

**A New World Post COVID-19**

Lessons for Business, the Finance Industry and Policy Makers

edited by Monica Billio and Simone Varotto

# Pandemics, Climate and Public Finance

## How to Strengthen Socio-Economic Resilience across Policy Domains

**Stefano Battiston**

Università Ca' Foscari Venezia, Italia; Universität Zürich, Schweiz

**Monica Billio**

Università Ca' Foscari Venezia, Italia

**Irene Monasterolo**

Vienna University of Economics and Business, Austria; Boston University's Global Development Policy Initiative, US; University of Zurich, Switzerland

**Abstract** The outbreak of COVID-19 and the containment measures are having an unprecedented socio-economic impact in the European Union (EU) and elsewhere. The policies introduced so far in the EU countries promote a 'business as usual' economic recovery. This short-term strategy may jeopardise the mid-to-long-term sustainability and financial stability objectives. In contrast, strengthening the socio-economic resilience against future pandemics, as well as other shocks, calls for recovery measures that are fully aligned to the objectives of the EU Green Deal and of the EU corporate taxation policy. Tackling these long-term objectives is not more costly than funding the current short-term measures. Remarkably, it may be the only way to build resilience to future crises.

**Keywords** COVID-19. Climate change. Public debt sustainability. Green Deal. Fiscal inequality. Resilience. Policy complementarity.

**Summary** 1 Socio-Economic Impact of COVID-19: Is This Time Different? – 2 The Fiscal and Monetary Policy Response. – 3 Mind the Gap: Misalignment of Current Policies with the EU Green Deal and EU Tax Policies. – 4 COVID-19 Recovery and Climate Mitigation: A Role for Policy Complementarity? – 5 Doing More and Better Does not Cost More: A Role for Policy Complementarity?.



**Edizioni  
Ca' Foscari**

**Innovation in Business, Economics & Finance 1**

ISBN [ebook] 978-88-6969-442-4

**Peer review | Open access**

Published 2020-07-31

© 2020  Creative Commons Attribution 4.0 International License

**DOI 10.30687/978-88-6969-442-4/019**

**259**

## 1 Socio-Economic Impact of COVID-19: Is This Time Different?

**Unprecedented socio-economic impact. Yet, are estimates too optimistic?** The COVID-19 health crisis is playing a main role in today's policy, business and financial discussion. The COVID-19 epidemics' death and infection toll, and the measures (such as lockdown and social distancing) taken to mitigate it, are expected to drive major fiscal and macroeconomic impacts globally. In April 2020, the International Monetary Fund (IMF) in its World Economic Outlook (IMF 2020) projected the global economy to contract sharply by -3% in 2020, much worse than during the 2008-09 financial crisis. Current impact and estimates of future impact are already very large. Yet, the estimates elaborated by the World Bank and the IMF are likely to be optimistic because they are based on the assumption that Gross Value Added of sectors such as tourism, remittance, and export will return to pre-COVID-19 levels by 2021.

**Cascading shocks from local to global.** The measures introduced to contain the COVID-19 pandemic affected international and domestic demand triggering immediate demand and supply shocks on the local economy. In addition, they can induce cascading effects in the global economy and can be then transmitted to the financial sector with implications on financial stability. The COVID-19-induced economic crisis could lead to a new liquidity crisis and higher cost of debt, affecting public debt sustainability and inequality, in particular in low-income and emerging countries (Gallagher 2020). In turn, inequality contributes to accrue the COVID-19 crisis and its effects on the socio-economic and financial conditions (Ahmed et al. 2020). Further, FAO<sup>1</sup> highlighted that the pandemic has increased the risk of food crises in 53 countries (representing 113 million people), many of which are already experiencing acute severe food insecurity. Similar food crises are likely in vulnerable communities already exposed to other crises (e.g. the Desert Locust outbreak in the Horn of Africa),<sup>2</sup> in Small Islands Developing States that depend on primary exports and tourism, and in countries relying on remittances.

**Is this time different?** The COVID-19 crisis is the first large and global shock originating in the real economy since WWII and spreading to the financial sector. Specific to this shock is that it has hit, at the same time, both the external and the internal demand sides of many countries for several months. In particular, shocks on tourism demand,

---

Contributions: all authors contributed to the development of the paper idea and to address the editor's comments. Stefano Battiston and Irene Monasterolo wrote the paper.

1 <http://www.fao.org/2019-ncov/q-and-a/impact-on-food-and-agriculture/en/>.

