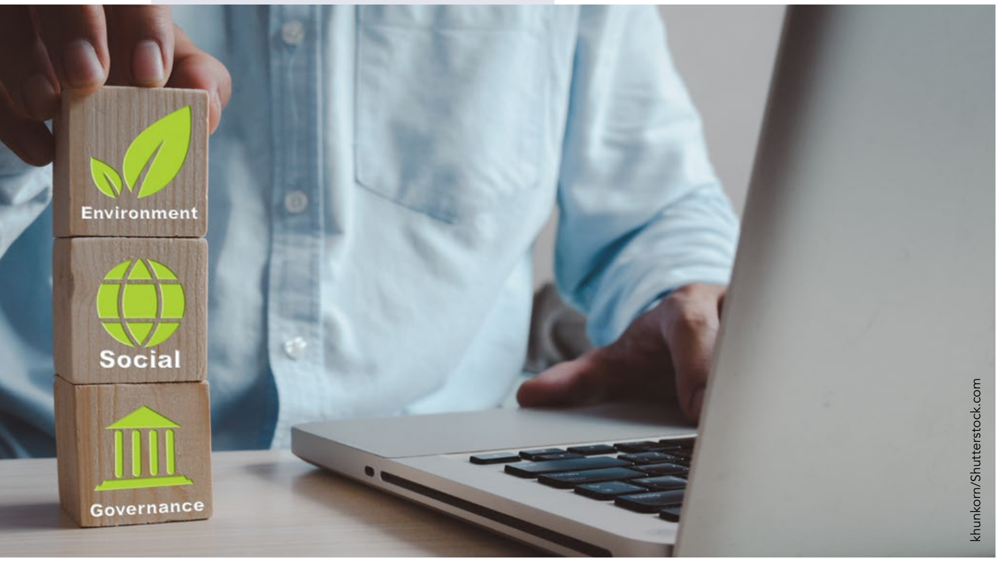
Central banks and climate change mitigation

A Money View perspective

Directing financial flows on a path towards low CO2 emissions was a key objective of the Paris Agreement, but as Dr Jakob Vestergaard, Associate Professor in the Department of Social Sciences and Business at Roskilde University in Denmark, observes, 'financial flows are not on that path at all'. In his investigation of the role of central banks in climate change mitigation, he focuses on a school of economic thought called the Money View to facilitate a nuanced and comparative analysis. He proposes an innovative dual strategy as the way forward for an effective form of green central banking.



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In 2015, world leaders at the UN Climate Change Conference in Paris reached a breakthrough in the fight against climate change – the Paris Agreement. Long-term targets were agreed for all nations to significantly reduce greenhouse gas emissions to restrict the global temperature increase this century to 2 degrees, ideally limiting it to 1.5 degrees. It has been estimated, however, that for global warming to be limited to 1.5 degrees, global emissions will have to reach net-zero by 2050.

A key objective of the Paris Agreement was to direct financial flows on a path towards low CO2 emissions. As Dr Jakob Vestergaard, Associate Professor in the Department of Social Sciences and Business at Roskilde University in Denmark has noted, however, this is currently far from being the case. Dr Vestergaard is now investigating the role of central banks in climate change mitigation. In order to undertake his investigation, he focuses on a school of economic thought called the Money View to facilitate a comparative assessment of various monetary policy options. He explains that, notwithstanding the decades spent promoting sustainable finance in the financial sector and the efforts made by governments and international organisations, only modest progress has been made. Moreover, it is damningly estimated that the financial system is currently 'funding temperature increases of over three degrees centigrade'. What role might central banks be able to play in mitigating these potentially disastrous climate effects? Dr Vestergaard's research yields some fascinating answers to this question.

GREEN CENTRAL BANKING
A novel approach to climate change mitigation is green central banking. Contributing to an emerging literature championed by Daniela Gabor, Dirk Schoenmaker, and Ulrich Volz, Dr Vestergaard describes how central banks have the potential to influence private financial institutions' investment decisions by implementing monetary policy to encourage the ownership of green over brown assets. This vitally creates incentives towards the adoption of green technology and the development of lower emission business models.

