The Wide Bay-Burnett region: demographic and economic change – a perspective and prospective analysis

Summary Report

An Australian Government Initiative

Wide Bay Burnett Sustainable Regions programme helped make it happen

A report for the

Wide Bay Burnett Regional Organisation of Councils and the Queensland Department of State Development, Trade & Innovation

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Study overview

E.1 Study terms of reference: the current and future links between economic performance and demographic change in the Wide Bay-Burnett region

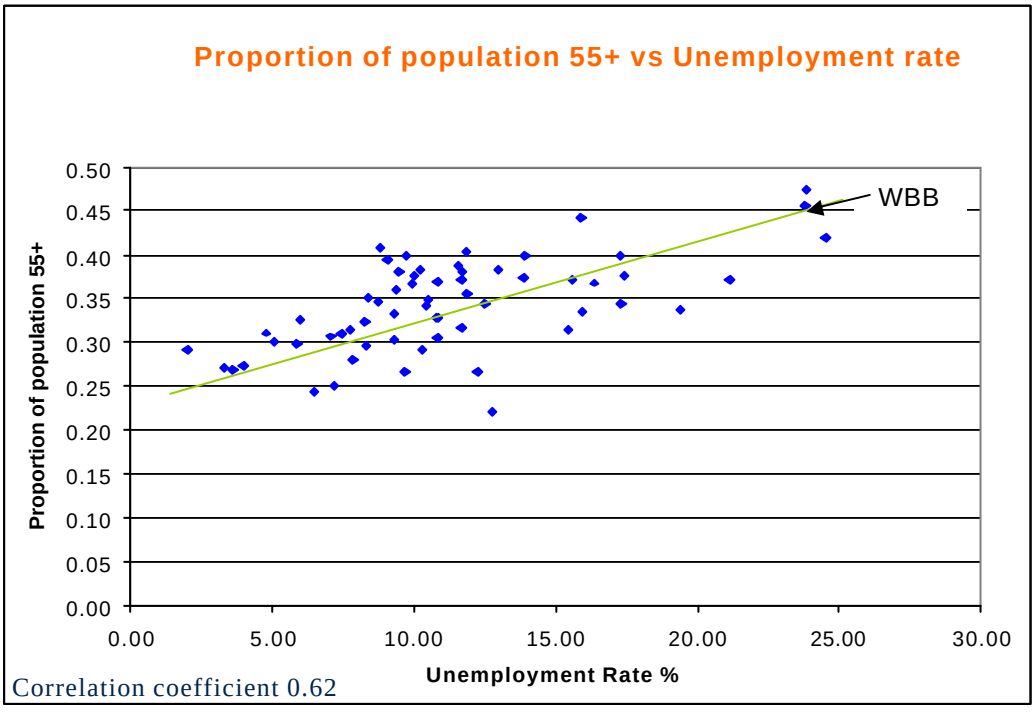
The central hypothesis that gave rise to this study was that the Wide Bay-Burnett region (WBBR) was relatively unique in that it was experiencing both a relatively rapid ageing of the population and a high unemployment rate.

This is not just the experience of the WBBR. As Figure E.1 shows, for Australian regions the unemployment rate (as measured by NIEIR using social security data) is highly positively correlated with the percentage of the population aged 55 and over. The data is for the regions in the NIEIR/ALGA "*State of the Regions*" report. What the figure does show, however, is that the WBBR is the second worst performer in Australia for the link between ageing and high unemployment rates.

Indeed, the Australian data suggests, after taking other possible factors into account, that for every 1 percentage point in the percentage of the population aged 55 and over, the unemployment rate increases by 0.9 of a percentage point.

Old age population concentration is correlated with high unemployment.

Figure E.1: The relationship between the proportion of the population aged 55+ and unemployment rate

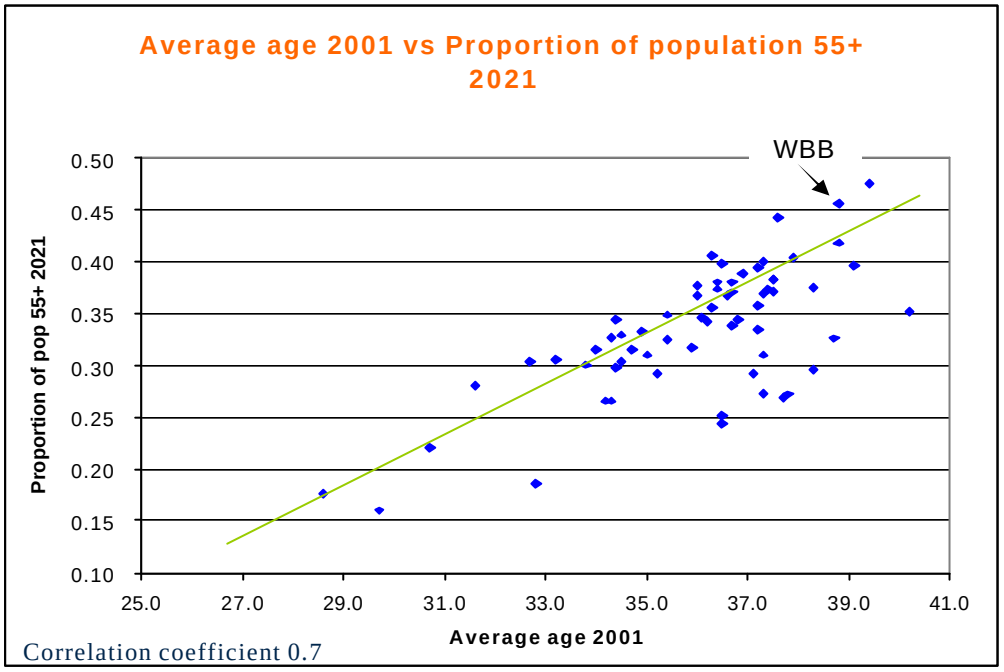


The empirical observations are strongly suggestive of links between ageing (defined as sustained increases in the share of the population aged 55 or 65 and over) and poor economic performance. That is, the greater the level of ageing in a region has reached, other things being equal, the less satisfactory the economic performance for a region is likely to be in terms of the average outcomes for the working age population.

If this is the case, then there will be difficult economic implications for the WBBR. As Figure E.2 shows, if current trends continue the WBBR will have the second highest share of population aged 55 and over by 2021 of all Australian regions.

Regions which are relatively old now will be much older by 2021.

Figure E.2: The relationship between the proportion of the population aged 55+ 2021 and average age 2001



Given this background, the terms of reference of the study takes the form of questions to be answered. The key questions are:

(i) Has it in fact been the case that the recent economic and demographic performance of the WBBR been satisfactory or unsatisfactory?

(ii) Is it in fact the case that the WBBR is currently trapped in a vicious cycle of rapid ageing and is this linked to relative poor economic performance?

(iii) If current demographic trends continue, what are the implications for ageing?

(iv) How will future WBBR economic performance and demographic change be linked? Is it as it appears that ageing is the core economic problem of the WBBR?

(v) If the answer is that relative ageing and relative poor economic performance are linked, what can the WBBR do to ameliorate the negative economic impacts of ageing? That is, are there plausible alternatives to current economic and demographic trends?

To answer these questions detailed demographic and economic models of the 21 WBBR local government areas (LGAs) were built during the course of the study. The models were integrated to form a region-wide modelling system that enabled the quantification of the various scenarios developed during the course of the study.

E.1.1 The link between ageing and economic performance

The finding that a high positive correlation exists between how aged a society is and the unemployment rate is perplexing. It means that the economic prospects of the working age population are adversely affected by the weight of the aged population. Why?