2 <http://www.fao.org/news/story/en/item/1258877/icode/>.

export prices and remittances affected firms' production, employment, nominal wages and households' income. The shock on internal demand was then amplified by domestic lockdown measures, triggering self-reinforcing supply and demand side dynamics. There has been a loss of social, intellectual and financial capital. For instance, when a substantial number of firms, large and small, default, and production stalls for a few months, an important portion of a country's economic infrastructure may become severely compromised. This is in stark contrast with the estimates of standard economic models where shocks are idiosyncratic and their impact is fully reversible. In contrast, the socio-economic impact of the COVID-19 shock appears to be persistent and self-reinforcing, as analysed more in detail below.

## 2 The Fiscal and Monetary Policy Response

In this section, we report on the main policy measures introduced by several countries to mitigate the socio-economic impact of the COVID-19 shock, and will focus on fiscal and monetary policies introduced in the EU. This information serves as background for the policy analysis in Section 3.

**A wide range of proposals to finance the recovery.** It has been recently highlighted that the speed and duration of the COVID-19 economic recovery will depend on the breadth and scope of emergency government funding (Toporowski, Calvert Jump 2020). In this regard, several proposals to finance the COVID-19 recovery have been put forward, including: *coronavirus bonds*<sup>3</sup> and a *Covid Credit Line*<sup>4</sup> within the European Stability Mechanism (in Bénassy-Quéré et al. 2020); enhanced central banks' purchasing programmes; *liquidity lifelines* (Brunnermeier et al. 2020) to overcome firms' liquidity shortages; central banks' helicopter money (Couppey-Soubeyran 2020; Galí 2020); and the expansion of the role and scope of international financial institutions such as the European Investment Bank (EIB) in the EU.

**Fiscal policies.** Governments both in high-income and developing countries have introduced various forms of fiscal policies. These include increased healthcare spending, reduction or deferred payment of some taxes, credit support guarantees to companies, expansion of unemployment benefits and income support, payroll support to the affected sectors (such as tourism) just to name a few. Such measures have contributed to smoothing the negative impacts of the COVID-19 lockdown measures on demand and supply (Monasterolo, Billio, Battiston 2020). The breadth and scope of the measures vary

---

<sup>3</sup> A proposal by Giavazzi, Tabellini 2020.

<sup>4</sup> A proposal by Bénassy-Quéré et al. 2020.

significantly across countries. In low income and emerging countries, the level of government spending ranged from 0.5% of GDP in Kenya to over 5% of GDP in the Philippines, dwarfing the financial support provided by development banks (e.g. the World Bank) during the COVID-19 crisis. In contrast, in advanced economies, COVID-19 fiscal spending was the highest in Germany, where it reached 12% of (2019) GDP, followed by the US (9.1%), Japan (7%), the UK (4.5%) and China (4%). In the EU, the European Commission (EC) launched:

1. a €540 billion support to the EU member states via the European Stability Mechanism (ESM) (up to 2% of 2019 GDP for each euro area country, based on existing precautionary estimates) to finance health related spending;
2. €25 billion in government guarantees to the European Investment Bank (EIB) to provide up to €200 billion of financial support to corporations, and a €100 billion temporary loan-based instrument (SURE) to protect workers and jobs.
3. In addition, €37 billion of the EU Budget (about and 0.3% of 2019 EU27 GDP) was mobilised to extend the scope of the EU Solidarity Fund to incentivize banks to provide liquidity to small and medium enterprises and mid caps (as a guarantee to the European Investment Fund). Further, it is also aimed to support *credit holidays* to crisis-affected debtors, and to provide macro-financial assistance to ten countries included in the EU Enlargement and Neighborhood Partnership.<sup>5</sup>
4. The EC also enabled EU member states to compensate companies for the damage directly caused by COVID-19, including measures in sectors such as aviation and tourism. Overall, the national liquidity measures, including schemes approved under temporary, flexible, EU State Aid rules, could lead to support funding up to a total of €2.9 trillion.