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Widening haircut spreads to change relative incentives is the most effective way of reshaping existing collateral hierarchies, an essential condition for green central banking.

While there is an abundance of literature on green finance, little theoretical work has been carried out to date on green central banking, and in particular the approaches and associated instruments which might be mobilised by greener central banks. To help fill this void, Dr Vestergaard examines the foremost approaches to green central banking and assesses the key monetary policy instruments. He identifies the conditions of possibility for the effectiveness of green central banking, before concretely proposing a policy strategy for effective green central banking.

MONEY VIEW
To perform a comparative assessment of the wide assortment of monetary policy instruments employed, Dr Vestergaard adopts a Money View perspective. This enables the identification of the most promising instruments for effective green central banking. The Money View, pioneered by Professor Perry Mehrling, links the academic fields of economics and finance. Put simply, where economics tends to consider how past investment influences current growth, finance considers how future cash payments affect current asset prices. The Money View presents an integrated approach and emphasises how current cash flow imbalances and liquidity needs are important for financial participants to survive.

> **Dr Vestergaard comments that widening haircut spreads to change relative incentives is the most effective way of reshaping existing collateral hierarchies.**

Employing a Money View perspective enabled Vestergaard to differentiate between the policy options identified by the Network for Greening Financial Systems (NGFS), a network established by central banks in order to set about 'greening' the broader financial system. In so doing, he identified monetary policy instruments that were most likely to be effective as well as those that were not.

APPROACHES TO GREEN CENTRAL BANKING
Much of the discourse surrounding green central banking advocates a distinction between *defensive* and *proactive* approaches to the climate considerations taken by central banks. Defensive approaches involve protecting financial systems from the disruptive economic consequences of climate change. Proactive approaches, on the other hand, are concerned with using central bank policy tools to mitigate climate change. Dr Vestergaard notes, however, that 'one should not underestimate the potential interlinkages between the two'. He comments that the best way to reduce the risks to financial stability from climate change would be to alleviate changes to the climate first off. Subsequently, by definition, all proactive green central banking would also be defensive green central banking. Unfortunately, it doesn't always work the other way around. Some defensive green central banking measures could have a positive climate change mitigation effect. For example, if better pricing of climate risks went hand in hand with better disclosure of them, the allocation of capital would be led in a greener direction, benefiting climate change mitigation. It cannot be generally assumed, however, that a defensive green central banking will contribute to climate change mitigation.

THE DISCLOSURE APPROACH
The Financial Stability Board established the Taskforce for Climate-related Financial Disclosure (TCFD) in response to Mark Carney, former governor of the Bank of England, warning that 'the challenges currently posed by climate change pale in significance compared to what might come. So why isn't more done to address it?' Carney rejected the notion that central banks should take the initiative and encourage greening of the financial systems to fast-track funding for a low-carbon economy. Instead, to address the potential impact of the physical risk, liability risk, and financial risk of climate change on financial stability, the TCFD emerged as the voluntary sustainability disclosure of companies. Four registers – governance, strategy, risk management,

and metrics – were established, but they were somewhat vague.

The recommendations of the TCFD have been adopted by more than 2,000 large companies worldwide and its recommendations have influenced other disclosure frameworks too. Such proliferation, however, does not equate with success. Some adopters have registered their concerns regarding the lack of standardised metrics with the TCFD, but suitable remedies have not been proposed. Dr Vestergaard observes that 'there is little climate change mitigation impact – if any – of the voluntary disclosure approach championed by the TCFD'. This lack of meaningful change from the disclosure approach highlights the need for new, more effective tactics.

