

Regional Capitals in the WA Settlement Hierarchy

Briefing Paper 5: Identifying Regional Capitals

PAUL PLUMMER & RACHEL CHAPMAN

**CENTRE FOR REGIONAL DEVELOPMENT
SCHOOL OF EARTH AND ENVIRONMENT**



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The views expressed and the conclusions reached in this publication are those of the author(s) and not necessarily those of persons consulted.

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1. EXECUTIVE SUMMARY

- This report identifies the regional capitals of Western Australia based upon a conceptually meaningful regionalization, where regions are defined by (a) the Western Australia Regional Development Commissions, (b) functional economic regions.
- Regionalization based upon the existing policy framework clearly identifies the members of WARCA and Northam as the strategically significant *Regional Capitals* of Western Australia.
- Regionalization based upon functional economic regions is consistent with this evidence but also adds Busselton and Esperance to the list of *Regional Capitals*.
- The evidence suggests that there is a distinct and widening gap between the *Regional Capitals* and the remainder of ‘regional’ Western Australia
- This evidence suggests that there needs to be a significant reorientation of regional policy away from *Supertowns* and towards the *Regional Capitals*.

2. The Western Australia Regional Capitals Alliance

This is the latest in a series of reports into the dynamics of population and employment across the Western Australian settlement system. This research is conducted as part of a strategic collaboration between the *Western Australian Regional Capitals Alliance* (WARCA) and the *Center for Regional Development* at the *University of Western Australia*. The research objectives of this ongoing collaboration are:

- To gain a clear understanding of both the opportunities and barriers to regional growth and resilience across Western Australia.
- To facilitate evidence based policy, indicating specific areas of policy making that may require revision.

In this report, we employ conceptually meaningful definitions of ‘regional’ to identify the strategically significant nodes of growth potential across regional Western Australia, which should be targeted in terms of regional policy.

3. Regions and Regionalization

3.1 ‘Regional’ Western Australia

The popular conception is that ‘regional’ Australia is limited to rural and/or remote locations. This has connotations that are unfortunate and unnecessary, especially in terms of the potential significance of ‘regional’ centers as part of the long run development of Australia’s multi-speed and patchwork economy. In the Western Australian context, it has long been the case that Perth has dominated the evolution of the settlement system. However, there are urban areas that exist beyond the metropolitan region that, given their population, employment, and relative position within the settlement hierarchy are significant drivers of development. Arguably these ‘regional’ capitals face a unique set of local policy and planning challenges relative to both Perth and the remainder of ‘regional’ Western Australia. In recognition of this potential, the Western

Australian government has targeted a set of *Supertowns*, which they have identified in terms of their economic potential and strategic significance. At best, the rationale for the selection of these *Supertowns* remains subjective, vague and ill-defined.

In contrast, in this report we employ objectively meaningful definitions of what constitutes a ‘region’ to:

- (1) Identify the capitals of ‘regional’ Western Australia based upon their growth potential and strategic significance.
- (2) Situate the regional capitals relative to the *Supertowns* and the remainder of ‘regional’ Western Australia.

3.2 *Regions and Regionalization*

Conceptually, ‘regions’ are a way of carving up a map into meaningful territorial units. Regionalization is unavoidable and necessary, where potentially inappropriate aggregation of territorial units might lead to misleading inferences and/or policy conclusions. There is no unique way to carve up a map and what we might consider to be a ‘meaningful’ or and ‘appropriate’ regionalization depends on what we want to know and what is practical. In this report, we consider a locality to be a *Regional Capital*, having strategic significance and growth potential, according to the following definition:

- *Regional Capital*: is a territorial unit located within a geographically defined boundary that is considered to be both large enough to constitute a viable urban settlement and has significant growth potential.

In the context of regional development, it is conventional to classify territorial units into ‘regions’ based upon either administrative/political boundaries or functional economic characteristics, where:

- *Administrative/Political Regions*: are based upon existing policy and planning frameworks and have been established by government agencies to manage public policies, such as health care delivery, education catchment areas, housing etc.

- *Functional Economic Regions*: are made up of nodes and other territorial units to which they are connected. Across the OECD, the most common method of regionalization is to employ commuting patterns, which are delineated in relation to urban centers and are intended to capture of local interplay between the supply of labour and demand for labour¹.

Identifying regional capitals based upon administrative/political boundaries prioritizes existing policy and planning frameworks, which is appropriate for those localities that are strategically important in terms public service provision. In contrast, functional economic regions are appropriate if we wish to capture meaningful regional boundaries based upon the operation of socio-economic processes. Because of the potential lack of concordance between *Administrative/Political Regions* and *Functional Economic Regions*, in this report we employ both classification schemes. This allows us to triangulate those localities that are identified as regional capitals in terms of both the operation of socio-economic processes and existing policy frameworks.

In this report the basic territorial unit from which regions are constructed are local government areas (LGAs). In the Western Australian context these LGA's are aggregated into regions as follows:

- *Administrative/Political Regions* are defined by the boundaries of the Western Australia Regional Development Commissions. These constitute a formal regionalization for planning purposes, the delivery of public services, and are the basis for the Western Australian Regional Blueprints.
- *Functional Economic Regions*: are defined using the hierarchical aggregation techniques that have been employed by the *Center for Full Employment and Equity (CofFEE)* to delineate the boundaries of local labour markets across Australia². This research updates and replaces the *Office of Local Government* regionalization of Australia, which employed the same technique to construct meaningful local labour markets for comparative economic analysis in the late 1980s³.

¹ OECD (2002) *Redefining Territories: The Functional Regions*. OECD, Paris.

² Mitchell, W., M. Watts (2010) "Identifying functional regions in Australia using hierarchical aggregation techniques" *Geographical Research* 48 24-41. Mitchell, W., Stimson, R (2009) "Creating a new geography of functional economic regions to analyse aspects of labour market performance in Australia" Centre of Full Employment and Equity (CofFEE), Working paper # 10-09

³ Office of Local Government (1988) "A regionalization of Australia for comparative economic analysis" Department of Immigration, Local Government and Ethnic Affairs, Australian Government Publishing Service.

Within the bounds of data availability, we identify those LGA's in each region that are *Regional Capitals* using a hierarchical selection procedure:

1. Identify those LGAs within each region that are considered to be large enough to constitute viable urban centers in terms of their population size and number of persons employed.
2. For those localities that are deemed to be large enough to constitute viable urban settlements, identify those LGAs that have the highest growth potential relative to the overall patterns of population and employment growth across Western Australia.

The critical cut-off for those localities that are considered viable urban settlements is 10,000 persons. This is a conventional definition of 'urban' and is consistent with previous research conducted by the *Office of Local Government* on the Western Australian settlement hierarchy.

4. Data Description:

(a) Population and Employment

This report uses Australian Bureau of Statistics (ABS) Census of Population and Housing time series profiles which count both the total number of persons and the number of persons employed based on place of enumeration for all 106 local government areas in Western Australia (LGAs) for the census periods 2001, 2006, 2011. Boundaries for all LGAs are according to the ABS 2011 definition. It should be noted that one limitation widely reported by regional local governments is the likely undercount of employees by the ABS. This arises out of the difficulty in capturing fly-in/fly-out workers and other temporary residents. There is no immediate means of overcoming this data limitation, except to use 'place of enumeration' data as has been done here.

(b) Regionalization

In this report we exclude the LGAs that are defined by the ABS as being within the boundaries of the Perth metropolitan region. In addition, we exclude the Peel Regional Development Commission, which is considered to be functionally part of the Perth metropolitan region⁴. Similarly, we exclude the Fremantle-Mandurah functional economic region. The remaining LGAs have been aggregated into the following regions⁵:

Western Australian Regional Development Commissions: Gascoyne, Goldfield-Esperance, Kimberley, Great Southern, Southwest, Wheatbelt, Midwest, Pilbara.

Functional Economic Regions: Bunbury-Collie South, Carnarvon-Gascoyne, Esperance and surrounds, Albany and Surrounds, Ashburton-Roebourne, Broome-West Kimberley, Geraldton-Shark Bay - West, Kalgoorlie - Wiluna, Margaret River-Busselton, Northam-Merredin-Mt Marshall, Gingin-Midland-Greenough River.

The LGA's that are located within each regional development commission region are identified in Figure 3. Similarly, the LGA's located within each functional region are identified in Figure 6.

Finally, WARCA and the Supertowns are as follows:

Western Australia Regional Capitals Alliance (WARCA): Albany, Broome, Greater Bunbury⁶, Kalgoorlie-Boulder, Greater Geraldton, Port Hedland, and Karratha.

Supertowns: Augusta-Margaret River, Boddington, Collie, Dandaragan, Esperance, Katanning, Manjimup, Morawa

⁴ Committee for Perth

⁵ Note that the LGAs that constitute each region can be identified from the Figures XX below, which provide comparative information of population size for each LGA within each region.

⁶ Greater Bunbury is an amalgamation of the LGAs of Bunbury, Capel, Dardarup, and Harvey.

4. Identifying Regional Capitals in the Western Australian Context

(i) Existing Policy and Planning Framework:

(a) *Viable Urban Settlements: Population and Employment*

Table 1 shows the correlation between population and employment levels for the census periods 2001, 2006, and 2011. There is evidence of an almost perfect positive relationship between population and employment. That is, those LGAs with high populations also have high numbers of people employed. This is hardly surprising, but it does mean that we are able to focus on population levels as an initial selection criterion: Those localities that are viable in terms of their population size are also viable in terms of number of persons employed

Table 1: The Relationship Between Population and Employment. 2001, 2006, 2011

	Employment/Population Levels		
	<i>2001</i>	<i>2006</i>	<i>2011</i>
Gascoyne	0.9913	0.9912	0.9787
Goldfields	0.9937	0.9925	0.9917
Great Southern	0.9996	0.9998	0.9999
Kimberley	0.9713	0.9936	0.9820
Midwest	0.9980	0.9974	0.9969
Pilbara	0.9861	0.8959	0.8035
Southwest	0.9971	0.9988	0.9978
Wheatbelt	0.9892	0.9884	0.9832
Regional WA	0.9874	0.9854	0.9441

Figure 1 shows that of the 106 LGAs, there are 15 LGA's that are identifiable as viable settlements in terms of their population size in 2011. The figure includes both the Bunbury LGA and Greater Bunbury, which is an amalgamation of Bunbury, Capel, Dardanup and Harvey, each of which has a large enough population to be considered as a viable urban settlement

Figure 1: Viable Urban Settlement based upon Population in 2011

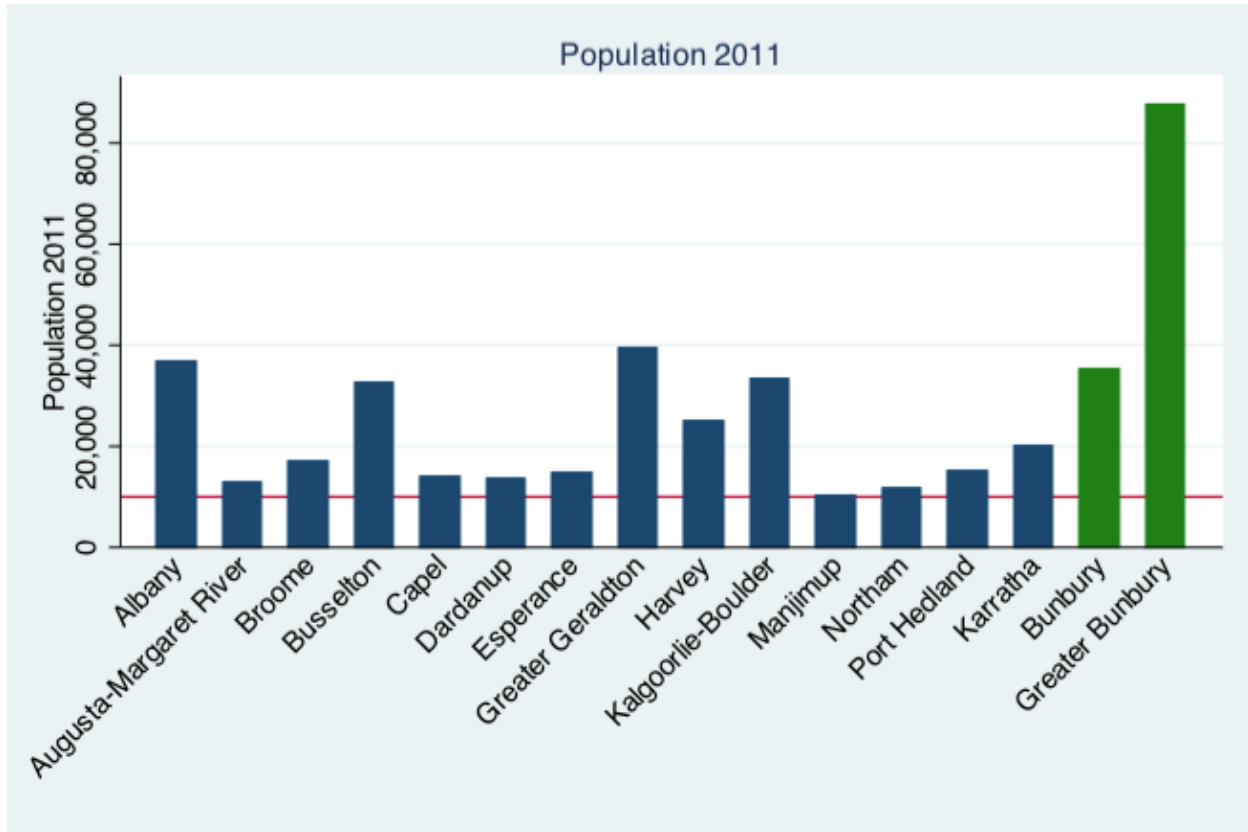


Figure 2 provides evidence that the rank order of viable settlements is consistent across the past decade, covering the census period 2001, 2006, 2011. Furthermore, each of these urban settlements has been experiencing population growth over the past decade. Within the set of viable urban settlements, there is also evidence of three groups of urban settlements, with Greater Bunbury (Bunbury), Albany, Busselton, Greater Geraldton, Kalgoorlie-Boulder having populations of greater than 20,000 for each of the three census periods. Broome, Esperance, Harvey, City of Karratha, and Port Hedland have populations greater than 15,000 whilst the remainder hover around the critical cut-off point of 10,000 persons.