**Monetary policies.** Given the low interest rate environment, central banks around the world have engaged in asset purchasing programmes, refinancing operations, and foreign exchange operations. For example, the ECB has taken action on several fronts: it has (i) expanded the asset purchase programme of private and public sector securities (Pandemic Emergency Purchase Program, PEPP) to € 1.35 trillion until at least June 2021; (ii) revised the Non-Performing Loans and prudential floor to banks' current minimum capital requirements; (iii) provided more favourable terms and new liquidity facilities within the existing targeted longer-term refinancing operations and a new liquidity facility (PELTRO) of non-targeted Pandemic Emergency Longer-Term Refinancing Operations; (iv) grandfathered

---

<sup>5</sup> [https://ec.europa.eu/neighbourhood-enlargement/node\\_en](https://ec.europa.eu/neighbourhood-enlargement/node_en).

until September 2021 the eligibility of marketable assets used as collateral in Eurosystem credit operations falling below current minimum credit quality requirements of 'BBB-'; (v) expanded the range of eligible assets under the CSPP, and relaxed collateral standards for Eurosystem refinancing operations (MROs, LTROs, TLTROs) to include Greek sovereign bonds; (vi) allowed institutions<sup>6</sup> to operate temporarily below the Pillar 2 Guidance (P2G) with regard to the capital conservation buffer and the liquidity coverage ratio (LCR) of the Basel III agreement on bank regulation.

### 3 Mind the Gap: Misalignment of Current Policies with the EU Green Deal and EU Tax Policies

**Climate action.** The policy measures discussed above could help to mitigate the effects of the lockdown and help the economy to bounce back in the short-term. However, in the long term, they could also negatively impact on the achievement of the global climate targets (i.e. the Paris Agreement aimed to keep the global temperature increase below 2 degrees Celsius with respect to pre-industrial times) and the objectives of the EC Sustainable Finance Action Plan,<sup>7</sup> aimed to align finance to sustainability. Achieving these objectives is also at the heart of the 2019 EU Green Deal program.<sup>8</sup> **Fiscal measures** that provide tax reductions or exemptions to firms that either base their profits on fossil fuels or carbon intensive activities (e.g. fossil fuels extraction, traditional automotive), without any conditionality (e.g. on the decarbonization of their business), contribute to the misalignment of the economies with respect to the climate targets and objectives of the EU Green Deal programme. This, in turn, makes the risk of carbon stranded assets<sup>9</sup> more material. Indeed, as shown by Battiston et al. (2017), investors' portfolios are largely exposed to carbon stranded assets and, more generally, to *Climate Policy Relevant Sectors* (CPRS) i.e. sectors of economic activity that are affected positively or negatively by a late and sudden transition to a low-carbon economy).

CPRS represent also a large share of the ECB's expansionary **monetary policy** as already shown in the context of the ECB's CSPP QE (Battiston, Monasterolo 2019). There is a debate on whether the ECB

---

<sup>6</sup> <https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.pr200312~45417d8643.en.html>.

<sup>7</sup> [https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance\\_en](https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance_en).

<sup>8</sup> [https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal\\_en](https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en).

<sup>9</sup> Stranded assets are assets subject to write-downs or devaluations caused by new climate policies (see van der Ploeg, Rezai 2020).

should signal the importance of decarbonizing portfolios to support the EU Green Deal programme. This would contribute to rewarding the firms that demonstrates progress in the low-carbon transition relative to their own sector of economic activity, rather than only penalising all carbon intensive firms.

The misalignment of asset purchases contributes to (i) widen the gap between the COVID-19 recovery and the governments' climate pledges (e.g. the Paris Agreement and the Green Deal programme in the EU), (ii) foster the realisation of carbon stranded assets in the economy, (iii) reverse years of 'signalling' by central banks and financial regulators engaged in supporting climate related financial disclosure, e.g. within the premises of the Network for Greening the Financial System (NGFS) (NGFS 2019). Further, by reducing capital requirements for credit institutions, and by revising the Non-Performing Loans regulation, without conditioning these measures to countercyclical capital accumulation and to the decarbonization of their balance sheets, the recovery measures counteract the regulatory efforts introduced after the 2008 financial crisis aimed to strengthen financial stability.

#### **4 COVID-19 Recovery and Climate Mitigation: A Role for Policy Complementarity?**

An approach to operationalize EU solidarity in response to the COVID-19 crisis, while exploiting ways to address the impending climate crisis, has been proposed by Monasterolo and Volz (2020). For EU member states with low fiscal space and high debt, financing the COVID-19 response is perceived to have higher priority than the EU's climate targets. The proposal foresees the coordinated issuance of COVID-related bonds by the EC as well as Green Deal bonds by the EIB. The EC issues COVID crisis-conditioned bonds, available for purchase by private and public investors. The bonds proceeds are to be used exclusively for funding an immediate response across the Union to alleviate the socio-economic impact of the pandemic. At the same time, the EIB issues new Green Deal bonds that support projects in the COVID-19 recovery phase via structural investments aligned with the Green Deal carbon neutrality targets. The Green Deal bonds could be used to finance both climate-aligned private investments as well as strategic pan-EU infrastructure investment, at low cost, to support the recovery phase in all member countries. The proposal by Monasterolo and Volz has three interesting features. First, it provides a 'common debt instrument' that does not generate a moral hazard by individual member countries (since it is conditional to the COVID-19 response). Second, it would avoid compromises between using scarce national finances for either the

COVID-19 response measures or Green Deal investments. This would ease the public debt burden of member states, thus preserving financial stability at the individual country and Eurozone level. Third, it would foster a deeper integration of EU institutions and coherence of EU funding programmes with the Green Deal objectives. This would open the way to a responsible shared management of these funding programmes and objectives among member states and generations.

