

A postgraduate degree protects you against the business cycle



College graduates receive a wage premium over non-college workers. However, both types of workers are subject to similar wage shocks over the business cycle. As the share of workers with postgraduate degrees has doubled since 1980, I compare postgraduates to those who only have bachelor degrees. I document a new fact: in the US, postgraduates experience smaller shocks to their wages over the business cycle than bachelor graduates. Thus, education can provide shelter against business cycle wage shocks, but only at the postgraduate level.

Analysing data from the US Current Population Survey 1976-2016, I document that for every one percentage point increase in the unemployment rate, the average real wage declines by 0.3 per cent for postgraduates and by 1.2 per cent for undergraduates. It implies that the postgraduate wage is more stable than the bachelor wage over the business cycle. I also document that postgraduates experience a 30 per cent lower probability of being unemployed than bachelor graduates, and their volatility of employment is lower as well. To control for the changes in the composition of workers over the business cycle, I supplement evidence with an analysis of the US Panel Study of Income Dynamics and obtain similar estimates.

My theory to explain this fact is that postgraduates have higher adaptation costs than bachelor graduates. For example, postgraduates have more specific skills on the current jobs which are non-portable to other jobs, and they need a longer period of time to adapt to new jobs. So, postgraduates are more willing to keep their current jobs. Because of this, in booms, firms do not need to keep postgraduates by raising wages. Then when the economy gets worse, firms do not need to cut their wages. As a result, firms offer postgraduates more stable wages over the business cycle.

Next, I provide empirical evidence that postgraduates have higher adaptation costs. First, I look at the time dimension of adaptation costs. I use an U.S. employer survey, the Multi-City Study of Urban Inequalities, which asks employers how long it takes their employees to become fully competent. I document that postgraduates need 58 weeks on average to become fully competent, which is twice as long as the time needed for bachelor graduates.

The second dimension of adaptation costs is the amount of specific skills new hires have to learn. If there are more specific skills, workers would suffer larger wage losses from firm closure. I use the Current Population Survey Displaced Worker Supplements to test whether postgraduates suffer larger wage losses from firm closure. I document that postgraduates suffer 17 per cent losses in wages if they were removed from their current jobs, which is twice as large as those for bachelor graduates. Third, as workers with longer tenures on the current job are more likely to be fully adapted, and fully adapted postgraduates have more stable wages than bachelor graduates, we should expect that workers with longer tenures have larger differences in wage stability between postgraduates and bachelor graduates. I confirm this prediction by analysing data from the US Health and Retirement Study.

To quantify the effects of adaptation costs on wage stability, I develop a job search model with business cycle shocks. The model can capture the differences in both the employment and the wage stability between postgraduates and bachelor graduates. As a counter-factual experiment, I replace the adaptation costs of postgraduates with those of bachelor graduates. I show that once postgraduates and bachelor graduates have the same level of adaptation costs, they enjoy the same wage stability over the business cycle. The model also shows that as postgraduates have higher adaptation costs, their starting wage is relatively lower than bachelor graduates, but their subsequent wage growth is faster.

My paper implies that postgraduates enjoy greater wage stability because they get additional wage insurance from firms. However, lower educated workers, even bachelor graduates, are unlikely to get much insurance from firms, hence, increasing the demand for social insurance among this group. I conduct a counter-factual policy experiment to raise the unemployment insurance replacement rate. I find that this policy crowds out the wage insurance provided by firms. However, the effect is smaller for the lower educated than postgraduates. Lower educated workers have higher welfare gain than postgraduates from such a policy, which supports the argument for a lower unemployment insurance replacement rate for postgraduates.



Notes:

- This blog post is based on the author's paper [Adaptation Costs and the Business Cycle Effects on the Postgraduate Wage Premium](#), presented at the Royal Economic Society's Annual Conference in March 2018.
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