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ABSTRACT

The implications of COVID developments for monetary policy will certainly extend beyond the increased use of digital platforms and payments. The current environment is also focused on smart green techniques and green initiatives aimed at promoting a transition to a net zero based carbon emissions economy. During the onset of the pandemic, it was initially thought that carbon emissions would fall drastically – given the impact of the pandemic, not only on the airlines industry, but also as a result of "Stay at Home" measures imposed by jurisdictions, which even made it illegal to drive to certain places, where purposes for doing so were unjustified.

However, the pandemic has also witnessed unprecedented levels in digital subscriptions, online sales and marketing – also fueled through digital payments and the use of digital platforms and distributed ledger technologies in facilitating cashless payments – cash, namely bank notes and coins, also being considered to be a medium of COVID transmission. Coupled with attributes such speed, convenience and ease, the need for financial inclusion has also become an objective in facilitating the era of innovative digital means of payments.

As well as considering the current implications of measures that have been instigated to address the impacts of the pandemic, drawing from past and current lessons from selected jurisdictions, this paper also considers why the transition to a net zero carbon economy may prove more challenging than may first appear. However, jurisdictional differences and historical developments will play a part in determining how sustainable certain implemented policies and measures are – as well as in facilitating a transition to normality.

Key words: EU Green Deal; sustainable finance, interest rates, inflation, pandemic asset purchase program (PEPP), APP asset purchase program, longer term financing operations, transition risks, financial stability, CBDCs

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Introduction

The role of central banks during the pandemic in instigating asset purchase programs (also see pandemic emergency purchasing programs (PEPP), longer term financing operations), which were crucial in facilitating the flow of credit to households and businesses, which serve as engines of the economy, as well as government implemented fiscal policy measures, furlough packages etc, which responded effectively to what would otherwise have generated unsustainably high unemployment levels, underline the vital roles played by monetary and fiscal policy measures during the ongoing pandemic.

The PEPP is considered to have become "the main tool for adjusting monetary policy stance in the context of the COVID-19 crisis" with one of its key objectives being "to counter the downward impact of the pandemic on the projected path of inflation" – such an objective being considered to have guided the recalibration over time of the PEPP's envelope and the horizon of net purchases (see Banco de Espana, 2021:6).

Since the Spring of 2020, several industries have considerably impacted inflation – consequential of the impact of COVID on sectors such as the airline industry. Such industries include the energy and oil sectors. These will be considered in greater depth in the methodological section (after the literature review). As highlighted under the abstract, this paper also considers why the transition to a net zero carbon economy may prove more challenging than may first appear. The literature review section now considers why jurisdictional differences and historical developments will play a part in determining how sustainable certain implemented policies and measures are – as well as in facilitating a transition to normality.

Literature Review and Background to the Study

According to the Basel Committee on Banking Supervision, report "Climate-related risk drivers and their transmission channels",

climate risk drivers can be grouped into one of two categories:

- Physical risks, which arise from the changes in weather and climate that impact the economy; and
- Transition risks, which arise from the transition to a low-carbon economy.

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In his speech, "Breaking the Tragedy of the Horizon – Climate Change and Financial Stability", Mark Carney adds a third category, *liability risks* (2015:6), which he defines as " the impacts that could arise tomorrow if parties who have suffered loss or damage from the effects of climate change, seek compensation from those they hold responsible – such claims possibly coming decades in the future, but having the potential to hit carbon extractors and emitters – and if they have cover, their insurers, the hardest."

The consequences of climate related risks are therefore not only significant, in respect of matters of insurance, but also in relation to third party claims, remoteness, causation and foreseeability.

Although it is of widely held consensus that banks should not assume primary responsibility for regulating climate risks, it is evident that other sectors such as the insurance sector, particularly, and even securities sectors will have an increasingly greater role to play - with increased climate related risk events. Insurance companies have witnessed unprecedented climate risk related claims following floods which destroyed several regions in parts of London, Western Europe (Germany and the Netherlands), recently. Such has been the magnitude of destruction and unexpectedness in preparations – particularly for businesses and homes which had been inadequately insured for such unexpected events.

