The Legacy of COVID-19 Financial Supports:
(2) Adapting to a Life Beyond the Pandemic

Dr. Jonathan McCarthy *

Introduction

This article is the second part to a previous *Journal of International Banking Law and Regulation* article, which focused on how to judge the effects of financial support measures implemented during the COVID-19 pandemic. [1] The previous article concluded by indicating that there were significant functions and advantages associated with the public supports provided for within the crisis context of the pandemic. However, the article emphasised that similar measures in future should be oriented towards protecting the solvency of viable businesses – not simply preserving short-term liquidity – and that these initiatives should entail rigorous monitoring of empirical outcomes. The participation of private financial institutions is also argued to be intrinsic to the feasibility of future supports, in order to make accurate determinations of commercial creditworthiness.

This second article progresses beyond the analysis of the emergency setting of the pandemic towards scrutinising how financial support measures can be retained, but reformulated, to serve public policy objectives relating to sustainability and digitalisation. As with the first article, this second article is concerned with developments within the European Union, while acknowledging that similar considerations apply to jurisdictions globally.

In discerning a turning-point from the article in the previous issue, this article begins by addressing the potential 'scarring' in the EU economy resulting from the pandemic. For the purposes of the article, economic scarring is taken to refer to prolonged vulnerabilities, burdens, and risks which persist after an initial period of crisis has subsided. These features of scarring can act as a drain on prospects of economic recovery, growth, and productivity. Since the pandemic, economic scarring may be perceptible through the likelihood of protracted corporate indebtedness, increases in non-performing loans, the future growth of businesses

* Lecturer, School of Law, University College Cork. Email: Jonathan.McCarthy@ucc.ie

[1] J. McCarthy, 'The Legacy of COVID-19 Financial Supports: Judging the Effects of the Pandemic-Era Measures' (2024) 39(9) *Journal of International Banking Law and Regulation* 295.

being stifled by legacy debt becoming an overhang, the inefficient continuation of 'zombie' companies which are incapable of being revived as profitable going concerns, and a demand for corporate insolvency and rescue processes which may not always be accessible, or cost-effective, for struggling firms.

The second section of this article will highlight how the EU has already demonstrated an acceptance that investment in innovation is integral to current policy instruments. The section will provide an outline of relevant EU legislative and policy developments since the pandemic. In portraying these legislative and policy frameworks, the section will appraise initiatives involving the ongoing use of public funds, in addition to noting the probable impact of imminent changes to EU fiscal rules. This section will also summarise EU legislative proposals which aim to enhance the accessibility of legal proceedings for businesses.

In the third section, the article will identify the EU's promotion of business sustainability and digitalisation as central policy objectives. In so doing, the article will define the key aspects of sustainability and digitalisation, as elevated in EU policies. By setting definitions for these public policy objectives, the article will try to avoid the somewhat vague or aspirational connotations which may occasionally arise from discourse around sustainability, digitalisation, or other related terms.

The article will contend that financial support measures should be adapted towards achieving a twin transition of enhancing sustainable practices by EU businesses and accelerating the adoption of digital technologies. To expedite green and technological innovation, financial supports must be deliberately directed towards businesses whose activities are grounded in the twin transition objectives. Moreover, funds must be allocated to businesses which are objectively viable as going concerns. Financial institutions and banks can vitally contribute to creditworthiness assessments and to making evaluations of business' solvency. The onus should not therefore be placed exclusively on governments. Exposures to risk can be shared across states and private institutions. The lessons from the pandemic era should be heeded when designing effective funding facilities in the interests of public policy. This will be consistently exemplified by the article's argument for solvency-based and empirically transparent support measures which suitably balance the risks and rewards of providing support through public funds.

Addressing economic scarring since the pandemic

As this article is focused on developments beyond the COVID-19 pandemic, the article's perspective is that financial support measures can continue to be utilised to mitigate the economic fallout of the pandemic. However, it should be conceded that, far from being a comprehensive panacea for all of the pandemic's problems, the types of support measures established during the pandemic era may even be responsible for persisting difficulties that are affecting EU economic recovery. If support measures are to be directed towards alleviating any post-pandemic scarring of economies, the possible contribution of public supports to economic risks and vulnerabilities should first be understood.

