Policy Brief

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Central Banks and Climate Change:

Monetary Policies for Achieving Environmental Transition in the Arab Region

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Key Points

- **The threats of climate change have not yet been given the place they deserve on central banks' policy agenda, in the Arab region.**
- **Price stability remains under stress with the inflationary threats generated by *climateflation*, *geenflation* and *fossilflation*.**
- **Central banks in Arab region will have to review their traditional mandates considering the increased climate-related risks.**
- **Central banks in Arab region should redouble their efforts not only to accelerate the process of greening monetary and prudential policies, but also to constantly enrich their toolbox by introducing innovative instruments.**

1. Introduction

The Arab region is one of the most vulnerable regions in the world to climate risks (temperature rise, precipitation variability and water scarcity, sea level rise, devastating hurricanes, ...). All these risks could potentially generate disastrous socio-economic and political consequences. For example, the lack of access to water exacerbates food insecurity, a potential source of an inflationary drift, a 'push' factor for migration, which could lead to social unrest and - political instability. Without public awareness of these challenges and their associated potential risks, the future welfare of rich Arab countries will be severely compromised, and shocks and constraints encountered by the non-

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resilient other economies are only likely to exacerbate.

Regarding the slow pace of progress toward a low-carbon economy, a conviction that has never ceased to grow within policymakers and practitioners' circles, that central banks have enormous power to ensure a successful environmental transition and a stable climate in the future.

In the last few years, many central banks have become aware of the climate-related financial risks. Two factors explain this trend reversal. On one side, financial stability cannot be achieved without greening the existing financial system. On the other side, price stability remains difficult to achieve given the new potential inflationary threats generated by a new age of energy price inflation, either because of the physical risks (*climateflation*) or from transition risks (*greenflation* and *fossilflation*), and without the fluidity of transmission channels that could be affected by financial climate-related risks.

Why climate change is considered as a further threat to central banks primary objectives, which are price and financial stability? To what extent will central banks be able to green the conventional instruments of their monetary policies and sufficiently innovate to enrich their toolboxes with effective unconventional instruments to accelerate the ecological transition? What room for maneuver do central banks in the Arab region have to green the current macroprudential framework to improve the resilience of their financial systems? How central banks and supervisors can contribute to address climate-related risks?

The purpose of this brief is to highlight the need to green central banking practices in the Arab region and to analyze how monetary policies can mitigate climate-related risks to contribute to the transition to more ecologically sustainable economies. Section 2 reviews ways in which central banks could integrate climate change in their mandates. Section 3 underlines some elements of disagreement between different central banks on issues related to climate change. Section 4 explores various policy tools that are available to central banks to address climate-related financial risks and to make the transition to green economy more efficient and quicker, and reviews headways made in greening monetary policy in the Arab region. In Section 5, we propose some recommendations that central banks and supervisors in Arab region could implement to address the climate related-financial risks and what monetary authorities can do to accelerate the environment transition.