In countries such as the United Kingdom, the law of torts covers third party liability: product liability, liability risks, causation, remoteness of damage – embracing concepts such as the neighbor principle and reasonable foreseeability. In terms of subjectivity and judgement, case law has revealed how difficult it is for a precedent to remain binding for a considerable period of time. Such levels of uncertainty have not on their own, being exclusively disadvantageous – offering a level of flexibility where the legal environment has had to embrace environmental changes such as the admission and allowance for digital media and impacts. However, in jurisdictions where third party liability is rarely recognized or where there is a mix of such level of non recognition – as well as a certain level of recognition (as is the case in the Netherlands), a degree of certainty in respect of i) who is able to make claims, ii) the appropriate cover, iii) the levels of compensation deemed by courts as appropriate, will not only be welcomed by insurance companies who are likely to be on the receiving end in floodgates claims, but also for businesses and individuals who require a just and acceptable level of compensation.

As highlighted by Carney (2015:6), the Prudential Regulatory Authority (PRA), is responsible for protecting policyholders – as well as ensuring the safety and soundness of insurers – with a "forward looking and judgement based, supervision, risk-based and proportionate, tailored to different business models around the sector." The importance of quantification is also highlighted "what is measured can be managed" (see 2015:12). Quantification of risks depends not just on the type of business and how the nature of such business contributes to levels of risks inherent in such a business or sector, but also to the levels of controls operating within a business and the effectiveness of such internal controls to detect possible risks. A kind of contributory liability or proportionate liability has been recommended in the case of climate related risks – where an individual or business bears a proportionate form of liability, with a commensurate reduction in the level of what is deemed acceptable for compensation in cases where such individuals or businesses fail to take necessary and adequate measures in preventing such risks. Further, it is added by Carney (see 2015:9) that with *claims* on third party liability insurance, in classes like public liability, directors' and officers' and professional indemnity, *could be brought "if those who have suffered losses show that insured parties have failed to mitigate risks to the climate, failed to account for the damage they cause to the environment, or failed to comply with regulations."*

The developments and lessons drawn from the recent and ongoing COVID crisis, has illustrated how difficult it has been, and how difficult it still is, for businesses to be granted claims in respect of unforeseeable and unprecedented developments such as the COVID pandemic – such an event having not been covered by many insurance policies. Even in more ambiguous worded policy documents, many insurers have been able to evade the responsibility of paying out business interruption insurance attributed to COVID related events and have been able to transfer such responsibilities to government schemes aimed at providing loans instead. Whilst it is fair to say that such insurance companies should be offered a certain level of protection – given the magnitude of the impact of recent events and developments, the levels of insurance contributions already made by individuals and businesses – as well as the number of prior claims made by such businesses and individuals, should also be taken into consideration.

Physical risks are further categorized into acute and chronic events, and while some aspects of those risks are considered to have the possibility of being predictable, the increasing uncertainty as to the location, frequency and severity of these events, are also highlighted. It also notes that with transition risks, there is uncertainty as to the future pathways, and that changes in policies, technology innovation and shifts in consumer sentiment contribute to shaping or defining.

Notwithstanding the attributed benefits of the implemented fiscal and monetary policy measures and responses to the recent pandemic, the consequences of an unprecedented crisis – one aimed at preventing a solvency – as well as liquidity crisis, and one also prompted by the need to address immediate short term liquidity needs as a means of preventing far reaching longer term effects and consequences, will become evident in the coming months.

Unlike the financial crisis, the pandemic is not merely a financial but also a medical and health related crisis which extends unlike the Global Financial Crisis, to greater range of individuals and businesses. To compound matters, the disparity between income divide has become even more pronounced and even though entrepreneurs and small businesses constitute vital economic engines, they are almost certain to bear the brunt of the repayment commitments and conditions.

