Green Finance & Green Monetary Policy: Different Approaches

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Strictly speaking, green finance is part of the broader concept of sustainable finance, a term that explicitly includes social issues, while climate finance is a narrower element of green finance. However, in practice, the distinction between sustainable and green finance and sustainable and green monetary policy is often not made but the terms are used synonymously. Hence, we follow this tradition and use the term green finance and green monetary policy to refer to both. Green finance and green monetary monetary policy are related to each other and can be classified on a common ground. In general, neoliberal, reformist and progressive forms of green finance and green monetary policy can be distinguished.

Keywords: green finance ; green monetary policy

1. Neoliberal Forms of Green Finance and Green Monetary Policy

The term neoliberal is used to refer to a set of policies that rely primarily on market forces, tend to restrict the public sector's active engagement and promote the private sector [1][2]. Neoliberal forms of green finance and monetary policy strategies can be justified by mainstream neoclassical economics, in particular, environmental economics [3]. We distinguish three different types of neoliberal green finance in the area of financial markets and monetary policy (see **Table 1**).

Table 1. Neoliberal forms of green finance and monetary policy.

Types	Elements and Tools of Green Finance	Monetary Policy Tools and Strategies
Laissez-faire neoliberal green finance and monetary policy	• financial investor (corporate) behavior (CSR, ESG) and private finance deal with environmental issues • green financial assets and services contribute to profitability • no coherent climate policy—freely determined climate risk measures and markets; lack of environmental regulations • limited public financial spending on green investments	• price stability at the top of the monetary goals pyramid • traditional monetary policy strategy focusing on inflation targeting • key role of interest rates in monetary transmission mechanism to control inflation • traditional Quantitative Easing (QE) practices
Standard neoliberal green finance and monetary policy	• environmental problems are caused by externalities and should be internalized • (indirectly) subsidizing private sector through tax reduction or tax credits for environment friendly production • support private green investment via green subsidies, guarantees, socialization of private debt, etc.	• traditional monetary policy instruments enhanced by green QE and targeted longer-term green refinancing operations • reduction of minimal capital requirements for green lending • proposals of a Central Bank Digital Currency (CBDC) that can be used to target specific private green investment

Types	Elements and Tools of Green Finance	Monetary Policy Tools and Strategies
Market-making neoliberal green finance and monetary policy	• implementation of regulations supporting the development of private green finance • market-making, transparent, non-binding standards and measures of climate risk assessment and management • official taxonomies defining green activities and environmental risks	• obligatory inclusion of climate risk and climate-related risks into overall risk assessment in the financial sector • integrating sustainability factors into central bank portfolio management to green the balance sheet

1.1. Laissez-Faire Neoliberal Green Finance and Green Monetary Policy

Laissez-faire neoliberal green finance expects that individual behavior of corporations, e.g., in the areas of corporate social responsibility (CSR) and/or financial investment strategies following ESG (environmental, social and governance) criteria, are effective in managing environmental problems. This is very much in line with the idea that financial investors' behaviors are a central element in dealing with environmental problems as promoted by private investors such as Larry Fink, CEO of BlackRock [4], as well as by banking supervisory institutions such as the European Banking Authority (EBA) [5].

This optimistic perspective regarding the potential of private (financial) agents can be criticized within the neoliberal perspective itself [6]. The assumption that voluntary "green" investment behavior makes a difference is largely at odds with the efficient market hypothesis [7], the dominant perspective regarding the functioning of financial markets today. This perspective suggests that the prices of financial assets are not determined by the demand for them but by rational expectations regarding the future returns. The perspective holds that if some (or even many) market participants are irrational (or prefer green investment), the prices of financial assets, and hence, the investment conditions for different industries, will still be determined by the expected returns (and not by the demand for these assets). Individual strategies of investing in green bonds, shares or other financial instruments due to rebalancing effects are expected to have at best a minor impact on prices, financing conditions and the real economy [8]. In a less optimistic view, short- or medium-term deviations of equilibrium prices and market distortions may occur but only as a temporary phenomenon. Hence, while individual behavior in the form of green consumption changes the form of production and the structure of output, and therefore, undoubtedly has a positive environmental impact. This is far less the case of private green investment within the context of efficient financial markets. Therefore, it is not surprising that it is so difficult to find empirical evidence showing any significant effectiveness of private green investor behavior [9]. Based on a recent review of empirical literature [10], investor impact is at best very modest and can be found most often when financial markets are not efficient and small or less-established firms face financing constraints. Notwithstanding this, it is often argued that such voluntary approaches by investors may help to solve global environmental problems. However, Weber and ElAlfy [11] (p. 73) conclude that the promotion of green finance by financial industry takes place "[…] only as far as it has direct positive impact on the business or as long as it has positive impact on the reputation". This goes along with widely critiqued "greenwashing" in the financial sector [12], whereby companies offering green products continue to promote traditional "brown" products and "brown" investment is, consequently, not significantly constrained.

