PAPER OUTLINE[1]

IMMIGRATION AND LABOUR MARKETS: Evidence from Australian States and Territories, 1998-2015

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Background

With the large movements of people in response to conflicts in the Middle East and other parts of the global South, migration has become one of the most prominent current economic and political issues of our time. Analysis of impacts of immigration and emigration has concentrated on a wide range of issues, especially pull and push factors for migrants, but also impacts on host countries and economies. The evidence is mixed. Much research has concentrated on the macroeconomic impacts of net migration – in terms of economic growth and productivity, public deficits, and competing demands for housing and infrastructure – especially publicly funded infrastructure including schools and hospitals. In addition, there is a growing literature on the impact of immigrants on host labour markets – both in terms of wages growth and unemployment. This paper will concentrate on the latter issue and analyses the impact of immigration on wages growth across the Australian states and territories 1998-2015.

Theoretical foundations

How immigrants affect local labour markets is a contentious issue – politically fraught and, in the UK for example, caught up in debates about class. Some analyses, e.g. Rowthorn (2015), focus on the negative consequences for host labour markets – including rising underemployment and widening wage gaps, especially for low-skilled and semi-skilled workers. Identifying properly the various mechanisms is complicated by the fact that there is no single labour market model that is uniquely designed properly to capture impacts of net migration on wages growth. The main models used in this context are the expectations-augmented Phillips curve models, in which wage inflation is driven by workers' wage demands, with macroeconomies gravitating around a uniquely defined natural rate of unemployment (Blanchard and Summers 1985, Blanchard and Katz 1992), and the empirically

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[1] Approximately 2000 words, excluding references.

similarly but theoretically distinct wage curve models (Blanchflower and Oswald 1994, 2005). In both sets of models, workers' wage demands are disciplined by unemployment but, in the expectations-augmented Phillips curve version, are increasing in inflationary expectations. The problem with the expectations-augmented Phillips curve framework is that it primarily supply-side driven and does not take account of demand-side factors. It also assumes wages are determined in perfectly competitive labour markets, in economies operating at full capacity/employment. The impacts of immigration on economies operating below full employment are likely to be quite distinct from those in economies operating at full employment. The wage curve approaches of Blanchflower and Oswald are based on less restrictive assumptions but, some argue lack robust analytical foundations. Card (1995) describes the approach aessentially an empirical regularity (similar in this sense to Phillips' (1958) original unaugmented Phillips Curve) rather than a hypothesis based on theoretically robust foundations. Wage curve approaches are, however , widely used in regional economics (e.g. see Gregory 1986, Hyclak and Johnes 1989, Payne 1995, Baddeley *et al.* 2000).

There are alternative models, but these have their own limitations. Imperfectly competition models capture the competing demands of employer versus worker groups, assuming oligopolistic price-setting by firms and monopsonistic wage-setting by unions representing insiders, with consequences in terms of high, persistent unemployment, e.g. see Malinvaud 1982), Bean, Layard and Nickell (1986), Bean (1986) Layard, Nickell and Jackman (1991), Rowthorn (1998) and Nickell (1998). These models are in many ways more promising than the augmented Phillips curve approaches because they allow for demand side as well as supply side influences and allow that economies settle at an involuntary unemployment equilibrium, which fits well with real experiences of unemployment. They are not, however, ideal models for capturing how other influences might feed through, except via the indirect impacts that immigration might have on the wage flexibility and wage rigidity parameters in their models (not an issue that Layard et al. explore, though they do assess the impacts of other institutional and structural factors on labour market flexibility). In addition, imperfect competition models suffer some of the limitations identified by Llul (2014) – they are highly aggregated macroeconomic models and therefore cannot capture regional/spatial differences across labour markets, even though these differences will be important influences on the pull factors attracting immigrant workers.

Another approach is to look at labour markets alone, in a partial equilibrium approach, linking to Hecksher-Ohlin-Samuelson and factor price equalization theories, to show how free movement of labour can lead to similar gains in terms of wage convergence and greater total output. The fundamentals of this have been set out and critiqued by Borjas (1995, 2015). The basic structure captures both sides of the international picture, i.e. impacts on home and host countries. The same fundamental insights are captured from a macroeconomic, international perspective in 'new economic geography' models of globalization, analyzing weakening wages in the global North in response to competition from cheap, labour-intensive imports from the global South, for example as propounded by Fujita, Krugman and Venables (2001). This approach has been analysed in the context of spatial convergence versus divergence in international wage differentials by Fingleton and Baddeley (2011). The advantage of these models is that they capture immigration and labour markets together, but on the other hand do not allow for heterogeneity in labour markets and workers.

This analysis is based around a wage curve approach, which has been widely used in spatial/regional economics, and captures the essence of all models in the sense that all these models hypothesis that wages growth and unemployment are inversely related – reflecting the fact that loose labour market conditions limits workers' ability to demand wage rises.

Methodology

Research on labour market impacts of immigration are complicated by a range of factors. It can be difficult to find good microlevel data capturing the different demographic characteristics of migrants and their length of stay in a host country. Also, analyses focusing on national data abstract from the complexity and heterogeneity of local labour markets, and also a range of econometric complexities are likely to emerge in properly identifying the drivers, especially in terms of directions of causality. Immigrants do not spread evenly across labour markets; where they go is determined by specific pull factors, for example rising wages, and in econometric estimations this can be associated with problems of endogenity (Llul 2014). Australian data has the potential to capture some of these complexities because it is not concentrated solely on metropolitan patterns and impacts. The state level data also separates interstate migration from overseas migration, and assessing the impacts on host labour markets

of movements by the different types of migrants gives a richer picture than is allowed from immigration data for many other countries.