**Deepening fiscal inequality: why it matters for public debt sustainability.** An important debate is emerging about the relation between taxation policies and the economic recovery. Many firms that are benefitting from fiscal measures introduced in EU countries belong to holdings or groups which have fiscal residency in countries with very low effective tax rates (such as The Netherlands, Luxembourg, Ireland or Switzerland).<sup>10</sup> Using a wide range of legal strategies, multinational enterprises are able to shift profits from the country where the revenues are generated to a country with a very low effective tax rate. The problem is well-known and long standing. In the aftermath of the 2009 financial crisis, because of the strain on public finances, an OECD/G20 project called “Base Erosion and Profit Shifting” (BEPS)<sup>11</sup> was created. “Multinational enterprises exploit gaps and mismatches in the international tax rules to artificially shift profits to low or no tax jurisdictions and avoid paying their fair share of tax”.<sup>12</sup> When these strategies are legal, the practice goes under the name of *tax avoidance*. The 2016 Panama Papers scandals led to renewed efforts in the EU on combating tax avoidance. Remarkably, the Public-Country-by-Country Reporting (CBCR) directive was rejected by the EU Council thanks to the vote of the member states with low taxation regimes. The directive would have mandated multinational companies to disclose key fiscal financial information of their subsidiaries by country (Garicano 2019).

In the context of the COVID-19 recovery, there is a concern that firms benefitting from public aid in a country in which they generate revenues will avoid taxation by shifting elsewhere their profits. The phenomenon results in an unintended cross-border subsidy and contributes to increasing the inequality between countries. In the EU, this phenomenon is particularly relevant because it works against the EU Cohesion Policy, which represents now the largest item on the EU budget. The aim of the EU Cohesion policy is to narrow the inequality gap by fostering the economic convergence of EU regions. It is important to notice that all EU countries, including those with

---

<sup>10</sup> For a review of the top ten tax haven see e.g. Zuckman, Wright 2018.

<sup>11</sup> <https://www.oecd.org/about/impact/combatinginternationaltaxavoidance.htm>.

<sup>12</sup> Cf. footnote 9.

low taxation, benefit from the EU Cohesion Policy. Conversely, even countries that are damaged by this fiscal dumping (e.g. Italy) largely contribute to the funds of the EU Cohesion policy. There is thus a double negative distributive effect.

## **5 Doing More and Better Does not Cost More: Policy Complementarity is a Matter of Understanding and Management**

As we have discussed above, the fiscal and monetary policies introduced so far in the EU countries promote a ‘business as usual’ economic recovery. This is a short-term strategy that may jeopardise the mid-to-long-term environmental sustainability and financial stability objectives. In particular, the fiscal measures introduced so far hamper the climate policy measures and halt the already difficult progress on tax transparency. Indeed, the problem of reconciling taxation fairness, efforts to restart the economy and climate change have been recently explicitly discussed by the EU Commissioner for Economy.<sup>13</sup>

Perhaps, the most important thing to realise is that a short-term approach to the COVID-19 response that does not consider the climate and the taxation issues are more costly and less effective than tackling these issues together. Indeed, we can choose between financing now a carbon intensive economic recovery (i.e. supporting firms unconditionally to their decarbonization efforts) *and later* a low-carbon transition (thus paying twice), or to finance right away a green economic recovery (thus paying only once), exploiting creative destruction in the Schumpeterian sense. Similarly, governments can choose to give state aid to firms that engage in tax avoidance strategies. In this case, they will face the continued reduced income tax resulting from profit shifting (thus paying twice). Alternatively, they can choose to resolve this taxation policy issue right away and reduce tax income losses in the future (thus paying only once).

To conclude, strengthening the socio-economic resilience against future pandemics, as well as other future shocks, calls for recovery measures that are fully aligned to the objectives of the EU Green Deal and of the EU corporate taxation policy. Tackling these objectives together is more cost effective than addressing the COVID-19 crisis with short-term measures. Remarkably, because of the interconnectedness between climate risk, pandemic risk and financial risk (Monasterolo, Billio, Battiston 2020), this may be actually the only feasible way to build resilience to future crises.