The frequent concern around financial support measures is that the assistance could heighten the potential for 'zombification' of companies [2] and, accordingly, an inhibition of entire business sectors. [3] In effect, public funds could be diverted towards businesses which are not categorically solvent and capable of being debts as they fall due. A reliance on public funds could be prolonged and akin to a crutch for insolvent businesses. The misallocation of resources (in enabling inefficient firms to retain employees and deficient modes of production) is often intertwined with a reduction in investment in firms that actually have viable prospects, [4] and with a weaker rate of productivity and growth in the economy at large. [5] As warned in International Monetary Fund (IMF) research, the measures "put in place during crises expand government balance sheets and have ongoing implications that may take years to unwind." [6]

As discussed in the first article, loan guarantee facilities are based on a transfer of risk from private institutions to states. These facilities can have lengthy maturity periods and it can take several years for a loan default to transpire. Critics would suggest that loan guarantees set a dangerous precedent by allowing governments to become overly exposed to the potential losses resulting from a borrower's non-repayment. For Marco Pagano and Josef Zechner, the 'dark side' of loan guarantees is based on excessive forbearance, or lender restraint, in relation to bad

[2] On the features of corporate zombies, see R. Banerjee and B. Hofmann, 'The Rise of Zombie Firms: Causes and Consequences' in *BIS Quarterly Review* (September 2018), and R. Banerjee and B. Hofmann, 'Corporate Zombies: Anatomy and Life Cycle' (BIS Working Paper No. 882) (September 2020, as revised in January 2022).
[3] B. Battersby, R. Espinoza, J. Harris, G. Hee Hong, S. Lizarazo, P. Mauro, and A. Sayegh, 'The State as Financier of Last Resort' (IMF Staff Discussion Note 2022/003) (October 2022), p. 10
[4] See also S. Myers. 'The Determinants of Corporate Borrowing' (1977) 5(2) *Journal of Financial Economics* 147.
[5] Battersby et al, 'The State as Financier of Last Resort' (IMF SDN 2022), p. 10.
[6] Battersby et al, 'The State as Financier of Last Resort' (IMF SDN 2022), p. 20.

debt. [7] Zombie companies are given latitude within which to artificially perpetuate their activities (unproductively, or perhaps hardly even trading) by the 'evergreening' of existing (non-performing) loans. An increased presence of legacy indebtedness or debt overhang can subsequently impede the willingness of investors to extend further financing towards businesses, even when many businesses are viable. [8] As referred to in the first article, the work of Peter Harasztosi and others found that support measures were used to accomplish an immediate impact in addressing liquidity needs. Yet, the authors did admit that there are 'medium-term' factors which can impinge on economic productivity, specifically a halting in firm exits or closures and a skewing of 'creative destruction' processes [9] of business birth-death cycles within economic sectors. [10]

Is there evidence of an increased wave of the 'walking dead' of insolvent firms since the pandemic? As stated in the study completed by Bruno Albuquerque and Roshan Iyer, there is no commonly agreed definition of what constitutes a zombie firm. Nonetheless, zombie firms can be broadly viewed as "risky, unproductive and unviable", but managing "to avoid immediate default, most likely thanks to lenders' (banks, investors, or governments) continued support, in light of misaligned incentives." [11] By applying a methodology which assessed firms over two consecutive years, Albuquerque and Iyer disclosed that zombie firms have increased during the pandemic years, after a temporarily reduced pattern from 2016 to 2019. While the increase is "potentially reflecting the unprecedented policy support and easy financing conditions" [12] of the pandemic era, the outcome is that a 'congestion' of having unviable firms linger on, due to lender forbearance and acquiescence, "may cast a long shadow on the economy." [13]

---

[7] M. Pagano and J. Zechner, 'COVID-19 and Corporate Finance' (2022) 11 *Review of Corporate Finance Studies* 849, 871.

[8] M. Pagano and J. Zechner, 'COVID-19 and Corporate Finance' (2022) 11 *Review of Corporate Finance Studies* 849, 871.

[9] The seminal work on creative destruction in economic theory is J. Schumpeter, *The Theory of Economic Development* (Leipzig: Dunker & Humblot, 1912).

[10] P. Harasztosi, L. Maurin, R. Pál, D. Revoltella, and W. van der Wielen, 'Firm-Level Policy Support During the Crisis: So Far, So Good?' (2022) 171 *International Economics* 30, 32.

[11] B. Albuquerque and R. Iyer, 'The Rise of the Walking Dead: Zombie Firms Around the World' (IMF Working Paper 23/125) (June 2023), p. 10.

[12] B. Albuquerque and R. Iyer, 'The Rise of the Walking Dead: Zombie Firms Around the World' (IMF Working Paper 23/125) (June 2023), p. 12.

[13] B. Albuquerque and R. Iyer, 'The Rise of the Walking Dead: Zombie Firms Around the World' (IMF Working Paper 23/125) (June 2023), p. 38.

