Project

Environmental tax reform and endogenous growth

An Environmental Tax for More Innovation

Is economic growth still possible in Switzerland, if environmental taxes increase on account of the Energy Strategy 2050? Yes, say researchers at the ETH Zurich: these taxes would stimulate innovation.

An innovation-driven economy has the potential to grow: robots in a laboratory. *Source:* undefined

At a glance

- An environmental tax reform can encourage companies to invest more in innovation in order to avoid taxes.
- More innovation leads to economic growth. Higher carbon taxes offset higher production costs.
- The reform would slightly reduce the prosperity of the Swiss population. However, this assessment does not take into account the value of a cleaner environment.

Starting in 2021, the Federal Council plans to replace the existing promotion policy by a steering system, in order to achieve the goals of the Energy Strategy 2050 and to reduce greenhouse gas emissions. In the present project, ETH Zurich researchers have investigated to what extent this change would impair Switzerland's economic strength. They discovered that the country would benefit from a tax reform leading to environmental taxes, as the levies on electricity and fuel would encourage innovation. This would result in a more competitive economy and thus growth, provided the earnings are redistributed among the taxpayers in a suitable form. The prosperity of the population would decrease slightly. However, this monetary approach does not take into account the quality of life gained through a cleaner environment. For their study, the researchers have generated a theoretical model of the impact of such a tax reform. On the basis of these considerations, they then calculated the consequences using a computer model calibrated to Swiss conditions.

Growth through innovation

Higher taxes on climate-damaging activities such as high power consumption or greenhouse gas emissions are an incentive for companies to adopt more innovative processes in order to avoid taxes. According to the researchers' model, capital flows into the development of new technologies, which ultimately lead to a more competitive economy. This is in particular the case when the state redistributes the additional tax revenues in an appropriate form. The ETH Zurich's computer models have shown that the most sensible approach in Switzerland would be to lower capital taxes. Despite the tax reform, this would lead to greater economic growth than maintenance of the status quo.

A setback for prosperity, a benefit for the environment

In addition to the impact on the overall economy, researchers have also calculated the effect of the tax reform on households, broken down by income and occupation. The calculations predict a decrease in prosperity equal to approximately 1.5 percent of the gross domestic product. However, this calculation does not take into account the value of a cleaner environment, as this cannot be expressed in monetary terms. When the goal is a significant decrease in CO_2 emissions, a refund in the form of a capital tax reduction is most advantageous, also for households. Although such a reduction lessens the prosperity of the population, the differences between groups are smallest in this system.

What needs to be done in politics?

Flat rate allocations are generally regarded as the most appropriate measure to achieve the fairest possible refunds in various social groups. However, this study shows that this is not always the case and that a reduction in capital taxes may be more appropriate. The researchers therefore advise policymakers to consider a wide range of models when developing tax reforms. In this way, the additional environmental taxes, supposedly harmful to the economy, can not only pave the way for the Energy Strategy 2050, but also generate higher economic growth.

Produkte aus diesem Projekt

- Kickoff-Poster
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All information provided on these pages corresponds to the status of knowledge as of 10.05.2019.