Figure 2: Population of Viable Urban Settlements, 2001, 2006, 2011

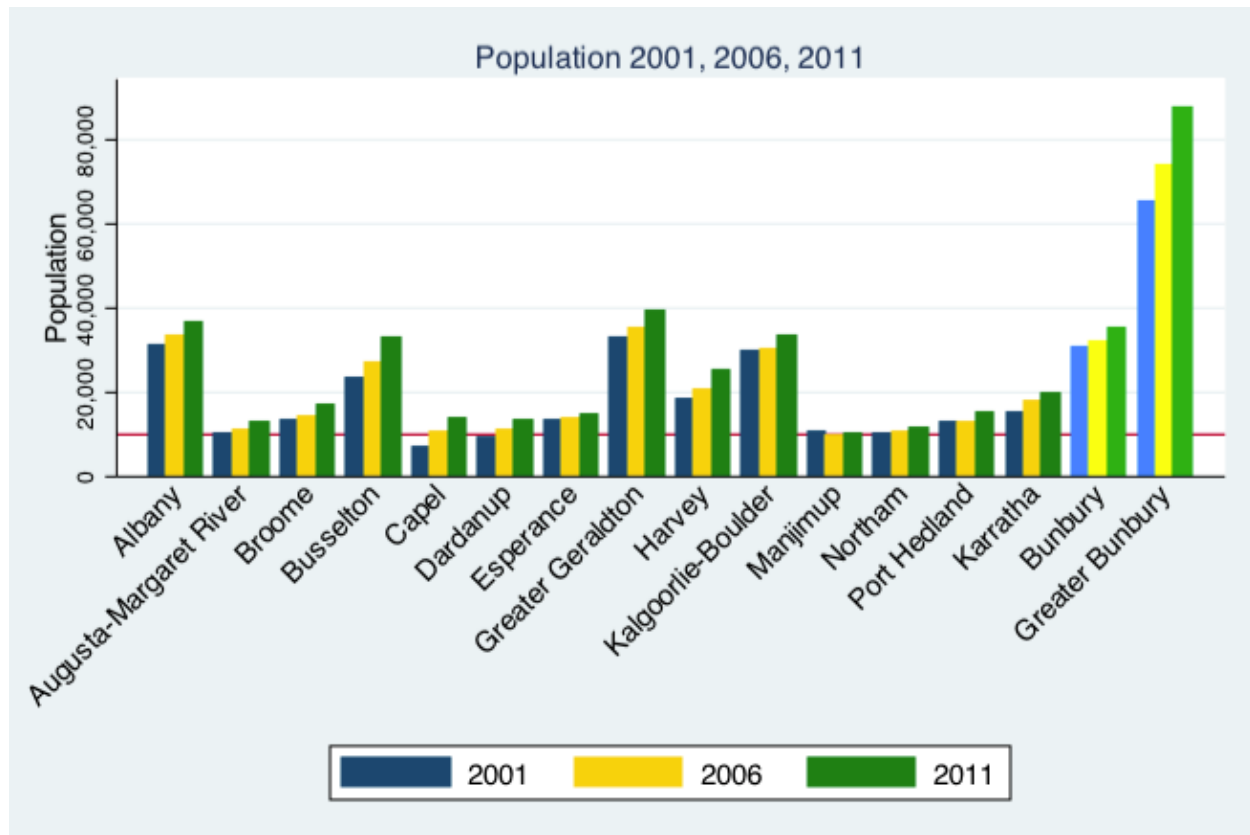
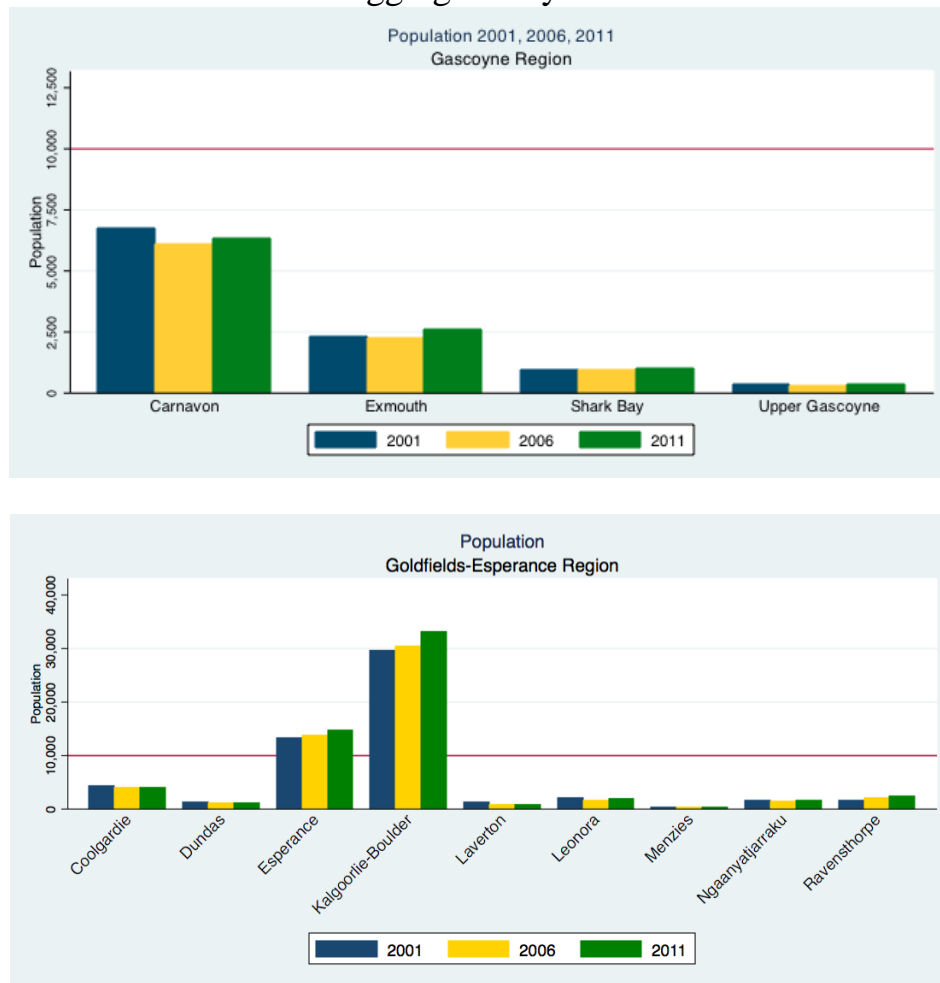


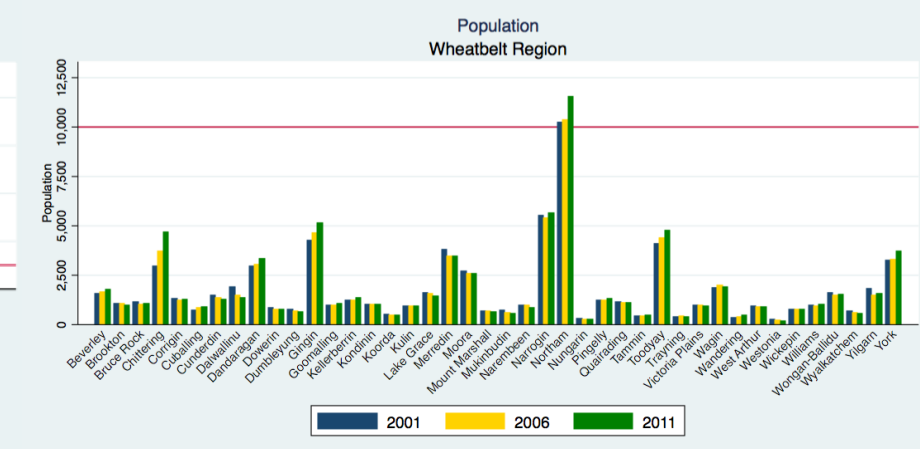
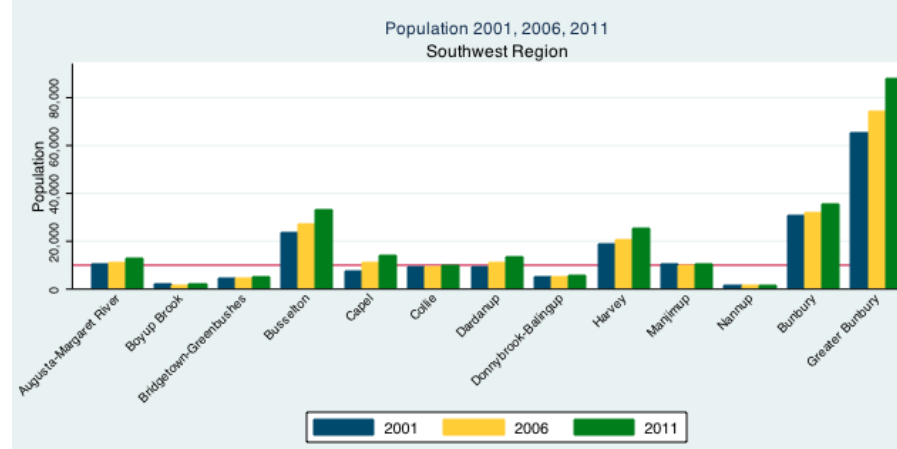
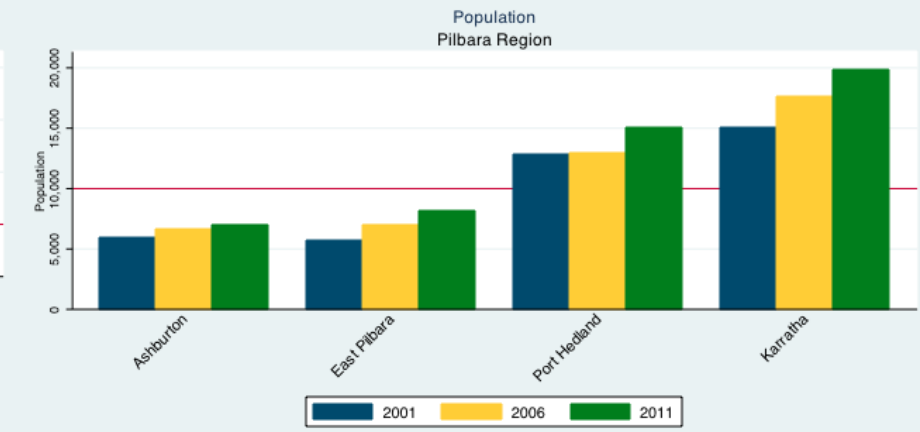
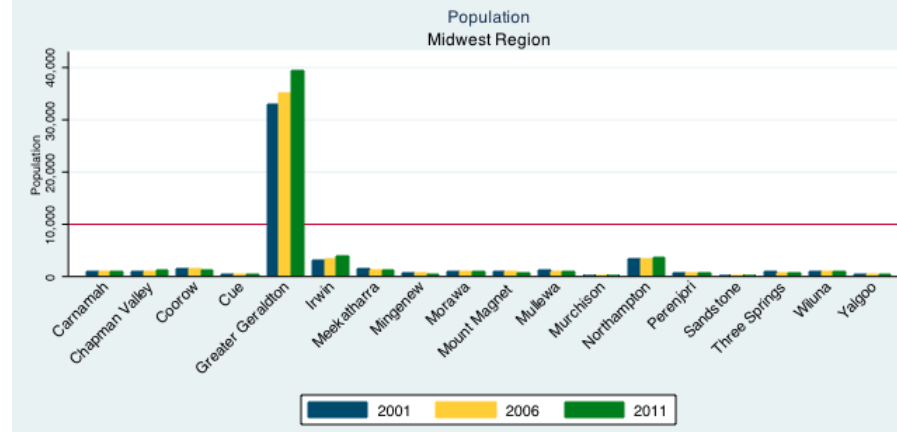
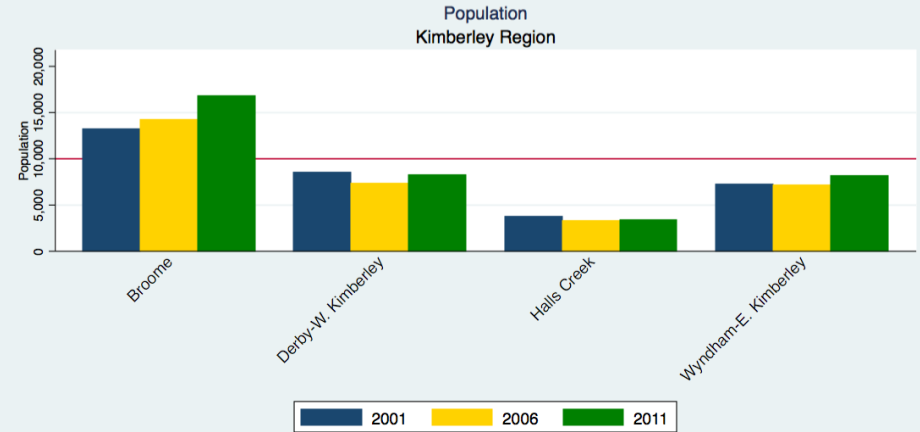
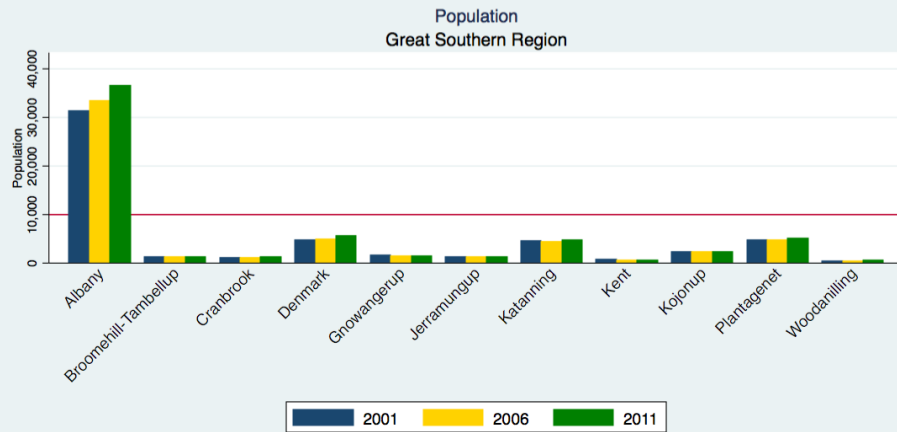
Figure 3 identifies the viable urban settlements in each *Administrative/Political Region*. The evidence can be summarized as follows:

- *Gascoyne* does not have a locality that is sufficiently large to be considered as viable urban settlement.
- There are clear and identifiable viable urban settlements in Broome (*Kimberley*), Greater Geraldton (*Mid-west*), Albany (*Great Southern*), Northam (*Wheatbelt*).
- *Goldfields-Esperance* has two viable urban settlements, although Kalgoorlie-Boulder is significantly larger than Esperance in terms of settlement size.
- Similarly, the *Pilbara* has two viable urban settlements, but it would difficult to differentiate between City of Karratha and Port Hedland in terms of settlement size.

