus	Completion rate
Productivity	1.00									
Host density	-0.31	1.00								
Share of other income	-0.26	0.60	1.00							
Industry diversity	0.13	0.21	-0.09	1.00						
Unemployment rate	-0.15	-0.09	0.19	-0.08	1.00					
Apprentice market density	0.18	0.13	-0.05	-0.01	-0.89	1.00				
Scale	0.20	-0.04	-0.30	0.62	0.00	-0.09	1.00			
Geography focus	-0.35	0.06	0.33	-0.39	0.18	-0.01	-0.23	1.00		
Strategy focus	0.33	-0.11	-0.45	0.41	-0.65	0.57	0.41	-0.03	1.00	
Completion rate	-0.42	0.08	0.24	-0.33	0.54	-0.47	-0.39	0.52	-0.49	1.00

Table A3.4(d): Characteristics of second quintile (i.e. top) GTOs by productivity

Compared to other quintiles, firms in the fourth quintile tend to have the following characteristics:	
1.	Tend to be small or medium sized.
2.	Service SME customers.
3.	Offer limited non-GTO services.
4.	Have average completion rates.
5.	Have a strong single region focus.
6.	Do not rely on service innovation to drive growth.
7.	Operate across all industries.

Table A3.5(a): Productivity – first quintile – quintile characteristics of selected drivers

Geographic focus	Frequency by category	Strategy focus	Frequency by category	Industry diversity	Frequency by category
		Community	20.0	Single	6.7
Regional	53.3	Passive	26.7	Several	13.3
State	20.0	Market size	20.0	Fairly diverse	6.7
National	26.7	Innovation	33.3	All industries	73.3
Total	**100.0**	**Total**	**100.0**	**Total**	**100.0**

Table A3.5(b): Productivity – frequency distribution: First quintile productivity – selected drivers

Quintile	Scale	Unemployment rate	Host density	Other income	Market density	Completion rate
First quintile	13.3	23.1	14.3	0.0	33.3	21.4
Second quintile	13.3	15.4	28.6	60.0	0.0	21.4
Third quintile	13.3	15.4	7.1	6.7	13.3	7.1
Fourth quintile	20.0	15.4	21.4	20.0	6.7	50.0
Fifth quintile	40.0	30.8	28.6	13.3	46.7	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Table A3.5(c): First quintile by productivity correlation coefficient matrix

	Productivity	Host density	Share of other income	Industry diversity	Unemployment rate	Apprentice market density	Scale	Geography focus	Strategy focus	Completion rate
Productivity	1.00									
Host density	0.03	1.00								
Share of other income	0.19	0.16	1.00							
Industry diversity	0.23	0.26	0.33	1.00						
Unemployment rate	-0.44	0.31	0.04	0.37	1.00					
Apprentice market density	0.54	-0.13	-0.16	-0.47	-0.81	1.00				
Scale	0.47	-0.07	0.29	-0.13	-0.07	0.27	1.00			
Geography focus	0.31	0.15	0.41	-0.32	0.05	0.06	0.66	1.00		
Strategy focus	0.17	-0.59	-0.13	-0.32	-0.57	0.52	0.41	-0.13	1.00	
Completion rate	0.23	0.39	0.22	-0.12	-0.11	0.20	0.50	0.45	-0.19	1.00

Table A3.5(d): Characteristics of first quintile (i.e. bottom) GTOs by productivity

Compared to other quintile GTOs in the bottom quintile by productivity tend to:	
1.	Have a large share of large scale GTOs.
2.	Have low levels of non-GTO services.
3.	Operate in regions with high unemployment.
4.	Have relatively high completion rates.
5.	Tend to operate in markets with high market density for apprentices.
6.	Have a high concentration of GTOs offering services to all industries.
7.	Have a high concentration of GTOs with community service objectives.
8.	Have higher host density (larger customers) compared to at least the second to fourth quintiles.

Table A3.6(a): Average productivity and completion rates: Fifth quintile – quintile characteristics of selected drivers

Geographic focus	Frequency by category	Strategy focus	Frequency by category	Industry diversity	Frequency by category
		Community	0.0	Single	30.8
Regional	61.5	Passive	30.8	Several	7.7
State	7.7	Market size	30.8	Fairly diverse	23.1
National	30.8	Innovation	38.5	All industries	38.5
Total	**100.0**	**Total**	**100.0**	**Total**	**100.0**

Table A3.6(b): Average productivity and completion rates – frequency distribution: Fifth quintile productivity – selected drivers

Quintile	Scale	Unemployment rate	Host density	Other income	Market density	Completion rate
First quintile	15.4	7.7	7.7	0.0	7.7	7.7
Second quintile	46.2	30.8	15.4	38.5	15.4	0.0
Third quintile	15.4	23.1	23.1	15.4	38.5	38.5
Fourth quintile	7.7	30.8	30.8	15.4	38.5	0.0
Fifth quintile	15.4	7.7	23.1	30.8	0.0	53.8
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Table A3.7(a): Average productivity and completion rates: Fourth quintile – quintile characteristics of selected drivers

Geographic focus	Frequency by category	Strategy focus	Frequency by category	Industry diversity	Frequency by category
		Community	0.0	Single	23.1
Regional	53.8	Passive	53.8	Several	23.1
State	23.1	Market size	23.1	Fairly diverse	7.7
National	23.1	Innovation	23.1	All industries	46.2
Total	**100.0**	**Total**	**100.0**	**Total**	**100.0**

Table A3.7(b): Average productivity and completion rates – frequency distribution: Fourth quintile productivity – selected drivers

Quintile	Scale	Unemployment rate	Host density	Other income	Market density	Completion rate
First quintile	16.7	30.8	23.1	0.0	15.4	0.0
Second quintile	8.3	15.4	23.1	46.2	15.4	30.8
Third quintile	41.7	23.1	15.4	30.8	30.8	30.8
Fourth quintile	16.7	30.8	15.4	7.7	23.1	7.7
Fifth quintile	16.7	0.0	23.1	15.4	15.4	30.8
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Table A3.8(a): Average productivity and completion rates: Third quintile – quintile characteristics of selected drivers

Geographic focus	Frequency by category	Strategy focus	Frequency by category	Industry diversity	Frequency by category
		Community	7.7	Single	30.8
Regional	38.5	Passive	46.2	Several	7.7
State	38.5	Market size	38.5	Fairly diverse	0.0
National	23.1	Innovation	7.7	All industries	61.5
Total	**100.0**	**Total**	**100.0**	**Total**	**100.0**

Table A3.8(b): Average productivity and completion rates– frequency distribution: Third quintile productivity – selected drivers

Quintile	Scale	Unemployment rate	Host density	Other income	Market density	Completion rate
First quintile	30.8	7.7	46.2	0.0	33.3	15.4
Second quintile	15.4	15.4	15.4	46.2	33.3	15.4
Third quintile	7.7	15.4	23.1	30.8	16.7	15.4
Fourth quintile	23.1	15.4	7.7	7.7	8.3	30.8
Fifth quintile	23.1	46.2	7.7	15.4	8.3	23.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Table A3.9(a): Average productivity and completion rates: Second quintile – quintile characteristics of selected drivers

Geographic focus	Frequency by category	Strategy focus	Frequency by category	Industry diversity	Frequency by category
		Community	15.4	Single	15.4
Regional	38.5	Passive	30.8	Several	15.4
State	23.1	Market size	38.5	Fairly diverse	7.7
National	38.5	Innovation	15.4	All industries	61.5
Total	**100.0**	**Total**	**100.0**	**Total**	**100.0**

Table A3.9(b): Average productivity and completion rates – frequency distribution: Second quintile productivity – selected drivers

Quintile	Scale	Unemployment rate	Host density	Other income	Market density	Completion rate
First quintile	23.1	15.4	0.0	0.0	7.7	23.1
Second quintile	15.4	38.5	7.7	23.1	23.1	30.8
Third quintile	23.1	23.1	30.8	38.5	0.0	15.4
Fourth quintile	7.7	7.7	30.8	23.1	38.5	30.8
Fifth quintile	30.8	15.4	30.8	15.4	30.8	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Table A3.10(a): Average productivity and completion rates: First quintile – quintile characteristics of selected drivers

Geographic focus	Frequency by category	Strategy focus	Frequency by category	Industry diversity	Frequency by category
		Community	13.3	Single	6.7
Regional	73.3	Passive	40.0	Several	6.7
State	20.0	Market size	6.7	Fairly diverse	6.7
National	6.7	Innovation	40.0	All industries	80.0
Total	**100.0**	**Total**	**100.0**	**Total**	**100.0**

Table A3.10(b): Average productivity and completion rates – frequency distribution: First quintile productivity – selected drivers

Quintile	Scale	Unemployment rate	Host density	Other income	Market density	Completion rate
First quintile	13.3	25.0	21.4	0.0	33.3	50.0
Second quintile	13.3	0.0	35.7	73.3	13.3	21.4
Third quintile	20.0	16.7	7.1	6.7	13.3	0.0
Fourth quintile	33.3	16.7	14.3	13.3	0.0	28.6
Fifth quintile	20.0	41.7	21.4	6.7	40.0	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Table A3.11(a): Difference between average productivity-completion rate indicator and results for productivity indicator: Fifth quintile – quintile characteristics of selected drivers

Geographic focus	Frequency by category	Strategy focus	Frequency by category	Industry diversity	Frequency by category
		Community	0.0	Single	15.4
Regional	15.4	Passive	7.7	Several	0.0
State	-7.7	Market size	0.0	Fairly diverse	0.0
National	-7.7	Innovation	-7.7	All industries	-15.4
Total	**0.0**	**Total**	**0.0**	**Total**	**0.0**

Table A3.11(b): Difference between average productivity-completion rate indicator and results for productivity indicator – frequency distribution: Fifth quintile productivity – selected drivers

Quintile	Scale	Unemployment rate	Host density	Other income	Market density	Completion rate
First quintile	0.0	0.0	7.7	0.0	0.0	0.0
Second quintile	7.7	7.7	-7.7	7.7	-7.7	0.0
Third quintile	-7.7	-7.7	0.0	-7.7	7.7	-15.4
Fourth quintile	7.7	0.0	0.0	7.7	0.0	0.0
Fifth quintile	-7.7	0.0	0.0	-7.7	0.0	15.4
Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Table A3.12(a): Difference between average productivity-completion rate indicator and results for productivity indicator: Fourth quintile – quintile characteristics of selected drivers

Geographic focus	Frequency by category	Strategy focus	Frequency by category	Industry diversity	Frequency by category
		Community	0.0	Single	-7.7
Regional	-7.7	Passive	-7.7	Several	0.0
State	0.0	Market size	0.0	Fairly diverse	0.0
National	7.7	Innovation	7.7	All industries	7.7
Total	**0.0**	**Total**	**0.0**	**Total**	**0.0**

Table A3.12(b): Difference between average productivity-completion rate indicator and results for productivity indicator – frequency distribution: Fourth quintile productivity – selected drivers

Quintile	Scale	Unemployment rate	Host density	Other income	Market density	Completion rate
First quintile	1.3	7.7	-15.4	0.0	-7.7	-7.7
Second quintile	-7.1	-7.7	7.7	-7.7	0.0	-7.7
Third quintile	10.9	7.7	0.0	7.7	0.0	15.4
Fourth quintile	-21.8	0.0	7.7	-7.7	7.7	0.0
Fifth quintile	16.7	-7.7	0.0	7.7	0.0	0.0
Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Table A3.13(a): Difference between average productivity-completion rate indicator and results for productivity indicator: Third quintile – quintile characteristics of selected drivers

Geographic focus	Frequency by category	Strategy focus	Frequency by category	Industry diversity	Frequency by category
		Community	0.0	Single	0.0
Regional	-7.7	Passive	0.0	Several	-7.7
State	0.0	Market size	7.7	Fairly diverse	0.0
National	7.7	Innovation	-7.7	All industries	7.7
Total	**0.0**	**Total**	**0.0**	**Total**	**0.0**

Table A3.13(b): Difference between average productivity-completion rate indicator and results for productivity indicator – frequency distribution: Third quintile productivity – selected drivers

Quintile	Scale	Unemployment rate	Host density	Other income	Market density	Completion rate
First quintile	5.8	-15.4	23.1	0.0	25.6	-30.8
Second quintile	7.1	-7.7	0.0	0.0	-5.1	0.0
Third quintile	-0.6	-7.7	0.0	0.0	1.3	7.7
Fourth quintile	-1.9	0.0	-23.1	0.0	-14.7	23.1
Fifth quintile	-10.3	30.8	0.0	0.0	-7.1	0.0
Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Table A3.14(a): Difference between average productivity-completion rate indicator and results for productivity indicator: Second quintile – quintile characteristics of selected drivers

Geographic focus	Frequency by category	Strategy focus	Frequency by category	Industry diversity	Frequency by category
		Community	7.7	Single	-7.7
Regional	-23.1	Passive	-15.4	Several	15.4
State	7.7	Market size	7.7	Fairly diverse	0.0
National	15.4	Innovation	0.0	All industries	-7.7
Total	**0.0**	**Total**	**0.0**	**Total**	**0.0**

Table A3.14(b): Difference between average productivity-completion rate indicator and results for productivity indicator – frequency distribution: Second quintile productivity – selected drivers

Quintile	Scale	Unemployment rate	Host density	Other income	Market density	Completion rate
First quintile	-7.7	7.1	-23.1	0.0	-17.3	7.7
Second quintile	-7.7	21.8	-7.7	-15.4	-1.9	7.7
Third quintile	-7.7	6.4	0.0	0.0	-8.3	0.0
Fourth quintile	0.0	-0.6	23.1	7.7	13.5	0.0
Fifth quintile	23.1	-34.6	7.7	7.7	14.1	-15.4
Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Table A3.15(a): Difference between average productivity-completion rate indicator and results for productivity indicator: First quintile – quintile characteristics of selected drivers

Geographic focus	Frequency by category	Strategy focus	Frequency by category	Industry diversity	Frequency by category
		Community	-6.7	Single	0.0
Regional	20.0	Passive	13.3	Several	-6.7
State	0.0	Market size	-13.3	Fairly diverse	0.0
National	-20.0	Innovation	6.7	All industries	6.7
Total	**0.0**	**Total**	**0.0**	**Total**	**0.0**

Table A3.15(b): Difference between average productivity-completion rate indicator and results for productivity indicator – frequency distribution: First quintile productivity – selected drivers

Quintile	Scale	Unemployment rate	Host density	Other income	Market density	Completion rate
First quintile	0.0	1.9	7.1	0.0	0.0	28.6
Second quintile	0.0	-15.4	7.1	13.3	13.3	0.0
Third quintile	6.7	1.3	0.0	0.0	0.0	-7.1
Fourth quintile	13.3	1.3	-7.1	-6.7	-6.7	-21.4
Fifth quintile	-20.0	10.9	-7.1	-6.7	-6.7	0.0
Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Table A3.16: Share of corporate models by quintile by productivity

	Industry	Community	Regional	Corporate
Fifth quintile	15.4	0.0	30.8	53.8
Fourth quintile	46.2	0.0	30.8	23.1
Third quintile	30.8	7.7	23.1	38.5
Second quintile	23.1	7.7	53.8	15.4
First quintile	6.7	20.0	53.3	33.3

A4.1 POST THE GFC: THE DRIVERS OF GROWTH AND THE WORLD ECONOMY

At no time since the world recovered from World War II is the projection horizon dominated by change in terms of the past. The most comparable period was perhaps 1974, after the first oil price shock when it was self-evident that historical growth drivers would permanently shift, or at the very least lose potency. This was indeed the case.

The difference with the past revolves around the post-global financial crisis (GFC) world.

A4.2 THE FACTORS WHICH WILL DOMINATE A POST-GFC WORLD, BOTH IN AUSTRALIA AND THE REST OF THE WORLD

Less reliance on credit to drive growth

In the Anglo-sphere economies in particular there will be less reliance on credit to drive growth. This will be the outcome for a number of reasons:

(i) because sectors (household, government, etc.) have reached saturation levels;

(ii) because the types of financial innovation and practices required for the finance sector to be a driver rather than a facilitator of growth will be constrained by regulation; and

(iii) because the risks of investing in financial instruments that are required to drive growth will be perceived by investors, for a while at least, to be excessive.

A4.3 LOWER OVERALL WORLD GROWTH

Countries which have unsustainably relied on credit growth over the last two decades to drive growth will have to return to the fundamentals:

(i) industry development;

(ii) knowledge creation; and

(iii) physical and human capital accumulation,

to drive growth. This is a slower, longer-term process with paybacks extending over decades rather than months.

Secondly, economies which have run high growth with high current account deficits and hence high foreign borrowings, will find that they will have to curtail growth to levels consistent with the reduced availability of global finance.

Overall world growth will be slower, generally in the range of 3 to 4 per cent, rather than in excess of 5 per cent, as was the case of the 2003 to 2008 period.

A4.4 THERE WILL BE AN ACCELERATION IN THE SHIFT OF ECONOMIC POWER BETWEEN COUNTRIES AND REGIONS

The state capitalist economies of North and East Asia will emerge largely unscathed from the GFC by offsetting the reduced contribution of North America and the EU to their growth by intra trading block sources of growth and by strengthening their integration with the developing world. Direct controls over finance supply will ensure that finance will not be a constraint to growth.

The developed world in general, and the neoliberal economies in particular, will also be hindered by the need to allocate substantial resources to reduce CO_2 intensity and to compensate low income economies for the cost of lower CO_2 intensity adoption.

This shift in economic power will increasingly constrain countries, such as Australia, in their ability to secure favourable terms for the conditions determining the economic benefits of resource development. How Australia and New South Wales can integrate into Asian supply chains will have a large bearing on longer run outcomes.

A4.5 PUBLIC BORROWING CONSTRAINTS TO GROWTH

The world was not plunged into a depression because of the GFC, although over the first half of 2009 the world economy was contracting faster than the corresponding period of the Great Depression. The main reason for this was 'quantitative easing' in monetary policy, which allowed central banks to directly repair private institution balance sheets and fiscal policy expansion. The cost, of course, of successful economic stabilisation has been a rapid increase in public sector debt across developed economies, as Table A4.1 indicates.

Moreover, as Table A4.1 also indicates, the primary public sector balance sheet (that is, current public sector account balance less interest payments) required to eventually restore public sector debt to GDP ratio to 60 per cent of GDP is well above the IMF 2014 projected outcome.

Public sector debt stabilisation will be a net negative to developed country growth over the next decade. The only way for developed economies in this circumstance to recover to pre-2008 growth rates would be for developing economies to switch to driving their economies by internal demand expansion and allow developed economies free market access. Most developing economies' living standards are too low to allow this to happen.

Table A4.1: Debt stabilisation and primary balance (in % of GDP)

	Pre-crisis WEO projections				Current WEO projections				Debt stabilising PB or PB needed to bring debt to benchmark level (shaded)
	Debt		Primary balance		Debt		Primary balance		
	2009	2012	2009	2012	2009	2014	2009	2014	
Advanced countries									
Australia	7.8	6.0	0.9	0.6	13.7	25.9	-4.3	-0.4	0.3
Austria	56.8	51.5	2.2	2.0	70.0	83.7	-1.5	-1.2	2.3
Belgium	79.2	71.2	3.7	3.5	98.1	111.1	-0.5	-1.3	4.3
Canada	61.0	51.3	1.2	0.5	75.6	65.4	-3.5	-0.4	1.0
Denmark	16.1	6.6	3.5	2.3	26.1	30.0	-2.2	-0.7	0.3
Finland	29.6	26.8	3.2	1.8	40.6	54.4	-2.5	-3.0	0.5
France	63.0	60.5	-0.3	0.8	77.4	95.5	-5.3	-2.1	3.1
Germany	61.1	59.4	2.1	2.0	79.8	91.4	-2.3	1.9	2.8
Greece	75.0	70.1	1.5	1.7	108.8	133.7	-1.5	-3.1	5.9
Iceland	28.8	27.4	-1.6	-0.6	139.9	134.1	-7.7	7.6	5.9
Ireland	23.6	23.2	0.5	0.4	59.9	82.2	-10.3	1.6	2.2
Italy	104.1	102.0	2.5	2.6	117.3	132.2	-0.9	0.5	5.8
Japan	194.2	189.6	-1.8	-0.2	217.4	239.2	-9.0	-5.1	9.8
Korea	32.5	31.8	4.3	4.3	35.8	39.4	-1.6	3.8	0.4
Netherlands	42.4	33.1	2.8	2.9	66.2	80.9	-3.1	0.2	2.1
New Zealand	20.8	20.7	2.3	2.1	23.4	53.9	-2.1	-4.6	0.5
Norway	43.8	43.8	13.0	9.6	67.2	67.2	4.9	8.4	1.1
Portugal	63.6	57.0	1.3	2.1	73.3	87.5	-3.3	0.8	2.6
Spain	32.4	29.7	1.6	1.5	54.7	81.2	-8.5	-4.0	2.1
Sweden	33.6	21.1	2.1	2.7	43.5	49.4	-4.8	-0.6	0.5
United Kingdom	42.9	42.5	-0.5	0.2	68.6	99.7	-10.0	-3.8	3.4
United States	63.4	65.8	-0.8	-0.3	88.8	112.0	-12.3	0.3	4.3

continued next page

Table A4.1: Debt stabilisation and primary balance (in % of GDP) (continued)

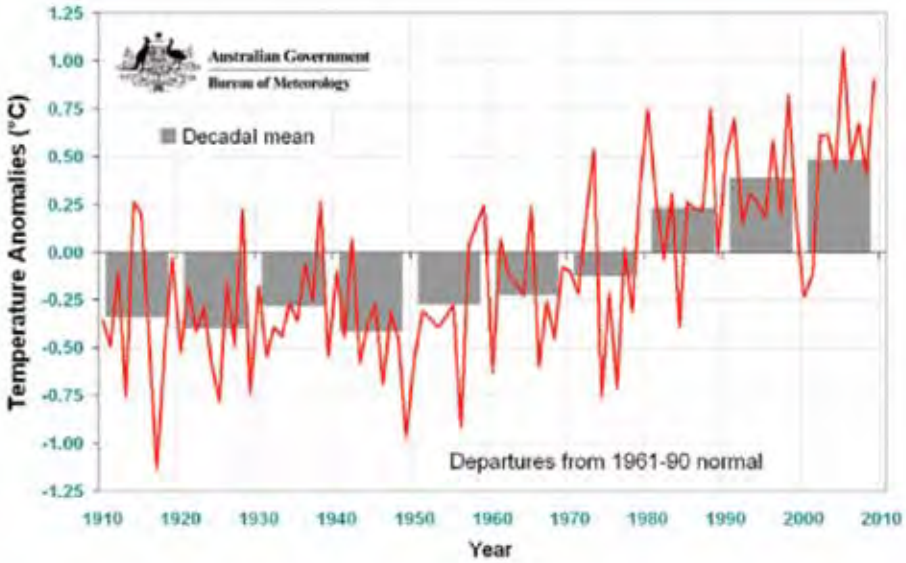
	Pre-crisis WEO projections				Current WEO projections				Debt stabilising PB or PB needed to bring debt to benchmark level (shaded)
	Debt		Primary balance		Debt		Primary balance		
	2009	2012	2009	2012	2009	2014	2009	2014	
PPP-weighted average	74.8	73.6	0.3	0.7	95.8	114.7	-8.0	-0.7	4.2
G-20	79.5	78.9	-0.1	0.5	100.6	119.7	-8.6	-0.6	4.5
High debt	79.4	78.4	0.1	0.5	101.8	121.7	-8.5	-0.9	4.5
Low debt	24.3	21.3	2.9	2.8	30.0	37.8	-2.8	1.1	0.4

Source: IMF, *The State of Public Finances: A Cross Country Fiscal Monitor*, June 2009.

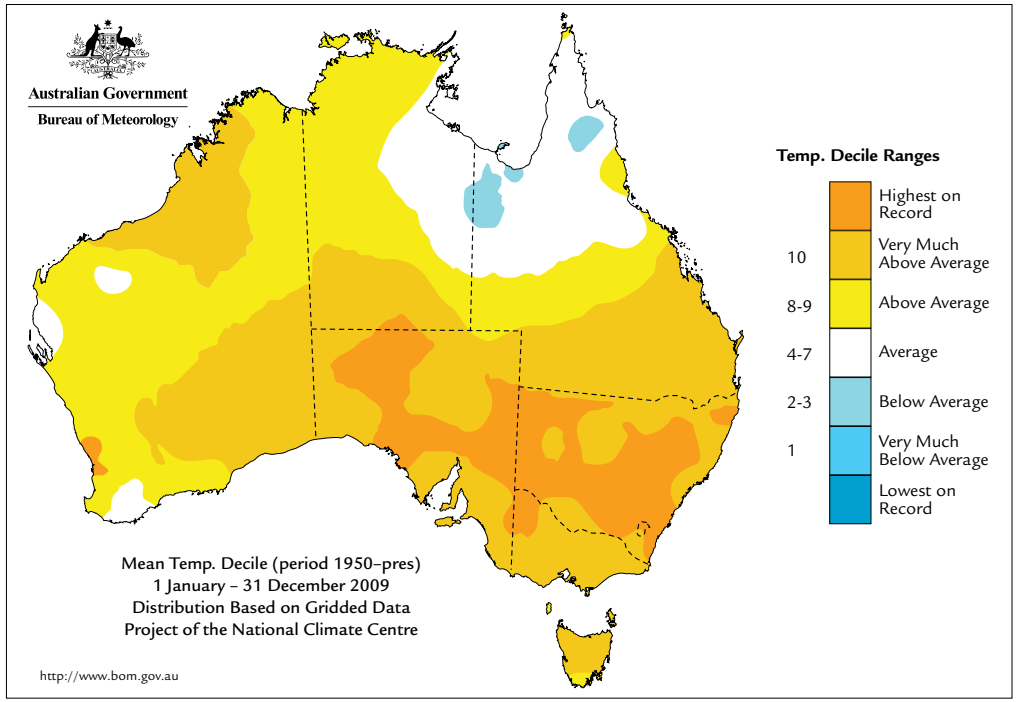
A4.6 CLIMATE CHANGE AND CARBON PRICING

The data in Figure A4.1 explains why so many world leaders gathered in Copenhagen on 18 December 2009. Most environmental indicators, including the rate at which sea level is rising, trend temperature increases, especially those in key parts of the world, e.g. the Arctic, ocean acidification and the decline in the CO_2 absorbance capacity of the oceans, melting ice shelfs and ice, methane releases from the tundra and a plethora of other indicators are currently tracking near or above the upper bounds of previous projections prepared by the International Panel on Climate Change (IPCC), the world's most authoritative (and conservative) source. Paleo-climatic data is increasingly available and in general validates long-term IPCC projections or indicates that they are likely to be conservative.

Figure A4.1: Annual and decadal mean temperature anomalies for Australia



(Above) Annual and decadal mean temperature anomalies for Australia (compared with 1961-90 average) and **(right)** 2009 mean temperatures compared against historical temperature records.



 ID code: IGMapHQNTempDeciles Issued 04/01/2010

The bottom line suggested by many, though not all, scientists is that unless something drastic is done to reduce greenhouse gas emissions by 2020 with follow-through action lasting at least a few decades thereafter the world will only have the capacity to support a world population below current levels. To prevent this collapse the mainstream science requires that the increase in world average temperature be held to no more than 2°C. Perhaps the main reason why the Copenhagen Accord is a preamble not a treaty is that the best offers on the table would have locked the world into a 3°C rise. If these offers had been codified into the Accord its credibility would have been reduced to zero. A credible international agreement requires that the sum of individual targets should be consistent with a 2°C rise.

As a result the core statement in the Copenhagen Accord, which is in fact a preamble to some future treaty, is the acceptance of the objective that *'deep cuts in global emissions are required ... so as to hold the increase in global temperature below 2°C and to take action to meet this objective ... on the basis of equity'*.

As the world moves towards arrangements to meet these objectives a number of things will happen. Whether or not an International Treaty eventuates, the next steps are likely to be taken by a relatively small number of large, concerned countries. It does not matter for the purposes of this study whether Australia is one of this group or not. One plausible course of events is as follows.

(i) The concerned countries will determine the global target greenhouse emission objective including the domestic CO_2 reduction requirements for developed countries and the increase in energy efficiency requirements for developing and emerging countries.

(ii) They will look to expand the current EU Emission Trading Scheme into a global market for CO_2 permits, probably (following recent experience) with price stabilisation so that its short-term operational characteristics are more like a tax and the long term minimum price band is specified. Countries where emissions are greater than target/quota would be required to import permits equal to the excess. If this proves impossible within World Trade Organisation rules, the concerned countries are likely to switch to carbon taxation with cost-equalising tariffs on imports from non-compliant countries, justifying these tariffs on the grounds that the non-compliant countries are either subsidising or dumping exports by their failure to take carbon costs into account. The effect within the concerned countries will be to equalise the cost of carbon included in the prices of imported and domestically produced goods and services.

(iii) The concerned countries will also apply investment discrimination against those countries which either fail to accept their targets/quotas or fail to import permits for quota shortfalls.

(iv) Over time the actions of the concerned countries will evolve towards a regime of CO_2 emission quotas for each country.

(v) As mooted in Copenhagen, the concerned countries will require any financial assistance to low income countries be conditional on joining an international treaty.

Initially, say from 2010 to 2020, countries are likely to have some latitude in setting their CO_2 reduction targets. After that targets (provided that the science of climate change becomes more certain) are likely to become quotas based on per-capita equity considerations.

The Copenhagen Accord will impose a high and in the long term unavoidable adjustment burden on the Australian economy.

There can only be one long-run acceptable standard for equity in CO_2 reduction and that is a per capita standard. As estimates given in this report show, the 2°C target implies that Australia's per capita emissions quota would support less than ten year's emissions at current rates – Australia would run out of quota by 2020. This follows from the fact that Australia is perhaps the highest per capita emitter in the world. Therefore by the 2020s and certainly by the 2030s it is not unlikely that Australia will have to buy permits for all emissions above zero. This lies outside the current forecast horizon.

The permit price will increase to high levels.

International permits will be generated in part through payments to governments (that is, taxation), in part as compensation to private parties who may or may not have assisted abatement and in part to raise revenue to fund financial transfers to low income countries. The supply of permits from these sources will depend on the global CO_2 emission quota, which will trend downwards, declining by around 4 per cent per year. The lower the world quota and the more that countries and businesses rely on permit imports to meet their quotas, the greater the demand pressure pushing the price of permits upwards. Current estimates for this price are around US$100 to US$200 per tonne CO_2e by 2030. By 2020 the international permit price is likely to be in the vicinity of US$50 to US$100 per tonne.

Climate change will reinforce the other drivers leading to a widening divergence between developing and developed countries.

In effect, climate change will constrain economic growth for a number of reasons. Firstly, CO_2 abatement policies will divert substantial capital resources to decarbonisation of the economy that otherwise would have been allocated to capacity expansion. That is, future world economic growth will be constrained below the levels that otherwise would have prevailed in the absence of the need to decarbonise the economy.

In addition, equity will require that the developed economies, because of their:

(i) high per capita emissions compared to developing countries; and

(ii) even higher cumulative per capita emissions since pre-industrial times (1800),

will be required to shoulder their proportionate share of the CO_2 reduction. In the case of a movement of the world economy towards a per capita standard the effort required of developed economies will be high compared to developing economies. The rule will be that the greater the decarbonisation effort required of developed economies compared to developing economies, the greater will be the differential in growth rate outcomes. This rule simply flows from the fact that the greater the decarbonisation effort required from a country the greater the resources that will have to be diverted away from capacity expansion.

A4.7 POST GFC SCENARIOS – THE RANGE OF POSSIBILITIES

Since the end of 2008 considerable effort has been applied to explore the consequences of the GFC over the next decade. The framework adopted here will be based on the International Monetary Fund (IMF) approach. The S0 is that scenario that would have prevailed in the absence of the GFC.

The framework can be expressed in terms of the level of GDP or employment. In Figures A4.2 and A4.3 the employment indicator is employed. The IMF has three scenarios for a national economy, namely:

(i) the Convergence scenario;

(ii) the Permanent loss scenario; and

(iii) the Increasing loss scenario.

(S1): The Convergence scenario

Under the Convergence scenario the level of national employment regains the (S0) level sometime between 2012 and 2020. To this extent the unemployed resources created by the GFC are 'temporary', although those permanently lost to employment will have different views.

(S2): The Permanent loss scenario

Under the Permanent loss scenario national employment growth rates recover to (S0) levels but there is no sustained acceleration above (S0) levels. This means that after a time the (S2) employment trajectory will move in parallel with the (S0) trajectory, resulting in a permanent but constant loss in employment and, therefore, a permanent increase in the stock of disadvantage.

(S3): The Increasing loss scenario

Under the third scenario the rate of growth in employment does not regain, on a sustained basis, the rate of growth of employment of the (S0) case. This means that there will be an increasing gap between the (S0) trajectory and the (S3) trajectory, or an increasing permanent increase in the stock of disadvantage to the extent that increases in the not in employment working age population drive disadvantage.

There is an alternative plausible Composite scenario which contains elements of the above three scenarios.

(S4): The Composite scenario

There is another scenario which is now commonly mentioned. It is a W-type scenario where under the weight of the very large stimulus packages there is a recovery along the lines of (S1), except coming much earlier. However, once the stimulus packages are withdrawn the underlying structural problems for many developed economics will see a tendency back to the (S2) or (S3) scenarios over the medium term, as illustrated in the following figure.

Figure A4.2: National scenarios for employment

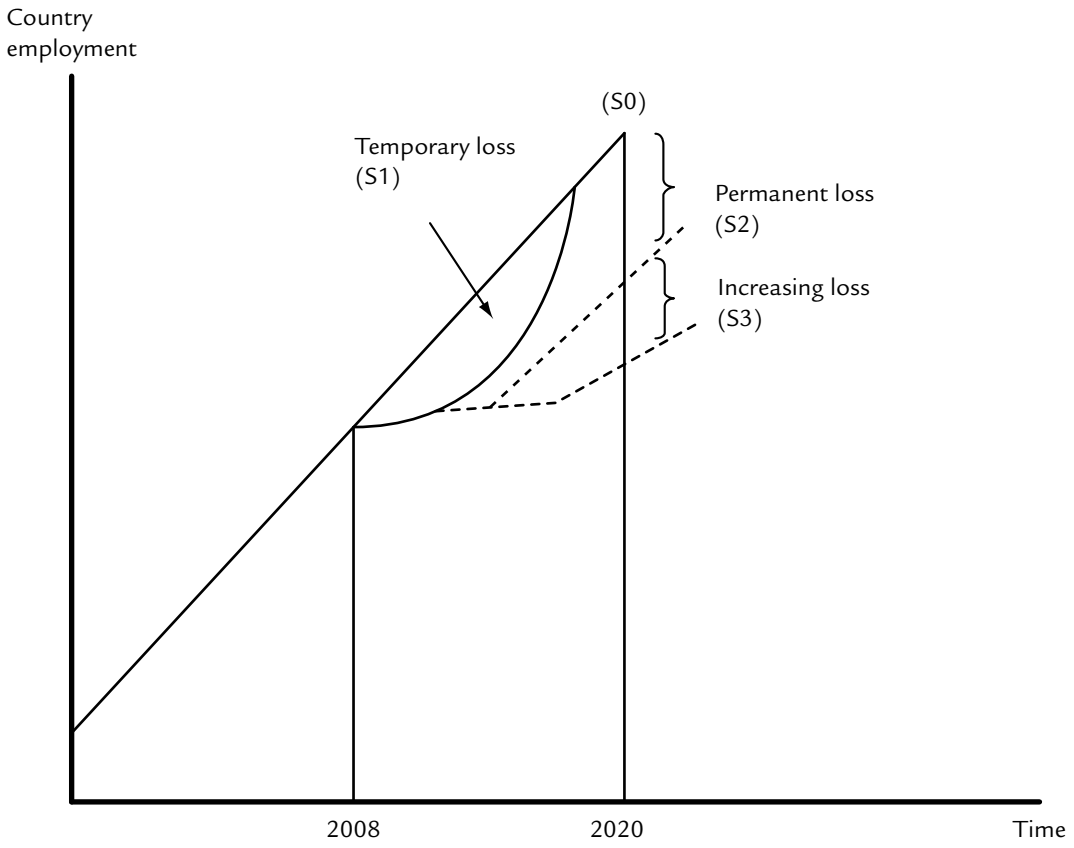
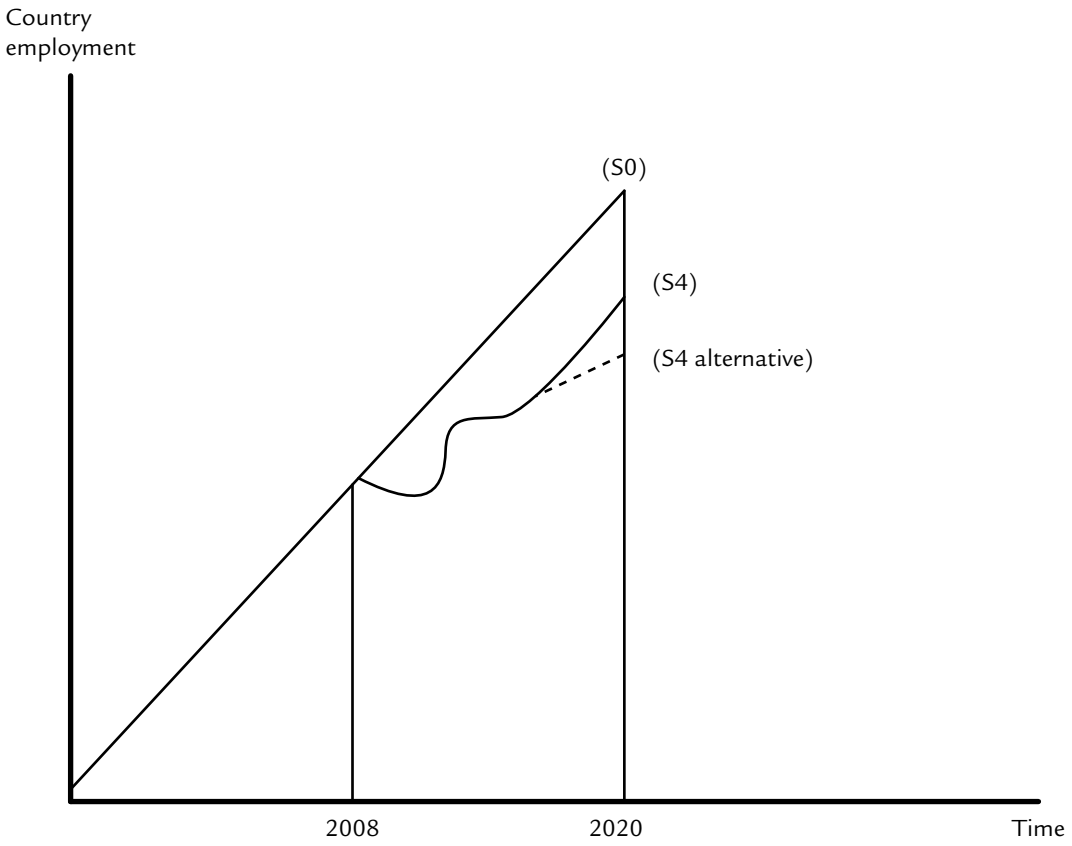


Figure A4.3: National employment: Plausible Composite scenario



A4.8 THE BASE SCENARIO FOR THE WORLD ECONOMY

Total world GDP is estimated to have fallen by 1.5 per cent in 2009 and to increase by 2.6 per cent in 2010. Asia is projected to be back to near normal GDP growth rates of in excess of 5 per cent by 2010. However, the developed world is projected to grow by less than 2 per cent (Table A4.2).

From Table A4.2, after 2010 the world economic profile resembles the Permanent loss scenario. This is because the average growth rate over the 2008 to 2018 period of 3.0 per cent is less than the average world growth rate over the 1996–2008 period of 3.6 per cent. Secondly, in the latter years, that is post 2012, the average annual world growth rate returns to near the 1996–2008 average.

However, there are differences in outcomes between groups of countries. For the developed economies (United States, the EU countries, etc.) the projection outcome is compatible with the Increasing loss scenario with at best stagnant (after 2012), or slowly rising, unemployment rates to 2020. For developing economies, especially in the case of China and India, the outcome is more consistent with the Convergence scenario.

The aggregate world economy base case Permanent loss scenario outcome is, therefore, the average between the Increasing loss outcome for developed economies and Convergence scenario outcomes for at least the largest developed economies.

The reasons for this are straight forward. The high income economies have suffered a severe financial shock and IMF estimates show that on average it takes 6 to 8 years for economies subject to severe financial shocks to recover to output levels that otherwise could have prevailed. The major reasons for this are:

(i) the severity of the shock and the increase in excess capacity which dampens growth;

(ii) the damage to confidence which takes a number of years to overcome; and

(iii) the damage to bank and other financial institutions' balance sheets which result in the diversion of large flows of funds to restore the quality of financial sector balance sheets. This in effect imposes a long term credit squeeze on the economy with less than blue chip borrowers rationed in terms of the credit available.

In the past countries subject to severe financial shock did recover to previous output levels. This will not happen this time for two reasons. Firstly, what happened over 2009 and 2010 is that the financial crisis affected a range of countries simultaneously and in particular high income countries. In the past individual countries subject to financial shock could rely on a strong world economy to assist their recovery.

The second reason is the long term loss of competition of high income countries to the large emerging developing countries has been accelerated by the GFC and will continue post 2012. The carbon price regime, which will be implemented partially by 2015, will accelerate this trend.

This shift in economic power is reflected in the individual growth profiles in the table.

Table A4.2: Real GDP growth rate (calendar years)

	Total world	Major trading partners	G7	Asia
1996–2004	3.4	3.1	2.5	4.5
2004–2008	4.4	3.2	2.1	6.6
2009	-1.5	-1.9	-3.6	2.5
2010	2.6	2.4	1.2	5.1
2011	3.0	2.7	1.5	4.9
2012	5.0	3.6	1.9	7.8
2013	3.7	2.9	1.6	5.7
2014	3.3	2.6	1.6	4.8
2015	3.4	2.8	1.7	5.0
2016	3.5	3.0	1.8	5.1
2017	3.7	3.3	2.0	5.4
2018	3.6	3.2	1.9	5.2
2019	3.5	3.1	1.8	5.2
2020	3.4	3.1	1.8	5.1

A4.9 THE ALTERNATIVE WORLD SCENARIO

The alternative world scenario, on the high side, would represent the Convergence scenario, albeit at a relatively slow rate. The average world growth rate would be near 4 per cent per annum post 2012 with nearly all the growth coming from high growth rate outcomes for developed economies. The G7 growth rate post 2012 would be in the range of 2.5 to 2.7 per cent per annum.

For the Low alternative scenario, the world economy would follow the Increasing loss scenario with world economic growth post 2012 registering (on average) a growth rate of 3.0 per cent. There would be a further fall of 0.2 per cent in the growth rate of developed economies, on an average annual basis, and 1.0 per cent per annum for developing countries.

A4.10 THE CHARACTERISTICS OF THE LOW SCENARIO

The current obstacles for a return to satisfactory growth in general terms have been noted above. In specific terms the US-China trade imbalance, the superiority of well-run state capitalist economies in achieving their economic objectives when in competition with market-based economies, the activities of sovereign wealth funds and the use of foreign capital inflow to achieve national economic objectives, the manufacture of exchange rates, etc. together with high public sector debt limiting the use of fiscal policy to drive growth, all combine to make it highly plausible that there will be a significant growth in protectionism over the next decade.

The trigger may well be the United States labelling China a currency manipulator. If China does not respond by allowing its exchange rate to rise, then the United States is likely to impose tariffs on Chinese imports to the United States. The other developed economies will have to follow the United States lead to prevent an import surge from goods and services being dumped in their economies as a result of the United States barriers. Capital inflow restrictions will also be imposed.

A second wave of protectionism is likely to be associated with climate change. If some key economies refuse to commit to an international agreement, then the Europeans, in particular, possibly in coalition with China, will impose broader carbon tariffs based on a deemed carbon price necessary to achieve the reduction in CO_2 intensity.

The overall result will be a significantly slower growth in world trade with loss of GDP growth.

A4.11 THE CHARACTERISTICS OF THE HIGH SCENARIO

The High scenario assumes that the current difficulties facing the world economy, namely:

(i) impaired financial institution balance sheets restricting lending;

(ii) trade imbalances and disequilibrium exchange rates;

(iii) disagreements in the response to climate change; and

(iv) the conflict between the interests of developed and developing countries, etc.,

will be reconciled in a consensus manner that allows the world economy to take the path of the Convergence scenario over the next decade.

In the view of the writer of this report, the High scenario would seem more implausible than the Low scenario.

A4.12 THE OUTLOOK FOR THE NATIONAL ECONOMY

The outlook for the national economy can be segmented into a discussion of the strategic factors and the outcome for key economic indicators.

A4.13 THE STRATEGIC FACTORS

Strategic factors are those obstacles, barriers or, on the positive side, drivers which will play important roles in determining how Australia will perform economically over the next decade. Perhaps the most important strategic factor has already been discussed, namely the outlook for the world economy. The focus here is on the domestic strategic factors.

The most important domestic strategic factors which flow on from the GFC are:

1. household debt deleveraging;
2. balance of payments constraint and high interest rates;
3. future carbon price shock; and
4. the disintegration of the Australian economy.

Household debt and savings

Australian household savings is likely to be significantly lower than estimated

One of the mysteries of the last decade is while Australia produced similar saving ratio outcomes as the other Anglo-sphere economies, that is, plus or minus around an average of near zero the rate of growth of household debt compared to income has been faster in Australia than what appears to be the case in the other Anglo-sphere economies, such as the United States, and, as a consequence, has now reached higher levels, approaching 200 per cent of net disposable income.

One possible reason is the relatively higher dwelling prices in Australia relative to income. Another is that the household savings ratio is over-estimated.

The United Nations' System of National Accounts recommends that superannuation contributions and interest receipts be either excluded from the household accounts or, if included, then explicitly entered on the income and outlay side of the accounts so that net savings excludes superannuation savings.

In Australia the premiums paid and inputted interest revenue from superannuation is included in the household income, but is not explicitly entered as a household outlay, which means that it is included in the household balancing items, that is, net savings.

The following figure shows selected household services for the Australian economy to March quarter 2009. Australian ABS annual net household savings is now back to low levels, continuing its tendency to an average value of around zero for the last decade. Also given is trend equity withdrawal for Australian households as a per cent of household income. Equity withdrawal is the change in total household debt less activities of:

(i) borrowings for new dwelling construction; and

(ii) borrowings for unincorporated investment.

That a large part of the equity withdrawal seems to have been used to finance consumption is that it matches fairly closely the estimated change in household equity in superannuation funds. As the red line indicates, net Australian savings after superannuation ratio has been significantly negative from 1997 to 2008. As the following figure indicates, this is connected with the acceleration in Australian household debt to income ratio between 1997 and 2008. During this period Australian household debt to income has increased from 80 to 190 per cent of net disposable income.

This cannot continue, both because of approaching debt saturation and the constraints on finance supply because of the GFC. The financing of equity withdrawal on the scale of the past will be very different.

This cannot continue, both because of approaching debt saturation and the constraints on finance supply because of the GFC. The financing of equity withdrawal on the scale of the past will be very different.

In practical terms what this means is that Australia may well recover strongly over the next three years, again heavily influenced by equity withdrawal. This will continue to drive up the debt to income ratio. However, debt saturation and borrowing costs will act as powerful deflationary influences on the economy post 2012.

Figure A4.4: Australia – Household savings and equity withdrawal

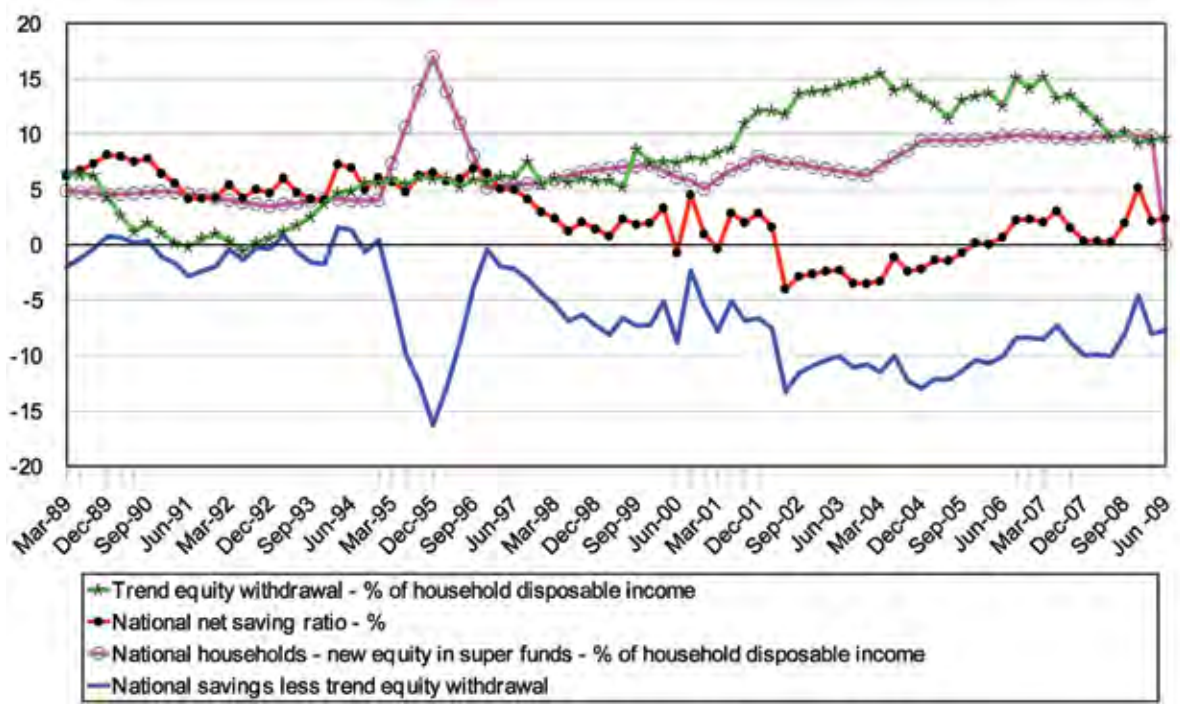
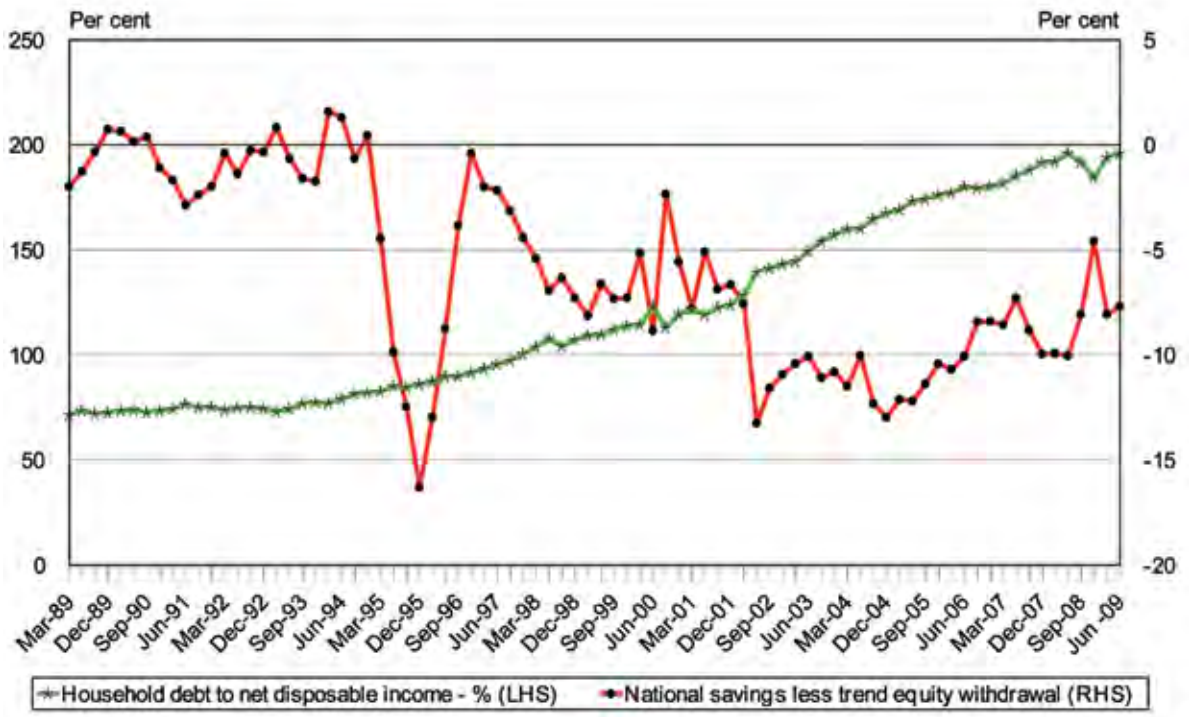


Figure A4.5: Australia – Household debt and savings



The balance of payments constraint to growth and high interest rates

Given the accumulated impact of Australia's high current account deficits over the last 30 years, Australia now has an international debt roll-over requirement every year equal to over 50 per cent of GDP (Figure A4.6). With the recovery this debt roll-over burden is projected to increase towards 70 per cent of GDP. Mining expansion, and in particular LNG expansion, will not greatly assist in preventing this rise. This is because of:

(i) low local content in construction;

(ii) high foreign borrowers to finance construction; and

(iii) high profitability and high foreign content which means that most of the profits are a negative for the current account deficit.