It may be unsurprising to find zombification and economic scarring to be more visible among firms that were particularly struck by the pandemic and consequent lockdowns, restrictions, and social distancing guidelines. [14] Small– and medium–sized enterprises (SMEs) [15] are regularly the businesses which are most sharply affected by any significant contractions in credit provision. By the same token, SMEs were the businesses which most readily availed of financial support measures during the pandemic. If SMEs find themselves to be substantially leveraged in the years following the pandemic, there could be a 'time bomb' embedded within future economic recovery. [16] The not-unfounded suspicion is that insolvencies or bankruptcies were provisionally delayed during the pandemic. The extent of SME indebtedness may not become truly manifest until some reoccurrence of liquidity shortages and risk aversion among financial institutions. Even in empirical findings which predate the pandemic, there is ample evidence to show lower recovery rates for loans to SMEs than loans to companies generally. [17] Nonetheless, despite the eagerness of some soothsayers to make prophecies of doom in the midst of the pandemic, the level of economic scarring should not be overestimated.

As conveyed by a European System of Central Banks (ESCB) Expert Group report, statistical findings signal a lower probability that pandemic supports were provided to zombie firms and that the prevalence of zombie firms was not directly attributable to, or altered by, the support measures during the pandemic. [18] Furthermore, the research of Lilas Demmou and Guido Franco – as also cited in the first article – concludes that loan guarantees helped businesses to bridge liquidity gaps, but that the benefit to zombie firms was marginal. [19] The risk of businesses becoming insolvent at a later stage cannot be discounted, especially if "a premature withdrawal of loan guarantee schemes may induce a collapse of credit flows." [20]

---

[14] J-M. Natal, E. Pugacheva, and S. Albrizio, 'Corporate Indebtedness During COVID-19: The Hangover of the Vulnerable' (VoxEU, 7 June 2022); available at: https://cepr.org/voxeu/columns/corporate-indebtedness-during-covid-19-hangover-vulnerable (date accessed: 25 June 2024).
[15] In accordance with the European Commission Recommendation 2003/61/EC, of 6 May 2003, on the definition of micro, small and medium-sized enterprises, OJ L 124/36, whereby an SME employs fewer than 250 persons and has an annual turnover not exceeding €50 million and/or an annual balance sheet total value not exceeding €43 million.
[16] P-O. Gourinchas, S. Kalemli-Özcan, V. Penciakova, and N. Sander, 'COVID-19 and SMEs: A 2021 "Time Bomb"? (National Bureau of Economic Research Working Paper 28418) (January 2021).
[17] See EBA, *Report on the Benchmarking of National Loan Enforcement Frameworks* (EBA/Rep/2020/29).
[18] ESCB Expert Group on Productivity, Innovation and Technological Change, 'The Impact of the COVID-19 Pandemic and Policy Support on Productivity' (European Central Bank Occasional Paper No. 341) (2024).
[19] L. Demmou and G. Franco, 'From Hibernation to Reallocation: Loan Guarantees and Their Implications for Post-COVID-19 Productivity' (OECD Economics Working Paper No. 1687) (2021).
[20] L. Demmou and G. Franco, 'From Hibernation to Reallocation: Loan Guarantees and Their Implications for Post-COVID-19 Productivity' (OECD Economics Working Paper No. 1687) (2021), para. 46.

Predictions about dramatic surges in the numbers of corporate insolvencies in the EU have yet to be realised. The European Systemic Risk Board (ESRB) has referred to estimates which projected rises of approximately 32% in insolvencies in western Europe and 34% in central and eastern Europe, by 2021, from 2019 rates. [21] According to European Central Bank (ECB) data, insolvencies within the euro area have increased since the second half of 2022, [22] but the overall increase is far from being as cataclysmic as some may have expected. [23] Even if businesses have not reached the formal point of insolvency, there are recorded increases in loan defaults, while the ratio of non-performing loans for smaller firms has also increased. [24] When looking to the health of EU financial services, bank profitability has been at a 15-year high, notably on the basis of increased interest rates. [25] However, there are ominous signs for the recent levels of profitability. Loan demand has radically declined, and year-to-date lending flows are at the lowest since 2015. [26]

Economic scarring is not necessarily tied to the circumstances of the pandemic. Instead, it would be more realistic to say that economic weaknesses are related more to how future developments may expose, or exacerbate, risks and vulnerabilities that were concealed by the public supports made available during the pandemic. The disruptions to cross-border trade caused by conflicts in Ukraine and the Middle East, a seemingly relentless climb in energy costs, and a range of other developments have presented fresh difficulties for businesses, already making the liquidity shortfalls of the pandemic seem like a distant memory. As deduced by the European Banking Authority (EBA), "while the COVID-19 crisis was associated with liquidity challenges, the current juncture seems to cause concerns from a solvency angle" and necessitating "a different approach" to "address any potential materialisation of risks." [27]

The argument for a solvency-based approach to public supports – rather than a simple fixation on meeting business' liquidity demands – can be traced from the first article. To recap the merits

