

## **A Closer Look at Inventor Productivity- What Makes the Difference?**

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Several theoretical and empirical papers have explored productivity of scientists and engineers. Their results show that productivity is highly concentrated within a small number of researchers. Conventional methods of measuring inventor output include pure and quality adjusted patent counts. These measures are to a certain extent a good proxy for productivity. But the application of such measures is limited since patent counts do not comply with productivity. Furthermore, productivity measures based on patent data are at risk of being biased towards large firms. This paper improves on the current literature by using an adjusted measure for productivity which controls for changes in patent propensity over time and between different technical areas. Results show that in particular, the level of education and external spillovers turned out to be determinants of productivity. Fractional patent counts as well as fractional citation counts are applied in order to analyze the influence of firm size on inventor productivity. In particular, fractional counts allow for distinguishing between two firm size effects determining productivity: organizational effects and effects due to the allocation of resources.

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