2. Climate change: a real threat to central banking

- **Climate change generates a new generation of inflationary pressures.**

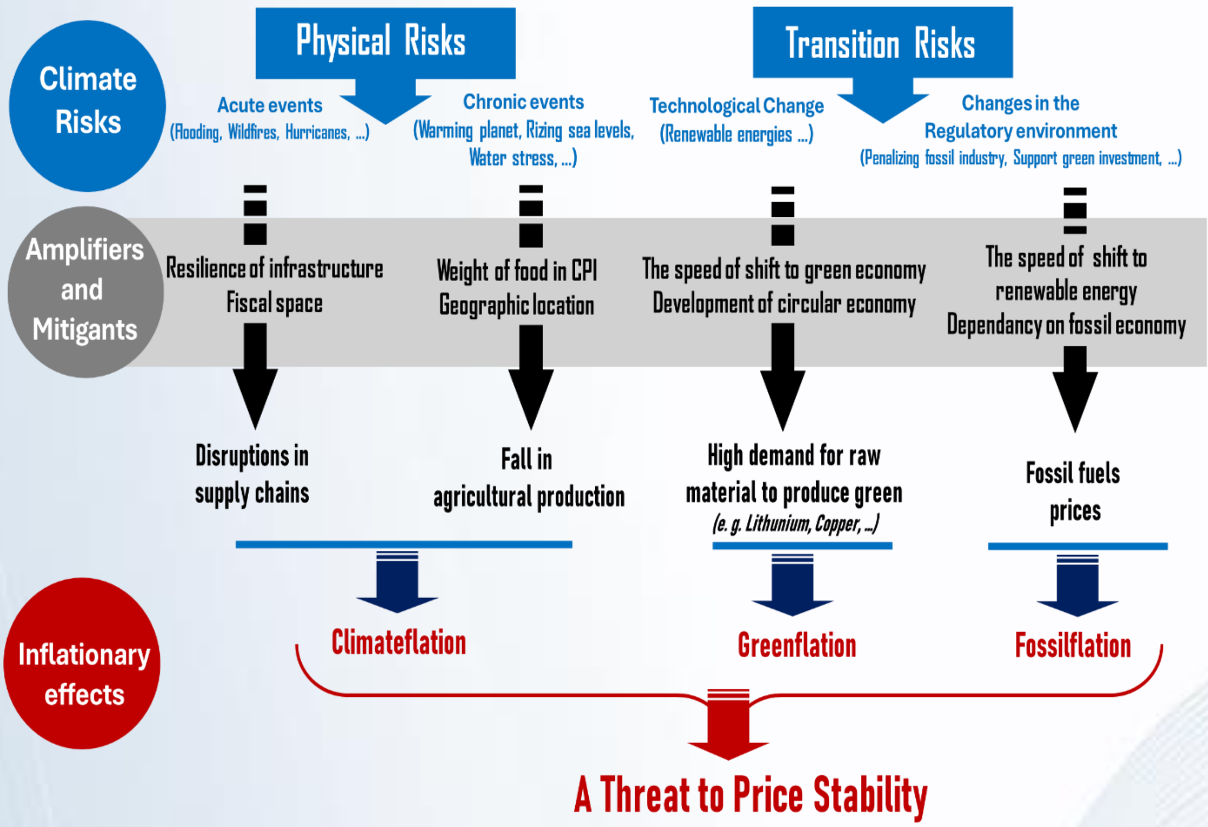
Isabel Schnabel from the European Central Bank's (ECB) Executive Board, has the merit to distinguish between the specific characteristics of each inflationary shock generated by climate change and transition to renewable energy (Schnabel, 2022)

Price stability remains under stress with the inflationary threats generated by a new age of energy price inflation, either within the physical risks (*climateflation*) or transition risks (*greenflation* and *fossilflation*) [***Figure 1***].

Climateflation: Physical risks generated by rising natural disasters and severe weather events, have a considerable impact on economic activity and prices (Bosch, 2023). These risks are highly disruptive for supply chains, especially for food products. Disruptions of supply chains, higher temperatures and water scarcity help explain the sharp rise in food prices.

Greenflation: The cost of the effort to accelerate transition to net zero carbon emissions is a source of additional and new inflationary pressures. Using green technologies requires the use of metals and minerals, such as lithium, cooper, …, whose market prices have risen sharply due to high demand.

Figure 1: Climate Change, a Threat to Price Stability



Source: *Author*

Fossilflation: The term of *fossilflation* is historically associated with inflation generated by geopolitical tensions (oil shocks of the 1970s, the Ukraine war in 2022, …). However, recently, the rise of climate change has left its mark. The fight against climate change marks fossil fuels more expensive especially when green technology is slow to meet the rise of global demand for renewable energy and green products.

However, several factors play a major role in amplifying or moderating inflationary pressures generated by climate risks including: the degree of resilience of the infrastructure, the weight of food products in the household basket, the place of the agricultural sector in the economy, the speed of the shift to green economy, the development of a circular economy, the dependency on fossil fuel, …

- **Climate change has a systemic dimension.**

Climate change appears to be worrisome to financial stability. The financial system could be strongly exposed to:

