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Global non-linear effect of temperature on economic production

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BlackRock C.E.O. Larry Fink: Climate Crisis Will Reshape Finance

In his influential annual letter to chief executives, Mr. Fink said his firm would avoid investments in companies that “present a high sustainability-related risk.”



- Laurence D. Fink, the founder and chief executive of BlackRock, announced Tuesday that his firm would make investment decisions with environmental sustainability as a core goal.
- BlackRock would begin to exit certain investments that “present a high sustainability-related risk,” such as those in coal producers. His intent is to encourage every company, not just energy firms, to rethink their carbon footprints.

Motivation

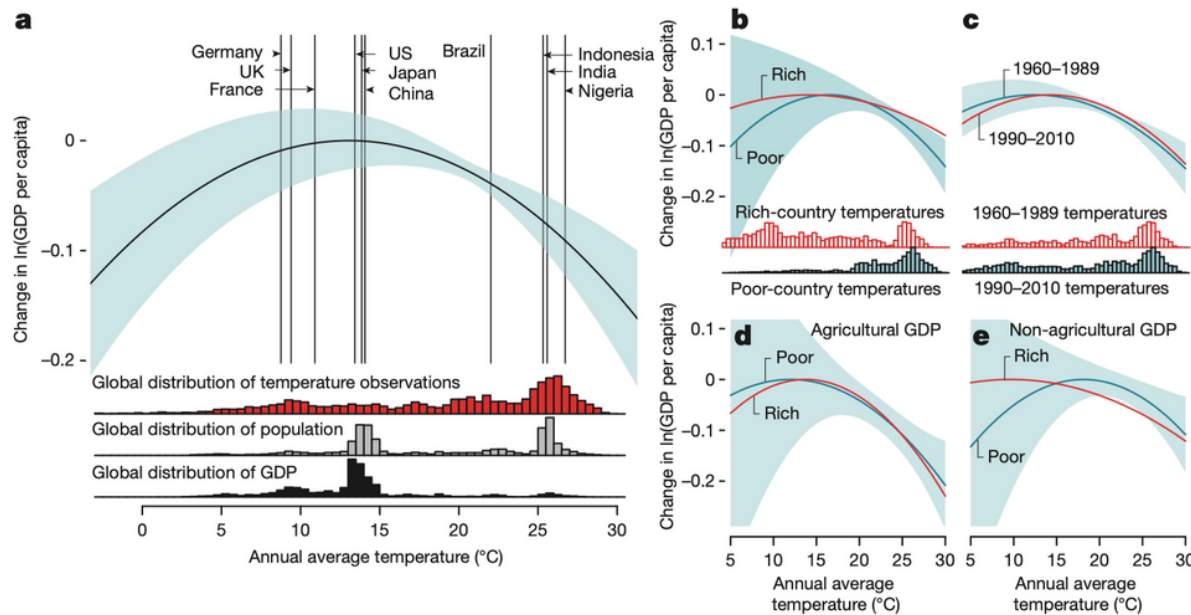


climatic conditions can have a profound impact on the
functioning of modern human societies
effects on economic activity appear inconsistent



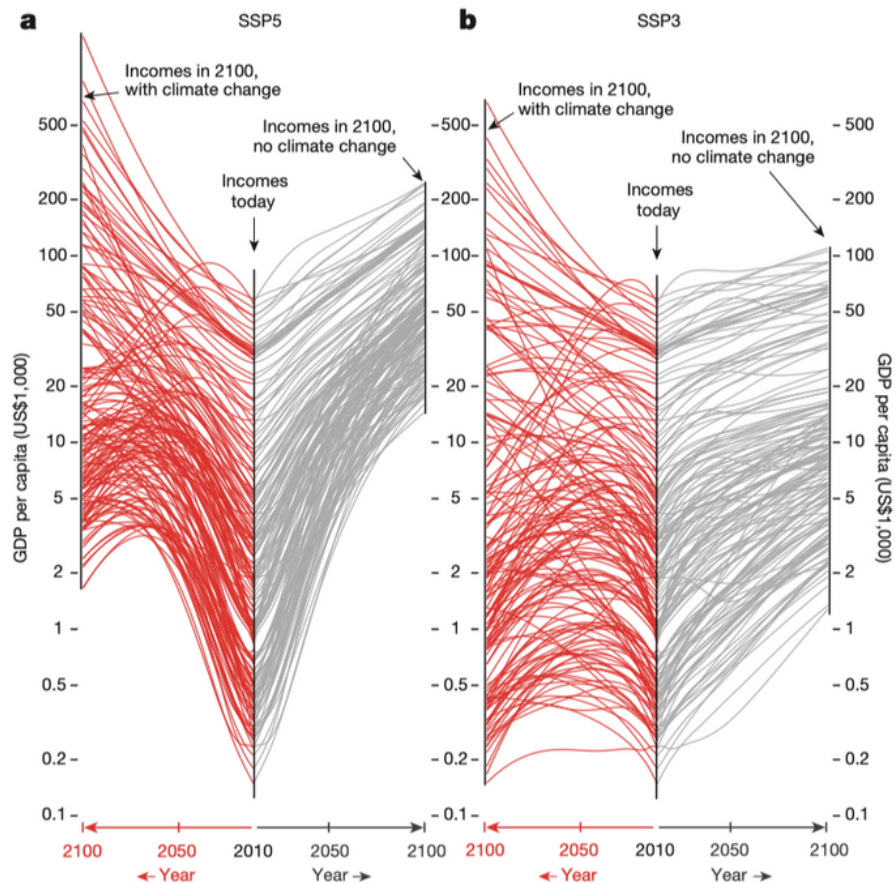
what future holds for us?
anticipating the global impact of climate change