---

**13** [https://ec.europa.eu/commission/presscorner/detail/en/SPEECH\\_20\\_398](https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_20_398).



## Bibliography

- Ahmed, F.; Ahmed, N.E.; Pissarides, C.; Stiglitz, J. (2020). "Why Inequality Could Spread COVID-19". *The Lancet Public Health*, 5(5), e240. [https://doi.org/10.1016/s2468-2667\(20\)30085-2](https://doi.org/10.1016/s2468-2667(20)30085-2).
- Battiston, S.; Monasterolo, I. (2019). "How Could the ECB's Monetary Policy Support the Sustainable Finance Transition?". FINEXUS working paper. [https://www.finexus.uzh.ch/en/news/cspp\\_sustainable\\_finance.html](https://www.finexus.uzh.ch/en/news/cspp_sustainable_finance.html).
- Battiston, S.; Mandel, A.; Monasterolo, I.; Schütze, F.; Visentin, G. (2017). "A Climate Stress-Test of the Financial System". *Nature Climate Change*, 7(4), 283-88. <https://doi.org/10.1038/nclimate3255>.
- Bénassy-Quéré, A.; Boot, A.; Fatás, A.; Fratzscher, M.; Fuest, C.; Giavazzi, F.; Marimon, R.; Martin, P.; Pisani-Ferry, J.; Reichlin, L.; Schoenmaker, D.; Teles, P.; Weder di Mauro, B. (2020). "A Proposal for a Covid Credit Line". *VoxEU.org*, 21 March. <https://voxeu.org/article/proposal-covid-credit-line>.
- Brunnermeier, M.; Landau, J.P.; Pagano, M.; Reis, R. (2020). "Throwing a COVID-19 Liquidity Life-Line". *VoxEU.org*, 19 March. <https://voxeu.org/debates/commentaries/throwing-covid-19-liquidity-life-line>.
- Coupepy-Soubeyran, J. (2020). "'Helicopter Money' to Combat Economic Depression in the Wake of the Covid-19 Crisis". *Veblen Institut*, 2 May. <https://bit.ly/38Ze5H1>.
- Galí, J. (2020). "Helicopter money: The time is now". *VoxEU.org*, 17 March. <https://voxeu.org/article/helicopter-money-time-now>.
- Gallagher, K. (2020). "Argentina's Creditors Must Face Up to the Coronavirus Challenge". *The Financial Times*, 20 April. OpEd post in Alphaville. <https://ftalphaville.ft.com/2020/04/17/1587126226000/Argentina-s-creditors-must-face-up-to-the-coronavirus-challenge/>.
- Garicano, L. (2019). "Why are European Countries Against Fiscal Transparency?". *EURACTIV*, 2 December. <https://bit.ly/2Zqipgz>.
- Giavazzi, F.; Tabellini, G. (2020). "Covid Perpetual Eurobonds: Jointly Guaranteed and Supported by the ECB". *VoxEU.org*, 24 March. <https://voxeu.org/article/covid-perpetual-eurobonds#.XnnSSVVDw6o.twitter>.
- Monasterolo, I.; Billio, M.; Battiston, S. (2020). "The Importance of Compound Risk in the Nexus of COVID-19, Climate Change and Finance". Ca' Foscari University of Venice, Dept. of Economics, Working Paper No. 15/WP/2020. <https://econpapers.repec.org/RePEc:ven:wpaper:2020:15>.
- Monasterolo, I.; Volz, U. (2020). "How to Finance Virus Response in a Sustainable Way? Scale Up Synergies with the Green Deal". *EURACTIV*, 7 April. <https://bit.ly/2WhLacg>.
- Toporowski, J.; Calvert Jump, R. (2020). "The COVID-19 Bailout and its Financing Dilemmas". *Institute for New Economic Thinking*, 30 June. <https://www.ineteconomics.org/perspectives/blog/covid-19-the-financing-dilemmas>.
- van der Ploeg, F.; Rezai, A. (2020). "The Risk of Policy Tipping and Stranded Carbon Assets". *Journal of Environmental Economics and Management*, 100, 102258. <https://doi.org/10.1016/j.jeem.2019.102258>.
- Zucman, G.; Wright, T. (2018). "The Exorbitant Tax Privilege". NBER Working Paper No. 24983. <http://www.nber.org/papers/w24983>.