[21] ESRB, *Prevention and Management of a Large Number of Corporate Insolvencies* (April 2021), p. 4.
[22] C. Attolini, A. Ferrando, and J. Rariga, 'Corporate Vulnerabilities as Reported by Firms in the SAFE', in ECB, *Economic Bulletin (Issue 1/2024)*, p. 57.
[23] See the data contained in the Eurostat news article, 'Q3 2023: Business Bankruptcies Down, Registrations Up' (17 November 2023); available at: https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20231117-2 (date accessed: 25 June 2024)
[24] ECB, *Financial Stability Review* (November 2023), p. 56. For these statistics, non-performing loans are classified as those with payments obligations which are more than 90 days past due.
[25] ECB, *Financial Stability Review* (November 2023), Chart 3.1, p. 53.
[26] ECB, *Financial Stability Review* (November 2023), Chart 3.7, p. 59.
[27] EBA, *Closure Report of COVID-19 Measures* (EBA/REP/2022/32) (December 2022), para. 117.

of this approach, public supports should be concentrated on businesses which have definitively viable prospects of survival as profitable going concerns. Support measures should avoid the haphazard provision of funding to sundry businesses, whether financially distressed in provisional terms or, in more severe terms, economically distressed. Financial institutions and banks can be crucial to making assessments of creditworthiness in the context of guaranteed loan facilities. The use of public funds for central policy objectives can be significant in ameliorating obstacles to economic recovery and in diminishing the scale of post-pandemic scarring, but especially if this financing is steered towards solvent businesses in the interests of sustainable and digitalised innovation.

For businesses which cannot demonstrate objective viability, insolvency and rescue processes must be accessible and cost-efficient. Smooth access to insolvency and rescue can contribute to the natural cycles of creative destruction within a normally functioning economy. Within the EU, the transposition of the 2019 Preventive Restructuring Directive [28] should help to set foundations for rescue and debt restructuring for ailing, but viable, firms, particularly SMEs in the aftermath of the pandemic. [29] As further detailed in the next section, the European Commission's proposed Insolvency Directive from 2022 [30] carries an express objective of simplifying the availability of insolvency procedures for microenterprises, as the smallest segment of SMEs, but the most common enterprise type across EU Member States. [31] When making an argument that financial support measures must be justified on the grounds of business solvency, there must also be cognisance of how insolvency and rescue processes have functions to fulfil so that failing companies are not facilitated to continue as zombies.

[28] Directive (EU) 2019/1023 of the European Parliament and of the Council of 20 June 2019 on preventive restructuring frameworks, on discharge of debt and disqualifications, and on measures to increase the efficiency of procedures concerning restructuring, insolvency and discharge of debt, and amending Directive (EU) 2017/1132; OJ L 172/18.

[29] See J. Garrido, C. DeLong, A. Rasekh, and A. Rosha, 'Restructuring and Insolvency in Europe: Policy Options in the Implementation of the EU Directive' (IMF Working Paper 21/152) (2021).

[30] European Commission, Proposal for a Directive of the European Parliament and of the Council harmonising certain aspects of insolvency law, COM(2022) 702 final [hereinafter 'Insolvency Directive proposal'].

[31] See the data available through the European Commission's SME Performance Review; available at: https://single-market-economy.ec.europa.eu/smes/sme-strategy/sme-performance-review_en (date accessed: 25 June 2024).

EU legislative and policy frameworks

As described in the first article, the EU's adoption of a Temporary Framework for State Aid in March 2020 provided for a flexible response to the crisis circumstances at the earliest stages of the pandemic. The enduring flexibility of the framework is epitomised by the subsequent tailoring of measures in response to the war in Ukraine and to the ramifications of rising energy costs. [32] The most prominent example of how support measures were maintained beyond the pandemic context is the NextGenerationEU (NGEU) programme, [33] particularly through its principal financing mechanism, the Recovery and Resilience Facility (RRF). [34]

The NGEU programme commits to the allocation of approximately €800 billion to EU Member States, until 2026, to assist with economic recovery since the pandemic. The legal basis for the RRF was set by Regulation (EU) 2021/241. [35] The longer-term vision of the NGEU and RRF framework is encapsulated by how the RRF's legislative scope is structured by six 'pillars.' [36] The RRF applies to the following areas: green transition; digital transformation; smart, sustainable, and inclusive growth ("including economic cohesion, jobs, productivity, competitiveness, research, development and innovation, and a well-functioning internal market with strong SMEs"); social and territorial cohesion; health, economic, social and institutional resilience (" with the aim of, inter alia, increasing crisis preparedness and crisis response capacity"); and policies for the next generation, children, and the youth (such as education and skills). [37]

