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## **GREENING OF MONETARY POLICY: FROM MARKET NEUTRALITY TO GREEN RULES**

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### **Abstract**

The purpose of this paper is to present and discuss the main elements of the green monetary policy. Using the available researches, authors give an overview of the incorporation of green rules into a monetary policy. The limitations of this paper arise from the fact that green monetary policy is still at its beginning, and a certain period is necessary to see how central banks are developing and adopting it.

**Keywords:** green central banking, green bonds, monetary policy

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## **1. INTRODUCTION**

The environmental disasters, climate shocks, and extreme weather events have strengthened the awareness and the necessity of incorporating environmental, social and governance (ESG) criteria into all business activities and public policies that would accelerate the transition to a green economy. Global warming and climate change are not only environmental problems but also might cause many negative economic implications. They change ecosystem productivity causing a potential fall of worldwide output and an increase in costs of production and consumer prices (Parker, 2018), but they are not a cyclical phenomenon (Cœuré, 2018) to which monetary and other macroeconomic policies can respond with usual instruments and operations.

Since climate change and environmental risks could affect business activities and financial results of firms, they represent the risk for entrepreneurs as debtors and banks as creditors. Financial institutions' resistance to sector-wide challenges associated with climate change (and also the net-zero transition) depends on the level of their exposure to carbon-intensive assets in the terms of credit risk, market risk, and liquidity risk. Similarly, how environmental risks increase default probabilities related to financial institutions' investments could affect default probabilities about different classes of central banks' assets like foreign currency reserves and holding of securities for monetary policy. Therefore, support for an environmentally sustainable system is important for the environment, the economy, and financial stability.

Droughts, floods, hurricanes, and other physical damages affect productivity and price stability, including climate change impacts on agricultural production and food prices as an important component of consumer price inflation. Greening of monetary policy is therefore compatible with price stability, and central banks are committed within their mandate to account for climate change. Moreover, despite potential inflationary implications of the carbon taxes, more expensive borrowing, or other penalties for fossil energy producers and carbon-intensive industries in the short-run, the increasing share of renewable energy sources can reduce total energy prices and risks to price stability in the long run (Ferrari and Landi, 2022), while also supporting energy security. Regarding this, central banks should take climate change into their macroeconomic models (Debelle, 2019), but “financial policymakers will not drive the transition to a low-carbon economy” (Carney, 2020).

The paper aims to analyze the development of green finance and the greening of prudential and monetary policy. The issue to which more attention will be paid is market neutrality in the greening of monetary policy, as a fundamental criterion for the operation of central banks, relative to the rules of green procedure which can reduce the effectiveness of monetary policy to achieve price stability and support sustainable economic growth in the short run.

## **2. SUSTAINABLE FINANCE INITIATIVES**

In addition to regulations and standards in the field of environmental protection, as well as environmental taxes and penalties for CO<sub>2</sub> emissions, many private and public initiatives for

sustainable economic growth and finance have been launched on the global level. The starting points for many of them were the United Nations Environment Programme, established in 1972 Stockholm UN Conference on the Human Environment and a further creation of the UNEP Finance Initiative during the Rio Earth Summit in 1992. Today the United Nations Environment Programme Finance Initiative (UNEP FI) represents an extensive global network of more than 450 banks and insurers (with assets exceeding US\$100 trillion) that promote the principles of responsible banking, sustainable insurance, and responsible investments.

Numerous other initiatives have also been launched to achieve the objective of the Paris Agreement to limit global temperature increases to 1.5°C from pre-industrial levels. For example, the Sustainable Stock Exchanges Initiative (SSE) was launched in 2012, and today, it represents a global platform of 113-member stock exchanges (SSE, 2021). One of its functions is to provide technical advice and assist interested exchanges with drafting guidance on reporting ESG information for security issuers listed on their market.

The Net Zero Financial Service Providers Alliance (NZFSPA) is a global group of service providers (credit rating agencies, stock exchanges, auditors, accounting firms, investment advisers, ...) committed to supporting the transition to a net zero greenhouse emissions. The Glasgow Financial Alliance for Net Zero (GFANZ) brings together more than 550 firms, including banks, insurers, asset owners, asset managers, financial service providers, and investment consultants. The GFANZ was launched in April 2021 (during the COP26 summit in Glasgow, the UK) by the UN Special Envoy on Climate Action and Finance Mark Carney, the former Governor of the Bank of England. Mr. Mark Carney is undoubtedly the most famous promoter of green finance at the global level, with a strong influence on greening central banking in the UK and other countries.