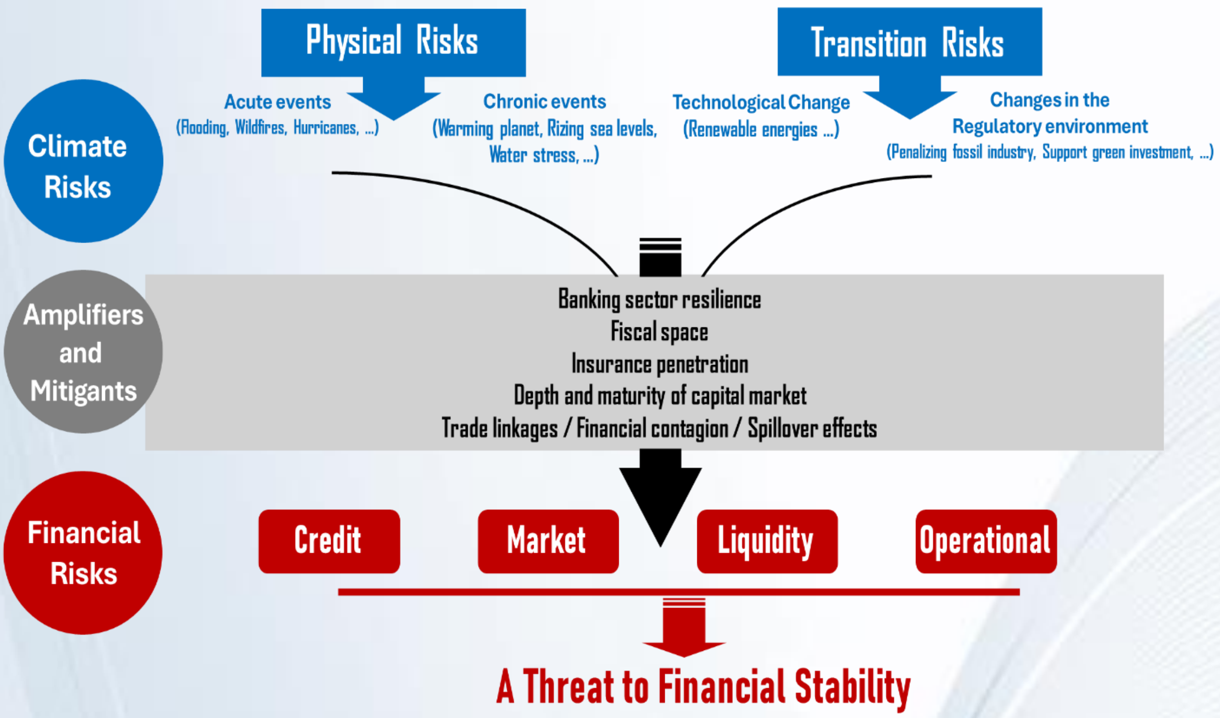
-***physical risk*** (asset damages, insurance cost, production disruption, …),

- and ***transition risks*** also for **firms** (technological obsolescence, funding high-emitting sectors, Banks: *NPLs*, *Provisions*, *Probability of default* (PD), *Loss given default* (LGD), …), and **households** (bank loans in high-emitting homes).

The complex trade linkages and financial contagion and spillover effects could amplify financial risks (credit, market, liquidity, operational, …) and thus increase systemic cost [***Figure 2***].

Climate change became more and more threatening to financial stability. On one hand, concentrated financial exposure to physical climate risks at the regional level (concentration to hazards) and the sectoral level (agriculture and tourism) generate asset damages, production disruption, and increase NPLs levels for exposed sectors. On the other hand, high exposure to transition climate risks at the sectoral level (high emission intensity such as cement and transport) will have disastrous consequences for profits and costs and could precipitate technological obsolescence (ECB, 2022).

Figure 2: Climate Change, a Threat to Financial Stability



Source: *Author*

In sum, a high exposure to climate related risks generates a systemic amplification which will be boosted by overlapping exposures and could exacerbate climate resilience.

3. Climate change: an issue that divides the major central banks

The issue of climate change divides central banks. If the *Federal Reserve Bank* (FED) remains hesitant to integrate climate-related risks into its agenda, the ECB openly expresses its determination to green its monetary policy and its macroprudential and micro-prudential regulation.

There is a rising awareness of climate-related financial risks among ECB's leaders, while on the Fed side, it would seem that the US monetary authorities maintain a cautious stance. Despite a firm commitment to integrate climate-related risks and to green its monetary policy, the ECB never misses an opportunity to remind of the crucial role of governments in environment transition. "It is governments, not central banks, who are primarily responsible for facilitating an orderly transition, and who control the main required tools," the ECB's President Christine Lagarde said (ECB, 2021).

Several central banks are committed to integrate climate-related risks in their risk management and monitoring processes, as evidenced by the advanced progress to meet climate reporting requirements and the increasingly sophisticated climate stress testing developed during the past three years. Among the most advanced central banks in this area, we note the progress achieved by the *Bank of England* and the *People's Bank of China*.