1.2. Standard Neoliberal Green Finance and Green Monetary Policy

This perspective encompasses a less radical and more conventional neoclassical view that builds on the assumption that environmental problems are caused by externalities that can be internalized by either taxes and/or subsidies [13]. While taxes and/or increasing the costs for capital are considered reformist approaches, subsidies to companies and the financial sector are classified as standard neoliberal green finance because of the different distributional implications. In the context of green finance, this approach is reflected by promoting the (indirect) subsidization of private green investment as an effective policy approach [14][15]. These subsidies can take the form of public guarantees such as de-risking Private–Public Partnerships (PPPs) [16] or green credit guarantee schemes (GCGSs) [17]. It is criticized that these measures use public money to increase profitability for private investors as has been the case in Africa [18]. Directly supporting private investors tends to imply adverse effects on the distribution of income and wealth. This is why such an approach can be classified as standard neoliberal green finance.

In the area of monetary policy, a standard neoliberal approach supports using measures that improve financing conditions for private green investment. Such a strategy builds on traditional monetary policy measures and combines them with innovative instruments such as targeted longer-term green refinancing operations, green QE, a reduction in the minimal capital requirements for green lending, etc. [19][20][21].

1.3. Market-Making Neoliberal Green Finance and Green Monetary Policy

Policies and regulations that create and support markets can be subsumed under the banner of market-making neoliberal green finance. Such policies do not just include regulations regarding property rights but also standards such as “green” taxonomies. Standardization measures are expected to increase transparency and facilitate the creation and functioning of markets and financial instruments [22]. This is expected to make markets work more effectively for environmental goals [23].

The EU taxonomy [24] is an important and well-developed example defining standardized criteria for classifying and rating green investments, allowing, for example, for the comparison of different (green) mutual funds. In developing the taxonomy, the EU relied heavily on input from private finance. The taxonomy is expected to provide a level playing field for the banking industry and improve its reputation in the context of accusations of greenwashing. In so doing, it should enhance business opportunities by increasing the demand for green financial products.

2. Reformist Forms of Green Finance and Green Monetary Policy

The term reformist refers to approaches that deviate from a neoliberal perspective in that they are more skeptical of markets and see a more active role for the state in achieving environmental goals. Moreover, distributional effects of green finance and green monetary policies are considered important. Such reformist forms of green finance tend to put the costs onto private corporates and the financial sector while supporting less-wealthy households. Hence, contrary to standard neoliberal approaches, reformist green finance does not subsidize environmentally preferable activities but taxes those activities that are environmentally problematic (nevertheless compensating households where these taxes have problematic distributional effects) and uses financial resources for public environmental policies such as the provision of green infrastructure. Moreover, within this reformist perspective, green finance is considered based on strict environmental rules rather than on the profit motive of investors. On a theoretical level, reformist approaches to green finance can be supported in part by neoclassical environmental economics but mainly by heterodox approaches to environmental issues [25][26]. A reformist approach restricts private capital flows and promotes the public provision of environmental goods (instead of private green finance and private sector investment). In the field of monetary policy, it encourages and supports public environmental investment strategies by central banks [27]. Reformist green finance, hence, relies on two important pillars that are complementary: taxes and public finance, what we categorize as tax-based reformist public green finance, and command and control policies within the field of green finance, both in particular and in the economy in general (see **Table 2**).

Table 2. Reformist forms of green finance and monetary policy.