- The *South West* region has a complex geography. Greater Bunbury dominates the region. However, Busselton and Harvey are also significant and viable urban settlements. In addition, both August-Margaret River and Manjimup are smaller but nonetheless viable urban settlements.
- Greater Bunbury is an amalgamation of the LGAs of Bunbury, Harvey, Capel, and Dardanup, each of which is a viable urban settlement. Given the geographical proximity of these spatially contiguous LGA, there is evidence that Greater Bunbury is an integrated urban settlement, with spillover effects between localities.

Figure 3: Settlement size Disaggregated by Administrative/Political Region





(b) *Growth Potential: Catching up, falling behind and forging ahead.*

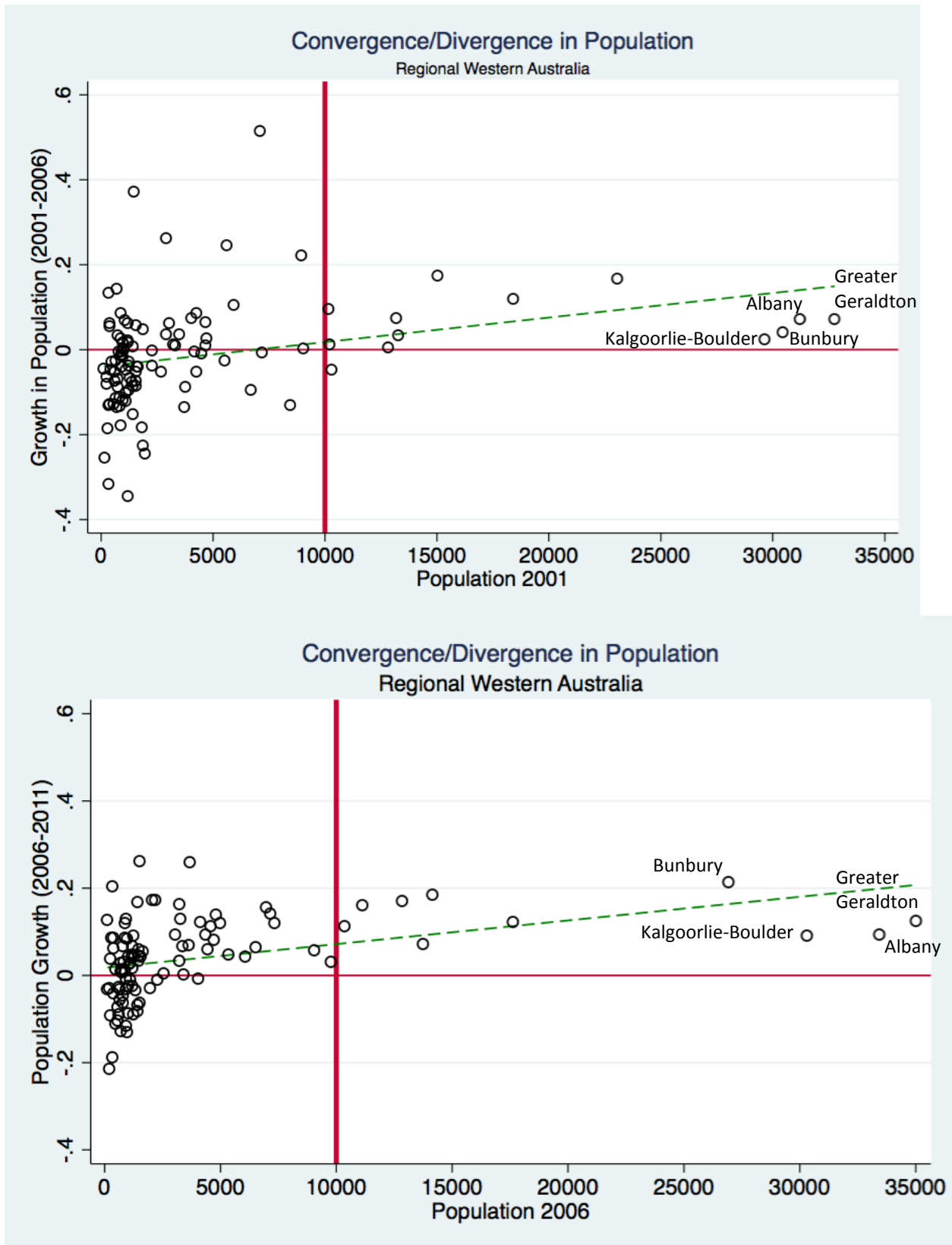
The relationship between the size of localities and the rate of growth across localities is a key indicator of the strategic potential of localities within the broader evolution of the settlement system. On the one hand if small localities have the potential to catch up with larger localities then we would expect those localities to grow at a faster rate than their larger counterparts and we would observe convergence across the Western Australian urban settlement system. In contrast, if larger economies are forging ahead of their smaller counterparts then we would expect to observe divergence, with a concomitant falling behind of smaller localities, across the Western Australian urban settlement system. This has the following implications for the identification of strategic potential and regional policy formation:

- If there is evidence of CONVERGENCE across regional Western Australia, with smaller places catching up with their larger competitors, then regional policy should be targeted on enhancing the growth potential of smaller centers.
- If there is evidence of DIVERGENCE across regional Western Australia, with larger localities forging ahead of their smaller competitors, then regional policy should be targeted to take advantage of the growth potential of the larger centers.

Figure 4 show the relationship between initial population levels and rate of population growth across the LGAs of ‘regional’ Western Australia for both 2001-2006 and 2006-2011. The dashed line indicates the overall relationship between population level and population growth across ‘regional’ Western Australia. The following points warrant attention:

- There is evidence of DIVERGENCE of localities across the Western Australian settlement system, suggesting that larger settlements are forging ahead of their smaller competitors.
- The dynamics of falling behind and forging ahead is sustained across the two periods, suggesting that there is stability across the settlement system, with large localities consistently dominating their smaller counterparts.
- There is clear evidence that Albany, Bunbury, Greater Geraldton, and Kalgoorlie-Boulder are dominant and persistently significant urban settlements.

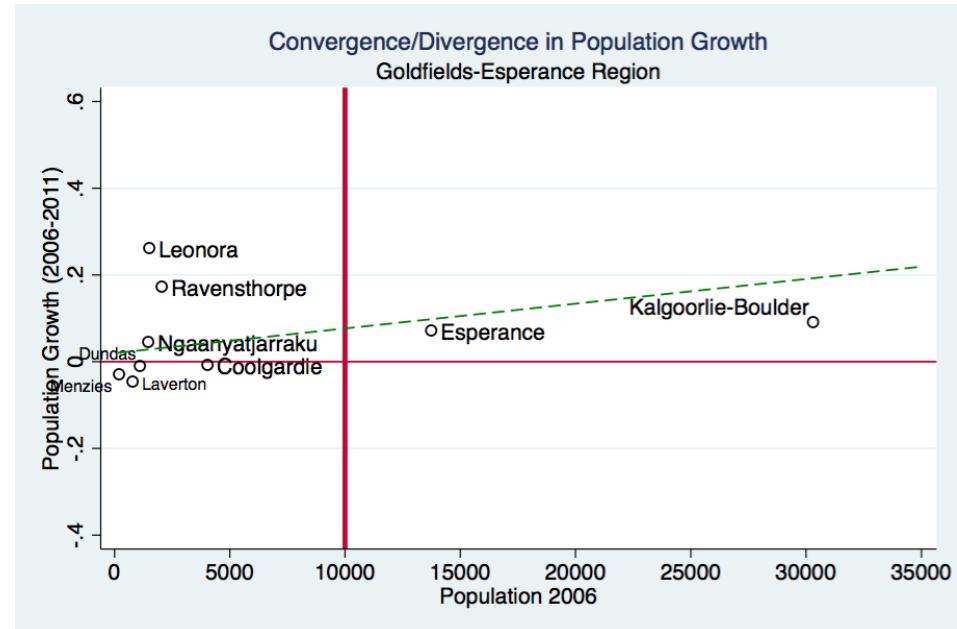
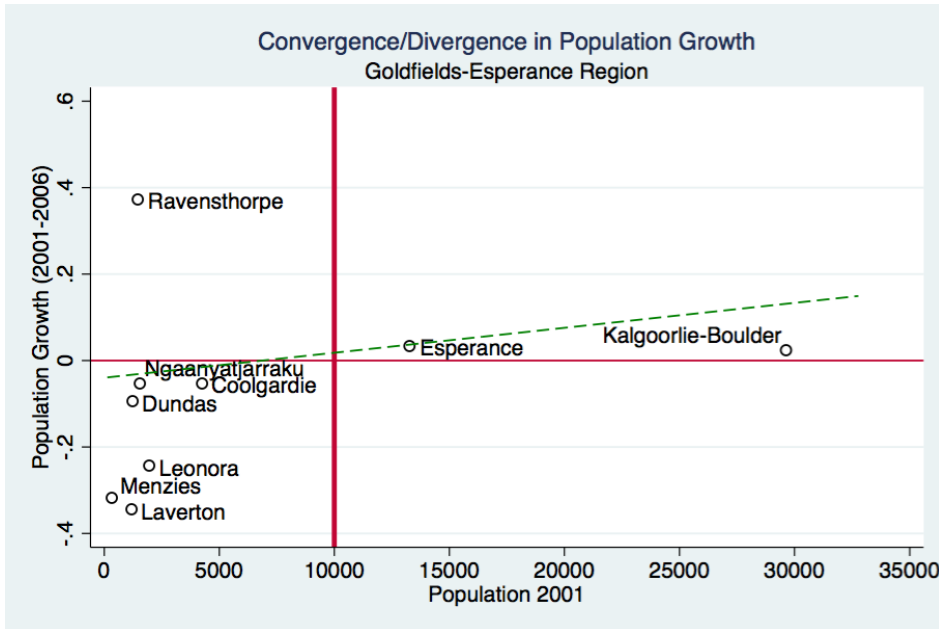
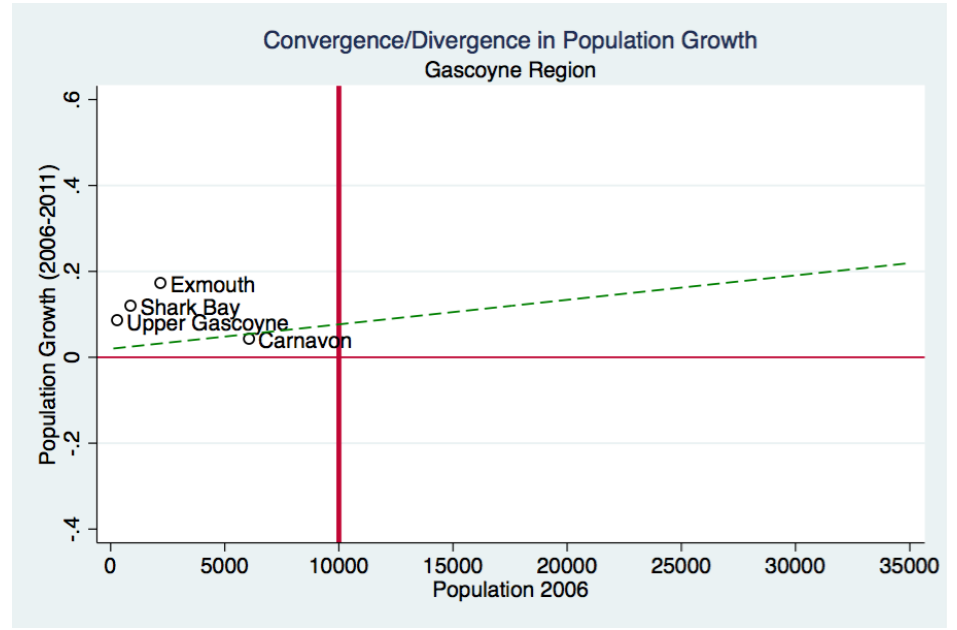
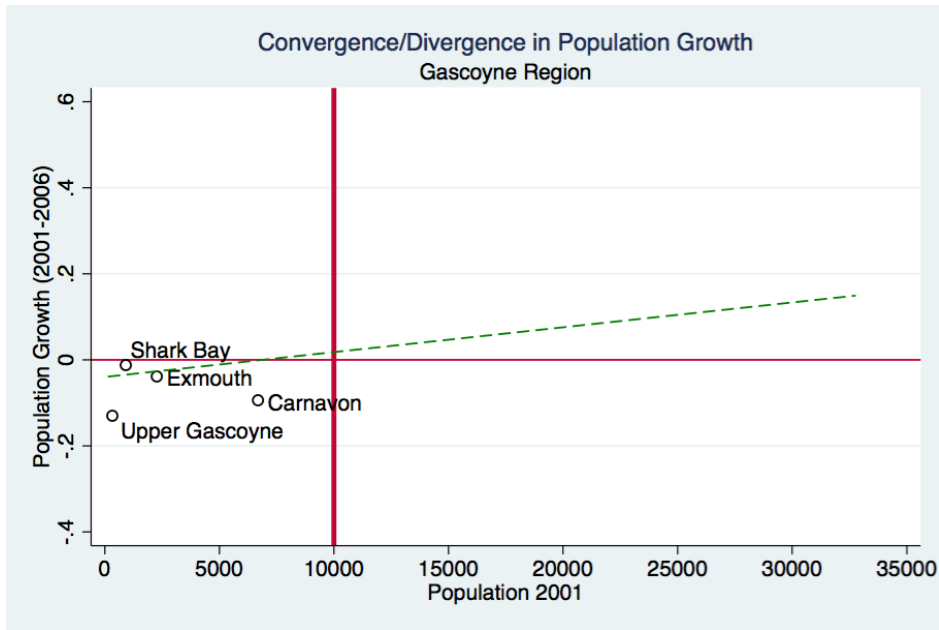
Figure 4: Overall Population Dynamics, 2001-2006 and 2006-2011