Research hypotheses

1. Consistent with previous empirical studies, the first hypothesis is that there is an inverse relationship between wages growth and unemployment.
2. For Australia, OECD data shows that the employment rate for foreign-born workers has averaged approximately 90% of the employment rate for Australian born workers (OECD Migration Database). Therefore, immigration will be associated with slightly higher unemployment rates and looser labour market conditions and therefore reduced wages growth.
3. Interstate migration and overseas migration will have differential impacts, for example if it takes longer for overseas migrant to adapt to their move.

Data

This paper uses data from the Australian Bureau of Statistics (ABS) on labour market variables and migration for the Australian states and territories 1998Q3 to 2015Q2. Australia makes a good test-bed for exploring insights about local impacts of immigration and emigration, for a number of reasons. It is a relatively egalitarian country and is relatively cohesive, at least for the settler communities, past and present. Aside from political controversies over illegal migrants and refugees over many decades, it has a relatively good record of success with immigration. Australia has been adapting to immigration from a wide range of countries for many years. Immigrants are now a large proportion of the population. Australia is a federal system with a common currency and language and so it is easier to abstract from the complicated, confounding structural/institutional factors that plague analyses of other OECD countries, especially the EU. Whilst Premiers' conferences are not necessarily peaceful events, robust mechanisms are in place to ensure relatively efficient fiscal equalization. Also, the distincitions between interstate and overseas migration are relatively clearly defined. Whereas in other countries, this is not so straightforward. In the EU, political controversies are driven by the fact that immigrants from within the EU are perceived by host populations as more like outsiders than immigrants from some non-EU countries.

Econometric methodology

The wage curve model was estimated for the 8 Australian states and territories 1998-2005 using a range of econometric techniques. Initial estimations were based around a pooled linear

estimation using OLS estimation techniques. As expected, this was an imperfect approach econometrically because a simple pooling procedure does not allow for heterogeneity bias across the states and territories, and endogeneity compromises power and accuracy of these estimations. Then panel fixed effects estimation techniques were used to control for heterogeneity bias to control for state/territory fixed effects. Random effects panel estimation was also used, with similar results to the panel fixed effects estimation. In addition, the time series data for each state was estimated individually to test the assumptions implicit in panel/pooled estimation were justified. There was evidence that the errors exhibited systematic patterns across the states and territories and for this reason, panel seemingly unrelated regression (SUR) techniques were also used to control for these common patterns (Zellner 1962). All estimations were conducted using STATA 14. The econometric results were robust across the range of estimation techniques described above.

Key results

Some of the key results were surprising. The basic inverse correlation between wages growth and unemployment, a robust finding across many studies, was confirmed. For net migration however, there were some interesting findings, suggesting that more work is needed to get powerful and robust estimation results and/or theoretical innovations are needed. Net overseas migration had a positive impact on wages growth. Net interstate migration had no statistically significant impact. Whilst this general finding was robust across the estimation techniques used (OLS, panel, SUR), further work is ongoing in improving the model specification to control for any potential confounding factors that might explain this result. Whilst initially it seems anomalous, it might be explained if we allow that immigrants are not moving to economies at their equilibrium natural rate, and pull factors are not the only mechanisms at work given Australia's skilled migration policy. If migrants are moving to economies where there is an excess demand for labour, particular for workers with particular skills, then their arrival is likely to contribute to wages growth if it is driven by higher levels of productivity. Further work will be done in unraveling the directions of causality, however, and this will include causality testing (using Granger and other causality tests).

Further developments

Between now and the ACE16 in July, this paper will be written up to include a full analysis of the theoretical model and estimation techniques. In addition, some more theoretical/econometric issues will be explored. Theoretically, it is possible that net migration is having its impact partly through its impact on unemployment and the direct and indirect influences need to be separated more effectively,

for example via two-stage estimation and/or structural modelling. An additional theoretical issue to explore is whether or not immigration has particular impacts on under-employment and unemployment hysteresis. The ABS States and Territories database does include data on under-employment and under-utilisation, and it will be interesting to explore these further in the context of immigration. These theoretical innovations will also connect with some of the potential econometric limitations and their solutions.

Policy implications and conclusions

These preliminary results suggest that net overseas migration has a range of impacts, and that skilled migration may be contributing to wages growth, perhaps via productivity increases, though further work is needed to untangle the influences. If this is the case, it suggests that Australia's skilled migration policy has worked well, though more work is needed to assess the impacts across different migrant groups. Another key issue to explore in policy terms is ensuring that economies develop sufficient carrying capacity to cater for rising populations. Infrastructure investment will be essential to ensure that populations have access to housing, schools, hospitals and infrastructures. These infrastructure constraints are likely to be pressing for most OECD countries, especially the EU and UK. Without sufficient infrastructure, negative consequences of growing inequality, deprivation and socio-political unrest are likely. On the other hand, if governments plan for growing pressure on infrastructure, then the potential for growing disparities will be lessened and the positive benefits from immigration will be maximised.

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