

## **PERFORMANCE PAY CAUSES PRODUCTIVE WORKERS TO CLUSTER: Evidence from German academia**

Workers who are paid more for being more productive tend to band together and work harder. That is the key finding of research by **Erina Ytsma**, to be presented at the annual congress of the European Economic Association in Mannheim in August 2015. The study looks at the introduction of a performance pay scheme known as W-Pay in German academia and finds that the scheme led to greater clustering of the most productive researchers.

The research shows that workers become more productive when they have more productive colleagues, and high-quality departments end up hiring even better new junior and senior researchers. Because academia has large spillover effects when new research keeps leading to more discoveries, this clustering can still benefit everyone even if the gap between high-quality and low-quality departments increases. The author concludes:

‘Greater total scientific output may boost technological progress, so to the extent that a greater concentration of the most productive academics increases output, policies that increase clustering by productivity should be welcomed. But in academia, we may also care about providing good education to many people – which means that instead of clustering, we might want good academics to be spread across the country.’

### **More...**

Pay that is tied to a worker’s productivity increases the extent to which similarly productive workers cluster together, according to research by Erina Ytsma. If there are productivity spillovers such that workers become more productive when their colleagues are productive, the introduction of pay that is more closely tied to a worker’s productivity should give workers the incentives to try and work with the most productive workers that will agree to work with them.

Using the introduction of the W-pay scheme in German academia (which tied pay more closely to performance) as a natural experiment and employing a newly constructed data set encompassing the affiliations and productivity of the universe of academics in the country over time, the study provides evidence that performance pay increases clustering by productivity. Moreover, it shows that the increase can be quite large; up to a two- to threefold rise in similarity.

An increase in the clustering of workers by their productivity level can have a large impact on the total output produced in a sector or country, as well as affecting the variability and distribution of the output produced. Previous research has shown that if workers become more productive when they have more productive colleagues, an increase in clustering by productivity level implies a less equal distribution and greater variety in the output of teams or firms, with clusters of low productive workers producing less output, and clusters of high productive workers more.

Furthermore, if the productivity of highly productive workers increases more when working with other highly productive workers than when less productive workers have

highly productive colleagues, an increase in the clustering of workers by productivity increases the total output in a sector or country.

The study by Erina Ytsma evaluates the effect of performance pay on the organisation of academics by analysing the different channels through which departmental composition may change: the arrival of new hires – both junior and senior professors – and departure of existing professors.

The difference in average productivity of new hires between high and low quality departments is larger, while the difference in average productivity of leavers between high and low quality departments is smaller after the academic pay reform. So high quality departments become clusters of even more similarly highly productive academics, while low quality departments become clusters of even more similarly lesser productive academics post-reform.

Second, this increase in clustering by productivity is larger in academic fields in which spillovers are larger. These are exactly the fields in which academics stand most to gain from working with more productive colleagues.

Importantly, the study shows that the increases in clustering by productivity are not driven by systematic differences in the hiring budget between high quality and low quality departments. Nor are they the result of a longer-term trend towards a less unequal distribution of highly productive academics across universities.

Academia might be a particularly relevant sector for studying worker organisation, since both the total output and the distribution of production factors and output matter for total welfare. A greater total scientific output may boost technological progress, so to the extent that a greater concentration of the most productive academics increases output, policies that increase clustering by productivity should be welcomed.

On the other hand, we may also care about for instance providing good scientific education to many people, all over a country. This requires a more even distribution of high quality academics across a country.

ENDS

Lone Stars or Constellations: The Effect of Performance Pay on Worker Organisation  
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