With the purpose of helping all global monetary authorities and regulators to better assess the multifaceted risks posed by climate change in financial systems, during the Paris “One Planet Summit” in December 2017, eight central banks and supervisors established the Network of Central Banks and Supervisors for Greening the Financial System (NGFS). Today the NGFS consists of 121 members and 19 observers - including national central banks, banking regulatory bodies, national financial sector supervisors, and international institutions that voluntarily exchange experiences and share best practices of monetary and prudential reforms to improve the environment and climate risk management in the financial sector.

### **3. ENVIRONMENTAL REQUIREMENTS FOR THE BOND MARKET**

In addition to green bank loans to households and allocations of loans to sustainable business sectors, significant improvements are also achieved in developing the global green bond market. At the end of 2020, the value of green bonds traded hit \$2.3 trillion with the significant participation of green bond issuers from the US, China, and France (World Economic Forum, 2020). The eligible green finance projects include private and public investments related with

renewable energy and energy efficiency, pollution prevention, circular economy, sustainable use of natural resources, and other projects that emphasize the issuer's environmental sustainability objectives and are aligned with guidelines that recommend transparency, accuracy, and integrity of information that will be disclosed and reported by issuers to stakeholders.

Developing the green/ sustainable bond market opens space for more active use of green criteria in monetary policy operations. The biggest holders of green bonds are banks, investment and pension funds, insurers, and central banks. So, for example, the ESB and the Eurosystem hold around 20% of all euro-denominated green debt (World Economic Forum, 2020), which mainly includes a part of corporate bonds purchased through non-standard open market operations after 2016. Although non-standard operations have ended, since October 2022, the ECB has been considering climate criteria when reinvesting funds from maturing corporate bonds according to the 2021 action plan to include climate change considerations in its monetary policy framework.

However, corporate bonds are not a typical asset in the portfolio of central banks, so central banks also use other principles of climate-friendly investments. For example, the Swedish Riksbank has restructured the portfolio of foreign exchange reserves in favor of increasing the share of government bonds issued by countries with a lower carbon footprint while reducing the share of bonds from countries with a higher carbon footprint (Flodén, 2019). That reflects the strategy of supporting sustainable development and the fight against climate change. This can also be seen in managing the market risk of central banks' portfolio assets, as central banks and non-banking regulators stimulate climate risk management in the financial sector.

#### **4. GREENING OF CENTRAL BANKING**

Despite the intensive development of green finance, most bank loans and other financial investments are still placed in companies and sectors with a significant carbon footprint. To accelerate the transition to a sustainable economy and address risks related to climate change, many central banks are adapting prudential frameworks and principles for the application of classification standards that will help financial institutions to assess better their climate-related exposures and sector-wide challenges associated with the net-zero transition as well as to mobilize more capital for green and low-carbon investments which would enable environmentally sustainable development.

Global warming and climate change are not only environmental problems but might cause many negative implications for the economy and financial stability. The climate-related shifts in the physical environment might significantly reduce global output and increase production costs and consumer prices. As a result, climate change has become a systemic risk (ESRB, 2016) to the global economy. However, it is not a cyclical phenomenon (Coeuré, 2018) to which monetary and other macroeconomic policies can respond with usual instruments and

operations, especially in the context of conflicting goals in the case of opposite movements of output and prices.

Since climate change vulnerability affects business activities and financial results of firms, it represents the risk for entrepreneurs as debtors as well as the risk for banks as creditors. At the same time, the risks for financial institutions are not only those related to physical damage to the assets of clients and a drop in debtors' income due to ecological disasters or natural disasters but also include risks of (too fast) transition to a green/ sustainable economy that might shut down specific industries.

Apart from credit risk (debtors' ability to repay their debt and risk of potential depreciation of assets used for collateral), climate change also emphasizes other risks for financial institutions, including market risk (the devaluation of carbon-intensive assets whose value depends on the extraction or usage of fossil fuels and other carbon-intensive resources) and liquidity risk (difficult refinancing) in case of fire-sale of securities or other assets due to a rapid transition to a green economy. The implications of such systemic risk depend on financial institutions' exposure to carbon-intensive assets (ESRB, 2016) which is still very high and also exist in the balance sheets of some central banks that have been more intensively buying private sector securities in recent years.

Cevik and Jalles (2020) find that countries with greater vulnerability to risks associated with climate change have higher sovereign bond yields and spreads relative to countries that are more resilient to climate change. Support for an environmentally sustainable system is important for the environment, economy, and financial stability.

