Leveraging Banking Regulation for Climate Mitigation: Approaches and Tools

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Climate change is negatively impacting economies around the world (Dietz, Bowen, Dixon, & Gradwell, 2016). Banks and other financial institutions are connected to every market sector and are exposed to climate-related risks through their intermediary activities. The stability of financial systems and global economy as a whole depends on how quickly and deeply these financial institutions adapt to climate-related risks.

Drawing from both Minsky's financial instability hypothesis (Minsky, 1992) and climate fragility hypothesis (Aglietta & Espagne, 2016), this study takes climate-related risks as environmental externalities to financial system stability, whose prevention is a banking regulation function. However, there is no clearly defined banking regulation framework and/or guideline for managing climate-related risks, both for prudential and operational purposes, in several countries and jurisdictions. Therefore, the objective of this study is to categorize the efforts of central banks, monetary authorities and micro-prudential financial regulators (henceforth, central banks) in mitigating risks posed by climate change to banking sector and financial stability into distinct approaches and tools.

For the compilation of the approaches and tools the central banks are employing for climate action as shown in Table 1, I reviewed academic papers, and publicly accessible documents from governments, central banks and other relevant regulators, and opinion of industry experts and groups in the last decade, from 2010 to 2019. Key search terms used in identifying literature were 'banking regulation', 'climate-related risks', 'green assets', 'green credits', 'monetary policy' and 'financial stability'. The main sources are listed as references.

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Table (1): Central banks' approaches and tools as climate action (compilation of the author)

APPROACH	TOOL	EXAMPLES
Monetary policy This include deliberate efforts designed to control the value, supply and/or cost of money in an economy with the view of achieving set goals	**Green qualitative easing** Large purchase of green financial assets from banks by central banks to help such banks regain solvency.	The **Eurosystem**'s (the European Central Bank and Eurozone countries' central banks) Asset Purchasing Programme has purchased €18bn green bonds. **Bank of Italy** is purchasing €8bn of green assets.
	Fund management principles Central banks often manage their staff pension schemes, and sometimes fund for a wider population.	**Banque de France**'s €20bn pension fund excludes coal. Norges Bank Investment Management (NBIM), the asset management unit of the **Norges Bank,** follows ESG principles.
	Collateral framework Central banks do require collateral of eligible assets when lending to banks.	**People's Bank of China** (PBoC) accepts lower rated (AA, AA+) green bonds and green loans as collateral for its Medium-Term Lending Facility.
Macroprudential regulation An approach to financial regulation aiming to mitigate risk to the entire financial system.	**Green differentiated reserve requirements** Central banks require banks to hold sufficient loss-absorbing capital reserves to finance losses from assets' impairment and financial shocks.	**Bank of Lebanon** lowers the reserve requirements of commercial banks if the bank's customer can provide a certificate from the Lebanese Center for Energy Conservation confirming the energy savings potential of the financed project. **Central Bank of Brazil**'s Mandatory Resolution 4,327 on Social and Environmental Responsibility for Financial Institutions has increased the capital charge of banks that cannot demonstrate adequate capacity to manage environmental risks. **Bangladesh Bank** requires lower equity margin requirements for Environmental & Social (E&S) favourable projects.
	Green finance guidelines The guideline policies direct banks to fund specific sectors of the economy.	Loan to renewable energy companies is part of the **Reserve Bank of India** priority sector lending scheme. **Reserve Bank of India** includes loans for renewable energy projects or social infrastructure into its priorities. The green guidelines of China **Banking Regulatory Commission.** **Bangladesh Bank** green guideline required every financial institution to allocate at least 5% of their loan portfolio to green finance.
Banking supervision Bank supervisors continually evaluate whether banks' capital requirements are adequate for their activities and risk profiles	**Disclosure** Mandatory disclosure of exposure to climate-sensitive assets and industries.	The green assets database by the **People's Bank of China (PBoC).** The Taskforce on Climate-Related Financial Disclosures of the **Financial Stability Board of Bank of England**.
	Climate stress testing Determine banks and financial system resilience to climate change-related risks.	**Bank of England Prudential Regulation Authority (PRA)** has announced a consultation on a climate stress test to be undertaken in autumn 2019, followed by introduction of the stress test itself in 2022.
Others	**Green subsidies** Given to stimulate and encourage good practices in green labeled asset issuance.	**Monetary Authority of Singapore** has a Green Bond Grant Scheme to cover the additional costs of going green for issuers. **Hong Kong Monetary Authority** compensates issuers for the incremental costs of green bond issuance.
	Mandatory Sustainable Banking Frameworks	The **Nigerian** Sustainable Banking Principles. Socio-Environmental Liability Policy in **Brazil.** **Central Bank of Brazil's** Mandatory Guidelines on Social and Environmental Responsibility for Financial Institutions. Roadmap for Sustainable Finance in **Indonesia.** **Mongolian** Sustainable Finance Principles and Sector Guidelines.
	Voluntary Sustainable Banking Frameworks	The **Brazilian Federation of Banks'** Voluntary Green Protocols on Sustainable Banking in 2008. Environmental Risk Management (ERM) Guideline in **Bangladesh.** Green Protocol (Protocolo Verde) in **Colombia.** **India** Corporate Social Responsibility, Sustainable Development and Non-Financial Reporting – Role of Banks. Principles for Financial Action towards a Sustainable Society in **Japan.** **Turkey** Sustainability Guidelines for the Banking Sector.

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The study established that central banks are employing a range of interventionist approaches cutting across several and mixed approaches and tools to steer banks and other financial institutions towards climate action. However, central banks response to climate-related risks is still muted. Central banks must continuously activate their prudential and regulatory powers to ensure robust interventionist approaches cutting across several and mixed approaches and tools to mitigate the risks posed by climate change to financial stability.

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