The NGEU and RRF initiatives denote a markedly different approach in EU policymaking in respect of public supports. In general, the reach of public supports during the pandemic has generated questions about the relationship between the rule of (EU) law and the need for pragmatically urgent measures in a crisis. [38] As explicated by Carlos Bosque, David Ramos Muñoz and Marco Lamandini, "NGEU is not a shock absorber nor an instrument to provide

---

[32] See EBA, *Closure Report of COVID-19 Measures* (2022), para. 52
[33] See the European Commission's NGEU webpage at: https://commission.europa.eu/strategy-and-policy/eu-budget/eu-borrower-investor-relations/nextgenerationeu_en (date accessed: 25 June 2024).
[34] See the Commission's RRF webpage at: https://commission.europa.eu/business-economy-euro/economic-recovery/recovery-and-resilience-facility_en (date accessed: 25 June 2024).
[35] Regulation (EU) 2021/241 of the European Parliament and of the Council of 12 February 2021 establishing the Recovery and Resilience Facility; OJ L 57/17.
[36] Regulation (EU) 2021/241, Article 3.
[37] Regulation (EU) 2021/241, Article 3(a)–(f).
[38] See L. Fromont and A. Van Waeyenberge, 'Trading Rule of Law for Recovery? The New EU Strategy in the Post-Covid Era' (2022) 27(1) *European Law Journal* 132.

liquidity to the economy." Instead, the programme is occupied with resources to allow Member States "to implement sustainable reforms with a view to tackling the undesired consequences of the COVID-19 outbreak." [39] In the analysis of Federico Fabbrini, NGEU is emblematic of a paradigm change, whereby the EU is endowed with "a significant degree of new, real fiscal powers", comprising the ability of the European Commission "to raise resources, and run a supranational economic policy, investing in transnational political priorities…" [40]

The NGEU programme can be distinguished from comparable initiatives, such as the InvestEU programme, [41] which is an instrument dedicated to innovation and job creation in the EU from 2021 to 2027, encompassing over €370 billion in funding. The ambition of the NGEU programme has caused observers to speculate as to the feasibility of this measure for future years. Bosque, Ramos Muñoz and Lamandini have sought to temper the expectations around NGEU by emphasising its temporary nature, that it is not to be a broad-based stimulus, and that its intended transformational effects are focused on specific policy concerns. [42] For Fabbrini, it remained to be seen whether the NGEU programme could permanently transform European integration or whether it should be treated as an exceptional move during a time of crisis. [43]

The RRF was the subject of a mid-term evaluation in February 2024, in accordance with the provisions of Article 32 of Regulation (EU) 2021/241. An evaluation report was prepared by the Commission's Directorate-General for Economic and Financial Affairs [44], while a Commission Communication presented the main insights garnered from the report. [45] At the stage of the evaluation, it was reported that €225 billion had been disbursed and that over €100 billion was anticipated to be extended during 2024. In total, almost two million companies had

---

[39] C. Bosque, D. Ramos Muñoz, and M. Lamandini, 'Next Generation EU: Its Meaning, Challenges, and Link to Sustainability' in C. Gortsos and W.-G. Ringe (eds.), *Financial Stability Amidst the Pandemic Crisis: On Top of the Wave* (European Banking Institute, 2021), p. 331.
[40] F. Fabbrini, 'The Legal Architecture of the Economic Responses to COVID-19: EMU Beyond the Pandemic' (2021) 60 (1) *Journal of Common Market Studies* 186, 194.
[41] See the InvestEU programme website at: https://investeu.europa.eu/index_en (date accessed: 25 June 2024)
[42] C. Bosque, D. Ramos Muñoz, and M. Lamandini, 'Next Generation EU: Its Meaning, Challenges, and Link to Sustainability' in C. Gortsos and W.-G. Ringe (eds.), *Financial Stability Amidst the Pandemic Crisis: On Top of the Wave* (European Banking Institute, 2021), p. 353.
[43] F. Fabbrini, 'The Legal Architecture of the Economic Responses to COVID-19: EMU Beyond the Pandemic' (2021) 60 (1) *Journal of Common Market Studies* 186, 194.
[44] European Commission Directorate-General for Economic and Financial Affairs, *Mid-Term Evaluation of the Recovery & Resilience Facility. Strengthening Our Union Through Ambitious Reforms & Investments* (Institutional Paper 269) (February 2024).
[45] Communication from the European Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, 'Strengthening the EU through Ambitious Reforms and Investments', COM(2024) 82 final.