Behind central banks hesitation and prudence, we can identify two main arguments. On one hand, the risk of violating the market neutrality principle when a central bank prefers to buy 'green bonds' over 'brown' ones. On the other hand, the central bank's excessive conservatism is due to the will to avoid a conflict of objectives, which is not easy to resolve.

4. Greening monetary policy in Arab region

4.1 Increased climate risks draw the attention of central banks: Building a rich and innovative toolbox

Central banks can use various instruments to incorporate climate-related aspects into their monetary policies. It is appropriate in this policy brief to highlight the problems and identify the main instruments made available to the monetary authorities for the acceleration of the green transition.

- **Dual Interest Rates**

A dual interest rate instrument offers the opportunity for the central bank to set different interest rates for different types of projects. Dual interest rates are far from being a new instrument. Many countries have implemented this instrument to guide investment projects toward priority sectors (agriculture, craft, building, export, …). To fight climate change related risks, several central banks - as is the case of the *Bank of Japan* (BoJ) and the ECB - use this tool specifically for green purposes. They offer lower interest rates for financing green projects compared to 'brown' ones. BoJ's green lending program offers zero interest rate to encourage investments in renewable energy projects. More recently, in 2024, the ECB has demonstrated considerable openness and willingness to introduce this policy. Dual interest rates remain an effective instrument for accelerating the transition to a low-carbon economy. However, the effectiveness of this tool remains subject to various conditions, principally the capacity of the government to provide subsidies and guarantee for the bank loans.

- **Green Selective Credit Controls (GSCC)**

Credit controls and '*Selective Credit controls* are different and complementary monetary policy instruments, traditionally used to serve different objectives of political economy. Within the framework of these instruments, the central bank regulates liquidity and credit in the economy. The *Selective credit controls* tool affects specific sectors which are crucial to achieve specified objectives such as agriculture, craft, building, export, or by focusing on all other job-creating sectors se. *Selective Credit controls* seem to be the best tool adapted to boost environmental transition. To address climate change, a central bank could employ *Green Selective Credit Controls* to fix the maximum permissible maturities of 'brown loans', impose a credit ceiling for 'brown loans' and a green credit floor for 'green loans', ceilings on maximum interest rate on 'green loans', ...

- **Green Reserve Requirements (GRR)**

To accelerate the transition to a low-carbon economy, central banks would have to 'green' reserve requirements. This instrument is used by central banks to encourage commercial banks to revitalize, strengthen and support green sectors. To implement 'green reserve requirements', central banks should require commercial banks to hold some of their deposits in central bank accounts. A commercial bank's lending portfolio determines the reserve requirements rate, which rises when the lending portfolio is dominated by 'brown loans', and it decreases when 'green loans' gain the upper hand.

- **Green Quantitative Easing (GQE)**

Central banks can effectively contribute to mitigate global warming through '*Green quantitative easing*'. We should remember that the QE measure would be relevant especially when conventional instruments are no longer effective (key interest rate close to zero). It is an unconventional tool which is widely used by the *Bank of Japan* since the early 2000's and was popularized in the wake of the 2008 global financial crisis. With Green *quantitative easing* instrument, central banks favor (public and private) 'green bonds' at the expense of assets related to the fossil fuel industry qualified as 'brown bonds'. The use of this instrument should generate a shift in central banks' portfolios toward green sectors of the economy which could limit climate change related risks.

- **Greening Collateral Frameworks (GCFs)**

Contrary to QE which is part of an integrated policy for only easing monetary conditions, the greening of the rules for the eligibility of assets for collateral mechanism would operate in both ways: central bank tightening or easing. Under this instrument, the central bank is working to disadvantage banks largely exposed to the fossil sector in refinancing operations to push toward the decarbonization of the financial system and encourage the financing of green projects. Monetary authorities could partially limit holding 'brown bonds' to a certain percentage and consequently, the central bank financing obtained far less than the nominal value of the asset used as collateral. The haircut on brown assets hampers the lending activity of the banks. In the same spirit of *Greening collateral*, central banks could exclude brown assets from eligible collaterals, which could seriously threaten banks heavily exposed to fossil sectors.