The general evidence is that ageing reduces relative economic performance because it would reduce productivity growth. In general, workers' performance does decline with age, as reflected by the decline in earnings for older workers vis-à-vis younger workers in those economies where there are no institutional barriers preventing productivity based earnings outcomes.

This finding is verified by this study. In developing the model used for the study it was found, for Australian regions, that the productivity growth for at least half the industries in the model was adversely affected by the proportion of the population aged 55 and over.

The study also cites evidence that suggests that the more aged an economy is, the less the entrepreneurial effort. The less the entrepreneurial effort, the less the level of risk taking and productive investment, and the lower will be both overall employment and productivity growth.

Is this enough, however, to explain the high correlation between unemployment rates and the older age population share?

E.1.2 When is ageing less of a problem?

Nothing can stop the growth in the population aged 65 and over. Australia, along with the WBBR, is ageing. It is not the absolute number of people aged 65 and over that is the problem. It is the number of people aged 65 and over relative to the population in the working age range. Hence, ageing can be ameliorated, that is, become less of a problem if the gap between the growth in the working age population and the population aged 65 and over can be reduced.

At the regional level policies to directly reduce the rate of ageing would focus on strategies to increase the rate of growth of the working age population. In practical terms, in the Australian context, the problem of ageing would be eliminated if parity would be obtained in the growth of working age range population and the growth in the population aged 65 and over.

E.2 The recent economic performance of the WBBR

The study examined the recent economic performance of the WBBR for a variety of indicators, mainly for the years 1996 to 2005. The findings by indicator can be summarised.

E.2.1 The unemployment rate

Based on social security data in 2005, the unemployment rate for the WBBR was among the highest in Australia at 17.1 per cent. Moreover, there has been little change since 1998 when the level was 18.2 per cent.

In contrast, in 2005, the unemployment rate in Brisbane City was 4.9 per cent and 8.2 per cent for the Gold Coast. Both these regions produced a rapid recovery since 1998, when the unemployment rate for Brisbane City and the Gold Coast was 8.3 and 15.0 per cent respectively.

E.2.2 The employment rate

The high unemployment rate for the WBBR reflects a poor employment generation rate.

Between 1998 and 2005 employment positions generated per 100 of the working age population remained at around 37. In contrast Brisbane City went from 50 to 53 and the Gold Coast from 40 to 45.

E.2.3 The connection of households to the labour market

Nearly one half of single working age households are not in employment and nearly one third of working age family households (without children) have no member employed. The corresponding rates for Brisbane City are 13 and 6 per cent. Overall, in 2001, 28 per cent of working age households in the WBBR had no member in employment.

Just under 30 per cent of households in the WBBR are aged 65 and over, compared to 22.5 per cent for Brisbane City.

E.2.4 Social security dependency and household incomes

Twenty seven per cent of WBBR's household disposable income is derived from social security in 2005, compared to 13 per cent for Brisbane City. Between 45 and 50 per cent of the population depends on social security for the major component of their income.

Overall average household incomes in the WBBR are 25 per cent below Brisbane City levels.

E.2.5 Conclusion

Overall the recent economic performance of the WBBR must be rated as unsatisfactory, both in terms of the persistence of unsatisfactory indicator outcomes and in terms of the rate of improvement of already unsatisfactory indictors.

E.3 Recent demographic performance

The study finds that the region has almost no capacity to grow its population given the current population structure. Births and deaths are matched and without any net immigration the population would stabilise at only a few more thousand from current levels.

WBBR's population growth has doubled over 2001 to 2005, compared to 1996 to 2001. That is, from 0.9 per cent to 1.9 per cent per annum. This is because the rate of net immigration into the region doubled. The doubling of the intake was reasonably uniform across the age ranges, which means that the rate of growth in the population over 55 has also doubled, so that the rate of ageing has been maintained at the rate that prevailed over the second half of the 1990s.

The WBBR is maintaining its status as one of the most rapidly ageing regions in Australia. Out of 62 regions in Australia, between 2001 and 2005, the average age in the WBBR

increased by 1.3 years (one of the highest), giving an average age only exceeded by the NSW North Coast and Central Adelaide.

The conclusion from the study is that if relatively rapid ageing is not desirable, then the recent demographic performance of the WBBR must be rated as unsatisfactory.

E.4 Is the WBBR trapped in a vicious cycle of rapid ageing and inferior economic performance?

The study concludes that the WBBR is in a vicious cycle of relatively rapid ageing and inferior economic performance.

The study produces statistical evidence from Australian regions to indicate that:

- those regions that are ageing the most rapidly have the lowest business income (productivity) per capita;
- migrants aged 55 and over are going to the regions with the highest unemployment rates;
- migrants aged 55 and over are going to regions with the lowest per capita household income; and
- migrants aged under 55 are leaving low income regions.

In general the WBBR is at the extreme end of these trends.

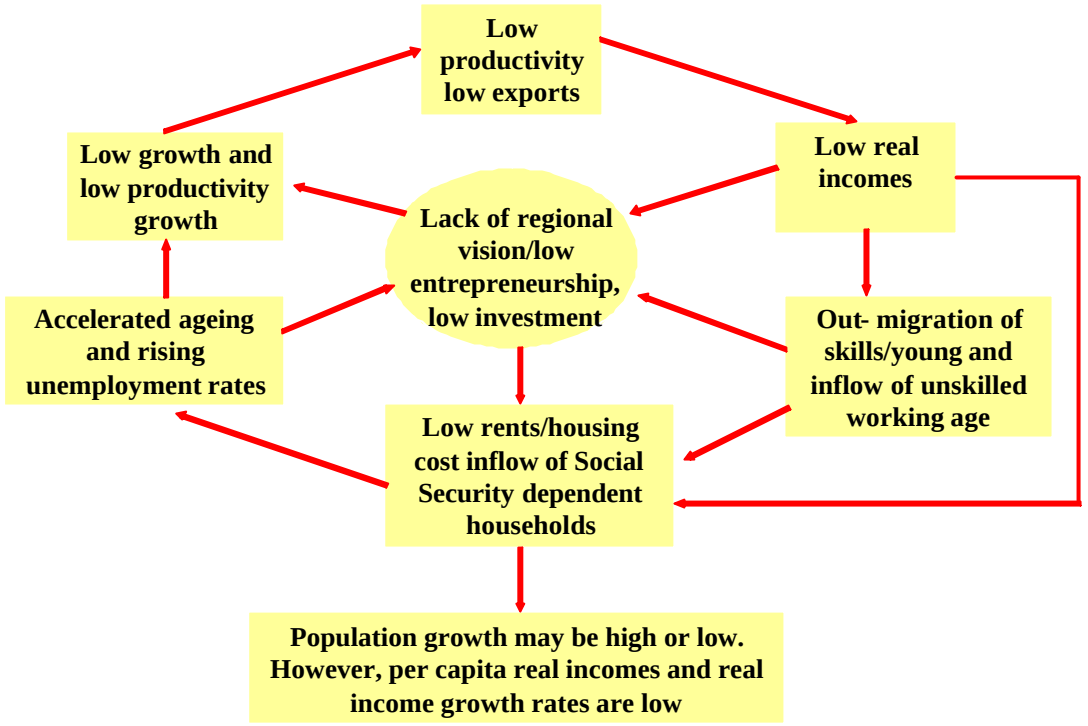
The study concludes that the WBBR is in a vicious cycle mechanism of sustained relatively rapid ageing and inferior economic performance as outlined in Figure E.3.

E.5 Does this mean that ageing is the root cause of WBBR's inferior economic performance?

