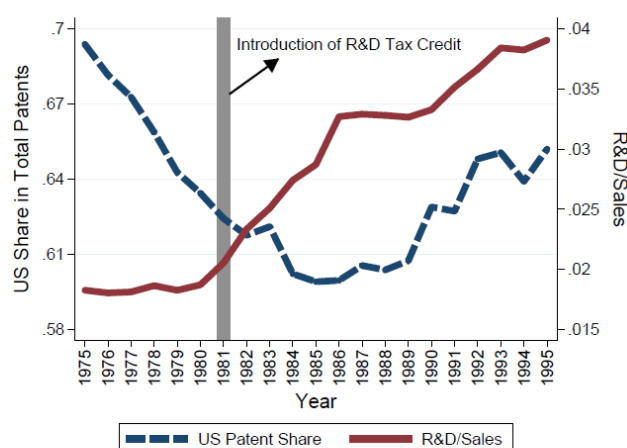


Source: Akcigit, Grigsby, Nicholas (2016)

In Figure 2, AGN show that increased education makes it more likely for someone to become an inventor. Figure 3, on the other hand, shows that kids with rich parents are also more likely to become inventors. If parental income is the only resource to accessing education, Figures 2 and 3 suggest that financial constraints could be important impediments to inclusive growth whereby a broader fraction of the society participates in the innovation and growth process. An important takeaway from these findings is that public policy needs to ensure access to education for potential future inventors who could generate economic growth through their creative ideas.

There is a disincentive effect of higher taxation, both on firms and individual inventors. Debates on tax policy and economic growth cannot ignore the fact that innovations do not fall from the sky. They are created by firms and inventors who respond to economic incentives and, importantly, policies do affect incentives. A recent work by Akcigit, Ates and Impullitti (henceforth AAI) studies the role of R&D Tax Credit for innovation. In the US, 1970s was a period of productivity slowdown that raised concerns about the declining international competitiveness of the US. At the time, John McTague of the Reagan White House said, "Foreign competition in the technology intensive industries poses a serious threat to our country's position in the international marketplace than ever before our history." The result of these debates was the introduction of the Federal R&D Tax Credit for the first time in 1981 (which has been in effect ever since).

FIG 4. INTRODUCTION OF R&D TAX CREDIT, FIRM R&D SPENDING AND INNOVATION IN THE UNITED STATES



Source: Akcigit, Ates, Impullitti (2016)

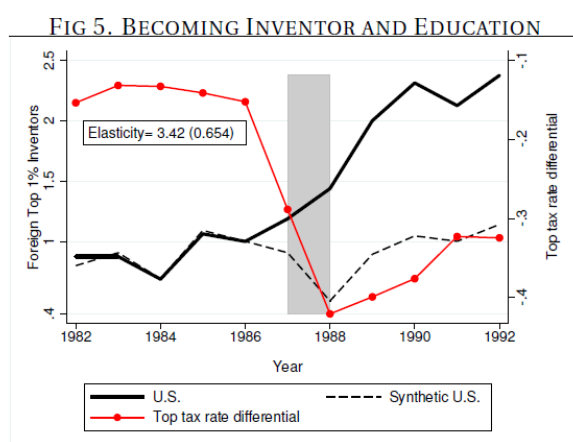
Figure 4 shows the evolution of average firm-level R&D spending (normalized by firm sales) and the total share of patents at the US Patent Office filed by US firms. There are two facts worth mentioning.

First, there had been a massive loss of technology leadership as documented by the rapid decline in the US patent share until mid-80s. Second, US firms showed a large response to policy change. Starting from 1981, firms in the US increased their R&D spendings, which then translated into more patented innovations and brought the international technology catch-up to a halt. An important policy message from this example is that tax policy, or the R&D Tax Credit could contribute to

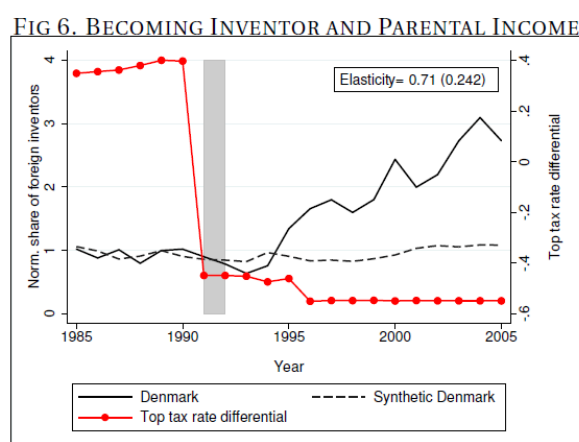
attractiveness of a country for R&D and be a powerful tool for making firms more innovative and competitive.