received monetary or in-kind support. Of the six pillars identified in Regulation (EU) 2021/241, the highest quantity of funding – over €40 billion – was allotted for smart, sustainable, and inclusive growth. However, the mid-term report found that the RRF has not brought about "administrative simplification" for Member States. In tandem with having to show how milestones and targets are being achieved, Member States must collect evidence of expenditure incurred, in addition to data regarding recipients of funding for audit and control purposes. [46] Member States varied noticeably in their requests and use of RRF funding. [47] The same is true of the REPowerEU programme, an initiative stemming from NGEU and created to address the disruption to energy markets due to the Russian invasion of Ukraine. [48] There are several Member States which have not added chapters, or submitted applications, for this funding. [49]

The slowed rate of disbursement could be explained by an accumulation of existing governmental debt. As reported by the European Investment Bank (EIB), by 2021 and 2022, 13 EU Member States had debt levels which exceeded about 60% of total Gross Domestic Product (GDP) for 2022, while the debts of six of the countries were greater than 100% of GDP. [50] The pressures exerted on public finances during the pandemic years have catalysed recent reforms to EU fiscal rules through amendments to the Stability and Growth Pact (as originally codified in 1997). [51]

Under the Stability and Growth Pact, EU Member States committed to keeping public debts within 60% of GDP. [52] The adoption of a new framework – centred on public expenditure as the chief determinant – has instigated debate as to the repercussions for future investment and

---

[46] European Commission Directorate-General for Economic and Financial Affairs, *Mid-Term Evaluation of the Recovery & Resilience Facility. Strengthening Our Union Through Ambitious Reforms & Investments* (Institutional Paper 269) (February 2024), p. 59.
[47] European Commission Directorate-General for Economic and Financial Affairs, *Mid-Term Evaluation of the Recovery & Resilience Facility. Strengthening Our Union Through Ambitious Reforms & Investments* (Institutional Paper 269) (February 2024), p. 74.
[48] See the Commission's webpage at: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/repowereu-affordable-secure-and-sustainable-energy-europe_en (date accessed: 25 June 2024).
[49] European Commission Directorate-General for Economic and Financial Affairs, *Mid-Term Evaluation of the Recovery & Resilience Facility. Strengthening Our Union Through Ambitious Reforms & Investments* (Institutional Paper 269) (February 2024), p. 21.
[50] EIB, *Investment Report 2023/2024: Transforming for Competitiveness* (EIB, 2024), p. 80.
[51] European Parliament Press Release, 'New EU Fiscal Rules Approved by MEPs' (23 April 2024); available at: https://www.europarl.europa.eu/news/en/press-room/20240419IPR20583/new-eu-fiscal-rules-approved-by-meps (date accessed: 25 June 2024)
[52] See the Commission webpage at: https://economy-finance.ec.europa.eu/economic-and-fiscal-governance/stability-and-growth-pact_en (date accessed: 25 June 2024).

as to the most plausible methods by which the framework could be implemented. [53] With new fiscal requirements looming over EU Member States' spending plans, calls for a release of funding towards myriad projects may not be met with the most effusive of responses.

Even prior to the reforms to the Stability and Growth Pact, there were doubts cast as to how public supports could be retained as soon as the worst concerns around the pandemic were allayed. Even in times of conflict and spiralling costs of living, the rationale for public support measures – or, at the very least, the generosity by which such measures were permitted – appears less persuasive. As reckoned by the EBA, the "[r]oom for public support manoeuvre seems more limited than at the outset of the pandemic in March 2020, on the back of downward growth prospects and raising financing costs." [54] Even when there are means of allocating public funds, the NGEU experience would suggest that inefficiencies and bureaucratic complexities can curtail the most well-intentioned of schemes. In reflecting on the delayed progress of the RRF, the EIB deems high inflation, a lack of administrative capacity, and the need for long-term planning for certain projects to be the main stumbling blocks to date. [55]

There are alternatives to Member States' reliance on requests to centralised EU programmes. However, these alternatives require careful and time-consuming cultivation of support networks which may not be anywhere close to existence within numerous EU Member States. As expressed by the EIB, local, regional, and national authorities can be focal to promoting sustainable and digital projects. [56] For example, the development of high-speed Internet connections is an endeavour which can be advanced through coordination at an intra-Member State level. A more concentrated, but gradual, creation of public initiatives can also galvanise market financing from private investors.