A DUAL STRATEGY

Dr Vestergaard explains that fundamentally, the way forward for an effective form of green central banking is to adopt a dual strategy. The first involves expanding collateral eligibility by means of positive screening – a process that identifies companies and assets that are actively contributing to the green transition. Expanding collateral eligibility is important as a transition is not possible in an environment of contracting market liquidity. The second entails widening haircut spreads so relative incentives are in favour of green over brown assets.

WIDENING HAIRCUT SPREADS

Dr Vestergaard comments that widening haircut spreads to change relative incentives is the most effective way of reshaping existing collateral hierarchies, an essential condition for green central banking. He considers three approaches. A sliding-scale approach could be applied that uses industry emission averages as a benchmark. Haircuts are then increased for assets with higher-than-average carbon emissions or decreased for those assets with lower-than-average emissions. Alternatively, haircuts could be adjusted in line with the carbon-intensity of the assets. The third approach involves the use of technical screening criteria for green and brown economic activities as upper and lower thresholds for differentiated haircuts. This could involve using the EU taxonomy of green economic activities, thereby considering not just climate change mitigation, but also the four other environmental challenges going forward (pollution, biodiversity, forests, and water). The latter option is advocated in Dr Vestergaard's study.

A PROMISING PATH FORWARD

It is worth noting that deploying monetary policy instruments to skew incentives in favour of green assets contravenes the principle that central bank operations should be 'market neutral'. Consequently, there is a substantial amount of political resistance from central bankers surrounding this idea. But market neutrality arguments are increasingly being challenged. It is likely that the pressure for green central banking will increase in coming years and eventually central banks will have to come around. When that happens, the innovative approach proposed in this research offers a promising path forward.

Dr Vestergaard mentions in his conclusion that green central banking does not stand alone. Both carbon pricing and green public investment are also essential in this process. He concludes that 'it is not unreasonable to surmise that strong financial incentives created by environmentally differentiated haircuts, calibrated against proper standards for what constitutes green and brown assets, respectively, would cause a significant contribution towards a greening of finance.'

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A Primer on Collateral Policy

Pawnbroker practices in Ancient Greece – where borrowers posted collateral with a pawnbroker to access loans – were an early form of secured lending. What is accepted as collateral, however, varies significantly over time. This holds for central bank lending too. What the European Central Bank (ECB) accepted as collateral before and after the financial crisis were altogether different things. When money and credit markets are liquid and well-functioning, central banks take a conservative approach, accepting only high-quality assets as collateral. In periods of market stress, on the other hand, they usually responds to their (explicit or implicit) mandate for preserving financial stability, by accepting a wider range of assets as eligible collateral for its open market operations.

Three core factors define the contours of central bank collateral policies (BIS 2015). First, eligibility criteria set out what assets are eligible as collateral when banks seek access to central bank money; second, haircuts determine how much central bank money a bank will receive (in percentage of the market value of the collateral) for different types of eligible collateral; and, third, stipulations on counterparty access define what types of financial institutions the central bank is willing to provide lending to.

The haircut denotes the difference between the market value of the collateral a bank pledges to the central bank, and the loan that the central bank will give in exchange. The haircut can be seen as the central banks' insurance against liquidity risk.

Behind the Research

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Research Objectives

Dr Jakob Vestergaard explores the role central banks can play in mitigating climate change.

Detail

Bio

Jakob Vestergaard is an associate professor at Roskilde. Previously, he was senior researcher at the Danish Institute for International Studies. He holds a PhD in international political economy of finance from Copenhagen Business School and a post-doc from London School of Economics.

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Personal Response

What inspired you to mobilise the Money View literature in your analysis of the various monetary policy options?

An assessment of policy options informed by the Money View achieves two things. First, it alerts us to the fact that one of the policy options with greatest intuitive appeal – negative screening of brown assets – would likely have effects that would be highly disruptive of the green transition processes that it hopes to instigate. Second, the Money View analytics makes it possible more generally to discriminate between a range of monetary policy options, identifying the elements that can be incorporated in a policy strategy likely to be effective.

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