

Should the Government Subsidize Innovation or automation?

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1. What is the question?

The effects of R&D subsidy versus automation subsidy on innovation, economic growth and the welfare of different agents in the economy, using growth-theoretic model; The effects of R&D subsidy versus automation subsidy on low-skilled workers, high-skilled workers and capital owners, using aggregate US data.

2. Why should we care about it?

Automation allows machines to perform tasks that are previously performed by workers but automation may be a threat to the employment of workers. On the other hand, automation reduces the cost of production and frees up resources for more productive activities. So solving this question is helpful for the government to make decisions on subsidy of R&D and automation, considering both low-skilled workers and high-skilled workers.

3. What is the author's answer?

Increasing R&D subsidy has a positive effect on innovation and growth but a negative effect on capital intensity in aggregate production. In contrast, increasing automation subsidy has a negative effect on innovation and growth but a positive effect on capital intensity in aggregate production. The quantitative analysis shows that increasing R&D subsidy improves the welfare of high-skilled workers but hurts that of low-skilled workers and capital owners, whereas increasing automation subsidy improves the welfare of high-skilled workers and capital owners but hurts that of low-skilled workers.

4. What's the implications of the answer? What do we learn from the paper?

Subsidizing automation has different welfare implications on different groups in the economy. Therefore, a redistribution of income is a better approach than Universal Basic Income to mitigate the negative effects of automation. Both increasing R&D subsidy and automation subsidy would hurt the welfare of low-skilled worker so the government should make relevant decisions cautiously.