The study does not find that ageing is the root cause of WBBR's inferior economic performance. Rapid ageing does contribute to declining relative economic performance. But on the balance of forces, rapid ageing is a consequence of WBBR's inferior economic performance, rather than the dominant driver of inferior economic performance outcomes.

The most direct proximate cause of rapid ageing in the WBBR is low earnings per person employed. Average earnings per person employment in the WBBR are 28 per cent below the Brisbane City level. Since average hours worked per employed person are similar in the WBBR compared to Brisbane, the reason for the low average earnings is lower earnings per hour worked. Earnings per hour worked in the WBBR is 25 per cent below the Brisbane City level. The low real incomes are the direct result of low levels of productivity of the WBBR as measured by the value of output produced per hour worked. The dollar per hour produced in WBB is 17 per cent less than in Brisbane City.

Figure E.3: The ageing vicious cycle linking increasing low growth migration inflow and rising high unemployment



The low incomes means that rents, house prices and cost of services are lower than in places such as Brisbane. Retirees in general, and pensioners in particular, are attracted to the region because it means that their real incomes will be higher than what they would have been in regions of higher productivity. These regions are generally to be found in metropolitan areas. The relative similarity in living standards between retirees and workers also produces a degree of contentment.

If productivity in the WBBR had been higher, then the incentive to move to the WBBR would have been less and the rate of ageing lower.

E.6 If low productivity is the core WBBR economic problem, then why the strong positive relationship between the unemployment rate and the high share of population aged 55 and over?

Low productivity also explains this. The population growth of the WBBR will only increase if net migration increases. Retirees are not the only category of economic refugees attracted to the WBBR because of its low standard of living. Low skilled working age households supported by social security or low hourly wages are attracted to the WBBR for the same reasons as retirees. Thus, in the immediate past, the strong economic conditions in South East Queensland have driven up the cost of living in the region, accelerating the movement of economic refugees across all age ranges. Fifty per cent of working age migrants into the WBBR are unskilled or low skilled. The inflow of these migrants is highly correlated with the rate of older age migrants.

This explains why, in periods of relatively higher population growth (including working age population growth) and employment growth, the unemployment rate remains static. At best the employment generating effects of strong migration is only enough to create employment opportunities for around 40 per cent of the increase in the population of working age range. That is, the unemployment rate remains static.

In periods of weak economic conditions (e.g. 1990 to 1994), the rate of economic working age refugees attracted to the WBBR was at a much higher rate than the capacity of the region to generate employment. This drove up the unemployment rate along with the level of aged population.

The low real incomes in the WBBR also accelerate the ageing process by inducing the young to leave in search of higher hourly wage rates in more productive regions.

The study concludes that to ameliorate the rate of ageing in the WBBR, the solution is to close as much as possible the income gap between the WBBR and Brisbane City. This can only be done by lifting up the rate of productivity in the region so that higher real incomes can be generated.

E.7 The study concludes that the accelerated rate of ageing in the WBBR can continue for the foreseeable future

Noosa's economic performance and demographic structure are not dissimilar to that of the WBBR. As South East Queensland's growth continues and Noosa (or similar fringe areas of the Brisbane area) have improved connectiveness to the employment generating nodes of the Brisbane corridor, the level of higher skilled, higher income migrants to the fringe areas will create economic refugees by driving up the cost of living. Many of these low income, low skilled households will migrate to WBBR. The WBBR is also attractive to similar household types from other higher productivity regions elsewhere in Australia.

Unless the productivity gap is narrowed between the WBBR and the Brisbane region, current trends in ageing will continue for the foreseeable future.

E.8 The design of an appropriate WBBR response to its low productivity requires that the reasons for the low productivity be identified

The study investigates the reasons for the productivity differentials across Queensland regions. The single most important reason by far is the low capacity of the region to export, that is, to sell goods and services outside the region.

The productivity gains from international exporting are documented in the study. For a typical enterprise the taking of (international) exports from 0 to 20 per cent of sales can double productivity (profits and wages per employee). The gains from intrastate and interstate exporting would be less dramatic but no less significant.

It is not surprising, therefore, of the strong correlation between non-resource industry (that is, excluding agriculture and mining) productivity and non-resource based exports for Queensland LGAs given in Figure E.4.

Figure E.4: Queensland LGAs non-resource exports per capita and productivity per non-resource employee

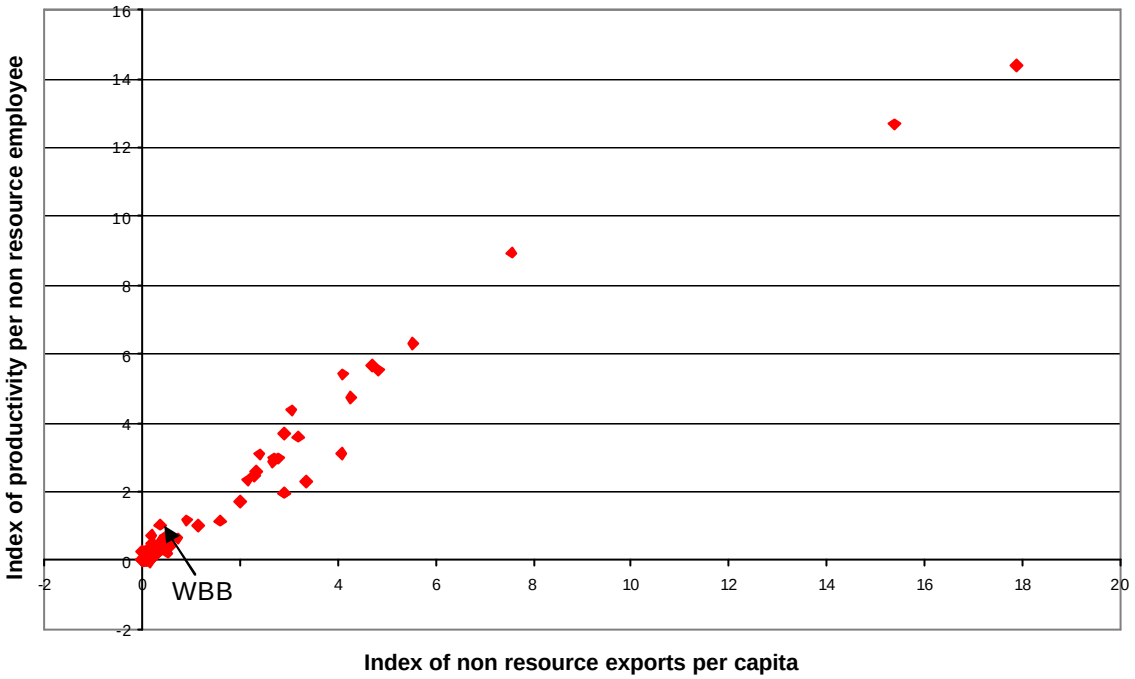
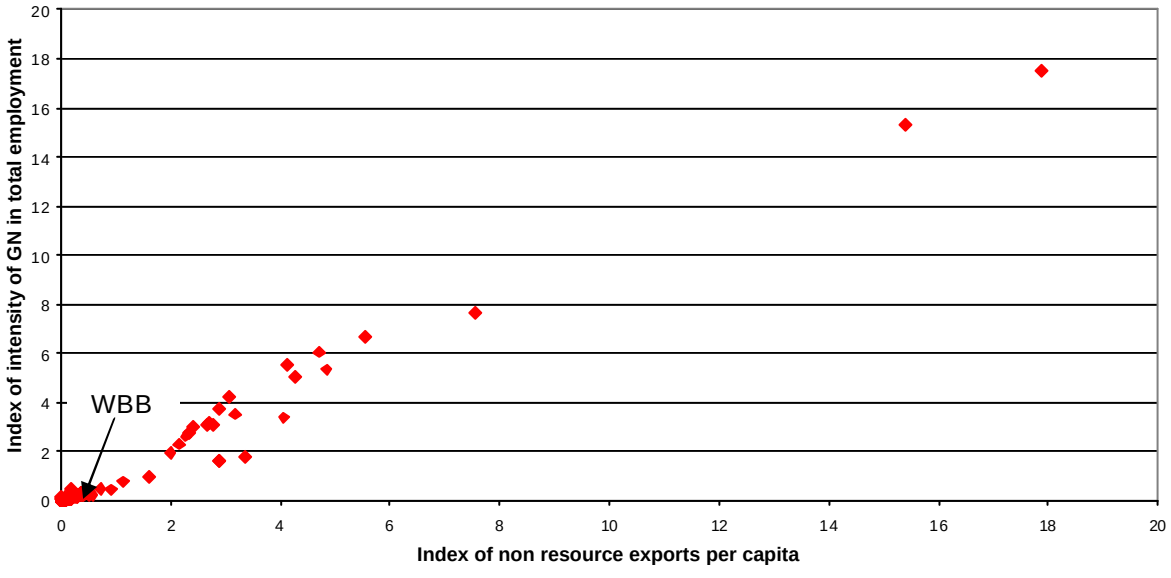