Types	Elements and Tools of Green Finance	Monetary Policy Tools and Strategies
Tax-based reformist public green finance and monetary policy	• taxes on environmentally problematic activities (carbon tax) but avoiding adverse distributional implications • green public finance based on revenues from taxing higher income and wealth • green public investment and spending on environmental issues	• monetary policy directly supports green public activities and investments • central bank provides necessary sources to transform the economy towards sustainability • monetary policy supports public development banks

Types	Elements and Tools of Green Finance	Monetary Policy Tools and Strategies
Command and control policies in green finance and monetary policy	• command and control policies that govern activities in the real economy • rules that support public environmental investment and spending • binding regulations for the financial sector that forbid or enforce specific economic activities	• monetary policy provides strict rules that encourage private banks to support green productive investment • investment in the real economy is promoted, non-supportive speculative financial activities are restricted • cross-border capital controls are essential to protect domestic monetary policy against the threat of instable flows

2.1. Tax-Based Reformist Public Green Finance and Green Monetary Policy

Instead of relying on subsidies as in the standard neoliberal approach, taxes on environmentally problematic activities are introduced [28]. This approach also considers the distributional implications of taxes and includes wealth and income taxes (including taxes on capital) as a central tool for raising funds for public investment in green activities. Financial resources are an important precondition for public ownership and public provision of infrastructure, e.g., in the energy sector or in the transport sector. This approach is expected to tackle environmental problems effectively [29].

Although a neoclassical perspective considers environmental taxes targeting externalities to be a legitimate instrument, it is critical of increasing taxes on wealth and higher income groups in the economy as this is expected to affect the private sector negatively. In a critical political economy perspective, it can be argued that such a reformist policy, although not directly supporting the financial sector, continues to support green private investment. Hence, it is a strategy that leads to green capitalism but does not combat environmental problems adequately [30].

The Green Deal proposed by the European Commission in December 2019 [31] mainly shares a neoliberal perspective but also contains some reformist elements. It proposes to reduce the risk of greenwashing by introducing standards but also argues that both public and private finance are required to transform the economy. For instance, it is intended for the European Investment Bank to increase the share of green loans from 25% to 50% of the overall portfolio. A “well-designed tax reform” (p. 17) is expected to further contribute to economic growth and increase resilience to climate changes.

2.2. Command and Control Policies in Green Finance and Green Monetary Policy

This reformist approach tries to change the context within which economic activities in the real or productive economy take place and expects that private finance responds accordingly. Hence, the starting point for introducing environmentally more friendly economic activities is not the financial sector but the rules that govern the activities in the real economy. Private sector finance follows and supports these policies. A central element of such a reformist approach includes binding regulations for the financial sector, which forbid or enforce specific financing activities [29]. The efficiency of such an approach is illustrated by successful environmental policies in the past that, for example, forbid the use of toxic substances or enforced technical standards for emissions, etc. [32].

However, in a neoclassical perspective, command and control policies are considered problematic. Against the background of neoclassical welfare economics, market-based instruments are preferred over command and control policies as they are considered to be less invasive and more efficient [3].

3. Progressive Forms of Green Finance and Monetary Policy

Progressive forms of green finance tend to be supported by approaches in the broader critical political economy and critical ecology that are skeptical about the possible alignment between capitalist production and environmental sustainability [33]. Progressive green finance and monetary policy can be understood against the background of de-growth perspectives and proposals of a people’s green new deal [34] but also as being part of foundational thinking and strategies to contribute to a socio-ecological transformation [35]. Such an approach requires multiple and collective points of intervention, including the transformation of finance to fundamentally change the provision systems dominating under capitalism [36]. The profit motive and capitalist accumulation should cease to be the dominant drivers in the economy. These are replaced by a rational way of dealing with nature based on democratic decision making. Instead of nationalist approaches, global cooperation and solidarity are seen as key to a sustainable economy that allows decent living conditions for all globally. Against the background of different transformation strategies [35][36], progressive green finance and green monetary policy are needed, while reformist approaches may only represent a first step toward a socio-ecological transformation. Progressive green finance and green monetary policy rests on two essential pillars. Firstly, similar to reformist perspectives, strict environmental rules are considered essential. However, the norms should guarantee the access of all to a fair share of environmental resources and avoid an over-use of environmental resources at a global level. Global financial transfers based on international solidarity should support this. Secondly, a transformative global monetary and financial architecture is considered a central element to facilitate financing a global socio-ecological transition (see **Table 3**).

Table 3. Progressive forms of green finance and green monetary policy.