Relative to EU firms' traditional dependence on bank credit, the subdued rate of market financing has been a perennial trait of EU funding sources. In aiming to widen the availability of market financing for EU businesses, the Capital Markets Union agenda has tended to ebb

---

[53] See Z. Darvas, L. Welslau and J. Zettelmeyer, 'The Implications of the New EU Fiscal Rules' (Bruegel Policy Brief, Issue No. 10) (June 2024); available at: https://www.bruegel.org/policy-brief/implications-european-unions-new-fiscal-rules (date accessed: 25 June 2024).
[54] EBA, *Closure Report of COVID-19 Measures* (2022), para. 117.
[55] EIB, *Investment Report 2023/2024: Transforming for Competitiveness* (EIB, 2024), p. 55.
[56] EIB, *Investment Report 2023/2024: Transforming for Competitiveness* (EIB, 2024), p. 8.

and flow as a perceived priority for EU policymakers. [57] The interlinkages between public supports, venture capital and private equity are grasped by the EBI's analysis that "[w]ith equity financing for startups and scale-ups particularly affected by tighter financial conditions, there is a heightened need for European public finance, which is a cornerstone investor in Europe's underdeveloped venture capital market." [58]

Notwithstanding the inconsistency by which Capital Markets Union is pursued, the associated policy objectives have produced legislative proposals which may help to reduce scarring effects on the EU's economy. The Insolvency Directive proposal [59] was introduced within a Capital Markets Union legislative package, which also compromised of legislative proposals on clearing and listing. Along with an impetus towards harmonisation of EU insolvency rules, the reasons for the proposal are rooted in more modern pressing matters than the pandemic, as "[t]he ongoing energy crisis and the limited fiscal space for public subsidies may result in an increase in business exits in the future." [60] Individual companies "may experience conditions where their debt level turns out to be unsustainable" and, at a macroeconomic degree, "the latest economic developments show that the EU economy is still vulnerable to sizeable economic shocks and distress." [61]

Title VI of the Commission's Insolvency Directive proposal places an obligation on Member States "to ensure that microenterprises, when insolvent, have access to simplified winding-up proceedings…", [62] whereby a microenterprise is defined as insolvent "when it is generally unable to pay its debts as they mature." [63] Insolvent microenterprises may therefore submit a request to national competent authorities for the opening of proceedings. [64] Debtor-in-possession proceedings would allow incumbent management to keep control over the business assets, although an insolvency practitioner may be transferred rights by the competent authority to manage and dispose of the assets. [65] In an instance of a more simplified approach to microenterprise insolvency, the pursuit and enforcement of avoidance actions is not to be

---

[57] J. McCarthy, 'European Capital Markets Union: A Revived Project but a Broader Agenda' (2020) 35(10) *Journal of International Banking Law and Regulation* 392.
[58] EIB, *Investment Report 2023/2024: Transforming for Competitiveness* (EIB, 2024), p. 18.
[59] See n. 30.
[60] Insolvency Directive proposal, p. 2
[61] Insolvency Directive proposal, p. 2.
[62] Insolvency Directive proposal, Article 38.1.
[63] Insolvency Directive proposal, Article 38.2.
[64] Insolvency Directive proposal, Article 41.
[65] Insolvency Directive proposal, Article 43.

mandatory, but can be at the discretion of creditors and, where applicable, the relevant insolvency practitioner. [66] As the proposal progresses through the EU legislative phases, it can be expected that these proceedings will amount to another component in EU frameworks for facilitating business and economic recovery since the pandemic. Yet, just as legislative and policy frameworks heed lessons from the past, an eye must also be fixed towards how public policy for the future can be shaped.

The use of financial supports in achieving a twin transition

Both this article and the article in the previous issue have built towards the argument that the types of financial support measures utilised during the pandemic can be effectively retained for achieving public policy objectives in sustainability and digitalisation. Discourse regarding the 'twin transition' towards sustainability and digitalisation has permeated through EU policies during the past 10 years (especially arising from the United Nations Sustainable Development Goals (SDGs) [67]), but the exact meaning of these objectives can sometimes appear ambiguous. If public funds are to be diverted towards promoting a twin transition, it is paramount that governments and investors are clear on how sustainability and digitalisation can be interpreted.

From an academic perspective, sustainability in business activities can be comprehended as a business' efficient application of natural, human and social capitals. As expressed by Colin Mayer, a sustainable firm is one which acts 'responsibly' by accounting "for the cost of maintaining not just its physical capital but all of its capitals" and, "[i]f it fails to do so then it is simply mismeasuring profits and in most cases overstating them." [68] For the purposes of this article, the concept of sustainability is being particularly narrowed to the pursuit of 'green innovation'. [69] By striving to decarbonise their practices, to significantly reduce reliance on fossil fuels, and to move from linear methods of production, sustainable businesses are modifying strategies to ensure that their activities are having a minimal adverse impact on the environment and climate change.

[66] Insolvency Directive proposal, Article 47.
[67] See the 17 SDGs, as adopted by UN Member States through the 2030 Agenda for Sustainable Development, at https://sdgs.un.org/goals (date accessed: 25 June 2024)
[68] C. Mayer, *Prosperity. Better Business Makes the Greater Good* (Oxford: Oxford University Press, 2018), p. 133.
[69] See P. Aghion, L. Boneva, J. Breckenfelder, L. Laeven, C. Olovsson, A. Popov, and E. Rancoita, 'Financial Markets and Green Innovation' (ECB Working Paper No. 2686) (July 2022).