Australia's financing ratio is now well ahead of the ratio of South Korea and Argentina in their exchange rate-lending crisis of 1997 and 2001 respectively, and with 60 per cent of Australian foreign debt held by the banking system Australia will have to run a high interest rate regime when the world recovers, as the projections in the second of the following two figures indicates. This will impact on the level of disadvantage to the extent the financial vulnerability is an indicator of disadvantage.

This will mean that gross bank margins will have to increase with market interest rates being significantly above the 90 day bill rate compared to the past.

Figure A4.6: Current account balance and foreign financing requirement as a % of GDP

Climate change and the carbon price shock

Provided the degree of certainty around current climate science increases, at some point over the next one to two years most of the world will sign a climate deal which as a goal will target a 15 to 25 per cent cut in emissions by 2020 and 35 to 50 per cent down by 2030, and 80 per cent down by 2050. Failure to meet targets will involve the import of permits for emissions, which exceed their country's allocation.

The catalyst for the agreement will be the IPCC update report of 2012 or 2013, which will be considerably more pessimistic in regard to the acceleration of climate change and the outcomes than was the 2007 report. Governments will commit to be able to moderate the response to the update by being organised in advance of the report.

For Australia, being one of the world's highest per capita emitters, the percentage reduction will imply a large absolute per capita decline. The 2030 target will be around 275 million tonnes.

Until now much of the Australian Government's analysis and policy has been built on the assumption that imported permits will supply a significant part of the effort, and this will continue to be the case to 2013 or 2014. However, it is likely to change steadily over time to focus on domestic emission reductions rather than imported permits.

Partly this will be driven by political considerations. If the scare of climate change becomes more dire, then the importation of permits will simply be seen by many as a device to push out the timing of global emission reductions. Countries which are high importers of permits could well face informal trade boycotts, although they are not violating Treaty requirements. By 2020 the Treaty requirements could well be changed.

However, the main reason for change will be economic. By 2030, if Australia does not make a large reduction in domestic emissions, it could well be importing between 300 and 350 million tonnes at around US$200 billion, or around A$100 billion. Given the precarious current balance of payments position of the Australian economy, this will most likely crush the economy.

In addition there will be direct payments to low income countries to assist them in making the adaption to a decarbonised world. The responsibility for this for individual high income countries will, in part, be a function of emissions. All up Australia would face an import bill of around 10 per cent of current GDP for a country with chronic balance of payments deficits and high foreign debt. It is not feasible.

To do the alternative and reduce domestic emissions is not low cost either. To reduce emissions by 50 per cent by 2030 Australia would have to spend an average of $50 billion per year for the next 15 to 20 years, over and above what would otherwise have been the case. The expenditure would be on:

(i) renewables and transmission lines;

(ii) CCS on fossil fuel power stations and industrial plants;

(iii) building insulation and alternative energy sources;

(iv) energy efficiency mining and manufacturing plants; and

(v) land management.

In a constrained economy like Australia's this additional expenditure will have to be reallocated expenditure from elsewhere and least cost in terms of GDP growth would require it come from private and public consumption. Such a reduction in living standards is only possible if a war-time footing is adapted to climate change on a bipartisan basis.

In the absence of such a political consensus the most likely outcome is that carbon pricing and decarbonisation will reduce growth with the resources to decarbonise the economy coming more out of investments than consumption.

The disintegration of the Australian economy

As a result of the rapid Asian growth over the next decade, resource development is likely to be a key driver of Australian economic growth. The resource States will grow significantly faster than the national average and, unfortunately, the faster the growth in the resource States the relatively slower will be the rate of growth in the non-resource States. This is because of:

(i) the weakening inter-State trade flow impacts of resource developments on Australian States as imports of goods and services displace domestic production; and

(ii) the non-resource States' rising debt levels become more adversely affected by any increase in interest rates and inflationary impacts of resources expansion on the domestic economy.

For the foreseeable future the days when New South Wales would grow as fast as or faster than the Australian economy are well and truly over with Victoria falling back in the pack.

A4.14 TECHNIQUES FOR HANDLING UNCERTAINTY

Any projection has a degree of uncertainty. Projections for the next decade would seem to have a particularly high degree of uncertainty and risk compared to any decade from the 1950s onwards. This is because the world is entering into a period of structural change that has not been present since the end of World War II.

In order to incorporate the uncertainty and risk into the analysis, resort will be made to probability distributions in determining the outcome. There are two fundamental risks, namely:

- macroeconomic risk (national); and
- crowding out risk (regional).

Macroeconomic risk

The macroeconomic risk can be expressed in terms of a distribution around the national employment growth rate. Scenarios are based on the distribution of total national average annual employment growth given in Figure A4.7 or Table A4.3.

Over the period 1998-2008 the average annual growth rate for Australian total employment was 2.1 per cent per annum. Table A4.3 indicates that, for the reasons developed above, it is unlikely that the historical average annual growth rate will be above 2.1 per cent. In fact, Table A4.3 indicates that there is only a 5 per cent chance that the growth rate will be above 2.06 per cent per annum between 2010 and 2020. The maximum growth rate that can be expected is 2.3 per cent per annum. In other words there is a 95 per cent chance that the growth rate will be below 2.06 per cent per annum.

Table A4.3 also shows that despite all the obstacles that Australia will face in generating employment growth, it is unlikely that Australia's aggregate employment growth will fall much below 1 per cent per annum.

Figure A4.7 is the continuous plot of the data in Table A4.3.

The mean, or base, case expected growth rate for total Australian employment is 1.6 per cent per annum.

APPENDICES

APPENDIX 4: SCENARIO DESCRIPTION

4

Figure A4.7: National average annual per cent employment growth: 2010–2020

Table A4.3: Summary statistics for national average annual per cent employment growth: 2010–2020

Statistics		Percentile	
Minimum	1.05	5%	1.19
Maximum	2.26	10%	1.26
Mean	1.61	15%	1.32
Std Dev	0.26	20%	1.37
Variance	0.067499167	25%	1.42
Skewness	0.16404799	30%	1.46
Kurtosis	2.414727915	35%	1.50
Median	1.59	40%	1.52
Mode	1.40	45%	1.56
		50%	1.59
		55%	1.62
		60%	1.66
		65%	1.70
		70%	1.74
		75%	1.79
		80%	1.84
		85%	1.89
		90%	1.97
		95%	2.06

Figure A4.8: Crowding out effects by probability

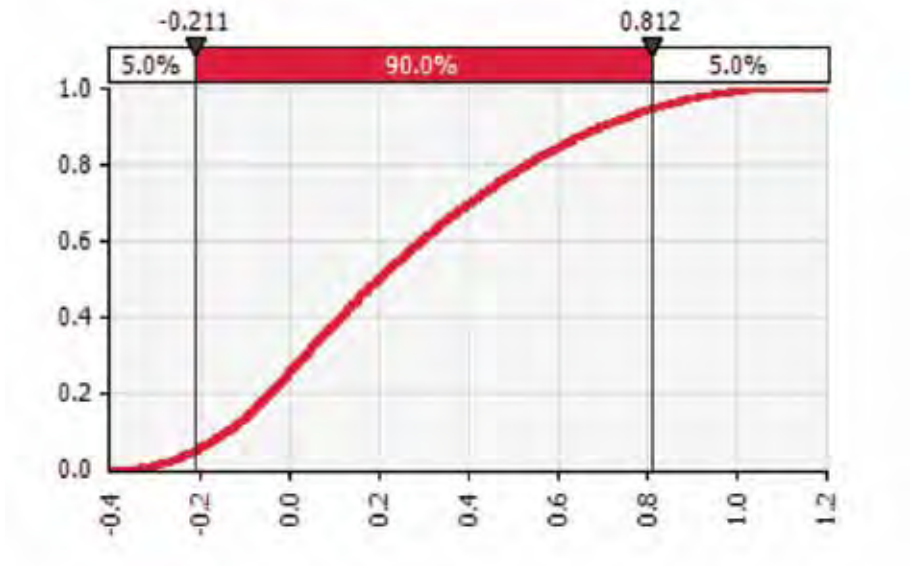


Table A4.4: Summary statistics for crowding out effects by probability

Statistics		Percentile	
Minimum	-0.3683453	5%	-0.21050773
Maximum	1.053402009	10%	-0.14069442
Mean	0.241865995	15%	-0.08676789
Std Dev	0.313248427	20%	-0.04246577
Variance	0.098124577	25%	-0.00337551
Skewness	0.418144775	30%	0.033166496
Kurtosis	2.407462866	35%	0.072684669
Median	0.198321064	40%	0.113374508
Mode	0.030536845	45%	0.15400275
		50%	0.198321064
		55%	0.245166572
		60%	0.294211401
		65%	0.346232414
		70%	0.402074668
		75%	0.462450797
		80%	0.528184608
		85%	0.604417791
		90%	0.694018262
		95%	0.811722954

CROWDING OUT RISK

Figure A4.8 and Table A4.4 show the probability schedule for the risk of crowding out. The interpretation is as follows. The statistics in Figure A4.8 and Table A4.4 only apply to resource based regions and regions (negatively) sensitive to high exchange rates. That is, manufacturing based regions. Therefore, given the base case projection for employment for the resource based regions and increase in growth rates (given the macroeconomic risk) will have a 20 per cent crowding out impact on the exchange rate sensitive regions. There is a 95 per cent probability that the crowding out probability will be 81 per cent or less.

APPENDICES

APPENDIX 5: MARKET FOR APPRENTICES BY INDUSTRY AND REGION

5

Table A5.1: Resident employment – agriculture

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
ACT	1002	1319	410	399	357	40	-227	-2	-8	0.3	0.4
Adelaide Inner	879	1061	780	647	592	23	-70	-27	-11	0.2	0.3
Adelaide North	3153	3280	1731	1372	1246	16	-387	-72	-25	0.8	1.0
Adelaide South	5422	5235	4364	3856	3493	-23	-218	-102	-73	1.4	1.6
Melbourne Central	591	424	1139	1245	1212	-21	179	21	-7	0.1	0.1
Melbourne East	1009	691	497	424	379	-40	-48	-15	-9	0.3	0.2
Melbourne North	407	1066	464	364	334	82	-150	-20	-6	0.1	0.3
Melbourne North East	3091	2804	2185	1869	1687	-36	-155	-63	-36	0.8	0.9
Melbourne Outer South East	4169	5131	4225	3726	3435	120	-226	-100	-58	1.0	1.6
Melbourne South East	1433	1170	1498	1298	1159	-33	82	-40	-28	0.4	0.4
Melbourne West	689	2026	657	666	659	167	-342	2	-1	0.2	0.6
NSW Central Coast	3084	953	1040	899	811	-266	22	-28	-18	0.8	0.3
NSW Central West	19973	15061	12558	10996	9775	-614	-626	-312	-244	5.0	4.7
NSW Far West	12446	8987	9608	8516	7367	-432	155	-218	-230	3.1	2.8
NSW Hunter	9327	6490	5559	5275	4735	-355	-233	-57	-108	2.3	2.0
NSW Illawarra	2434	1052	2100	1976	1770	-173	262	-25	-41	0.6	0.3
NSW Mid North Coast	7608	6574	4734	4282	3894	-129	-460	-90	-78	1.9	2.0
NSW North	19083	14531	12330	10738	9501	-569	-550	-318	-247	4.8	4.5
NSW Richmond Tweed	6805	5786	4250	3867	3535	-127	-384	-77	-66	1.7	1.8
NSW Riverina	13684	9368	8544	8072	7173	-540	-206	-94	-180	3.4	2.9
NSW Southern Tablelands	16398	7346	10729	9731	8715	-1131	846	-200	-203	4.1	2.3
NT Darwin	1580	1042	1392	1374	1322	-67	88	-4	-10	0.4	0.3

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Table A5.1: Resident employment – agriculture (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
NT Lingiari	1800	858	1197	1087	963	-118	85	-22	-25	0.5	0.3
Perth Central	2262	2981	1649	1489	1367	90	-333	-32	-24	0.6	0.9
Perth Outer North	2400	3720	2969	2812	2674	165	-188	-31	-28	0.6	1.2
Perth Outer South	3481	2264	2133	2061	1884	-152	-33	-15	-35	0.9	0.7
QLD Cairns	9005	6357	4527	3767	3354	-331	-458	-152	-83	2.3	2.0
QLD Darling Downs	19069	11999	14643	13398	12191	-884	661	-249	-241	4.8	3.7
QLD Fitzroy	5796	3226	4992	4712	4500	-321	442	-56	-42	1.5	1.0
QLD Mackay	6107	3180	5161	4714	4379	-366	495	-89	-67	1.5	1.0
QLD North	8145	3583	11405	11091	10234	-570	1956	-63	-171	2.0	1.1
QLD Resource region	9016	6163	9019	8640	8124	-357	714	-76	-103	2.3	1.9
QLD Wide Bay Burnett	13616	14880	10987	10340	9817	158	-973	-129	-105	3.4	4.6
SA Mallee South East	10353	10041	10056	9459	8654	-39	4	-119	-161	2.6	3.1
SA Mid North Riverland	14599	10747	12422	11363	10265	-482	419	-212	-220	3.7	3.3
SA Spencer Gulf	6707	3484	5381	4752	4243	-403	474	-126	-102	1.7	1.1
SEQ Brisbane City	1258	2035	1701	1673	1552	97	-83	-6	-24	0.3	0.6
SEQ Brisbane South	2815	1826	978	924	862	-124	-212	-11	-12	0.7	0.6
SEQ Gold Coast	1786	762	695	725	716	-128	-17	6	-2	0.4	0.2
SEQ Moreton Bay	2011	3108	1506	1384	1347	137	-400	-25	-7	0.5	1.0
SEQ Sunshine Coast	3873	2628	3070	2761	2598	-156	110	-62	-33	1.0	0.8
SEQ West Moreton	9310	6085	5839	5774	5680	-403	-61	-13	-19	2.3	1.9
Sydney Central	606	385	709	634	584	-28	81	-15	-10	0.2	0.1
Sydney Eastern Beaches	82	34	21	13	11	-6	-3	-2	0	0.0	0.0
Sydney Northern Beaches	680	256	188	126	112	-53	-17	-12	-3	0.2	0.1

continued next page

Table A5.1: Resident employment – agriculture (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Sydney Old West	68	27	286	276	249	-5	65	-2	-5	0.0	0.0
Sydney Outer North	674	1294	682	704	625	77	-153	5	-16	0.2	0.4
Sydney Outer South West	1472	2889	2234	2186	2096	177	-164	-10	-18	0.4	0.9
Sydney Outer West	2379	2730	2579	2283	2111	44	-38	-59	-35	0.6	0.8
Sydney Parramatta-Bankstown	982	1253	995	926	842	34	-64	-14	-17	0.2	0.4
Sydney South	446	218	598	569	509	-28	95	-6	-12	0.1	0.1
TAS Hobart-South	3668	5472	3951	3549	3238	226	-380	-80	-62	0.9	1.7
TAS North	5370	5471	4835	4393	3944	13	-159	-88	-90	1.3	1.7
TAS North West	6419	4535	5658	5164	4697	-236	281	-99	-93	1.6	1.4
VIC Ballarat	4947	5799	3438	3035	2783	107	-590	-81	-50	1.2	1.8
VIC Bendigo	9660	6731	9445	9073	8381	-366	679	-74	-138	2.4	2.1
VIC Geelong	1758	1577	786	661	597	-23	-198	-25	-13	0.4	0.5
VIC Gippsland	13902	6342	15237	14280	13062	-945	2224	-192	-244	3.5	2.0
VIC Mallee Wimmera	15694	13176	12127	11061	9864	-315	-262	-213	-239	3.9	4.1
VIC North East	15641	11430	18786	17781	16433	-526	1839	-201	-270	3.9	3.5
VIC West	14234	13061	7289	6345	5811	-147	-1443	-189	-107	3.6	4.0
WA Gascoyne Goldfields	5553	7483	6905	7007	7092	241	-144	20	17	1.4	2.3
WA Peel South West	10328	11162	8087	7680	7223	104	-769	-81	-91	2.6	3.5
WA Pilbara Kimberley	1330	1571	1332	1293	1244	30	-60	-8	-10	0.3	0.5
WA Wheatbelt Great Southern	15948	18998	16622	16136	15598	381	-594	-97	-108	4.0	5.9
Total	**399516**	**323218**	**323912**	**299693**	**275662**	**-9537**	**174**	**-4844**	**-4806**	**100.0**	**100.0**

Table A5.2: Resident employment – mining

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
ACT	48	0	28	23	25	-6	7	-1	0	0.1	0.0
Adelaide Inner	784	1698	1929	2255	2695	114	58	65	88	1.0	1.4
Adelaide North	562	752	1445	1641	1870	24	173	39	46	0.7	0.6
Adelaide South	764	1200	2229	2542	2898	54	257	63	71	1.0	1.0
Melbourne Central	196	737	902	1043	1183	68	41	28	28	0.2	0.6
Melbourne East	297	357	1140	1209	1286	7	196	14	15	0.4	0.3
Melbourne North	116	463	601	720	778	43	34	24	12	0.1	0.4
Melbourne North East	130	726	695	778	844	75	-8	17	13	0.2	0.6
Melbourne Outer South East	387	622	757	893	997	29	34	27	21	0.5	0.5
Melbourne South East	230	513	906	959	1024	35	98	11	13	0.3	0.4
Melbourne West	174	526	423	469	541	44	-26	9	14	0.2	0.4
NSW Central Coast	372	397	487	707	769	3	22	44	12	0.5	0.3
NSW Central West	2600	2160	4438	4646	4953	-55	570	42	61	3.3	1.8
NSW Far West	1724	1575	1869	1863	1918	-19	73	-1	11	2.2	1.3
NSW Hunter	8997	10162	13981	15538	16813	146	955	312	255	11.2	8.4
NSW Illawarra	3250	1452	3270	3546	3753	-225	455	55	41	4.1	1.2
NSW Mid North Coast	129	69	103	149	162	-8	9	9	3	0.2	0.1
NSW North	430	245	527	533	549	-23	71	1	3	0.5	0.2
NSW Richmond Tweed	129	70	105	152	166	-7	9	9	3	0.2	0.1
NSW Riverina	0	0	301	298	310	0	75	0	2	0.0	0.0
NSW Southern Tablelands	172	390	554	652	695	27	41	19	9	0.2	0.3
NT Darwin	1125	1042	3048	3834	4828	-10	502	157	199	1.4	0.9
NT Lingiari	2133	582	1442	1503	1568	-194	215	12	13	2.7	0.5

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Table A5.2: Resident employment – mining (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Perth Central	4593	12951	16039	18007	20731	1045	772	393	545	5.7	10.7
Perth Outer North	3664	8877	12322	14382	17350	652	861	412	594	4.6	7.3
Perth Outer South	3016	7625	11577	13543	16053	576	988	393	502	3.8	6.3
QLD Cairns	514	763	1930	2211	2397	31	292	56	37	0.6	0.6
QLD Darling Downs	586	569	899	1155	1257	-2	83	51	20	0.7	0.5
QLD Fitzroy	3301	6896	7032	9840	13466	449	34	562	725	4.1	5.7
QLD Mackay	4013	10197	10562	13241	16291	773	91	536	610	5.0	8.4
QLD North	1883	2834	2014	2097	2338	119	-205	17	48	2.4	2.3
QLD Resource region	4735	3294	2799	3217	3753	-180	-124	84	107	5.9	2.7
QLD Wide Bay Burnett	195	1347	3719	4473	5090	144	593	151	123	0.2	1.1
SA Mallee South East	140	78	422	468	511	-8	86	9	9	0.2	0.1
SA Mid North Riverland	225	608	713	750	803	48	26	7	11	0.3	0.5
SA Spencer Gulf	965	3794	1845	1754	1868	354	-487	-18	23	1.2	3.1
SEQ Brisbane City	964	5190	6996	7975	8922	528	452	196	189	1.2	4.3
SEQ Brisbane South	527	1431	1780	2254	2797	113	87	95	109	0.7	1.2
SEQ Gold Coast	284	955	1377	1524	1753	84	105	29	46	0.4	0.8
SEQ Moreton Bay	493	721	1662	2246	2734	28	235	117	97	0.6	0.6
SEQ Sunshine Coast	573	695	1829	2161	2522	15	283	67	72	0.7	0.6
SEQ West Moreton	516	500	1070	1363	1854	-2	142	59	98	0.6	0.4
Sydney Central	155	555	869	1023	1097	50	79	31	15	0.2	0.5
Sydney Eastern Beaches	0	0	123	90	93	0	31	-7	1	0.0	0.0

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Table A5.2: Resident employment – mining (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Sydney Northern Beaches	655	34	555	538	559	-78	130	-3	4	0.8	0.0
Sydney Old West	113	151	71	86	91	5	-20	3	1	0.1	0.1
Sydney Outer North	279	350	374	416	429	9	6	8	3	0.3	0.3
Sydney Outer South West	1665	855	1054	1053	1185	-101	50	0	27	2.1	0.7
Sydney Outer West	455	372	277	257	284	-10	-24	-4	5	0.6	0.3
Sydney Parramatta-Bankstown	60	156	96	75	78	12	-15	-4	1	0.1	0.1
Sydney South	172	379	336	375	391	26	-11	8	3	0.2	0.3
TAS Hobart-South	165	126	334	342	367	-5	52	2	5	0.2	0.1
TAS North	220	647	506	523	567	53	-35	3	9	0.3	0.5
TAS North West	1473	1350	1510	1696	1798	-15	40	37	20	1.8	1.1
VIC Ballarat	89	473	467	543	605	48	-1	15	12	0.1	0.4
VIC Bendigo	266	740	968	1145	1276	59	57	36	26	0.3	0.6
VIC Geelong	42	163	170	154	166	15	2	-3	2	0.1	0.1
VIC Gippsland	1116	1643	1132	1177	1250	66	-128	9	15	1.4	1.4
VIC Mallee Wimmera	88	517	484	521	541	54	-8	7	4	0.1	0.4
VIC North East	300	61	671	841	917	-30	152	34	15	0.4	0.1
VIC West	30	274	362	340	375	30	22	-4	7	0.0	0.2
WA Gascoyne Goldfields	6670	5600	6505	7794	9351	-134	226	258	311	8.3	4.6
WA Peel South West	3912	4811	8565	9882	11744	112	938	263	372	4.9	4.0
WA Pilbara Kimberley	5433	6494	7978	10370	13411	133	371	478	608	6.8	5.3
WA Wheatbelt Great Southern	711	780	1231	1440	1714	9	113	42	55	0.9	0.6
Total	**80003**	**121596**	**162405**	**189294**	**221403**	**5199**	**10202**	**5378**	**6422**	**100.0**	**100.0**

Table A5.3: Resident employment – manufacturing

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
ACT	2857	3250	4014	4045	3934	49	191	6	-22	0.3	0.3
Adelaide Inner	16371	15351	14356	13839	13466	-127	-249	-103	-75	1.6	1.5
Adelaide North	37822	35084	34900	33488	32356	-342	-46	-282	-226	3.6	3.5
Adelaide South	23046	21489	20106	19189	18449	-195	-346	-183	-148	2.2	2.2
Melbourne Central	17849	13028	18616	18713	18622	-603	1397	19	-18	1.7	1.3
Melbourne East	35436	35278	31800	30212	28543	-20	-869	-318	-334	3.4	3.5
Melbourne North	38033	30201	29077	27140	25695	-979	-281	-387	-289	3.7	3.0
Melbourne North East	43094	39620	32646	31025	29466	-434	-1744	-324	-312	4.1	4.0
Melbourne Outer South East	38150	46949	44508	43463	43443	1100	-610	-209	-4	3.7	4.7
Melbourne South East	46724	39354	37096	34107	31849	-921	-565	-598	-452	4.5	3.9
Melbourne West	37820	38300	39289	40432	40741	60	247	229	62	3.6	3.8
NSW Central Coast	13178	12949	14451	14400	13948	-29	375	-10	-90	1.3	1.3
NSW Central West	10691	9991	8298	7603	7111	-88	-423	-139	-98	1.0	1.0
NSW Far West	1468	1652	1570	1414	1316	23	-20	-31	-20	0.1	0.2
NSW Hunter	31899	27033	28561	27536	26003	-608	382	-205	-307	3.1	2.7
NSW Illawarra	21051	20379	20607	19547	18490	-84	57	-212	-211	2.0	2.0
NSW Mid North Coast	8105	8623	8117	7921	7724	65	-127	-39	-40	0.8	0.9
NSW North	4686	5055	4299	3917	3648	46	-189	-76	-54	0.5	0.5
NSW Richmond Tweed	6129	6845	6517	6405	6288	89	-82	-22	-23	0.6	0.7
NSW Riverina	12789	12605	10117	9494	8920	-23	-622	-125	-115	1.2	1.3
NSW Southern Tablelands	7600	7689	6205	5637	5378	11	-371	-114	-52	0.7	0.8
NT Darwin	2314	1781	3487	3685	3882	-67	426	40	39	0.2	0.2

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Table A5.3: Resident employment – manufacturing (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
NT Lingiari	765	508	1007	942	881	-32	125	-13	-12	0.1	0.1
Perth Central	20646	18694	20701	19805	19103	-244	502	-179	-140	2.0	1.9
Perth Outer North	19772	22331	26308	26546	26859	320	994	48	62	1.9	2.2
Perth Outer South	23926	27368	28036	28320	27999	430	167	57	-64	2.3	2.7
QLD Cairns	5444	5021	5444	4961	4669	-53	106	-96	-59	0.5	0.5
QLD Darling Downs	8251	11431	10615	10626	10418	398	-204	2	-42	0.8	1.1
QLD Fitzroy	7974	8821	9819	10659	11286	106	249	168	125	0.8	0.9
QLD Mackay	5828	5497	6046	6160	6138	-41	137	23	-4	0.6	0.6
QLD North	5555	7409	10035	10425	10818	232	657	78	79	0.5	0.7
QLD Resource region	1111	1727	2013	2218	2416	77	71	41	40	0.1	0.2
QLD Wide Bay Burnett	9108	6307	12827	13140	13297	-350	1630	63	31	0.9	0.6
SA Mallee South East	5457	6510	6420	6097	5919	132	-22	-65	-36	0.5	0.7
SA Mid North Riverland	5882	7939	7552	7125	6848	257	-97	-85	-55	0.6	0.8
SA Spencer Gulf	4797	4739	5157	4902	4691	-7	105	-51	-42	0.5	0.5
SEQ Brisbane City	42453	45129	46386	44392	42582	335	314	-399	-362	4.1	4.5
SEQ Brisbane South	20894	23871	22464	22923	23406	372	-352	92	97	2.0	2.4
SEQ Gold Coast	12051	14595	13146	13632	13944	318	-362	97	62	1.2	1.5
SEQ Moreton Bay	17498	19158	18322	17918	18348	208	-209	-81	86	1.7	1.9
SEQ Sunshine Coast	8305	8361	7997	8475	8661	7	-91	96	37	0.8	0.8
SEQ West Moreton	13300	13626	18263	20335	22933	41	1159	414	520	1.3	1.4
Sydney Central	24069	16468	19429	18413	17467	-950	740	-203	-189	2.3	1.7
Sydney Eastern Beaches	7493	5633	5269	5166	4762	-233	-91	-21	-81	0.7	0.6
Sydney Northern Beaches	13669	10688	9718	8850	8190	-373	-242	-174	-132	1.3	1.1

continued next page

Table A5.3: Resident employment – manufacturing (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Sydney Old West	20872	10697	12144	11490	10698	-1272	362	-131	-158	2.0	1.1
Sydney Outer North	17728	15752	16553	15133	13974	-247	200	-284	-232	1.7	1.6
Sydney Outer South West	30877	27756	27538	27045	26512	-390	-54	-99	-107	3.0	2.8
Sydney Outer West	41202	37150	37062	36151	35157	-507	-22	-182	-199	4.0	3.7
Sydney Parramatta-Bankstown	51543	38552	38478	36597	34159	-1624	-18	-376	-488	5.0	3.9
Sydney South	28765	23755	19722	17592	16333	-626	-1008	-426	-252	2.8	2.4
TAS Hobart-South	8800	7490	7202	6648	6270	-164	-72	-111	-76	0.8	0.8
TAS North	6915	7014	6534	6342	6023	12	-120	-39	-64	0.7	0.7
TAS North West	5609	7125	6656	6408	6229	189	-117	-50	-36	0.5	0.7
VIC Ballarat	7687	8183	10747	10942	11075	62	641	39	27	0.7	0.8
VIC Bendigo	12383	13297	11114	10847	10653	114	-546	-53	-39	1.2	1.3
VIC Geelong	15421	13503	14531	13863	13242	-240	257	-134	-124	1.5	1.4
VIC Gippsland	8788	12050	8543	8387	8210	408	-877	-31	-35	0.8	1.2
VIC Mallee Wimmera	3828	4381	4611	4334	4072	69	58	-55	-52	0.4	0.4
VIC North East	12943	17447	14188	13827	13629	563	-815	-72	-40	1.2	1.7
VIC West	6889	7502	8809	8751	8643	77	327	-11	-22	0.7	0.8
WA Gascoyne Goldfields	3058	2880	4102	4471	4825	-22	305	74	71	0.3	0.3
WA Peel South West	10403	13736	13224	13145	13572	417	-128	-16	85	1.0	1.4
WA Pilbara Kimberley	1531	1496	2035	2233	2409	-4	135	39	35	0.1	0.2
WA Wheatbelt Great Southern	2754	2949	3496	3559	3693	24	137	13	27	0.3	0.3
Total	**1039355**	**997055**	**998902**	**973008**	**950290**	**-5288**	**462**	**-5179**	**-4544**	**100.0**	**100.0**

Table A5.4: Resident employment – electricity, gas and water

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
ACT	904	1564	1386	1585	1788	83	-44	40	40	1.1	1.5
Adelaide Inner	1685	1941	2801	3356	3978	32	215	111	124	2.1	1.8
Adelaide North	1850	2148	3323	3825	4380	37	294	100	111	2.3	2.0
Adelaide South	1780	1694	3065	3613	4100	-11	343	110	97	2.2	1.6
Melbourne Central	571	2055	3006	3645	4590	186	238	128	189	0.7	1.9
Melbourne East	2202	2566	2504	2734	3030	45	-15	46	59	2.7	2.4
Melbourne North	1223	1969	2607	3104	3603	93	159	99	100	1.5	1.9
Melbourne North East	2722	2846	2631	3153	3515	15	-54	104	72	3.3	2.7
Melbourne Outer South East	1502	2904	2932	3537	4100	175	7	121	113	1.8	2.7
Melbourne South East	1521	1766	2485	2750	3026	31	180	53	55	1.9	1.7
Melbourne West	1096	1505	2252	2653	3202	51	187	80	110	1.3	1.4
NSW Central Coast	1935	1348	1765	2247	2493	-73	104	96	49	2.4	1.3
NSW Central West	1197	1929	2164	2370	2611	91	59	41	48	1.5	1.8
NSW Far West	862	951	869	984	1044	11	-21	23	12	1.1	0.9
NSW Hunter	3381	2474	5599	6385	7114	-113	781	157	146	4.1	2.3
NSW Illawarra	1444	1741	1803	1980	2151	37	15	35	34	1.8	1.6
NSW Mid North Coast	1068	1843	1331	1431	1601	97	-128	20	34	1.3	1.7
NSW North	518	751	872	921	979	29	30	10	12	0.6	0.7
NSW Richmond Tweed	557	744	544	577	636	23	-50	7	12	0.7	0.7
NSW Riverina	1895	1300	1751	2012	2154	-74	113	52	28	2.3	1.2
NSW Southern Tablelands	1644	1504	1393	1667	1808	-17	-28	55	28	2.0	1.4
NT Darwin	423	1172	1209	1660	2197	94	9	90	107	0.5	1.1
NT Lingiari	249	386	376	412	435	17	-3	7	4	0.3	0.4

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Table A5.4: Resident employment – electricity, gas and water (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Perth Central	1577	2759	4876	5821	6821	148	529	189	200	1.9	2.6
Perth Outer North	1833	3279	4745	5720	6886	181	367	195	233	2.2	3.1
Perth Outer South	1797	2369	5119	6057	7237	71	687	188	236	2.2	2.2
QLD Cairns	1905	1626	1058	1148	1226	-35	-142	18	16	2.3	1.5
QLD Darling Downs	603	927	1928	2359	2744	41	250	86	77	0.7	0.9
QLD Fitzroy	2630	2715	2209	2678	3373	11	-126	94	139	3.2	2.6
QLD Mackay	851	823	666	755	891	-4	-39	18	27	1.0	0.8
QLD North	1159	1798	2176	2522	2910	80	94	69	78	1.4	1.7
QLD Resource region	373	466	603	721	839	12	34	24	24	0.5	0.4
QLD Wide Bay Burnett	625	1538	1455	1651	1949	114	-21	39	60	0.8	1.5
SA Mallee South East	229	290	516	648	728	8	56	26	16	0.3	0.3
SA Mid North Riverland	279	480	758	903	997	25	70	29	19	0.3	0.5
SA Spencer Gulf	178	644	833	867	952	58	47	7	17	0.2	0.6
SEQ Brisbane City	2906	6759	8261	9636	10886	482	376	275	250	3.6	6.4
SEQ Brisbane South	903	1580	2129	2759	3375	85	137	126	123	1.1	1.5
SEQ Gold Coast	363	688	831	1116	1356	41	36	57	48	0.4	0.6
SEQ Moreton Bay	1499	1875	2592	3010	3597	47	179	84	117	1.8	1.8
SEQ Sunshine Coast	748	1085	555	654	786	42	-133	20	27	0.9	1.0
SEQ West Moreton	613	699	1553	2278	2962	11	213	145	137	0.8	0.7
Sydney Central	2362	4317	1759	2211	2444	244	-640	90	47	2.9	4.1
Sydney Eastern Beaches	542	881	971	1030	1101	42	22	12	14	0.7	0.8

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Table A5.4: Resident employment – electricity, gas and water (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Sydney Northern Beaches	642	589	600	689	727	-7	3	18	8	0.8	0.6
Sydney Old West	1768	2835	1092	1176	1248	133	-436	17	14	2.2	2.7
Sydney Outer North	2023	1545	1207	1022	1087	-60	-84	-37	13	2.5	1.5
Sydney Outer South West	207	440	2750	3708	4597	29	577	192	178	0.3	0.4
Sydney Outer West	3111	4177	4180	4817	5524	133	1	127	141	3.8	3.9
Sydney Parramatta-Bankstown	1759	2231	3220	3500	3807	59	247	56	61	2.2	2.1
Sydney South	2836	2021	3198	3593	3808	-102	294	79	43	3.5	1.9
TAS Hobart-South	1709	1963	1744	1960	2177	32	-55	43	44	2.1	1.9
TAS North	249	518	984	1143	1277	34	117	32	27	0.3	0.5
TAS North West	510	530	468	472	513	2	-15	1	8	0.6	0.5
VIC Ballarat	335	336	801	821	941	0	116	4	24	0.4	0.3
VIC Bendigo	732	1008	1274	1404	1645	35	66	26	48	0.9	1.0
VIC Geelong	696	921	1428	1596	1814	28	127	34	44	0.9	0.9
VIC Gippsland	3277	4218	5366	6532	7303	118	287	233	154	4.0	4.0
VIC Mallee Wimmera	500	491	855	792	847	-1	91	-13	11	0.6	0.5
VIC North East	914	1733	1831	2237	2540	102	24	81	61	1.1	1.6
VIC West	424	609	1052	1221	1431	23	111	34	42	0.5	0.6
WA Gascoyne Goldfields	725	640	529	611	713	-11	-28	16	20	0.9	0.6
WA Peel South West	1663	1233	2072	2427	2829	-54	210	71	81	2.0	1.2
WA Pilbara Kimberley	577	554	430	495	571	-3	-31	13	15	0.7	0.5
WA Wheatbelt Great Southern	701	560	686	797	933	-18	32	22	27	0.9	0.5
Total	**81564**	**105853**	**130029**	**152159**	**174926**	**3036**	**6044**	**4426**	**4554**	**100.0**	**100.0**

Table A5.5: Resident employment – construction

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
ACT	8973	11998	12850	12310	12149	378	213	-108	-32	1.5	1.4
Adelaide Inner	6464	9851	13157	14960	16620	423	827	361	332	1.1	1.1
Adelaide North	11920	15414	17252	18899	19968	437	459	329	214	2.0	1.8
Adelaide South	9840	15549	18605	20241	21648	714	764	327	281	1.7	1.8
Melbourne Central	6720	9868	12642	13146	13290	393	694	101	29	1.1	1.1
Melbourne East	15585	21491	25076	26087	27041	738	896	202	191	2.7	2.5
Melbourne North	12235	18171	22450	23115	24247	742	1070	133	226	2.1	2.1
Melbourne North East	20717	30908	35477	38351	41245	1274	1142	575	579	3.5	3.6
Melbourne Outer South East	18319	32141	33332	37218	40335	1728	298	777	623	3.1	3.7
Melbourne South East	13112	17105	16794	17391	17525	499	-78	120	27	2.2	2.0
Melbourne West	12713	21852	21891	23600	26552	1142	10	342	590	2.2	2.5
NSW Central Coast	12006	13863	15294	15699	16298	232	358	81	120	2.0	1.6
NSW Central West	5148	7782	8147	8132	8267	329	91	-3	27	0.9	0.9
NSW Far West	1355	1795	2415	2360	2310	55	155	-11	-10	0.2	0.2
NSW Hunter	15004	26673	27166	27872	29149	1459	123	141	255	2.6	3.1
NSW Illawarra	15596	16919	16951	17239	17462	165	8	58	45	2.7	2.0
NSW Mid North Coast	6399	10644	11803	12253	13070	531	290	90	163	1.1	1.2
NSW North	2969	4808	5024	4841	4751	230	54	-37	-18	0.5	0.6
NSW Richmond Tweed	5220	9148	10390	10872	11686	491	310	96	163	0.9	1.1
NSW Riverina	4550	7653	10578	10926	10903	388	731	70	-5	0.8	0.9
NSW Southern Tablelands	5329	11972	9837	10477	10914	830	-534	128	88	0.9	1.4
NT Darwin	5088	6223	8345	11118	14790	142	531	554	734	0.9	0.7

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Table A5.5: Resident employment – construction (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
NT Lingiari	1915	1903	2340	2314	2280	-1	109	-5	-7	0.3	0.2
Perth Central	15723	22048	27383	30545	33804	791	1334	632	652	2.7	2.6
Perth Outer North	18932	28032	34652	39705	45678	1137	1655	1011	1195	3.2	3.3
Perth Outer South	18952	25431	30656	34738	39278	810	1306	816	908	3.2	3.0
QLD Cairns	8774	8668	13228	13605	13994	-13	1140	75	78	1.5	1.0
QLD Darling Downs	5026	9739	10854	11351	12174	589	279	99	165	0.9	1.1
QLD Fitzroy	6352	9594	12117	14569	17530	405	631	490	592	1.1	1.1
QLD Mackay	5232	8110	10140	11264	12558	360	507	225	259	0.9	0.9
QLD North	6798	7125	12629	14162	15711	41	1376	307	310	1.2	0.8
QLD Resource region	2831	2329	2953	3309	3686	-63	156	71	75	0.5	0.3
QLD Wide Bay Burnett	4944	10647	13133	15061	16955	713	622	386	379	0.8	1.2
SA Mallee South East	1968	2799	3172	3263	3342	104	93	18	16	0.3	0.3
SA Mid North Riverland	2219	3711	3665	3746	3803	187	-12	16	12	0.4	0.4
SA Spencer Gulf	2412	3073	2745	2785	2780	83	-82	8	-1	0.4	0.4
SEQ Brisbane City	28109	36599	48488	49974	51557	1061	2972	297	317	4.8	4.3
SEQ Brisbane South	15504	28442	32253	36642	41185	1617	953	878	909	2.6	3.3
SEQ Gold Coast	16057	33018	39349	44143	49515	2120	1583	959	1075	2.7	3.8
SEQ Moreton Bay	10513	20259	20917	23644	26469	1218	164	546	565	1.8	2.4
SEQ Sunshine Coast	8390	18141	19768	21640	24494	1219	407	374	571	1.4	2.1
SEQ West Moreton	5700	9831	12227	14852	18814	516	599	525	792	1.0	1.1
Sydney Central	12666	14807	16765	16726	16967	268	490	-8	48	2.2	1.7
Sydney Eastern Beaches	6679	5668	8154	8145	8017	-126	621	-2	-26	1.1	0.7
Sydney Northern Beaches	11371	11445	13265	13351	13246	9	455	17	-21	1.9	1.3

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Table A5.5: Resident employment – construction (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Sydney Old West	7726	11440	13644	14145	14525	464	551	100	76	1.3	1.3
Sydney Outer North	11795	12709	16701	16699	16511	114	998	0	-38	2.0	1.5
Sydney Outer South West	14635	19367	21522	23814	26101	591	539	458	457	2.5	2.3
Sydney Outer West	19474	31106	30561	32969	35460	1454	-136	482	498	3.3	3.6
Sydney Parramatta-Bankstown	23840	30153	28950	29544	29710	789	-301	119	33	4.1	3.5
Sydney South	17400	18259	22736	23326	23255	107	1119	118	-14	3.0	2.1
TAS Hobart-South	5668	8235	10048	10598	11085	321	453	110	97	1.0	1.0
TAS North	2280	4583	5578	5794	5960	288	249	43	33	0.4	0.5
TAS North West	2753	3034	3099	3201	3300	35	16	20	20	0.5	0.4
VIC Ballarat	3117	6126	5838	6385	7077	376	-72	109	139	0.5	0.7
VIC Bendigo	5085	7884	9494	10421	11279	350	403	185	172	0.9	0.9
VIC Geelong	5103	7877	9970	10619	11113	347	523	130	99	0.9	0.9
VIC Gippsland	6756	11006	9484	10154	10719	531	-380	134	113	1.1	1.3
VIC Mallee Wimmera	2308	3119	3852	3834	3793	101	183	-3	-8	0.4	0.4
VIC North East	5265	9069	6907	7143	7490	476	-541	47	69	0.9	1.1
VIC West	3041	5262	7307	8070	8702	278	511	153	126	0.5	0.6
WA Gascoyne Goldfields	4452	5237	6064	7086	8347	98	207	204	252	0.8	0.6
WA Peel South West	8697	12487	15813	17485	19602	474	831	334	423	1.5	1.5
WA Pilbara Kimberley	2873	4741	5609	7454	9964	233	217	369	502	0.5	0.6
WA Wheatbelt Great Southern	3062	3857	4786	5214	5766	99	232	86	110	0.5	0.4
Total	**587661**	**858801**	**984292**	**1060596**	**1143817**	**33892**	**31373**	**15261**	**16644**	**100.0**	**100.0**

Table A5.6: Resident employment – wholesale trade

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
ACT	4056	3552	2438	2319	2183	-63	-279	-24	-27	1.0	1.0
Adelaide Inner	7031	5856	6882	6779	6665	-147	256	-21	-23	1.7	1.6
Adelaide North	9504	9911	11156	10864	10627	51	311	-58	-47	2.3	2.7
Adelaide South	6538	5370	6652	6516	6310	-146	321	-27	-41	1.6	1.5
Melbourne Central	9563	9560	11381	11384	11600	0	455	1	43	2.3	2.6
Melbourne East	17297	14773	16116	15293	14503	-316	336	-165	-158	4.2	4.1
Melbourne North	11997	11158	11412	11034	10671	-105	63	-75	-73	2.9	3.1
Melbourne North East	15255	13977	16427	15596	15128	-160	613	-166	-94	3.7	3.9
Melbourne Outer South East	16966	15265	14785	14483	14431	-213	-120	-60	-10	4.1	4.2
Melbourne South East	15359	11896	15349	14291	13481	-433	863	-212	-162	3.7	3.3
Melbourne West	12612	11345	14048	14133	14454	-158	676	17	64	3.0	3.1
NSW Central Coast	4526	5506	3455	3136	2976	123	-513	-64	-32	1.1	1.5
NSW Central West	3025	3407	2748	2787	2613	48	-165	8	-35	0.7	0.9
NSW Far West	1087	667	774	691	629	-52	27	-17	-12	0.3	0.2
NSW Hunter	7447	5847	10892	10332	9972	-200	1261	-112	-72	1.8	1.6
NSW Illawarra	6366	4824	5080	5005	4722	-193	64	-15	-57	1.5	1.3
NSW Mid North Coast	2994	2344	3332	3257	3115	-81	247	-15	-28	0.7	0.6
NSW North	2145	2246	1820	1833	1707	13	-106	2	-25	0.5	0.6
NSW Richmond Tweed	2364	2155	3166	3152	3072	-26	253	-3	-16	0.6	0.6
NSW Riverina	2850	2249	3336	2956	2765	-75	272	-76	-38	0.7	0.6
NSW Southern Tablelands	2499	3970	1461	1327	1251	184	-627	-27	-15	0.6	1.1
NT Darwin	1715	1424	2021	2322	2388	-36	149	60	13	0.4	0.4
NT Lingiari	486	311	426	443	413	-22	29	3	-6	0.1	0.1
Perth Central	9690	8809	11128	10871	10547	-110	580	-51	-65	2.3	2.4

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Table A5.6: Resident employment – wholesale trade (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Perth Outer North	9362	6951	11801	12139	12247	-301	1213	68	22	2.3	1.9
Perth Outer South	10149	7134	9549	9460	9235	-377	604	-18	-45	2.5	2.0
QLD Cairns	2995	2787	4244	4265	4092	-26	364	4	-35	0.7	0.8
QLD Darling Downs	3398	2340	2709	2621	2509	-132	92	-18	-22	0.8	0.6
QLD Fitzroy	1380	1782	2121	2221	2342	50	85	20	24	0.3	0.5
QLD Mackay	1396	1893	2319	2349	2405	62	107	6	11	0.3	0.5
QLD North	3894	3636	2489	2231	2193	-32	-287	-52	-8	0.9	1.0
QLD Resource region	968	808	704	673	662	-20	-26	-6	-2	0.2	0.2
QLD Wide Bay Burnett	2767	1798	2261	2328	2327	-121	116	13	0	0.7	0.5
SA Mallee South East	1089	1200	1152	1152	1110	14	-12	0	-8	0.3	0.3
SA Mid North Riverland	1590	1355	1296	1266	1204	-29	-15	-6	-13	0.4	0.4
SA Spencer Gulf	791	556	655	627	599	-29	25	-6	-6	0.2	0.2
SEQ Brisbane City	20106	15529	17806	16434	15620	-572	569	-274	-163	4.9	4.3
SEQ Brisbane South	10330	8567	9539	9659	9564	-220	243	24	-19	2.5	2.4
SEQ Gold Coast	6314	6191	6624	6922	6950	-15	108	60	6	1.5	1.7
SEQ Moreton Bay	5542	6729	4780	5173	5189	148	-487	79	3	1.3	1.9
SEQ Sunshine Coast	2997	4213	4431	4709	4849	152	54	56	28	0.7	1.2
SEQ West Moreton	4103	4371	4129	4585	4920	34	-60	91	67	1.0	1.2
Sydney Central	17166	14555	13771	13286	12581	-326	-196	-97	-141	4.1	4.0
Sydney Eastern Beaches	8178	5927	3923	3432	3162	-281	-501	-98	-54	2.0	1.6
Sydney Northern Beaches	10043	7903	6511	5730	5301	-267	-348	-156	-86	2.4	2.2
Sydney Old West	9521	6369	6370	5872	5466	-394	0	-100	-81	2.3	1.8

