

# **Human capital, innovation and the productive ageing: Growth and senior aged health in the regional community through engaged higher education**

**Authors:** Steve Garlick                      University of the Sunshine Coast  
                 Jeffrey Soar                              University of Southern Queensland

## **Abstract:**

This paper examines how low relative economic growth and high service and infrastructure costs in non-metropolitan regions that are increasingly attractive to lifestyle-seeking seniors, can be offset by focussing more positively on the human capital dimension of this cohort through closer engagement with higher education learning and innovation.

At present, many senior-aged persons attracted to 'lifestyle' locations are allowed to let their knowledge, networks and skills ossify through a lack of engagement with processes of learning and innovation and institutional impediments of a structural and attitudinal nature. It represents poor return on sunk investment in human capital, has cost impacts on enabling health and community services and infrastructure and does not contribute as positively as it could to regional growth outcomes through productivity gains.

The spatial impact of this will exacerbate as the demographic profile of the nation continues to age. Higher education in these places could be a key instrument in the learning and innovation required to realise the greater productivity gains from senior-aged human capital and the consequential growth and health outcomes at the local and regional scale.

The paper reports on the literature, research undertaken and analysis to understand these potentially important issues of policy and practice. The paper has a particular focus on the Sunshine Coast and Wide Bay Burnett regions of Queensland which have some of the highest concentrations of senior aged people in Australia.

**Keywords:** The Productive Ageing, Human Capital, Regional Growth and Productivity, Engaging Higher Education.

## **Setting the scene**

According to the World Health Organisation, the global population over the age of 60 is increasing faster than any other cohort (WHO 2002). Education and learning are regarded importantly by seniors as assisting them to more fully engage in a rapidly changing society (Cameron, et al 2001). Seniors being actively engaged has positive health benefits (Butler 2002, Boulton-Laws, et al 2006). Cruikshank (2003) argues that one of the ways older people can self-reinvent themselves is through education and learning, but that institutions are not yet particularly supportive in terms of the provision of

access to technology and modes of education despite the rhetoric of life-long learning.

An Australian study identified six barriers facing older workers in obtaining and benefiting from education and training: These were: the absence of paid work; a decline with age in the capacity to learn; particular education and occupational characteristics of the current older age cohort; a policy environment that encourages early retirement; discrimination by employers, and; older persons' self perceptions about the lack of value in undertaking further training (Wooden, VandenHeuvel, Cully and Curtain, 2001). The report suggests the need to raise public awareness through legislation and at the workplace level, by promoting lifelong learning; and improving access to training for older unemployed persons.

However while education and learning are viewed importantly by many older people, a connection between their desire to take up more education and learning and the impact it can have on the stock of human capital as a determinant of economic growth is not yet made in the literature. In this paper we are interested in how active seniors, as human capital, can download their knowledge within a framework of engagement with higher education and innovation to generate increased productivity outcomes.

In particular, we are interested in the spatial aspects of an ageing population as the impacts of it are viewed most acutely in small regional locations where there is a certain 'attractiveness' for living because of 'more favourable climate', relatively lower living costs, connectivity with the community, and access to relevant services (Salt 2003, National Economics 2003). We are also interested in the spatial aspects of senior-aged human capital generation because of the increased concentration of regional growth and decline (Garlick et al 2007) and the regionalisation of higher education in certain locations that has occurred over the past two decades (Garlick 2000).

Recent studies and reports into the spatial economic implications of an ageing population in Australia have generally focussed on two areas. First, the disproportionate negative cost impact of providing enabling local community and health services and infrastructure. Second, there is an apparent correlation between high levels of senior in-migration driven population growth in some regions and their poor economic growth performance. This point is argued on the basis of the cumulative impact of reduced per capita consumption expenditure from fixed incomes, low non-housing investment expenditure and the low realised productivity of this cohort (National Economics 2006).

Thus, the spatial incidence of an ageing population in economic terms is at risk of being seen only in a negative way, or at best as unpaid volunteerism. This view sees the regional economy with a high concentration of senior aged people, only in service support terms rather than as a potential source of high value-added production and professional skills, and it sees no worth in further realising the tacit knowledge of years of sunk investment in human capital.

The only ameliorative policy suggestions for the spatial economic impact of an ageing population relate to the subsidisation of local service provision in high senior-aged migration areas (National Economics 2003), or boosting regional economic growth in these areas through initiatives that seek to offset the so-called 'negative spatial effect' of this growing cohort (National Economics 2006).