As highlighted in the Bundesbank report (2021:2) "one cannot rule out an adverse scenario with feedback loops to the real economy if banks deleverage to meet capital requirements imposed by regulators or markets. Hence, monitoring the interaction between debt sustainability in the public sector, the corporate sector, and the banking sector will be crucial."

Another consequence of the Covid crisis, is the rise in digital payments and the impacts of platforms such as distributed ledger technologies, applications of information technology – particularly those related to blockchains and cryptocurrencies. There are currently numerous efforts and initiatives aimed at reducing carbon emissions to zero – particularly initiated on the part of the banking sector. Whilst the retail and whole sales sectors may have been most severely impacted by the ongoing pandemic, online sales have benefited considerably – and consequently leading to greater demand for digital payments and services.

How realistic is it to expect that digital payments in a post Covid environment will be effectively impacted by "green" measures aimed at reducing carbon emissions to zero?

In addition to concluding that "digital finance, in all its forms, will be crucial to the recovery and to the post-Covid form of the economy", Ramsen (2021:3) also highlights recent developments which have taken place, which includes the Bank's collaboration with HM Treasury in establishing a new joint Taskforce, along with two stakeholder engagement forums, to explore a possible central bank digital currency or CBDC. He adds that "a CBDC would, if introduced , be a new form of digital money issued by the Bank of England and for use by households and businesses, existing alongside cash and bank deposits rather than replacing them."

The increased need for engagement of the financial sector in climate regulation is also highlighted by Elderson (2021) in his speech "The Embrace of the Horizon: Forcefully Moving With the Changing Tide for Climate Action in Financial Sector Policies" where it is noted, in accentuating the role of central banks and supervisors, that (2021:3):

- Central banks and supervisors are also increasingly showing their resolve and dedication to contribute within their mandate to integrating the effects of the climate crisis in the exercise of their tasks. They have done so individually, but also collectively as part of the Network for Greening the Financial System (NGFS)."

In addition to the consideration of the importance of forward looking approach (whereby it is added that knowledge and expertise gathered from bridging data gaps to evaluate and update forward looking scenarios under consideration is required), it is added that central banks and supervisors must be more proactive to enable them to fulfil their mandate while avoiding the tragedy of the horizon (2021:4).

Figure One

Source: Deutsche Bundesbank (2021:2). "Covid related fiscal measures and debt sustainability"



Source: ESRB (2021). Note: Data are based on Recommendation ESRB/2020/08 by 31 October 2020 (reference date 30 September 2020), ECB (MNA). Announced size (field 1.1.01) and uptake (field 2.2.10) as a share of 2019 GDP. The box plot shows the median, 25th and 75th percentile (box) as well as the maxima and minima across countries for selected programmes. Announced size is not available for loan moratoria. Based on 28 countries (IS, LI and NO are excluded; UK is included).

Deutsche Bundesbank



Source: ESRB (2021). Note: Data are based on Recommendation ESRB/2020/08 by 31 October 2020 (reference date 30 September 2020), ECB (MNA). Announced size (field 1.1.01) as a share of 2019 GDP on the y-axis for the three graphs. Vulnerability is defined as the share of employment in the NACE sectors G, H, I R, T and U in Q4 2019. The bar plots depict the median over the lowest (highest)

F the share of employment in the NACE sectors G, H, I R, T and U in Q4 2019. The bar plots depict the median over the lowest (highest) quartile of the vulnerability metric as "less vulnerable" ("more vulnerable"). The scatterplot compares the announced size of direct grants (as a share of 2019 GDP; y-axis) to the vulnerability metric (a higher share means higher vulnerability; x-axis). All graphs based on
S 28 countries (IS, LI and NO are excluded; UK is included).