Figure E.5: Queensland LGAs non-resource exports per capita and global knowledge intensity



The key enabling factor sustaining higher levels of non-resource exports is the intensity of so-called global knowledge workers in employment. Table E.1 lists the global knowledge (GN) worker occupations. Global knowledge workers enable exports because they are the workers that:

- access and interpret global knowledge flows;
- identify market opportunities;
- identify the need for innovation to remain competitive; and
- design and implement innovations, etc.

It is not surprising, therefore, of the strong correlation between global knowledge workers and exporting for Queensland LGAs shown in Figure E.5.

The GN share of total employment in the WBBR was 4.5 per cent in 2005 compared to an estimated 18.5 per cent for Brisbane City. The non-resource export level in WBBR per employee in 2001 is estimated at $28,000 compared to $48,000 for the Brisbane region. This includes tourism exports.

Once allowance is made for the deficit in GN workers, the high skill levels available in the WBBR are comparable to Brisbane City. IN part this is due to farmers being classified as high skilled workers.

Finally, the study notes that the only effective way for the WBBR to increase its available stock of high skilled employees in general, and GN workers in particular, is from migration. The region has little capacity to train or provide the expertise necessary to equip workers with the skills to effectively fill GN occupations.

E.9 The study developed four scenarios to describe the range of possible futures for the WBBR

The study developed four scenarios to describe the range of possible alternative futures for the WBBR. These scenarios and their core drivers are given in Table E.3.

The scenarios range from one extreme of the strong retirees playground/weak export effort, or the God's waiting room scenario, to the moderate retirees playground/strong export effort of the Connecting with the world scenario. The Two speed development: coast-country divide scenario and the Bumbling along scenario lie between the two polar extreme scenarios.

With two exceptions Table E.3 is self-explanatory as to the differences between the drivers. Convoy development means that all regions attempt to maintain short term performance parity. That is, short term resource allocation decisions are based on equality of short term opportunities of most sub-regions. Locomotion development means that some regions are allowed to go ahead faster (by infrastructure, major projects, etc.) in order to create opportunities down the track for the more lagging regions.

Two speed development means that some sub-regions in WBBR fall behind on a long term basis.

Mutual obligation means that if the region secures resources from State/Federal Government it does so by agreeing to maximise the benefit to the region from a regional perspective.

Table E.1 Global knowledge workers – ASCO unit groups	
Importers, Exporters & Wholesalers	Computing Professionals
Resource Managers	Miscellaneous Business & Information Professionals nfd
Finance Managers	Human Resource Professionals
Information Technology Managers	Librarians
Sales & Marketing Managers	Mathematicians, Stat'ns & Actuaries
Policy & Planning Managers	Business & Organisation Analysts
Media Products & Artistic Directors	Property Professionals
Professionals nfd	Other Business & Information Professionals
Science, Building & Engineering Profs.	Legal Professionals
Natural & Physical Science Professionals	Economists
Chemists	Designers & Illustrators
Geologists & Geophysicists	Journalists & Related Profs.
Life Scientists	Authors & Related Professionals
Medical Scientists	Film, TV, Radio& Stage Directors
Other Natural & Physical Science Professionals	Media Presenters
Building & Engineering Profs.	Scientists, Engineers & Related Assoc Profes.
Electrical & Electronics Engineers	Medical & Science Tech Offs
Business & Information Profs	Medical Technical Officers
Accountants, Auditors & Corp. Treasurers	Science Technical Officers
Accountants	Financial Dealers & Brokers
Auditors	Financial Investment Advisers
Corporate Treasurers	Project & Program Administrators
Sales, Marketing & Advertising Profes.	Computing Support Technicians
Marketing & Advertising Professionals	Library Technicians
Technical Sales Representatives	

Table E.2 Productivity gains from (international) exporting: typical Australian exporting enterprise ($1997)

Exports as percentage of sales	Wages per employee ('000)	Profit per employee ($'000)	Total ($'000)
0	25	17	42
5	32	22	54
10	40	26	66
15	43	30	73
20	46	33	79

Table E.3 The WBBR: Four alternative factors

Moderate

Retiree's playground

Strong

Bumbling along (current trends)	Connecting with the world
1. Economic refugees, sea change/tree change and aged migration flows in line with historical trends. 2. Some formal regional governance changes but weak social and political regional network integration occurs. Low proportion of foreign migrants. Weak expansive networks. 3. Sea change/tree change in economic refugee culture and values. 4. Not in my backyard political culture and hegemony of established interests. Difficult to get investment projects implemented. 5. Weak political leadership. Long lags in infrastructure provision. Many growth opportunities lost. 6. Convoy development regional dynamics. 7. Development instruments focus on major projects (when they can be located in isolated areas) and the lifestyle choice of the dominant culture. 8. De facto regional goals are a mixture of environmental production and fortress WBBR.	1. Entrepreneurship – commercial culture/expansive networks/mutual obligation. 2. High skill based migration and high rates of skill formation. 3. Infrastructure provision drives economic growth, not lags it. 4. Locomotion development. At any point in time the best opportunities are exploited irrespective of where they are in the region. 5. Strong political leadership – vision driven regional focus on a foundation of entrepreneurial culture. Aggressive political culture. 6. Representative political culture. Full regional integration and network consolidation. 7. Import replacement opportunities strongly exploited. 8. Export driven development. Regional goals are best practice productivity to reduce income differentials with other regions. Weak lifestyle choice.
God's waiting room	**Two speed development: dual economy and society**
1. Accelerated ageing/older aged migrants and economic refugees 2. Flight of the young consumerism. 3. Low rates of skill formation. Many lost investment opportunities. Local social network isolation. 4. Not in my backyard or anywhere else either. Strong conservative culture for either selfish or environmentally driven motives. 5. Convoy development in the region produces similar poor performance outcomes for most localities. 6. Weak regional and sub-regional leadership lack of regional integration. Local area primacy. 7. Lifestyle choice homogeneity. Low income lifestyle dominates. 8. Fortress WBBR. 9. Dominant public sector dependency. Weak export growth (except tourism) and increased import penetration further weakens existing supply chains. Low mutual obligation.	1. Balanced lifestyle choice. Expansive networks coastal regions. Inland regions' network isolation. 2. Increase in skills formation in coastal regions. 3. Increasingly unequal regions. Households forced out of coastal regions as cost pressures impact who migrant to inland regions. 4. Strong political leadership vision driven but sub-regional focus on coastal regions. Inland weak leadership. 5. Some optimal design in sub-regional integration in coastal regions. 6. Partial connecting with the world strong in coastal regions weak in inland regions. 7. Inland regions become relatively more public sector dependent. Inland inter-governmental relationship more important than regional networks. 8. Locomotion development coastal/ convoy development inland.