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Table A5.6: Resident employment – wholesale trade (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Sydney Outer North	14655	11639	9509	8664	8001	-377	-533	-169	-133	3.5	3.2
Sydney Outer South West	11972	10359	9248	9066	8864	-202	-278	-36	-41	2.9	2.9
Sydney Outer West	18820	13252	15739	14990	14416	-696	622	-150	-115	4.5	3.7
Sydney Parramatta-Bankstown	20702	16693	15127	14510	13544	-501	-392	-123	-193	5.0	4.6
Sydney South	11369	8843	8532	8091	7514	-316	-78	-88	-116	2.7	2.4
TAS Hobart-South	2599	3130	3599	3502	3358	66	117	-19	-29	0.6	0.9
TAS North	2749	2734	3161	3042	2903	-2	107	-24	-28	0.7	0.8
TAS North West	1152	1536	1843	1826	1800	48	77	-3	-5	0.3	0.4
VIC Ballarat	2023	1634	2806	2899	2903	-49	293	19	1	0.5	0.5
VIC Bendigo	2487	3127	3217	3248	3262	80	22	6	3	0.6	0.9
VIC Geelong	2939	3315	2378	2310	2221	47	-234	-14	-18	0.7	0.9
VIC Gippsland	2089	1655	2983	3160	3051	-54	332	35	-22	0.5	0.5
VIC Mallee Wimmera	2033	1613	2088	1981	1861	-53	119	-22	-24	0.5	0.4
VIC North East	3010	3892	3605	3600	3544	110	-72	-1	-11	0.7	1.1
VIC West	2039	2344	1842	1836	1798	38	-125	-1	-8	0.5	0.6
WA Gascoyne Goldfields	1513	1509	1027	1099	1089	-1	-121	15	-2	0.4	0.4
WA Peel South West	2270	2682	3218	3345	3404	51	134	25	12	0.5	0.7
WA Pilbara Kimberley	636	660	425	455	450	3	-59	6	-1	0.2	0.2
WA Wheatbelt Great Southern	1343	1626	1736	1848	1899	35	27	22	10	0.3	0.5
Total	**413851**	**361258**	**387555**	**377408**	**366630**	**-6574**	**6574**	**-2029**	**-2156**	**100.0**	**100.0**

Table A5.7: Resident employment – retail trade

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
ACT	17669	17891	16390	16883	17263	28	-375	99	76	1.8	1.5
Adelaide Inner	19050	20627	21862	23496	25407	197	309	327	382	2.0	1.8
Adelaide North	23451	29724	30303	31830	33774	784	145	305	389	2.4	2.6
Adelaide South	20205	23908	23042	24109	25416	463	-216	213	261	2.1	2.1
Melbourne Central	21733	26588	22194	23930	25850	607	-1098	347	384	2.2	2.3
Melbourne East	30443	32547	35187	36428	37657	263	660	248	246	3.1	2.8
Melbourne North	21271	27410	27562	29111	30407	767	38	310	259	2.2	2.4
Melbourne North East	29839	36697	34577	36189	38108	857	-530	322	384	3.1	3.2
Melbourne Outer South East	27057	29014	35158	38037	41095	245	1536	576	612	2.8	2.5
Melbourne South East	27627	27938	29918	30516	30930	39	495	120	83	2.8	2.4
Melbourne West	16444	21438	24929	27915	31137	624	873	597	644	1.7	1.9
NSW Central Coast	17001	20603	17478	18272	19068	450	-781	159	159	1.8	1.8
NSW Central West	10447	13286	13932	14131	14433	355	162	40	60	1.1	1.1
NSW Far West	3176	3873	3546	3436	3357	87	-82	-22	-16	0.3	0.3
NSW Hunter	30440	40590	37534	39192	40712	1269	-764	332	304	3.1	3.5
NSW Illawarra	18526	22519	25101	25247	26178	499	645	29	186	1.9	1.9
NSW Mid North Coast	14505	15221	17240	18179	19192	89	505	188	203	1.5	1.3
NSW North	6669	8311	8744	8687	8693	205	108	-11	1	0.7	0.7
NSW Richmond Tweed	10919	11644	13361	14164	15030	91	429	161	173	1.1	1.0
NSW Riverina	10876	10696	13309	13373	13478	-23	653	13	21	1.1	0.9
NSW Southern Tablelands	9986	12243	9117	9201	9466	282	-781	17	53	1.0	1.1
NT Darwin	6891	8055	8878	10181	11548	146	206	261	273	0.7	0.7

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Table A5.7: Resident employment – retail trade (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
NT Lingiari	3069	2915	3182	3209	3208	-19	67	5	0	0.3	0.3
Perth Central	27415	32919	34490	37420	39339	688	393	586	384	2.8	2.8
Perth Outer North	26796	32569	34740	38719	42044	722	543	796	665	2.8	2.8
Perth Outer South	26481	30317	30783	33320	35652	479	116	507	466	2.7	2.6
QLD Cairns	13977	14474	14082	14772	15097	62	-98	138	65	1.4	1.3
QLD Darling Downs	9609	12734	14565	14969	15843	391	458	81	175	1.0	1.1
QLD Fitzroy	10569	11229	12845	14821	16772	83	404	395	390	1.1	1.0
QLD Mackay	8380	9619	11033	12233	13352	155	353	240	224	0.9	0.8
QLD North	12654	16130	14844	15316	16734	435	-322	94	283	1.3	1.4
QLD Resource region	3600	4147	4210	4684	5310	68	16	95	125	0.4	0.4
QLD Wide Bay Burnett	8162	11278	14920	16948	19028	389	911	406	416	0.8	1.0
SA Mallee South East	3859	5272	4399	4433	4610	177	-218	7	35	0.4	0.5
SA Mid North Riverland	4414	6083	5124	5211	5367	209	-240	17	31	0.5	0.5
SA Spencer Gulf	4722	5014	5028	5223	5323	36	3	39	20	0.5	0.4
SEQ Brisbane City	46804	57002	60845	62307	64735	1275	961	292	486	4.8	4.9
SEQ Brisbane South	21061	26172	27999	31537	34861	639	457	708	665	2.2	2.3
SEQ Gold Coast	22030	26980	32399	36563	40398	619	1355	833	767	2.3	2.3
SEQ Moreton Bay	14150	22669	21330	23465	26193	1065	-335	427	545	1.5	2.0
SEQ Sunshine Coast	13870	19974	19558	21888	24690	763	-104	466	561	1.4	1.7
SEQ West Moreton	9915	14680	15134	19032	23324	596	113	780	858	1.0	1.3
Sydney Central	21254	33979	35313	36389	38195	1591	333	215	361	2.2	2.9
Sydney Eastern Beaches	12796	13003	12794	13077	12939	26	-52	57	-28	1.3	1.1
Sydney Northern Beaches	16540	16396	17298	17799	17953	-18	226	100	31	1.7	1.4

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Table A5.7: Resident employment – retail trade (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Sydney Old West	14233	17767	15447	15772	16124	442	-580	65	70	1.5	1.5
Sydney Outer North	21210	21338	22081	21790	21952	16	186	-58	32	2.2	1.8
Sydney Outer South West	16340	21575	24936	28771	32185	654	840	767	683	1.7	1.9
Sydney Outer West	24078	29219	34560	37859	40882	643	1335	660	605	2.5	2.5
Sydney Parramatta-Bankstown	27288	32131	34928	35541	36358	605	699	123	163	2.8	2.8
Sydney South	20010	22527	24970	24639	24872	315	611	-66	47	2.1	1.9
TAS Hobart-South	10626	13268	14026	14487	15028	330	190	92	108	1.1	1.1
TAS North	6938	7757	7876	8289	8499	102	30	83	42	0.7	0.7
TAS North West	6552	7100	6396	6699	6981	69	-176	61	56	0.7	0.6
VIC Ballarat	8229	7237	9107	9245	9839	-124	468	28	119	0.8	0.6
VIC Bendigo	9186	11509	11162	12114	13068	290	-87	190	191	0.9	1.0
VIC Geelong	11922	13891	14977	15705	16335	246	271	145	126	1.2	1.2
VIC Gippsland	11555	12465	11964	12119	12650	114	-125	31	106	1.2	1.1
VIC Mallee Wimmera	6074	6051	6381	6232	6282	-3	83	-30	10	0.6	0.5
VIC North East	8138	10558	11867	13161	13878	302	327	259	143	0.8	0.9
VIC West	6882	8412	9961	10758	11446	191	387	159	138	0.7	0.7
WA Gascoyne Goldfields	5388	5313	6370	7161	7864	-9	264	158	141	0.6	0.5
WA Peel South West	10751	13181	14640	16392	18186	304	365	350	359	1.1	1.1
WA Pilbara Kimberley	2835	2956	3425	3892	4298	15	117	93	81	0.3	0.3
WA Wheatbelt Great Southern	4936	4976	5930	6580	7231	5	239	130	130	0.5	0.4
Total	**969525**	**1155611**	**1207279**	**1283050**	**1363121**	**23261**	**12917**	**15154**	**16014**	**100.0**	**100.0**

Table A5.8: Resident employment – accommodation services

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
ACT	9515	10063	10872	11607	12417	69	202	147	162	1.8	1.6
Adelaide Inner	11448	13524	14236	15663	17428	259	178	285	353	2.1	2.1
Adelaide North	12015	13576	13941	15133	16355	195	91	238	244	2.2	2.1
Adelaide South	7870	9841	10709	11529	12559	246	217	164	206	1.4	1.5
Melbourne Central	14282	16212	22984	26805	30467	241	1693	764	732	2.6	2.5
Melbourne East	11851	15400	17060	18611	20105	444	415	310	299	2.2	2.4
Melbourne North	16104	14435	17259	18900	20473	-209	706	328	315	3.0	2.2
Melbourne North East	12281	14136	16945	19196	21212	232	702	450	403	2.3	2.2
Melbourne Outer South East	11407	14818	11150	12294	13575	426	-917	229	256	2.1	2.3
Melbourne South East	12490	14692	15384	16481	17319	275	173	219	168	2.3	2.3
Melbourne West	12700	13749	18983	22379	26008	131	1308	679	726	2.3	2.1
NSW Central Coast	7265	7934	11593	12326	13679	84	915	147	271	1.3	1.2
NSW Central West	7912	9489	8716	9183	9746	197	-193	93	113	1.5	1.5
NSW Far West	2387	2134	2595	2676	2716	-32	115	16	8	0.4	0.3
NSW Hunter	12405	20415	19812	20993	22663	1001	-151	236	334	2.3	3.2
NSW Illawarra	10742	9942	14991	16194	17224	-100	1262	241	206	2.0	1.5
NSW Mid North Coast	8163	9410	12136	13256	14538	156	681	224	256	1.5	1.5
NSW North	5117	5933	5443	5577	5755	102	-122	27	36	0.9	0.9
NSW Richmond Tweed	6595	7553	9810	10741	11804	120	564	186	213	1.2	1.2
NSW Riverina	7369	6346	7841	8268	8573	-128	374	85	61	1.4	1.0
NSW Southern Tablelands	6316	7157	8811	9514	10150	105	413	141	127	1.2	1.1
NT Darwin	3701	6630	5087	5721	6706	366	-386	127	197	0.7	1.0
NT Lingiari	2379	3195	2363	2325	2390	102	-208	-8	13	0.4	0.5

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Table A5.8: Resident employment – accommodation services (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Perth Central	17978	19844	21616	23624	25438	233	443	402	363	3.3	3.1
Perth Outer North	12481	16570	12906	14408	16026	511	-916	301	324	2.3	2.6
Perth Outer South	12052	13193	15388	16795	18509	143	549	281	343	2.2	2.0
QLD Cairns	8349	8344	11976	12576	13269	-1	908	120	139	1.5	1.3
QLD Darling Downs	5968	5102	4181	4622	4895	-108	-230	88	55	1.1	0.8
QLD Fitzroy	5178	7251	7223	8781	10547	259	-7	312	353	1.0	1.1
QLD Mackay	5489	7404	7331	8376	9487	239	-18	209	222	1.0	1.1
QLD North	5503	7821	4728	5337	5752	290	-773	122	83	1.0	1.2
QLD Resource region	2139	2286	1817	2036	2203	18	-117	44	33	0.4	0.4
QLD Wide Bay Burnett	7327	7620	6306	6657	7402	37	-328	70	149	1.3	1.2
SA Mallee South East	1647	2599	2624	2854	3076	119	6	46	44	0.3	0.4
SA Mid North Riverland	2222	3116	3282	3583	3805	112	42	60	44	0.4	0.5
SA Spencer Gulf	2928	2444	3305	3658	3837	-61	215	71	36	0.5	0.4
SEQ Brisbane City	30225	40065	41442	43710	46845	1230	344	454	627	5.6	6.2
SEQ Brisbane South	10652	12209	14105	16060	18218	195	474	391	432	2.0	1.9
SEQ Gold Coast	20818	25510	32578	36906	41830	587	1767	866	985	3.8	3.9
SEQ Moreton Bay	6501	8665	9990	11685	13499	271	331	339	363	1.2	1.3
SEQ Sunshine Coast	7963	12423	15153	18163	21361	558	682	602	640	1.5	1.9
SEQ West Moreton	4107	5127	8201	10976	14167	127	768	555	638	0.8	0.8
Sydney Central	18487	23733	24547	25935	27785	656	204	278	370	3.4	3.7
Sydney Eastern Beaches	8797	8421	9087	9426	9658	-47	166	68	46	1.6	1.3

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Table A5.8: Resident employment – accommodation services (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Sydney Northern Beaches	5724	9795	10370	10895	11563	509	144	105	134	1.1	1.5
Sydney Old West	9992	11250	13399	14380	15297	157	537	196	183	1.8	1.7
Sydney Outer North	7299	8622	9684	10405	10904	165	265	144	100	1.3	1.3
Sydney Outer South West	9124	10039	10712	12613	14099	114	168	380	297	1.7	1.6
Sydney Outer West	16657	23817	20443	22320	24822	895	-843	375	500	3.1	3.7
Sydney Parramatta-Bankstown	16172	13473	20017	21160	22221	-337	1636	229	212	3.0	2.1
Sydney South	10224	14902	17253	17396	18316	585	588	28	184	1.9	2.3
TAS Hobart-South	8400	8836	9540	10356	11118	55	176	163	152	1.5	1.4
TAS North	3633	3533	4205	4305	4558	-12	168	20	51	0.7	0.5
TAS North West	2309	3164	3779	4207	4600	107	154	86	79	0.4	0.5
VIC Ballarat	2640	3497	6705	7814	8927	107	802	222	223	0.5	0.5
VIC Bendigo	5349	6976	5642	6289	6981	203	-333	129	138	1.0	1.1
VIC Geelong	5486	7551	7537	8201	8856	258	-4	133	131	1.0	1.2
VIC Gippsland	5645	4970	6302	6837	7267	-84	333	107	86	1.0	0.8
VIC Mallee Wimmera	2903	3315	3436	3583	3722	52	30	29	28	0.5	0.5
VIC North East	5943	8530	9313	10519	11579	323	196	241	212	1.1	1.3
VIC West	3648	5661	6144	6931	7704	252	121	157	155	0.7	0.9
WA Gascoyne Goldfields	3308	2257	3015	3214	3530	-131	190	40	63	0.6	0.3
WA Peel South West	4984	6098	7256	8532	9801	139	290	255	254	0.9	0.9
WA Pilbara Kimberley	2244	1564	2034	2183	2401	-85	117	30	44	0.4	0.2
WA Wheatbelt Great Southern	2240	1953	2507	2830	3184	-36	138	65	71	0.4	0.3
Total	**543048**	**646131**	**715802**	**786508**	**862922**	**12885**	**17418**	**14141**	**15283**	**100.0**	**100.0**

Table A5.9: Resident employment – transport, postal and warehousing

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
ACT	5735	6338	5297	5411	5762	75	-260	23	70	1.3	1.2
Adelaide Inner	6421	8387	7039	7846	8623	246	-337	162	155	1.4	1.6
Adelaide North	11496	12219	13289	14840	16161	90	267	310	264	2.5	2.3
Adelaide South	7664	8571	8160	8953	9618	113	-103	159	133	1.7	1.6
Melbourne Central	4242	5831	8722	10455	11955	199	723	347	300	0.9	1.1
Melbourne East	7037	8316	10733	11974	12804	160	604	248	166	1.6	1.6
Melbourne North	16644	18687	20971	23036	24639	255	571	413	321	3.7	3.5
Melbourne North East	10429	12403	13130	14302	15330	247	182	234	206	2.3	2.3
Melbourne Outer South East	8105	12119	16372	18097	20335	502	1063	345	448	1.8	2.3
Melbourne South East	8005	10288	12760	13485	14307	285	618	145	164	1.8	1.9
Melbourne West	20632	28651	26698	31399	36001	1002	-488	940	920	4.5	5.4
NSW Central Coast	9542	9410	5993	6673	7005	-17	-854	136	67	2.1	1.8
NSW Central West	4435	4450	6024	6534	6897	2	393	102	73	1.0	0.8
NSW Far West	749	2350	1802	1944	2002	200	-137	28	11	0.2	0.4
NSW Hunter	15545	14459	11808	12369	12950	-136	-663	112	116	3.4	2.7
NSW Illawarra	9632	14605	7546	8203	8619	622	-1765	132	83	2.1	2.8
NSW Mid North Coast	6441	7324	4446	4617	4886	110	-720	34	54	1.4	1.4
NSW North	2924	2873	3908	4142	4274	-6	259	47	26	0.6	0.5
NSW Richmond Tweed	4743	5365	3275	3413	3625	78	-523	28	42	1.0	1.0
NSW Riverina	1566	2087	4853	5202	5458	65	692	70	51	0.3	0.4
NSW Southern Tablelands	1582	2315	3827	4405	4787	92	378	116	76	0.3	0.4
NT Darwin	3233	3695	4910	5784	6883	58	304	175	220	0.7	0.7

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Table A5.9: Resident employment – transport, postal and warehousing (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
NT Lingiari	1480	1054	1334	1356	1395	-53	70	4	8	0.3	0.2
Perth Central	9987	10936	13997	15593	17009	119	765	319	283	2.2	2.1
Perth Outer North	10461	11484	13188	15183	16997	128	426	399	363	2.3	2.2
Perth Outer South	15738	18261	18007	20157	22405	315	-63	430	450	3.5	3.4
QLD Cairns	6778	6869	7080	7537	7929	11	53	91	78	1.5	1.3
QLD Darling Downs	3378	4781	4881	5260	5820	175	25	76	112	0.7	0.9
QLD Fitzroy	4961	5470	9625	12546	16078	64	1039	584	706	1.1	1.0
QLD Mackay	4567	4715	8190	9750	11438	19	869	312	338	1.0	0.9
QLD North	4280	6316	6906	7981	9142	254	147	215	232	0.9	1.2
QLD Resource region	1937	2167	2284	2763	3330	29	29	96	113	0.4	0.4
QLD Wide Bay Burnett	4386	4956	5975	6757	7637	71	255	156	176	1.0	0.9
SA Mallee South East	1685	1802	2297	2392	2576	15	124	19	37	0.4	0.3
SA Mid North Riverland	2723	3064	2754	2804	2969	43	-78	10	33	0.6	0.6
SA Spencer Gulf	4617	3135	1652	1622	1685	-185	-371	-6	13	1.0	0.6
SEQ Brisbane City	25711	32152	34552	37685	40236	805	600	627	510	5.7	6.1
SEQ Brisbane South	9214	10938	14412	16333	18792	215	868	384	492	2.0	2.1
SEQ Gold Coast	4463	5973	6188	6791	7717	189	54	120	185	1.0	1.1
SEQ Moreton Bay	8792	8749	13151	15586	18047	-5	1100	487	492	1.9	1.6
SEQ Sunshine Coast	1979	2488	7206	8638	10288	64	1180	286	330	0.4	0.5
SEQ West Moreton	6219	5901	9245	11888	15186	-40	836	529	660	1.4	1.1
Sydney Central	11864	13685	14293	15106	16138	228	152	163	206	2.6	2.6
Sydney Eastern Beaches	5761	6744	5496	5769	5919	123	-312	55	30	1.3	1.3
Sydney Northern Beaches	4476	6162	4298	4260	4359	211	-466	-8	20	1.0	1.2

continued next page

Table A5.9: Resident employment – transport, postal and warehousing (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Sydney Old West	10240	11636	9800	9795	10213	175	-459	-1	84	2.3	2.2
Sydney Outer North	10694	12523	8116	8676	8863	229	-1102	112	37	2.4	2.4
Sydney Outer South West	12325	15059	20886	23391	26686	342	1457	501	659	2.7	2.8
Sydney Outer West	22736	22578	28968	32464	35745	-20	1597	699	656	5.0	4.3
Sydney Parramatta-Bankstown	21610	27288	23987	24193	25289	710	-825	41	219	4.8	5.1
Sydney South	18403	21039	21849	23010	23985	330	202	232	195	4.1	4.0
TAS Hobart-South	3617	4783	4396	4790	5091	146	-97	79	60	0.8	0.9
TAS North	2108	2313	2508	2729	2883	26	49	44	31	0.5	0.4
TAS North West	1695	2672	2937	3197	3470	122	66	52	55	0.4	0.5
VIC Ballarat	1459	2306	2595	3099	3585	106	72	101	97	0.3	0.4
VIC Bendigo	2999	4005	5659	6410	7242	126	413	150	167	0.7	0.8
VIC Geelong	3765	3795	5121	5868	6348	4	332	149	96	0.8	0.7
VIC Gippsland	2072	2987	4188	4429	4890	114	300	48	92	0.5	0.6
VIC Mallee Wimmera	1244	1977	2527	2670	2778	92	138	29	21	0.3	0.4
VIC North East	3662	3291	4889	5298	5806	-46	400	82	102	0.8	0.6
VIC West	2244	2462	3658	4326	4794	27	299	134	94	0.5	0.5
WA Gascoyne Goldfields	2958	3022	3840	4853	5773	8	205	203	184	0.7	0.6
WA Peel South West	3207	3934	4956	5743	6585	91	255	158	168	0.7	0.7
WA Pilbara Kimberley	2012	2100	2568	3222	3787	11	117	131	113	0.4	0.4
WA Wheatbelt Great Southern	2144	2204	2865	3391	3879	7	165	105	98	0.5	0.4
Total	**453450**	**530524**	**574887**	**638396**	**703706**	**9634**	**11091**	**12702**	**13062**	**100.0**	**100.0**

Table A5.10: Resident employment – telecommunications and information media

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
ACT	5151	4340	4667	4771	5012	-101	82	21	48	2.7	1.9
Adelaide Inner	3289	4377	4352	4795	5378	136	-6	89	117	1.7	2.0
Adelaide North	3156	4273	4029	4532	4928	140	-61	101	79	1.7	1.9
Adelaide South	2690	3106	3090	3403	3662	52	-4	63	52	1.4	1.4
Melbourne Central	8989	13275	13736	15926	17971	536	115	438	409	4.7	5.9
Melbourne East	8850	10034	9456	9958	10578	148	-144	100	124	4.6	4.5
Melbourne North	7641	8022	7029	7454	7926	48	-248	85	94	4.0	3.6
Melbourne North East	8004	7771	7102	7522	7955	-29	-167	84	87	4.2	3.5
Melbourne Outer South East	3972	7083	3839	4103	4516	389	-811	53	83	2.1	3.2
Melbourne South East	6561	8208	8157	8729	9207	206	-13	114	96	3.4	3.7
Melbourne West	5555	7075	7575	9170	10604	190	125	319	287	2.9	3.2
NSW Central Coast	1162	1598	2592	3073	3399	55	248	96	65	0.6	0.7
NSW Central West	1473	1790	1287	1345	1397	40	-126	11	10	0.8	0.8
NSW Far West	640	411	200	183	185	-29	-53	-3	0	0.3	0.2
NSW Hunter	786	939	2235	2864	3066	19	324	126	40	0.4	0.4
NSW Illawarra	1165	2194	2805	3495	3819	129	153	138	65	0.6	1.0
NSW Mid North Coast	750	1125	1362	1332	1455	47	59	-6	25	0.4	0.5
NSW North	1025	1086	774	802	826	8	-78	6	5	0.5	0.5
NSW Richmond Tweed	645	1082	1351	1342	1487	55	67	-2	29	0.3	0.5
NSW Riverina	2383	2629	1131	1101	1138	31	-374	-6	7	1.2	1.2
NSW Southern Tablelands	2217	2263	1239	1166	1215	6	-256	-15	10	1.2	1.0
NT Darwin	1112	1214	1804	2139	2535	13	148	67	79	0.6	0.5
NT Lingiari	438	318	471	486	501	-15	38	3	3	0.2	0.1

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Table A5.10: Resident employment – telecommunications and information media (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Perth Central	4547	6366	5377	5667	6112	227	-247	58	89	2.4	2.8
Perth Outer North	3727	4728	3645	3820	4220	125	-271	35	80	2.0	2.1
Perth Outer South	2817	2739	2946	3073	3361	-10	52	25	58	1.5	1.2
QLD Cairns	1226	1061	964	1092	1132	-21	-24	26	8	0.6	0.5
QLD Darling Downs	1079	1067	1047	1068	1140	-1	-5	4	14	0.6	0.5
QLD Fitzroy	1377	1823	747	882	1063	56	-269	27	36	0.7	0.8
QLD Mackay	1098	1334	534	596	680	29	-200	12	17	0.6	0.6
QLD North	1634	2180	2299	2315	2598	68	30	3	57	0.9	1.0
QLD Resource region	400	369	320	357	420	-4	-12	7	13	0.2	0.2
QLD Wide Bay Burnett	828	831	2312	2738	3236	0	370	85	100	0.4	0.4
SA Mallee South East	289	441	481	563	611	19	10	16	10	0.2	0.2
SA Mid North Riverland	250	362	436	491	524	14	18	11	7	0.1	0.2
SA Spencer Gulf	119	150	393	414	441	4	61	4	5	0.1	0.1
SEQ Brisbane City	11272	14148	13765	14538	15555	359	-96	155	203	5.9	6.3
SEQ Brisbane South	3416	3296	3713	4262	4815	-15	104	110	111	1.8	1.5
SEQ Gold Coast	4346	5682	5111	5941	6771	167	-143	166	166	2.3	2.5
SEQ Moreton Bay	1483	1880	2371	2768	3234	50	123	79	93	0.8	0.8
SEQ Sunshine Coast	2390	3230	2083	2294	2608	105	-287	42	63	1.3	1.4
SEQ West Moreton	1567	1853	1272	1522	1847	36	-145	50	65	0.8	0.8
Sydney Central	15191	17287	19376	20623	21822	262	522	249	240	8.0	7.7
Sydney Eastern Beaches	5234	3551	9301	9563	10007	-210	1437	52	89	2.7	1.6

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Table A5.10: Resident employment – telecommunications and information media (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Sydney Northern Beaches	4467	4322	4348	4663	4803	-18	7	63	28	2.3	1.9
Sydney Old West	3397	3978	5410	5731	6122	73	358	64	78	1.8	1.8
Sydney Outer North	4889	6020	7379	7925	8193	141	340	109	54	2.6	2.7
Sydney Outer South West	3688	4390	4094	4549	5106	88	-74	91	112	1.9	2.0
Sydney Outer West	4591	6047	6648	7650	8574	182	150	201	185	2.4	2.7
Sydney Parramatta-Bankstown	4518	5932	7288	7329	7783	177	339	8	91	2.4	2.6
Sydney South	5104	5443	6204	6654	6921	42	190	90	53	2.7	2.4
TAS Hobart-South	2438	2527	2112	2192	2316	11	-104	16	25	1.3	1.1
TAS North	1890	1558	923	897	936	-42	-159	-5	8	1.0	0.7
TAS North West	539	514	594	611	656	-3	20	3	9	0.3	0.2
VIC Ballarat	3750	4619	1404	1478	1578	109	-804	15	20	2.0	2.1
VIC Bendigo	2465	2660	1624	1654	1769	24	-259	6	23	1.3	1.2
VIC Geelong	1335	1750	1553	1612	1744	52	-49	12	26	0.7	0.8
VIC Gippsland	447	774	1324	1395	1527	41	137	14	27	0.2	0.3
VIC Mallee Wimmera	1378	911	432	429	445	-58	-120	-1	3	0.7	0.4
VIC North East	2081	1367	639	670	731	-89	-182	6	12	1.1	0.6
VIC West	728	884	862	916	1007	19	-5	11	18	0.4	0.4
WA Gascoyne Goldfields	327	424	660	723	838	12	59	13	23	0.2	0.2
WA Peel South West	482	593	1287	1543	1781	14	174	51	48	0.3	0.3
WA Pilbara Kimberley	160	286	423	479	569	16	34	11	18	0.1	0.1
WA Wheatbelt Great Southern	293	261	500	561	633	-4	60	12	14	0.2	0.1
Total	**190910**	**223853**	**224481**	**243938**	**264995**	**4118**	**157**	**3891**	**4211**	**100.0**	**100.0**

Table A5.11: Resident employment – financial services

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
ACT	3381	3720	4639	4786	5031	42	230	29	49	1.1	1.0
Adelaide Inner	6540	7934	9255	10016	10897	174	330	152	176	2.1	2.1
Adelaide North	4865	5625	7630	8242	8864	95	501	122	124	1.6	1.5
Adelaide South	5094	5538	6662	6977	7376	55	281	63	80	1.7	1.5
Melbourne Central	11996	20029	19277	21431	24215	1004	-188	431	557	3.9	5.4
Melbourne East	15450	14815	13199	13212	13476	-79	-404	3	53	5.0	4.0
Melbourne North	9979	10367	11880	12284	13011	49	378	81	145	3.2	2.8
Melbourne North East	10627	10328	10198	10464	10805	-37	-33	53	68	3.5	2.8
Melbourne Outer South East	5993	7544	7433	8264	8871	194	-28	166	121	1.9	2.0
Melbourne South East	12168	11408	13594	13720	14081	-95	546	25	72	4.0	3.1
Melbourne West	8115	9753	14128	16294	18575	205	1094	433	456	2.6	2.6
NSW Central Coast	4572	4649	3985	4217	4397	10	-166	46	36	1.5	1.3
NSW Central West	2033	2280	1487	1443	1456	31	-198	-9	3	0.7	0.6
NSW Far West	311	374	373	379	372	8	0	1	-1	0.1	0.1
NSW Hunter	4276	7387	9305	9696	10296	389	479	78	120	1.4	2.0
NSW Illawarra	5856	4061	4621	4750	4896	-224	140	26	29	1.9	1.1
NSW Mid North Coast	2079	2311	2602	2868	3065	29	73	53	39	0.7	0.6
NSW North	1457	1644	1087	1050	1054	23	-139	-7	1	0.5	0.4
NSW Richmond Tweed	1641	1786	2047	2261	2422	18	65	43	32	0.5	0.5
NSW Riverina	1151	1506	1380	1349	1374	44	-31	-6	5	0.4	0.4
NSW Southern Tablelands	1538	1380	2759	3277	3391	-20	345	104	23	0.5	0.4
NT Darwin	1525	1172	1847	2121	2431	-44	169	55	62	0.5	0.3

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Table A5.11: Resident employment – financial services (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
NT Lingiari	385	243	400	402	404	-18	39	0	0	0.1	0.1
Perth Central	8015	9719	11713	12361	13142	213	499	130	156	2.6	2.6
Perth Outer North	7027	7261	8497	9058	9838	29	309	112	156	2.3	2.0
Perth Outer South	5876	5973	6191	6518	6982	12	54	65	93	1.9	1.6
QLD Cairns	1414	1523	1962	2159	2216	14	110	39	11	0.5	0.4
QLD Darling Downs	1198	2340	3067	3237	3563	143	182	34	65	0.4	0.6
QLD Fitzroy	1590	1944	925	961	1065	44	-255	7	21	0.5	0.5
QLD Mackay	1389	1538	723	717	760	19	-204	-1	9	0.5	0.4
QLD North	1477	1818	2257	2493	2725	43	110	47	46	0.5	0.5
QLD Resource region	350	352	382	420	465	0	8	8	9	0.1	0.1
QLD Wide Bay Burnett	1435	1477	1051	1122	1246	5	-107	14	25	0.5	0.4
SA Mallee South East	626	582	545	553	573	-6	-9	2	4	0.2	0.2
SA Mid North Riverland	685	688	722	747	770	0	8	5	5	0.2	0.2
SA Spencer Gulf	452	458	671	722	749	1	53	10	5	0.1	0.1
SEQ Brisbane City	19299	23143	27263	28296	29713	481	1030	207	283	6.3	6.2
SEQ Brisbane South	4000	4876	5246	5743	6427	110	92	99	137	1.3	1.3
SEQ Gold Coast	3802	5376	5873	6462	7318	197	124	118	171	1.2	1.4
SEQ Moreton Bay	3460	4190	6093	6983	7764	91	476	178	156	1.1	1.1
SEQ Sunshine Coast	2913	3283	3921	4807	5470	46	159	177	133	0.9	0.9
SEQ West Moreton	2746	2947	1436	1550	1740	25	-378	23	38	0.9	0.8
Sydney Central	15717	33884	39943	42527	45379	2271	1515	517	570	5.1	9.1
Sydney Eastern Beaches	6251	14866	10949	10530	10856	1077	-979	-84	65	2.0	4.0
Sydney Northern Beaches	7696	12470	10748	10954	11218	597	-430	41	53	2.5	3.4

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Table A5.11: Resident employment – financial services (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Sydney Old West	6825	10082	9421	9667	10062	407	-165	49	79	2.2	2.7
Sydney Outer North	15248	13634	15462	15227	15313	-202	457	-47	17	5.0	3.7
Sydney Outer South West	6545	7626	8586	9885	10841	135	240	260	191	2.1	2.1
Sydney Outer West	11695	11826	13253	14303	15268	16	357	210	193	3.8	3.2
Sydney Parramatta-Bankstown	14196	15671	18831	20414	21028	184	790	317	123	4.6	4.2
Sydney South	13504	16632	14028	14724	14953	391	-651	139	46	4.4	4.5
TAS Hobart-South	2992	2748	3113	3015	3092	-30	91	-20	15	1.0	0.7
TAS North	981	1714	2516	2678	2831	92	200	32	31	0.3	0.5
TAS North West	636	775	817	862	909	17	10	9	9	0.2	0.2
VIC Ballarat	1860	1582	842	921	959	-35	-185	16	8	0.6	0.4
VIC Bendigo	2195	2674	2453	2573	2839	60	-55	24	53	0.7	0.7
VIC Geelong	2095	1305	1344	1352	1383	-99	10	2	6	0.7	0.4
VIC Gippsland	2826	658	1427	1415	1459	-271	192	-2	9	0.9	0.2
VIC Mallee Wimmera	1138	1003	711	705	714	-17	-73	-1	2	0.4	0.3
VIC North East	2129	1840	2451	2498	2674	-36	153	10	35	0.7	0.5
VIC West	884	603	680	700	729	-35	19	4	6	0.3	0.2
WA Gascoyne Goldfields	929	1040	384	431	487	14	-164	9	11	0.3	0.3
WA Peel South West	1413	1664	1984	2417	2692	31	80	87	55	0.5	0.4
WA Pilbara Kimberley	392	361	126	145	168	-4	-59	4	5	0.1	0.1
WA Wheatbelt Great Southern	797	887	824	981	1084	11	-16	31	21	0.3	0.2
Total	**307729**	**370885**	**399216**	**423335**	**450224**	**7895**	**7083**	**4824**	**5378**	**100.0**	**100.0**

Table A5.12: Resident employment – rental, hiring services

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
ACT	2413	3114	2389	2471	2633	88	-181	16	32	1.8	1.7
Adelaide Inner	3175	3774	4199	4935	5519	75	106	147	117	2.3	2.1
Adelaide North	2317	2572	3324	3646	3983	32	188	64	68	1.7	1.4
Adelaide South	1890	2313	2785	3125	3413	53	118	68	58	1.4	1.3
Melbourne Central	6744	9439	7539	8133	9100	337	-475	119	193	4.9	5.2
Melbourne East	3469	3981	5001	5169	5557	64	255	34	78	2.5	2.2
Melbourne North	3411	4071	4860	5170	5650	82	197	62	96	2.5	2.2
Melbourne North East	4612	5417	5220	5513	6022	101	-49	59	102	3.4	3.0
Melbourne Outer South East	2404	3026	5526	6505	7355	78	625	196	170	1.8	1.7
Melbourne South East	3726	4210	4323	4646	4866	61	28	65	44	2.7	2.3
Melbourne West	2830	4012	4354	4666	5399	148	86	62	147	2.1	2.2
NSW Central Coast	1473	2399	3550	3942	4403	116	288	78	92	1.1	1.3
NSW Central West	1219	2045	1254	1236	1299	103	-198	-4	13	0.9	1.1
NSW Far West	430	361	131	113	114	-9	-57	-4	0	0.3	0.2
NSW Hunter	3187	3879	4320	4618	4991	86	110	60	75	2.3	2.1
NSW Illawarra	2317	3092	2295	2492	2670	97	-199	39	36	1.7	1.7
NSW Mid North Coast	944	1658	1567	1638	1809	89	-23	14	34	0.7	0.9
NSW North	849	1306	806	779	803	57	-125	-5	5	0.6	0.7
NSW Richmond Tweed	769	1417	1363	1436	1596	81	-14	15	32	0.6	0.8
NSW Riverina	1577	1852	548	446	463	34	-326	-20	4	1.2	1.0
NSW Southern Tablelands	784	1223	1927	2047	2227	55	176	24	36	0.6	0.7
NT Darwin	1327	1781	1645	1844	2131	57	-34	40	57	1.0	1.0
NT Lingiari	433	460	410	408	419	3	-13	-1	2	0.3	0.3

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Table A5.12: Resident employment – rental, hiring services (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Perth Central	5509	7060	7544	8187	8968	194	121	128	156	4.0	3.9
Perth Outer North	4682	5801	6055	6551	7391	140	64	99	168	3.4	3.2
Perth Outer South	3235	4292	5559	6229	6990	132	317	134	152	2.4	2.4
QLD Cairns	2304	2081	3289	3429	3633	-28	302	28	41	1.7	1.1
QLD Darling Downs	675	1220	1712	1853	2088	68	123	28	47	0.5	0.7
QLD Fitzroy	1779	2122	1744	2089	2509	43	-95	69	84	1.3	1.2
QLD Mackay	1530	1941	1578	1783	2025	51	-91	41	48	1.1	1.1
QLD North	621	877	1643	2048	2402	32	192	81	71	0.5	0.5
QLD Resource region	243	306	444	544	655	8	34	20	22	0.2	0.2
QLD Wide Bay Burnett	757	1169	1485	1570	1811	52	79	17	48	0.6	0.6
SA Mallee South East	204	296	540	626	682	12	61	17	11	0.1	0.2
SA Mid North Riverland	239	351	620	715	767	14	67	19	10	0.2	0.2
SA Spencer Gulf	211	227	467	545	567	2	60	16	4	0.2	0.1
SEQ Brisbane City	8735	13651	14979	15650	16934	614	332	134	257	6.4	7.5
SEQ Brisbane South	3795	4998	5966	6959	8140	150	242	199	236	2.8	2.8
SEQ Gold Coast	6907	10061	12560	14742	17159	394	625	436	483	5.1	5.5
SEQ Moreton Bay	3307	4593	4824	5293	6154	161	58	94	172	2.4	2.5
SEQ Sunshine Coast	2501	3902	5014	5888	6992	175	278	175	221	1.8	2.1
SEQ West Moreton	747	1020	1603	2193	2907	34	146	118	143	0.5	0.6
Sydney Central	6145	9042	6435	6810	7266	362	-652	75	91	4.5	5.0
Sydney Eastern Beaches	3179	3598	3594	3902	4079	52	-1	62	35	2.3	2.0

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Table A5.12: Resident employment – rental, hiring services (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Sydney Northern Beaches	1537	1758	3475	3679	3904	28	429	41	45	1.1	1.0
Sydney Old West	1429	1914	2470	2872	3099	61	139	80	45	1.0	1.1
Sydney Outer North	4087	4920	4646	4931	5093	104	-68	57	32	3.0	2.7
Sydney Outer South West	1120	1635	3428	4148	4985	64	448	144	167	0.8	0.9
Sydney Outer West	2662	3751	3512	3829	4286	136	-60	63	91	2.0	2.1
Sydney Parramatta-Bankstown	3397	4342	4227	4432	4704	118	-29	41	55	2.5	2.4
Sydney South	2991	3927	4901	5290	5582	117	243	78	58	2.2	2.2
TAS Hobart-South	1551	2005	2041	2198	2369	57	9	31	34	1.1	1.1
TAS North	778	1026	738	755	804	31	-72	3	10	0.6	0.6
TAS North West	609	767	875	941	1020	20	27	13	16	0.4	0.4
VIC Ballarat	215	339	586	713	810	15	62	26	19	0.2	0.2
VIC Bendigo	560	730	1317	1442	1645	21	147	25	41	0.4	0.4
VIC Geelong	668	827	1744	1786	1989	20	229	8	41	0.5	0.5
VIC Gippsland	1045	2041	1053	1190	1288	124	-247	27	20	0.8	1.1
VIC Mallee Wimmera	244	337	516	528	549	12	45	2	4	0.2	0.2
VIC North East	0	0	717	717	781	0	179	0	13	0.0	0.0
VIC West	379	486	1068	1120	1272	13	146	11	30	0.3	0.3
WA Gascoyne Goldfields	892	911	1135	1309	1488	2	56	35	36	0.7	0.5
WA Peel South West	1467	2441	1626	1810	2057	122	-204	37	49	1.1	1.3
WA Pilbara Kimberley	619	752	940	1179	1452	17	47	48	55	0.5	0.4
WA Wheatbelt Great Southern	460	610	555	631	722	19	-14	15	18	0.3	0.3
Total	**136317**	**181532**	**198558**	**218083**	**242440**	**5652**	**4256**	**3905**	**4871**	**100.0**	**100.0**

Table A5.13: Resident employment – professional services

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
ACT	14928	19585	22153	24926	27908	582	642	555	596	2.7	2.7
Adelaide Inner	14641	17353	19600	23276	27055	339	562	735	756	2.7	2.4
Adelaide North	8101	9165	12504	14431	16387	133	835	385	391	1.5	1.3
Adelaide South	7638	9276	10528	12041	13583	205	313	303	308	1.4	1.3
Melbourne Central	31083	43990	45342	52524	61619	1613	338	1436	1819	5.6	6.0
Melbourne East	29262	32688	33203	36451	40073	428	129	650	724	5.3	4.5
Melbourne North	15480	20001	21919	25066	28424	565	479	630	671	2.8	2.7
Melbourne North East	19724	21656	24554	27966	31588	241	725	682	724	3.6	3.0
Melbourne Outer South East	10644	13595	13469	15494	17914	369	-32	405	484	1.9	1.9
Melbourne South East	21477	24827	26009	28201	30695	419	295	438	499	3.9	3.4
Melbourne West	9455	13258	18562	22456	27185	475	1326	779	946	1.7	1.8
NSW Central Coast	2310	3989	7539	8944	10476	210	888	281	306	0.4	0.5
NSW Central West	2619	4462	4381	4773	5284	230	-20	78	102	0.5	0.6
NSW Far West	1030	901	749	788	839	-16	-38	8	10	0.2	0.1
NSW Hunter	13799	15705	16164	18033	20143	238	115	374	422	2.5	2.1
NSW Illawarra	7609	11827	9085	9926	11122	527	-686	168	239	1.4	1.6
NSW Mid North Coast	3597	6196	4961	5774	6579	325	-309	163	161	0.7	0.8
NSW North	2063	3228	3162	3325	3554	146	-16	33	46	0.4	0.4
NSW Richmond Tweed	3088	5802	4729	5557	6393	339	-268	166	167	0.6	0.8
NSW Riverina	2297	2750	2914	3074	3332	57	41	32	52	0.4	0.4
NSW Southern Tablelands	2687	4303	6964	7281	8201	202	665	63	184	0.5	0.6
NT Darwin	2217	3465	4027	4988	6161	156	140	192	235	0.4	0.5

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Table A5.13: Resident employment – professional services (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
NT Lingiari	846	1032	1229	1311	1399	23	49	16	18	0.2	0.1
Perth Central	27263	35763	35035	38026	43127	1063	-182	598	1020	4.9	4.9
Perth Outer North	13940	17513	19132	22237	26058	447	405	621	764	2.5	2.4
Perth Outer South	11585	15715	17645	20124	23156	516	482	496	606	2.1	2.2
QLD Cairns	4596	4361	6135	6897	7584	-29	444	152	137	0.8	0.6
QLD Darling Downs	2586	4866	2882	2971	3357	285	-496	18	77	0.5	0.7
QLD Fitzroy	3124	3574	3278	4067	5077	56	-74	158	202	0.6	0.5
QLD Mackay	2411	3099	2857	3368	4008	86	-60	102	128	0.4	0.4
QLD North	3594	5253	5303	6364	7546	207	12	212	237	0.7	0.7
QLD Resource region	868	835	664	738	826	-4	-43	15	18	0.2	0.1
QLD Wide Bay Burnett	2306	3767	2873	3293	3874	183	-224	84	116	0.4	0.5
SA Mallee South East	934	1411	1394	1543	1724	60	-4	30	36	0.2	0.2
SA Mid North Riverland	1072	1729	1867	2015	2232	82	35	30	43	0.2	0.2
SA Spencer Gulf	847	856	1435	1472	1608	1	145	7	27	0.2	0.1
SEQ Brisbane City	36481	59255	67676	76954	86433	2847	2105	1856	1896	6.6	8.1
SEQ Brisbane South	7549	9498	12224	14689	17729	244	681	493	608	1.4	1.3
SEQ Gold Coast	9672	14840	18434	21641	26188	646	898	641	909	1.8	2.0
SEQ Moreton Bay	7115	9957	10583	13047	15719	355	156	493	534	1.3	1.4
SEQ Sunshine Coast	6161	9248	10330	12829	15692	386	270	500	573	1.1	1.3
SEQ West Moreton	3797	4928	5025	6566	8685	141	24	308	424	0.7	0.7
Sydney Central	34439	48205	60862	68489	76615	1721	3164	1526	1625	6.2	6.6
Sydney Eastern Beaches	16004	17999	22614	24001	26230	249	1154	278	446	2.9	2.5
Sydney Northern Beaches	17355	19905	20775	22245	23895	319	218	294	330	3.1	2.7

continued next page

Table A5.13: Resident employment – professional services (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Sydney Old West	9645	13049	15403	17579	19644	426	588	435	413	1.7	1.8
Sydney Outer North	18804	22134	28690	31768	34338	416	1639	616	514	3.4	3.0
Sydney Outer South West	8255	11233	10336	11569	13734	372	-224	246	433	1.5	1.5
Sydney Outer West	11958	16510	15783	18650	21605	569	-182	574	591	2.2	2.3
Sydney Parramatta-Bankstown	14705	18420	22802	24820	27405	464	1095	404	517	2.7	2.5
Sydney South	14440	19304	18624	20264	22041	608	-170	328	356	2.6	2.6
TAS Hobart-South	4932	6400	8304	9838	11055	184	476	307	243	0.9	0.9
TAS North	1975	2637	2372	2682	2970	83	-66	62	58	0.4	0.4
TAS North West	699	874	1039	1188	1337	22	41	30	30	0.1	0.1
VIC Ballarat	2944	4799	3858	4557	5307	232	-235	140	150	0.5	0.7
VIC Bendigo	3327	4807	3476	3735	4291	185	-333	52	111	0.6	0.7
VIC Geelong	4261	5181	5685	6418	7249	115	126	147	166	0.8	0.7
VIC Gippsland	2779	5334	3938	4424	4981	319	-349	97	111	0.5	0.7
VIC Mallee Wimmera	1672	1915	1605	1659	1784	30	-78	11	25	0.3	0.3
VIC North East	3594	5688	2354	2528	2792	262	-833	35	53	0.7	0.8
VIC West	1727	2552	3064	3606	4218	103	128	108	122	0.3	0.3
WA Gascoyne Goldfields	1783	2025	1161	1240	1406	30	-216	16	33	0.3	0.3
WA Peel South West	2022	3492	3785	4594	5527	184	73	162	187	0.4	0.5
WA Pilbara Kimberley	919	1144	630	674	762	28	-129	9	18	0.2	0.2
WA Wheatbelt Great Southern	967	1486	1363	1616	1935	65	-31	51	64	0.2	0.2
Total	**551703**	**730617**	**797038**	**903591**	**1027656**	**22364**	**16605**	**21311**	**24813**	**100.0**	**100.0**

