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Skill shortages in regional Australia: A local perspective from the Riverina

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ABSTRACT

This paper examines the extent, mitigating strategies and consequences of skill shortages in the 'food bowl' Riverina region of Australia. Employing survey data, empirical models are developed to analyse the importance of firm size, firm age, regional market focus, and location and industry types influencing a series of skill shortage issues. Results indicate that half of businesses experience skill shortages. The consequences of hard-to-fill vacancies vary across firms and relate to lower productivity and higher running costs. A number of strategies are employed to varying degrees by firms including: recruiting internationally, training existing staff and employing less qualified staff to fill vacancies.

1. Introduction

The globalisation of the world economy, brought about by the removal of barriers to trade and investment, has not only facilitated the movement of goods between countries but also services such as labour. The movement of labour beyond geographic boundaries, caused by the revolution in information technology, has been a key feature of the 'new economy', leading to polarisation of employment and the emergence of new working patterns (Green and Owen, 2003). These features, together with rapid technological and structural changes have made predicting the needs of the labour market and skill requirements extremely difficult (Machin and Manning, 1997). As a consequence, identifying and addressing the complications posed by skill shortages are seen as major challenges for nations globally and Australia is not immune to this.

Assertions of widespread skill shortages have been commonly reported by Australian businesses and in the Australian media. The commentary highlights the regional importance of skill shortages and businesses have frequently complained that it has undermined their existence (Griffith City Council GCC, 2011; Department of Education, Employment and Workplace Relations DEEWR, 2012). Despite this, systematic studies examining the causes and consequences of skill shortages in regional Australia are extremely limited.

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In this paper, we shed light on this issue, using the experience of the Riverina region in the state of New South Wales (NSW) in Australia. The study of the Riverina is particularly important for a number of reasons. First, as a non-urban regional location its choice permits a non-metropolitan regional analysis of skill shortages. There is some statistical evidence to suggest in the Australian context the number of applicants per vacancy is considerably higher in metropolitan areas compared to regional areas (Department of Education DoE, 2014). This possibly implies greater difficulties in recruiting appropriately skilled workers may exist in regional areas.

Second, the Riverina is often referred to as the 'food bowl' of Australia (Rural Industry Research and Development Corporation (RIRDC, 2015)). It produces and also processes significant agricultural and forest-based products including, meat, rice, cereals, cotton, vegetables, fruit and nuts. It is also one of the major producers of wine in Australia and contributes significantly to Australia being the sixth world largest wine producer. As a consequence understanding skill shortages in the region is important from a global food security perspective.

The investigation of a regional location is also important in an Australian policy context where governments have attempted to use skilled migration programs to alleviate skill shortages. For example, the employment of skilled workers on temporary 457 visas is a current Australian government policy setting which permits the recruitment of international workers to fill vacancies. There is empirical evidence from employers to suggest that this policy, in some sectors, is not adequately recruiting sufficient workers to overcome skill shortages (Wright and Constantan, 2015)

The presented analysis of skill shortages addresses three important issues. First, the causes of skill shortages are investigated. Then an examination of the alternative strategies firms take to address skill shortages is undertaken. Finally, the consequences of skill shortages are analysed. The next section of the paper presents an analytical framework and literature review to place the study in context. The research methodology and outline of the data are then presented. Finally, the presentation and discussion of the implications of the empirical results from various models is provided.

2. The analytical context

Theoretically, skill shortages refer to a disequilibrium condition in which the demand for a specific type of skills exceeds its supply at the prevailing market wage rate (Junankar, 2009). The basic tenants of the argument can be presented with reference to Fig. 1, which illustrates the interaction between the demand and supply for skills in the labour market. As an example assume that the D_0 and S_0 curves represent the demand for and the supply of skilled nurses, respectively. An initial equilibrium occurs at point E_0, with a wage rate of W_0 and the employment of L_0 nurses. Assume, due to an ageing population, the demand for nurses has surged and the demand for nurses curve shifts to the right to D_1. If the wage rate is flexible and there exists a ready pool of previously unemployed qualified nurses then the wage rate would rise to W_1 which would attract skilled nurses back to the market resulting in a higher employment level of L_1 at the new equilibrium point E_1. These two conditions of a totally flexible wage rate and a ready pool of unemployed skilled nurses are unlikely to be met in practice. In practice, the immediate consequence of the increase in demand for nurses is a skill shortage measured by $(L_2 - L_0)$ at the existing wage rate W_0. In general, wages tend to be sticky and in the short-run the number of skilled nurses cannot be increased significantly, as a consequence the skill shortage may prevail for some time. Over time however, devoting resources to training more nurses or using skilled migration recruitment programs may lead to a shift in the supply of skilled nurses curve to S_1 which may reduce the degree of skill shortages, in our case to $(L_2 - L_3)$ if wages do not change.

Skill shortages can occur due to a combination of factors including, structural changes in the economy, an ageing population, the outward movement of workers to other regions and overseas, and changes in external market conditions. Persistent skill shortages results in the lower production levels, higher costs, lower profitability and a loss of competitiveness (Haskel and Martin, 1993). In a study of Northern Ireland high-tech firms, Bennett and Mcguinness (2009) also find that reduced productivity growth is associated with skill shortages.

To avoid the negative consequences resulting from skill shortages, employers tend to be less selective in recruiting workers, pay higher wages, undertake international recruitment and offer training (Healy et al., 2015). Richardson (2007) argues that training is an important alternative to wage increases in areas where skills can be learned quickly. Bellman and Humbler (2014) find support for this argument in a study of small and medium size enterprises (SMEs) in Germany. However, Becker (1964) and Mitchell and Quirk (2003) argue that when training imparts general, as opposed to specific skills, it is less appealing for employers due to the possibility of poaching by rival firms. Lepak and Snell (1994) assert that employers display much higher levels of commitment to training employers with high-value skills compared to low-value skills, although skill shortages are common in all skill areas.

It is not uncommon to see skill shortages in one particular industry or region but not in others because the types of skills required vary between industries and regions. The fact that business cycles of individual industries differ in length and phase, may explain why some industries or regions experience skill shortages but not others (Stevens, 2007). Backes-Gellner and Tuor (2010) and Li and Sheldon (2010) argue that where consultative employment relations exist, which is often the case in large size and established firms, the intensity of skill shortages appears to be the least. Furthermore, since established firms have well-developed recruitment strategies in place (including, recruiting internationally and paying higher wages) they appear to be least affected by skill shortages (Bennett and Mcguinness, 2009; Li and Sheldon, 2010).

Globally, the severity of skill shortages appears to be greater in the regional areas, possibly due to the limited access to services and facilities including, quality health, education and physical infrastructure to attract skilled employees. However, it is also likely that local and regional market focused firms tend to be least affected by skill shortages as they have better