Weak **Export intensity strong**

E.10 The demographic outcomes by scenario

The mortality assumption for the demographic scenarios allowed for the long term decline in mortality to continue. Over the period to 2030 average life expectancy increases by 0.2 years per annum, which is approximately the same trend as the last decade.

Fertility rates stay at near current levels.

Differences in migration flows by scenario are given in Table E.4. The Bumbling along scenario can be interpreted as a current trend scenario since the net migration inflow reflects the average levels of the past decade, unadjusted for changes in relative sizes of population pool in the rest of Queensland and interstate from where the migrants are drawn from. That is, outside the WBBR to 2030 the population aged 65 and over will double, while the working age population will be less than half the increase of the population aged 65 and over.

The increase in the population aged 24 will be close to zero for Australia as a whole.

The God's waiting room scenario allows for the likely outcome that the WBBR will increase its share of old age migration. That is, migrants that in the past who would have gone to the Gold Coast or the Sunshine Coast are now forced further north because of the increase in productivity and cost of living in these regions.

The Connecting with the world scenario assumes that the aged will still come, but are more than offset by successful attempts to attract working age and skilled migrants. This is the ideal. What stops this scenario from being transformed into a God's waiting room type scenario is significantly higher productivity levels that act to curtail the inflow of retirees and low skilled working age migrants. The higher productivity also acts to attract skilled working age migrants.

The most plausible optimistic scenario, however, would be a compromise between Bumbling along and the ideal and this is the Two speed development scenario. Plausible in terms of having a reasonable probability of being realised.

Table E.5 shows that the population growth outcomes across the scenarios varies from 1.4 to 2.0 per cent per annum between 2006 and 2030. However, only the Connecting with the world scenario effectively solves the ageing problem by producing a balanced outcome between total population and working age population growth. Under this scenario the old age dependency rate (or the ratio of the share of the population aged 65 and over to the share of the population aged 21 to 64) increases from 32 to 53 per cent with the share of the population aged 65 and over increasing from 17 to 24 per cent. For Brisbane City the estimated share of population aged 65 and over in the late 2020s is estimated at 14 per cent.

At the other extreme, the God's waiting room scenario would result in the old age dependency rate increasing to 83 per cent and the share of population aged 65 and over reaching 36 per cent by 2030.

The unsatisfactory nature of some of the scenarios is seen from Table E.6 and E.7. For the God's waiting room scenario 85 per cent of all net new population between 2006 and 2030 will be aged 65 and over. This compares with a ratio of 40 per cent of the past decade. This ratio is only maintained with the Connecting with the world scenario.

Moreover the situation will get worse the closer to 2030. From Table E.8 all the increase in total population between 2020 and 2030 under the God's waiting room scenario will be aged 65 and over. Even under the Bumbling along scenario 70 per cent of the population increase will be aged 65 and over. This type of scenario would prevent the WBBR from significantly increasing its productivity relative to other regions.

The God's waiting room scenario will have horrific consequences for the economic and demographic structure for the region and, unfortunately at this stage, it must be rated the scenario with one of the highest probabilities of outcome.

Table E.4 Difference in net migration flows by scenario

	1996-2001	Bumbling along	God's waiting room	Connecting with the world	Two speed development
0 – 24	-0.2	0.2	0.0	1.0	0.7
25 – 54	1.3	2.2	1.5	3.6	2.7
55+	1.1	2.5	4.1	2.3	2.3
Total	**2.2**	**4.9**	**5.6**	**6.9**	**5.8**

Table E.5 Outcomes of key demographic indicators by scenario

Scenario	Population growth rate	Working age population growth rate (2006–2030)	Old age dependency rate		Share of population 65+	
			2006	2030	2006	2030
Bumbling along	1.4	1.0	32	65	17	32
God's waiting room	1.5	0.7	32	83	17	36
Connecting with the world	2.0	1.8	32	53	17	24
Two speed development	1.7	1.4	32	58	17	30
Brisbane City 2026						**14**

Table E.6 Population levels and population change by scenario

	Population level 2030 ('000)	Population change 2006–2030 ('000)
2006	261.7	
Scenario 2030		
Bumbling along	369.3	107.6
God's waiting room	374.2	112.5
Connecting with the world	420.9	159.2

Two speed development	392.7	131.0

Table E.7 Increase in population by age by scenario – 2006-2030 ('000 per annum)

	Age			
	0 – 24	**25 – 54**	**65+**	**Total**
1996 – 2006	0.2	1.9	1.4	3.5
Bumbling along	-0.2	1.6	3.0	4.5
God's waiting room	-0.3	1.0	4.0	4.7
Connecting with the world	0.4	3.2	3.0	6.6
Two speed development	0.2	1.9	3.5	5.6

Table E.8 Increase in population by scenario – 2020-2030 ('000)

	Age			
	0 – 20	**21 – 64**	**65+**	**Total**
Bumbling along	6.2	7.6	32.0	45.9
God's waiting room	4.0	0.0	41.6	45.4
Connecting with the world	12.9	25.6	34.5	73.0
Two speed development	10.5	17.0	32.7	60.2

E.11 What are the demographic outcomes for the WBBR sub-regions?

Table E.9 summarises the population and population growth rates across the four scenarios. For the Bumbling along and God's waiting room scenarios the population growth rate for the inland regions is one third the coastal regions. The working age population is static for the inland regions for the next quarter of a century.

For the Connecting with the world and Two speed development scenarios the coastal regions do well, in the sense that the working age population growth rate is close to the overall population growth. Under the Two speed development scenario the inland regions do less well relative to the coastal regions, compared to the outcome for the Connecting to the world scenario.

Table E.10 shows that under the God's waiting room scenario the South Coast reaches an old age dependency ratio of 93 per cent by 2030, or almost a tripling of the current level. However, under the Connecting with the world scenario this is held to 58 per cent. Again Table E.10 shows the sensitivity of demographic outcomes to changed circumstances. Nothing is set in stone.