Table A5.14: Resident employment – administrative and support services

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
ACT	2840	3544	4295	4711	5088	88	188	83	75	1.2	1.1
Adelaide Inner	4678	5413	6465	7236	8104	92	263	154	174	1.9	1.7
Adelaide North	6809	8077	10254	11489	12586	159	544	247	219	2.8	2.6
Adelaide South	4847	6106	6431	7098	7716	157	81	133	123	2.0	1.9
Melbourne Central	5777	8021	10873	12781	14646	281	713	382	373	2.4	2.5
Melbourne East	9610	10367	9373	9629	10135	95	-249	51	101	4.0	3.3
Melbourne North	6525	7473	9483	10649	11634	118	503	233	197	2.7	2.4
Melbourne North East	9142	10581	8616	9026	9698	180	-491	82	134	3.8	3.4
Melbourne Outer South East	5188	6986	10388	11799	13311	225	850	282	302	2.1	2.2
Melbourne South East	7612	8519	9450	9941	10474	113	233	98	107	3.1	2.7
Melbourne West	6538	9048	10865	12439	14489	314	454	315	410	2.7	2.9
NSW Central Coast	3466	5515	4324	4469	4858	256	-298	29	78	1.4	1.7
NSW Central West	1365	1939	2959	3383	3618	72	255	85	47	0.6	0.6
NSW Far West	1072	753	705	747	769	-40	-12	8	4	0.4	0.2
NSW Hunter	6496	7432	6961	7698	8233	117	-118	147	107	2.7	2.4
NSW Illawarra	4099	5817	5892	6683	7248	215	19	158	113	1.7	1.8
NSW Mid North Coast	1028	1873	3388	3803	4301	106	379	83	100	0.4	0.6
NSW North	790	1305	2025	2235	2307	64	180	42	14	0.3	0.4
NSW Richmond Tweed	925	1549	2841	3185	3596	78	323	69	82	0.4	0.5
NSW Riverina	1893	2116	2483	2658	2777	28	92	35	24	0.8	0.7
NSW Southern Tablelands	2099	3067	2575	2849	3041	121	-123	55	38	0.9	1.0
NT Darwin	1152	1501	2613	3239	3930	44	278	125	138	0.5	0.5
NT Lingiari	606	599	1013	1068	1103	-1	103	11	7	0.2	0.2

continued next page

Table A5.14: Resident employment – administrative and support services (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Perth Central	7886	9840	10501	11574	12653	244	165	215	216	3.2	3.1
Perth Outer North	6547	8527	10243	11727	13374	247	429	297	329	2.7	2.7
Perth Outer South	6038	7995	8631	9299	10327	245	159	134	206	2.5	2.5
QLD Cairns	2037	1863	4338	4781	5122	-22	619	89	68	0.8	0.6
QLD Darling Downs	1111	1688	1769	1980	2178	72	20	42	40	0.5	0.5
QLD Fitzroy	1596	1886	2553	3210	4004	36	167	131	159	0.7	0.6
QLD Mackay	1212	1613	2194	2585	3032	50	145	78	89	0.5	0.5
QLD North	1858	2573	3574	3777	4344	89	250	41	113	0.8	0.8
QLD Resource region	534	594	812	945	1127	7	55	27	36	0.2	0.2
QLD Wide Bay Burnett	2794	3955	3735	4013	4564	145	-55	56	110	1.1	1.3
SA Mallee South East	1070	1402	1203	1341	1432	41	-50	27	18	0.4	0.4
SA Mid North Riverland	1253	2280	1984	2187	2343	128	-74	41	31	0.5	0.7
SA Spencer Gulf	1316	1434	1304	1339	1398	15	-33	7	12	0.5	0.5
SEQ Brisbane City	14186	22064	19971	21033	22651	985	-523	212	323	5.8	7.0
SEQ Brisbane South	5587	7242	7579	8864	10257	207	84	257	279	2.3	2.3
SEQ Gold Coast	5502	7981	8913	10528	12196	310	233	323	334	2.3	2.5
SEQ Moreton Bay	3744	5156	5529	6617	7650	177	93	218	207	1.5	1.6
SEQ Sunshine Coast	3497	5475	4630	5090	5948	247	-211	92	172	1.4	1.7
SEQ West Moreton	1750	2262	3095	4012	5255	64	208	184	248	0.7	0.7
Sydney Central	10609	14657	13548	14243	15258	506	-277	139	203	4.4	4.6
Sydney Eastern Beaches	3075	3353	2825	2967	3077	35	-132	28	22	1.3	1.1

continued next page

Table A5.14: Resident employment – administrative and support services (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Sydney Northern Beaches	6350	7057	6726	7134	7357	88	-83	82	45	2.6	2.2
Sydney Old West	3938	5001	6708	7258	7854	133	427	110	119	1.6	1.6
Sydney Outer North	4327	5177	5851	5834	6072	106	169	-3	48	1.8	1.6
Sydney Outer South West	4444	6108	6222	7461	8547	208	28	248	217	1.8	1.9
Sydney Outer West	8134	11302	11548	13210	14833	396	62	332	325	3.3	3.6
Sydney Parramatta-Bankstown	7558	9476	10887	11828	12593	240	353	188	153	3.1	3.0
Sydney South	5783	7219	8308	9252	9707	179	272	189	91	2.4	2.3
TAS Hobart-South	2166	2671	3604	3819	4147	63	233	43	65	0.9	0.8
TAS North	1458	1748	1714	1889	2019	36	-9	35	26	0.6	0.6
TAS North West	1492	1748	1370	1395	1486	32	-95	5	18	0.6	0.6
VIC Ballarat	1032	1428	2544	2904	3360	50	279	72	91	0.4	0.5
VIC Bendigo	2290	2843	3225	3441	3820	69	95	43	76	0.9	0.9
VIC Geelong	2983	3504	3609	4119	4459	65	26	102	68	1.2	1.1
VIC Gippsland	1559	2933	3055	3153	3456	172	30	20	61	0.6	0.9
VIC Mallee Wimmera	863	1339	2144	2138	2223	59	201	-1	17	0.4	0.4
VIC North East	3322	4443	3186	3433	3707	140	-314	49	55	1.4	1.4
VIC West	1375	1957	2240	2665	2990	73	71	85	65	0.6	0.6
WA Gascoyne Goldfields	1566	1513	1548	1622	1781	-7	9	15	32	0.6	0.5
WA Peel South West	2507	4021	3841	4371	5032	189	-45	106	132	1.0	1.3
WA Pilbara Kimberley	1071	1518	1568	1809	2177	56	13	48	73	0.4	0.5
WA Wheatbelt Great Southern	997	1176	1187	1305	1473	22	3	24	34	0.4	0.4
Total	**242974**	**315623**	**344286**	**380968**	**420945**	**9081**	**7166**	**7336**	**7995**	**100.0**	**100.0**

Table A5.15: Resident employment – public administration and safety

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
ACT	37704	49924	56704	61531	66642	1528	1695	965	1022	8.6	8.5
Adelaide Inner	10498	13318	15872	18093	20746	352	638	444	531	2.4	2.3
Adelaide North	9505	14014	15412	17033	18993	564	349	324	392	2.2	2.4
Adelaide South	8665	11257	12392	13728	15223	324	284	267	299	2.0	1.9
Melbourne Central	9654	10483	13829	15848	17847	104	837	404	400	2.2	1.8
Melbourne East	11178	10987	14336	15394	16347	-24	837	212	191	2.6	1.9
Melbourne North	9881	14271	13214	14529	15810	549	-264	263	256	2.3	2.4
Melbourne North East	10556	11657	15299	16666	18328	138	911	273	332	2.4	2.0
Melbourne Outer South East	7364	9171	8797	10029	11086	226	-93	246	211	1.7	1.6
Melbourne South East	9032	8112	10153	10783	11250	-115	510	126	93	2.1	1.4
Melbourne West	7614	12689	12676	14983	17457	634	-3	461	495	1.7	2.2
NSW Central Coast	4373	8286	11020	12171	13542	489	684	230	274	1.0	1.4
NSW Central West	4848	5758	7841	8490	9007	114	521	130	103	1.1	1.0
NSW Far West	1704	1963	1806	1930	1987	32	-39	25	11	0.4	0.3
NSW Hunter	9667	15440	16398	18005	19645	722	240	321	328	2.2	2.6
NSW Illawarra	8493	10576	15090	16766	18266	260	1128	335	300	1.9	1.8
NSW Mid North Coast	3586	5274	6752	7682	8508	211	370	186	165	0.8	0.9
NSW North	3161	3264	4363	4590	4732	13	275	46	28	0.7	0.6
NSW Richmond Tweed	2595	3682	4751	5412	6000	136	267	132	118	0.6	0.6
NSW Riverina	4761	5671	4542	4790	4964	114	-282	50	35	1.1	1.0
NSW Southern Tablelands	6374	10763	15229	16824	18295	549	1117	319	294	1.5	1.8
NT Darwin	8003	11371	13824	16451	19812	421	613	525	672	1.8	1.9

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Table A5.15: Resident employment – public administration and safety (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
NT Lingiari	5449	4664	5322	5407	5569	-98	164	17	32	1.2	0.8
Perth Central	12261	17657	19999	22343	24762	675	585	469	484	2.8	3.0
Perth Outer North	10834	14511	17815	20727	23669	460	826	582	588	2.5	2.5
Perth Outer South	9456	14461	16885	19592	22196	626	606	541	521	2.2	2.5
QLD Cairns	2948	9808	6707	6662	7222	857	-775	-9	112	0.7	1.7
QLD Darling Downs	3691	5598	4290	4684	5151	238	-327	79	93	0.8	1.0
QLD Fitzroy	4289	6184	5282	6306	7637	237	-225	205	266	1.0	1.1
QLD Mackay	2326	3466	2905	3251	3702	143	-140	69	90	0.5	0.6
QLD North	4708	6756	6456	7676	8547	256	-75	244	174	1.1	1.2
QLD Resource region	3085	5724	4633	4941	5345	330	-273	61	81	0.7	1.0
QLD Wide Bay Burnett	3074	6507	4463	5155	5928	429	-511	138	155	0.7	1.1
SA Mallee South East	2139	1529	1692	1818	1940	-76	41	25	24	0.5	0.3
SA Mid North Riverland	2531	2204	2266	2403	2543	-41	15	27	28	0.6	0.4
SA Spencer Gulf	2333	2636	2647	2757	2892	38	3	22	27	0.5	0.4
SEQ Brisbane City	25676	34228	47220	51489	55633	1069	3248	854	829	5.9	5.8
SEQ Brisbane South	6513	10510	11515	13249	15529	500	251	347	456	1.5	1.8
SEQ Gold Coast	4276	8415	9428	11001	12911	517	253	315	382	1.0	1.4
SEQ Moreton Bay	6312	9536	15431	18586	21891	403	1474	631	661	1.4	1.6
SEQ Sunshine Coast	2149	5075	4857	5688	6693	366	-54	166	201	0.5	0.9
SEQ West Moreton	6056	10806	6742	7910	9734	594	-1016	234	365	1.4	1.8
Sydney Central	12507	15651	16949	18557	20107	393	325	322	310	2.9	2.7
Sydney Eastern Beaches	4825	5639	9037	10480	11049	102	850	289	114	1.1	1.0
Sydney Northern Beaches	4820	5838	6824	7362	7727	127	246	108	73	1.1	1.0

continued next page

Table A5.15: Resident employment – public administration and safety (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Sydney Old West	7095	8102	7861	8421	8912	126	-60	112	98	1.6	1.4
Sydney Outer North	6312	7959	12063	12982	13617	206	1026	184	127	1.4	1.4
Sydney Outer South West	8627	12631	12043	13614	15481	500	-147	314	373	2.0	2.2
Sydney Outer West	13987	18408	19148	22269	25193	553	185	624	585	3.2	3.1
Sydney Parramatta-Bankstown	10802	18703	12528	12886	13553	988	-1544	72	133	2.5	3.2
Sydney South	10542	12244	10127	10378	10784	213	-529	50	81	2.4	2.1
TAS Hobart-South	11092	10876	12734	13992	14961	-27	465	252	194	2.5	1.9
TAS North	2735	2482	3557	3929	4200	-32	269	75	54	0.6	0.4
TAS North West	1246	1545	2376	2631	2877	37	208	51	49	0.3	0.3
VIC Ballarat	2328	2589	4023	4683	5305	33	358	132	124	0.5	0.4
VIC Bendigo	5407	4481	6923	7842	8743	-116	610	184	180	1.2	0.8
VIC Geelong	4443	4589	5546	6104	6550	18	239	112	89	1.0	0.8
VIC Gippsland	3584	5004	4964	5437	5859	178	-10	95	84	0.8	0.9
VIC Mallee Wimmera	2466	1993	3275	3463	3601	-59	321	38	28	0.6	0.3
VIC North East	3835	3377	3855	4239	4594	-57	120	77	71	0.9	0.6
VIC West	2484	2770	3661	4149	4555	36	223	98	81	0.6	0.5
WA Gascoyne Goldfields	2670	2858	3605	4421	5274	24	187	163	171	0.6	0.5
WA Peel South West	2468	4713	5612	7047	8256	281	225	287	242	0.6	0.8
WA Pilbara Kimberley	2307	2685	3138	3720	4264	47	113	116	109	0.5	0.5
WA Wheatbelt Great Southern	2075	2623	3339	4071	4700	69	179	146	126	0.5	0.4
Total	**437979**	**585965**	**660045**	**736051**	**814146**	**18498**	**18520**	**15201**	**15619**	**100.0**	**100.0**

Table A5.16: Resident employment – education and training

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
ACT	12469	15680	16543	18024	19293	401	216	296	254	2.1	2.1
Adelaide Inner	15930	18743	18717	20968	23224	352	-6	450	451	2.7	2.6
Adelaide North	9817	14185	15709	17352	19066	546	381	329	343	1.7	1.9
Adelaide South	10587	12973	13703	15027	16321	298	183	265	259	1.8	1.8
Melbourne Central	15318	21853	23627	26705	30654	817	443	616	790	2.6	3.0
Melbourne East	19502	21845	31021	34016	36710	293	2294	599	539	3.3	3.0
Melbourne North	14592	19620	21163	22887	25108	629	386	345	444	2.5	2.7
Melbourne North East	17922	19030	27804	30598	33755	138	2193	559	631	3.0	2.6
Melbourne Outer South East	10294	13059	15922	17998	20173	346	716	415	435	1.8	1.8
Melbourne South East	14829	18789	21238	22852	24236	495	612	323	277	2.5	2.6
Melbourne West	10544	12430	15996	18692	21758	236	892	539	613	1.8	1.7
NSW Central Coast	6027	8195	7687	8181	8735	271	-127	99	111	1.0	1.1
NSW Central West	8096	7659	8895	9378	9825	-55	309	97	89	1.4	1.0
NSW Far West	3029	2890	2604	2570	2631	-17	-71	-7	12	0.5	0.4
NSW Hunter	16688	18226	22015	23232	24804	192	947	243	314	2.8	2.5
NSW Illawarra	13278	14763	15792	16965	17960	186	257	235	199	2.3	2.0
NSW Mid North Coast	5301	8229	9247	10020	11035	366	254	155	203	0.9	1.1
NSW North	6542	5798	6677	6922	7133	-93	220	49	42	1.1	0.8
NSW Richmond Tweed	4556	7056	8025	8728	9646	312	242	140	184	0.8	1.0
NSW Riverina	6511	10110	6907	6869	7169	450	-801	-8	60	1.1	1.4
NSW Southern Tablelands	4496	6543	6305	6700	7172	256	-59	79	94	0.8	0.9
NT Darwin	4586	5902	7614	9149	10864	164	428	307	343	0.8	0.8
NT Lingiari	2396	2459	3073	3199	3298	8	154	25	20	0.4	0.3

continued next page

Table A5.16: Resident employment – education and training (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Perth Central	20380	23212	25240	27148	29361	354	507	382	443	3.5	3.2
Perth Outer North	13888	17028	19969	22317	25242	393	735	470	585	2.4	2.3
Perth Outer South	12338	16184	19688	21858	24524	481	876	434	533	2.1	2.2
QLD Cairns	4899	10165	8614	9233	9875	658	-388	124	128	0.8	1.4
QLD Darling Downs	7976	8891	11751	13657	15069	114	715	381	283	1.4	1.2
QLD Fitzroy	6454	7663	8309	9642	11657	151	161	267	403	1.1	1.0
QLD Mackay	4013	4591	4900	5301	5994	72	77	80	139	0.7	0.6
QLD North	10350	9918	8108	8862	9658	-54	-452	151	159	1.8	1.4
QLD Resource region	3196	3432	3340	3886	4417	30	-23	109	106	0.5	0.5
QLD Wide Bay Burnett	5870	6402	9664	10867	12268	66	815	241	280	1.0	0.9
SA Mallee South East	2322	2539	2526	2742	2942	27	-3	43	40	0.4	0.3
SA Mid North Riverland	2964	3425	3601	3890	4125	58	44	58	47	0.5	0.5
SA Spencer Gulf	2685	2845	3997	4323	4544	20	288	65	44	0.5	0.4
SEQ Brisbane City	37969	53224	52537	56413	60737	1907	-172	775	865	6.5	7.3
SEQ Brisbane South	9109	12514	13892	16041	18446	426	344	430	481	1.5	1.7
SEQ Gold Coast	8328	14771	14846	17180	19835	805	19	467	531	1.4	2.0
SEQ Moreton Bay	8123	10919	13517	15559	17976	349	650	408	483	1.4	1.5
SEQ Sunshine Coast	6601	8784	12112	13895	16117	273	832	357	444	1.1	1.2
SEQ West Moreton	3970	5733	6686	8785	11222	220	238	420	488	0.7	0.8
Sydney Central	19204	24788	27430	29190	31217	698	661	352	405	3.3	3.4
Sydney Eastern Beaches	10423	13255	11525	12032	12448	354	-433	101	83	1.8	1.8

continued next page

Table A5.16: Resident employment – education and training (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Sydney Northern Beaches	7203	9322	10988	11699	12417	265	416	142	144	1.2	1.3
Sydney Old West	9896	10458	11945	12469	13203	70	372	105	147	1.7	1.4
Sydney Outer North	17594	21938	17698	18217	18724	543	-1060	104	101	3.0	3.0
Sydney Outer South West	7870	13256	12303	13831	15635	673	-238	306	361	1.3	1.8
Sydney Outer West	15954	20258	20538	22706	25018	538	70	434	462	2.7	2.8
Sydney Parramatta-Bankstown	12425	12917	16264	16930	17776	61	837	133	169	2.1	1.8
Sydney South	13184	16569	16282	17227	17978	423	-72	189	150	2.2	2.3
TAS Hobart-South	7491	7928	11307	12020	13026	55	845	143	201	1.3	1.1
TAS North	4038	4667	4796	4819	5107	79	32	5	58	0.7	0.6
TAS North West	3226	3381	3329	3602	3862	19	-13	55	52	0.5	0.5
VIC Ballarat	6007	5124	7771	8947	10143	-110	662	235	239	1.0	0.7
VIC Bendigo	6959	8181	9150	10292	11557	153	242	228	253	1.2	1.1
VIC Geelong	5547	8276	8575	9061	9988	341	75	97	185	0.9	1.1
VIC Gippsland	6669	10122	6117	7117	7625	432	-1001	200	102	1.1	1.4
VIC Mallee Wimmera	3856	3746	4915	5173	5380	-14	292	52	41	0.7	0.5
VIC North East	6475	7036	6248	6424	7005	70	-197	35	116	1.1	1.0
VIC West	3418	5126	5744	6253	7046	213	155	102	159	0.6	0.7
WA Gascoyne Goldfields	3955	3355	3947	4361	5065	-75	148	83	141	0.7	0.5
WA Peel South West	5151	6451	8687	10180	11626	163	559	299	289	0.9	0.9
WA Pilbara Kimberley	2758	2418	2739	3066	3589	-42	80	65	105	0.5	0.3
WA Wheatbelt Great Southern	3644	3365	4494	5074	5734	-35	282	116	132	0.6	0.5
Total	**587695**	**730218**	**802371**	**879319**	**965747**	**17815**	**18038**	**15389**	**17286**	**100.0**	**100.0**

Table A5.17: Resident employment – health care

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
ACT	11413	15883	17160	19472	21741	559	319	462	454	1.5	1.6
Adelaide Inner	22408	27763	30611	35571	41396	669	712	992	1165	2.9	2.8
Adelaide North	20252	26205	28808	33158	37711	744	651	870	911	2.6	2.6
Adelaide South	17112	23006	26165	30091	34466	737	790	785	875	2.2	2.3
Melbourne Central	20671	26936	29282	34076	39884	783	587	959	1161	2.7	2.7
Melbourne East	27434	32667	32722	35892	39507	654	14	634	723	3.6	3.2
Melbourne North	19165	25315	27601	31172	35278	769	571	714	821	2.5	2.5
Melbourne North East	26535	30151	35450	40760	46370	452	1325	1062	1122	3.4	3.0
Melbourne Outer South East	12038	24132	27257	32787	38644	1512	781	1106	1171	1.6	2.4
Melbourne South East	20968	26234	24725	27488	30000	658	-377	553	503	2.7	2.6
Melbourne West	11367	21926	22303	27126	33048	1320	94	965	1184	1.5	2.2
NSW Central Coast	13165	16449	20048	22785	25917	410	900	547	626	1.7	1.6
NSW Central West	9359	10160	13175	14660	15975	100	754	297	263	1.2	1.0
NSW Far West	2735	3073	3215	3362	3566	42	35	29	41	0.4	0.3
NSW Hunter	25876	27808	31620	34969	38654	241	953	670	737	3.4	2.8
NSW Illawarra	11125	21689	23309	26012	29319	1321	405	541	661	1.4	2.1
NSW Mid North Coast	10388	12325	14354	16745	18958	242	507	478	443	1.4	1.2
NSW North	6080	6238	8093	8780	9331	20	464	137	110	0.8	0.6
NSW Richmond Tweed	8791	10046	11820	13808	15650	157	444	398	368	1.1	1.0
NSW Riverina	5584	9631	11949	12738	13771	506	579	158	207	0.7	1.0
NSW Southern Tablelands	5910	8867	9511	10610	11919	370	161	220	262	0.8	0.9
NT Darwin	4652	7561	7757	9734	12134	364	49	395	480	0.6	0.7

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Table A5.17: Resident employment – health care (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
NT Lingiari	3680	4584	4621	4930	5233	113	9	62	61	0.5	0.5
Perth Central	27783	34238	39827	45953	51942	807	1397	1225	1198	3.6	3.4
Perth Outer North	18881	26740	29414	35030	41270	982	668	1123	1248	2.5	2.6
Perth Outer South	16362	23260	26568	31157	36065	862	827	918	982	2.1	2.3
QLD Cairns	6289	7409	9074	9986	10908	140	416	182	184	0.8	0.7
QLD Darling Downs	8846	10167	12312	14092	15991	165	536	356	380	1.1	1.0
QLD Fitzroy	7915	6877	8716	10879	13232	-130	460	433	471	1.0	0.7
QLD Mackay	5394	4724	5879	6949	8032	-84	289	214	217	0.7	0.5
QLD North	8997	10264	12303	14699	17025	158	510	479	465	1.2	1.0
QLD Resource region	3565	3254	4088	5214	6468	-39	209	225	251	0.5	0.3
QLD Wide Bay Burnett	6967	10990	10865	13377	15824	503	-31	502	489	0.9	1.1
SA Mallee South East	2996	3407	3966	4451	4970	51	140	97	104	0.4	0.3
SA Mid North Riverland	3627	5449	5816	6522	7197	228	92	141	135	0.5	0.5
SA Spencer Gulf	3042	5285	5869	6564	7115	280	146	139	110	0.4	0.5
SEQ Brisbane City	43808	59599	65125	74372	82225	1974	1382	1849	1571	5.7	5.9
SEQ Brisbane South	11572	18028	22631	27160	32814	807	1151	906	1131	1.5	1.8
SEQ Gold Coast	11532	19915	24618	29346	35174	1048	1176	946	1166	1.5	2.0
SEQ Moreton Bay	10843	16545	22447	26702	32097	713	1475	851	1079	1.4	1.6
SEQ Sunshine Coast	8045	12078	15740	20068	24387	504	916	866	864	1.0	1.2
SEQ West Moreton	5706	7746	12141	16928	22743	255	1099	957	1163	0.7	0.8
Sydney Central	25154	34998	35984	40979	45262	1230	247	999	857	3.3	3.5
Sydney Eastern Beaches	14865	17076	18155	19494	21115	276	270	268	324	1.9	1.7
Sydney Northern Beaches	13335	13462	16507	17851	19369	16	761	269	304	1.7	1.3

continued next page

Table A5.17: Resident employment – health care (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Sydney Old West	12050	14178	17829	20063	22045	266	913	447	396	1.6	1.4
Sydney Outer North	17862	21995	22393	23511	25058	517	100	224	309	2.3	2.2
Sydney Outer South West	12726	15635	18249	21102	24948	364	653	571	769	1.7	1.5
Sydney Outer West	24268	31736	33545	38121	44419	933	452	915	1260	3.2	3.1
Sydney Parramatta-Bankstown	20130	20441	26590	29360	31859	39	1537	554	500	2.6	2.0
Sydney South	17446	21192	21808	23255	24987	468	154	289	346	2.3	2.1
TAS Hobart-South	10766	14474	15169	16705	18456	463	174	307	350	1.4	1.4
TAS North	5674	7095	7910	8598	9430	178	204	138	166	0.7	0.7
TAS North West	4040	4303	5731	6453	7164	33	357	144	142	0.5	0.4
VIC Ballarat	6567	9103	9075	10794	12409	317	-7	344	323	0.9	0.9
VIC Bendigo	7360	13000	15951	19417	22986	705	738	693	714	1.0	1.3
VIC Geelong	7697	11880	14008	15999	18285	523	532	398	457	1.0	1.2
VIC Gippsland	8188	10373	13893	15370	17469	273	880	295	420	1.1	1.0
VIC Mallee Wimmera	4353	6865	7922	8768	9399	314	264	169	126	0.6	0.7
VIC North East	7902	9946	12021	13654	15469	256	519	327	363	1.0	1.0
VIC West	5009	8100	10438	12329	14461	386	585	378	426	0.7	0.8
WA Gascoyne Goldfields	3921	4101	4615	5646	6803	22	129	206	231	0.5	0.4
WA Peel South West	5056	7937	9406	11160	13253	360	367	351	419	0.7	0.8
WA Pilbara Kimberley	3424	3135	3476	4434	5547	-36	85	192	223	0.4	0.3
WA Wheatbelt Great Southern	2739	3732	4554	5439	6496	124	206	177	211	0.4	0.4
Total	**769411**	**1009381**	**1144181**	**1314679**	**1500639**	**29996**	**33700**	**34100**	**37192**	**100.0**	**100.0**

Table A5.18: Resident employment – arts and recreation services

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
ACT	4135	4373	4259	4576	5006	30	-28	64	86	3.0	2.4
Adelaide Inner	3154	3773	4360	5210	5960	77	147	170	150	2.3	2.1
Adelaide North	3271	2662	3750	4111	4561	-76	272	72	90	2.4	1.4
Adelaide South	2355	2401	3311	3763	4202	6	227	91	88	1.7	1.3
Melbourne Central	7584	10648	9819	11347	13204	383	-207	306	371	5.6	5.8
Melbourne East	4607	6332	7819	8738	9718	216	372	184	196	3.4	3.4
Melbourne North	3736	4837	8295	9954	11358	138	865	332	281	2.7	2.6
Melbourne North East	3438	4299	7174	8597	9829	108	719	285	246	2.5	2.3
Melbourne Outer South East	2802	4851	4391	5025	5769	256	-115	127	149	2.1	2.6
Melbourne South East	4483	5423	4639	4866	5217	117	-196	45	70	3.3	3.0
Melbourne West	3229	5964	5522	6703	8154	342	-110	236	290	2.4	3.2
NSW Central Coast	961	1336	3297	4101	4763	47	490	161	132	0.7	0.7
NSW Central West	564	1446	1749	1977	2156	110	76	45	36	0.4	0.8
NSW Far West	248	728	973	1034	1085	60	61	12	10	0.2	0.4
NSW Hunter	3356	3797	3584	3997	4340	55	-53	82	69	2.5	2.1
NSW Illawarra	815	3253	2608	2662	2994	305	-161	11	66	0.6	1.8
NSW Mid North Coast	1264	1673	2118	2503	2823	51	111	77	64	0.9	0.9
NSW North	383	905	1093	1192	1255	65	47	20	13	0.3	0.5
NSW Richmond Tweed	1022	1509	1945	2323	2647	61	109	76	65	0.7	0.8
NSW Riverina	844	1239	705	777	827	49	-134	14	10	0.6	0.7
NSW Southern Tablelands	943	2897	1630	1947	2191	244	-317	64	49	0.7	1.6
NT Darwin	1358	1679	2388	3100	3822	40	177	142	144	1.0	0.9
NT Lingiari	593	625	844	932	979	4	55	18	9	0.4	0.3

continued next page

Table A5.18: Resident employment – arts and recreation services (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Perth Central	5817	6807	7960	8926	9980	124	288	193	211	4.3	3.7
Perth Outer North	3883	4518	5001	5593	6395	79	121	119	160	2.8	2.5
Perth Outer South	3346	4474	4099	4674	5352	141	-94	115	136	2.5	2.4
QLD Cairns	2088	2318	2192	2601	2765	29	-31	82	33	1.5	1.3
QLD Darling Downs	819	1520	1707	1934	2212	88	47	46	55	0.6	0.8
QLD Fitzroy	816	875	1163	1567	1926	7	72	81	72	0.6	0.5
QLD Mackay	615	691	913	1162	1353	9	56	50	38	0.5	0.4
QLD North	1423	1736	1195	1210	1333	39	-135	3	25	1.0	0.9
QLD Resource region	284	391	421	538	654	13	8	23	23	0.2	0.2
QLD Wide Bay Burnett	280	786	1627	2086	2468	63	210	92	76	0.2	0.4
SA Mallee South East	326	371	385	384	417	6	3	0	7	0.2	0.2
SA Mid North Riverland	327	430	502	509	551	13	18	1	8	0.2	0.2
SA Spencer Gulf	216	239	496	521	560	3	64	5	8	0.2	0.1
SEQ Brisbane City	5542	8630	7589	8097	8822	386	-260	101	145	4.1	4.7
SEQ Brisbane South	3044	3420	3157	3717	4286	47	-66	112	114	2.2	1.9
SEQ Gold Coast	7373	10507	10190	12007	14012	392	-79	363	401	5.4	5.7
SEQ Moreton Bay	2236	2529	3908	4697	5672	37	345	158	195	1.6	1.4
SEQ Sunshine Coast	1222	2635	2805	3281	4033	177	43	95	151	0.9	1.4
SEQ West Moreton	1373	1701	1438	1779	2318	41	-66	68	108	1.0	0.9
Sydney Central	7278	9161	10130	11004	12083	235	242	175	216	5.3	5.0
Sydney Eastern Beaches	2250	3814	3634	3952	4224	195	-45	64	55	1.6	2.1

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Table A5.18: Resident employment – arts and recreation services (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Sydney Northern Beaches	1622	2517	3988	4220	4565	112	368	46	69	1.2	1.4
Sydney Old West	2664	4335	2466	2491	2682	209	-467	5	38	2.0	2.4
Sydney Outer North	4378	3249	3157	3382	3533	-141	-23	45	30	3.2	1.8
Sydney Outer South West	1676	2964	2202	2658	3188	161	-191	91	106	1.2	1.6
Sydney Outer West	4393	4291	6209	7227	8388	-13	480	204	232	3.2	2.3
Sydney Parramatta-Bankstown	3087	3857	2462	2506	2679	96	-349	9	35	2.3	2.1
Sydney South	1250	1390	4839	5529	5977	17	862	138	90	0.9	0.8
TAS Hobart-South	1564	2865	2598	2994	3330	163	-67	79	67	1.1	1.6
TAS North	970	1093	1191	1202	1307	15	25	2	21	0.7	0.6
TAS North West	533	473	307	346	380	-7	-42	8	7	0.4	0.3
VIC Ballarat	1199	1644	1157	1275	1449	56	-122	24	35	0.9	0.9
VIC Bendigo	643	1447	2060	2601	3091	101	153	108	98	0.5	0.8
VIC Geelong	997	1480	2262	2809	3207	60	196	109	79	0.7	0.8
VIC Gippsland	1414	1816	1719	1964	2175	50	-24	49	42	1.0	1.0
VIC Mallee Wimmera	294	643	597	642	682	44	-11	9	8	0.2	0.3
VIC North East	688	910	1820	2224	2548	28	228	81	65	0.5	0.5
VIC West	546	758	1253	1593	1851	26	124	68	51	0.4	0.4
WA Gascoyne Goldfields	750	809	729	839	948	7	-20	22	22	0.5	0.4
WA Peel South West	1215	1826	1889	2366	2821	76	16	95	91	0.9	1.0
WA Pilbara Kimberley	435	491	435	525	621	7	-14	18	19	0.3	0.3
WA Wheatbelt Great Southern	379	577	617	778	944	25	10	32	33	0.3	0.3
Total	**136402**	**183641**	**200743**	**229848**	**260641**	**5905**	**4276**	**5821**	**6159**	**100.0**	**100.0**

Table A5.19: Resident employment – other services

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
ACT	5691	6099	7216	7809	8382	51	279	119	115	1.5	1.4
Adelaide Inner	7066	8011	7643	8243	9107	118	-92	120	173	1.8	1.8
Adelaide North	10608	12993	10310	10697	11560	298	-671	77	173	2.8	2.9
Adelaide South	8155	9775	9792	10499	11456	203	4	141	191	2.1	2.2
Melbourne Central	5787	6281	10361	12059	13742	62	1020	340	337	1.5	1.4
Melbourne East	12276	13530	13180	14043	14907	157	-88	173	173	3.2	3.0
Melbourne North	9998	10640	9761	10722	11494	80	-220	192	154	2.6	2.4
Melbourne North East	11926	14098	13850	15392	16768	271	-62	308	275	3.1	3.1
Melbourne Outer South East	9804	11743	12103	13533	15123	242	90	286	318	2.6	2.6
Melbourne South East	12759	11757	10297	10550	10951	-125	-365	51	80	3.3	2.6
Melbourne West	9450	12525	14309	16678	19355	384	446	474	535	2.5	2.8
NSW Central Coast	6274	7324	7301	7848	8622	131	-6	109	155	1.6	1.6
NSW Central West	4100	4873	5234	5792	6122	97	90	112	66	1.1	1.1
NSW Far West	1797	1470	1202	1254	1291	-41	-67	10	7	0.5	0.3
NSW Hunter	12304	14016	12840	13506	14450	214	-294	133	189	3.2	3.1
NSW Illawarra	7912	9087	10440	10973	11830	147	338	107	171	2.1	2.0
NSW Mid North Coast	3581	4331	6111	7007	7720	94	445	179	142	0.9	1.0
NSW North	2937	3509	3808	4132	4283	72	75	65	30	0.8	0.8
NSW Richmond Tweed	2838	3352	4816	5539	6121	64	366	145	116	0.7	0.7
NSW Riverina	3083	3103	4169	4288	4487	2	267	24	40	0.8	0.7
NSW Southern Tablelands	2614	3382	4041	4355	4696	96	165	63	68	0.7	0.8
NT Darwin	4851	4246	3822	4330	4853	-76	-106	102	105	1.3	0.9

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Table A5.19: Resident employment – other services (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
NT Lingiari	2571	1666	1463	1527	1582	-113	-51	13	11	0.7	0.4
Perth Central	11236	12640	12377	13382	14449	176	-66	201	213	2.9	2.8
Perth Outer North	9597	11854	14503	16733	19076	282	662	446	469	2.5	2.6
Perth Outer South	10078	11924	12566	13813	15388	231	161	249	315	2.6	2.7
QLD Cairns	6005	6334	4507	4446	4630	41	-457	-12	37	1.6	1.4
QLD Darling Downs	3167	3588	3853	4564	4951	53	66	142	77	0.8	0.8
QLD Fitzroy	3481	4172	4504	5409	6464	86	83	181	211	0.9	0.9
QLD Mackay	3036	3847	4222	4851	5567	101	94	126	143	0.8	0.9
QLD North	3809	5017	3537	4062	4445	151	-370	105	76	1.0	1.1
QLD Resource region	1226	1319	1076	1232	1340	12	-61	31	22	0.3	0.3
QLD Wide Bay Burnett	3763	4494	4364	4899	5572	91	-33	107	134	1.0	1.0
SA Mallee South East	1194	1419	2360	2612	2864	28	235	50	50	0.3	0.3
SA Mid North Riverland	1698	1905	2344	2524	2694	26	110	36	34	0.4	0.4
SA Spencer Gulf	1926	1945	1622	1714	1798	2	-81	18	17	0.5	0.4
SEQ Brisbane City	17576	21760	26513	29114	31440	523	1188	520	465	4.6	4.8
SEQ Brisbane South	7023	8934	11270	12899	14982	239	584	326	417	1.8	2.0
SEQ Gold Coast	6056	8620	11659	13389	15565	321	760	346	435	1.6	1.9
SEQ Moreton Bay	4856	6866	8194	9721	11324	251	332	305	321	1.3	1.5
SEQ Sunshine Coast	3975	7157	6385	7487	8778	398	-193	220	258	1.0	1.6
SEQ West Moreton	3264	4772	5129	6833	8764	188	89	341	386	0.9	1.1
Sydney Central	8549	10257	11126	12436	13400	214	217	262	193	2.2	2.3
Sydney Eastern Beaches	5773	6580	4807	4786	4903	101	-443	-4	23	1.5	1.5
Sydney Northern Beaches	6110	5501	5617	6025	6260	-76	29	82	47	1.6	1.2

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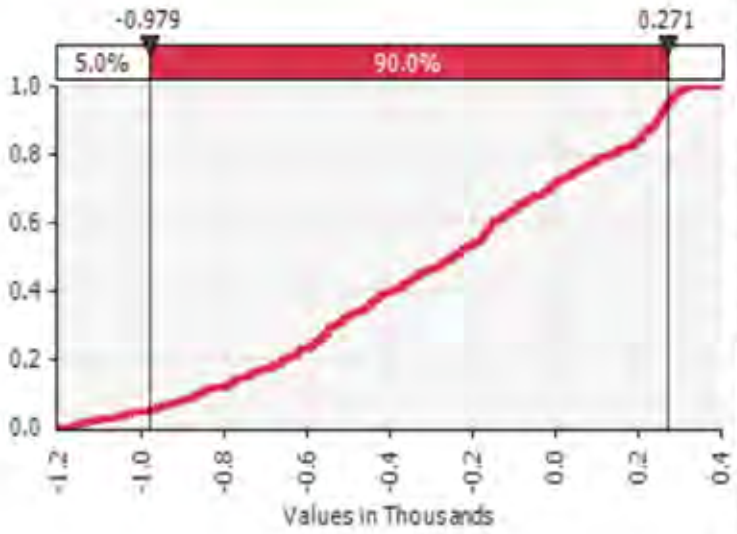
Table A5.19: Resident employment – other services (continued)

	Number					Annual average change in employment between benchmark years				Share of total number (per cent)	
	1998	2006	2010	2015	2020	1998–2006	2006–2010	2010–2015	2015–2020	1998	2020
Sydney Old West	6091	7039	6388	6572	6940	118	-163	37	74	1.6	1.6
Sydney Outer North	9742	12162	10252	10525	10965	303	-478	55	88	2.5	2.7
Sydney Outer South West	8759	12261	7222	7782	8641	438	-1260	112	172	2.3	2.7
Sydney Outer West	12490	16523	16903	18885	21184	504	95	396	460	3.3	3.7
Sydney Parramatta-Bankstown	11635	13888	12582	12914	13565	282	-326	66	130	3.0	3.1
Sydney South	13442	13942	11667	11773	12188	62	-569	21	83	3.5	3.1
TAS Hobart-South	3556	3682	3746	3847	4099	16	16	20	50	0.9	0.8
TAS North	1985	2220	2057	2235	2386	29	-41	36	30	0.5	0.5
TAS North West	1543	1778	2005	2152	2332	29	57	29	36	0.4	0.4
VIC Ballarat	3313	3665	2843	3093	3371	44	-205	50	56	0.9	0.8
VIC Bendigo	4458	5362	4092	4380	4819	113	-318	58	88	1.2	1.2
VIC Geelong	4084	4352	3998	4092	4370	34	-89	19	56	1.1	1.0
VIC Gippsland	4164	5808	5047	5017	5456	205	-190	-6	88	1.1	1.3
VIC Mallee Wimmera	2151	2826	2252	2344	2447	84	-143	18	21	0.6	0.6
VIC North East	3830	4183	3543	3452	3747	44	-160	-18	59	1.0	0.9
VIC West	2221	2586	2670	2840	3126	46	21	34	57	0.6	0.6
WA Gascoyne Goldfields	3128	2754	2625	2867	3155	-47	-32	49	58	0.8	0.6
WA Peel South West	1790	2208	4199	4912	5765	52	498	143	171	0.5	0.5
WA Pilbara Kimberley	2246	1740	1585	1735	1904	-63	-39	30	34	0.6	0.4
WA Wheatbelt Great Southern	1540	1322	1876	2098	2363	-27	138	44	53	0.4	0.3
Total	**383949**	**449014**	**454158**	**497221**	**546376**	**8133**	**1286**	**8613**	**9831**	**100.0**	**100.0**

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

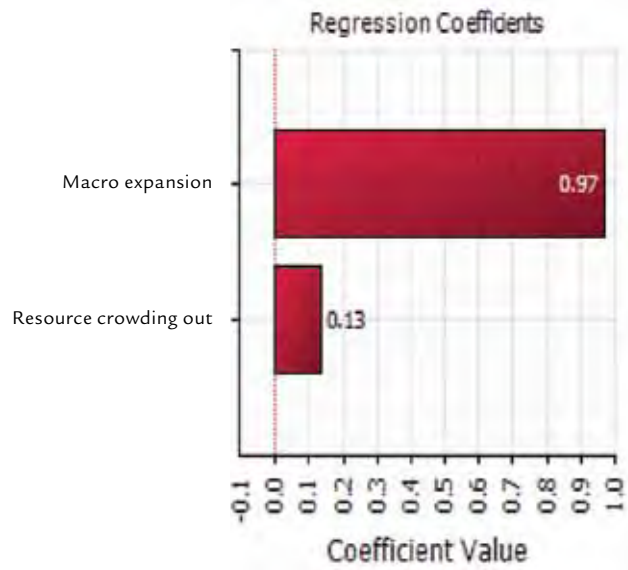
Figure A6.1(a): ACT: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-1362	5%	-984
Maximum	983	10%	-788
Mean	65	15%	-624
Std Dev	591	20%	-479
Variance	349313.6525	25%	-371
Skewness	-0.29273416	30%	-276
Kurtosis	2.086538136	35%	-188
Median	104	40%	-97
Mode	853	45%	-1
Left X	-984	50%	104
Left P	5%	55%	216
Right X	887	60%	294
Right P	95%	65%	373
Diff X	1871	70%	460
Diff P	90%	75%	572
#Errors	0	80%	698
Filter Min	Off	85%	794
Filter Max	Off	90%	849
#Filtered	0	95%	887

Figure A6.1(b): ACT: Macro growth versus crowding out – total apprentices in training – 2010–2020

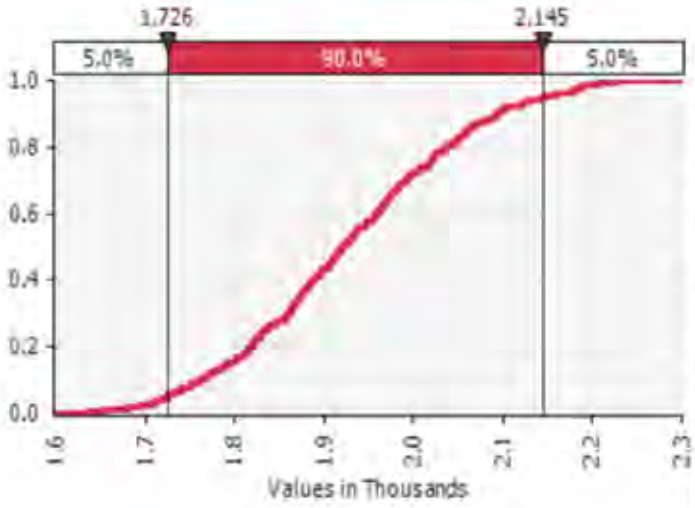


APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

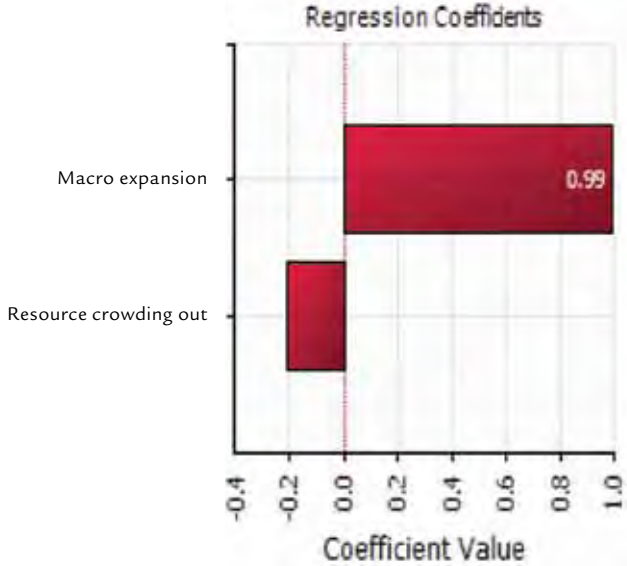
Figure A6.2(a): Adelaide Inner: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

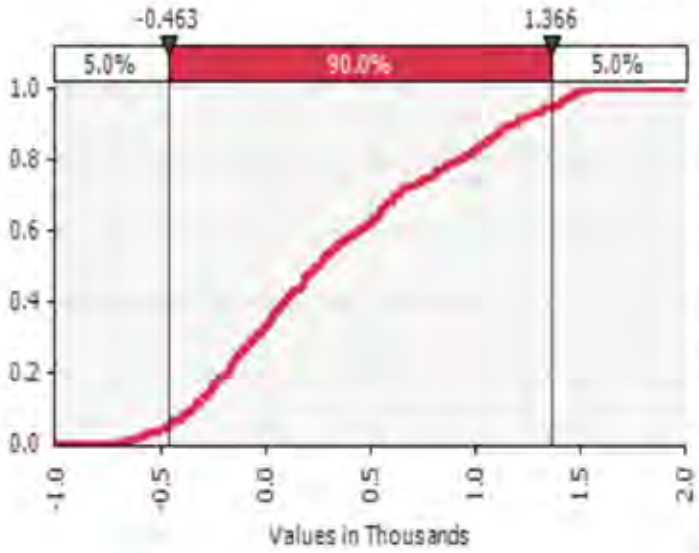
Statistics		Percentile	
Minimum	1783	5%	1926
Maximum	2568	10%	1974
Mean	2164	15%	2005
Std Dev	148	20%	2033
Variance	21917.44435	25%	2058
Skewness	0.139135351	30%	2080
Kurtosis	2.51520489	35%	2100
Median	2159	40%	2118
Mode	2141	45%	2140
Left X	1926	50%	2159
Left P	5%	55%	2179
Right X	2422	60%	2197
Right P	95%	65%	2218
Diff X	495	70%	2242
Diff P	90%	75%	2268
#Errors	0	80%	2295
Filter Min	Off	85%	2326
Filter Max	Off	90%	2367
#Filtered	0	95%	2422

Figure A6.2(b): Adelaide Inner: Macro growth versus crowding out – total apprentices in training – 2010-2020



APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

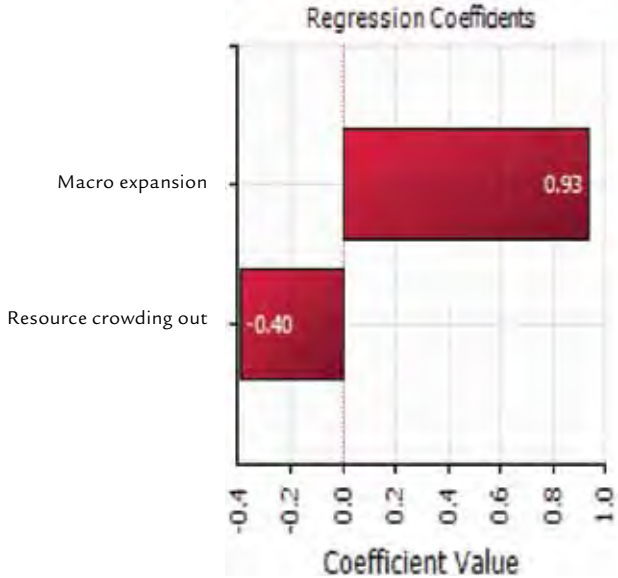
Figure A6.3(a): Adelaide North: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-942	5%	-537
Maximum	2112	10%	-383
Mean	550	15%	-268
Std Dev	765	20%	-172
Variance	585230.7487	25%	-81
Skewness	0.297552991	30%	23
Kurtosis	1.991343964	35%	115
Median	428	40%	217
Mode	-88	45%	311
Left X	-537	50%	428
Left P	5%	55%	555
Right X	1885	60%	687
Right P	95%	65%	812
Diff X	2422	70%	985
Diff P	90%	75%	1181
#Errors	0	80%	1355
Filter Min	Off	85%	1540
Filter Max	Off	90%	1723
#Filtered	0	95%	1885

Figure A6.3(b): Adelaide North: Macro growth versus crowding out – total apprentices in training – 2010–2020

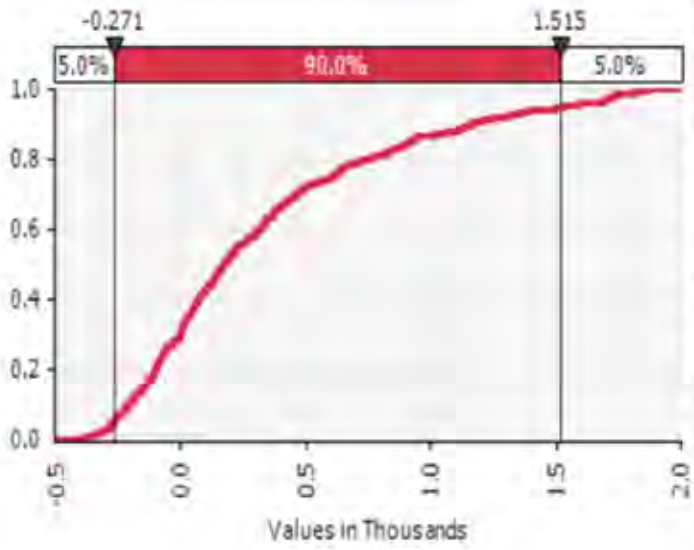


APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

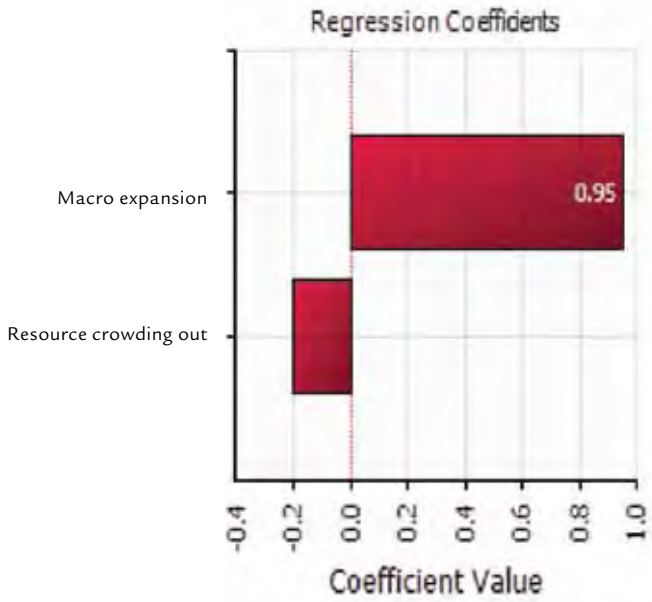
Figure A6.4(a): Adelaide South: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-562	5%	-380
Maximum	2381	10%	-297
Mean	389	15%	-237
Std Dev	683	20%	-174
Variance	465894.2256	25%	-119
Skewness	1.065180249	30%	-62
Kurtosis	3.280499702	35%	-10
Median	179	40%	46
Mode	-14	45%	112
Left X	-380	50%	179
Left P	5%	55%	255
Right X	1887	60%	339
Right P	95%	65%	437
Diff X	2266	70%	560
Diff P	90%	75%	730
#Errors	0	80%	928
Filter Min	Off	85%	1193
Filter Max	Off	90%	1514
#Filtered	0	95%	1887

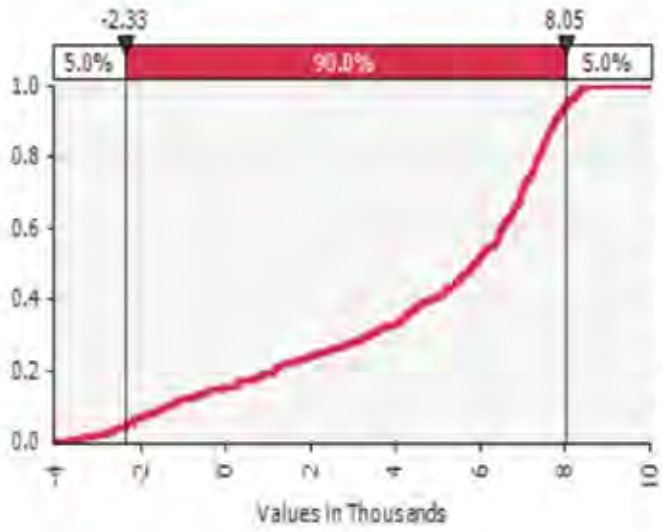
Figure A6.4(b): Adelaide South: Macro growth versus crowding out – total apprentices in training – 2010–2020



APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

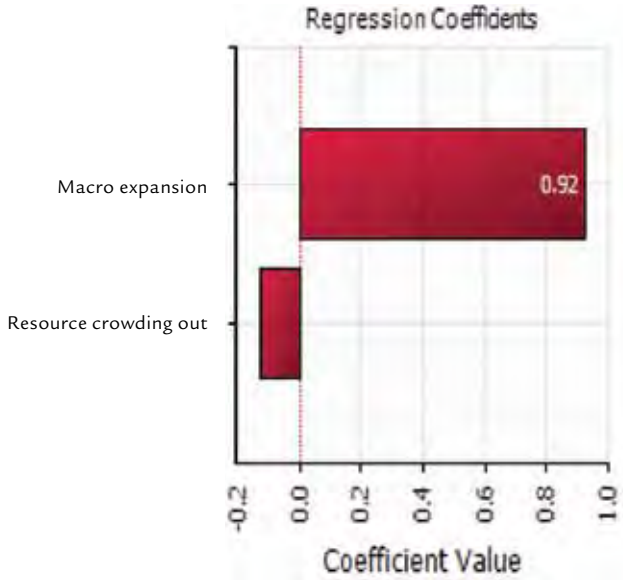
6

Figure A6.5(a): Melbourne Inner: Cumulative probability for change in apprentices in training – 2010–2020



Statistics	Change in Total Apprentices in Training	Percentile	Change in Total Apprentices in Training
Minimum	-5183	5%	-3174
Maximum	9574	10%	-1895
Mean	5026	15%	-539
Std Dev	3955	20%	1101
Variance	15645807.79	25%	2534
Skewness	-0.99595805	30%	3807
Kurtosis	2.667959594	35%	4814
Median	6833	40%	5787
Mode	8625	45%	6384
Left X	-3174	50%	6833
Left P	5%	55%	7169
Right X	8905	60%	7434
Right P	95%	65%	7659
Diff X	12079	70%	7864
Diff P	90%	75%	8061
#Errors	0	80%	8236
Filter Min	Off	85%	8415
Filter Max	Off	90%	8639
#Filtered	0	95%	8905

Figure A6.5(b): Melbourne Inner: Macro growth versus crowding out – total apprentices in training – 2010–2020

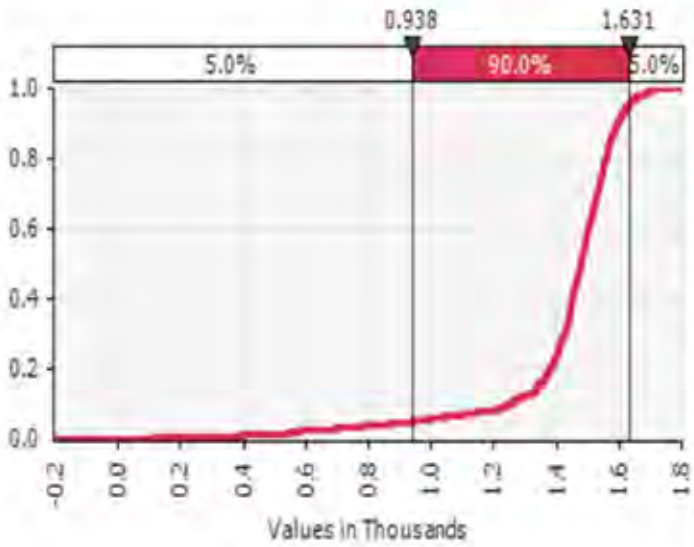


APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

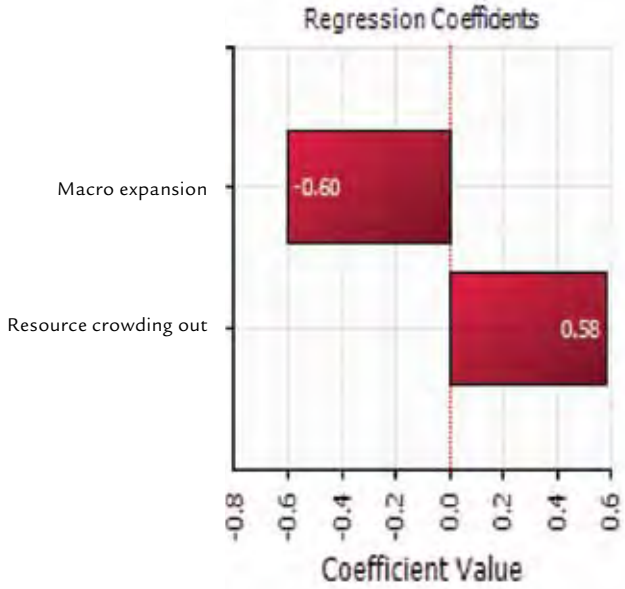
Figure A6.6(a): Melbourne East: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

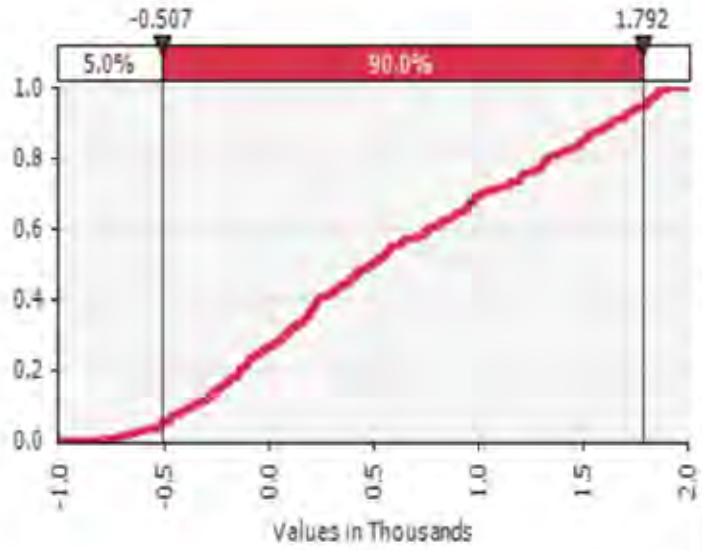
Statistics		Percentile	
Minimum	-820	5%	719
Maximum	1755	10%	1120
Mean	1364	15%	1281
Std Dev	308	20%	1325
Variance	95088.00396	25%	1351
Skewness	-3.28440795	30%	1370
Kurtosis	16.06395891	35%	1389
Median	1436	40%	1404
Mode	1414	45%	1419
Left X	719	50%	1436
Left P	5%	55%	1451
Right X	1618	60%	1465
Right P	95%	65%	1481
Diff X	899	70%	1497
Diff P	90%	75%	1514
#Errors	0	80%	1532
Filter Min	Off	85%	1554
Filter Max	Off	90%	1579
#Filtered	0	95%	1618

Figure A6.6(b): Melbourne East: Macro growth versus crowding out – total apprentices in training – 2010–2020



APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

Figure A6.7(a): Melbourne North: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-1185	5%	-670
Maximum	2636	10%	-466
Mean	885	15%	-298
Std Dev	1012	20%	-151
Variance	1024847.543	25%	-13
Skewness	0.129996218	30%	126
Kurtosis	1.823266995	35%	270
Median	724	40%	388
Mode	260	45%	553
Left X	-670	50%	724
Left P	5%	55%	905
Right X	2457	60%	1089
Right P	95%	65%	1317
Diff X	3127	70%	1524
Diff P	90%	75%	1740
#Errors	0	80%	1990
Filter Min	Off	85%	2148
Filter Max	Off	90%	2328
#Filtered	0	95%	2457

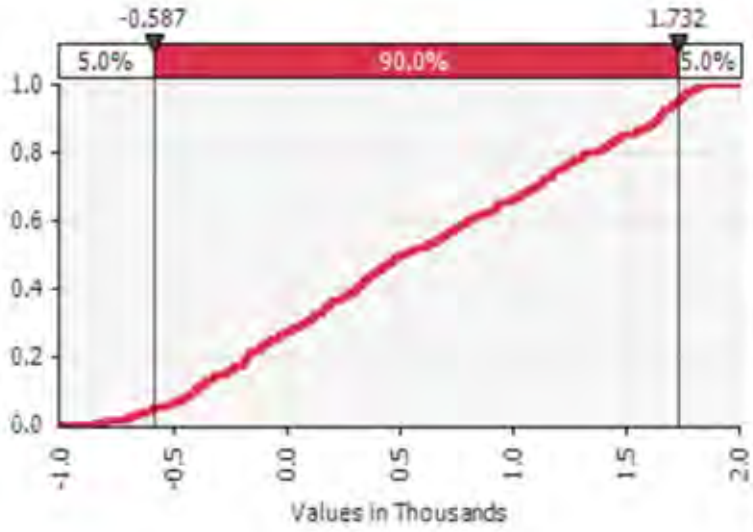
Figure A6.7(b): Melbourne North: Macro growth versus crowding out – total apprentices in training – 2010–2020

APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

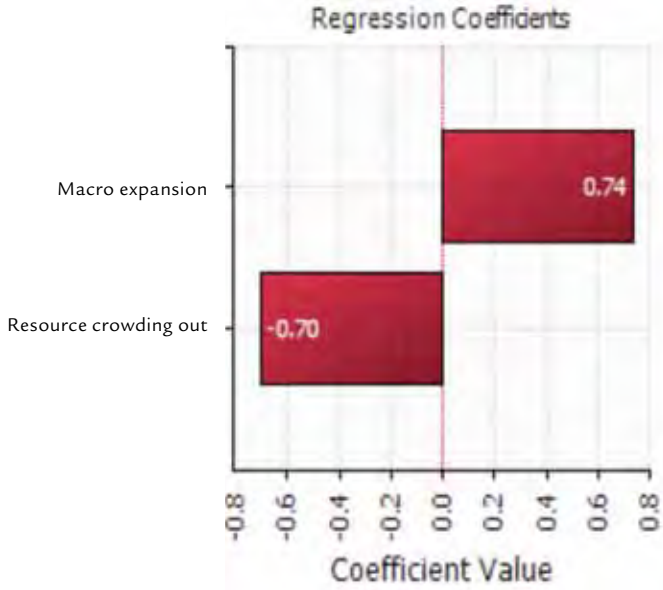
Figure A6.8(a): Melbourne North East: Cumulative probability for change in apprentices in training – 2010-2020



Summary Statistics for Change in tot

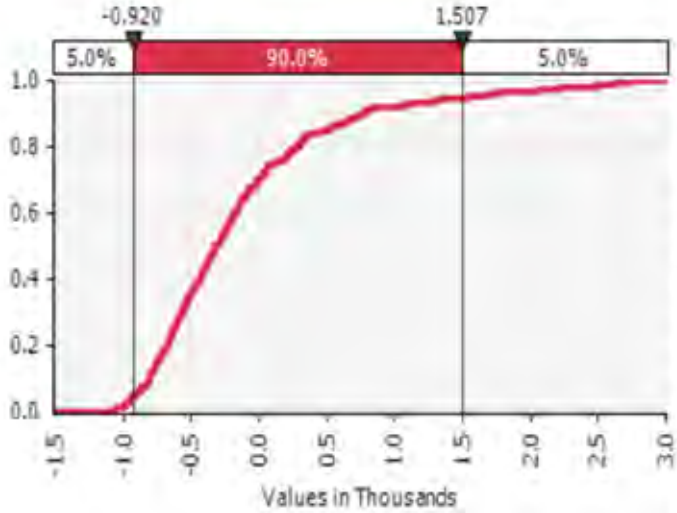
Statistics		Percentile	
Minimum	-1164	5%	-683
Maximum	2508	10%	-462
Mean	831	15%	-288
Std Dev	990	20%	-137
Variance	979427.6149	25%	-10
Skewness	0.049301459	30%	141
Kurtosis	1.777928358	35%	274
Median	741	40%	423
Mode	2315	45%	563
Left X	-683	50%	741
Left P	5%	55%	926
Right X	2337	60%	1147
Right P	95%	65%	1383
Diff X	3020	70%	1539
Diff P	90%	75%	1701
#Errors	0	80%	1928
Filter Min	Off	85%	2119
Filter Max	Off	90%	2254
#Filtered	0	95%	2337

Figure A6.8(b): Melbourne North East: Macro growth versus crowding out – total apprentices in training – 2010–2020



APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

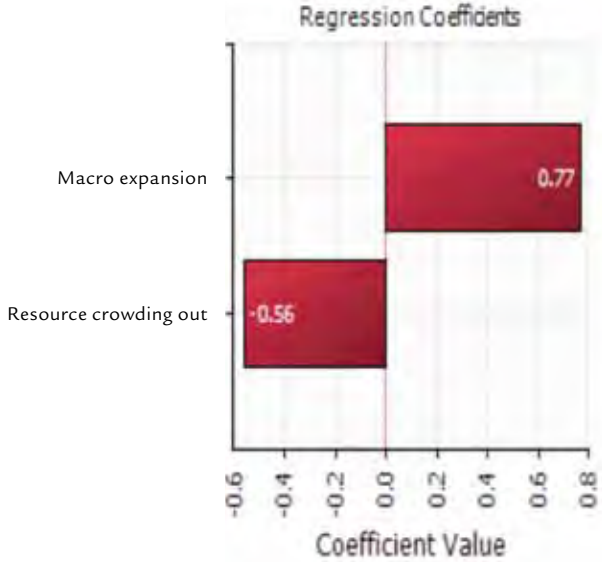
Figure A6.9(a): Melbourne Outer South East: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-1304	5%	-1022
Maximum	3726	10%	-904
Mean	-15	15%	-819
Std Dev	982	20%	-743
Variance	964417.3078	25%	-669
Skewness	1.670887768	30%	-602
Kurtosis	5.685595055	35%	-537
Median	-302	40%	-454
Mode	-649	45%	-387
Left X	-1022	50%	-302
Left P	5%	55%	-213
Right X	2312	60%	-111
Right P	95%	65%	2
Diff X	3334	70%	129
Diff P	90%	75%	295
#Errors	0	80%	505
Filter Min	Off	85%	786
Filter Max	Off	90%	1238
#Filtered	0	95%	2312

Figure A6.9(b): Melbourne Outer South East: Macro growth versus crowding out – total apprentices in training – 2010–2020

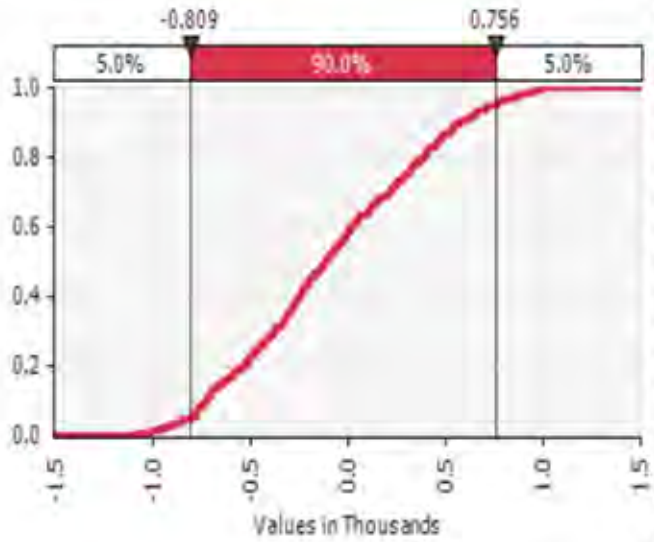


APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

Figure A6.10(a): Melbourne South East: Cumulative probability for change in apprentices in training – 2010–2020



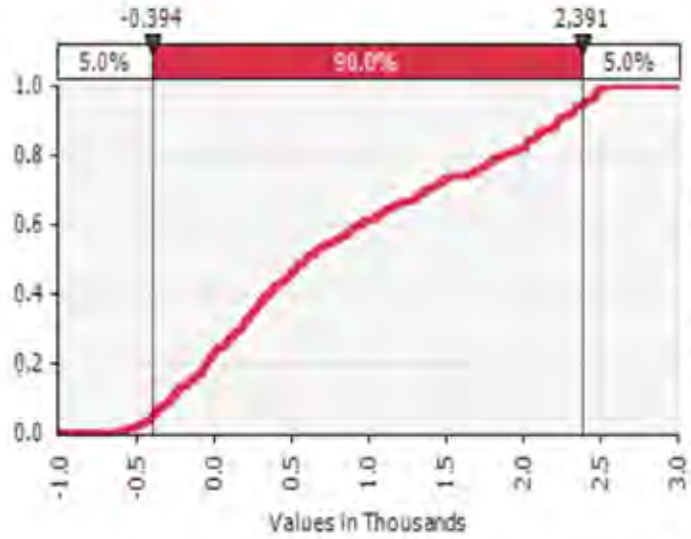
Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-1349	5%	-948
Maximum	1396	10%	-782
Mean	37	15%	-653
Std Dev	634	20%	-556
Variance	402285.3774	25%	-455
Skewness	0.132524212	30%	-368
Kurtosis	2.118660998	35%	-277
Median	-9	40%	-196
Mode	-136	45%	-108
Left X	-948	50%	-9
Left P	5%	55%	82
Right X	1118	60%	191
Right P	95%	65%	307
Diff X	2067	70%	420
Diff P	90%	75%	542
#Errors	0	80%	664
Filter Min	Off	85%	789
Filter Max	Off	90%	982
#Filtered	0	95%	1118

Figure A6.10(b): Melbourne South East: Macro growth versus crowding out – total apprentices in training – 2010–2020

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

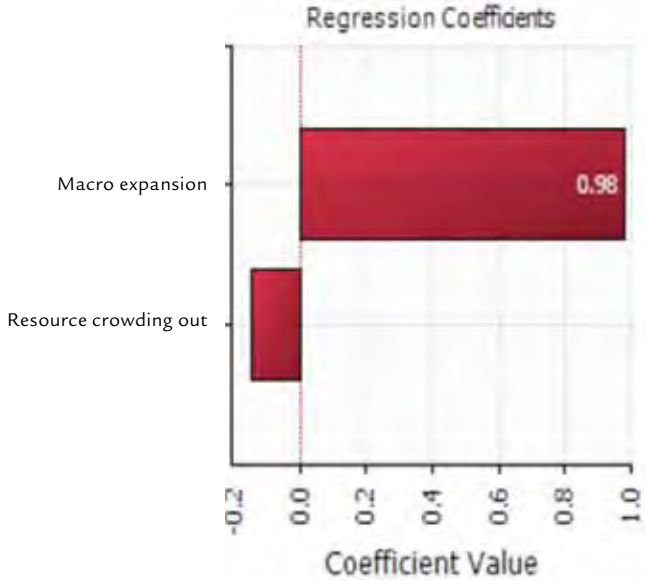
Figure A6.11(a): Melbourne West: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-1071	5%	-701
Maximum	3131	10%	-533
Mean	913	15%	-392
Std Dev	1208	20%	-253
Variance	1458411.178	25%	-116
Skewness	0.340912337	30%	15
Kurtosis	1.768976231	35%	140
Median	641	40%	295
Mode	2750	45%	457
Left X	-701	50%	641
Left P	5%	55%	830
Right X	2897	60%	1077
Right P	95%	65%	1356
Diff X	3598	70%	1713
Diff P	90%	75%	2049
#Errors	0	80%	2357
Filter Min	Off	85%	2579
Filter Max	Off	90%	2759
#Filtered	0	95%	2897

Figure A6.11(b): Melbourne West: Macro growth versus crowding out – total apprentices in training – 2010–2020



APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

Figure A6.12(a): NSW Central Coast: Cumulative probability for change in apprentices in training – 2010–2020

Statistics		Percentile	
Minimum	-210	5%	6
Maximum	809	10%	114
Mean	538	15%	210
Std Dev	255	20%	294
Variance	651969344	25%	376
Skewness	-1.04273951	30%	450
Kurtosis	2.900299039	35%	515
Median	652	40%	570
Mode	730	45%	613
Left X	6	50%	652
Left P	5%	55%	684
Right X	776	60%	710
Right P	95%	65%	723
Diff X	770	70%	731
Diff P	90%	75%	738
#Errors	0	80%	746
Filter Min	Off	85%	753
Filter Max	Off	90%	763
#Filtered	0	95%	776

Figure A6.12(b): NSW Central Coast: Macro growth versus crowding out – total apprentices in training – 2010–2020

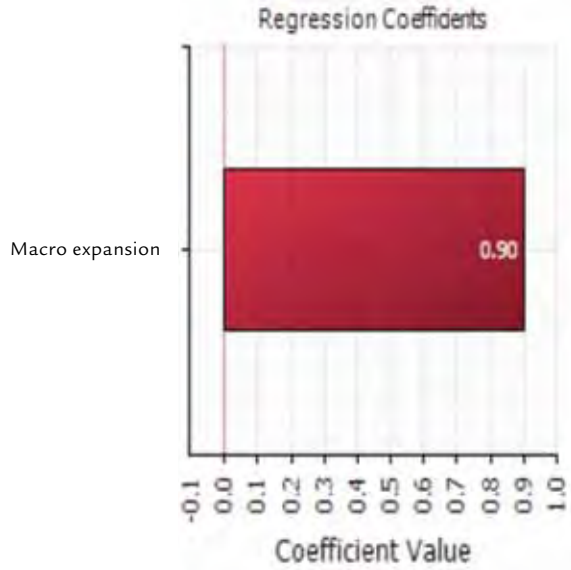
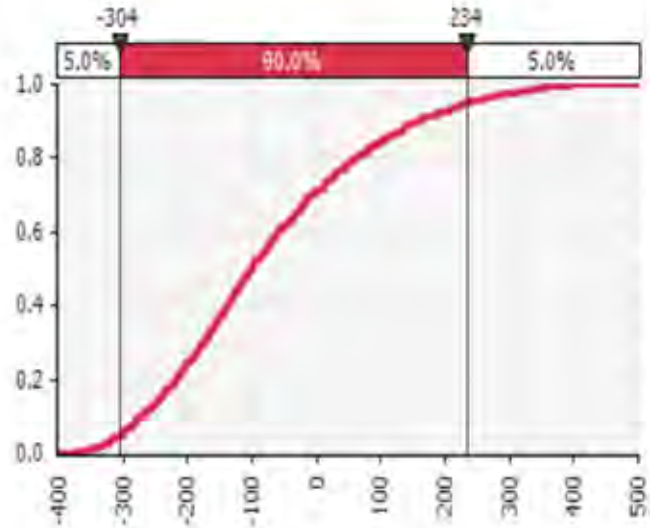


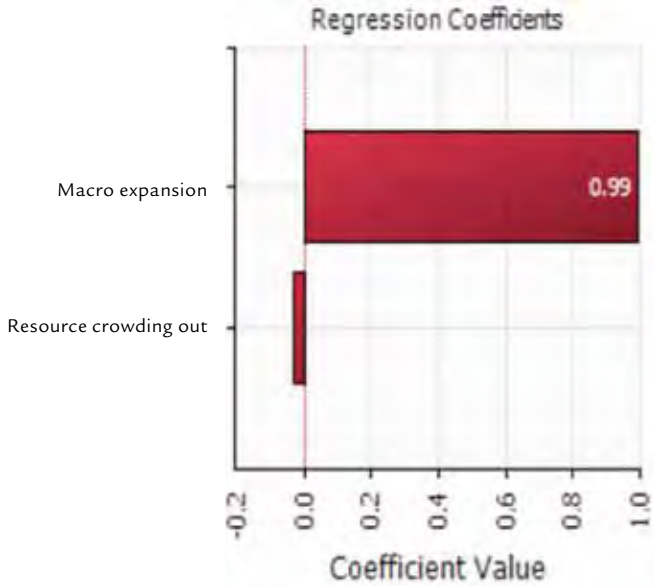
Figure A6.13(a): NSW Central West: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in Tot

Statistics		Percentile	
Minimum	-391	5%	-283
Maximum	789	10%	-236
Mean	39	15%	-196
Std Dev	230	20%	-163
Variance	53118.80921	25%	-132
Skewness	0.620761347	30%	-103
Kurtosis	2.888616891	35%	-77
Median	3	40%	-51
Mode	-52	45%	-24
Left X	-283	50%	3
Left P	5%	55%	32
Right X	478	60%	64
Right P	95%	65%	98
Diff X	762	70%	138
Diff P	90%	75%	183
#Errors	0	80%	235
Filter Min	Off	85%	294
Filter Max	Off	90%	372
#Filtered	0	95%	478

Figure A6.13(b): NSW Central West: Macro growth versus crowding out – total apprentices in training – 2010–2020

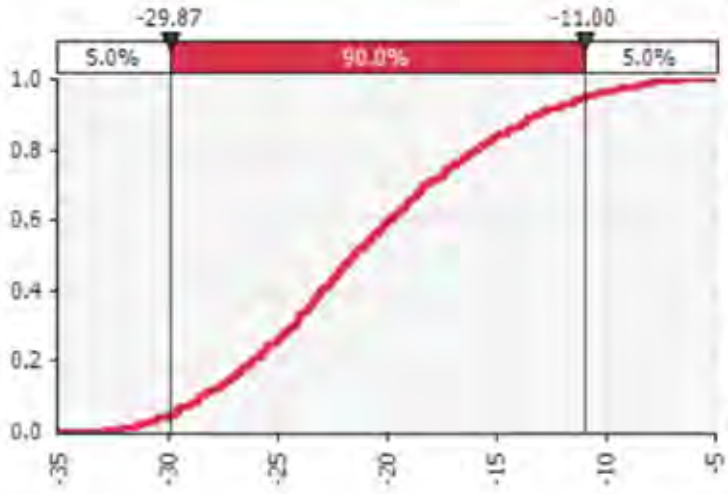


APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

Figure A6.14(a): NSW Far West: Cumulative probability for change in apprentices in training – 2010–2020

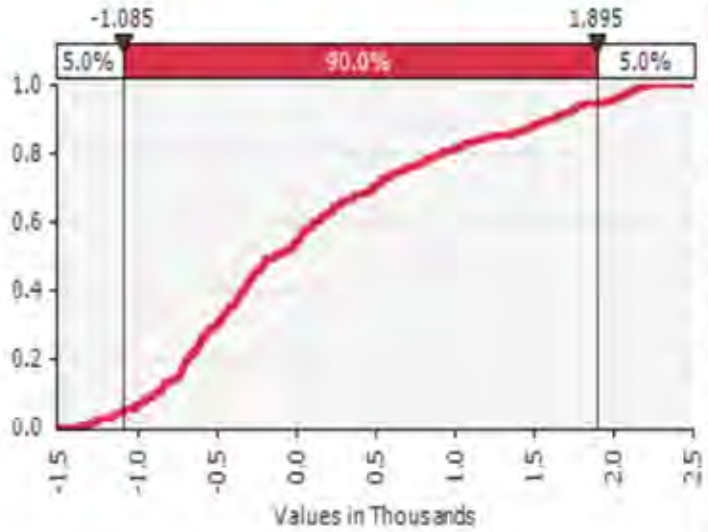


Summary Statistics for Change in Tot			
Statistics		Percentile	
Minimum	12	5%	18
Maximum	56	10%	21
Mean	32	15%	22
Std Dev	9	20%	24
Variance	76.88283368	25%	26
Skewness	0.249929924	30%	27
Kurtosis	2.471533105	35%	28
Median	31	40%	29
Mode	27	45%	30
Left X	18	50%	31
Left P	5%	55%	32
Right X	48	60%	34
Right P	95%	65%	35
Diff X	29	70%	36
Diff P	90%	75%	38
#Errors	0	80%	40
Filter Min	Off	85%	42
Filter Max	Off	90%	44
#Filtered	0	95%	48

Figure A6.14(b): NSW Far West: Macro growth versus crowding out – total apprentices in training – 2010–2020

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

Figure A6.15(a): NSW Hunter: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-1884	5%	-1269
Maximum	3292	10%	-1068
Mean	267	15%	-907
Std Dev	1181	20%	-768
Variance	1394364.717	25%	-655
Skewness	0.7039374	30%	-514
Kurtosis	2.660184698	35%	-389
Median	12	40%	-263
Mode	-687	45%	-127
Left X	-1269	50%	12
Left P	5%	55%	169
Right X	2682	60%	345
Right P	95%	65%	511
Diff X	3952	70%	722
Diff P	90%	75%	974
#Errors	0	80%	1263
Filter Min	Off	85%	1684
Filter Max	Off	90%	2208
#Filtered	0	95%	2682

Figure A6.15(b): NSW Hunter: Macro growth versus crowding out – total apprentices in training – 2010–2020

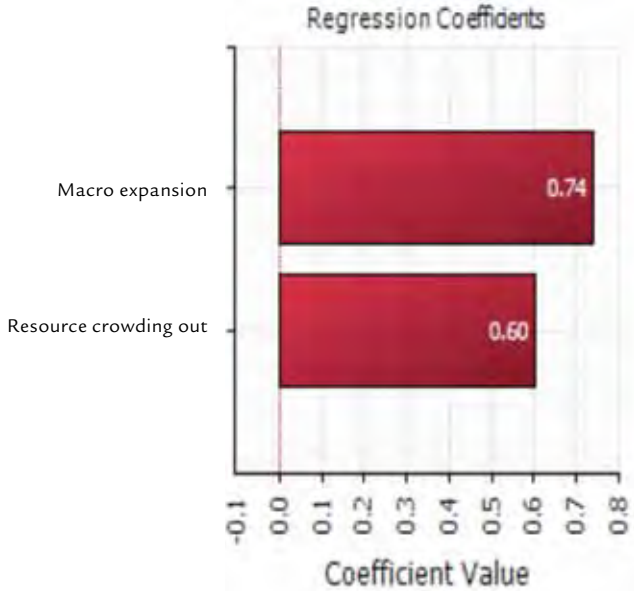
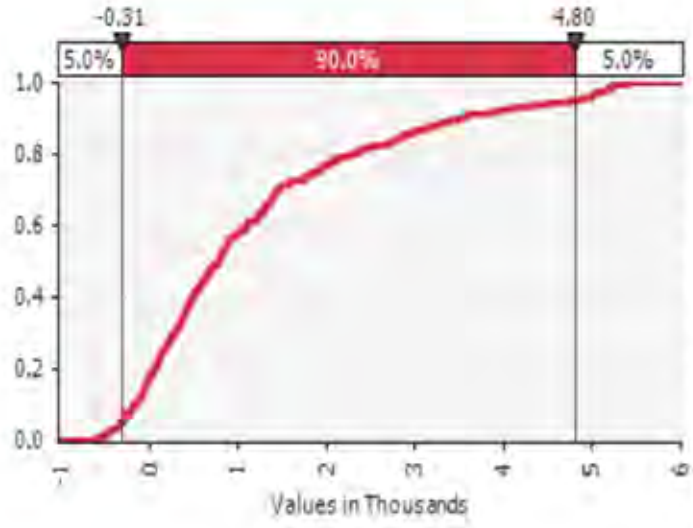


Figure A6.16(a): NSW Illawarra: Cumulative probability for change in apprentices in training – 2010–2020

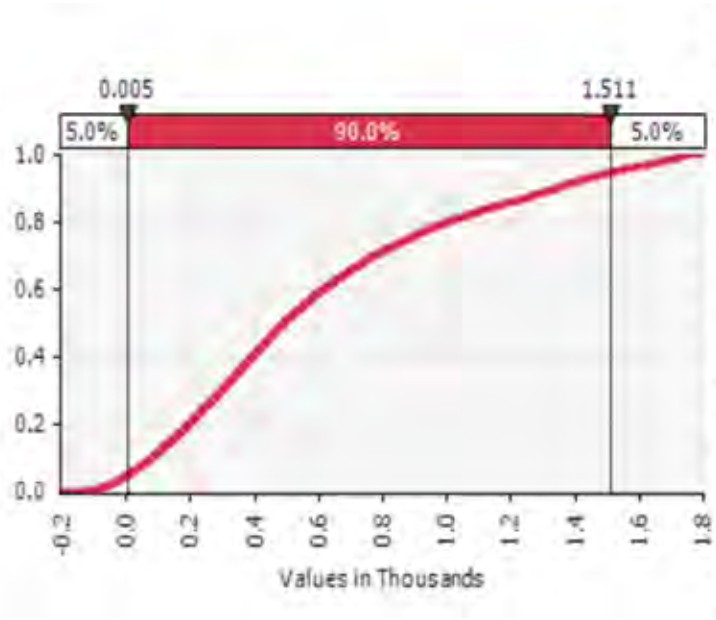


Summary Statistics for Change in tot			
Statistics		Percentile	
Minimum	-1209	5%	-709
Maximum	7202	10%	-502
Mean	1487	15%	-340
Std Dev	2095	20%	-187
Variance	4390511.516	25%	-50
Skewness	1.181230049	30%	106
Kurtosis	3.443170298	35%	255
Median	780	40%	404
Mode	118	45%	575
Left X	-709	50%	780
Left P	5%	55%	998
Right X	6420	60%	1247
Right P	95%	65%	1507
Diff X	7129	70%	1854
Diff P	90%	75%	2387
#Errors	0	80%	3015
Filter Min	Off	85%	3993
Filter Max	Off	90%	5021
#Filtered	0	95%	6420

Figure A6.16(b): NSW Illawarra: Macro growth versus crowding out – total apprentices in training – 2010–2020

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

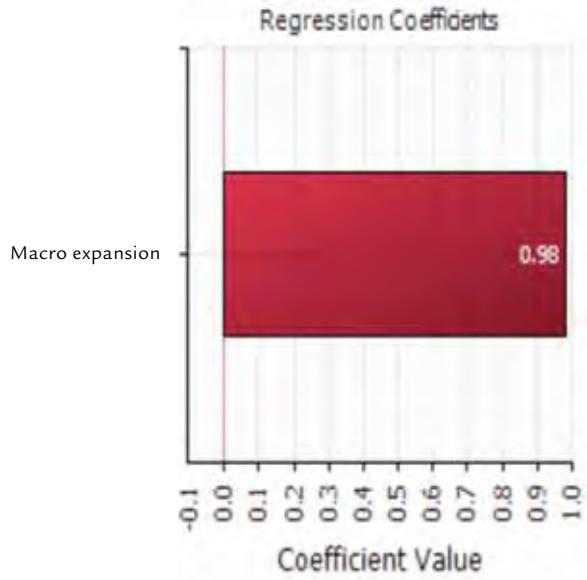
Figure A6.17(a): NSW Mid North Coast: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-312	5%	-119
Maximum	2288	10%	-23
Mean	687	15%	60
Std Dev	633	20%	132
Variance	400601.307	25%	202
Skewness	0.749170736	30%	269
Kurtosis	2.684212712	35%	335
Median	534	40%	400
Mode	406	45%	465
Left X	-119	50%	534
Left P	5%	55%	613
Right X	1967	60%	702
Right P	95%	65%	803
Diff X	2087	70%	924
Diff P	90%	75%	1062
#Errors	0	80%	1239
Filter Min	Off	85%	1462
Filter Max	Off	90%	1715
#Filtered	0	95%	1967

Figure A6.17(b): NSW Mid North Coast: Macro growth versus crowding out – total apprentices in training – 2010–2020

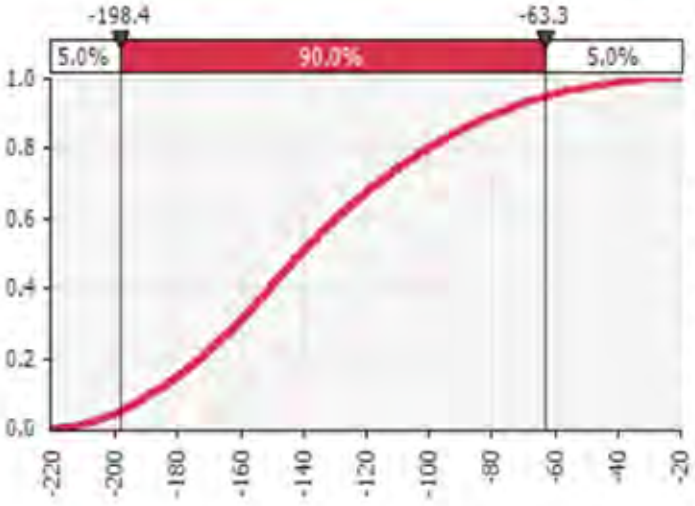


APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

Figure A6.18(a): NSW North: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-175	5%	-141
Maximum	115	10%	-126
Mean	-52	15%	-114
Std Dev	59	20%	-104
Variance	3480.673443	25%	-95
Skewness	0.354957141	30%	-87
Kurtosis	2.533786414	35%	-79
Median	-58	40%	-72
Mode	-86	45%	-65
Left X	-141	50%	-58
Left P	5%	55%	-50
Right X	56	60%	-41
Right P	95%	65%	-33
Diff X	197	70%	-23
Diff P	90%	75%	-12
#Errors	0	80%	1
Filter Min	Off	85%	15
Filter Max	Off	90%	32
#Filtered	0	95%	56

Figure A6.18(b): NSW North: Macro growth versus crowding out – total apprentices in training – 2010–2020

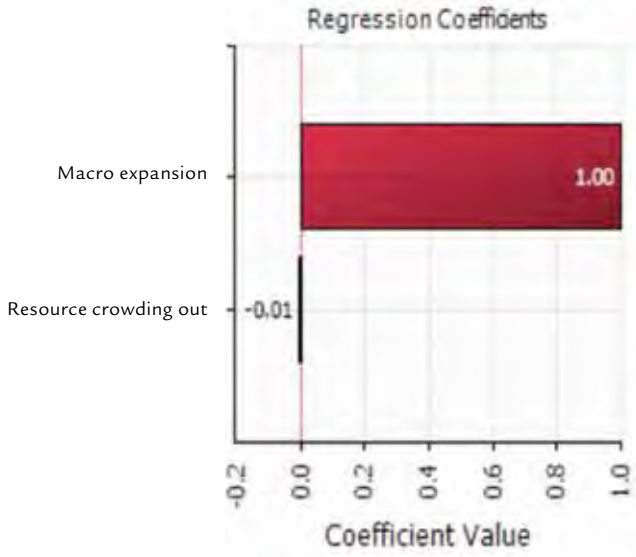
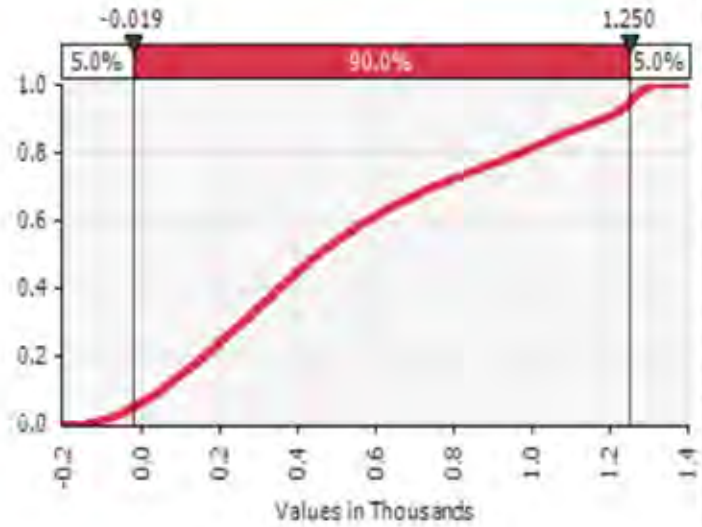


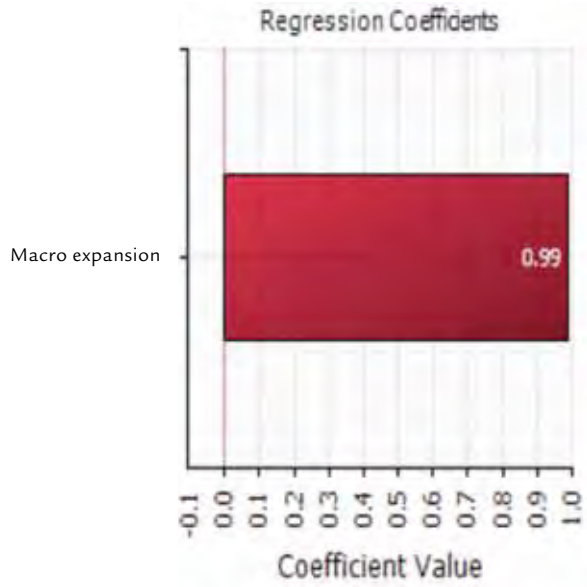
Figure A6.19(a): NSW Richmond Tweed: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-336	5%	-162
Maximum	1668	10%	-72
Mean	592	15%	6
Std Dev	553	20%	75
Variance	306325.1642	25%	142
Skewness	0.422380343	30%	208
Kurtosis	2.007313232	35%	272
Median	472	40%	336
Mode	1575	45%	401
Left X	-162	50%	472
Left P	5%	55%	553
Right X	1579	60%	646
Right P	95%	65%	752
Diff X	1741	70%	880
Diff P	90%	75%	1031
#Errors	0	80%	1199
Filter Min	Off	85%	1332
Filter Max	Off	90%	1499
#Filtered	0	95%	1579

Figure A6.19(b): NSW Richmond Tweed: Macro growth versus crowding out – total apprentices in training – 2010–2020

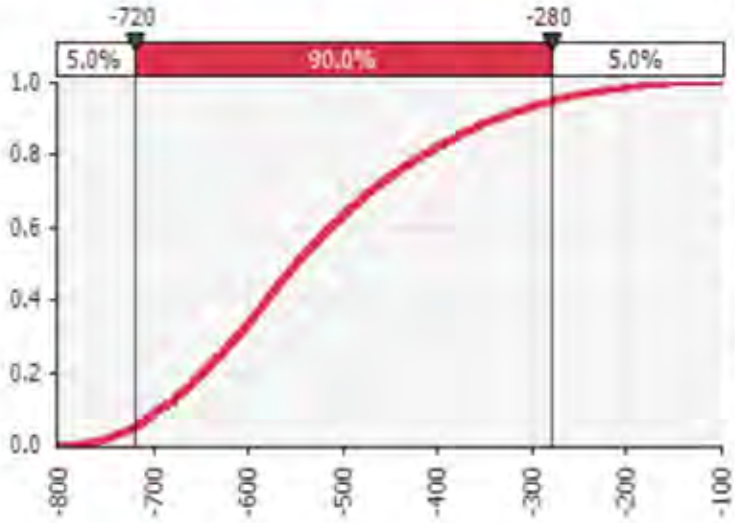


APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

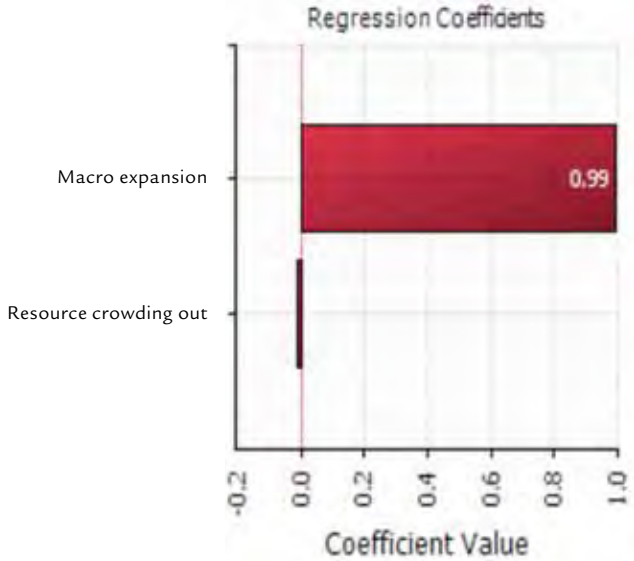
Figure A6.20(a): NSW Riverina: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

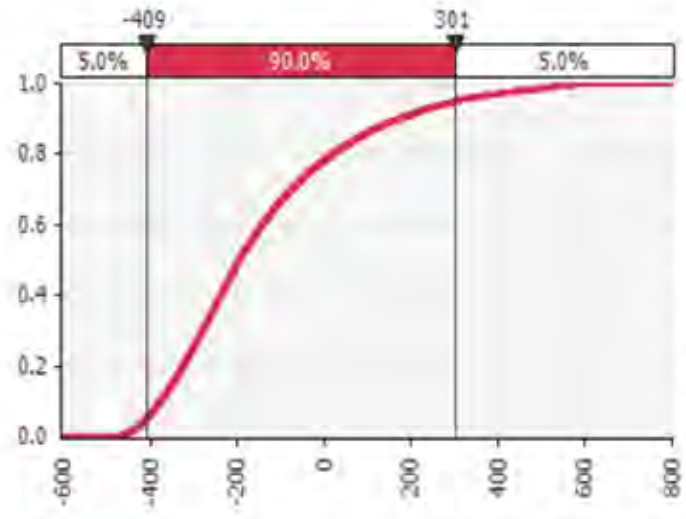
Statistics		Percentile	
Minimum	-755	5%	-663
Maximum	222	10%	-621
Mean	-386	15%	-586
Std Dev	194	20%	-558
Variance	37793.50407	25%	-531
Skewness	0.563126565	30%	-505
Kurtosis	2.790716652	35%	-482
Median	-414	40%	-459
Mode	-457	45%	-438
Left X	-663	50%	-414
Left P	5%	55%	-389
Right X	-16	60%	-362
Right P	95%	65%	-333
Diff X	646	70%	-300
Diff P	90%	75%	-263
#Errors	0	80%	-220
Filter Min	Off	85%	-168
Filter Max	Off	90%	-107
#Filtered	0	95%	-16

Figure A6.20(b): NSW Riverina: Macro growth versus crowding out – total apprentices in training – 2010–2020



APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

Figure A6.21(a): NSW Southern Tablelands: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-513	5%	-423
Maximum	1098	10%	-379
Mean	-50	15%	-340
Std Dev	310	20%	-307
Variance	96359.92738	25%	-275
Skewness	1.130325787	30%	-245
Kurtosis	4.022268655	35%	-215
Median	-126	40%	-186
Mode	-188	45%	-157
Left X	-423	50%	-126
Left P	5%	55%	-91
Right X	595	60%	-52
Right P	95%	65%	-8
Diff X	1019	70%	44
Diff P	90%	75%	103
#Errors	0	80%	177
Filter Min	Off	85%	270
Filter Max	Off	90%	395
#Filtered	0	95%	595

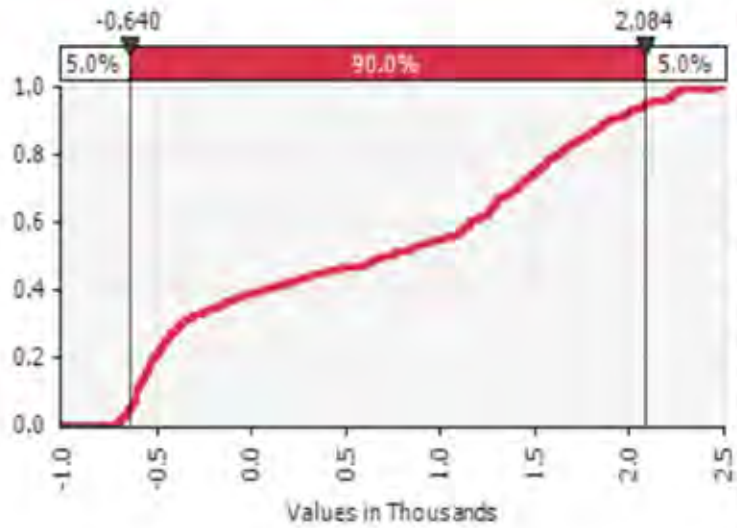
Figure A6.21(b): NSW Southern Tablelands: Macro growth versus crowding out – total apprentices in training – 2010–2020

APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

Figure A6.22(a): NT Darwin: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-909	5%	-807
Maximum	3075	10%	-751
Mean	669	15%	-701
Std Dev	1143	20%	-643
Variance	1306822.873	25%	-569
Skewness	0.0038881	30%	-453
Kurtosis	1.430611339	35%	-290
Median	943	40%	-43
Mode	-747	45%	376
Left X	-807	50%	943
Left P	5%	55%	1191
Right X	2289	60%	1351
Right P	95%	65%	1475
Diff X	3095	70%	1578
Diff P	90%	75%	1689
#Errors	0	80%	1801
Filter Min	Off	85%	1928
Filter Max	Off	90%	2080
#Filtered	0	95%	2289

Figure A6.22(b): NT Darwin: Macro growth versus crowding out – total apprentices in training – 2010–2020

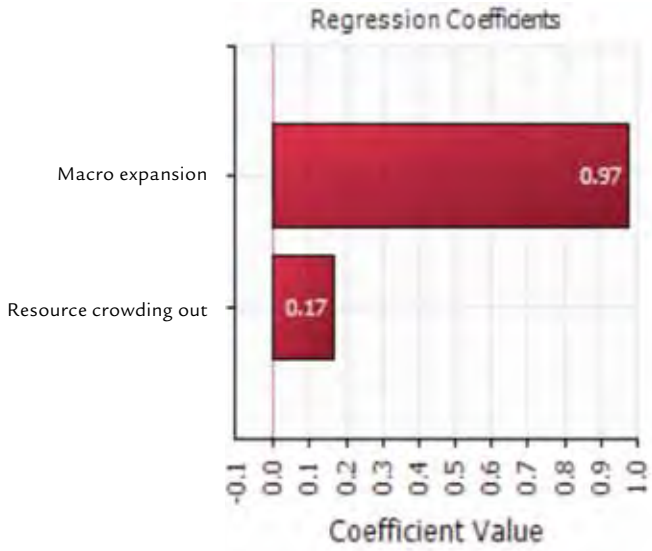
APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

Figure A6.23(a): NT Lingiari: Cumulative probability for change in apprentices in training – 2010–2020

Summary Statistics for Change in

Statistics		Percentile	
Minimum	-74	5%	-50
Maximum	130	10%	-42
Mean	5	15%	-36
Std Dev	40	20%	-31
Variance	1601.492821	25%	-26
Skewness	0.535988808	30%	-21
Kurtosis	2.60839354	35%	-16
Median	0	40%	-12
Mode	-14	45%	-6
Left X	-50	50%	0
Left P	5%	55%	5
Right X	80	60%	11
Right P	95%	65%	17
Diff X	130	70%	24
Diff P	90%	75%	32
#Errors	0	80%	41
Filter Min	Off	85%	51
Filter Max	Off	90%	64
#Filtered	0	95%	80

Figure A6.23(b): NT Lingiari: Macro growth versus crowding out – total apprentices in training – 2010–2020