- **Green differentiated capital requirements (GDCRs)**

Central banks could modulate *capital requirements* (also known as *capital adequacy* or *regulatory capital*) according to the degree of bank exposure to environmental and climate risks. Central Banks could lower *capital requirements* for 'green loans and a high *capital requirement* for 'brown' loans to encourage banks to support green transition by moving away from carbon-intensive investment or lending. (Dafermos and Nikolaidi, 2022). *Green differentiated capital requirements* remain one of the main tools that can be used in micro and macroprudential approaches to reallocate funding toward green investments.

- **Greening Prudential policy**

Macroprudential and *Microprudential policies* could play a crucial role in improving the resilience and the robustness of the financial system in the face of climate related-financial risks. It is appropriate to present them together because some tools could be efficient for both *micro-and macroprudential policies.*

  - On the ***microprudential*** side, the main objective is to prioritize the solvency of the financial institution.

- But on the ***macroprudential*** side, the issue is more complex which leads to differentiate between *basic* and *sophisticated macroprudential approaches*.

In the ***basic macroprudential approach,*** the role of regulation consists in guiding, monitoring, and assessing the financial system to limit its exposure to physical and transition risks. This approach requires, on one hand, greening the broad range of classical macroprudential instruments (*loan-to-value ratio* (LTV), *Debt-to-income ratio* (DTI), *Lending to sectors*, *Credit growth*, *Net stable funding ratio* (NSFR), *Liquidity coverage ratio* (LCR), *Countercyclical capital requirements, Leverage* restrictions, *Dynamic provisioning*, …) that have been implemented by bank's supervision departments to fight systemic risks. And on the other hand, financial supervisors should innovate by directly introducing new tools that are related to environmental constraints (*Carbon intensive ratio, Concentration limits for climate-related risks,* Systemic risk buffer for climate-related risks, …).

The **sophisticated macroprudential approach** is based on the feedback effects between financial institutions, financial system, the real economy and the endogeneity of climate risks (Battiston et al., 2021 and Dafermos, 2022). Neglecting such endogeneity could amplify risks of financial instability (Battiston and Monasterolo, 2024).

This approach requires increasingly sophisticated climate stress testing (Battiston and Monasterolo, 2024). Central banks could test the resilience of the financial system by renewing the wide range of stress testing models given the potential systemic implications of climate risks.

The positive effects of green *monetary*, *microprudential*, and *macroprudential policies* can be enhanced if they are combined with *fiscal environmental policy* tools.

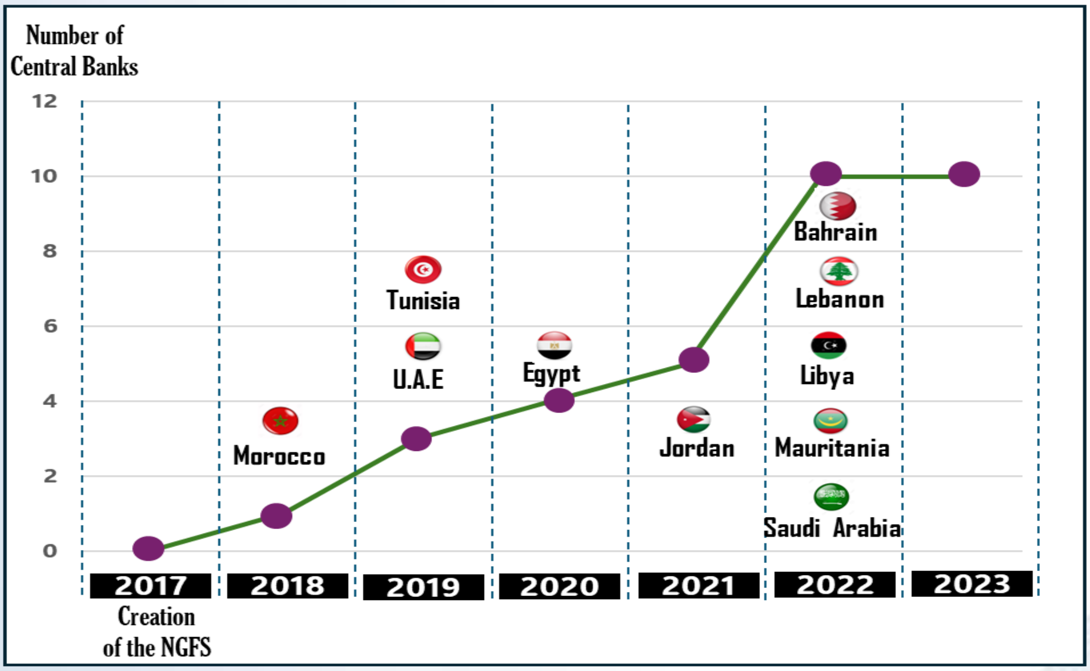
4.2 Greening monetary policy in Arab region is handicapped by persistent poor toolbox.

