

# Effective capital markets are needed to protect the climate

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A new study investigates the role of effective capital markets for climate protection and the energy transition. Banks collect savings and make them available as loans and the greater the difference between savings

and loan interest rates, the more it costs to invest. This affects, for example, investments in fossil-free steel plants, power generation, or heating systems.

The analysis by the Potsdam Institute for Climate Impact Research (PIK) and the Mercator Research Institute on Global Commons and Climate Change (MCC) has now been published in the *Journal of the Association of Environmental and Resource Economists (JAERE)*.

The study shows that the effect on climate protection is striking: the current difference between savings and lending rates, 5.1 percentage points on average globally, results in additional global heating of 0.2 degrees Celsius, when compared with a frictionless economy with zero interest spread. To calculate this in its model-based analysis, the research team assumes a [climate policy](#) according to the cost-benefit principle.

This implies: the government would know the exact level of climate damage that increases over time, rendering CO<sub>2</sub> emissions more expensive in accordance with the damage caused by them, and would thus achieve a cost-optimal time path for accelerated carbon pricing. Alternatively, if the policy is oriented on a fixed temperature target, the current interest spread means that a 27 percent higher carbon price would be needed than in a world without the credit cost premium.

The study's key message for policymakers is summarized by its PIK lead author, Kai Lessmann, as follows: "Governments need to take a close look at whether the higher interest rate for loans merely reflects the actual intermediation costs or whether it is also a result of too little banking competition, for which there is some evidence. If the market structure is indeed the reason for the spread, and cannot be modified in the medium term, then policymakers can effectively counteract it in the short term by subsidizing investment."

In this context, the study shows that if the government decides to provide economy-wide investment support, this is better for the climate and the economy than if eco-projects alone are subsidized. "The structural change toward fossil-free technologies then occurs automatically," Lessmann points out. "These are generally more capital-intensive and thus benefit to a greater extent from reduced credit costs. Also, the carbon price, which increases over time, exerts its steering effect."

For the study, the research team has developed a sophisticated computational model, and has fed it with empirical data. "We identify eight different channels through which the credit cost premium ultimately affects climate gas emissions," explains Co-author Matthias Kalkuhl of MCC.

"To be sure, there are also restraining effects—for example, high interest rates reduce the growth of economic output and thus also of energy consumption. But the climate-damaging impact predominates. For example, the credit cost premium increases the abatement costs per ton of CO<sub>2</sub>, so that when oriented to the cost-benefit calculation, less [climate](#) protection is then practiced as a result."

The adverse impact of high borrowing costs on [climate protection](#), which is now illustrated more sharply than before, is a major issue primarily in the Global South. In many countries, it is not uncommon for the annual costs of capital as a percentage of the investment sum to be in double digits. While many solar or wind power parks would be more profitable than gas or [coal-fired power plants](#) in the long term, they are not being built there, because the initial capital required per megawatt of installed capacity is greater.

Governments often lack the money to react, so they rely on help from the rich north.

**More information:** Kai Lessmann et al, Climate finance intermediation: interest spread effects in a climate policy model, *Journal of the Association of Environmental and Resource Economists* (2023).  
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