These negative views about the impact of an ageing population are not new as Lloyd-Sherlock (2004) has outlined. The World Bank (1994) has stated:

“The world is approaching an old age crisis...The proportion of the population that is old is expanding rapidly, swelling the potential economic burden on the young.” [in Lloyd-Sherlock, p.5]

In this paper we argue a different position in relation to the 'productive ageing' that sees their spatial incidence in terms of: (a) extending the human capital return on accumulated tacit knowledge in ways that enhance 'knowledge economy' outcomes in the region, and; (b) viewing the engagement of higher education as the vehicle for realising this human capital through learning and innovation. In presenting this case we focus on the Sunshine Coast and Wide Bay regions of Queensland, two of the fastest senior-aged population growth regions in Australia. We also report on research into the opinions of stakeholders that were gathered in several focus groups and structured workshops over the past two years.

### **Literature themes**

The extent of the spatial incidence of an ageing population is identified in a number of sources including the *State of the Regions* report (National Economics, 2003) and Salt (2003). These reports highlight so-called 'life-style' regions that have more than 25 percent of their population aged 55 years and over, compared to a national average in this age cohort of 22 percent. Regions with the highest concentrations, averaging around 30 percent of their population aged 55 and over, include Wide Bay-Burnett Qld, Sunshine Coast Qld, Central Coast NSW, Mid-North Coast NSW, Richmond-Tweed NSW, and Central Adelaide SA.

The Commonwealth, states, many local councils and non-government organisations have now developed strategic plans that attempt to recognise issues relating to an aging population. Embedded in these plans is a recognition that apart from issues to do with health and well-being, financial and physical security and access and mobility, there are matters to do with future economic development.

The Commonwealth Government's *National Strategy for an Ageing Australia: An Older Australia Challenges and Opportunities for all* (2001) talks about opportunities for Australians to make a lifetime contribution to society and the economy, including through training and professional development, and 'lifelong learning for mature age workers and learners (p.2). The *Strategy* says, that for Australia to "...achieve sustained economic growth, there will

have to be a continuation of current productivity growth and better utilisation of the skills and experiences of mature-age workers.” (p.13). In the main however there is little discussion about how this will occur or what the role of the higher education institution might take in relation to lifelong learning.

At a state level, for example, the Queensland Department of Community Services issued a 1999 policy document *Our Shared Future: Queensland Framework for Ageing 2000-2004*, that specifies five principles and strategies that seek to improve a coordinated approach to the design and delivery of aged services. The policy paper recognises the contribution seniors can make through knowledge and learning to society, culture and the economy of their communities.

At a local government level, where there are relatively high concentrations of older ages, many councils are attempting to put strategic plans in place. For example, the Caloundra City Council on the Sunshine Coast, with 33 percent of its population aged 55 and over and estimated to be 45 percent by 2026, says in its 2007 strategy plan (*Positively Ageing in Caloundra City 2007 to 2017*) that it wants to develop a learning environment and to facilitate the sharing of knowledge of older people with younger people in the City.

In their study of ageing and the economy of the Wide Bay Burnett region, National Economics (2006) conclude that the only way the regional economy can boost its productivity levels is to balance the current ageing population growth with working-aged population growth and skilled migrant growth (p12). Such a conclusion assumes population growth as a driver for regional growth and assumes away the sunk investment in education and knowledge in endogenous senior aged human capital and the possibility that this can be realised through stronger engagement with higher education.

### **Regional growth**

A study of the patterns and determinants of economic growth in 94 Australian regions between 1984 and 2002 by Garlick, Taylor and Plummer (2007) suggests population change is not a determinant of regional growth. It also suggests nearness to demand, business links, the power of the large corporation and access to information are not significant regional economic growth drivers. Human capital (based on education qualifications) has the most significant contribution to regional growth. Other positive determinants of regional growth are industry specialisation and technological change. Together, in their various combinations, these three positive determinants have a significant contribution to economic growth in all regions.

Regions with a relatively high proportion of population of senior ages have low economic growth due to the low level of human capital compared to the average for all regions. This low level of human capital in regions of low relative economic growth manifests in a brain drain of young graduates, underemployment of skills, sometimes a relatively high out-commuting workforce, and, importantly for this paper, the non-engagement of senior-age knowledge.