Table E.9 WBB population by scenario – average annual growth rates 2006-2030	North Coast	South Coast	North Inland	South Inland
Total population				
Bumbling along Scenario	1.7	1.7	0.6	0.7
God's waiting room scenario	1.7	1.8	0.6	0.6
Connecting with the world scenario	2.3	2.2	1.4	1.2
Two speed development scenario	2.1	2.1	0.9	0.8
Population workforce age range				
Bumbling along Scenario	1.4	1.2	-0.1	0.3
God's waiting room scenario	1.0	0.9	-0.3	0.0
Connecting with the world scenario	2.3	1.9	0.9	1.0
Two speed development scenario	2.0	1.8	0.3	0.5

Table E.10 Summary demographic statistics of population share for 65+ and old age dependency ratio – 2006 and 2030 by scenario	North Coast		South Coast		North Inland		South Inland	
	2006	2030	2006	2030	2006	2030	2006	2030
Population share of 65+ (per cent)								
Bumbling along scenario	16.9	29.4	18.8	33.6	16.4	34.3	15.2	30.1
God's waiting room scenario	16.9	35.6	18.8	40.1	16.4	37.3	15.2	32.8
Connecting with the world scenario	16.9	25.5	18.8	29.4	16.4	31.2	15.2	27.7
Two speed development scenario	16.9	25.8	18.8	29.7	16.4	32.2	15.2	28.3
Old age dependency ratio (percentage point)								
Bumbling along scenario	30.9	57.1	34.5	69.8	28.4	69.9	27.1	59.2
God's waiting room scenario	30.9	76.3	34.5	92.7	28.4	79.9	27.1	67.5
Connecting with the	30.9	46.8	34.5	57.5	28.4	60.5	27.1	52.4

world scenario								
Two speed development scenario	30.9	47.7	34.5	58.1	28.4	63.6	27.1	54.4

E.12 Demographic pessimism is warranted, but demographic outcomes are not immutable

The study makes the point that a wide range of demographic outcomes are possible with relatively small changes in migration flows. If the productivity of the WBBR was increased significantly, large changes in the structure of migration inflows could be expected to occur.. In terms of developing a regional response to ageing, demographic outcomes should be taken as a target to be achieved and not as a given to which the region has no option but to adjust to.

Secondly, an important finding from the study is that to "solve" the ageing problem the overall rate of population growth should be maintained at a high level. The aged will come. Part of the solution is to increase the migration intake in the young and working age ranges. This requires that a high overall population rate has to be at least maintained, but more likely increased.

E.13 Skills formation by scenario

To successfully lift its productivity the region has to significantly increase the stock of skills and this can only come from migration.

Table E.11 shows that the Bumbling along and God's waiting room scenarios maintain the historical trends in the share of skills in migration flows. Under the Connecting with the world and Two speed development scenarios the skills and share of the migration inflow is significantly increased. The low and unskilled share falls from 49 per cent to 37 per cent under the Connecting with the world scenario and to 42 per cent for the Two speed development scenario.

Table E.12 shows that the skills supply as a per œnt of population is only marginally increased under the Bumbling along and God's waiting room scenarios. The only hope of the WBBR of significantly increasing its skill base to reduce the productivity differential with Brisbane is under the Connecting with the world and Two speed development scenarios' demographic assumptions. Under these scenarios circumstances are created to attract high skill level migrants.

Table E.11 Skills and migration: outcomes by scenario (per cent)

	Share of high skills	Share of intermediate skills	Share of low and unskilled
1996 – 2001	25	27	49
Bumbling along	25	27	49
God's waiting room	25	27	49
Connecting with the world	31	32	37
Two speed development	29	30	42

Table E.12 Skills supply by scenario (per cent of population)				
	Scenario			
	Bumbling along	God's waiting room	Connecting with the world	Two speed development
High skills				
2001	7.7	7.7	7.7	7.7
2020	9.2	8.9	12.1	10.7
2030	9.6	8.9	13.5	11.8
Intermediate skills				
2001	8.1	8.1	8.1	8.1
2020	8.5	8.3	11.2	9.9
2030	8.4	7.7	12.1	10.5

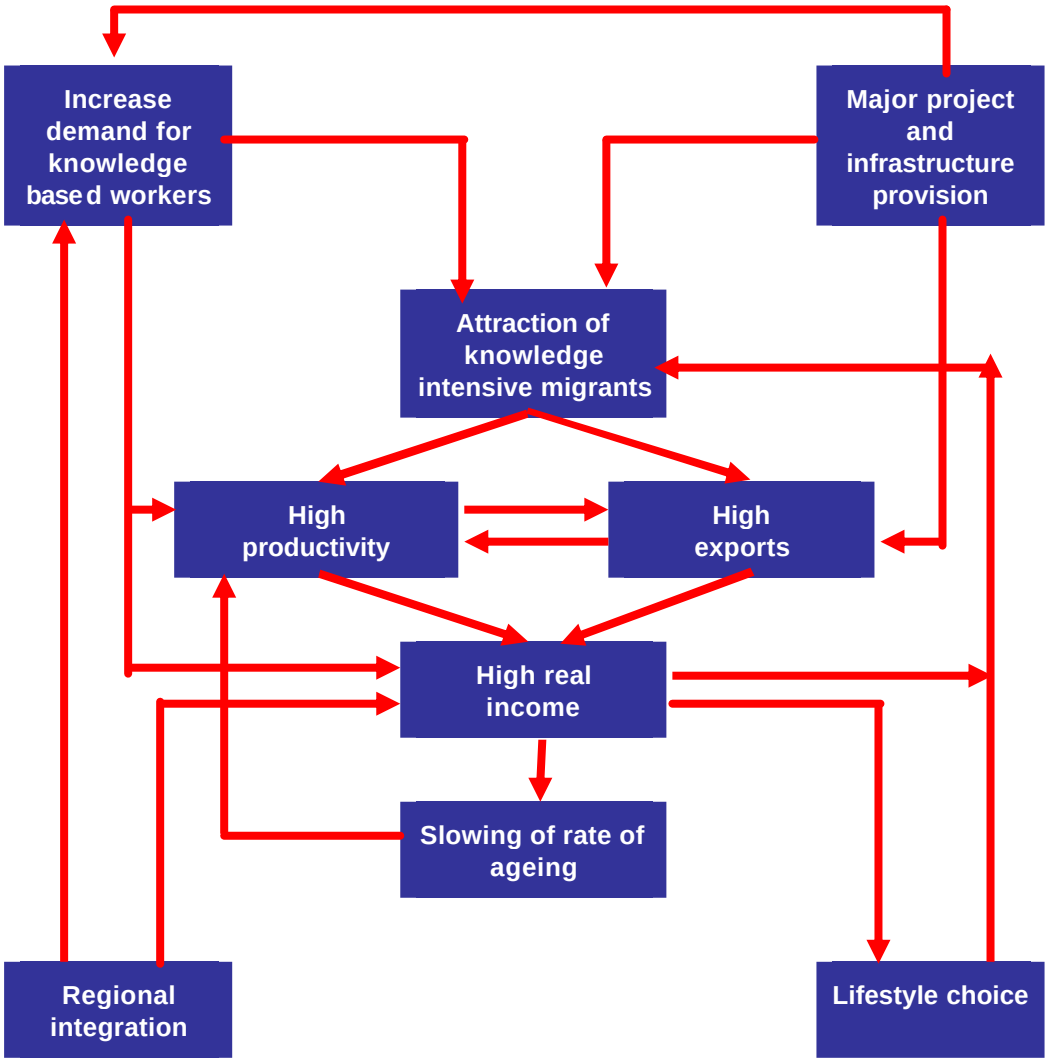
E.14 What are the circumstances that distinguish the skill intensive migration driven growth scenarios from the retirees playground type scenarios?

The study outlines an integrated strategy to shift the momentum in the WBBR from the God's waiting room/Bumbling along scenarios towards the Connecting with the world scenario. The focus is to ignore ageing and focus on increasing productivity.

The seven nominated strategies to accelerate the growth of regional productivity are listed in Table E.1, together with some specific policies. The study makes clear that each strategy must be pursued as if it is the only strategy that matters. This is because given the region's current circumstances all strategies have to generate a degree of success if the minimum requirements for significant overall success are satisfied.

This is another way of saying that the impact of the whole is greater than the sum of the parts. This is because, as Figure E.6 illustrates, once headway is made with any given strategy it makes it easier to achieve success with other strategies.