Result and Method 1



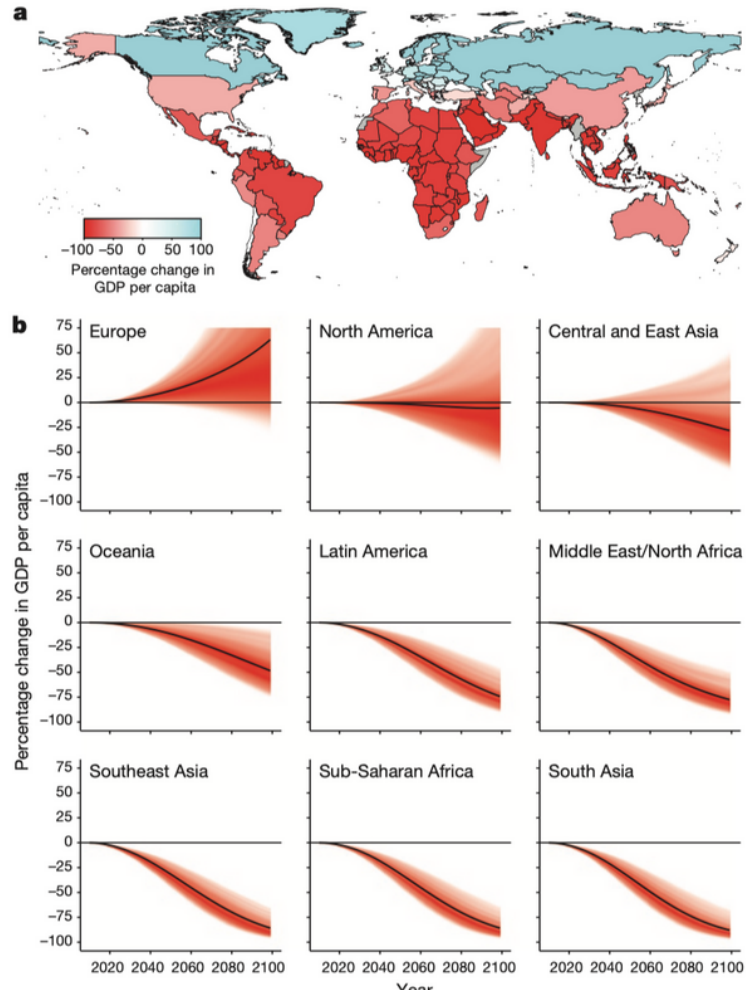
- first evidence that economic activity in all regions is coupled to the global climate.
- overall economic productivity is nonlinear in temperature for all countries, with productivity peaking at an annual average temperature of 13 C and declining strongly at higher temperatures.
- GDP per capita from 1960-2010
- N=6584 with 90% confidence
- country fixed effects, flexible trends, and precipitation controls

Result and Method 2



- future adaptation mimics past adaptation, unmitigated warming is expected to reshape the global economy by reducing average global incomes roughly 23% by 2100, relative to scenarios without climate change.
- Temperature projections under (Representative Concentration Pathway 8.5 emissions)
- Growth projections over 5 year period till 2100
- Historical pooled model for the effect of climate change on GDP
- Current levels of GDP

Result and Method 3



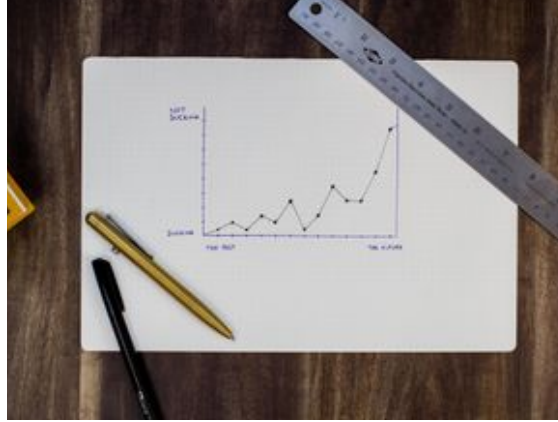
- new empirical foundation for modelling economic loss in response to climate change
- widening global income inequality
- Europe and North America will be better
- Other continents worse

My opinion



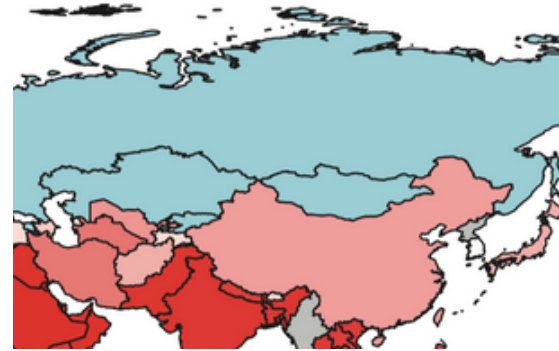
Burke attempts to defend its assumption of no adaptation.*

It finds that countries responded similarly to short-term temperature fluctuations before and after 1990, suggesting that no adaptation has occurred to date.



Low significance (90% significance)*

highlights a final challenge for temperature studies: extrapolating from findings of questionable statistical significance. highlights a final challenge for temperature studies: extrapolating from findings of questionable statistical significance.



Big countries such as Russia

We need more precise data with more regions



data

the data is from 1960 on GDP. We have low quality data till 2000. With communists countries also.