Any strategy for regional growth in high senior-aged migration regions therefore should, among other priorities, focus on the way human capital is engaged. Our argument is that given the sunk investment in the human capital of the older age cohort, those regions that naturally tend to attract a high concentration of older ages should seek to harness this knowledge within a learning and innovation framework.

Based on Garlick et al 2007 modelling, Table 1 shows the ranking, out of 94 regions Australia-wide, for local areas in the Sunshine Coast and Wide Bay-Burnett in relation to long run economic growth, and the performance of the three significant positive determinants of regional growth (human capital, industry specialisation and technological change).

The data show those regions with a high proportion of senior-aged population rank very poorly in terms of relative regional economic growth over the period 1994 to 2002, and that poor human capital is strongly related to these regional growth outcomes. The other significant determinants of regional growth (industry specialisation and technological change) are less strongly related to economic growth in these high senior-aged population regions. The pattern in other high senior-aged population regions in New South Wales (eg Lismore, Coffs Harbour, Port Macquarie, Nowra, etc), and in other states, not shown in the table, in relation to economic growth and human capital is similar.

Any strategy for regional development in these places therefore should focus on the way human capital, and in particular senior-aged human capital, is engaged in the growth transmission process.

**Table 1. Growth and determinants in the Sunshine Coast and Wide Bay-Burnett regions 1984 to 2002 (rank out of 94 regions)\***

Local area	Percent of population 55 years and over**	Economic growth	Human capital	Industry specialisation	Technological change
Hervey Bay	36.1	93	94	70	71
Maryborough	28.5	83	80	38	42
Bundaberg	27.2	86	88	34	47
Caloundra	37.9	87	86	80	32
Maroochydore	36.6	88	90	80	38
Gympie	26.3	89	91	24	56

\* Calculated from Garlick et al 2007.

\*\* Calculated using 2001 Census data, ABS.

### **Enterprising human capital**

Garlick, Taylor and Plummer (2007) introduce the concept of 'enterprising human capital' as those people who have the education and learning skills to create on-the-ground outcomes of practical value in the regional communities in which they are located. They:

“...understand the way markets operate; can access finance; see an opportunity; understand risk management without necessarily being risk-takers; and can mobilise resources, particularly teams, to good effect.” (p.33).

Our argument is that many in the productive ageing cohort, identified as having unrealised human capital, are seeking an outlet to be enterprising in the communities in which they are located. The absence of an enterprising human capital culture in regions is an impediment to stronger economic growth outcomes in Australia (Garlick et al, 2007)

We argue however that such human capital is being held back by a range of institutional and personal barriers of a structural and behavioural nature, the relative significance of which we are currently exploring through a study of the Sunshine Coast and Wide Bay regions in Queensland.

Ranzijn and Grbich (2001) have identified, generically, a number of practical and psychological barriers to greater productive involvement by seniors. We are particularly interested in those barriers of a structural and behavioural nature that specifically relate to senior-aged people becoming actively engaged in processes of learning and innovation in the higher education system at the regional scale.

### **Barriers to senior learning and innovation in the higher education environment**

The last decade has seen a regionalisation of higher education in Australia (Garlick 2000) to the extent that most regional areas now have access to a higher education campus. However, HEI engagement with their regional community to enhance endogenous human capital is patchy and approaches to lifelong learning, while an objective of the regional community, is not embedded in the HEI.

Despite the general ageing of the population, HEIs still have a strong prescriptive orientation in their program design and delivery towards school leavers. In course design, there is little opportunity to encourage the downloading of tacit knowledge by senior-aged people within a framework of education that emphasises an ‘enterprising’ approach which focuses on real world application. Course marketing tends not to focus on the productive ageing cohort as potential students or contributors to regional innovation system processes. Senior-aged people are not actively encouraged and, structurally, universities can be confronting places to those with no prior university education experience. As Cruikshank (2003) has observed, the education system does not always welcome older persons.

Behavioural barriers relate to issues such as perceptions that higher education and innovation is for young people and that older people undertaking higher education take institutional places from young people. There is a perception that older people’s capability to handle learning is hampered by their mental and physical limitations (Boulton-Lewis et al,

2006). There is also a perception that older people's interest in higher education is in the area of simple 'life pursuits' for self-satisfaction, rather than in areas of significance to wider society. They are often directed to U3A as the default solution to their education desires. Older aged people feel confronted in a learning environment populated with school leaver age people. As Boulton-Lewis et al (2006) say, motivation and confidence are big factors for older people taking up learning (p.273).