The next area of influence is the issue of price stability. Despite potential constraints and inflationary implications in the short run, the increasing share of renewable energy sources can reduce total energy prices and risks to price stability in the long run (Ferrari and Landi, 2022) while supporting energy security. The energy crisis, inflation (led by an increase in fossil fuel prices after the Russian invasion of Ukraine) and increased geopolitical risks during 2022 pointed to the importance of the green transition in achieving the diversification of energy sources to prevent adverse supply shocks that can threaten central banks in achieving the goal of price stability. The energy crisis related to increased geopolitical risks is particularly evident in the members of the European Union, which record-high inflation and faced with other risks of adverse supply shocks related to less availability of energy sources and their rising prices with significant adverse effects on the macroeconomic activity as well as the rising yields on government bonds of the most developed the EU members.

## **5. GREENING OF MONETARY POLICY INSTRUMENTS**

The fields of green central banking implementations are green credit allocation policies, green prudential regulations and other activities such as developing green finance guidelines or setting up green bond markets (Dikau and Ryan-Collins, 2017). The green monetary policy rules are implemented in several developing countries with high environmental pollution and less developed financial markets. Examples of green monetary rules in credit allocation policies include (Dikau and Volz, 2021):

- lower reserve requirement for banks' claims related to less carbon-intensive activities (implemented by the Bank of Libanon);
- green-targeted refinancing lines to banks for investments in renewable energy projects and energy-efficiency projects at lower-than-market interest rates (implemented by the People's Bank of China, the Bangladesh Bank and the Reserve Bank of India);
- requirements for the minimum share of banks' loan portfolio that must be allocated to priority sectors (40% of net commercial credit in India and 5% of total loan portfolio in Bangladesh);
- the combination of monetary and prudential restrictions of lending to carbon- and energy-intensive industries and firms that violate environmental compliance rules (case of China) and restrictions on lending in environmentally sensitive areas (implemented by Banco do Brazil for Amazon region).

All mentioned measures are more administrative than market-oriented and can contribute to distortions of the financial system (Lang et al., 2020) due to differential interest rates, direct support to certain industries, and lower efficiency of financial markets, causing adverse impacts on the economy in case of inadequate adjustments in the industrial production structure (Liu et al., 2015). For mentioned reasons, green monetary policy rules are not acceptable for advanced economies.

Until recently, many central banks in advanced countries have been skeptical of green monetary policy, arguing that it is incompatible with their mandate. Since supporting sustainable finance is possible through fiscal, prudential, and other non-monetary economic policies, central banks had a good explanation of why the greening of monetary policy is not needed, especially regarding the development of numerous private sector initiatives for responsible investments. The prevailing opinion was that monetary policy should remain 'market neutral' with the desirable minimalist conception of operations restricted only to open-market purchases of government securities or with temporarily extended orientation, including purchases of private sector debt securities but without sectoral preferences or green classification standards.

As eligible securities are more liquid, lower haircuts implemented on low-carbon intensive securities can reduce the cost of capital for their issuers relative to high-carbon intensive sectors and in this way central banks can help direct capital toward sustainable activities. Practically, similar proposals have been implemented by the ECB since October 2022. Although non-standard operations of the ECB have ended, the ECB has been considering climate criteria when reinvesting funds from maturing corporate bonds. However, it is not green monetary policy

rule, and described greening of monetary policy cannot be substitute for the climate policy of governments (Heemskerk, 2022). Despite different interpretations of how the EU Climate Law affect the ECB's responsibilities in conducting monetary policy and banking supervision, the ECB is not a relevant institution under the Climate Law, and „in the field of the environment, the ECB is a policy taker, not a policymaker “(Elderson, 2022).

## 6. CONCLUSION

The greening of central banking might contribute to price stability and central banks are committed to their mandate to account for climate change. On the other hand, too fast net-zero transition could also affect consumer prices and cause disruptions in financial system. For these reasons, transition to a low-carbon economy must result in something other than undesirable inflation pressure or negative impacts on output. This is also why greening of monetary policy can be applied only gradually in order to avoid negative consequences. In terms of the operative cost of businesses and household expenditures, accelerating the transition to a green economy is desirable with the same dynamic as renewable sources (like solar and wind electricity), and low-carbon infrastructure will become cost-effective. That is one of reasons why strict green rules of monetary policy (advocated by various lobby groups, activists and green political parties) are not desirable.

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