Greening monetary policy and prudential framework is not an easy task for central banks in the Arab region. Several conditions must be met in this regard: 'green bonds' issues, a dynamic secondary bond market, a resilient banking sector, a clear and credible 'transition plan', a comfortable fiscal space, an economy that is not heavily dependent on fossil energy, availability of granular data, a well-equipped macroprudential toolbox, etc… All these conditions are not actually met by the countries of the region (Beyer and Bayoumi, 2022; Atef,2022; Rizkiah et al., 2023).

SUSREG 2023 report on central banking activities progress for climate and environment (Rizkiah et al., 2023) highlights that advanced indicator (*Collateral framework, Reserve requirements, Central bank phase out plan on high-risk assets,* …) were only 16% fulfilled. Moving to the basic indicators, (*Central banks membership in the NGFS, Central banks internal organization and resources on sustainability, Assessment, and disclosure of central bank's portfolio exposure to E&S risks*, …) the level of fulfillment stands at 62 %. Central banks in 26 countries showing minimal progress, including three Arab countries: Morocco, Saudi Arabia, and United Arab Emirates, falling below 25% fulfillment against SUSREG criteria (Rizkiah et al., 2023).

The awareness of environmental problems has come a long way in the Arab region, but for central banks it is still in a rather embryonic state. Certain central banks have only joined the Network for Greening the Financial System (NGFS). NGFS is a network composed of central banks and financial supervisors, that aims to "*define, promote and contribute to the development of best practices to be implemented within and outside of the Membership of the NGFS and to conduct or commission analytical work on green finance*" (NGFS, 2017). It includes 138 members and 21 observers. Several Arab central banks have joined NGFS [Figure 3]: *Bank Al-Maghrib* (2018), *Central bank of Tunisia* (2019), *Central Bank of the U.A.E* (2019), *Central bank of Egypt* (2020), *Bank of Jordan* (2021), *Bank of Lebanon* (2022), *Central Bank of Bahrain* (2022), *Central Bank of Libya* (2022), *Central Bank of Mauritania* (2022), *Saudi Arabia Monetary Authority* (2022). Several Arab institutions have also joined NGFS, such as the *Abu Dhabi Financial Services Regulatory Authority* (2019) and the *Financial Regulatory Authority of Egypt* (2020).

Figure 3: Arab Central Banks in the Network for Greening Financial System



Source: NGFS (2024)

Bank Al-Maghrib (BAM)**, the Morocco's central bank, is the first central bank in the Arab region that has succeeded in showing the implications of climate change on the domestic banking sector.** The purpose of the special report, published on April 2024 by the World Bank and the Moroccan *Bank Al-Maghrib*, with support from *"Agence Française de Développement"* (AFD) and the *Global Risk Financing Facility*, is to highlight the impact of these climate risks (physical and transition risks) on Morocco's banking sector. The study underlined the banking sector's high exposure to regions and other economic sectors that are vulnerable to climate risks. The report stressed the need for rethinking '*Best practices*' in risk management and supervisory to address climate-related financial risks and to strengthen climate resilience (*Bank Al-Maghrib* and *World Bank*, 2024).

The lack of depth of the bond market shrinks central bank's toolbox which in turn limits the effectiveness of the greening monetary policy. Given the lack of appetite for 'green bonds' and the lack of depth of secondary bond market in the Arab region deprives central banks from using several instruments such as *greening quantitative easing* and certain macroprudential ratios for valuing the holding of liquid 'green bonds' in calculating for example the LCR (*Liquidity coverage ratio*).

Only few Arab countries are present in the green bond market. This is the case in UAE (the first corporate 'green bond' in the MENA region, USD 587 million, 2017), and Egypt (the first sovereign 'green bond' in the MENA region, USD750 million, 2020). Other countries have been led to issue 'green bonds' only in their domestic markets such as Morocco (USD 356 million, in 2018) and Lebanon (USD 60 million, in 2018). However, until now, all these bond issues have not served to greening monetary policy, in so far as the central banks of these countries have not used *green quantitative easing* or a new regulation favoring 'green bonds' during refinancing operations at the central bank window.