Figure E.6: Productivity gap reduction strategies: the impact of the whole is much greater than the sum of the parts



E.15 The importance of regional integration

The study makes clear that regional governance and institutional structure are an important instrument for productivity enhancement. If the region could be integrated so that it operates more as a single economic entity, then the productivity gains could reach a theoretical maximum of 8 per cent. This would go a long way to reducing the productivity gap. To do this the region must be willing to make resource allocation decisions on a region-wide basis and allow the creation of nodes or clusters of specialised activity.

The economies of scale this would provide would enable the public sector to employ more skill intensive staff who would then churn through the regional workforce to assist the development of the pool of global knowledge workers.

To do this, however, the area must have a best practice communications system. As the study indicates, this is not being provided. The WBBR ranks 56 out of 62 Australian regions in having the worst ADSL coverage. Solving the current communications infrastructure problem must have one of the highest priorities.

Table E.13 Strategies to close productivity gap

Planning strategy	Policy category	Specific policies	WBB potential/actual example
Increase global knowledge worker supply.	Migration attraction.	Widen lifestyle choice – e.g. cultural infrastructure. Land zoning – hobby farms close to employment nodes. Accessibility to other regions.	Land use zoning to maximise lifestyle choice for working age professionals.
Increase global knowledge worker demand.	Selective targeting of regional employment expansion.	University expansion, upgrading and expansion of skill intensity of public sector employment. Procure research institutions.	Attraction of Townsville Engineering Research Unit. Geriatric research centres. Research based hospitals.
Slow the rate of ageing.	Migration attraction.	Creation of family friendly environment. Quality schools, child care, etc.	Quality town planning that is resourced at the level to achieve objectives.
Export enhancement (1)	Investment attraction.	Target major investments and infrastructure that will lead to job creation investment. Dams, airports, ports, logistic centres, distribution centres, etc.	Port development. Railway upgrades. New lines. Airport upgrades. Improved and new road linkages with centres.
Regional integration.	Efficiency improvement.	Integrated regional governance. Decisions financed to maximise the benefit of the region as a whole. Best practice communications infrastructure. Public sector outsourcing on a regional wide basis.	Regional organisation of councils. Potential council integration. ICT program.
Export enhancement (2)	Linking to the world.	ICT infrastructure. Foreign migration.	ICT programs. Establish networks with target region overseas.

E.16 Do the economic outcomes across the scenarios warrant the very large efforts required to increase regional productivity?

The outcomes for the key economic indicators for the scenarios are given in Tables E.14 to E.29. The methodology of generating the scenarios was straightforward. The scenarios assumed various levels of success for the strategies in Table E.13. The strategies were most successful under the Connecting to the world scenario and least successful for the God's waiting room scenario. The degree of success of the general strategy approach was quantified by interpreting the degree of success in terms of alterations to key parameters/coefficients in the WBBR model structure.

If the God's waiting room scenario is realised, then by 2030 productivity per hour worked will fall to 64 per cent of the Brisbane City level, compared to 81 per cent currently, with average earnings falling to 50 per cent of the Brisbane level. In contrast for the Connecting to the world scenario the productivity differential with Brisbane is closed and average earnings reach 74 per cent of the Brisbane level. This implies a living standard difference for the average employed person of 45 per cent compared to the God's waiting room scenario. To do this the skill intensity of the workforce would have to reach 40 per cent and non-resource exports per employed person would have to increase by 2.6 times current levels.

Unfortunately, as Table E.30 shows, there will be increasing income inequality between those in employment as well as between those in employment and those on social security support.

The table also indicates that the level of employment is not a valid indicator of performance in a region like the WBBR. As can be seen from Table E.16, the employment growth under the God's waiting room scenario is the second highest. This is because of the flood of those aged 65 and over searching for part time/casual employment to supplement their income and will drive down the average hours worked and drive out of the region the younger workers who cannot compete on an annual income basis with the retirement income/pension subsidised wage rates of the elderly.

The policy focus should be firmly fixed on creating high quality (that is, high income-high skilled) employment. This is all that matters in closing the productivity gap. In this context the scenario indicates that relatively little can be done about the social security dependency problem. What can be done is to ensure that those in employment have a quality of employment that will stay in employment and help develop the region, rather than drift in and out of employment and social security because the rewards from employment are too low. This would be consistent with a large transient working age population with little interest in the WBBR community.

Why the scenarios do little for the overhanging stock of not in employment households is straight forward. For every 1,000 employment positions created:

- at least 600 will be for high and intermediate skilled, the overwhelming majority of which will be filled from new migrants; and

- up to 400 will be eligible for the existing not in employment.

As it is likely that between 30 and 40 per cent of new working age migrants will be semi and unskilled, it follows that at best around 20 per cent of the employment will go to local unemployed. The total stock of unemployed households will stay the same.

Unfortunately the Connecting with the world scenario requires a high skill/intermediate skill intensity at the margin of around 70 per cent. Hence, the pessimistic outcome for the not employed working age stock for this scenario.

Regional development in the WBBR is largely about creating employment for households that are not yet leaving the region.

The most effective policy strategy for the existing unemployed are the traditional work experience and training programs that increase their probabilities of securing employment in competition with unskilled and semi skilled migrants. The more successful thee policies, the lower will be the inflow of semi and unskilled migrants and the greater the demographic outcomes will resemble those of the Connecting with the world scenario.

If a strategic policy objective is to create a community where the maximum number of people have a genuine interest in the long term development of the community, then the effort to lift productivity is well worthwhile.

The alternative is simply to let market forces drive the God's waiting room outcome. This will create an iconic image of WBBR being simply a $10 an hour economy. All that one has to do to see the unsatisfactory nature of this outcome is to look at the situation of North American regions that have fallen into this trap and the enormous difficulties imposed in trying to change this image.

Table E.14 WBBR: Average annual gross regional product growth rate (per cent per annum)

	2006-2016	2016-2030	2006-2030	Per-capita GRP growth rate 2006-2030	Real income of business and households 2030 2006 = 100
Bumbling along	3.6	1.9	2.6	1.2	132
God's waiting room	3.4	1.6	2.3	0.8	121
Connecting with the World	5.7	3.7	4.5	2.5	179
Two speed development	4.5	2.8	3.5	1.7	152

Table E.15 WBBR: Average total employment growth rate (per cent per annum)

	2006-2016	2016-2030	2006-2030
Bumbling along	1.9	1.0	1.4
God's waiting room	2.2	1.4	1.7
Connecting with the World	2.8	1.7	2.1
Two speed development	2.3	1.4	1.7

Table E.16 WBBR: Total household average annual average growth rate (per cent per

annum)			
	2006-2016	2016-2030	2006-2030
Bumbling along	2.4	2.5	2.5
God's waiting room	2.8	3.0	2.9
Connecting with the World	2.7	2.8	2.8
Two speed development	2.5	2.7	2.7

Table E.17 WBBR: Household average size (number of people)

	2001	2006	2016	2030
Bumbling along	2.6	2.5	2.3	1.9
God's waiting room	2.6	2.5	2.2	1.8
Connecting with the World	2.6	2.5	2.3	2.0
Two speed development	2.6	2.5	2.3	2.0

Table E.18 WBBR: Not employed working age households as a per cent of total working age households (per cent)

	2006	2016	2030
Bumbling along	30.4	35.5	44.1
God's waiting room	30.4	33.7	42.5
Connecting with the World	30.4	31.5	40.3
Two speed development	30.4	34.4	43.0
Brisbane	**12.1**	**9.6**	**6.7**

Table E.19 WBBR: Households age 65 and over as per cent of total households (per cent)

	2006	2016	2030
Bumbling along	32.0	37.9	44.6
God's waiting room	32.0	40.1	48.3
Connecting with the World	32.0	36.3	41.4
Two speed development	32.0	37.0	42.5

