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Digest

Transition risk and macro prudential policy

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In the effort to achieve a greener economy, carbon price(tax) stands out as the most practical tool to address. However, a carbon price can also create a recessionary effect and create financial instability which is called a transition risk. Notably, the transition risk appears to have heterogenous effect that highlights the need for heterogeneous policy responses. Therefore, the implications of transition risk for macroprudential policy design are highly interesting for economists.

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Financial Instability and Transition Effects in Energy Sectors

Le (2023) highlights financial instability and allocation shifts between clean and highly polluted energy sectors. Using a medium-large two sectors macro-financial DSGE, the paper finds that indicate that implementing an ambitious carbon price to achieve climate goals leads to a recessionary effect. Notably, the banking sector exhibits an amplified effect during the transition. Furthermore, pre-announcements of carbon policies are shown to mitigate inflation volatility by 0.2% at its peak, underscoring the importance of well-communicated policies from authorities and investment in expanding the green sector. Findings also emphasise the use of optimal green monetary and financial policies in mitigating transition risks and facilitating the shift to a zero-emission world. Utilizing a heterogeneous approach with macroprudential tools reveals that optimal policies can mitigate output loss by 0.1% and investment loss by 0.5%. Importantly, the study also highlights the role of capital flow management in green transition amid global cooperative challenges.

Market for Carbon Permits and Financial Stability

Benmir & Roman (2020) explore the implications of establishing a market for carbon permits to achieve the net-zero objective for the Euro Area. They identify two inefficiencies stemming from the European Emissions Trading System: i) a welfare wedge and ii) a distortion in risk premiums. Their findings suggest that macroprudential climate risk-weights on loans, aimed at ensuring financial stability during the transition, can help mitigate the welfare wedge. Moreover, they show that quantitative easing rules could enable authorities to counteract the impact of carbon price volatility on corporate risk premia. Lastly, central banks may have an incentive to prioritize green bonds in large-scale asset purchase programs when the macroprudential authority concurrently implements climate risk weights.

Transitioning to a Low-Carbon Economy in the Euro Area

In **Diluiso et al. (2021)**, they investigate the risks to macroeconomic and financial stability associated with limiting global warming to below 2°C. Using a Euro Area New Keynesian model, it assesses the challenges of transitioning to a low-carbon economy and evaluates monetary policy and financial regulation's effectiveness. Their results suggest that while ambitious climate targets entail manageable transition costs, disorderly climate policies can lead to increased inflation volatility, necessitating a strong monetary response. Implementing green quantitative easing can stimulate the economy effectively, and financial regulations promoting decarbonization can mitigate the severity of a financial crisis. However, careful central bank involvement in climate actions is crucial to avoid unintended trade-offs and align with their mandate.

Green Bonds and Central Bank Collateral Policy

Looking broader at green asset treatment, **Giovanardi et al. (2023)** investigate the preferential treatment of green bonds in the central bank collateral framework as a climate policy instrument within a DSGE model incorporating climate and financial frictions. In the model, both green and carbon-emitting conventional firms issue defaultable corporate bonds to banks, which use them as collateral subject to haircuts determined by the central bank. Reducing haircuts prompts firms to increase bond issuance, investment, leverage, and default risk. Collateral policy navigates a trade-off between boosting collateral supply, negative effects on firm risk-taking, and subsidizing green investment. The optimal collateral policy involves a haircut gap of 20 percentage points, augmenting the share of green investment and curbing emissions. However, welfare gains are limited compared to what could be achieved with optimal carbon taxes. Furthermore, due to heightened risk-taking by green firms, preferential treatment is an imperfect substitute for Pigouvian taxation on emissions: optimal collateral policy includes preferential

treatment of green bonds only if the optimal emission tax cannot be implemented.

References

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