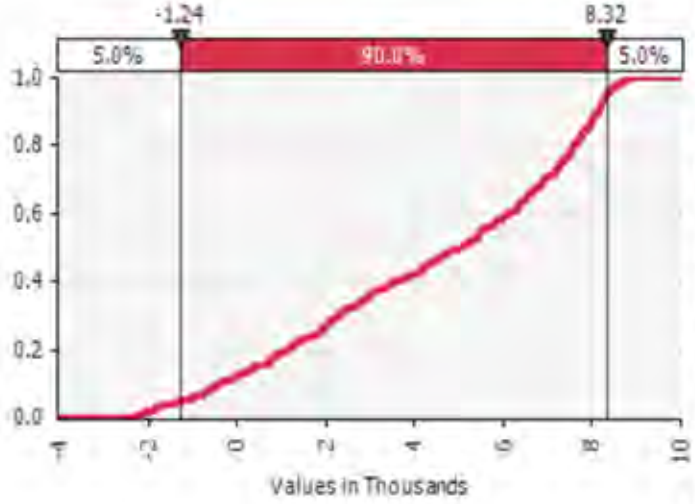


APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

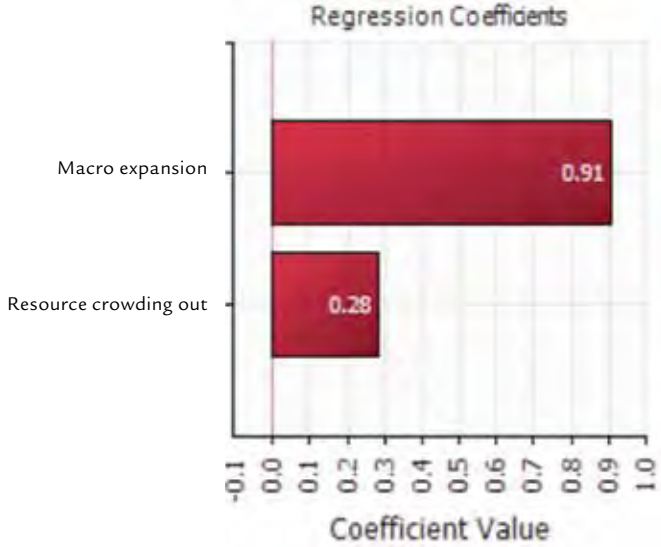
Figure A6.24(a): Perth Central: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

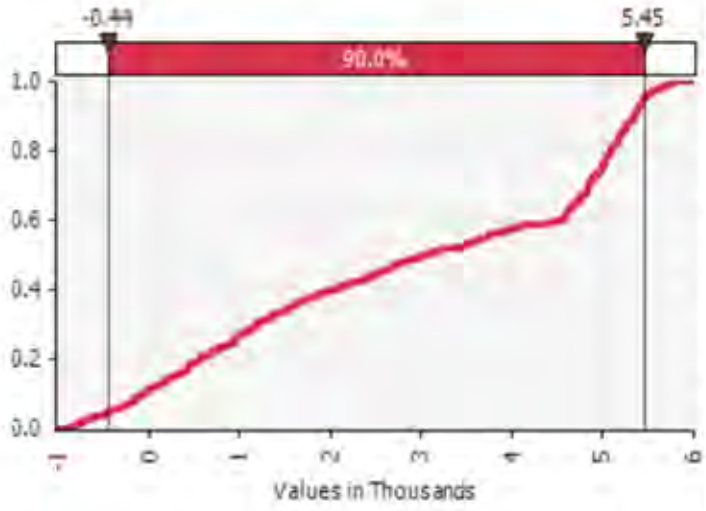
Statistics		Percentile	
Minimum	-3360	5%	-1601
Maximum	9743	10%	-702
Mean	4758	15%	265
Std Dev	3505	20%	1166
Variance	12282215.85	25%	1910
Skewness	-0.52337315	30%	2684
Kurtosis	1.966565448	35%	3379
Median	5711	40%	4180
Mode	8546	45%	4907
Left X	-1601	50%	5711
Left P	5%	55%	6269
Right X	8902	60%	6861
Right P	95%	65%	7218
Diff X	10504	70%	7575
Diff P	90%	75%	7958
#Errors	0	80%	8207
Filter Min	Off	85%	8422
Filter Max	Off	90%	8634
#Filtered	0	95%	8902

Figure A6.24(b): Perth Central: Macro growth versus crowding out – total apprentices in training – 2010–2020



APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

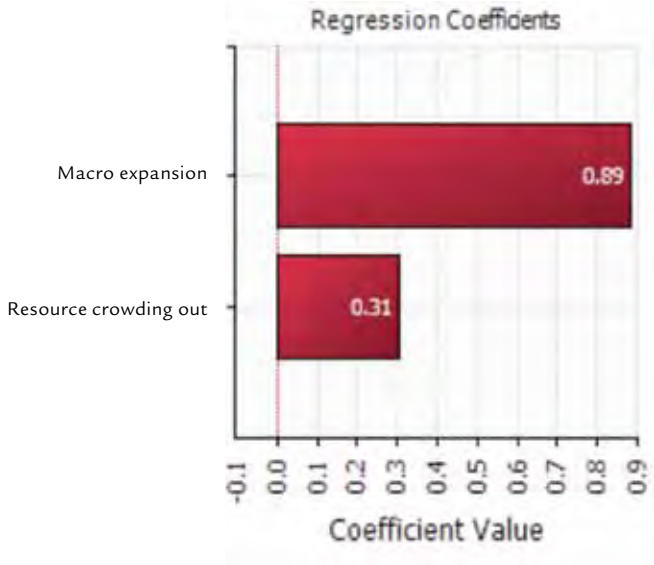
Figure A6.25(a): Perth Outer North: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-1507	5%	-789
Maximum	6671	10%	-426
Mean	3143	15%	-49
Std Dev	2489	20%	362
Variance	6197118136	25%	762
Skewness	-0.268509	30%	1234
Kurtosis	1.531343303	35%	1683
Median	3423	40%	2222
Mode	5654	45%	2805
Left X	-789	50%	3423
Left P	5%	55%	4144
Right X	6072	60%	5125
Right P	95%	65%	5326
Diff X	6861	70%	5459
Diff P	90%	75%	5583
#Errors	0	80%	5685
Filter Min	Off	85%	5792
Filter Max	Off	90%	5916
#Filtered	0	95%	6072

Figure A6.25(b): Perth Outer North: Macro growth versus crowding out – total apprentices in training – 2010–2020

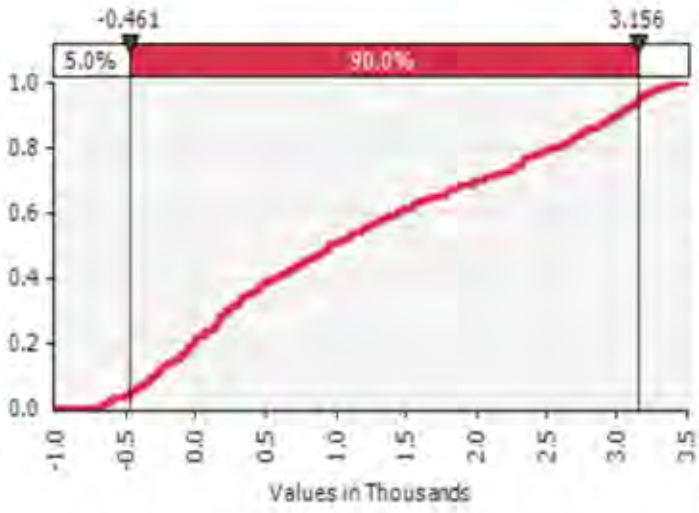


APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

Figure A6.26(a): Perth Outer South: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-1027	5%	-636
Maximum	3897	10%	-456
Mean	1291	15%	-285
Std Dev	1397	20%	-116
Variance	1951350.77	25%	48
Skewness	0.226414022	30%	240
Kurtosis	1.717464095	35%	410
Median	1073	40%	607
Mode	-373	45%	824
Left X	-636	50%	1073
Left P	5%	55%	1344
Right X	3549	60%	1632
Right P	95%	65%	1961
Diff X	4185	70%	2237
Diff P	90%	75%	2637
#Errors	0	80%	2882
Filter Min	Off	85%	3111
Filter Max	Off	90%	3336
#Filtered	0	95%	3549

Figure A6.26(b): Perth Outer South: Macro growth versus crowding out – total apprentices in training – 2010–2020

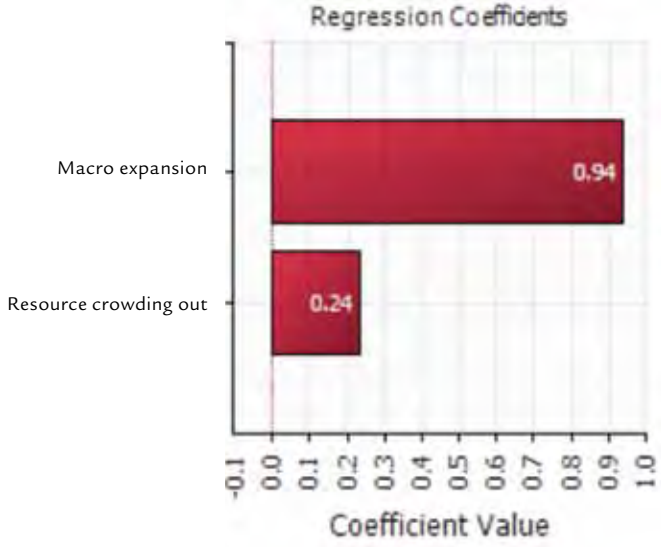
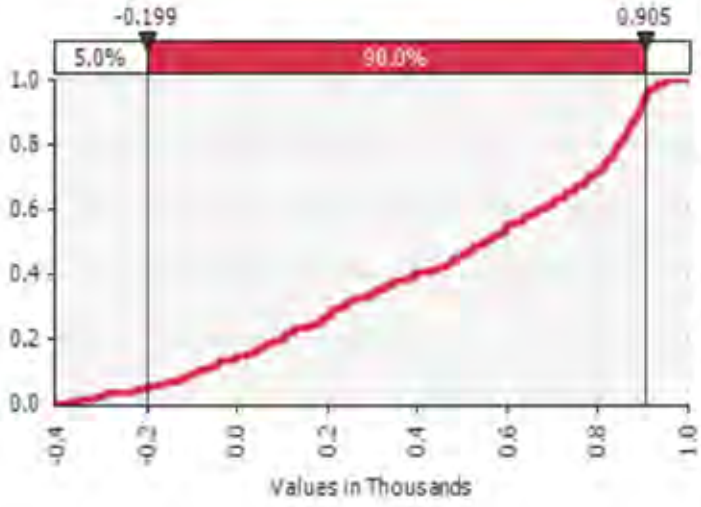


Figure A6.27(a): QLD Cairns: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-746	5%	-403
Maximum	1157	10%	-265
Mean	489	15%	-137
Std Dev	491	20%	-16
Variance	241198.5664	25%	86
Skewness	-0.555554575	30%	203
Kurtosis	2.067626033	35%	309
Median	599	40%	429
Mode	1015	45%	519
Left X	-403	50%	599
Left P	5%	55%	681
Right X	1053	60%	764
Right P	95%	65%	843
Diff X	1456	70%	901
Diff P	90%	75%	951
#Errors	0	80%	979
Filter Min	Off	85%	1003
Filter Max	Off	90%	1026
#Filtered	0	95%	1053

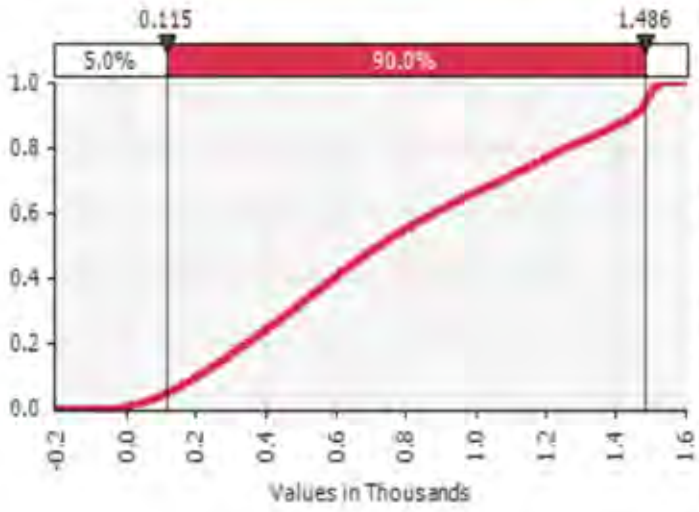
Figure A6.27(b): QLD Cairns: Macro growth versus crowding out – total apprentices in training – 2010–2020

APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

Figure A6.28(a): QLD Darling Downs: Cumulative probability for change in apprentices in training – 2010–2020



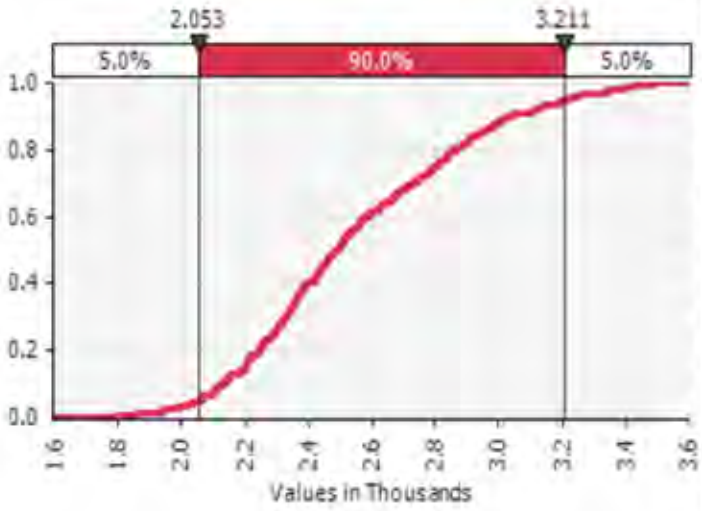
Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-260	5%	-42
Maximum	1984	10%	71
Mean	857	15%	165
Std Dev	619	20%	256
Variance	382848.5594	25%	341
Skewness	0.207893388	30%	423
Kurtosis	1.832383069	35%	506
Median	766	40%	589
Mode	1851	45%	674
Left X	-42	50%	766
Left P	5%	55%	869
Right X	1866	60%	987
Right P	95%	65%	1121
Diff X	1908	70%	1263
Diff P	90%	75%	1398
#Errors	0	80%	1530
Filter Min	Off	85%	1680
Filter Max	Off	90%	1813
#Filtered	0	95%	1866

Figure A6.28(b): QLD Darling Downs: Macro growth versus crowding out – total apprentices in training – 2010–2020

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

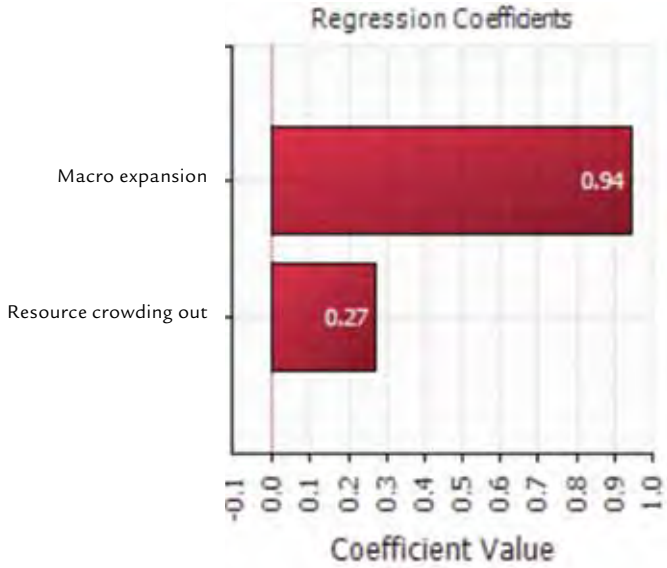
Figure A6.29(a): QLD Fitzroy: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	1992	5%	2410
Maximum	4436	10%	2503
Mean	3013	15%	2568
Std Dev	432	20%	2623
Variance	186998 1467	25%	2678
Skewness	0.526129444	30%	2734
Kurtosis	2.716623973	35%	2782
Median	2955	40%	2836
Mode	2608	45%	2899
Left X	2410	50%	2955
Left P	5%	55%	3009
Right X	3807	60%	3071
Right P	95%	65%	3143
Diff X	1397	70%	3214
Diff P	90%	75%	3303
#Errors	0	80%	3394
Filter Min	Off	85%	3502
Filter Max	Off	90%	3630
#Filtered	0	95%	3807

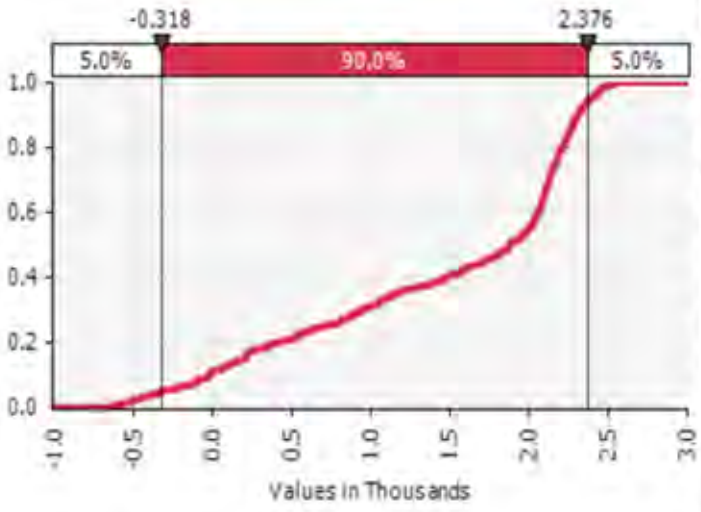
Figure A6.29(b): QLD Fitzroy: Macro growth versus crowding out – total apprentices in training – 2010–2020



APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

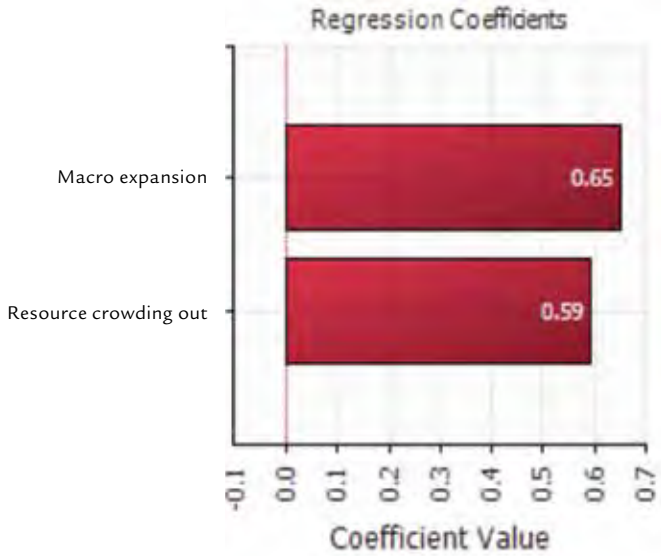
Figure A6.30(a): QLD Mackay: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

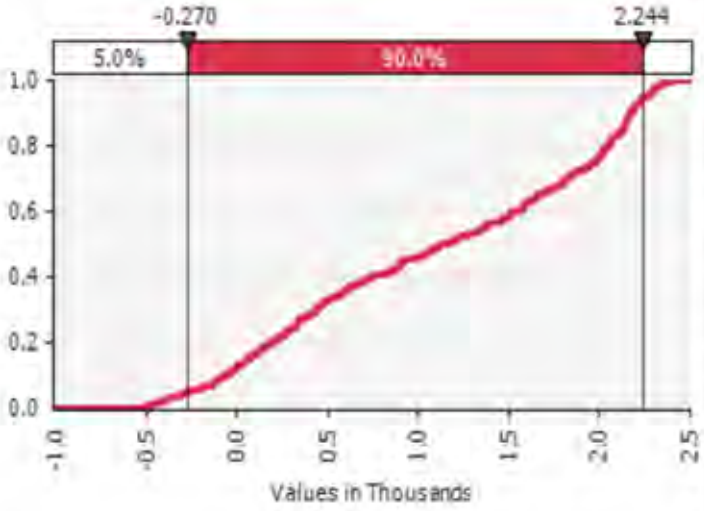
Statistics		Percentile	
Minimum	-1128	5%	-573
Maximum	3190	10%	-321
Mean	1654	15%	-28
Std Dev	1166	20%	290
Variance	1359979.314	25%	706
Skewness	-0.83464791	30%	1109
Kurtosis	2.221019667	35%	1494
Median	2281	40%	1851
Mode	2600	45%	2107
Left X	-573	50%	2281
Left P	5%	55%	2381
Right X	2806	60%	2432
Right P	95%	65%	2473
Diff X	3379	70%	2509
Diff P	90%	75%	2550
#Errors	0	80%	2597
Filter Min	Off	85%	2651
Filter Max	Off	90%	2709
#Filtered	0	95%	2806

Figure A6.30(b): QLD Mackay: Macro growth versus crowding out – total apprentices in training – 2010–2020



APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

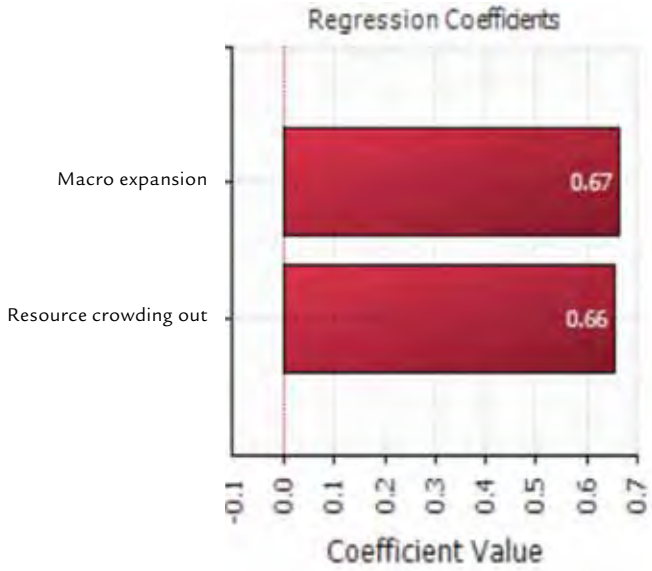
Figure A6.31(a): QLD North: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-984	5%	-499
Maximum	3009	10%	-314
Mean	1255	15%	-126
Std Dev	1091	20%	50
Variance	1190911.702	25%	234
Skewness	-0.26888736	30%	431
Kurtosis	1.657794031	35%	654
Median	1415	40%	921
Mode	2496	45%	1184
Left X	-499	50%	1415
Left P	5%	55%	1649
Right X	2634	60%	1887
Right P	95%	65%	2041
Diff X	3133	70%	2175
Diff P	90%	75%	2294
#Errors	0	80%	2396
Filter Min	Off	85%	2476
Filter Max	Off	90%	2544
#Filtered	0	95%	2634

Figure A6.31(b): QLD North: Macro growth versus crowding out – total apprentices in training – 2010–2020

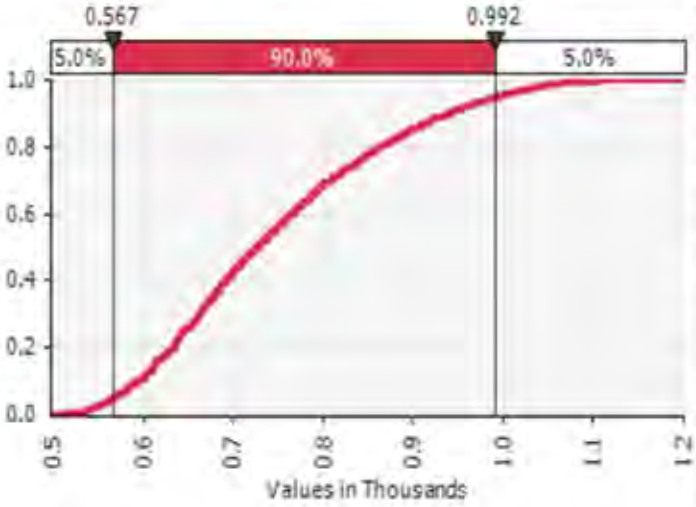


APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

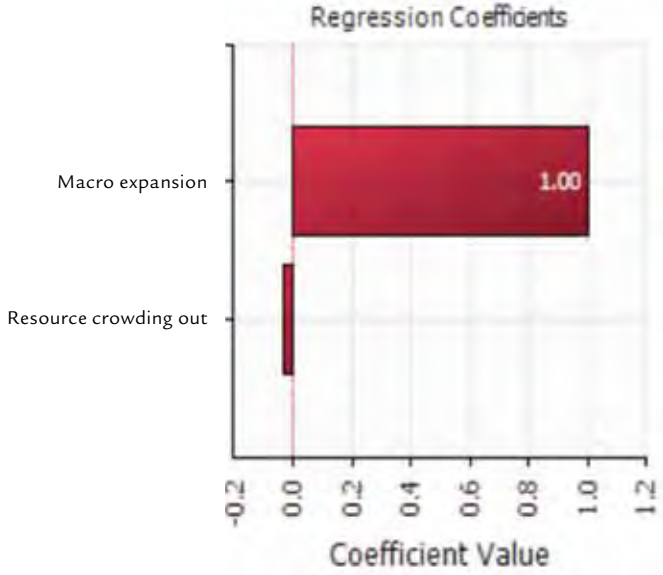
Figure A6.32(a): QLD Resource Region: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

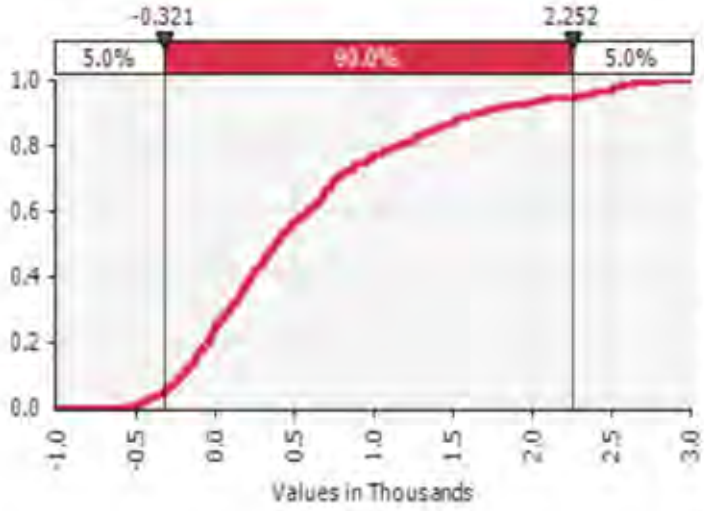
Statistics		Percentile	
Minimum	580	5%	648
Maximum	1353	10%	680
Mean	872	15%	705
Std Dev	164	20%	726
Variance	26847.38465	25%	745
Skewness	0.57926276	30%	763
Kurtosis	2.613210613	35%	781
Median	844	40%	801
Mode	750	45%	822
Left X	648	50%	844
Left P	5%	55%	867
Right X	1185	60%	891
Right P	95%	65%	920
Diff X	537	70%	950
Diff P	90%	75%	982
#Errors	0	80%	1019
Filter Min	Off	85%	1061
Filter Max	Off	90%	1115
#Filtered	0	95%	1185

Figure A6.32(b): QLD Resource Region: Macro growth versus crowding out – total apprentices in training – 2010–2020



APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

Figure A6.33(a): QLD Wide Bay Burnett: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-915	5%	-533
Maximum	3755	10%	-386
Mean	686	15%	-275
Std Dev	1031	20%	-180
Variance	1062610.617	25%	-92
Skewness	0.981118114	30%	10
Kurtosis	3.227898186	35%	101
Median	414	40%	204
Mode	-150	45%	296
Left X	-533	50%	414
Left P	5%	55%	540
Right X	2952	60%	672
Right P	95%	65%	801
Diff X	3485	70%	991
Diff P	90%	75%	1211
#Errors	0	80%	1482
Filter Min	Off	85%	1859
Filter Max	Off	90%	2328
#Filtered	0	95%	2952

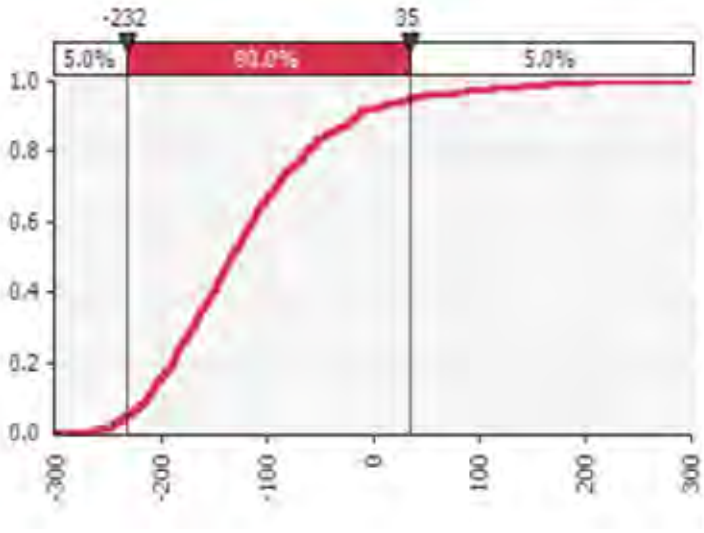
Figure A6.33(b): QLD Wide Bay Burnett: Macro growth versus crowding out – total apprentices in training – 2010–2020

APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

Figure A6.34(a): SA Mallee South East: Cumulative probability for change in apprentices in training – 2010–2020

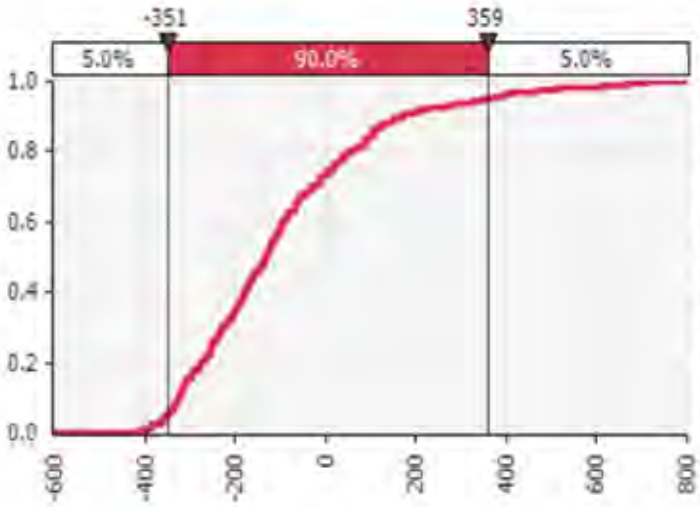


Summary Statistics for Change in tot			
Statistics		Percentile	
Minimum	-321	5%	-248
Maximum	573	10%	-221
Mean	-74	15%	-200
Std Dev	133	20%	-183
Variance	17755.05205	25%	-169
Skewness	1.065029942	30%	-154
Kurtosis	4.44587122	35%	-141
Median	-99	40%	-126
Mode	-118	45%	-114
Left X	-248	50%	-99
Left P	5%	55%	-83
Right X	189	60%	-67
Right P	95%	65%	-49
Diff X	437	70%	-30
Diff P	90%	75%	-7
#Errors	0	80%	21
Filter Min	Off	85%	54
Filter Max	Off	90%	101
#Filtered	0	95%	189

Figure A6.34(b): SA Mallee South East: Macro growth versus crowding out – total apprentices in training – 2010–2020

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

Figure A6.35(a): SA Mid North Riverland: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-483	5%	-388
Maximum	1187	10%	-341
Mean	-9	15%	-307
Std Dev	321	20%	-272
Variance	103246.3806	25%	-244
Skewness	1.252105075	30%	-212
Kurtosis	4.488616388	35%	-180
Median	-82	40%	-149
Mode	-44	45%	-118
Left X	-388	50%	-82
Left P	5%	55%	-47
Right X	685	60%	-9
Right P	95%	65%	32
Diff X	1074	70%	81
Diff P	90%	75%	133
#Errors	0	80%	205
Filter Min	Off	85%	296
Filter Max	Off	90%	438
#Filtered	0	95%	685

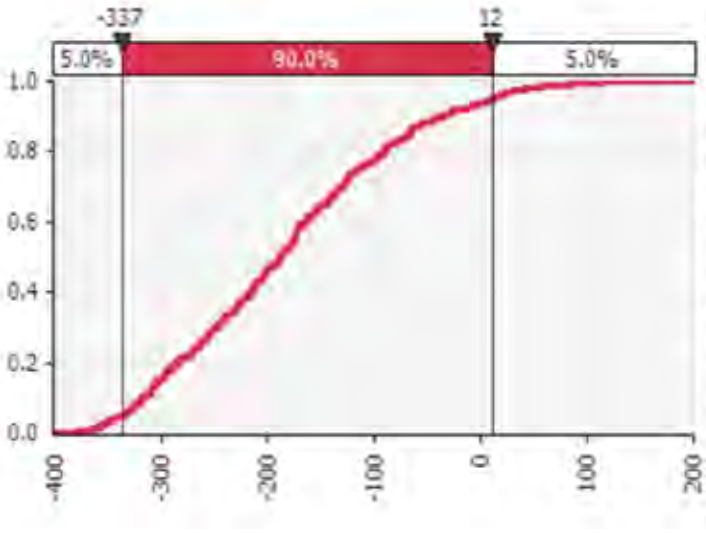
Figure A6.35(b): SA Mid North Riverland: Macro growth versus crowding out – total apprentices in training – 2010–2020

APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

Figure A6.36(a): SA Spencer Gulf: Cumulative probability for change in apprentices in training – 2010–2020



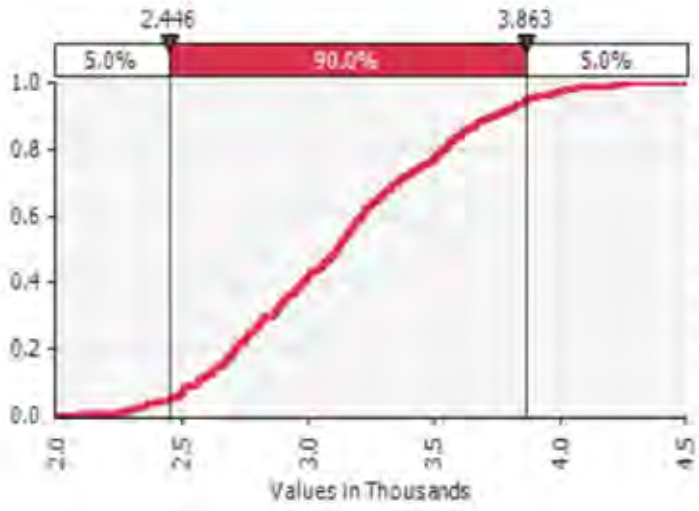
Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-353	5%	-285
Maximum	341	10%	-253
Mean	-71	15%	-229
Std Dev	146	20%	-207
Variance	21450.03305	25%	-188
Skewness	0.425414322	30%	-164
Kurtosis	2.560126912	35%	-143
Median	-85	40%	-124
Mode	-137	45%	-104
Left X	-285	50%	-85
Left P	5%	55%	-64
Right X	199	60%	-44
Right P	95%	65%	-21
Diff X	484	70%	1
Diff P	90%	75%	27
#Errors	0	80%	56
Filter Min	Off	85%	91
Filter Max	Off	90%	135
#Filtered	0	95%	199

Figure A6.36(b): SA Spencer Gulf: Macro growth versus crowding out – total apprentices in training – 2010–2020

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

Figure A6.37(a): SEQ Brisbane City: Cumulative probability for change in apprentices in training – 2010–2020

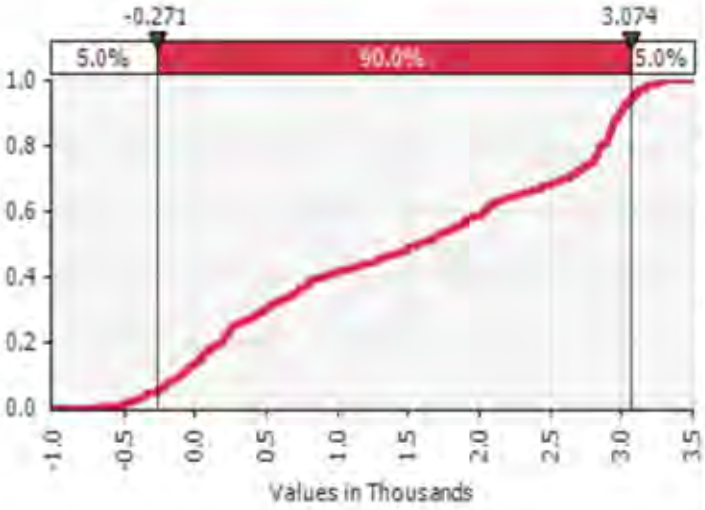


Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	1972	5%	2534
Maximum	5477	10%	2704
Mean	3465	15%	2896
Std Dev	595	20%	2942
Variance	354214.888	25%	3090
Skewness	0.234205838	30%	3111
Kurtosis	2.648023423	35%	3200
Median	3429	40%	3277
Mode	3315	45%	3358
Left X	2534	50%	3429
Left P	5%	55%	3508
Right X	4484	60%	3597
Right P	95%	65%	3693
Diff X	1950	70%	3778
Diff P	90%	75%	3874
#Errors	0	80%	3988
Filter Min	Off	85%	4109
Filter Max	Off	90%	4277
#Filtered	0	95%	4484

Figure A6.37(b): SEQ Brisbane City: Macro growth versus crowding out – total apprentices in training – 2010–2020

Figure A6.38(a): SEQ Brisbane South: Cumulative probability for change in apprentices in training – 2010–2020



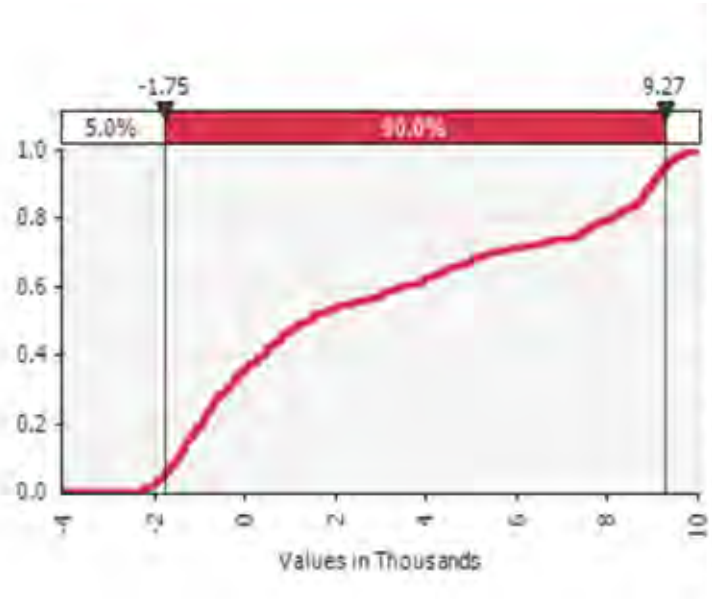
Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-1172	5%	-624
Maximum	4372	10%	-390
Mean	1753	15%	-175
Std Dev	1604	20%	32
Variance	2573572.843	25%	230
Skewness	-0.07509296	30%	451
Kurtosis	1.512799132	35%	723
Median	1761	40%	1020
Mode	3671	45%	1345
Left X	-624	50%	1761
Left P	5%	55%	2171
Right X	3848	60%	2504
Right P	95%	65%	2916
Diff X	4472	70%	3243
Diff P	90%	75%	3458
#Errors	0	80%	3560
Filter Min	Off	85%	3645
Filter Max	Off	90%	3735
#Filtered	0	95%	3848

Figure A6.38(b): SEQ Brisbane South: Macro growth versus crowding out – total apprentices in training – 2010–2020

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

Figure A6.39(a): SEQ Gold Coast: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-3666	5%	-2872
Maximum	14177	10%	-2495
Mean	3709	15%	-2126
Std Dev	5705	20%	-1745
Variance	32541439.75	25%	-1374
Skewness	0.443124797	30%	-924
Kurtosis	1.608683769	35%	-523
Median	1486	40%	-10
Mode	-2316	45%	626
Left X	-2872	50%	1486
Left P	5%	55%	2713
Right X	12709	60%	4304
Right P	95%	65%	6147
Diff X	15581	70%	7737
Diff P	90%	75%	10086
#Errors	0	80%	11234
Filter Min	Off	85%	11873
Filter Max	Off	90%	12261
#Filtered	0	95%	12709

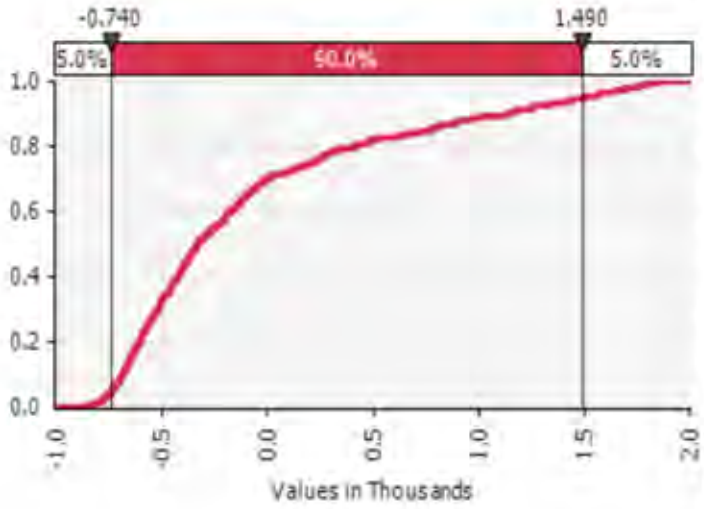
Figure A6.39(b): SEQ Gold Coast: Macro growth versus crowding out – total apprentices in training – 2010–2020

APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

Figure A6.40(a): SEQ Moreton Bay: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-1071	5%	-892
Maximum	3179	10%	-820
Mean	114	15%	-749
Std Dev	1037	20%	-685
Variance	1074737.165	25%	-626
Skewness	1.305016503	30%	-562
Kurtosis	3.697113734	35%	-505
Median	-284	40%	-438
Mode	-644	45%	-366
Left X	-892	50%	-284
Left P	5%	55%	-183
Right X	2577	60%	-68
Right P	95%	65%	80
Diff X	3469	70%	229
Diff P	90%	75%	513
#Errors	0	80%	856
Filter Min	Off	85%	1304
Filter Max	Off	90%	1910
#Filtered	0	95%	2577

Figure A6.40(b): SEQ Moreton Bay: Macro growth versus crowding out – total apprentices in training – 2010–2020

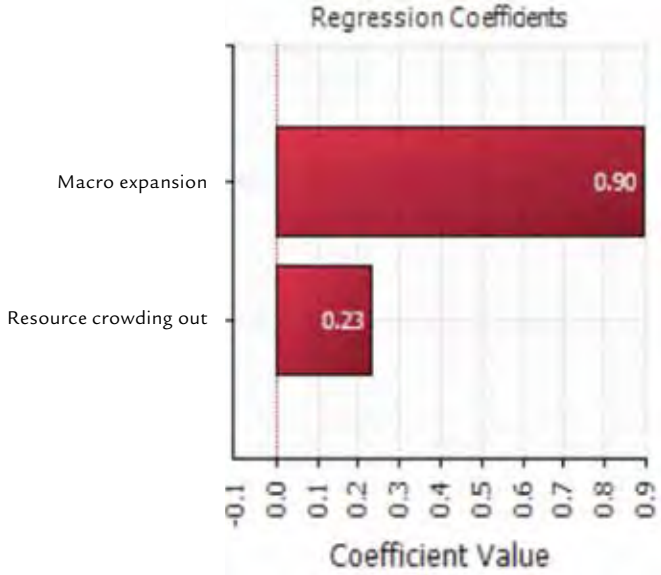
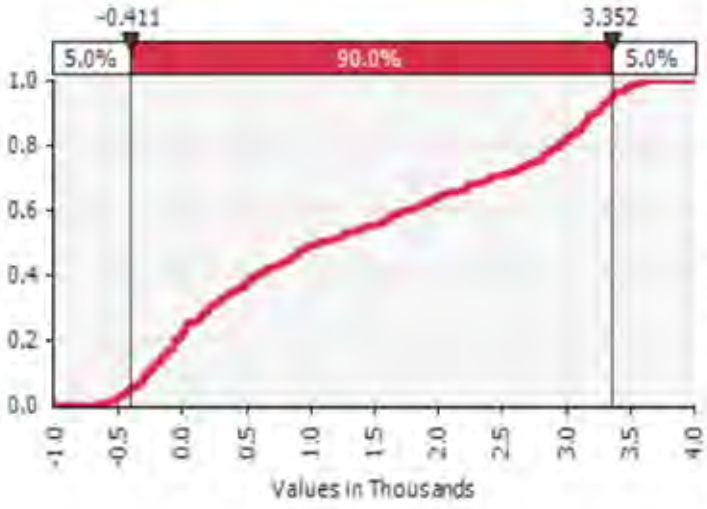


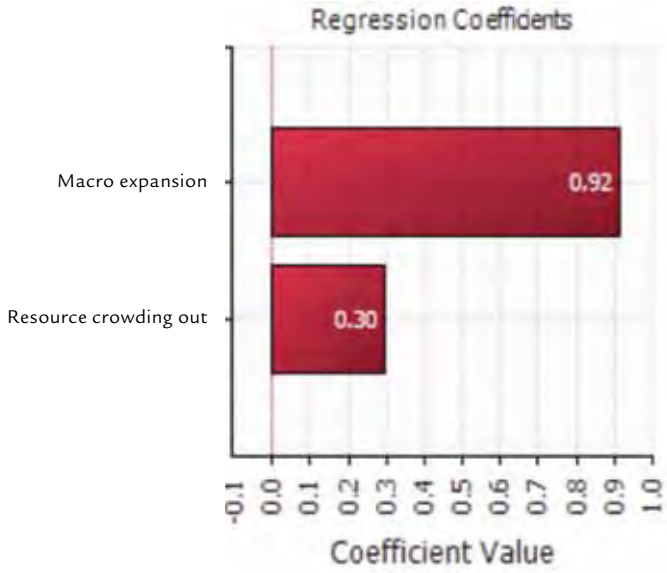
Figure A6.41(a): SEQ Sunshine Coast: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-1249	5%	-864
Maximum	4868	10%	-690
Mean	1565	15%	-510
Std Dev	1846	20%	-332
Variance	3406039.393	25%	-156
Skewness	0.183705603	30%	38
Kurtosis	1.507152629	35%	246
Median	1206	40%	511
Mode	4056	45%	807
Left X	-864	50%	1206
Left P	5%	55%	1694
Right X	4277	60%	2185
Right P	95%	65%	2694
Diff X	5141	70%	3137
Diff P	90%	75%	3528
#Errors	0	80%	3764
Filter Min	Off	85%	3948
Filter Max	Off	90%	4092
#Filtered	0	95%	4277

Figure A6.41(b): SEQ Sunshine Coast: Macro growth versus crowding out – total apprentices in training – 2010–2020



APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

Figure A6.42(a): SEQ West Moreton: Cumulative probability for change in apprentices in training – 2010–2020

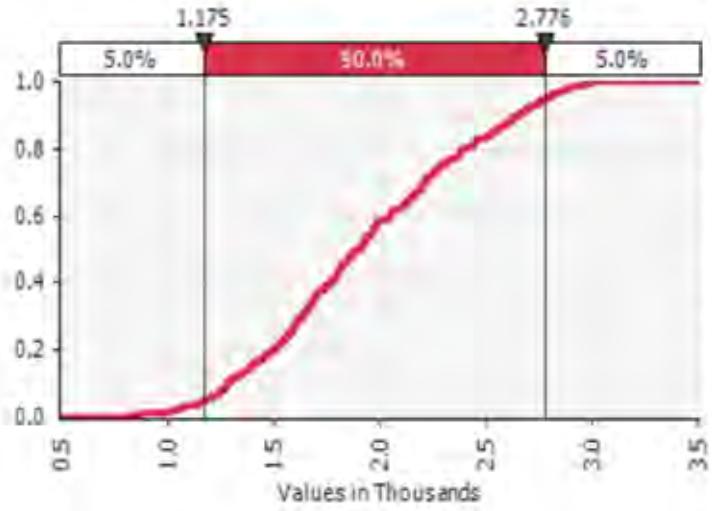
Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	63	5%	577
Maximum	3857	10%	826
Mean	2428	15%	1051
Std Dev	1054	20%	1272
Variance	1110353.761	25%	1503
Skewness	-0.49424304	30%	1732
Kurtosis	1.839691338	35%	1967
Median	2698	40%	2228
Mode	3435	45%	2505
Left X	577	50%	2698
Left P	5%	55%	2911
Right X	3617	60%	3137
Right P	95%	65%	3300
Diff X	3040	70%	3363
Diff P	90%	75%	3410
#Errors	0	80%	3447
Filter Min	Off	85%	3487
Filter Max	Off	90%	3542
#Filtered	0	95%	3617

Figure A6.42(b): SEQ West Moreton: Macro growth versus crowding out – total apprentices in training – 2010–2020

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

Figure A6.43(a): Sydney Central: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	1594	5%	1907
Maximum	3429	10%	2011
Mean	2455	15%	2083
Std Dev	346	20%	2148
Variance	119666.1644	25%	2207
Skewness	0.187009992	30%	2257
Kurtosis	2.527426006	35%	2301
Median	2439	40%	2343
Mode	2515	45%	2391
Left X	1907	50%	2439
Left P	5%	55%	2485
Right X	3063	60%	2526
Right P	95%	65%	2579
Diff X	1156	70%	2631
Diff P	90%	75%	2696
#Errors	0	80%	2759
Filter Min	Off	85%	2837
Filter Max	Off	90%	2933
#Filtered	0	95%	3063

