Public vs. Private R&D at the Firm Level:
Evidence from One High-tech Park in China

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Abstract:

Many governments in the world provide subsidies/grants to stimulate private R&Ds at the firm level, although the finding about the actual effect is still mixed: whether public subsidies stimulate or displace private R&D efforts, or whether there is no effect at all.

China has established lots of High-tech Industrial Parks over the years to attract high-tech firms through tax exemptions and innovation subsidies/grants. However, quantitative analysis on the impact of public subsidies on private R&D investment has rarely been seen. This paper aims to evaluate this impact by applying a Heckman-type two-step selection method to a representative sample of high-tech firms from Beijing Zhongguancun High-tech Park (acclaimed as China's Silicon Valley). Another related research question we are planning to answer is the impact of public innovation subsidies on firms' R&D output measured as the number of patents. Our preliminary findings include: (1) State-controlled high-tech firms are more likely to receive public subsidies on R&D, compared to collectively and privately controlled firms, (2) Further, the first point is supported by the evidence that the past patent stock is not a significant determinant of whether the firm could get public subsidies on R&D, (3) on average public R&D subsidies don't have significant impacts on private R&D investment.

This paper hopes to shed some light on China's public polices on technology development, which is critical at a moment when China is striving to transform its economy from labor-intensive to capital/technology-intensive.

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