Biodiversity-related financial risks are far from being the central bank's preoccupation in the Arab region. There is a marked absence of serious thinking at central banks to initiate a supervisory framework for financial risks generated by biodiversity loss. With a lack of understanding biodiversity-related losses, monetary authorities in the Arab region are ill-equipped to adequately assess and address their potential collateral damage. Egypt and Morocco joined NGFS-INSPIRE Study Group that analyze the crucial role which must be played by central banks and supervisors in addressing financial and economic risks that are caused by biodiversity loss. The study highlights that *Bank Al-Maghrib* is aware of the climate related financial risks and examines the linkages and impacts of biodiversity loss on the banking sector, financial stability, and the wider Moroccan economy (NGFS – INSPIRE, 2022).

Central bank of Lebanon is one of very few central banks in the world that has included *green reserve requirements* policy in its toolbox. In 2010, a circular was issued by the central bank making the *reserve requirements* burden lighter for commercial banks with a green lending portfolio (Atef, 2022). Central bank of Lebanon holds fewer reserves against 'green loans' to push investments toward green projects and transform Lebanon's economy into a low-carbon country.

Arab countries are losing the opportunity to have a broad central bank toolbox to accelerate progress to reach a net-zero economy due to the lack of agreed instruments (conventional and non-conventional) and best practices. A broad central bank's toolbox requires a deep and liquid market for 'green' and 'brown' bonds (sovereign and corporate), a modern and resilient banking sector to secure a better transmission of monetary impulses through the economy, a sufficiently comfortable fiscal space to provide the necessary liquidity to pay for the subsidies to enable the significant stimulus measures designed to promote green projects and accelerate transition to net-zero carbon emissions, and above all a really deep vision on environmental and climate challenges which prioritizes a green agenda in the banking system.

Morocco's central bank appears to be ready to accelerate the greening of its balance sheet. In February 2024, *Bank Al Maghrib* announced several measures in this direction. It doubled the value of its procurement to $200 million in the World Bank 's 'green bonds' in 2023 compared to 2016 level. It reiterated that the objective is to increase its allocation of foreign exchange reserves to green, social, and sustainable bonds from the current 7% to 10%.

5. Conclusion and Recommendations

An urgent need for vigorous action by central banks to trigger a rapid and deep momentum for reform toward greener economy, like their actions to support economic activities during the Covid-19 crisis.

A few key lessons have emerged from this brief:

- The evaluation of progress on the ecological transition (reports, 28 COP, ...) highlights the slowness and hesitation of public and private actors. In such a context, the action of central banks remains crucial to ensure the greening of the real economy via the banking channel, thus accelerating the march toward a zero-carbon world.

- The threats posed by climate change have not yet taken the place they ought to have on central bank's policy agenda, in the Arab region, despite the increased risks associated with climate change.

- Arab central banks should not be satisfied with a simple NGFS membership to secure an entry pass into the environmental transition process.

- Price stability and financial stability remain under stress if central banks do not broaden its current stability mandate in favor of a more climate just future,

- A stable and resilient financial system remains crucial for the effective transmission of monetary policy. If central banks act early and responsibly to accelerate environmental transition, economies could profit in terms of price and financial stability and GDP performance.

Several challenges identified in this paper are yet to be overcome. This note is an urgent call to undertake the necessary actions for a green and resilient financial system. The following key recommendations are put forward to strengthen Arab central banks' efforts not only to accelerate greening monetary and prudential policies process but also to strengthen the ability to enrich permanently their toolbox by introducing innovative instruments, which are vital to guarantee the progress toward climate resilience.

- **Central banks should review their traditional mandates considering the increased climate-related risks.** On one side, price stability is increasingly threatened by physical risks and their implications on the agriculture sector and the sharp rise in food prices that could result in the multiplication of extreme events (*climateflation*). But also, by the soaring input prices of renewable products (*greenflation*). On the other side, central banks should recognize that financial stability will not be achieved in the long term without prioritizing environmental and social requirements.

- **Only a combination of different monetary, prudential, and fiscal measures and incentives can make the difference between a successful environmental transition and a failed one.** Genuine actions must be taken against circumvention and unfavorable regulatory conditions adopted by polluting firms.