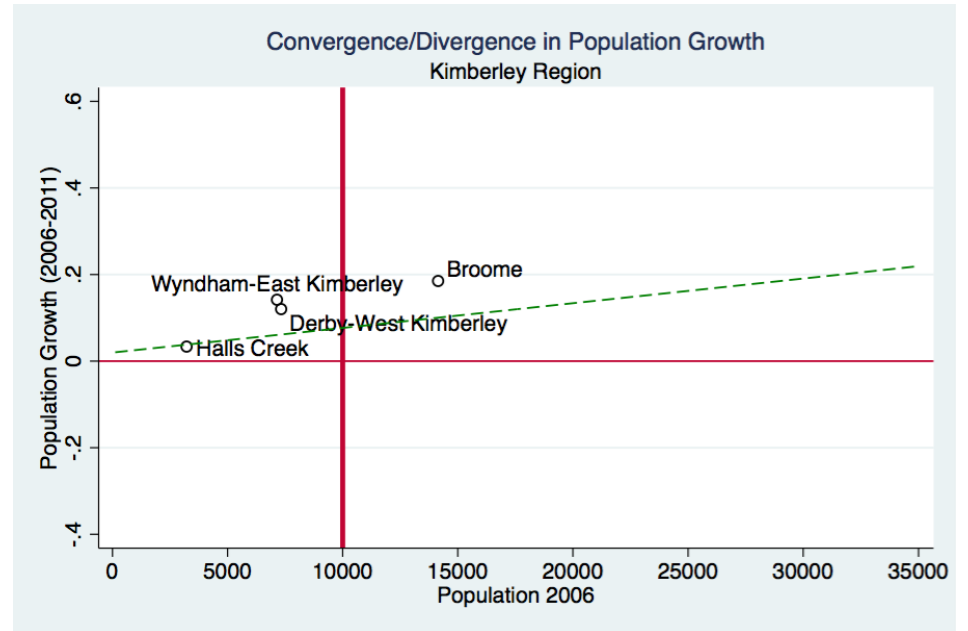
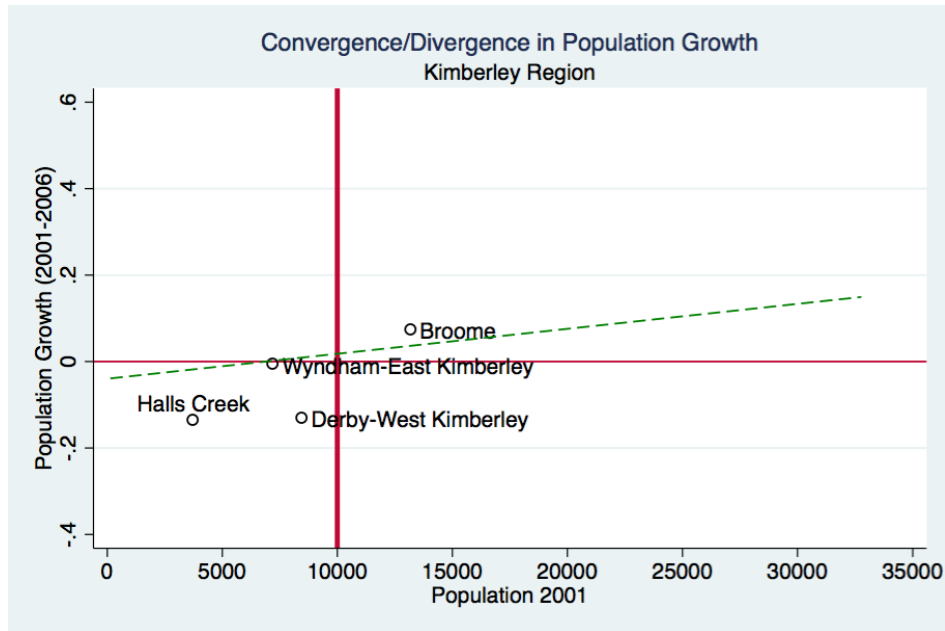
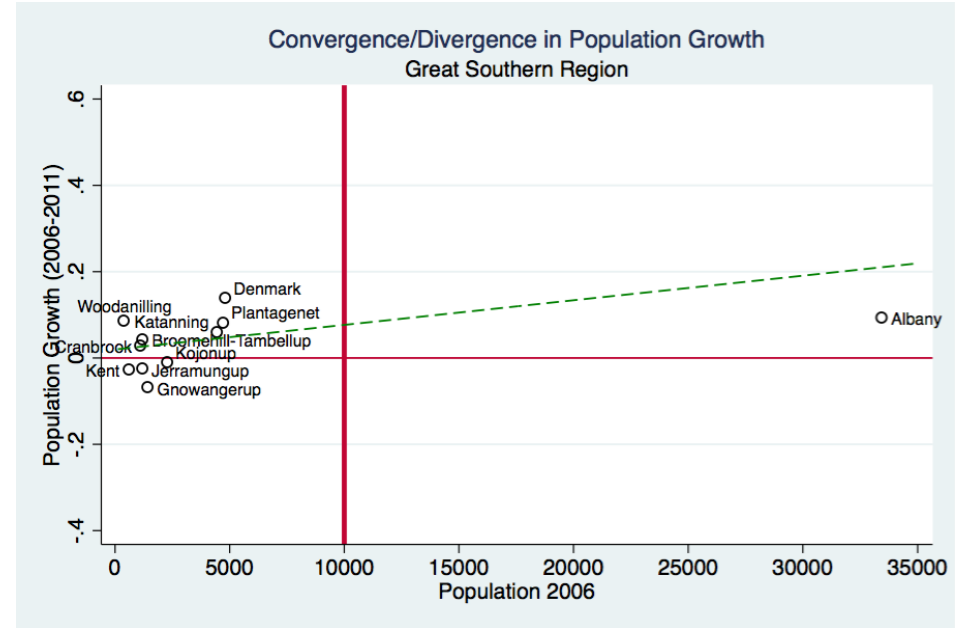
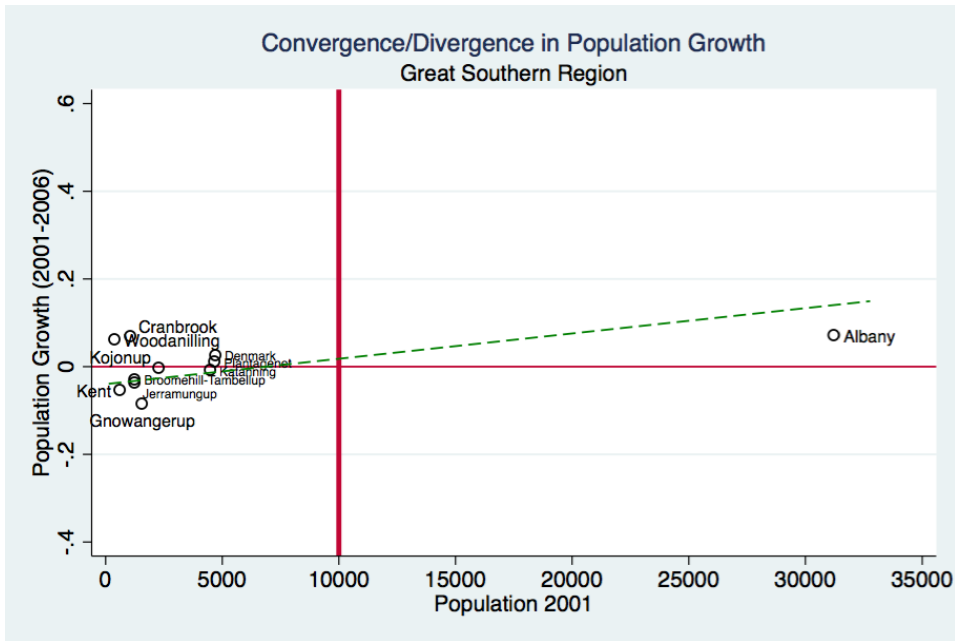


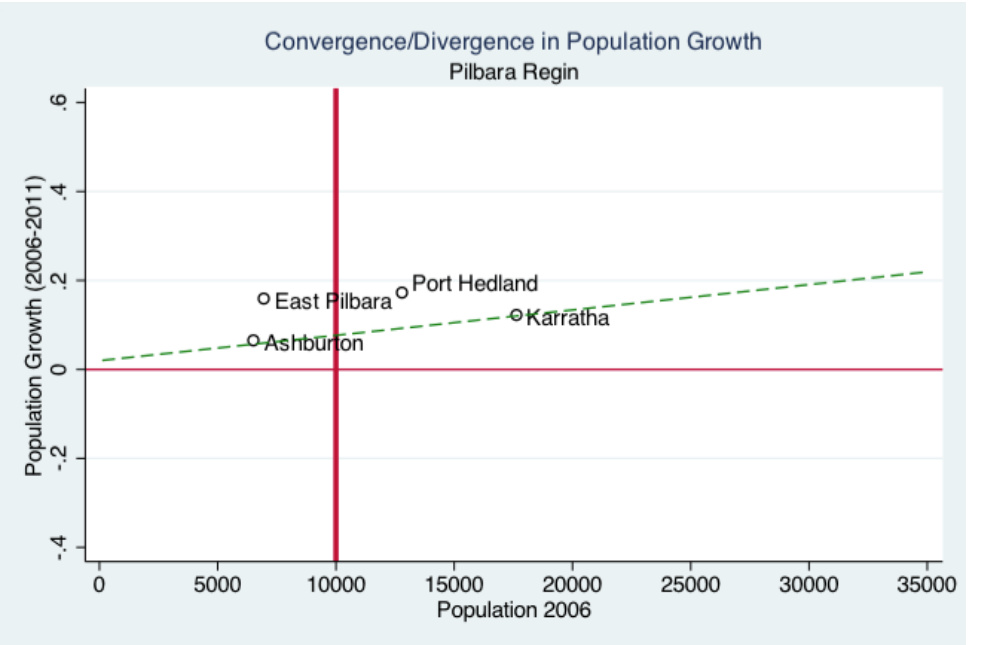
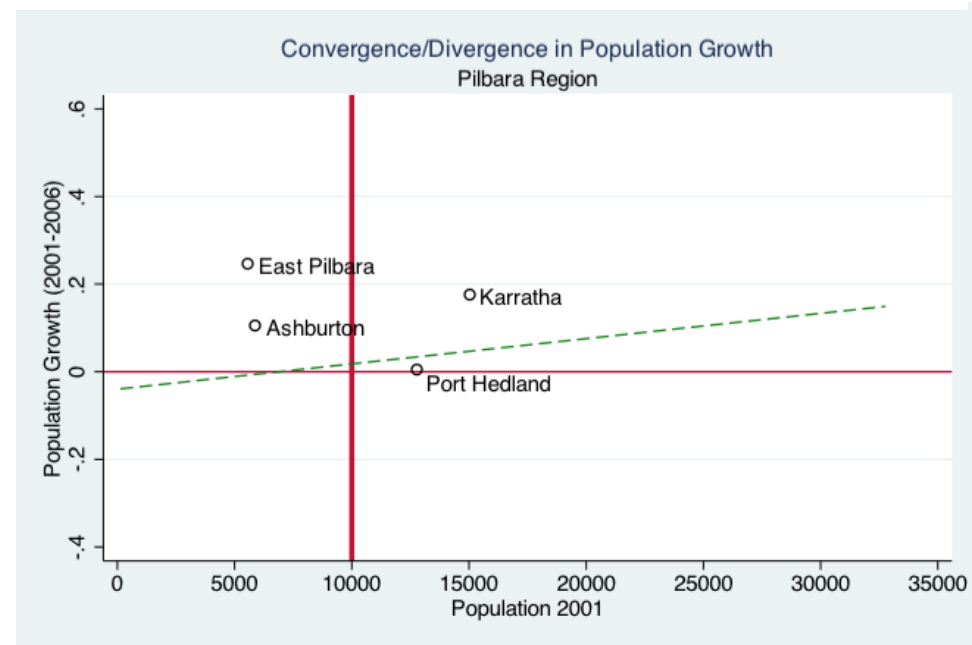
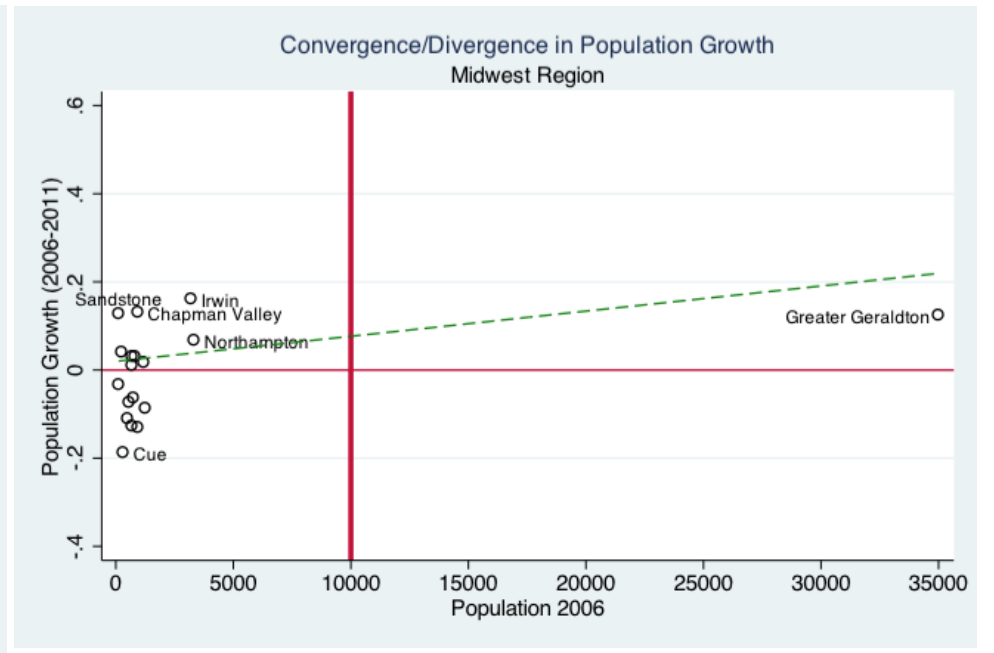
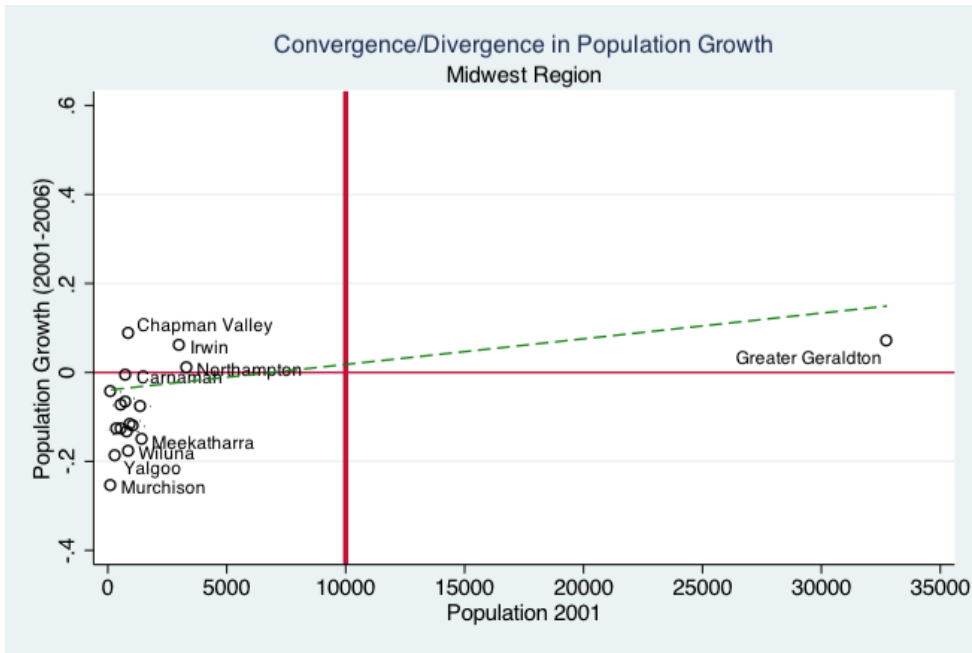
Within the broader context of regional DIVERGENCE across the Western Australian settlement system, Figure 5 disaggregates population dynamics by *Administrative/Political Region*. Combining this evidence with the hierarchical selection methodology, the following points warrant attention:

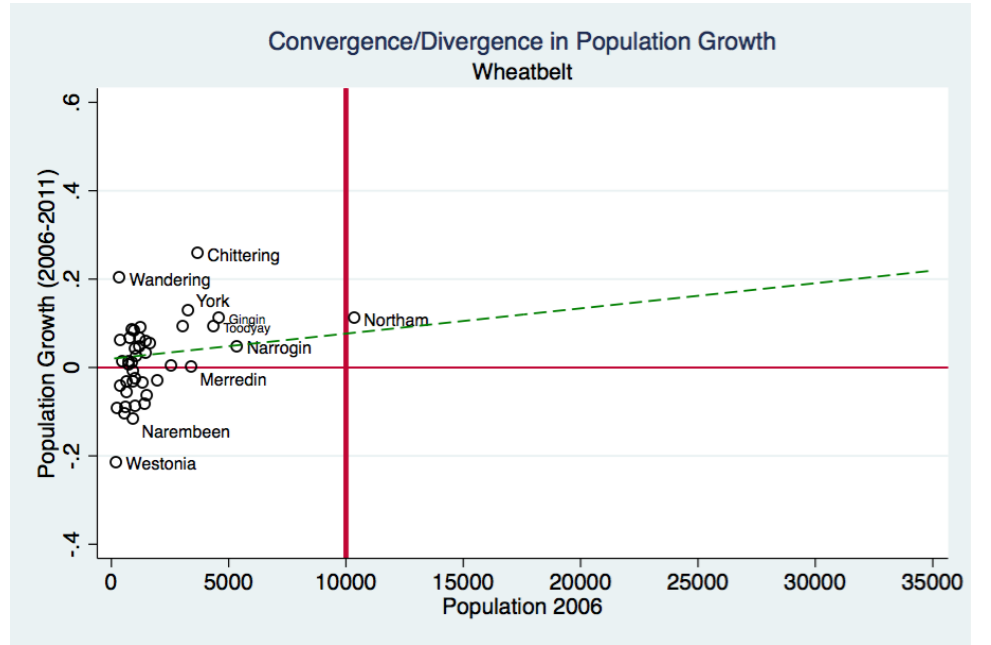
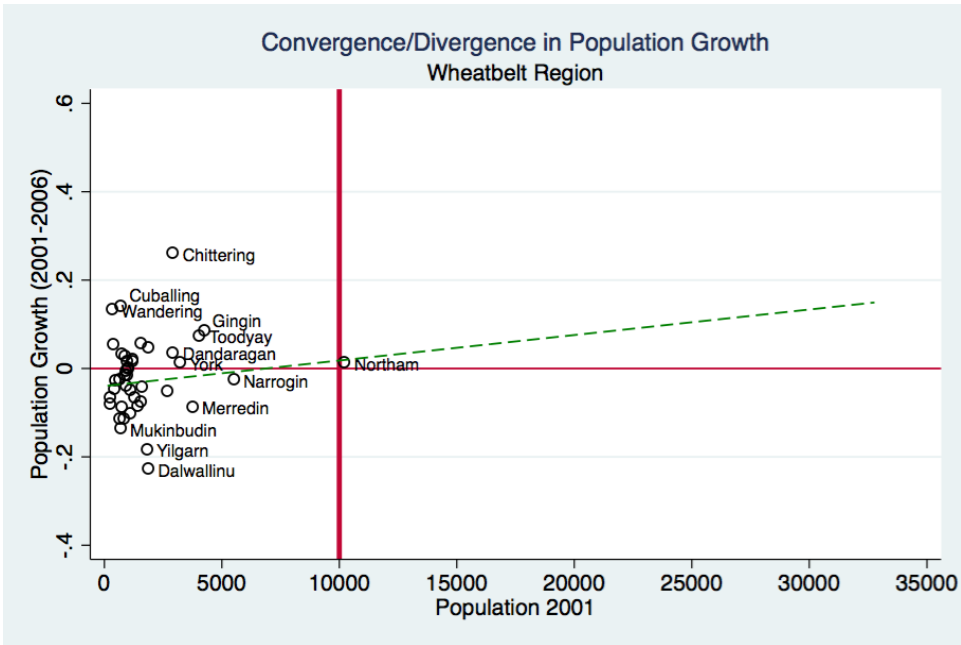
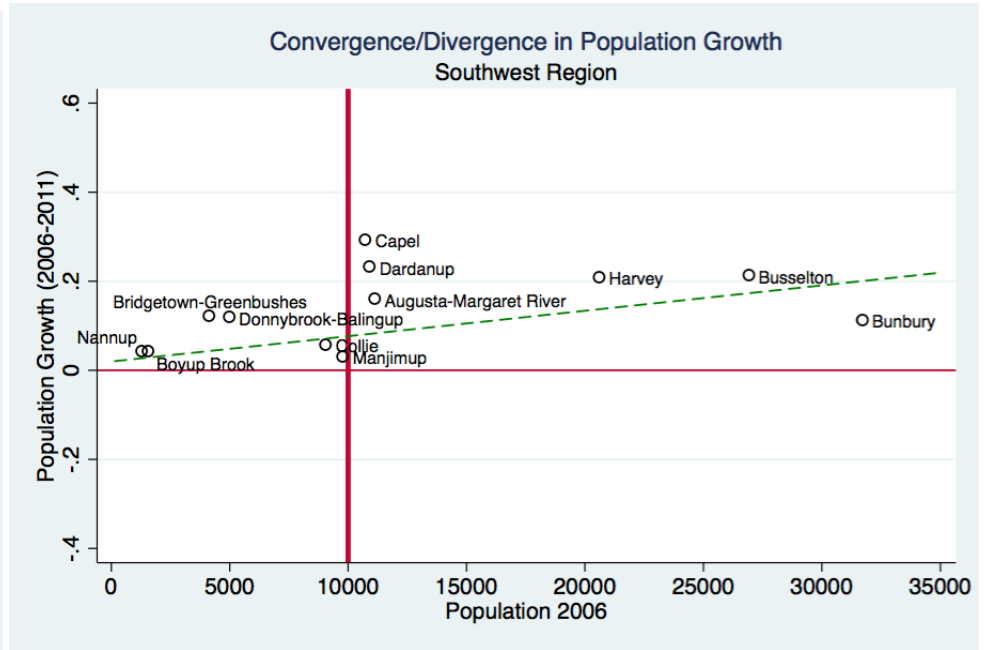
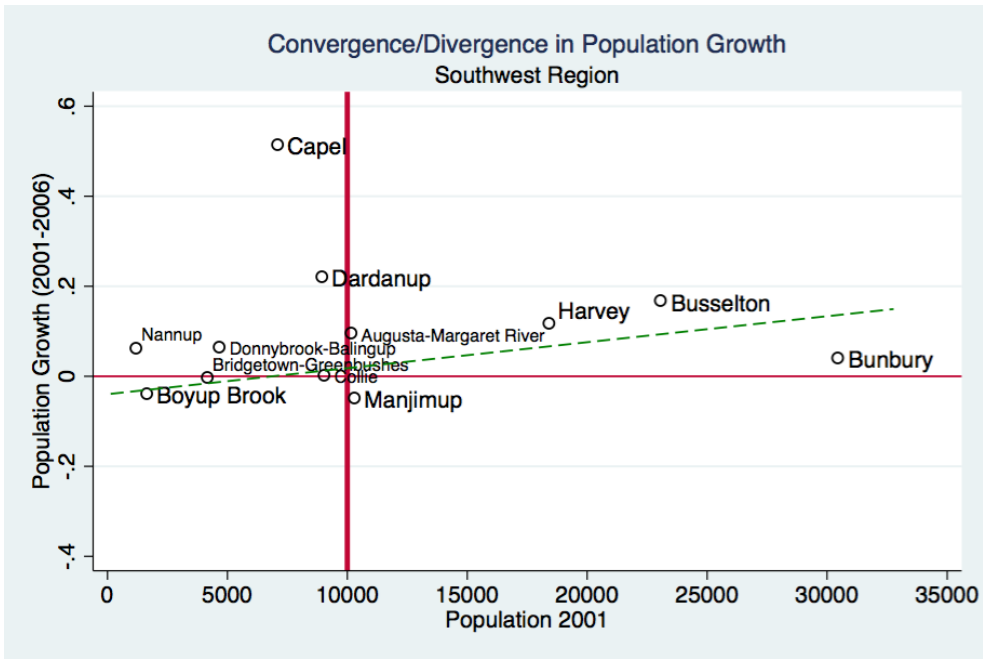
- *Gascoyne* does not have a regional capital.
- Broome is identified as a regional capital, forging ahead more rapidly than might be expected given the overall trajectory across regional Western Australia.
- Northam is identified as regional capital, growing at rate that might be expected given the overall trajectory across Western Australia.
- Albany, Kalgoorlie-Boulder, Greater Geraldton, and Greater Bunbury are identified as regional capitals, forging ahead if at a somewhat slower rate than might be expected given the overall trajectory across the settlement system.
- Although Esperance is a viable urban settlement and has a broadly similar growth experience, it is dominated by Kalgoorlie-Boulder, which is accordingly identified as the regional capital of *Goldfield-Esperance*.
- The picture in the Pilbara region is much more complex and it is not possible to identify a dominant regional capital. Both localities are viable urban settlements, however the relative growth performance switching over the 2001-2011 decade. In the 2001-2006 City of Karratha dominated in terms of population growth, whilst Port Hedland dominated the 2006-2011 period.

Figure 5: Population Dynamics Disaggregated by Administrative/Political Region,









(ii) Functional Economic Regions:

(c) *Viable Urban Settlements: Population and Employment*

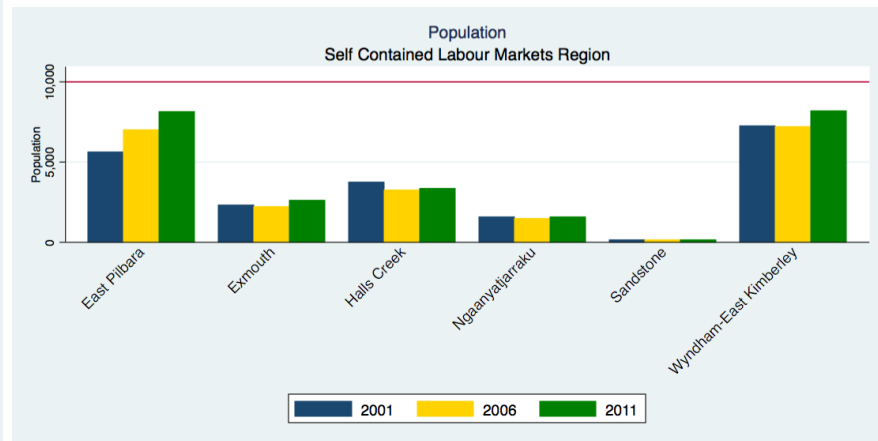
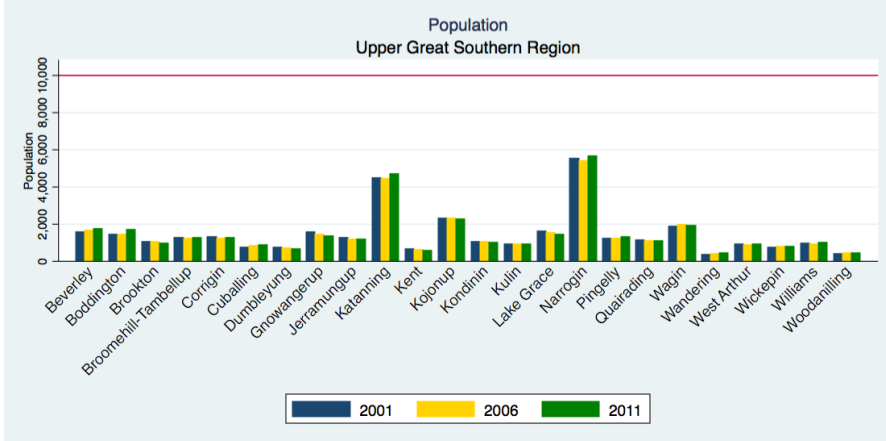
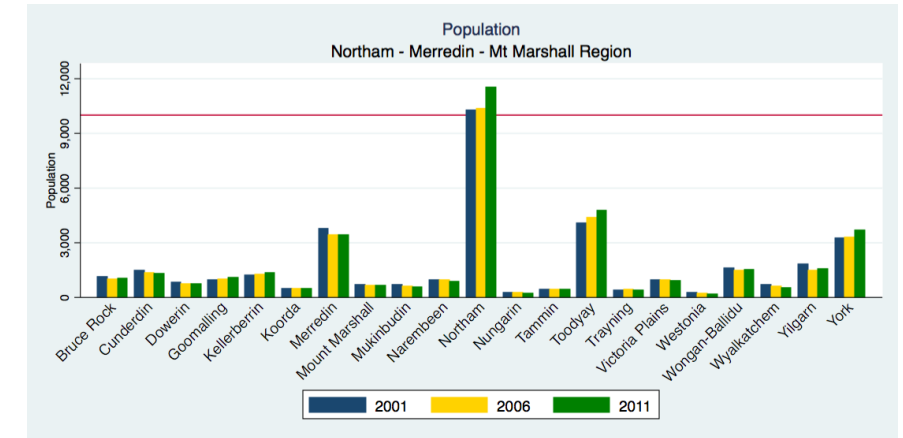
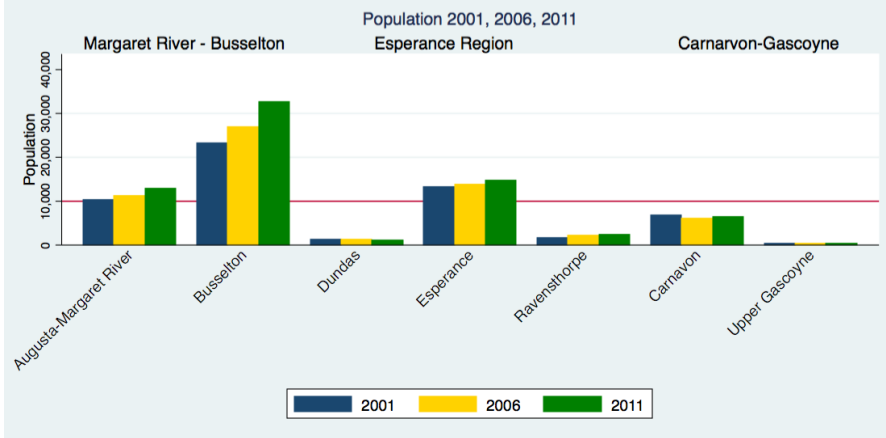
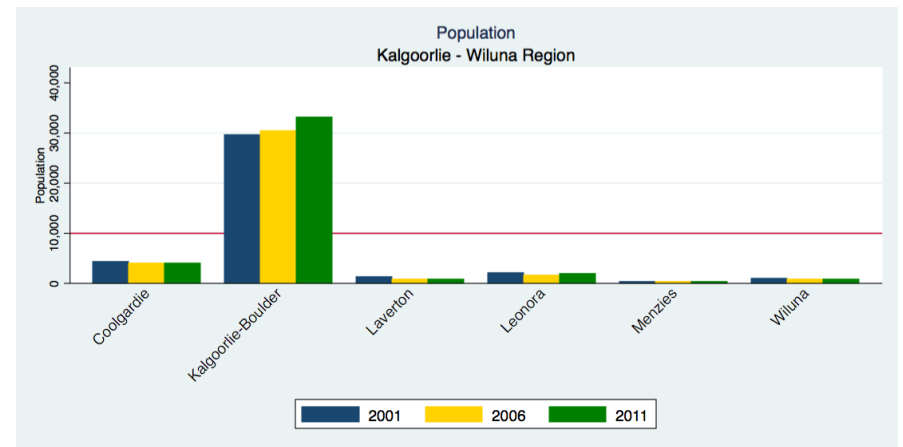
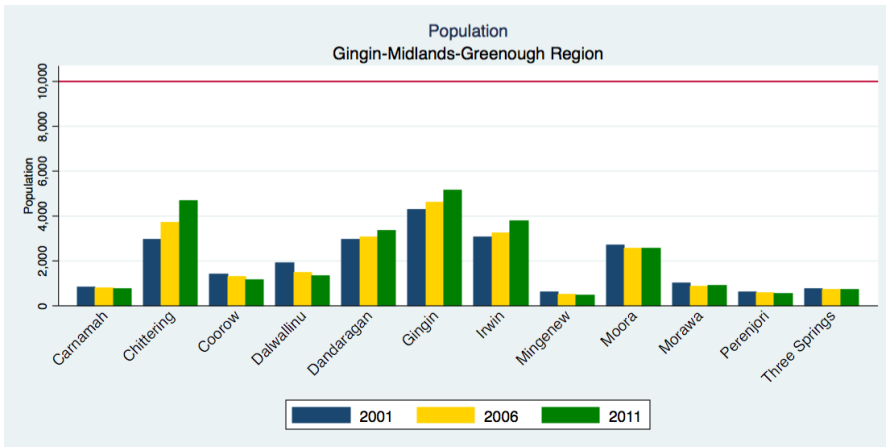
As with the regionalization based upon *Administrative/Political Regions*, for the functional economic regions we focus on population dynamics to identify those localities that are both viable urban settlements and have high growth potential. Figure 6 disaggregates population size by *Functional Economic Region*. Note that for convenience some of the regions with a small number of LGAs have been placed on the same graph and separated by a vertical line.

Based upon the selection criteria, the following points are highlighted:

- There is evidence that *Carnarvon-Gascoyne*, *Upper Great Southern* and *Gingin-Midland-Greenough River*, and *Self Contained Labour Markets* do not have a viable urban settlement.
- There are viable urban settlements in Esperance, Albany, Karratha, Broome, Greater Geraldton, Kalgoorlie, Margaret River, Busselton, and Greater Bunbury.

Figure 6: Settlement Size Disaggregated by Functional Economic Region





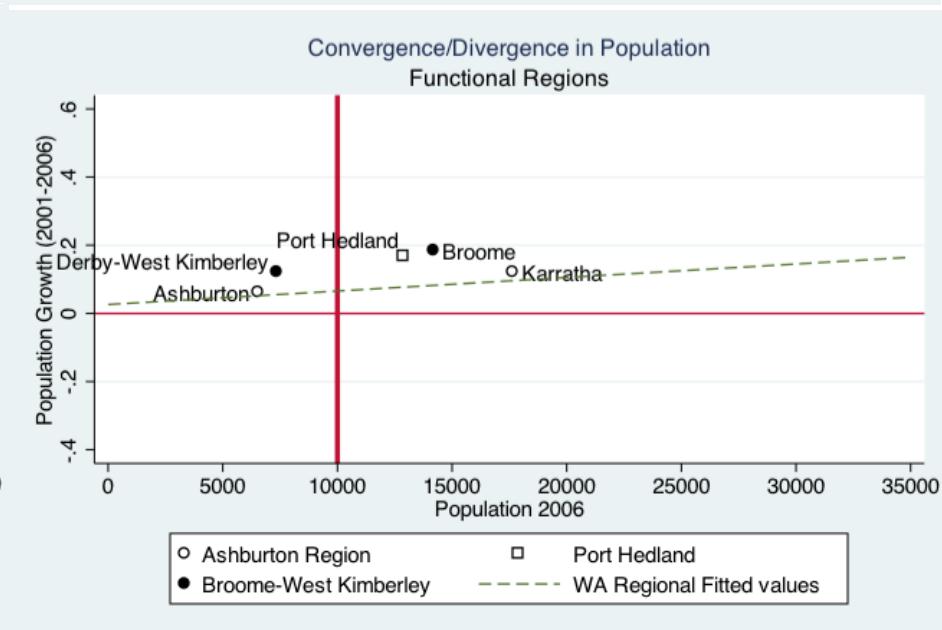
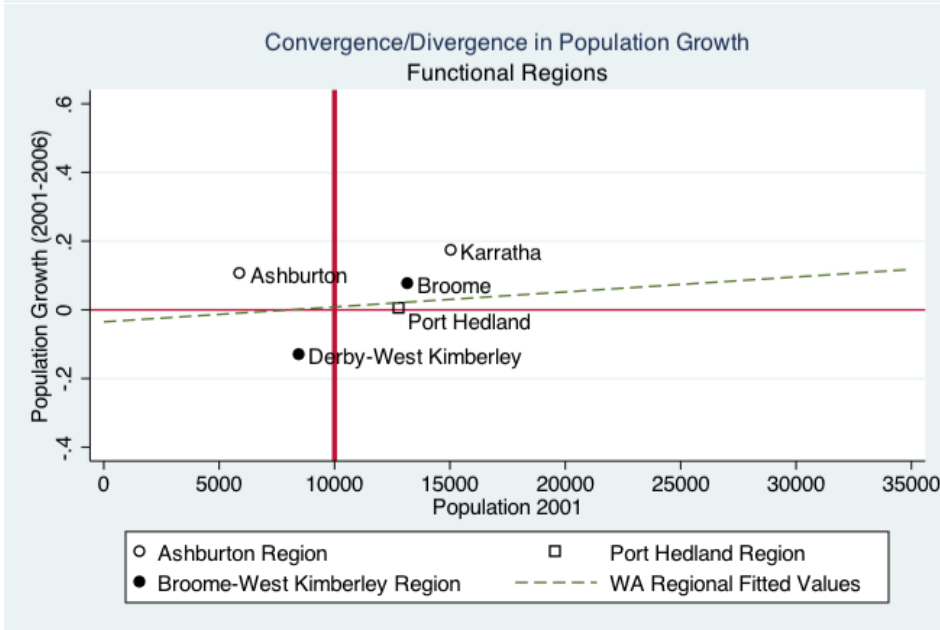
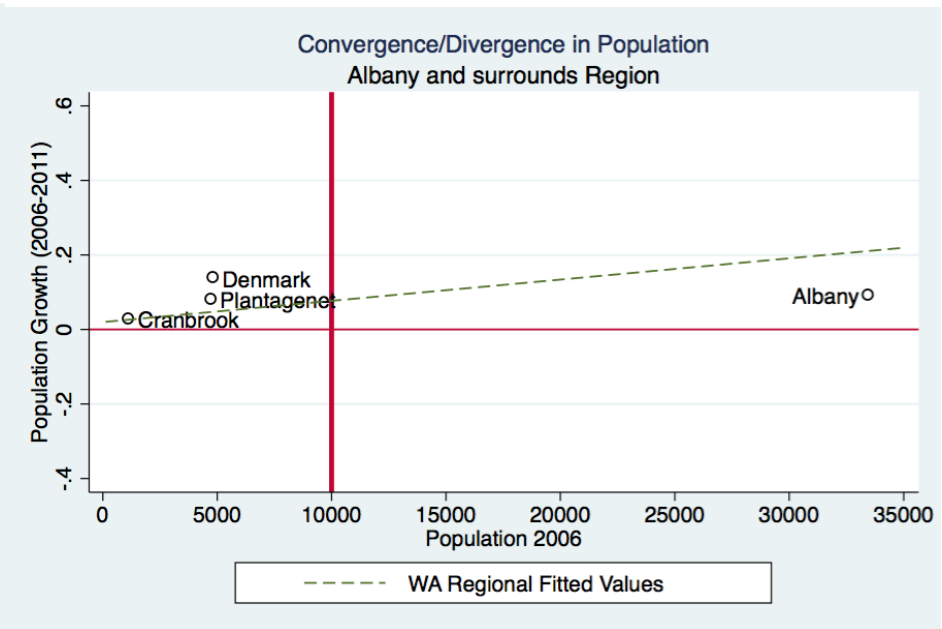
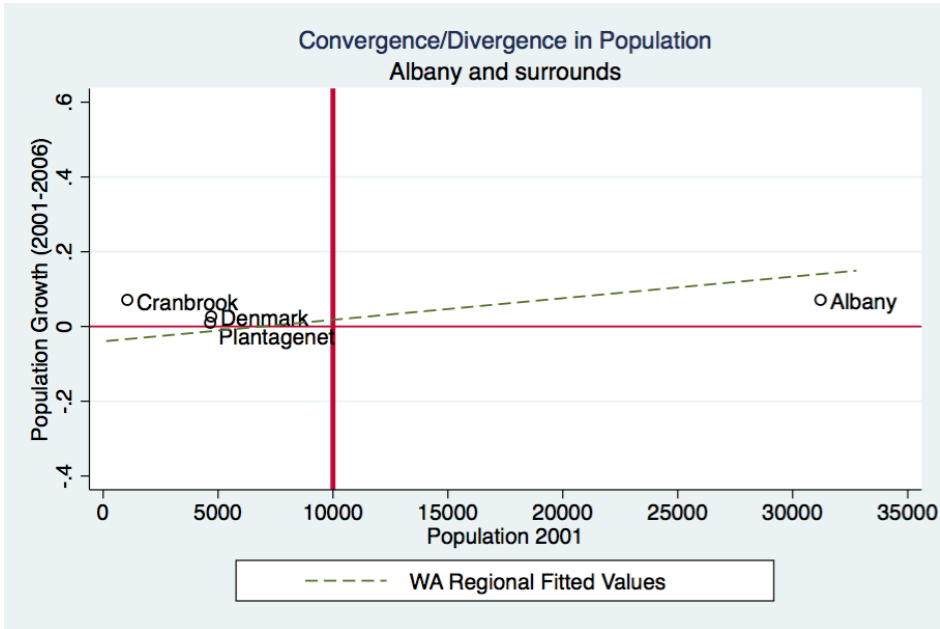
Growth Potential: Catching up, falling behind, forging ahead

Figure 7 identifies the growth potential of each locality within each *Functional Economic Region*. Based upon the selection methodology, there is a clear differentiation between the *Regional Capitals* and the remainder of ‘regional’ Western Australia. Of those regions that have identifiable and viable urban settlements there is evidence to support the contention that the following localities are forging ahead, have high growth potential, and hence can be identified as regional capitals:

- Albany
- Broome
- Busselton
- Esperance
- Greater Geraldton
- Greater Bunbury
- Kalgoorlie
- Northam
- Port Hedland
- Karratha

It is noteworthy that classifying regional capitals using *Functional Economic Regions* allows us to untangle the complex population dynamics for the Pilbara *Administrative/Political Region*. City of Karratha and Port Hedland are both viable urban settlements that have growth potential, each constituting a distinct economic regions. Similarly, when considering in terms of functional economic regions, both Esperance and Kalgoorlie-Boulder can be identified as *Regional Capitals*.

