

Climate change and Financial Stability:

Key Findings

- We develop a climate stress test with the network valuation of financial assets framework to estimate the direct and indirect impact of a late and disorderly alignment to climate targets. We consider a financial system composed of banks and investment funds.
- The methodology combines the estimation of losses arising both from interbank distress contagion as well as from common asset exposures. We apply this methodology to a supervisory dataset including the exposures of the Mexican banks and investment funds to climate policy relevant sectors.
- We observe small direct exposure to climate policy relevant sectors (in particular to fossil utility and transportation), however this may be due in part to the specific characteristics of the Mexican economy (level of informality of the economy).
- For the climate stress-test we consider climate scenarios that are a combination of climate policy shocks scenarios and market conditions scenarios. Despite the small direct exposure, we identify climate policy scenarios and market conditions where losses due to financial contagion are large.

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- In a mild scenario (i.e., transition towards a less demanding climate targets, and market conditions characterized by a lower levels of risk), we find losses ranging between 1% and 2% of total assets of the Mexican financial system.
- In a more adverse scenario (i.e. where the climate policy scenario is more stringent and triggers a negative shock of larger magnitude, and market conditions are such that amplification is larger), we find that systemic losses range between 2.5% and 4% of initial total assets.
- Our findings show that the total losses for the financial system result from the interplay between climate policy shocks and market conditions.

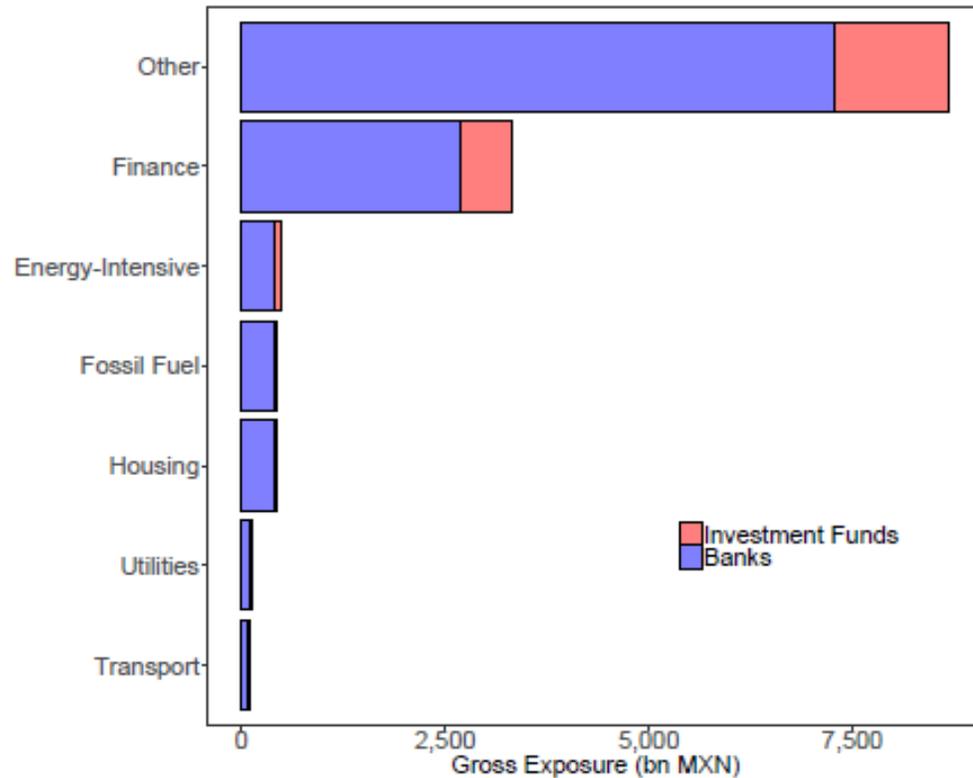
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- Finally, we develop a graphic method to compare the levels of financial stability under different climate policy scenarios in a range of market conditions and we conclude with three policy implications:
 1. If the alignment of the real economy to climate targets cannot be avoided to be disorderly, then financial institutions have an incentive for such an alignment to occur as early as possible because financial losses would be smaller.
 2. A country could reach a more stringent climate target, if the alignment occurs earlier, at the same cost (in terms of financial losses) of reaching a less stringent target with a later alignment.
 3. In the face of a tighter climate policy shock, it is possible to contain the adverse effect of financial contagion if the market conditions are strengthened enough.

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Exposures to CPRS sectors of banks and investment funds in billions of Mexican pesos.



Profile of losses suffered by the Mexican financial system conditional upon the policy scenario LIMITS-RefPol-500(GCAM).