Table E.20 WBBR: Ratio of working to non working households (including retired households) – ratio

	2006	2016	2030

Bumbling along	1.1	1.5	2.2
God's waiting room	1.1	1.5	2.3
Connecting with the World	1.1	1.3	1.8
Two speed development	1.1	1.4	2.0

Table E.21 WBBR: Productivity per hour – $2001 (output per hour – $2001)

	2006	2016	2030
Bumbling along	68.8	84.0	102.6
God's waiting room	68.8	80.2	89.1
Connecting with the World	68.8	92.3	126.1
Two speed development	68.8	87.4	111.7
Brisbane	**85.8**	**106.9**	**139.3**

Table E.22 WBBR: Productivity per hour per cent of Brisbane (per cent)

	2006	2016	2030
Bumbling along	80.2	78.5	73.7
God's waiting room	80.2	75.0	64.0
Connecting with the World	80.2	86.4	90.6
Two speed development	80.2	81.7	80.2

Table E.23 WBBR: Average earnings per person employed ($2001)

	2006	2016	2030
Bumbling along	595.7	681.9	786.5
God's waiting room	595.7	652.7	675.2
Connecting with the World	595.7	746.0	980.9
Two speed development	595.7	703.2	860.4
Brisbane	**846.4**	**1036.6**	**1311.6**

Table E.24 WBBR: Average earnings per person employed – per cent of Brisbane ($2001)

	2006	2016	2030
Bumbling along	70.4	65.8	60.0
God's waiting room	70.4	63.0	51.5
Connecting with the World	70.4	72.0	74.8
Two speed development	70.4	67.8	65.6

Table E.25 WBBR: Benefits and current government expenditure – per cent of gross regional product (per cent)

	2006	2016	2030
Bumbling along	32.6	33.1	42.1
God's waiting room	32.6	33.6	45.4
Connecting with the World	32.6	25.4	25.4
Two speed development	32.6	29.3	32.6

Table E.26 WBB: High skilled employment as per cent of total employment (per cent)

	2006	2016	2030
Bumbling along	25.7	29.3	33.5
God's waiting room	25.7	28.4	28.9
Connecting with the world	25.7	`33.4	40.0
Two speed development	25.7	31.5	36.0

Table E.27 WBBR: Non-resource exports per employed person (2001 $'000)

	2006	2016	2030
Bumbling along	31.8	47.2	54.8
God's waiting room	31.8	42.9	37.1
Connecting with the World	31.8	65.1	112.7
Two speed development	31.8	56.5	83.9

Table E.28 WBB: Gross regional product growth – Coast regions (per cent per annum)

	2006-2016	2016-2030	2006-2030
Bumbling along	4.3	2.0	2.9

God's waiting room	3.9	1.6	2.5
Connecting with the world	7.1	3.9	5.2
Two speed development	5.8	3.1	4.2

Table E.29 WBB: Gross regional product growth – Inland regions (per cent per annum)

	2006-2016	2016-2030	2006-2030
Bumbling along	2.8	1.5	2.1
God's waiting room	2.7	1.1	1.7
Connecting with the world	4.6	3.2	3.8
Two speed development	3.4	2.1	2.6

Table E.30 WBB: Average household expenditures – 2001 and 2031 by household type benchmarked to family households with at least one child

	2001 (2001 $'000)	2031 (2001 $'000	2031 index (2001 = 100)
Security dependent family without employment	23.8	29.4	124
Family household with at least one child – professional occupations	56.1	127.1	226
Family household with at least one child – intermediate occupations	48.4	94.6	195
Family household with at least one child – low skilled occupations	45.8	72.4	158
Retired with pension households	16.4	22.1	135
Retired without pension households	30.0	50.6	168
Double income no children households	46.2	101.5	221
Couple, one income no children	38.3	65.3	170
Lone households	34.2	67.2	198

Table E.31 WBBR: Average annual productivity growth rate by industry sector and scenario (per cent per annum – 2006-2030)

	Bumbling along	Gods waiting room	Connecting with world	Two speed development
Agriculture	2.1	1.9	2.8	2.0
Mining	3.6	3.6	2.4	3.6
Food Manufacturing	0.8	-0.4	2.4	1.4
Other manufacturing	2.7	1.1	5.1	3.7
Electricity gas and water	5.1	5.0	7.9	6.1
Construction	0.3	-0.7	1.2	0.6

Retail and wholesale trade	1.0	0.0	2.7	1.8
Accommodation, restaurants and cafes	1.1	1.1	1.3	1.3
Transport and communication services	3.3	3.1	4.0	3.4
Finance services	2.6	2.4	3.8	3.1
Business services	3.8	1.2	6.2	5.4
Government services and education	2.5	2.1	3.4	2.9
Health services	1.6	1.7	1.6	1.5
Recreation and personnel services	1.2	0.3	2.6	1.9
Other (property services/imputations)	0.3	0.2	0.7	0.5
Total	**1.3**	**0.7**	**2.4**	**1.8**

E.17 Conclusion

1. Accelerate the programs towards regional public sector integration. However, this will not be done by simply amalgamating some councils. It needs to be designed strategically from the perspective of achieving long run regional objectives. Local government restructure should be accompanied by the strengthening of regional organisations to maintain creative tension and a strategic outlook.

2. Develop, strengthen and align the development of private sector networks with public sector networks.

3. Develop a regional plan that translates the scenarios of the study (or modifications thereof) into a timetable for what supporting infrastructure must be in place to allow the employment creation and targets to be achieved and linked to specific private sector investment. Obtain political endorsement for the plan and then hold governments accountable for delays. The plan should have the dates for completion of hospitals, schools, transport links, etc. as well as a local skills enhancement program linked to the expansion of TAFE activities. The university's desired direct support tasks for industry development should also be specified.

4. Most of the industry development strategies required to drive the region are in place. What is required is a genuine regional commitment to the strategies and a level of resourcing that will make a difference. The plan should detail the level of resources required.

5. Perhaps the most important conclusion from the study is the importance of determining what type of economic future the region as a whole, and the sub-regions, would like to achieve. If the region or sub-region is successful in moving towards its desired objectives, then this will change the demographic outcome so that the desired objectives are realised. That is, the demographic structure should be taken as an objective of regional policy, not as a given around which policy adjusts.

6. The region and sub-regions should resist the temptation at this stage to accelerate short term growth by enhancing current demographic trends without considering the longer term economic consequences. This may well lock in the God's waiting room scenario and this may be an outcome the community may not deserve.

   Before large scale resort is made to accelerating the impact of current demographic trends (by expansion of affordable housing, large scale retirement facilities, etc.), the

other strategies and pathways for accelerating productivity growth should be considered. Housing and land zoning policies should be integrated as a complementary instrument in the broader infrastructure industry development, in the regional integration context.

7. The analysis of the report is optimistic. The WBBR can achieve a future with improved economic performance and more balanced demographic outcomes.

In the scenarios developed during the course of the study, the range is from poor to satisfactory. To achieve the satisfactory outcome the region has to increase its productivity by about 10 per cent, relative to Brisbane, and increase its real wage rate by approximately 8 per cent, compared to Brisbane. If this is done the problems associated with ageing will be “solved”.

The study quantifies the exports, import replacement and skill formation requirements to do this. They are achievable given the agriculture, mining and manufacturing opportunities that are recognised to exist in the region. Secondly, given the population mass and its growth, import replacement of business services, health, government and educational services will provide a strong stimulus to growth. In the short term they will be up to 1.0 per cent per annum in regional growth.

The key to success is for the region to be able to act collectively to do what must b e done to unlock its potential.