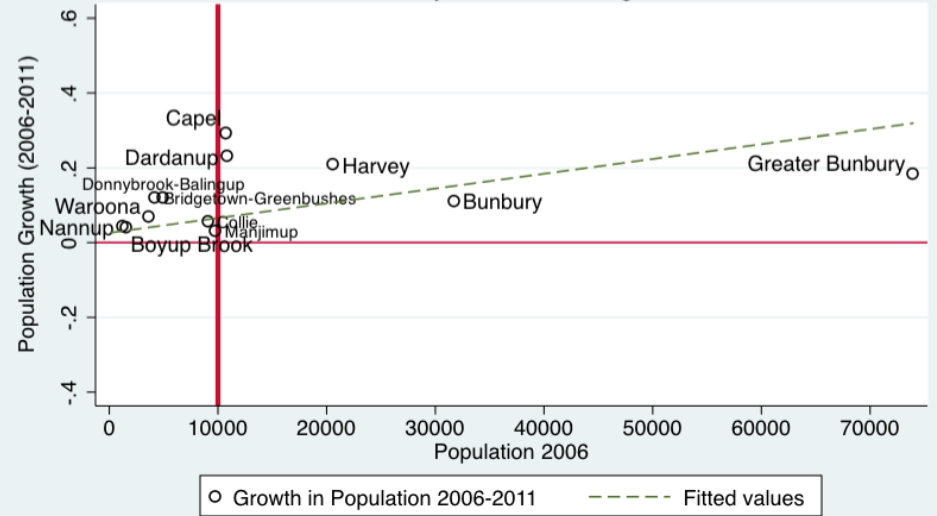
Figure 7: Population Dynamics Disaggregated by Functional Economic Region



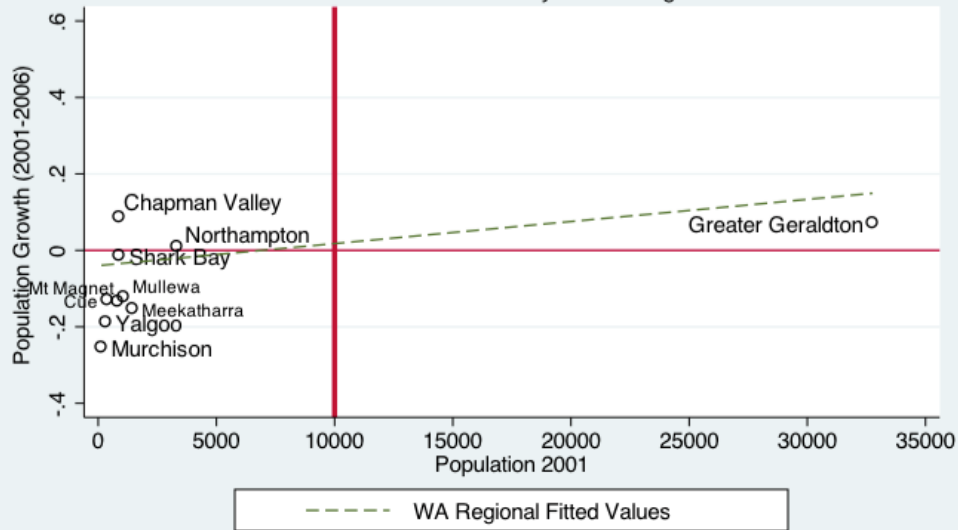
Convergence/Divergence in Population Growth
Bunbury-Collie-South Region



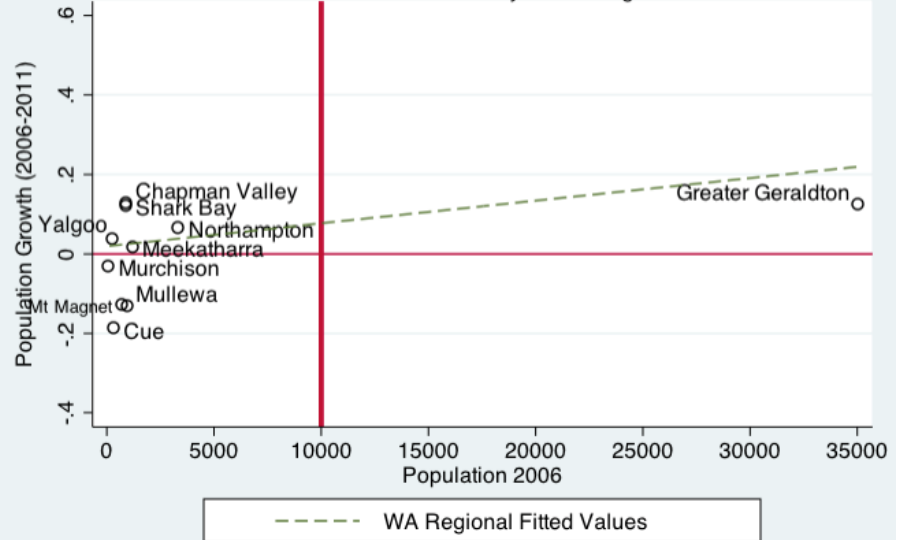
Convergence/Divergence in Population
Bunbury-Collie-South Region



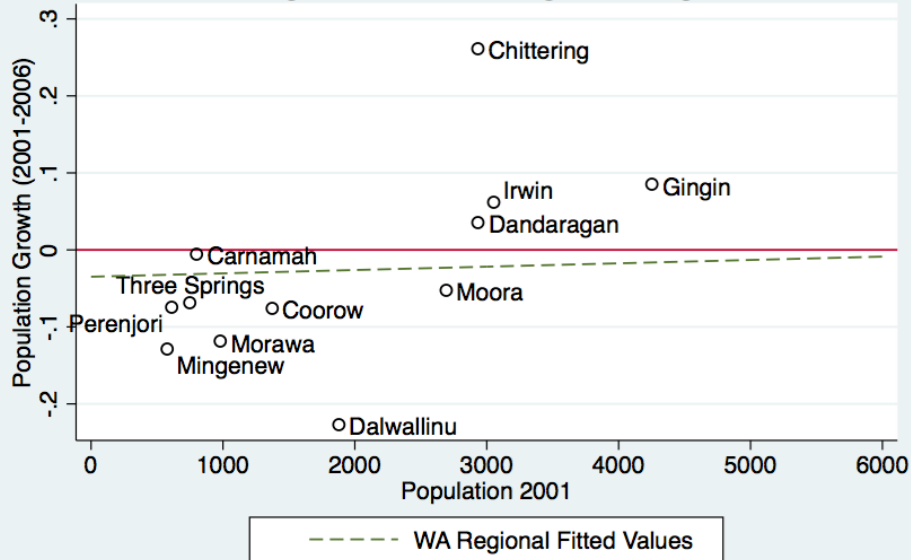
Convergence/Divergence in Population
Geraldton – Shark Bay - West Region



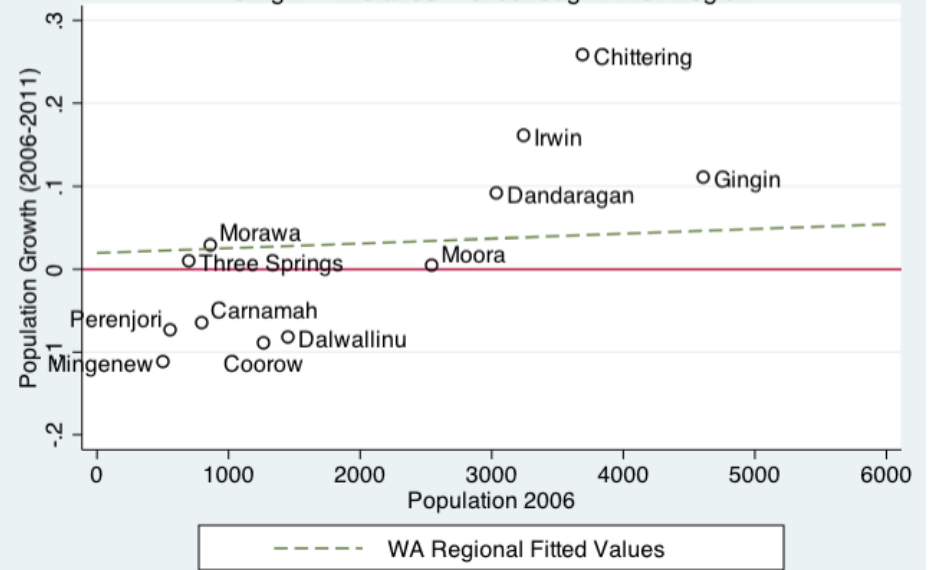
Convergence/Divergence in Population
Geraldton – Shark Bay - West Region



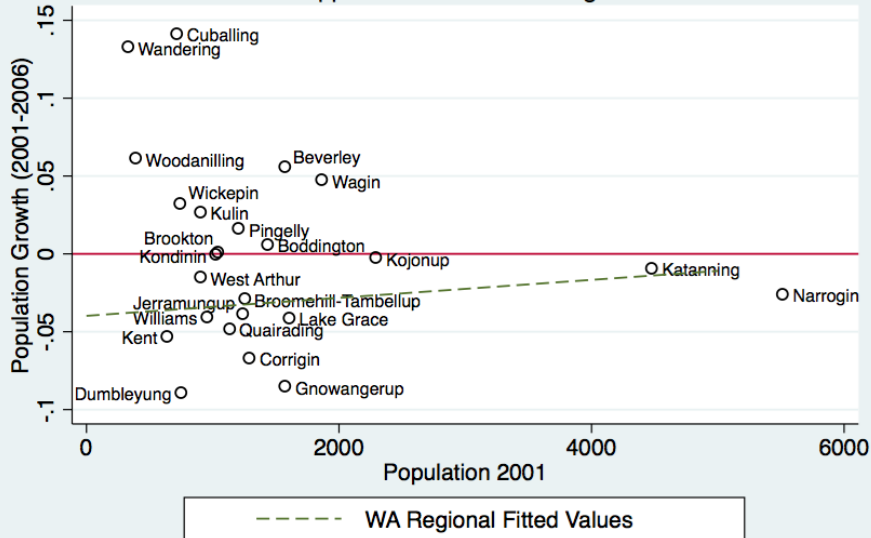
Convergence/Divergence in Population Growth
Gingin-Midlands-Greenough River Region



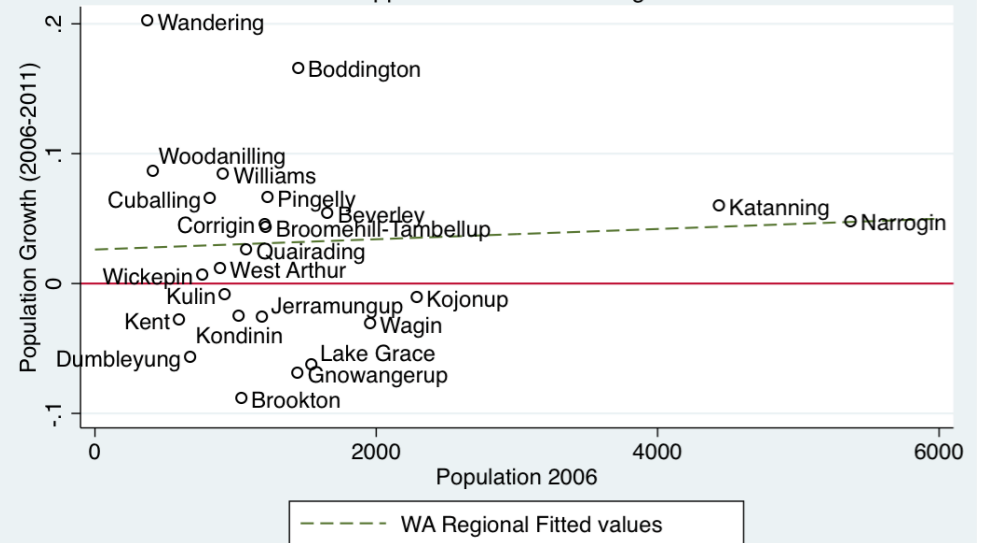
Convergence/Divergence in Population
Gingin – Midlands – Greenough River Region