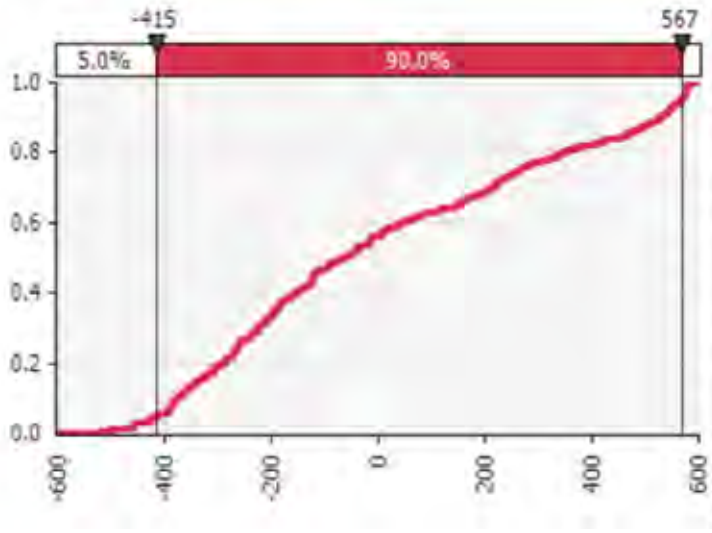
Figure A6.43(b): Sydney Central: Macro growth versus crowding out – total apprentices in training – 2010–2020

APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

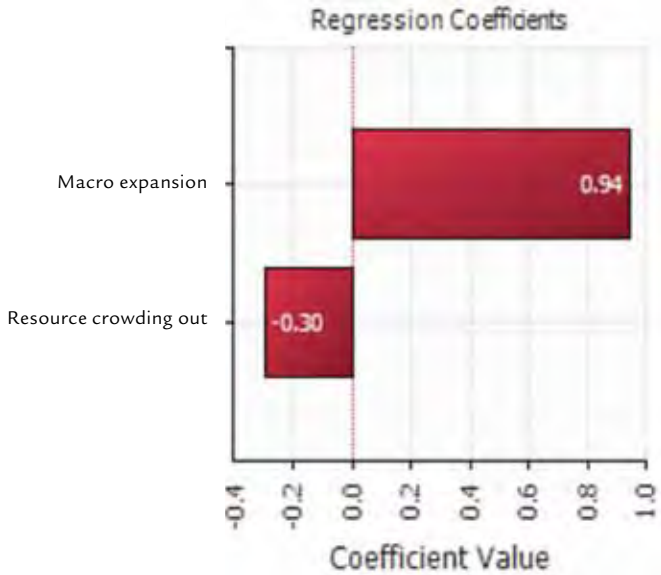
Figure A6.44(a): Sydney Eastern Beaches: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

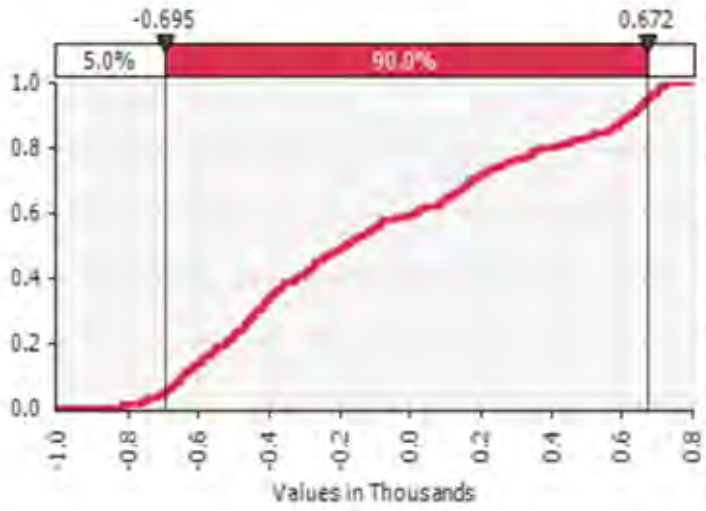
Statistics		Percentile	
Minimum	-656	5%	-524
Maximum	697	10%	-466
Mean	2	15%	-419
Std Dev	391	20%	-375
Variance	153095.8082	25%	-332
Skewness	0.350945413	30%	-288
Kurtosis	1.835510008	35%	-241
Median	-81	40%	-201
Mode	680	45%	-144
Left X	-524	50%	-81
Left P	5%	55%	-12
Right X	670	60%	60
Right P	95%	65%	160
Diff X	1194	70%	247
Diff P	90%	75%	340
#Errors	0	80%	429
Filter Min	Off	85%	540
Filter Max	Off	90%	626
#Filtered	0	95%	670

Figure A6.44(b): Sydney Eastern Beaches: Macro growth versus crowding out – total apprentices in training – 2010–2020



APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

Figure A6.45(a): Sydney Northern Beaches: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-966	5%	-789
Maximum	964	10%	-710
Mean	-26	15%	-646
Std Dev	560	20%	-579
Variance	313666.7298	25%	-514
Skewness	0.285841197	30%	-448
Kurtosis	1.777413972	35%	-382
Median	-124	40%	-313
Mode	919	45%	-222
Left X	-789	50%	-124
Left P	5%	55%	-8
Right X	894	60%	113
Right P	95%	65%	214
Diff X	1683	70%	319
Diff P	90%	75%	453
#Errors	0	80%	604
Filter Min	Off	85%	746
Filter Max	Off	90%	844
#Filtered	0	95%	894

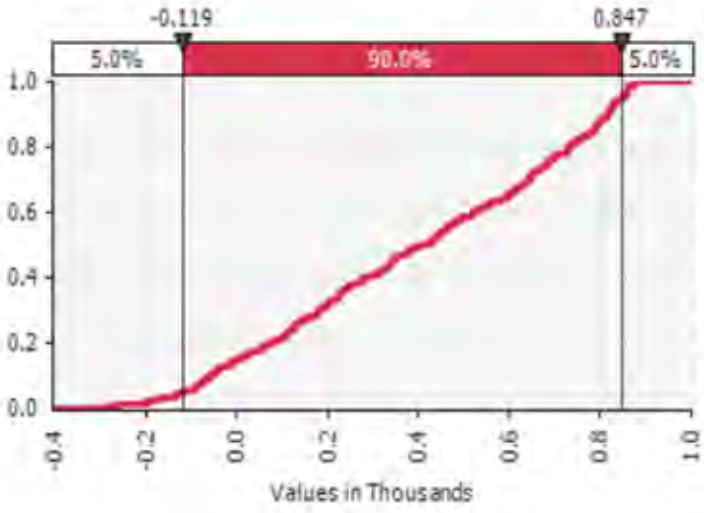
Figure A6.45(b): Sydney Northern Beaches: Macro growth versus crowding out – total apprentices in training – 2010–2020

APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

Figure A6.46(a): Sydney Old West: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-466	5%	-232
Maximum	1003	10%	-133
Mean	429	15%	-53
Std Dev	398	20%	21
Variance	154316.6334	25%	96
Skewness	-0.28239008	30%	167
Kurtosis	1.836383113	35%	243
Median	476	40%	308
Mode	894	45%	395
Left X	-232	50%	476
Left P	5%	55%	547
Right X	951	60%	608
Right P	95%	65%	678
Diff X	1183	70%	739
Diff P	90%	75%	804
#Errors	0	80%	843
Filter Min	Off	85%	886
Filter Max	Off	90%	919
#Filtered	0	95%	951

Figure A6.46(b): Sydney Old West: Macro growth versus crowding out – total apprentices in training – 2010–2020

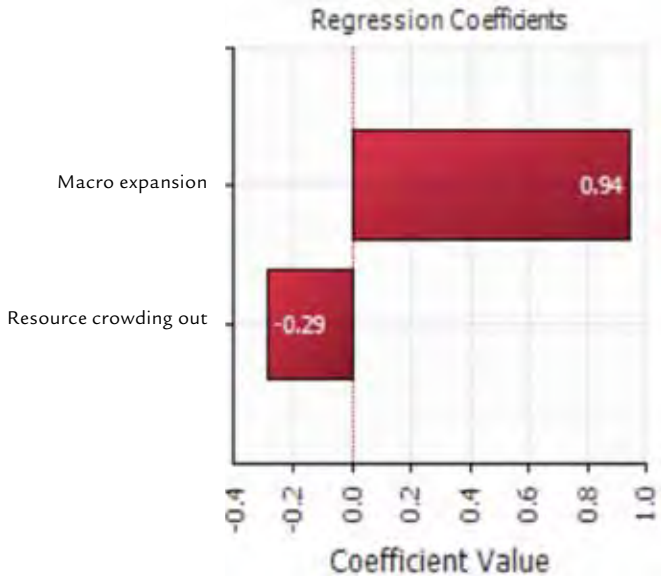


Figure A6.47(a): Sydney Outer North: Cumulative probability for change in apprentices in training – 2010–2020

Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-1216	5%	-895
Maximum	1305	10%	-748
Mean	161	15%	-631
Std Dev	714	20%	-530
Variance	510392.9695	25%	-441
Skewness	0.134864082	30%	-343
Kurtosis	1.739396106	35%	-258
Median	55	40%	-155
Mode	1238	45%	-59
Left X	-895	50%	55
Left P	5%	55%	181
Right X	1249	60%	323
Right P	95%	65%	495
Diff X	2145	70%	675
Diff P	90%	75%	862
#Errors	0	80%	1011
Filter Min	Off	85%	1118
Filter Max	Off	90%	1207
#Filtered	0	95%	1249

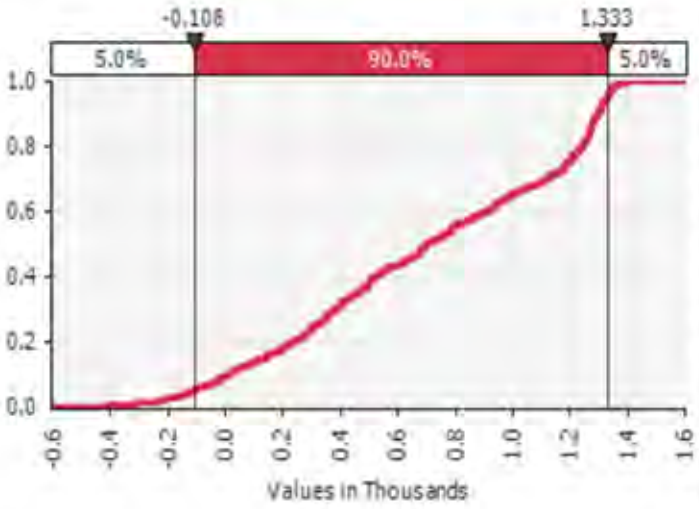
Figure A6.47(b): Sydney Outer North: Macro growth versus crowding out – total apprentices in training – 2010–2020

APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

Figure A6.48(a): Sydney Outer South West: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-698	5%	-338
Maximum	1746	10%	-177
Mean	748	15%	-34
Std Dev	661	20%	74
Variance	437320.3655	25%	192
Skewness	-0.19799904	30%	300
Kurtosis	1.775597088	35%	412
Median	757	40%	523
Mode	1579	45%	635
Left X	-338	50%	757
Left P	5%	55%	891
Right X	1612	60%	1025
Right P	95%	65%	1173
Diff X	1950	70%	1304
Diff P	90%	75%	1419
#Errors	0	80%	1504
Filter Min	Off	85%	1546
Filter Max	Off	90%	1577
#Filtered	0	95%	1612

Figure A6.48(b): Sydney Outer South West: Macro growth versus crowding out – total apprentices in training – 2010–2020

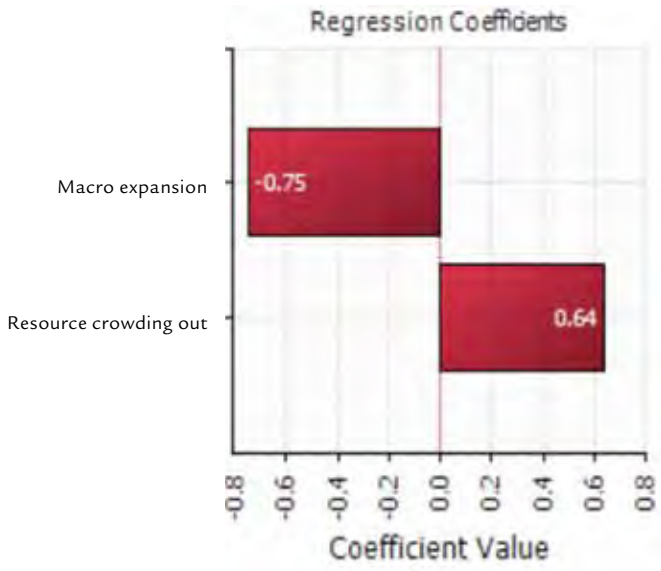
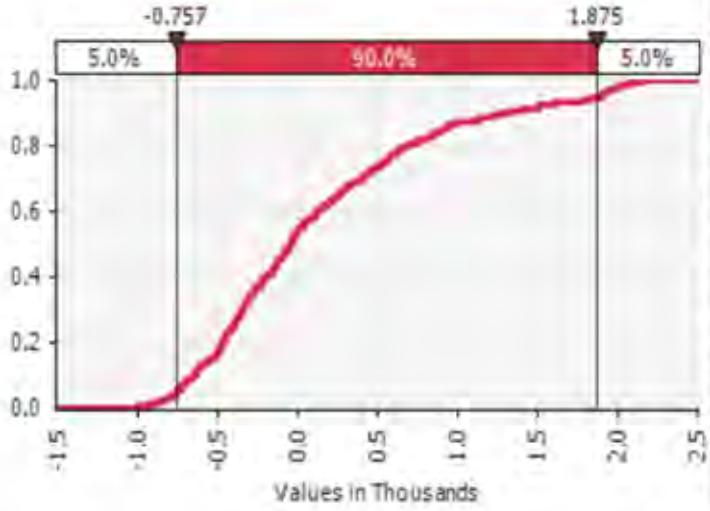


Figure A6.49(a): Sydney Outer West: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-1229	5%	-900
Maximum	3104	10%	-750
Mean	319	15%	-637
Std Dev	1009	20%	-534
Variance	1018770.898	25%	-435
Skewness	0.968698808	30%	-337
Kurtosis	3.237098627	35%	-244
Median	74	40%	-141
Mode	-585	45%	-43
Left X	-900	50%	74
Left P	5%	55%	197
Right X	2587	60%	306
Right P	95%	65%	465
Diff X	3487	70%	623
Diff P	90%	75%	822
#Errors	0	80%	1066
Filter Min	Off	85%	1423
Filter Max	Off	90%	1920
#Filtered	0	95%	2587

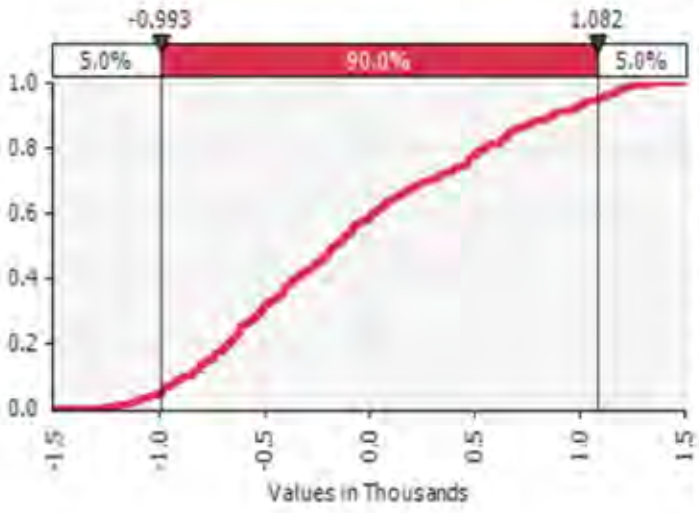
Figure A6.49(b): Sydney Outer West: Macro growth versus crowding out – total apprentices in training – 2010–2020

APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

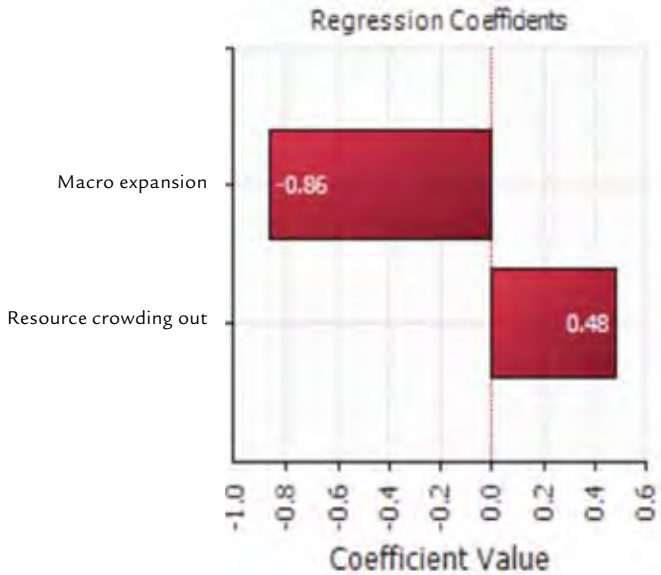
Figure A6.50(a): Sydney Parramatta-Bankstown: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

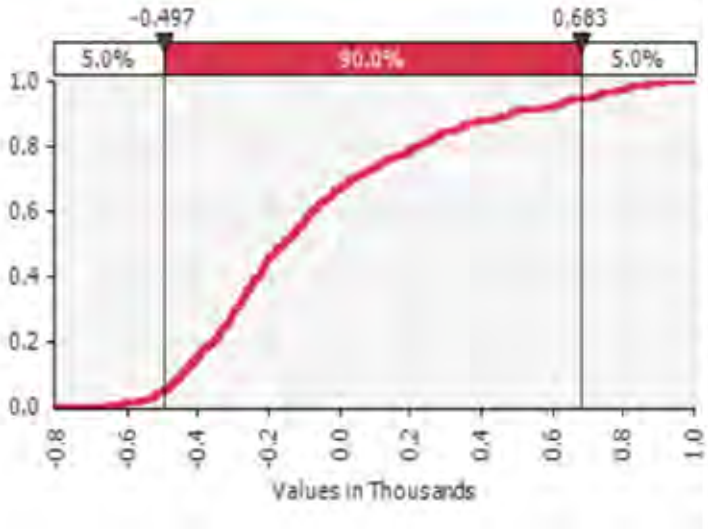
Statistics		Percentile	
Minimum	-1630	5%	-1255
Maximum	1846	10%	-1073
Mean	3	15%	-942
Std Dev	862	20%	-812
Variance	743246.3194	25%	-704
Skewness	0.286711863	30%	-585
Kurtosis	2.069957882	35%	-460
Median	-99	40%	-344
Mode	-758	45%	-228
Left X	-1255	50%	-99
Left P	5%	55%	25
Right X	1516	60%	169
Right P	95%	65%	306
Diff X	2771	70%	485
Diff P	90%	75%	669
#Errors	0	80%	881
Filter Min	Off	85%	1095
Filter Max	Off	90%	1309
#Filtered	0	95%	1516

Figure A6.50(b): Sydney Parramatta-Bankstown: Macro growth versus crowding out – total apprentices in training – 2010–2020



APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

Figure A6.51(a): Sydney South: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-844	5%	-625
Maximum	1463	10%	-542
Mean	-5	15%	-479
Std Dev	499	20%	-426
Variance	249075.3153	25%	-373
Skewness	0.914868652	30%	-329
Kurtosis	3.20996446	35%	-279
Median	-125	40%	-227
Mode	-209	45%	-179
Left X	-625	50%	-125
Left P	5%	55%	-66
Right X	1061	60%	2
Right P	95%	65%	73
Diff X	1687	70%	153
Diff P	90%	75%	255
#Errors	0	80%	382
Filter Min	Off	85%	543
Filter Max	Off	90%	766
#Filtered	0	95%	1061

Figure A6.51(b): Sydney South: Macro growth versus crowding out – total apprentices in training – 2010–2020

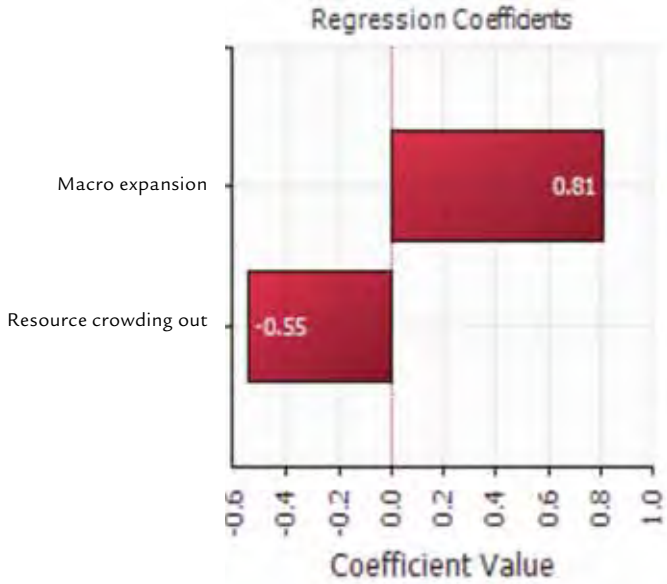
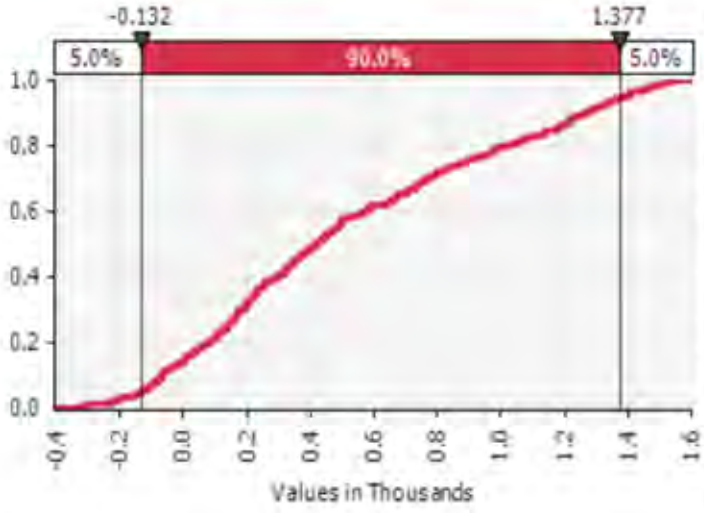


Figure A6.52(a): TAS Hobart-South: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-681	5%	-377
Maximum	2138	10%	-253
Mean	585	15%	-158
Std Dev	697	20%	-67
Variance	486470.6565	25%	20
Skewness	0.396054799	30%	102
Kurtosis	2.057265517	35%	183
Median	456	40%	259
Mode	43	45%	356
Left X	-377	50%	456
Left P	5%	55%	562
Right X	1819	60%	664
Right P	95%	65%	801
Diff X	2196	70%	962
Diff P	90%	75%	1162
#Errors	0	80%	1329
Filter Min	Off	85%	1490
Filter Max	Off	90%	1639
#Filtered	0	95%	1819

Figure A6.52(b): TAS Hobart-South: Macro growth versus crowding out – total apprentices in training – 2010–2020

Figure A6.53(a): TAS North: Cumulative probability for change in apprentices in training – 2010–2020

Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-334	5%	-91
Maximum	982	10%	-1
Mean	432	15%	64
Std Dev	313	20%	123
Variance	97945.35081	25%	175
Skewness	-0.22328617	30%	233
Kurtosis	2.014477442	35%	287
Median	455	40%	345
Mode	708	45%	392
Left X	-91	50%	455
Left P	5%	55%	518
Right X	909	60%	569
Right P	95%	65%	616
Diff X	1000	70%	660
Diff P	90%	75%	699
#Errors	0	80%	734
Filter Min	Off	85%	774
Filter Max	Off	90%	826
#Filtered	0	95%	909

Figure A6.53(b): TAS North: Macro growth versus crowding out – total apprentices in training – 2010–2020

APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

Figure A6.54(a): TAS North West: Cumulative probability for change in apprentices in training – 2010–2020

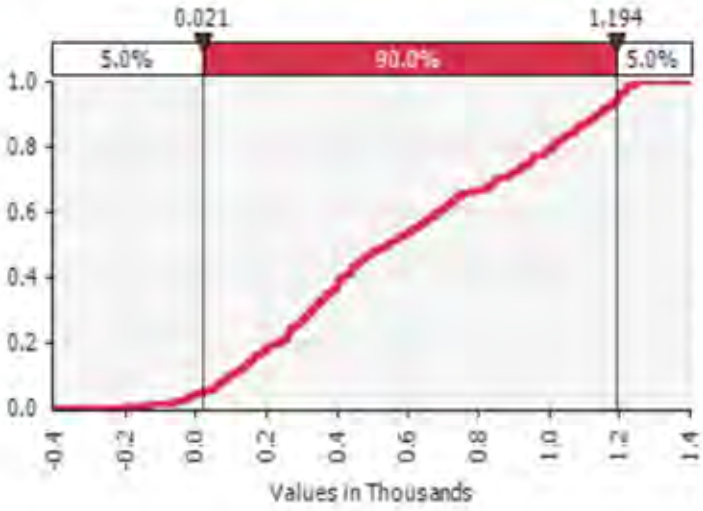
Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-214	5%	-70
Maximum	814	10%	-19
Mean	247	15%	20
Std Dev	219	20%	50
Variance	48080.04166	25%	80
Skewness	0.388750571	30%	106
Kurtosis	2.346213249	35%	134
Median	215	40%	162
Mode	82	45%	188
Left X	-70	50%	215
Left P	5%	55%	246
Right X	654	60%	279
Right P	95%	65%	314
Diff X	725	70%	352
Diff P	90%	75%	397
#Errors	0	80%	452
Filter Min	Off	85%	516
Filter Max	Off	90%	577
#Filtered	0	95%	654

Figure A6.54(b): TAS North West: Macro growth versus crowding out – total apprentices in training – 2010–2020

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

Figure A6.55(a): VIC Ballarat: Cumulative probability for change in apprentices in training – 2010–2020

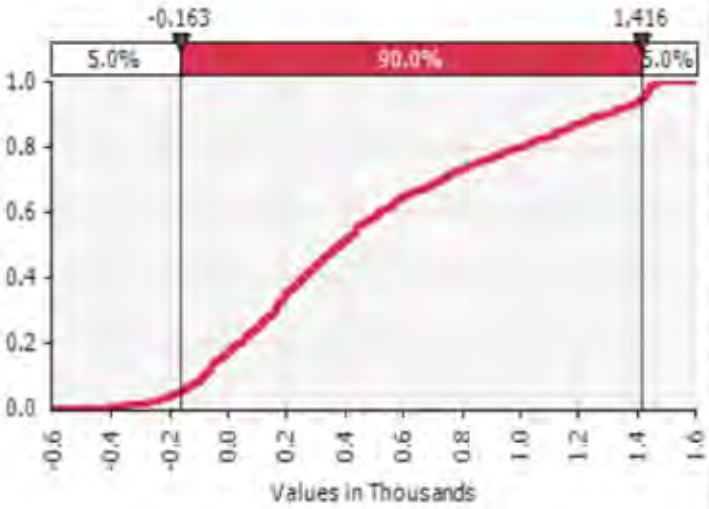


Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-342	5%	-70
Maximum	1551	10%	43
Mean	671	15%	125
Std Dev	485	20%	197
Variance	235008.3955	25%	270
Skewness	0.051781719	30%	336
Kurtosis	1.82643602	35%	399
Median	627	40%	478
Mode	289	45%	544
Left X	-70	50%	627
Left P	5%	55%	714
Right X	1421	60%	817
Right P	95%	65%	925
Diff X	1491	70%	1017
Diff P	90%	75%	1101
#Errors	0	80%	1197
Filter Min	Off	85%	1287
Filter Max	Off	90%	1362
#Filtered	0	95%	1421

Figure A6.55(b): VIC Ballarat: Macro growth versus crowding out – total apprentices in training – 2010–2020

Figure A6.56(a): VIC Bendigo: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-593	5%	-295
Maximum	1979	10%	-179
Mean	585	15%	-89
Std Dev	657	20%	-13
Variance	431643.2095	25%	55
Skewness	0.504355988	30%	130
Kurtosis	2.202103512	35%	211
Median	449	40%	283
Mode	35	45%	364
Left X	-295	50%	449
Left P	5%	55%	541
Right X	1849	60%	644
Right P	95%	65%	760
Diff X	2144	70%	890
Diff P	90%	75%	1054
#Errors	0	80%	1249
Filter Min	Off	85%	1438
Filter Max	Off	90%	1644
#Filtered	0	95%	1849

Figure A6.56(b): VIC Bendigo: Macro growth versus crowding out – total apprentices in training – 2010–2020

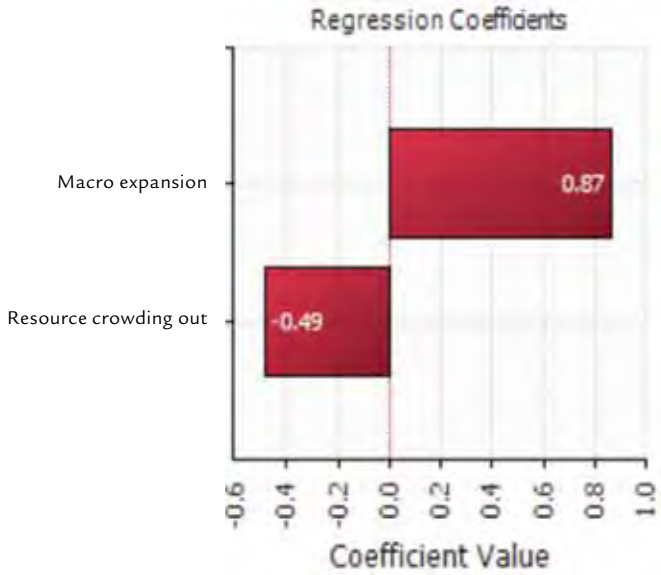


Figure A6.57(a): VIC Geelong: Cumulative probability for change in apprentices in training – 2010–2020

Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-2064	5%	-1447
Maximum	3679	10%	-1134
Mean	1100	15%	-865
Std Dev	1685	20%	-651
Variance	2840141.437	25%	-401
Skewness	-0.03701618	30%	-169
Kurtosis	1.586769195	35%	91
Median	998	40%	345
Mode	3264	45%	638
Left X	-1447	50%	998
Left P	5%	55%	1360
Right X	3354	60%	1788
Right P	95%	65%	2207
Diff X	4801	70%	2563
Diff P	90%	75%	2914
#Errors	0	80%	3122
Filter Min	Off	85%	3203
Filter Max	Off	90%	3268
#Filtered	0	95%	3354

Figure A6.57(b): VIC Geelong: Macro growth versus crowding out – total apprentices in training – 2010–2020

APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

Figure A6.58(a): VIC Gippsland: Cumulative probability for change in apprentices in training – 2010–2020

Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-779	5%	-644
Maximum	426	10%	-598
Mean	-360	15%	-565
Std Dev	204	20%	-536
Variance	41801.07765	25%	-511
Skewness	0.678186582	30%	-485
Kurtosis	3.197413576	35%	-461
Median	-388	40%	-439
Mode	-427	45%	-415
Left X	-644	50%	-388
Left P	5%	55%	-362
Right X	40	60%	-335
Right P	95%	65%	-310
Diff X	683	70%	-278
Diff P	90%	75%	-237
#Errors	0	80%	-198
Filter Min	Off	85%	-144
Filter Max	Off	90%	-73
#Filtered	0	95%	40

Figure A6.58(b): VIC Gippsland: Macro growth versus crowding out – total apprentices in training – 2010–2020

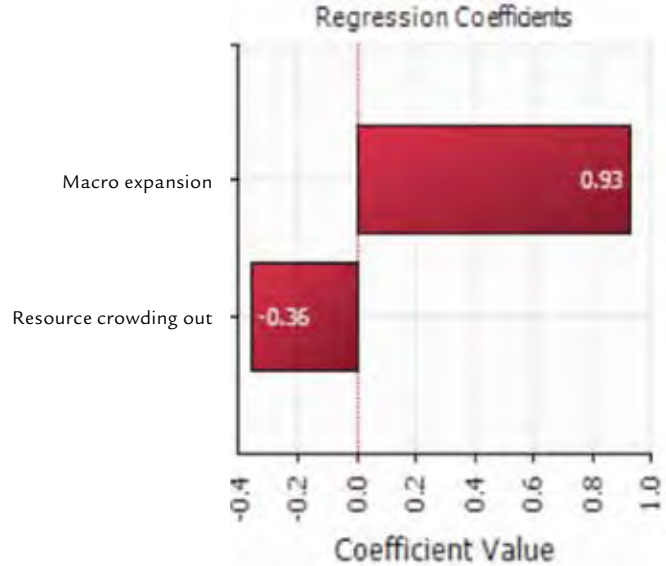
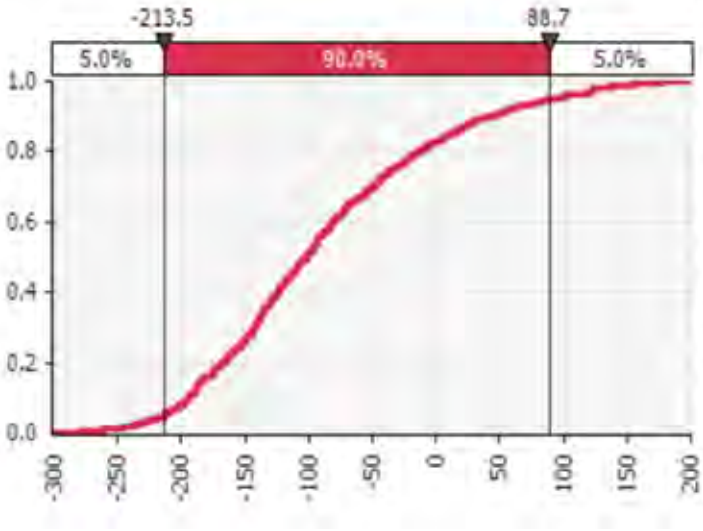


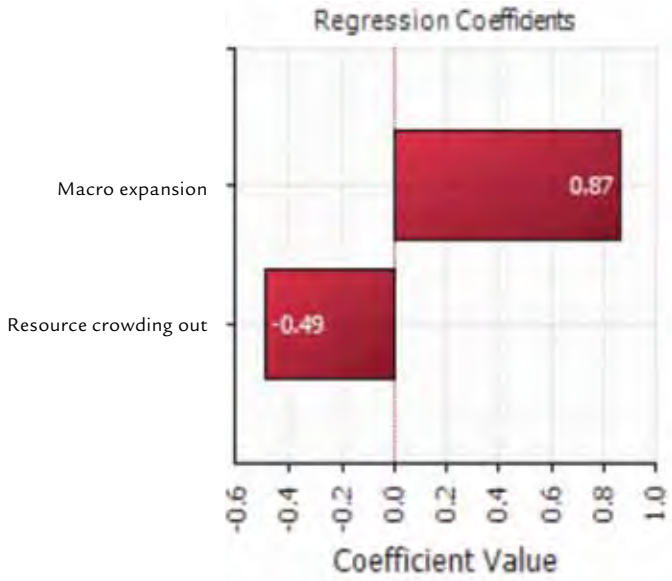
Figure A6.59(a): VIC Mallee Wimmera: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-334	5%	-243
Maximum	420	10%	-213
Mean	-68	15%	-190
Std Dev	123	20%	-173
Variance	15160.04874	25%	-158
Skewness	0.630464954	30%	-143
Kurtosis	3.217708416	35%	-126
Median	-89	40%	-113
Mode	-102	45%	-98
Left X	-243	50%	-83
Left P	5%	55%	-68
Right X	168	60%	-52
Right P	95%	65%	-34
Diff X	411	70%	-16
Diff P	90%	75%	6
#Errors	0	80%	31
Filter Min	Off	85%	60
Filter Max	Off	90%	101
#Filtered	0	95%	168

Figure A6.59(b): VIC Mallee Wimmera: Macro growth versus crowding out – total apprentices in training – 2010–2020

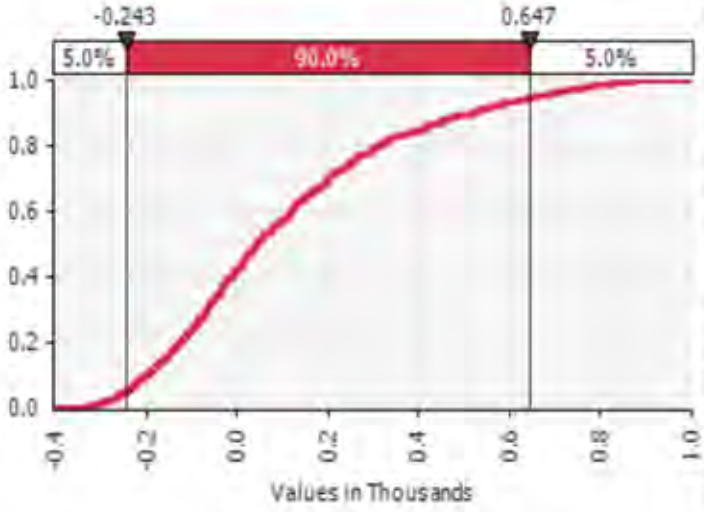


APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

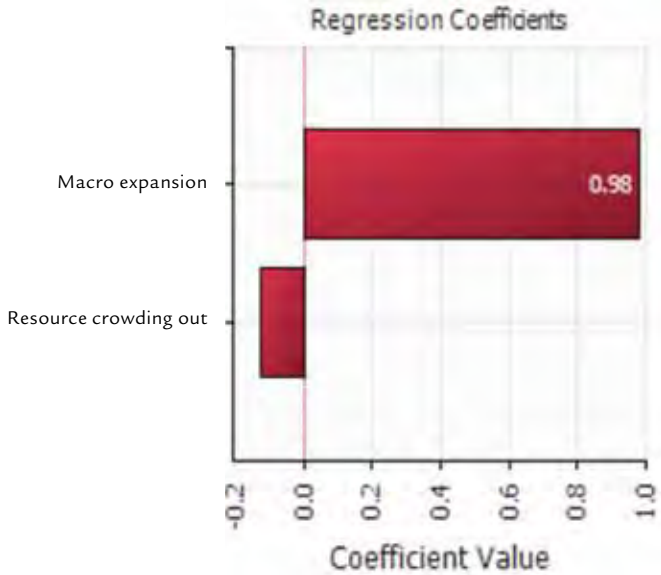
Figure A6.60(a): VIC North East: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

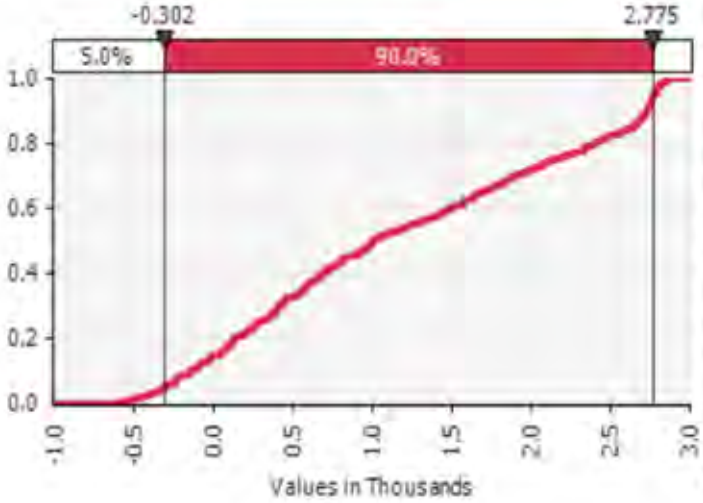
Statistics		Percentile	
Minimum	-483	5%	-331
Maximum	1419	10%	-267
Mean	156	15%	-216
Std Dev	379	20%	-168
Variance	143550.9767	25%	-124
Skewness	0.881675131	30%	-83
Kurtosis	3.292665689	35%	-48
Median	76	40%	-6
Mode	-73	45%	33
Left X	-331	50%	76
Left P	5%	55%	120
Right X	939	60%	170
Right P	95%	65%	223
Diff X	1270	70%	292
Diff P	90%	75%	366
#Errors	0	80%	460
Filter Min	Off	85%	561
Filter Max	Off	90%	715
#Filtered	0	95%	939

Figure A6.60(b): VIC North East: Macro growth versus crowding out – total apprentices in training – 2010–2020



APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

Figure A6.61(a): VIC West: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-1066	5%	-642
Maximum	3673	10%	-429
Mean	1360	15%	-243
Std Dev	1413	20%	-57
Variance	1997429.23	25%	120
Skewness	0.179452893	30%	309
Kurtosis	1.677260392	35%	472
Median	1138	40%	682
Mode	3458	45%	890
Left X	-642	50%	1138
Left P	5%	55%	1422
Right X	3506	60%	1749
Right P	95%	65%	2057
Diff X	4149	70%	2339
Diff P	90%	75%	2680
#Errors	0	80%	3064
Filter Min	Off	85%	3322
Filter Max	Off	90%	3439
#Filtered	0	95%	3506

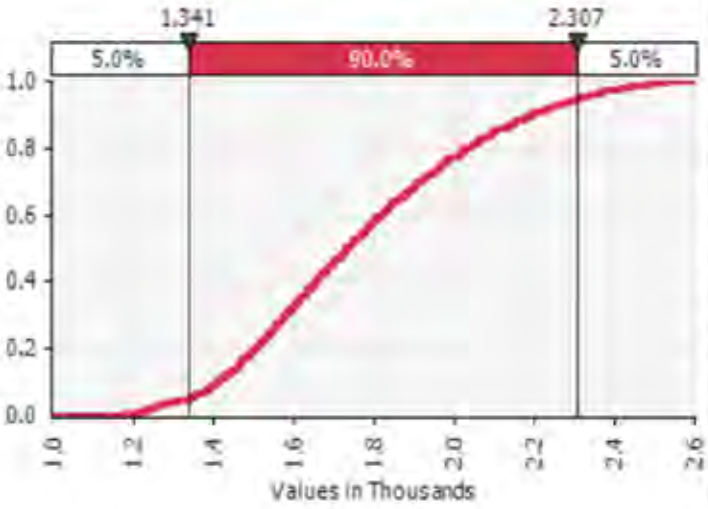
Figure A6.61(b): VIC West: Macro growth versus crowding out – total apprentices in training – 2010–2020

APPENDICES

APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

Figure A6.62(a): WA Gascoyne Goldfields: Cumulative probability for change in apprentices in training – 2010–2020

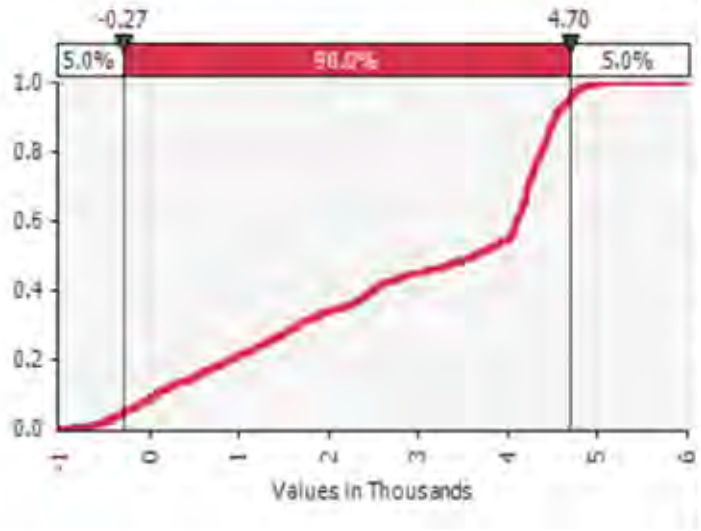


Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	1104	5%	1441
Maximum	2900	10%	1516
Mean	1915	15%	1574
Std Dev	336	20%	1618
Variance	112744.7796	25%	1659
Skewness	0.482451773	30%	1696
Kurtosis	2.605994175	35%	1736
Median	1865	40%	1777
Mode	1662	45%	1821
Left X	1441	50%	1865
Left P	5%	55%	1913
Right X	2546	60%	1964
Right P	95%	65%	2016
Diff X	1105	70%	2076
Diff P	90%	75%	2140
#Errors	0	80%	2214
Filter Min	Off	85%	2300
Filter Max	Off	90%	2401
#Filtered	0	95%	2546

Figure A6.62(b): WA Gascoyne Goldfields: Macro growth versus crowding out – total apprentices in training – 2010–2020

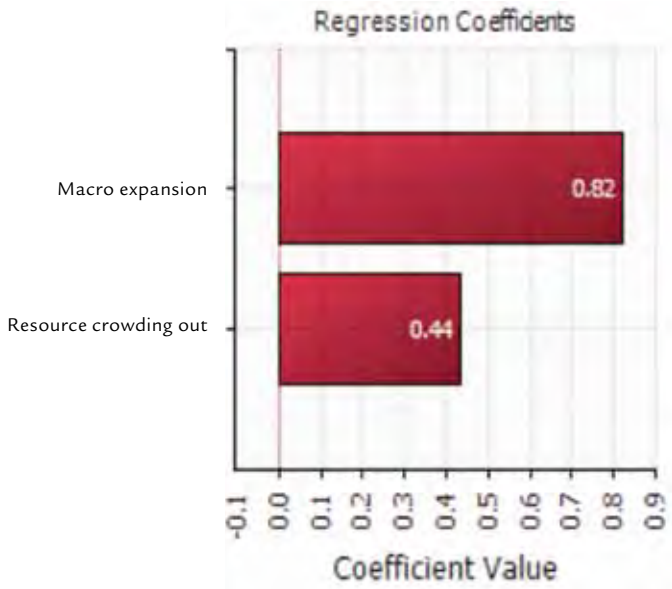
Figure A6.63(a): WA Peel South West: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-1350	5%	-553
Maximum	5823	10%	-134
Mean	3012	15%	289
Std Dev	1994	20%	731
Variance	3977540.704	25%	1217
Skewness	-0.601368869	30%	1655
Kurtosis	1.866386962	35%	2279
Median	3970	40%	2778
Mode	4628	45%	3369
Left X	-553	50%	3970
Left P	5%	55%	4357
Right X	5110	60%	4497
Right P	95%	65%	4562
Diff X	5663	70%	4623
Diff P	90%	75%	4689
#Errors	0	80%	4764
Filter Min	Off	85%	4852
Filter Max	Off	90%	4967
#Filtered	0	95%	5110

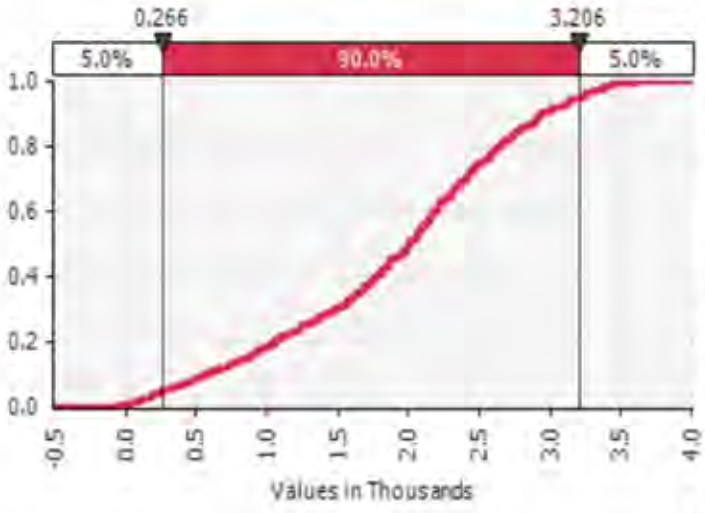
Figure A6.63(b): WA Peel South West: Macro growth versus crowding out – total apprentices in training – 2010–2020



APPENDIX 6: CUMULATIVE PROBABILITY AND MACRO GROWTH VERSUS CROWDING OUT FOR APPRENTICES IN TRAINING REGION – 2010–2020

6

Figure A6.64(a): WA Pilbara Kimberley: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-322	5%	171
Maximum	3879	10%	500
Mean	1904	15%	861
Std Dev	894	20%	1141
Variance	798590.2213	25%	1362
Skewness	-0.45162881	30%	1548
Kurtosis	2.588855576	35%	1674
Median	2031	40%	1800
Mode	2299	45%	1923
Left X	171	50%	2031
Left P	5%	55%	2136
Right X	3216	60%	2224
Right P	95%	65%	2324
Diff X	3045	70%	2433
Diff P	90%	75%	2544
#Errors	0	80%	2669
Filter Min	Off	85%	2811
Filter Max	Off	90%	2989
#Filtered	0	95%	3216

Figure A6.64(b): WA Pilbara Kimberley: Macro growth versus crowding out – total apprentices in training – 2010–2020

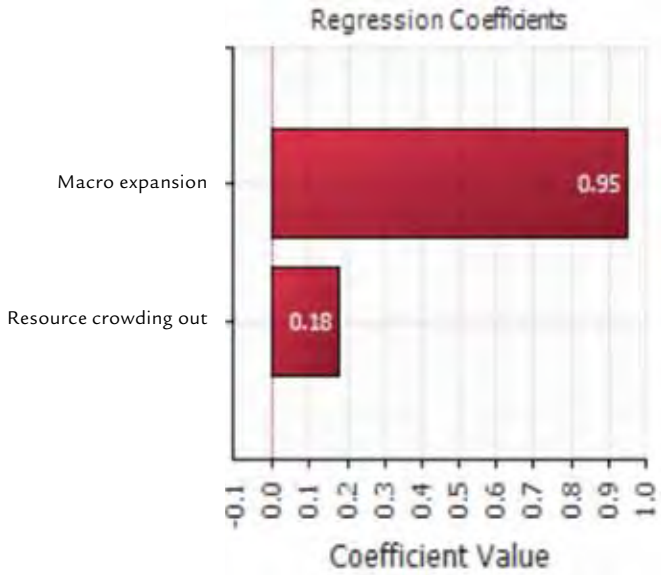
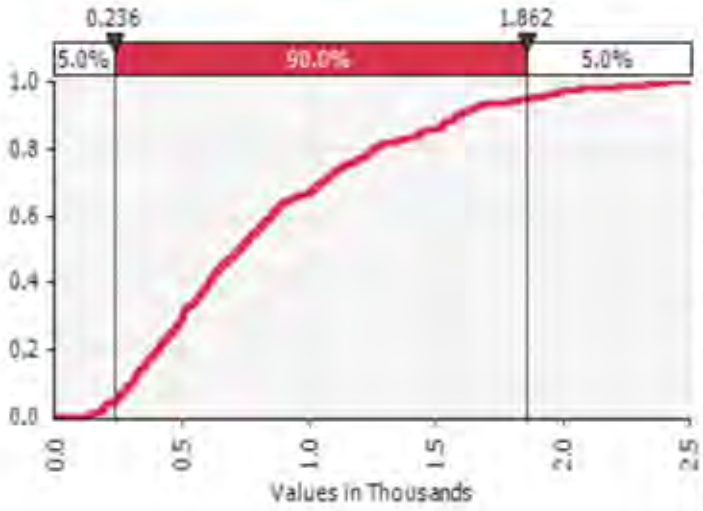