Types	Elements and Tools of Green Finance	Monetary Policy Tools and Strategies
Individual rights and caps and global financial transfers based on solidarity	• finance supports global sustainable welfare • role of private financial markets and institutions is limited • expand and transform debt-for-nature swaps into more powerful tools • international measures of financial redistribution to assure adequate access to natural resources for all and to reach environmental goals • socio-ecological transformation of production on a systemic level is subject to global democratic decision-making processes	• monetary policy supports the goal of global sustainable welfare by providing resources accordingly
Transformative global monetary and financial architecture	• new global financial architecture based on solidarity that avoids international debt and economic dependence • implement global governance structures to transform the economic system	• international monetary policy coordination supporting domestic policies, particularly in weaker countries • creation of an international public digital currency to anchor the financial system and reduce global currency hierarchies and asymmetries • control of private global capital flows and global monetary cooperation based on solidarity

3.1. Individual Rights and Caps and Global Financial Transfers Based on Solidarity

In such a progressive perspective, finance must support global sustainable welfare [37]. This implies that access to sufficient natural resources (goods, services) must be guaranteed for all globally. A decommodified provision of essential goods is suggested. In order to avoid a global over-use of natural resources and related negative consequences such as global warming and the loss of biodiversity, this perspective suggests limiting the over-use of natural resources by a small share of wealthy people. Moreover, this requires the reorganization of production on a systemic level, such as the implementation of a globally sustainable agriculture and other provision systems [36]. The definition of these individual rights and caps and the specific way of reorganizing global production should be subject to (global) democratic decision-making processes [32]. In order to compensate for global economic inequalities, it is necessary to implement a global system of financial transfers that guarantees that all, including the poor in the global South, have access to necessary goods. Monetary policy supports sustainable welfare in general and these global arrangements by providing resources and infrastructure accordingly.

The debt-for-nature transactions are an important example of such an approach. The first attempts of such a strategy date back to the late 1980s. They involve forgiving (part of) foreign debt obligations and allowing debtor nations to use the funds for environmental purposes [38]. More recently, debt-for-nature swaps were re-proposed within the context of the Chinese Belt and Road Initiative (BRI) [39]. Under progressive green finance, such transactions could reduce the foreign debt dependence and simultaneously contribute to reach environmental goals. While debt-for-nature transactions are an important first step, they could be expanded to transfer additional financial resources beyond a reduction of debt to the global South. Monetary policy provides a global institutional setting in order to achieve the goal of sustainable welfare by providing resources accordingly.

3.2. Transformative Global Monetary and Financial Architecture

Historical analysis shows that monetary policy can be deployed for purposes other than targeting inflation. Monetary policy potentially also has more instruments and power to pursue social goals than is commonly assumed [40]. In a progressive approach, the power of central banking and monetary policy should, therefore, be used. Progressive green monetary policy builds on reformist strategies but goes substantially beyond them. In particular, the international dimension of money is important.

The global financial architecture should support the goal of sustainable welfare and restrict private capital flows where needed. It should also establish international measures of redistribution to assure adequate access to natural resources for all. This means that we should abandon the mechanism of the current international financial system, which, thanks to debt relations and financial dependency, contributes to a drain of financial (and environmental) resources from the global South to the global North [41][42]. An alternative global monetary architecture should be implemented that avoids the problems of a global currency hierarchy that fosters a flow of natural resources from the global South to the global North [43][41].

International monetary policy coordination based on solidarity is, therefore, essential in a progressive strategy. Departing from the dollar-centered global currency hierarchy and the implementation of a genuine global currency that systematically favors poorer countries is considered crucial. This could be inspired by Keynes' original Bancor proposal but goes substantially beyond it. It implies that global capital flows should be systematically controlled, and the global monetary architecture should support domestic policies [44]. This would be an important precondition for the implementation of sustainable welfare. However, mechanisms of global cooperation are essential. Potentially, the recent proposals by the Bank for International Settlements (BIS) [45] and the People's bank of China towards a global central bank digital currency (CBDC) may lead to a revolution in the global monetary architecture. In the current form, the instruments can be classified as reformist. However, they have the potential to become progressive. The BIS and the People's Bank of China [46] have cooperated with the central banks of Hong Kong, the United Arab Emirates and Thailand and the BIS Innovation Hub in Hong Kong on a multiple CBDC (m-CBDC) project. The dominance of a single national currency at the global level could end. This would allow for a more symmetric global monetary regime. The specific features of such a global (public) digital currency would enable very specific interventions and, at a global level, would facilitate access to and control of environmental resources. Hence, democratically controlled and based on global solidarity, such a measure and a new global monetary and financial architecture could be a powerful instrument of progressive monetary policy and support progressive finance. However, it is to be seen whether m-CBDC or a similar initiative will develop into this progressive direction.

Such far-reaching reforms of the global financial system and the global monetary regime are considered at odds with a traditional neoclassical perspective on monetary policy that focuses mainly on price stability and see a very limited role of money for the economy.

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