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of vulnerable sectors

Figure 4

Announced size of direct grants was larger in countries with a higher share

In embracing the U.S approach, whose fiscal stimulus packages are considered to "have undoubtedly contributed to pushing up aggregate demand and lifting inflation expectations", four lessons drawn from the US experience since the summer of 2020, in facilitating a review of the Euro area's policies include the following (Banco de Espana; 2021:12):

- Following periods when inflation has been running persistently below 2 percent, appropriate monetary policy will likely aim to achieve inflation moderately above 2 percent for some time explicitly allowing for the possibility of letting inflation overshoot temporarily its 2 percent target following periods of persistent undershooting.
- The improvement in the US inflation outlook reflects the likely inflationary impact of the fiscal stimulus packages approved since December 2020, as well as the overall economic recovery from the pandemic crisis.
- the crucial role that fiscal policy plays in the current context in supporting the economic recovery and thus improving the medium-term inflation outlook such improvement coming through different channels.

Inflation linked swap (ILS) rates were also recommended (2021:11) in being used "to construct a real yield curve for the euro area, by subtracting them from the nominal yield curve."

Inflationary Impacts of the Covid Pandemic

The impact of rapidly rising inflation, consequential of fiscal and monetary policy measures which have had to be implemented during the recent and ongoing pandemic, are certain to impact many sectors directly and indirectly. For example, rising food prices will impact restaurants and other businesses which primarily rely on food in generating their income. The following section illustrates how prices in other sectors have been impacted during the course of the pandemic.

Energy and Oil Prices

Falling oil prices are considered to be contributory to the sharp depreciation of the value of the krone (see Olsen : 2021). It is furthermore noted that later during the spring, when oil prices were restored to their previous levels, currency value of the krone appreciated again – with their values even rising to higher than pre pandemic levels.

The first few months of 2020 in respect of the decline in energy prices were also positively correlated by Olsen to CPI inflation. This was contrasted to the recovery of inflation and rising energy prices towards the end of 2020.

The impact of COVID restrictions and guidelines have been notable with the tourism and hospitality sectors whose operations were severely impacted by the need for social distancing and related COVID measures. The availability of accommodation that would otherwise have been provided through these channels has therefore, undoubtedly impacted the housing sector.

Based on reports by the Northern Ireland Housing Executive (2020:9), during the first half of April 2020, 73% of UK workers in accommodation and food services and 46% of those in construction, had been furloughed.

Housing Prices

Housing prices were also considered to have dropped in the immediate aftermath of the start of the crisis – with a recovery in prices as the pandemic progressed with "house prices being more than 12 percent higher, in April 2021, than at the same time in 2020." (Olsen : 2021).

Even though the current higher than usual, inflation level is attributed to the value of the krone, other factors such as the rising prices of houses, energy and consumer spending (interest rate levels impacting exchange rates), cannot be excluded. In this respect, the impact of monetary policy and fiscal policy measures during the pandemic, in facilitating consumer spending despite consequences of the pandemic on employment, is noteworthy.

Retail and Wholesale Sector

It is also reported that 1.7 million or 22% of the total 7.6 million jobs in the retail and housing sector, were at risk (Northern Ireland Housing Executive 2020:9).

Based on reports from the Banco de Espana (2021:6), according to the ECB March macroeconomic projections, inflation in the euro area is projected to reach 1.5% in 2021, peaking at 2% in 2021 Q4 - however, in the medium term, the persistence of negative output gaps and high unemployment rates means that underlying inflationary pressures are not expected - with Euro area inflation projected to fall to 1.2% in 2022 and increase to 1.4% in 2021.

Whilst inflationary impacts of the recent fiscal and monetary policy measures cannot as of yet be ascertained with certainty, it is hoped that post pandemic effects and impacts will not generate adverse effects synonymous to those of the Great Inflation which occurred in the seventies.

Other Main Issues to be Addressed

In December 2019, Mark Carney, then Governor of Bank of England, observed that " changes in climate policies, new technologies and growing physical risks, will prompt reassessments of the values of virtually every financial asset " (see TCFD, 2021:3). Further, it is added that " organizations that invest in activities that may not be viable in the longer term will likely be less resilient to the transition to a lower-carbon economy and their investors will likely experience lower returns." The need for adequate information for purposes of disclosure is also highlighted.