When it comes to policy debates, it is important to also take into account the disincentive effect of taxes on individuals. Many of the prolific inventors around the world are international migrants and their location choice is affected policies. In their work, Akcigit, Baslandze and Stantcheva (henceforth ABS) analyze the impact of top marginal income tax rates on the international mobility of inventors. Among many other things, they study the changes in tax codes in various countries, as illustrated in Figures 5 and 6.

Figure 5 shows the 1986 Policy Reform that reduced the top marginal tax rate in the US. The effect has been a rise in the number of foreign superstar (highest-quality) inventors who migrate to the US. Similarly, Figure 6 shows the policy change in Denmark in 1992 which lowered the top tax rate for high income foreign researchers. The result of this change is again a significant rise in the number foreign inventors in the country.



Source: Akcigit, Baslandze, Stantcheva (2016)

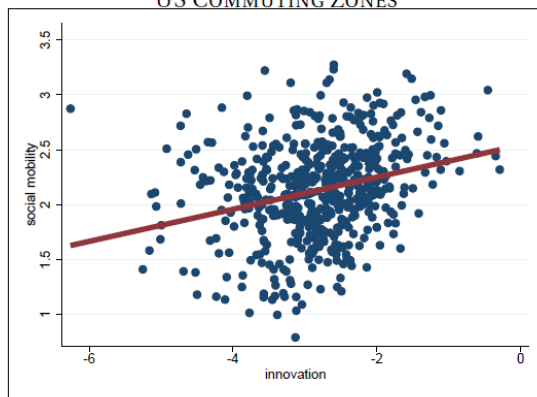


Source: Akcigit, Baslandze, Stantcheva (2016)

The analysis by AAI and ABS show the (dis)incentive effects of policies. These findings suggest that wrong policies could impose significant costs on the society through their adverse effects on innovation incentives and economic growth.

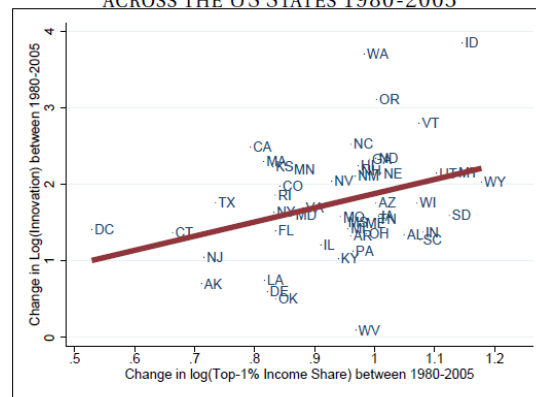
Rising top-income share has been at the center stage of the current policy debates and many of the arguments to combat this trend focuses on imposing heavy taxes on top-income groups. These discussions should also take into account the link between top-income inequality and innovation, which has been studied by Aghion, Akcigit, Bergaud, Blundell and Hemous (henceforth AABBH).

FIG 8. SOCIAL MOBILITY AND PATENTING ACROSS THE US COMMUTING ZONES



Source: Aghion, Akcigit, Bergaud, Blundell, Hemous (2015)

FIG 7. TOP-1% INCOME SHARE AND PATENTING ACROSS THE US STATES 1980-2005



Source: Aghion, Akcigit, Bergaud, Blundell, Hemous (2015)

Innovation has important and nuanced implications for inequality and social mobility. On the positive side, AABBH show that those US regions (commuting zones) that produced more innovations have also experienced more frequent social mobility (see Figure 7)ⁱ. Innovation, however, comes with an important trade-off. In Figure 8, AABBH also show that the states which had an increase in patented innovations also experienced, on average, a rise in top-income share between 1980-2005. These findings highlight the fact that while innovation is associated with faster growth and social mobility, it also comes with an increase in top-income inequality.

All these findings show that tax policy, inequality and innovation are tightly interlinked. Therefore any discussion on inequality and taxation cannot be pursued in isolation from innovation, which is the main source of long-run economic growth and prosperity.

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ⁱ Social mobility here is the expected percentile or “rank” (from 0 to 100) for someone aged 30 in 2011-2012 whose parents belonged to some percentile of the income in 1996 when the person was aged 16.