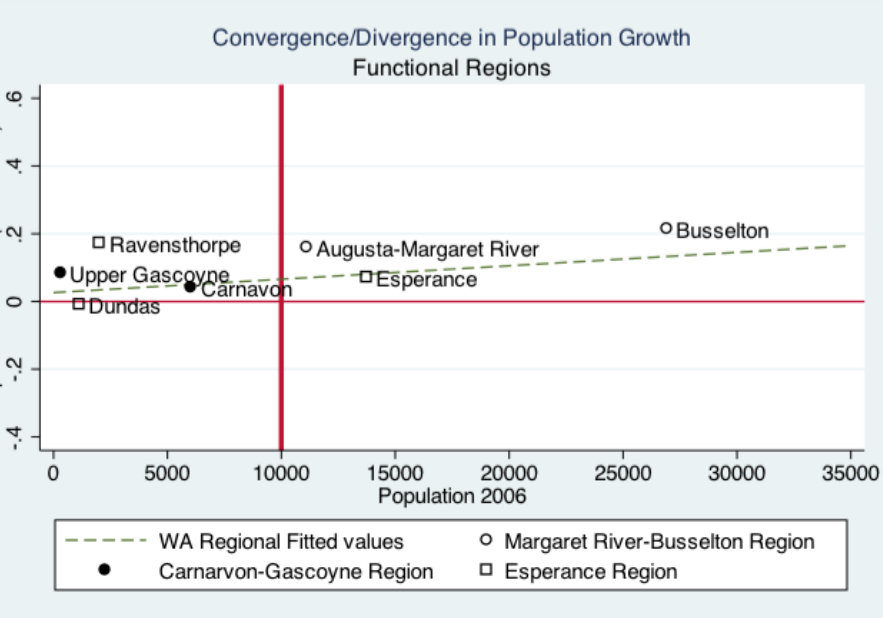
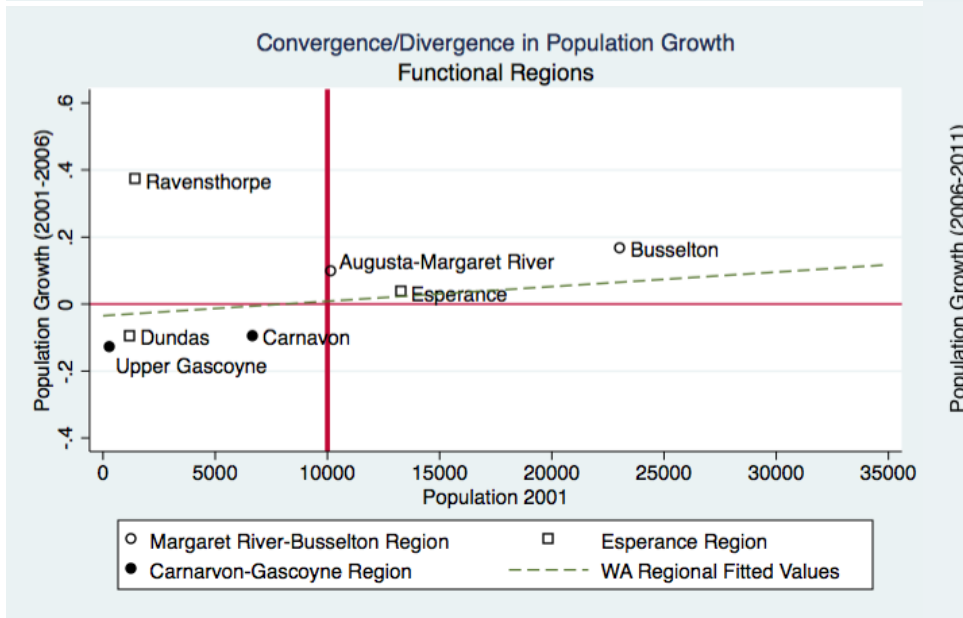
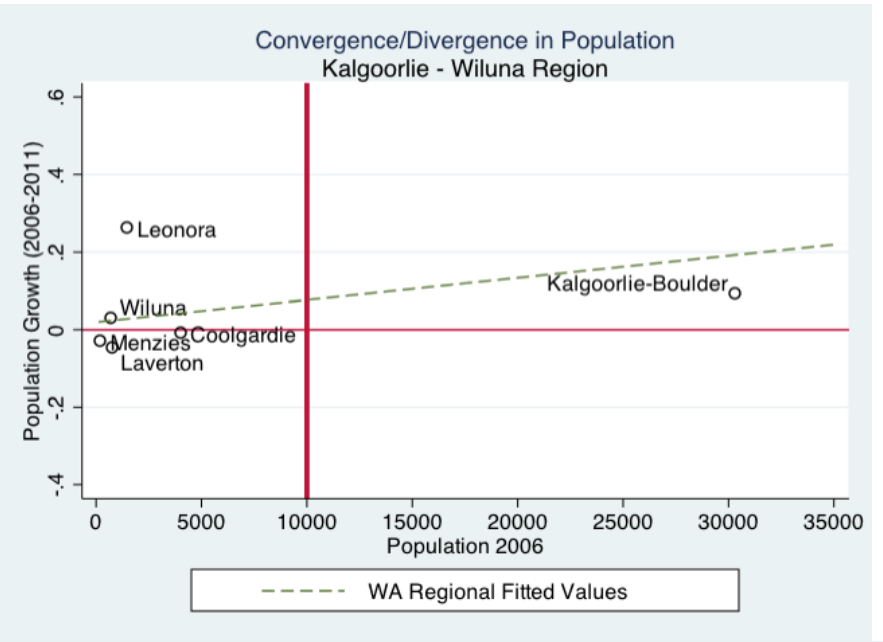
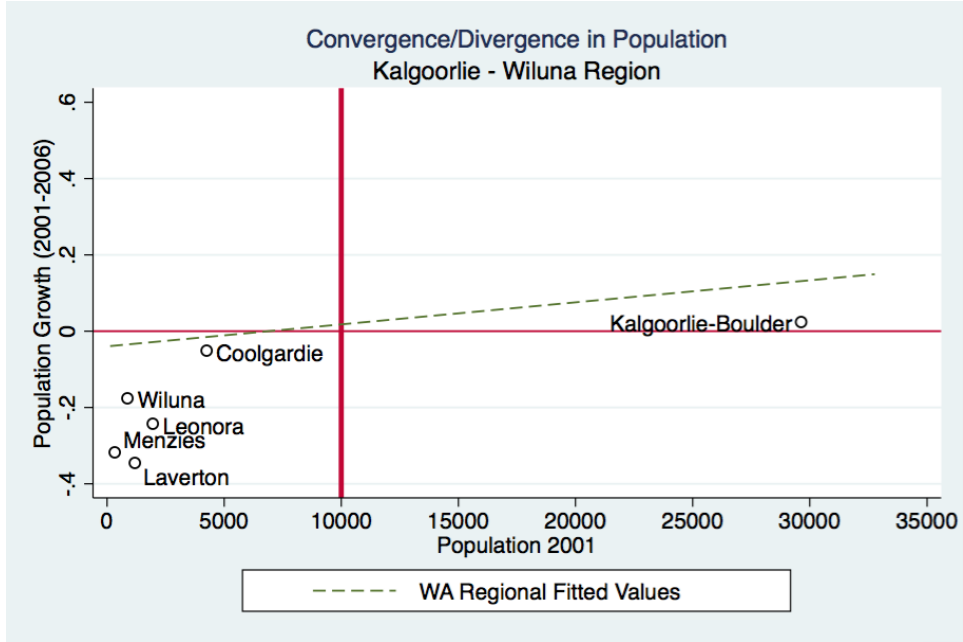


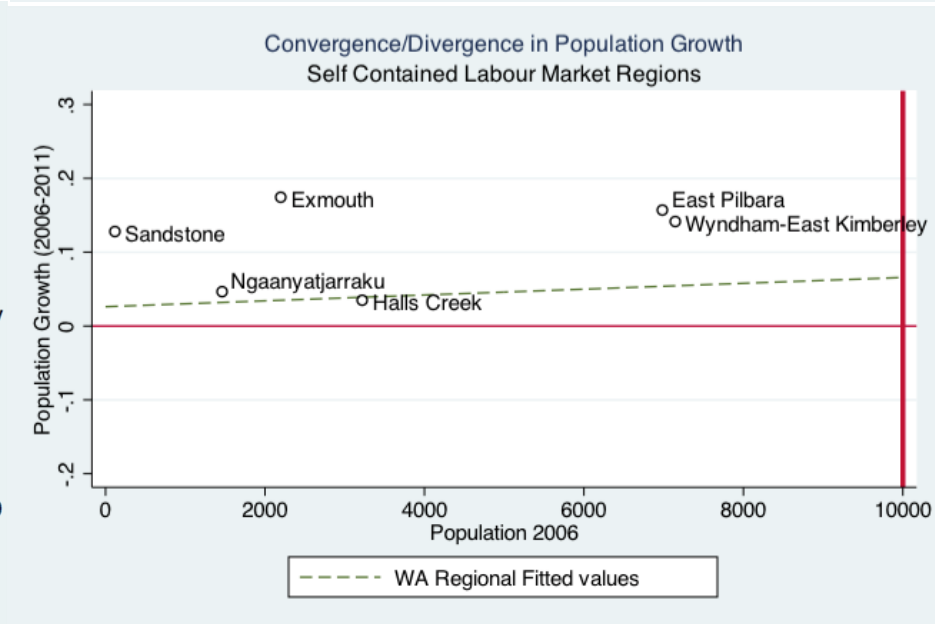
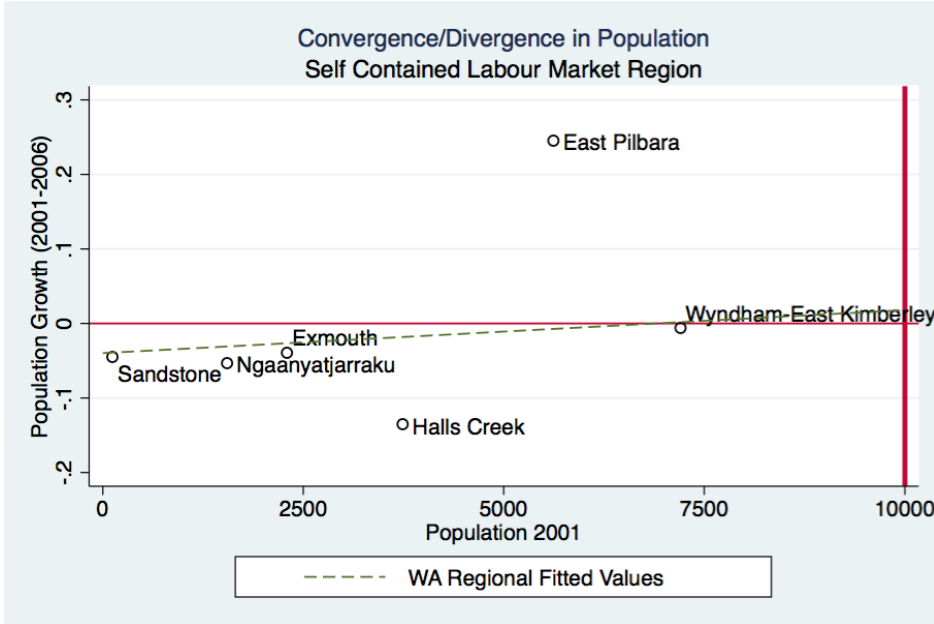
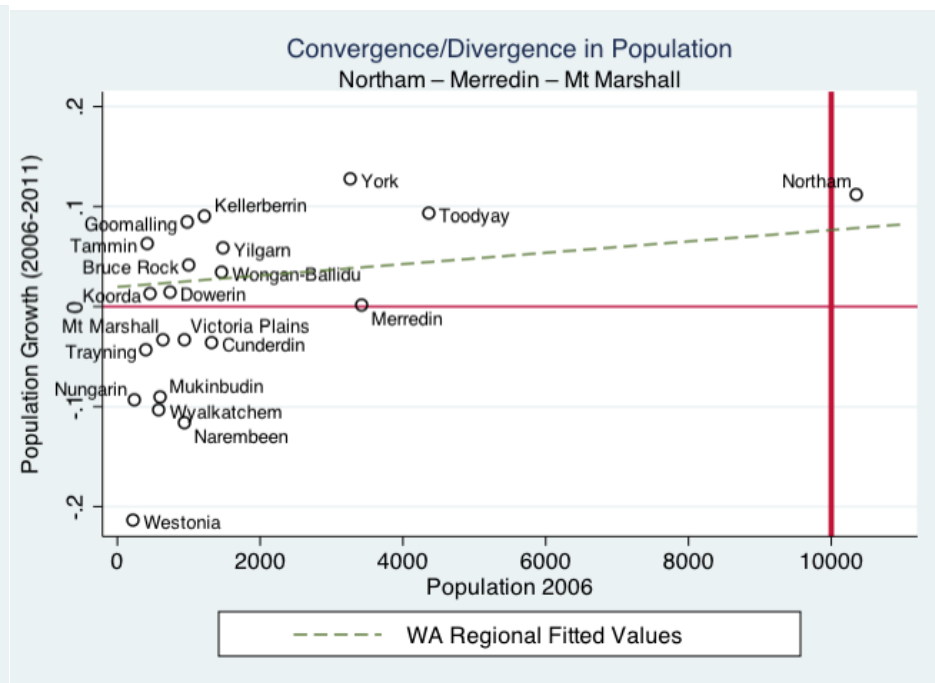
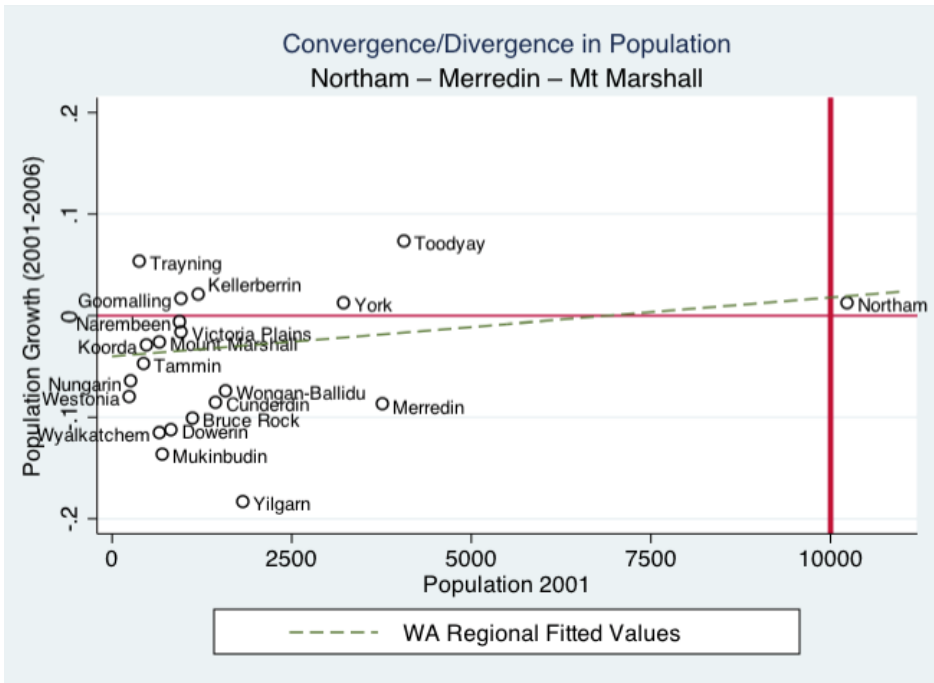
Convergence/Divergence in Population
Upper Great Southern Region



Convergence/Divergence in Population Growth
Upper Great Southern Region







5. Implications for Regional Policy

This report identifies the regional capitals of Western Australia based upon a conceptually meaningful method for identifying a ‘region’ and a substantively appropriate definition of what constitutes a *Regional Capital*. A regional capital is defined in terms of the viability of an urban settlement and its strategic significance in terms of growth potential within the Western Australian settlement hierarchy. To capture the importance of both existing policy frameworks and socio-economic processes operating across the landscape ‘regions’ are defined in terms existing *Western Australia Regional Development Commission* regions and *Functional Economic Regions*. Using this conceptual scheme it is possible to both identify the *Regional Capitals* of Western Australia and compare those regional capitals with both the remainder of ‘regional’ Western Australia and recent policy initiatives focused around *Supertowns*.

The recommendation that emerge from this research are clear and distinct:

- (1) Using existing policy and planning frameworks Albany, Greater Bunbury (Bunbury), Kalgoorlie-Boulder, Greater Geraldton, City of Karratha, Port Hedland, Broome, and Northam are identified as the *Regional Capitals* of Western Australia.
- (2) When socio-economic processes are considered, the evidence is consistent in the sense that the members of WARCA and Northam are identified as *Regional Capitals*. However, Busselton and Esperance are also identified as *Regional Capitals*.
- (3) Esperance is the only *Supertown* that is also identified as a *Regional Capital*.
- (4) In terms of both employment and population, the evidence suggests that there is a distinct and persistent gap between the *Regional Capitals* and the remainder of ‘regional’ Western Australia.
- (5) When considered as a whole, there is evidence that ‘regional’ Western Australia is becoming more differentiated, with the *Regional Capitals* forging ahead and the rest of ‘regions’ falling behind.
- (6) Taken as a whole, this evidence suggests that there needs to be a significant reorientation of regional policy away from *Supertowns* and towards the *Regional Capitals*.