- **Implementation of structural reforms remains crucial to improve fiscal space to make financing for the environmental transition more accessible.** A comfortable fiscal space reduces the pressures exerted by the Minister of Finance on the central bank to secure more monetary financing for the budget and offers more leeway both for monetary and fiscal policy to accelerate environmental transition.

- **Development of the local bond market in the Arab region could play a significant role in boosting 'green' bond issuance and support the greening of monetary and macroprudential policies.** Given the strong appetite for 'green bonds', a deep secondary bond market could: i) enrich the central bank toolbox with unconventional instruments such as the '*Green quantitative easing'* and '*Greening collateral frameworks'*; ii) facilitate the emergence of a '*green yield curve'* which remains, with the '*greenium'*, a crucial tool for debt management and an assessment instrument to measure progress in the transition process if we compare with the brown one; iii) and greening certain macroprudential ratios by valuing the holding of liquid 'green bonds' in calculating for example the LCR (*Liquidity coverage ratio*).

- **Considering the Arab region's high dependence on fossil fuel income, mitigation measures such as increasing renewable energy generation are indispensable if importing countries are working toward the goal of energy security, and exporting countries prioritize the diversification of their economies.** Given the narrowness of their fiscal space, several Arab countries can no longer continue to bear more hydrocarbon subsidies, especially when the urgent need to implement green subsidies could arise with the need to accelerate the environmental transition and/or with the development of aid programs for the victims (households and sectors) of climate-change-related disasters.

- **Improve the resilience of the banking sector to ensure the effectiveness of monetary policy.** The banking sector remains the main channel for transmitting monetary policy in the Arab region and a major investment lever for greening monetary policy.

- **Central banks and Ministries of Finance, in every Arab country, should work in tandem to achieve net-zero targets.** Central banks pave the way and create favorable conditions through an effective, innovative, and targeted monetary policy, and governments should implement a budget consolidation drive while securing the creation of room for more green investment.

- **Supervisors can contribute to address climate-related risks by closing the data gap, reinforce related disclosures, and elaborate in-depth taxonomies.** Being aware of the negative effects of climate change, Basel Committee on Banking Supervision has incorporated climate risks into an update of its core principles (BIS, 2024). Arab central banks cannot hope to ensure the safety and the soundness of banks and financial system without accelerating the greening of their supervision framework.
- **Central banks have a crucial role to play in educating the financial sector professionals about climate-related risks and green finance.** In recent years, several central banks have moved in this direction with the goal of anchoring the climate risk culture in the monetary policy and the financial supervision framework (Barmes D. and Z. Livingstone, 2021): *Banca d'Italia* (internal training initiatives on environmental risk), *Bank of England* (workshops on climate-related financial risk for other central banks via the Centre for Central Banking Studies), *Indonesia's central bank and its Financial Services Authority* (seminars and capacity building workshops for bankers and supervisors on environmental risk assessment and green finance), …

- **Central banks should adopt the environmental footprint approach (carbon footprint and water scarcity footprint) to enhance the efficiency of the greening of monetary and macroprudential policies.** Climate resilience remains the best guarantee of energy security, food security and debt sustainability (Labidi, 2022).

- **To ensure the success of their actions, macroprudential authorities should collect available information on climate risks (transmission channels, contagion, spillover effects, amplifiers, …) before taking preventive action and responding more rapidly to climate risks, b**ecause the cost of an early action based on imperfect information can easily exceed the risk of acting too late.

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قائمــة إصــدارات "موجــز السياسات"

العنوان	المؤلف	رقم العدد
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هل ستفاقم التطورات الاقتصادية العالمية المستجدة من وطأة التحديات التنموية العربية وكيف يمكن التخفيف منها؟	د. بلقاسم العباس	التاسع
تحقيق الأمن الدوائي العربي: فرصة للنهوض بصناعة الأدوية في الدول العربية	د. محمد أمين لزعر	العاشر
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المعهد العربي للتخطيط مُؤسسة عربية إقليمية مُستقلة غير ربحية، مقرها دولة الكويت، تأسست عام 1980، وتهدف إلى دعم التنمية الاقتصادية والاجتماعية في الدول العربية من خلال بناء القدرات الوطنية وإعداد البحوث وتقديم الخدمات الاستشارية والدعم المؤسسي وعقد اللقاءات التنموية والنشر.

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