In highlighting the potential financial implications of climate change, the Task Force on Climate Related Financial Disclosures, relates the following to transition to a low carbon economy (TCFD, 2021:4):

- Risks associated with an abrupt adjustment to a low carbon economy, such as rapid losses in the value of assets due to changing policy or consumer preferences;
- Climate -related financial risks could affect the economy through elevated credit spreads, greater precautionary saving, and rapid pricing adjustments.

It is thus vital that a transition to low carbon net zero emissions economy be facilitated in a manner which incorporates gradual adjustments and enough timely measures being implemented to assist, educate and facilitate such a transition.

In addressing how innovation can support sustainable growth, as well as those technologies that can support the broader transition process, Carney also adds that considerations on climate stress testing, investors who are required to back these – be it in transportation sector, will be essential.

Further questions relating to what their balance sheets look like in terms of their contribution to climate change/global warming, he adds, will have to be addressed. In his opinion, one of important foundations relates to emissions – how emissions are connected through the value chains.

"Governments clearly bear primary responsibility for addressing the climate and environmental crises we are facing. While central banks and supervisors should of course not overlap their mandate, there is also a legal risk of being sued for failing to act and comply with legal obligations. With the strong conviction that central banks and supervisors not only can, but must take into account climate related and environmental risks and act urgently to fulfil their mandate, the NGFS seeks out ways to inspire its membership "(Elderson; 2021:4).

Conclusion

This paper has attempted to highlight how the recent and ongoing crisis has impacted several distinct sectors – consequently impacting monetary and fiscal policy responses. Even though such monetary and fiscal responses are adjudged to have addressed the overarching goal in promoting financial stability, continuous monitoring will be required to ascertain the sustainability of debt repayments – particularly in view of prevailing uncertainty levels as regards how long the ongoing crisis may persist for. How accurate is it to ascertain those businesses considered to be economically viable and for whose purposes longer term financing is (and should be) provided or those who are considered to be economically viable or systemically important such that immediate funds for addressing liquidity needs are to be provided for purposes of averting possible impending insolvencies?

Adequate disclosures certainly play a part in improving lending decisions being reached by banks - however, lessons will also have to be drawn from the global financial crisis. Lessons relating to consequences of excessive deleveraging by banks, procyclical effects – as well as adverse effects generated through feedback loops. For whose purposes the liquidity and leverage ratios were introduced under Basel regulations.

As the era of post covid digital payments draws near, consequences of a transition to a net zero carbon emissions economy will also have to be assessed – particularly in view of climate risks and its component, namely, transition risks. Even though as rightly noted, "climate change is the Tragedy of the Horizon" it can be better managed when not just climate and transition risks are capable of being adequately and reasonably quantified, but by also taking into account risks such as liability risks, and more specifically, third party related liability risks.

In this sense, the role of tort law, and particularly in jurisdictions which currently do not recognize this form of law, will be pivotal in ascertaining and establishing a degree of certainty, reducing financial stability risks related to climate, transition risks, through principles and concepts such as the proximity principle (neighbor principle), causation and remoteness of damage, as well as what is deemed by courts as reasonably foreseeable.

Even though it is a widely held consensus that banks should not assume the primary responsibility of regulating climate risks, insurance companies will assume greater roles in the months and years to come. Depending on the structure of financial regulation such roles will impact other sectors of financial regulation – namely the banking and securities sectors – for as we have seen, with increased digitalization and an increasing shift to central bank digital currencies, it will become more increasingly difficult to isolate completely, the impact of one sector's activities, on the other. Which is not a bad thing. Whilst a degree of independence is healthy for purposes of governance and accountability, sectors are interdependent on each other, and with the implementation of green finance and sustainable finance, the securities sector and its participants, with the rise in digital

finance, innovative tool kits for a sustainable future, will have a wider and more defining role in climate change and regulation.

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