### **Informatics, technology and senior health**

Technologies offer the potential to better enable seniors to access education and innovation and better equip them to participate productively in economic activity. Many Australian and overseas universities provide much of their teaching through distance education enabled by the Internet. U3A also provides on-line educational resources for seniors. These allow students to study at their own convenience and pace.

There is a need for research to identify opportunities to better enable seniors to access education services. Issues might include access to high-speed broadband telecommunications which are usually more available in major cities than in less populous areas. There may be a need to assist seniors in feeling more comfortable with accessing goods and services through the Internet. Younger generations happily use on-line environments such as YouTube, MySpace, Second Life, online games and e-commerce solutions. Most of these innovations have largely by-passed seniors and there is a risk that they might be further disadvantaged in accessing other innovations in on-line services that could provide them with benefits. There has been a recent surge of interest in providing 'mental gymnastics' by electronic game companies with an expected demand from seniors. The marketing of these services might increase awareness and interest from seniors in other electronic services.

High-speed broadband communication links are rapidly becoming an essential infrastructure for business and it will be increasingly difficult to operate in areas without these services. This will be an issue in retirement regions as the provision of such services may be some years away if ever. Strategies of local, state and federal governments to provide better telecommunications links will need to be reviewed to ensure the roll-out to older-age communities is appropriate.

Healthcare services in most developed countries have strategies to better manage information. These usually include better access for consumers. In some areas such as Queensland there has been a significant investment in tele-health infrastructure that may have further potential benefits for seniors in regions.

Other innovations include 'smart homes' wired with sensors and intelligent systems that will care for their occupants. These include sensors linked to software that will know our care regimes, provide reminders and prompts, learn and understand our behaviours, and provide alerts of adverse events

such as falls or wandering (Soar et al, in press). A requirement for smart homes is similarly broadband communication links that would also provide access for learning and innovation.

## **Research**

Boulton-Lewis et al (2006) say there is little research that explores what older people themselves want and need to learn, and that most of the research is based on what others believe is necessary (p.273). The research we are beginning in the Wide Bay-Burnett and Sunshine Coast regions is very much along the lines of what older people say they need.

A series of focus groups and workshops with stakeholders concerned about these issues has been conducted over the past 18 months in the Wide Bay Burnett region. Participants were drawn from Divisions of General Practice, aged services providers, tertiary education providers, municipal government, and local offices of state and federal government agencies.

The workshops identified the following issues:

- harnessing the ideas, knowledge, and enterprising capabilities of the region's seniors;
- designing a learning and innovation incubation process for seniors at the regional scale, with links to universities, that will generate economic and social outcomes of practical benefit to the region, the individual, and the universities;
- dissemination of 'good practice' in relation to regional approaches to the productive ageing; and
- models of information management and technology assistance and the development of tools and methods to enhance the independence of the aged

Proposals for specific projects included:

1. Knowledge audit of seniors
2. Community information portal
3. Dissemination of good practice for productive ageing
4. Models for information management and technology
  - a. patient data systems that can be held by the client and shared (e-health and allied matters)
  - b. RFID tags for medication for aged and mental health
5. Technology demonstration centre
6. "Homemaker centre" for technology
7. Demonstration/information sessions with hands-on, self-service access, user-friendly, multicultural, specialty groups
8. Developing sustainable model for home monitoring
9. Falls prevention/management
10. Monitoring
11. Medication monitoring/management



This research is continuing with further workshops to scope and evaluate achievable projects that have a high chance of enhancing the productive participation of the region's seniors. This research will seek to explore the structural and behavioural aspects associated with increased senior participation in university education, research and innovation, including course design and delivery methods.

## **Conclusions**

Whilst ageing is a concern to governments around the world, including Australia's federal, state and local governments the impacts are likely to be felt much more strongly in regional communities that have much higher concentrations of this population cohort. Without innovative forward planning the economic outcomes for some regional communities will be bleak. An approach proposed in this paper is to view seniors as a potentially positive asset through providing means for enterprise. Essential infrastructure is access to education, high-speed internet access and creating a culture of innovation. Universities with campuses in regional areas have a key role to play and communities will look to them for leadership. Developing an approach in consultation with seniors and their community organisations will enhance the sustainability of the universities of the regions as a whole.

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