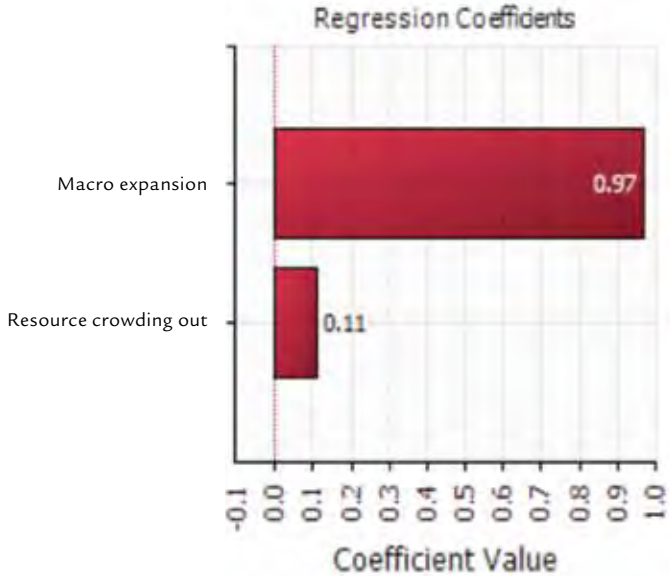
Figure A6.65(a): WA Wheatbelt Great Southern: Cumulative probability for change in apprentices in training – 2010–2020



Summary Statistics for Change in tot

Statistics		Percentile	
Minimum	-5	5%	153
Maximum	2873	10%	229
Mean	882	15%	291
Std Dev	614	20%	352
Variance	376493.323	25%	410
Skewness	0.955225007	30%	469
Kurtosis	3.256863816	35%	524
Median	710	40%	579
Mode	520	45%	642
Left X	153	50%	710
Left P	5%	55%	786
Right X	2115	60%	884
Right P	95%	65%	990
Diff X	1962	70%	1111
Diff P	90%	75%	1242
#Errors	0	80%	1400
Filter Min	Off	85%	1588
Filter Max	Off	90%	1801
#Filtered	0	95%	2115

Figure A6.65(b): WA Wheatbelt Great Southern: Macro growth versus crowding out – total apprentices in training – 2010–2020



APPENDICES

APPENDIX 7: INDEX OF LOCALITIES AND REGION MEMBERSHIP

7

A7.1: INDEX OF LOCALITIES

Local Government Area	SOR Region
Adelaide (C)	Adelaide Inner
Adelaide Hills (DC)	Adelaide South
Albany (C)	WA Wheatbelt Great Southern
Albury (C)	NSW Riverina
Alexandrina (DC)	Adelaide South
Alice Springs (T)	NT Lingiari
Alpine (S)	VIC North East
Anangu Pitjantjatjara (AC)	SA Spencer Gulf
Ararat (RC)	VIC Ballarat
Armadale (C)	Perth Outer South
Armidale Dumaresq (A)	NSW North
Ashburton (S)	WA Pilbara Kimberley
Ashfield (A)	Sydney Old West
Auburn (A)	Sydney Parramatta-Bankstown
Augusta-Margaret River (S)	WA Peel South West
Aurukun (S)	QLD Resource region
Ballarat (C)	VIC Ballarat
Ballina (A)	NSW Richmond Tweed
Balonne (S)	QLD Resource region
Balranald (A)	NSW Far West
Banana (S)	QLD Fitzroy

Local Government Area	SOR Region
Bankstown (C)	Sydney Parramatta-Bankstown
Banyule (C)	Melbourne North East
Barcaldine (R)	QLD Resource region
Barcoo (S)	QLD Resource region
Barkly (S)	NT Lingiari
Barossa (DC)	SA Mid North Riverland
Barunga West (DC)	SA Mid North Riverland
Bass Coast (S)	VIC Gippsland
Bassendean (T)	Perth Outer North
Bathurst Regional (A)	NSW Central West
Baulkham Hills (A)	Sydney Outer North
Baw Baw (S)	VIC Gippsland
Bayside (C)	Melbourne Mid South East
Bayswater (C)	Perth Outer North
Bega Valley (A)	NSW Southern Tablelands
Bellingen (A)	NSW Mid North Coast
Belmont (C)	Perth Central
Belyuen (S)	NT Lingiari
Benalla (RC)	VIC North East
Berri and Barmera (DC)	SA Mid North Riverland
Berrigan (A)	NSW Riverina
Beverley (S)	WA Wheatbelt Great Southern

Local Government Area	SOR Region
Blackall Tambo (R)	QLD Resource region
Blacktown (C)	Sydney Outer West
Bland (A)	NSW Central West
Blayney (A)	NSW Central West
Blue Mountains (C)	Sydney Outer West
Boddington (S)	WA Peel South West
Bogan (A)	NSW Far West
Bombala (A)	NSW Southern Tablelands
Boorowa (A)	NSW Southern Tablelands
Boroondara (C)	Melbourne East
Botany Bay (C)	Sydney Central
Boulia (S)	QLD Resource region
Bourke (A)	NSW Far West
Boyup Brook (S)	WA Peel South West
Break O'Day (M)	TAS North
Brewarrina (A)	NSW Far West
Bridgetown-Greenbushes (S)	WA Peel South West
Brighton (M)	TAS Hobart-South
Brimbank (C)	Melbourne West
Brisbane (C)	SEQ Brisbane City
Broken Hill (C)	NSW Far West
Brookton (S)	WA Wheatbelt Great Southern

continued next page

A7.1: INDEX OF LOCALITIES (continued)

Local Government Area	SOR Region
Broome (S)	WA Pilbara Kimberley
Broomehill-Tambellup (S)	WA Wheatbelt Great Southern
Bruce Rock (S)	WA Wheatbelt Great Southern
Bulloo (S)	QLD Resource region
Buloke (S)	VIC Mallee Wimmera
Bunbury (C)	WA Peel South West
Bundaberg (R)	QLD Wide Bay Burnett
Burdekin (S)	QLD North
Burke (S)	QLD Resource region
Burnie (C)	TAS North West
Burnside (C)	Adelaide Inner
Burwood (A)	Sydney Old West
Busselton (S)	WA Peel South West
Byron (A)	NSW Richmond Tweed
Cabonne (A)	NSW Central West
Cairns (R)	QLD Cairns
Cambridge (T)	Perth Central
Camden (A)	Sydney Outer South West
Campaspe (S)	VIC Bendigo
Campbelltown (C)	Adelaide North
Campbelltown (C)	Sydney Outer South West
Canada Bay (A)	Sydney Central

Local Government Area	SOR Region
Canning (C)	Perth Central
Canterbury (C)	Sydney Old West
Capel (S)	WA Peel South West
Cardinia (S)	Melbourne Outer South East
Carnamah (S)	WA Gascoyne Goldfields
Carnarvon (S)	WA Gascoyne Goldfields
Carpentaria (S)	QLD Resource region
Carrathool (A)	NSW Far West
Casey (C)	Melbourne Outer South East
Cassowary Coast (R)	QLD Cairns
Ceduna (DC)	SA Spencer Gulf
Central Coast (M)	TAS North West
Central Darling (A)	NSW Far West
Central Desert (S)	NT Lingiari
Central Goldfields (S)	VIC Ballarat
Central Highlands (M)	TAS Hobart-South
Central Highlands (R)	QLD Fitzroy
Cessnock (C)	NSW Hunter
Chapman Valley (S)	WA Gascoyne Goldfields
Charles Sturt (C)	Adelaide North
Charters Towers (R)	QLD North
Cherbourg (S)	QLD Wide Bay Burnett
Chittering (S)	WA Wheatbelt Great Southern

Local Government Area	SOR Region
Circular Head (M)	TAS North West
Clare and Gilbert Valleys (DC)	SA Mid North Riverland
Claremont (T)	Perth Central
Clarence (C)	TAS Hobart-South
Clarence Valley (A)	NSW Mid North Coast
Cleve (DC)	SA Spencer Gulf
Cloncurry (S)	QLD Resource region
Cobar (A)	NSW Far West
Cockburn (C)	Perth Outer South
Coffs Harbour (C)	NSW Mid North Coast
Colac-Otway (S)	VIC West
Collie (S)	WA Peel South West
Conargo (A)	NSW Far West
Coober Pedy (DC)	SA Spencer Gulf
Cook (S)	QLD Resource region
Coolamon (A)	NSW Riverina
Coolgardie (S)	WA Gascoyne Goldfields
Cooma-Monaro (A)	NSW Southern Tablelands
Coomalie (S)	NT Darwin
Coonamble (A)	NSW Far West
Coorow (S)	WA Gascoyne Goldfields
Cootamundra (A)	NSW Riverina

continued next page

A7.1: INDEX OF LOCALITIES (continued)

Local Government Area	SOR Region
Copper Coast (DC)	SA Mid North Riverland
Corangamite (S)	VIC West
Corowa Shire (A)	NSW Riverina
Corrigin (S)	WA Wheatbelt Great Southern
Cottesloe (T)	Perth Central
Cowra (A)	NSW Central West
Cranbrook (S)	WA Wheatbelt Great Southern
Croydon (S)	QLD Resource region
Cuballing (S)	WA Wheatbelt Great Southern
Cue (S)	WA Gascoyne Goldfields
Cunderdin (S)	WA Wheatbelt Great Southern
Dalby (R)	QLD Darling Downs
Dalwallinu (S)	WA Wheatbelt Great Southern
Dandaragan (S)	WA Wheatbelt Great Southern
Dardanup (S)	WA Peel South West
Darebin (C)	Melbourne North
Darwin (C)	NT Darwin
Darwin Rates Area	NT Darwin
Deniliquin (A)	NSW Far West
Denmark (S)	WA Wheatbelt Great Southern
Derby-West Kimberley (S)	WA Pilbara Kimberley
Derwent Valley (M)	TAS Hobart-South

Local Government Area	SOR Region
Devonport (C)	TAS North West
Diamantina (S)	QLD Resource region
Donnybrook-Balingup (S)	WA Peel South West
Doomadgee (S)	QLD Resource region
Dorset (M)	TAS North
Dowerin (S)	WA Wheatbelt Great Southern
Dubbo (C)	NSW Central West
Dumbleyung (S)	WA Wheatbelt Great Southern
Dundas (S)	WA Gascoyne Goldfields
Dungog (A)	NSW Hunter
East Arnhem (S)	NT Lingiari
East Fremantle (T)	Perth Central
East Gippsland (S)	VIC Gippsland
East Pilbara (S)	WA Pilbara Kimberley
Elliston (DC)	SA Spencer Gulf
Esperance (S)	WA Gascoyne Goldfields
Etheridge (S)	QLD Resource region
Eurobodalla (A)	NSW Southern Tablelands
Exmouth (S)	WA Gascoyne Goldfields
Fairfield (C)	Sydney Parramatta-Bankstown
Flinders (M)	TAS North
Flinders (S)	QLD Resource region

Local Government Area	SOR Region
Flinders Ranges (DC)	SA Spencer Gulf
Forbes (A)	NSW Central West
Franklin Harbour (DC)	SA Spencer Gulf
Frankston (C)	Melbourne Outer South East
Fraser Coast (R)	QLD Wide Bay Burnett
Fremantle (C)	Perth Central
Gannawarra (S)	VIC Mallee Wimmera
Gawler (T)	Adelaide North
George Town (M)	TAS North
Geraldton-Greenough (C)	WA Gascoyne Goldfields
Gilgandra (A)	NSW Central West
Gingin (S)	WA Wheatbelt Great Southern
Gladstone (R)	QLD Fitzroy
Glamorgan/Spring Bay (M)	TAS Hobart-South
Glen Eira (C)	Melbourne Central
Glen Innes Severn (A)	NSW North
Glenelg (S)	VIC West
Glenorchy (C)	TAS Hobart-South
Gloucester (A)	NSW Hunter
Gnowangerup (S)	WA Wheatbelt Great Southern
Gold Coast (C)	SEQ Gold Coast

continued next page

A7.1: INDEX OF LOCALITIES (continued)

Local Government Area	SOR Region
Golden Plains (S)	VIC West
Goomalling (S)	WA Wheatbelt Great Southern
Goondiwindi (R)	QLD Darling Downs
Gosford (C)	NSW Central Coast
Gosnells (C)	Perth Outer South
Goulburn Mulwaree (A)	NSW Southern Tablelands
Goyder (DC)	SA Mid North Riverland
Grant (DC)	SA Mallee South East
Great Lakes (A)	NSW Hunter
Greater Bendigo (C)	VIC Bendigo
Greater Dandenong (C)	Melbourne Mid South East
Greater Geelong (C)	VIC Geelong
Greater Hume Shire (A)	NSW Riverina
Greater Shepparton (C)	VIC North East
Greater Taree (C)	NSW Mid North Coast
Griffith (C)	NSW Riverina
Gundagai (A)	NSW Southern Tablelands
Gunnedah (A)	NSW North
Guyra (A)	NSW North
Gwydir (A)	NSW North
Gympie (R)	QLD Wide Bay Burnett
Halls Creek (S)	WA Pilbara Kimberley
Harden (A)	NSW Southern Tablelands

Local Government Area	SOR Region
Harvey (S)	WA Peel South West
Hawkesbury (C)	Sydney Outer West
Hay (A)	NSW Far West
Hepburn (S)	VIC Ballarat
Hinchinbrook (S)	QLD North
Hindmarsh (S)	VIC Mallee Wimmera
Hobart (C)	TAS Hobart-South
Hobsons Bay (C)	Melbourne West
Holdfast Bay (C)	Adelaide Inner
Holroyd (C)	Sydney Parramatta-Bankstown
Hope Vale (S)	QLD Resource region
Hornsby (A)	Sydney Outer North
Horsham (RC)	VIC Mallee Wimmera
Hume (C)	Melbourne North
Hunters Hill (A)	Sydney Central
Huon Valley (M)	TAS Hobart-South
Hurstville (C)	Sydney South
Indigo (S)	VIC North East
Inverell (A)	NSW North
Ipswich (C)	SEQ West Moreton
Irwin (S)	WA Gascoyne Goldfields
Isaac (R)	QLD Mackay
Jerilderie (A)	NSW Far West

Local Government Area	SOR Region
Jerramungup (S)	WA Wheatbelt Great Southern
Joondalup (C)	Perth Outer North
Junee (A)	NSW Riverina
Kalamunda (S)	Perth Outer South
Kalgoorlie/Boulder (C)	WA Gascoyne Goldfields
Kangaroo Island (DC)	SA Mallee South East
Karoonda East Murray (DC)	SA Mallee South East
Katanning (S)	WA Wheatbelt Great Southern
Katherine (T)	NT Lingiari
Kellerberrin (S)	WA Wheatbelt Great Southern
Kempsey (A)	NSW Mid North Coast
Kent (S)	WA Wheatbelt Great Southern
Kentish (M)	TAS North West
Kiama (A)	NSW Illawarra
Kimba (DC)	SA Spencer Gulf
King Island (M)	TAS North West
Kingborough (M)	TAS Hobart-South
Kingston (C)	Melbourne Mid South East
Kingston (DC)	SA Mallee South East
Knox (C)	Melbourne East
Kogarah (A)	Sydney South
Kojonup (S)	WA Wheatbelt Great Southern

continued next page

A7.1: INDEX OF LOCALITIES (continued)

Local Government Area	SOR Region
Kondinin (S)	WA Wheatbelt Great Southern
Koorda (S)	WA Wheatbelt Great Southern
Kowanyama (S)	QLD Resource region
Ku-ring-gai (A)	Sydney Outer North
Kulin (S)	WA Wheatbelt Great Southern
Kwinana (T)	Perth Outer South
Kyogle (A)	NSW Richmond Tweed
Lachlan (A)	NSW Far West
Lake Grace (S)	WA Wheatbelt Great Southern
Lake Macquarie (C)	NSW Hunter
Lane Cove (A)	Sydney Central
Latrobe (C)	VIC Gippsland
Latrobe (M)	TAS North West
Launceston (C)	TAS North
Laverton (S)	WA Gascoyne Goldfields
Le Hunte (DC)	SA Spencer Gulf
Leeton (A)	NSW Riverina
Leichhardt (A)	Sydney Central
Leonora (S)	WA Gascoyne Goldfields
Light (RegC)	SA Mid North Riverland
Lismore (C)	NSW Richmond Tweed
Litchfield (S)	NT Darwin

Local Government Area	SOR Region
Lithgow (C)	NSW Central West
Liverpool (C)	Sydney Outer South West
Liverpool Plains (A)	NSW North
Lockhart (A)	NSW Riverina
Lockhart River (S)	QLD Resource region
Lockyer Valley (R)	SEQ West Moreton
Loddon (S)	VIC Bendigo
Logan (C)	SEQ Brisbane South
Longreach (R)	QLD Resource region
Lower Eyre Peninsula (DC)	SA Spencer Gulf
Loxton Waikerie (DC)	SA Mid North Riverland
MacDonnell (S)	NT Lingiari
Macedon Ranges (S)	VIC Bendigo
Mackay (R)	QLD Mackay
Maitland (C)	NSW Hunter
Mallala (DC)	SA Mid North Riverland
Mandurah (C)	WA Peel South West
Manjimup (S)	WA Peel South West
Manly (A)	Sydney Northern Beaches
Manningham (C)	Melbourne North East
Mansfield (S)	VIC North East
Mapoon (S)	QLD Resource region

Local Government Area	SOR Region
Maralinga Tjarutja (AC)	SA Spencer Gulf
Maribyrnong (C)	Melbourne West
Marion (C)	Adelaide Inner
Maroondah (C)	Melbourne East
Marrickville (A)	Sydney Old West
McKinlay (S)	QLD Resource region
Meander Valley (M)	TAS North
Meekatharra (S)	WA Gascoyne Goldfields
Melbourne (C)	Melbourne Central
Melton (S)	Melbourne West
Melville (C)	Perth Outer South
Menzies (S)	WA Gascoyne Goldfields
Merredin (S)	WA Wheatbelt Great Southern
Mid-Western Regional (A)	NSW Central West
Mid Murray (DC)	SA Mid North Riverland
Mildura (RC)	VIC Mallee Wimmera
Mingenew (S)	WA Gascoyne Goldfields
Mitcham (C)	Adelaide Inner
Mitchell (S)	VIC Bendigo
Moira (S)	VIC North East
Monash (C)	Melbourne Mid South East
Moonee Valley (C)	Melbourne North

continued next page

A7.1: INDEX OF LOCALITIES (continued)

Local Government Area	SOR Region
Moora (S)	WA Wheatbelt Great Southern
Moorabool (S)	VIC Ballarat
Morawa (S)	WA Gascoyne Goldfields
Moree Plains (A)	NSW North
Moreland (C)	Melbourne North
Moreton Bay (R)	SEQ Moreton Bay
Mornington (S)	QLD Resource region
Mornington Peninsula (S)	Melbourne Outer South East
Mosman (A)	Sydney Northern Beaches
Mosman Park (T)	Perth Central
Mount Alexander (S)	VIC Bendigo
Mount Barker (DC)	Adelaide South
Mount Gambier (C)	SA Mallee South East
Mount Isa (C)	QLD Resource region
Mount Magnet (S)	WA Gascoyne Goldfields
Mount Marshall (S)	WA Wheatbelt Great Southern
Mount Remarkable (DC)	SA Spencer Gulf
Moyne (S)	VIC West
Mukinbudin (S)	WA Wheatbelt Great Southern
Mullewa (S)	WA Gascoyne Goldfields
Mundaring (S)	Perth Outer North
Murchison (S)	WA Gascoyne Goldfields

Local Government Area	SOR Region
Murray (A)	NSW Far West
Murray (S)	WA Peel South West
Murray Bridge (RC)	SA Mallee South East
Murrindindi (S)	VIC North East
Murrumbidgee (A)	NSW Riverina
Murweh (S)	QLD Resource region
Muswellbrook (A)	NSW Hunter
Nambucca (A)	NSW Mid North Coast
Nannup (S)	WA Peel South West
Napranum (S)	QLD Resource region
Naracoorte and Lucindale (DC)	SA Mallee South East
Narembeen (S)	WA Wheatbelt Great Southern
Narrabri (A)	NSW North
Narrandera (A)	NSW Riverina
Narrogin (S)	WA Wheatbelt Great Southern
Narrogin (T)	WA Wheatbelt Great Southern
Narromine (A)	NSW Central West
Nedlands (C)	Perth Central
Newcastle (C)	NSW Hunter
Ngaanyatjarraku (S)	WA Gascoyne Goldfields
Nillumbik (S)	Melbourne North East
North Burnett (R)	QLD Wide Bay Burnett

Local Government Area	SOR Region
North Sydney (A)	Sydney Central
Northam (S)	WA Wheatbelt Great Southern
Northampton (S)	WA Gascoyne Goldfields
Northern Areas (DC)	SA Mid North Riverland
Northern Grampians (S)	VIC Mallee Wimmera
Northern Midlands (M)	TAS North
Northern Peninsula Area (R)	QLD Resource region
Norwood Payneham St Peters (C)	Adelaide Inner
Nungarin (S)	WA Wheatbelt Great Southern
Oberon (A)	NSW Central West
Onkaparinga (C)	Adelaide South
Orange (C)	NSW Central West
Orroroo/ Carrieton (DC)	SA Mid North Riverland
Palerang (A)	NSW Southern Tablelands
Palm Island (S)	QLD North
Palmerston (C)	NT Darwin
Parkes (A)	NSW Central West
Paroo (S)	QLD Resource region
Parramatta (C)	Sydney Parramatta-Bankstown
Penrith (C)	Sydney Outer West

continued next page

A7.1: INDEX OF LOCALITIES (continued)

Local Government Area	SOR Region
Peppermint Grove (S)	Perth Central
Perenjori (S)	WA Gascoyne Goldfields
Perth (C)	Perth Central
Peterborough (DC)	SA Mid North Riverland
Pingelly (S)	WA Wheatbelt Great Southern
Pittwater (A)	Sydney Northern Beaches
Plantagenet (S)	WA Wheatbelt Great Southern
Playford (C)	Adelaide North
Pormpuraaw (S)	QLD Resource region
Port Adelaide Enfield (C)	Adelaide North
Port Augusta (C)	SA Spencer Gulf
Port Hedland (T)	WA Pilbara Kimberley
Port Lincoln (C)	SA Spencer Gulf
Port Macquarie-Hastings (A)	NSW Mid North Coast
Port Phillip (C)	Melbourne Central
Port Pirie City and Dists (M)	SA Spencer Gulf
Port Stephens (A)	NSW Hunter
Prospect (C)	Adelaide North
Pyrenees (S)	VIC Ballarat
Quairading (S)	WA Wheatbelt Great Southern

Local Government Area	SOR Region
Queanbeyan (C)	NSW Southern Tablelands
Queenscliffe (B)	VIC Geelong
Quilpie (S)	QLD Resource region
Randwick (C)	Sydney Eastern Beaches
Ravensthorpe (S)	WA Gascoyne Goldfields
Redland (C)	SEQ Brisbane South
Renmark Paringa (DC)	SA Mid North Riverland
Richmond (S)	QLD Resource region
Richmond Valley (A)	NSW Richmond Tweed
Robe (DC)	SA Mallee South East
Rockdale (C)	Sydney South
Rockhampton (R)	QLD Fitzroy
Rockingham (C)	Perth Outer South
Roebourne (S)	WA Pilbara Kimberley
Roma (R)	QLD Resource region
Roper Gulf (S)	NT Lingiari
Roxby Downs (M)	SA Spencer Gulf
Ryde (C)	Sydney Central
Salisbury (C)	Adelaide North
Sandstone (S)	WA Gascoyne Goldfields
Scenic Rim (R)	SEQ West Moreton
Serpentine-Jarrahdale (S)	WA Peel South West

Local Government Area	SOR Region
Shark Bay (S)	WA Gascoyne Goldfields
Shellharbour (C)	NSW Illawarra
Shoalhaven (C)	NSW Illawarra
Singleton (A)	NSW Hunter
Snowy River (A)	NSW Southern Tablelands
Somerset (R)	SEQ West Moreton
Sorell (M)	TAS Hobart-South
South Burnett (R)	QLD Wide Bay Burnett
South Gippsland (S)	VIC Gippsland
South Perth (C)	Perth Central
Southern Downs (R)	QLD Darling Downs
Southern Grampians (S)	VIC West
Southern Mallee (DC)	SA Mallee South East
Southern Midlands (M)	TAS Hobart-South
Stirling (C)	Perth Central
Stonnington (C)	Melbourne Central
Strathbogie (S)	VIC North East
Strathfield (A)	Sydney Old West
Streaky Bay (DC)	SA Spencer Gulf
Subiaco (C)	Perth Central
Sunshine Coast (R)	SEQ Sunshine Coast
Surf Coast (S)	VIC West

continued next page

A7.1: INDEX OF LOCALITIES (continued)

Local Government Area	SOR Region
Sutherland Shire (A)	Sydney South
Swan (C)	Perth Outer North
Swan Hill (RC)	VIC Mallee Wimmera
Sydney (C)	Sydney Central
Tablelands (R)	QLD Cairns
Tammin (S)	WA Wheatbelt Great Southern
Tamworth Regional (A)	NSW North
Tasman (M)	TAS Hobart-South
Tatiara (DC)	SA Mallee South East
Tea Tree Gully (C)	Adelaide South
Temora (A)	NSW Riverina
Tenterfield (A)	NSW North
The Coorong (DC)	SA Mallee South East
Three Springs (S)	WA Gascoyne Goldfields
Tiwi Islands (S)	NT Lingiari
Toodyay (S)	WA Wheatbelt Great Southern
Toowoomba (R)	QLD Darling Downs
Torres (S)	QLD Resource region
Torres Strait Island (R)	QLD Resource region
Townsville (C)	QLD North
Towong (S)	VIC North East
Trayning (S)	WA Wheatbelt Great Southern
Tumbarumba (A)	NSW Southern Tablelands

Local Government Area	SOR Region
Tumby Bay (DC)	SA Spencer Gulf
Tumut Shire (A)	NSW Southern Tablelands
Tweed (A)	NSW Richmond Tweed
Unincorporated ACT	ACT
Unincorporated NSW	NSW Far West
Unincorporated NT	NT Lingiari
Unincorporated SA	SA Spencer Gulf
Unley (C)	Adelaide Inner
Upper Gascoyne (S)	WA Gascoyne Goldfields
Upper Hunter Shire (A)	NSW Hunter
Upper Lachlan Shire (A)	NSW Southern Tablelands
Uralla (A)	NSW North
Urana (A)	NSW Riverina
Victor Harbor (C)	Adelaide South
Victoria-Daly (S)	NT Lingiari
Victoria Park (T)	Perth Central
Victoria Plains (S)	WA Wheatbelt Great Southern
Vincent (T)	Perth Central
Wagait (S)	NT Lingiari
Wagga Wagga (C)	NSW Riverina
Wagin (S)	WA Wheatbelt Great Southern
Wakefield (DC)	SA Mid North Riverland

Local Government Area	SOR Region
Wakool (A)	NSW Far West
Walcha (A)	NSW North
Walgett (A)	NSW Far West
Walkerville (M)	Adelaide Inner
Wandering (S)	WA Wheatbelt Great Southern
Wangaratta (RC)	VIC North East
Wanneroo (C)	Perth Outer North
Waratah/Wynyard (M)	TAS North West
Waroona (S)	WA Peel South West
Warren (A)	NSW Far West
Warringah (A)	Sydney Northern Beaches
Warrnambool (C)	VIC West
Warrumbungle Shire (A)	NSW Central West
Wattle Range (DC)	SA Mallee South East
Waverley (A)	Sydney Eastern Beaches
Weddin (A)	NSW Central West
Weipa (T)	QLD Resource region
Wellington (A)	NSW Central West
Wellington (S)	VIC Gippsland
Wentworth (A)	NSW Far West
West Arnhem (S)	NT Lingiari
West Arthur (S)	WA Wheatbelt Great Southern

continued next page

A7.1: INDEX OF LOCALITIES (continued)

Local Government Area	SOR Region
West Coast (M)	TAS North West
West Tamar (M)	TAS North
West Torrens (C)	Adelaide Inner
West Wimmera (S)	VIC Mallee Wimmera
Westonia (S)	WA Wheatbelt Great Southern
Whitehorse (C)	Melbourne East
Whitsunday (R)	QLD Mackay
Whittlesea (C)	Melbourne North East
Whyalla (C)	SA Spencer Gulf
Wickepin (S)	WA Wheatbelt Great Southern
Williams (S)	WA Wheatbelt Great Southern
Willoughby (C)	Sydney Central
Wiluna (S)	WA Gascoyne Goldfields
Wingecarribee (A)	NSW Illawarra
Winton (S)	QLD Resource region
Wodonga (RC)	VIC North East
Wollondilly (A)	Sydney Outer South West
Wollongong (C)	NSW Illawarra
Wongan-Ballidu (S)	WA Wheatbelt Great Southern
Woodanilling (S)	WA Wheatbelt Great Southern
Woollahra (A)	Sydney Eastern Beaches
Woorabinda (S)	QLD Fitzroy
Wujal Wujal (S)	QLD Resource region
Wyalkatchem (S)	WA Wheatbelt Great Southern

Local Government Area	SOR Region
Wyndham-East Kimberley (S)	WA Pilbara Kimberley
Wyndham (C)	Melbourne West
Wyong (A)	NSW Central Coast
Yalgoo (S)	WA Gascoyne Goldfields
Yankalilla (DC)	Adelaide South
Yarra (C)	Melbourne Central
Yarra Ranges (S)	Melbourne North East
Yarrabah (S)	QLD Cairns
Yarriambiack (S)	VIC Mallee Wimmera
Yass Valley (A)	NSW Southern Tablelands
Yilgarn (S)	WA Wheatbelt Great Southern
York (S)	WA Wheatbelt Great Southern
Yorke Peninsula (DC)	SA Mid North Riverland
Young (A)	NSW Southern Tablelands

A7.2: INDEX OF REGION MEMBERSHIP

SOR Region	Local Government Area
ACT	Unincorporated ACT
Adelaide Inner	Adelaide (C)
	Burnside (C)
	Holdfast Bay (C)
	Marion (C)
	Mitcham (C)
	Norwood Payneham St Peters (C)
	Unley (C)
	Walkerville (M)
	West Torrens (C)
Adelaide North	Campbelltown (C)
	Charles Sturt (C)
	Gawler (T)
	Playford (C)
	Port Adelaide Enfield (C)
	Prospect (C)
	Salisbury (C)
Adelaide South	Adelaide Hills (DC)
	Alexandrina (DC)
	Mount Barker (DC)
	Onkaparinga (C)
	Tea Tree Gully (C)
	Victor Harbor (C)
	Yankalilla (DC)

SOR Region	Local Government Area
Melbourne Central	Glen Eira (C)
	Melbourne (C)
	Port Phillip (C)
	Stonnington (C)
	Yarra (C)
Melbourne East	Boroondara (C)
	Knox (C)
	Maroondah (C)
	Whitehorse (C)
Melbourne Mid South East	Bayside (C)
	Greater Dandenong (C)
	Kingston (C)
	Monash (C)
Melbourne North	Darebin (C)
	Hume (C)
	Moonee Valley (C)
	Moreland (C)
Melbourne North East	Banyule (C)
	Manningham (C)
	Nillumbik (S)
	Whittlesea (C)
	Yarra Ranges (S)

SOR Region	Local Government Area
Melbourne Outer South East	Cardinia (S)
	Casey (C)
	Frankston (C)
	Mornington Peninsula (S)
Melbourne West	Brimbank (C)
	Hobsons Bay (C)
	Maribyrnong (C)
	Melton (S)
	Wyndham (C)
NSW Central Coast	Gosford (C)
	Wyong (A)
NSW Central West	Bathurst Regional (A)
	Bland (A)
	Blayney (A)
	Cabonne (A)
	Cowra (A)
	Dubbo (C)
	Forbes (A)
	Gilgandra (A)
	Lithgow (C)
	Mid-Western Regional (A)
	Narromine (A)
	Oberon (A)

continued next page

A7.2: INDEX OF REGION MEMBERSHIP (continued)

SOR Region	Local Government Area
NSW Central West (continued)	Orange (C)
	Parkes (A)
	Warrumbungle Shire (A)
	Weddin (A)
	Wellington (A)
NSW Far West	Balranald (A)
	Bogan (A)
	Bourke (A)
	Brewarrina (A)
	Broken Hill (C)
	Carrathool (A)
	Central Darling (A)
	Cobar (A)
	Conargo (A)
	Coonamble (A)
	Deniliquin (A)
	Hay (A)
	Jerilderie (A)
	Lachlan (A)
	Murray (A)
	Unincorporated NSW
	Wakool (A)
	Walgett (A)
	Warren (A)
	Wentworth (A)

SOR Region	Local Government Area
NSW Hunter	Cessnock (C)
	Dungog (A)
	Gloucester (A)
	Great Lakes (A)
	Lake Macquarie (C)
	Maitland (C)
	Muswellbrook (A)
	Newcastle (C)
	Port Stephens (A)
	Singleton (A)
	Upper Hunter Shire (A)
NSW Illawarra	Kiama (A)
	Shellharbour (C)
	Shoalhaven (C)
	Wingecarribee (A)
	Wollongong (C)
NSW Mid North Coast	Bellingen (A)
	Clarence Valley (A)
	Coffs Harbour (C)
	Greater Taree (C)
	Kempsey (A)
	Nambucca (A)
	Port Macquarie-Hastings (A)

SOR Region	Local Government Area
NSW North	Armidale Dumaresq (A)
	Glen Innes Severn (A)
	Gunnedah (A)
	Guyra (A)
	Gwydir (A)
	Inverell (A)
	Liverpool Plains (A)
	Moree Plains (A)
	Narrabri (A)
	Tamworth Regional (A)
	Tenterfield (A)
	Uralla (A)
	Walcha (A)
NSW Richmond Tweed	Ballina (A)
	Byron (A)
	Kyogle (A)
	Lismore (C)
	Richmond Valley (A)
	Tweed (A)

continued next page

A7.2: INDEX OF REGION MEMBERSHIP (continued)

SOR Region	Local Government Area
NSW Riverina	Albury (C)
	Berrigan (A)
	Coolamon (A)
	Cootamundra (A)
	Corowa Shire (A)
	Greater Hume Shire (A)
	Griffith (C)
	Junee (A)
	Leeton (A)
	Lockhart (A)
	Murrumbidgee (A)
	Narrandera (A)
	Temora (A)
	Urana (A)
	Wagga Wagga (C)
NSW Southern Tablelands	Bega Valley (A)
	Bombala (A)
	Boorowa (A)
	Cooma-Monaro (A)
	Eurobodalla (A)
	Goulburn Mulwaree (A)
	Gundagai (A)
	Harden (A)
	Palerang (A)

SOR Region	Local Government Area
NSW Southern Tablelands (continued)	Queanbeyan (C)
	Snowy River (A)
	Tumbarumba (A)
	Tumut Shire (A)
	Upper Lachlan Shire (A)
	Yass Valley (A)
	Young (A)
NT Darwin	Coomalie (S)
	Darwin (C)
	Darwin Rates Area
	Litchfield (S)
	Palmerston (C)
NT Lingiari	Alice Springs (T)
	Barkly (S)
	Belyuen (S)
	Central Desert (S)
	East Arnhem (S)
	Katherine (T)
	MacDonnell (S)
	Roper Gulf (S)
	Tiwi Islands (S)
	Unincorporated NT
	Victoria-Daly (S)
	Wagait (S)
	West Arnhem (S)

SOR Region	Local Government Area
Perth Central	Belmont (C)
	Cambridge (T)
	Canning (C)
	Claremont (T)
	Cottesloe (T)
	East Fremantle (T)
	Fremantle (C)
	Mosman Park (T)
	Nedlands (C)
	Peppermint Grove (S)
	Perth (C)
	South Perth (C)
	Stirling (C)
	Subiaco (C)
	Victoria Park (T)
	Vincent (T)
Perth Outer North	Bassendean (T)
	Bayswater (C)
	Joondalup (C)
	Mundaring (S)
	Swan (C)
	Wanneroo (C)

continued next page

A7.2: INDEX OF REGION MEMBERSHIP (continued)

SOR Region	Local Government Area
Perth Outer South	Armadale (C)
	Cockburn (C)
	Gosnells (C)
	Kalamunda (S)
	Kwinana (T)
	Melville (C)
	Rockingham (C)
QLD Cairns	Cairns (R)
	Cassowary Coast (R)
	Tablelands (R)
	Yarrabah (S)
QLD Darling Downs	Dalby (R)
	Goondiwindi (R)
	Southern Downs (R)
	Toowoomba (R)
QLD Fitzroy	Banana (S)
	Central Highlands (R)
	Gladstone (R)
	Rockhampton (R)
	Woorabinda (S)
QLD Mackay	Isaac (R)
	Mackay (R)
	Whitsunday (R)

SOR Region	Local Government Area
QLD North	Burdekin (S)
	Charters Towers (R)
	Hinchinbrook (S)
	Palm Island (S)
	Townsville (C)
QLD Resource region	Aurukun (S)
	Balonne (S)
	Barcaldine (R)
	Barcoo (S)
	Blackall Tambo (R)
	Boulia (S)
	Bulloo (S)
	Burke (S)
	Carpentaria (S)
	Cloncurry (S)
	Cook (S)
	Croydon (S)
	Diamantina (S)
	Doomadgee (S)
	Etheridge (S)
	Flinders (S)

SOR Region	Local Government Area
QLD Resource region (continued)	Hope Vale (S)
	Kowanyama (S)
	Lockhart River (S)
	Longreach (R)
	Mapoon (S)
	McKinlay (S)
	Mornington (S)
	Mount Isa (C)
	Murweh (S)
	Napranum (S)
	Northern Peninsula Area (R)
	Paroo (S)
	Pormpuraaw (S)
	Quilpie (S)
	Richmond (S)
	Roma (R)
	Torres (S)
	Torres Strait Island (R)
	Weipa (T)
	Winton (S)
	Wujal Wujal (S)

continued next page

A7.2: INDEX OF REGION MEMBERSHIP (continued)

SOR Region	Local Government Area
QLD Wide Bay Burnett	Bundaberg (R)
	Cherbourg (S)
	Fraser Coast (R)
	Gympie (R)
	North Burnett (R)
	South Burnett (R)
SA Mallee South East	Grant (DC)
	Kangaroo Island (DC)
	Karoonda East Murray (DC)
	Kingston (DC)
	Mount Gambier (C)
	Murray Bridge (RC)
	Naracoorte and Lucindale (DC)
	Robe (DC)
	Southern Mallee (DC)
	Tatiara (DC)
	The Coorong (DC)
	Wattle Range (DC)
SA Mid North Riverland	Barossa (DC)
	Barunga West (DC)
	Berri and Barmera (DC)
	Clare and Gilbert Valleys (DC)
	Copper Coast (DC)
	Goyder (DC)

SOR Region	Local Government Area
SA Mid North Riverland (continued)	Light (RegC)
	Loxton Waikerie (DC)
	Mallala (DC)
	Mid Murray (DC)
	Northern Areas (DC)
	Orroroo/Carrieton (DC)
	Peterborough (DC)
	Renmark Paringa (DC)
	Wakefield (DC)
	Yorke Peninsula (DC)
SA Spencer Gulf	Anangu Pitjantjatjara (AC)
	Ceduna (DC)
	Cleve (DC)
	Coober Pedy (DC)
	Elliston (DC)
	Flinders Ranges (DC)
	Franklin Harbour (DC)
	Kimba (DC)
	Le Hunte (DC)
	Lower Eyre Peninsula (DC)
	Maralinga Tjarutja (AC)
	Mount Remarkable (DC)
	Port Augusta (C)
	Port Lincoln (C)

SOR Region	Local Government Area
SA Spencer Gulf (continued)	Port Pirie City and Dists (M)
	Roxby Downs (M)
	Streaky Bay (DC)
	Tumby Bay (DC)
	Unincorporated SA
	Whyalla (C)
SEQ Brisbane City	Brisbane (C)
SEQ Brisbane South	Logan (C)
	Redland (C)
SEQ Gold Coast	Gold Coast (C)
SEQ Moreton Bay	Moreton Bay (R)
SEQ Sunshine Coast	Sunshine Coast (R)
SEQ West Moreton	Ipswich (C)
	Lockyer Valley (R)
	Scenic Rim (R)
	Somerset (R)

continued next page

A7.2: INDEX OF REGION MEMBERSHIP (continued)

SOR Region	Local Government Area
Sydney Central	Botany Bay (C)
	Canada Bay (A)
	Hunters Hill (A)
	Lane Cove (A)
	Leichhardt (A)
	North Sydney (A)
	Ryde (C)
	Sydney (C)
	Willoughby (C)
Sydney Eastern Beaches	Randwick (C)
	Waverley (A)
	Woollahra (A)
Sydney Northern Beaches	Manly (A)
	Mosman (A)
	Pittwater (A)
	Warringah (A)
Sydney Old West	Ashfield (A)
	Burwood (A)
	Canterbury (C)
	Marrickville (A)
	Strathfield (A)
Sydney Outer North	Baulkham Hills (A)
	Hornsby (A)
	Ku-ring-gai (A)

SOR Region	Local Government Area
Sydney Outer South West	Camden (A)
	Campbelltown (C)
	Liverpool (C)
	Wollondilly (A)
Sydney Outer West	Blacktown (C)
	Blue Mountains (C)
	Hawkesbury (C)
	Penrith (C)
Sydney Parramatta-Bankstown	Auburn (A)
	Bankstown (C)
	Fairfield (C)
	Holroyd (C)
	Parramatta (C)
Sydney South	Hurstville (C)
	Kogarah (A)
	Rockdale (C)
	Sutherland (A)

SOR Region	Local Government Area
TAS Hobart-South	Brighton (M)
	Central Highlands (M)
	Clarence (C)
	Derwent Valley (M)
	Glamorgan/Spring Bay (M)
	Glenorchy (C)
	Hobart (C)
	Huon Valley (M)
	Kingborough (M)
	Sorell (M)
	Southern Midlands (M)
	Tasman (M)
TAS North	Break O'Day (M)
	Dorset (M)
	Flinders (M)
	George Town (M)
	Launceston (C)
	Meander Valley (M)
	Northern Midlands (M)
	West Tamar (M)

continued next page

A7.2: INDEX OF REGION MEMBERSHIP (continued)

SOR Region	Local Government Area
TAS North West	Burnie (C)
	Central Coast (M)
	Circular Head (M)
	Devonport (C)
	Kentish (M)
	King Island (M)
	Latrobe (M)
	Waratah/Wynyard (M)
	West Coast (M)
VIC Ballarat	Ararat (RC)
	Ballarat (C)
	Central Goldfields (S)
	Hepburn (S)
	Moorabool (S)
	Pyrenees (S)
VIC Bendigo	Campaspe (S)
	Greater Bendigo (C)
	Loddon (S)
	Macedon Ranges (S)
	Mitchell (S)
	Mount Alexander (S)
VIC Geelong	Greater Geelong (C)
	Queenscliffe (B)

SOR Region	Local Government Area
VIC Gippsland	Bass Coast (S)
	Baw Baw (S)
	East Gippsland (S)
	Latrobe (C)
	South Gippsland (S)
	Wellington (S)
VIC Mallee Wimmera	Buloke (S)
	Gannawarra (S)
	Hindmarsh (S)
	Horsham (RC)
	Mildura (RC)
	Northern Grampians (S)
	Swan Hill (RC)
	West Wimmera (S)
	Yarriambiack (S)

SOR Region	Local Government Area
VIC North East	Alpine (S)
	Benalla (RC)
	Greater Shepparton (C)
	Indigo (S)
	Mansfield (S)
	Moira (S)
	Murrindindi (S)
	Strathbogie (S)
	Towong (S)
	Wangaratta (RC)
	Wodonga (RC)
VIC West	Colac-Otway (S)
	Corangamite (S)
	Glenelg (S)
	Golden Plains (S)
	Moyne (S)
	Southern Grampians (S)
	Surf Coast (S)
	Warrnambool (C)

continued next page

A7.2: INDEX OF REGION MEMBERSHIP (continued)

SOR Region	Local Government Area
WA Gascoyne Goldfields	Carnamah (S)
	Carnarvon (S)
	Chapman Valley (S)
	Coolgardie (S)
	Coorow (S)
	Cue (S)
	Dundas (S)
	Esperance (S)
	Exmouth (S)
	Geraldton-Greenough (C)
	Irwin (S)
	Kalgoorlie/Boulder (C)
	Laverton (S)
	Leonora (S)
	Meekatharra (S)
	Menzies (S)
	Mingenew (S)
	Morawa (S)
	Mount Magnet (S)
	Mullewa (S)
	Murchison (S)
	Ngaanyatjarraku (S)
	Northampton (S)
	Perenjori (S)

SOR Region	Local Government Area
WA Gascoyne Goldfields (continued)	Ravensthorpe (S)
	Sandstone (S)
	Shark Bay (S)
	Three Springs (S)
	Upper Gascoyne (S)
	Wiluna (S)
	Yalgoo (S)
WA Peel South West	Augusta-Margaret River (S)
	Boddington (S)
	Boyup Brook (S)
	Bridgetown-Greenbushes (S)
	Bunbury (C)
	Busselton (S)
	Capel (S)
	Collie (S)
	Dardanup (S)
	Donnybrook-Balingup (S)
	Harvey (S)
	Mandurah (C)
	Manjimup (S)
	Murray (S)
	Nannup (S)
	Serpentine-Jarrahdale (S)
	Waroona (S)

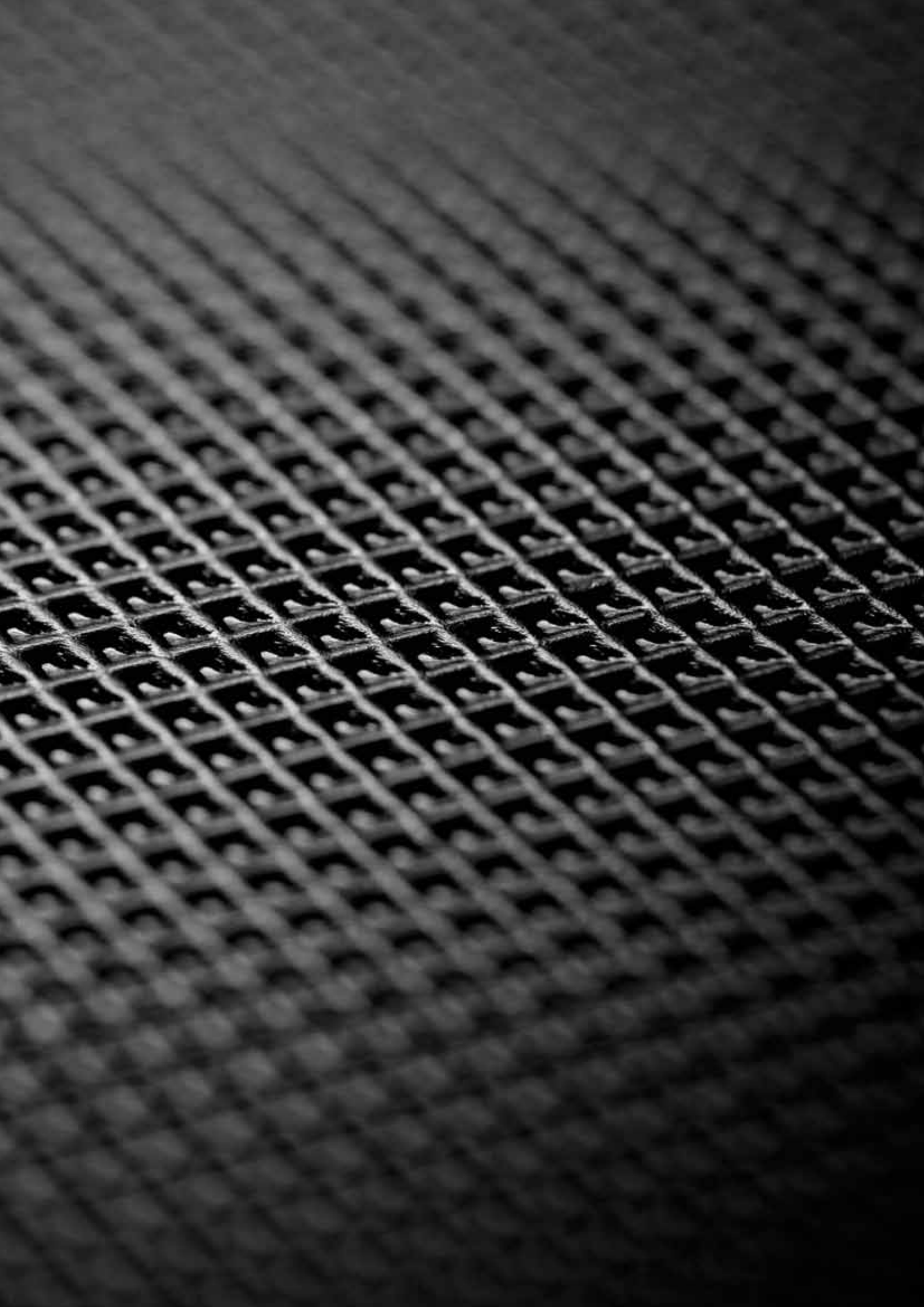
SOR Region	Local Government Area
WA Pilbara Kimberley	Ashburton (S)
	Broome (S)
	Derby-West Kimberley (S)
	East Pilbara (S)
	Halls Creek (S)
	Port Hedland (T)
	Roebourne (S)
	Wyndham-East Kimberley (S)
WA Wheatbelt Great Southern	Albany (C)
	Beverley (S)
	Brookton (S)
	Broomehill-Tambellup (S)
	Bruce Rock (S)
	Chittering (S)
	Corrigin (S)
	Cranbrook (S)
	Cuballing (S)
	Cunderdin (S)
	Dalwallinu (S)
	Dandaragan (S)
	Denmark (S)
	Dowerin (S)
	Dumbleyung (S)

continued next page

A7.2: INDEX OF REGION MEMBERSHIP (continued)

SOR Region	Local Government Area
WA Wheatbelt Great Southern (continued)	Gingin (S)
	Gnowangerup (S)
	Goomalling (S)
	Jerramungup (S)
	Katanning (S)
	Kellerberrin (S)
	Kent (S)
	Kojonup (S)
	Kondinin (S)
	Koorda (S)
	Kulin (S)
	Lake Grace (S)
	Merredin (S)
	Moora (S)
	Mount Marshall (S)
	Mukinbudin (S)
	Narembeen (S)
	Narrogin (S)
	Narrogin (T)
	Northam (S)
	Nungarin (S)
	Pingelly (S)
	Plantagenet (S)
	Quairading (S)
	Tammin (S)

SOR Region	Local Government Area
WA Wheatbelt Great Southern (continued)	Toodyay (S)
	Trayning (S)
	Victoria Plains (S)
	Wagin (S)
	Wandering (S)
	West Arthur (S)
	Westonia (S)
	Wickepin (S)
	Williams (S)
	Wongan-Ballidu (S)
	Woodanilling (S)
	Wyalkatchem (S)
	Yilgarn (S)
	York (S)



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