By purposefully attuning business activities towards the efficient reduction of environmental harm, sustainability is an example of innovation, particularly when coupled with the prudent use of technology. As contended by Frans Berkhout, "[i]nnovation, by improving the efficiency with which inputs are converted into outputs, is also an important driver of environmental performance improvement of business." [70] In a report which is cited throughout this section of the article, the EIB ascribes a wide-ranging definition to innovation as "a broad term that covers several components, all of which require investment." [71] For the EIB, innovation activity groups together "research and development (R&D) spending, patenting activities and investment in new products, processes or services." [72] Similarly, digitalisation – and the adoption of novel technologies, such as artificial intelligence (AI), machine learning (ML), advanced data analytics, blockchain, and distributed ledger technology (DLT) – can be defined expansively. As considered by the ESCB's Expert Group, "[d]igitalisation is a broad phenomenon involving many different technologies and applications". [73]

Even if the parameters of sustainability and digitalisation may not be easily delineated, pre-eminent EU policies are expressly angled towards accomplishing this twin transition. The European Green Deal [74] is an attempt to make public policies fit to deliver at least a 55% reduction in greenhouse gas emissions, from 1990 levels, by 2030. The EU's Digital Decade programme is composed of identifiable goals for digital transformation by 2030, as guided by a digital 'compass' aligned to 'business', 'government', 'infrastructure', and 'skills.' [75] However, the ideals of public policies are being diluted by the realities of lack of investment.

As evaluated by the ECB, "[t]he EU needs to invest sizeable amounts until 2030 and beyond to support the green transition" – a task which is made all the more daunting by how "[q]uantifying green investment needs is fraught with uncertainty." [76] In the same manner, the

---

[70] F. Berkhout, 'Sustainable Innovation Management' in M. Dodgson, D. Gann and N. Phillips (eds.), *The Oxford Handbook of Innovation Management* (Oxford: Oxford University Press, 2014), p. 294.
[71] EIB, *Investment Report 2023/2024: Transforming for Competitiveness* (EIB, 2024), p. 144.
[72] EIB, *Investment Report 2023/2024: Transforming for Competitiveness* (EIB, 2024), p. 144.
[73] ESCB Expert Group on Productivity, Innovation and Technological Change, 'Digitalisation and Productivity' (ECB Occasional Paper No. 339) (2024), p. 8.
[74] See the Commission webpage at: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en (date accessed: 25 June 2024)
[75] See the Commission webpage at: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/europes-digital-decade-digital-targets-2030_en (date accessed: 25 June 2024)
[76] M. Andersson, C. Nerlich, C. Pasqua and D. Rusinova, 'Massive Investment Needs to Meet EU Green and Digital Targets' (Box 1) in ECB, *Financial Integration and Structure in the Euro Area* (June 2024), p. 8.

ECB proffers the insight that "[s]ubstantial investment will be needed to meet the digital targets" and that lack of funding is the one of the primary obstacles to further digitalisation. [77] The EIB has also firmly declared that the "green and digital transition will require major investment in research and innovation." [78] Yet, EU investment in research and innovation is continually an uphill struggle. Criticisms are specifically raised about the onus placed on Member States to make R&D funding available, the inadequacies of EU institutions to oversee a cohesive pan-EU approach, and the limitations of the European Innovation Council (albeit only relatively recently established) in its dependence on Commission decision-making and in its restricted amount of funding. [79]

When adapting to modern markets, customer demands, and regulatory requirements since the pandemic, businesses are having to face up to plans for incorporating sustainability and digitalisation in their everyday activities. As engines of capital for businesses, financial institutions also cannot avoid the changes being wrought by sustainability and digitalisation. As asserted by Wolf-Georg Ringe, "[t]hriving in the post-COVID world will require financial institutions to detect and adapt to emerging realities" and the prevailing 'twin trends' are characterised by digital transformation and sustainability. [80] Ringe argues that the pandemic "has morphed into an opportunity for banks to transform into digital-first entities and to harness the power of the platform economy", [81] while "a clearly defined green strategy is fast emerging as an imperative as a consequence of the financial crisis." [82] However, the EU's progress on both facets of the twin transition is uneven. By international standards, sustainability and

[77] Andersson et al, 'Massive Investment Needs to Meet EU Green and Digital Targets' (Box 1) in ECB, *Financial Integration and Structure in the Euro Area* (June 2024), pp. 9–10.
[78] EIB, *Investment Report 2023/2024: Transforming for Competitiveness* (EIB, 2024), p. 179.
[79] See C. Fuest, D. Gros, P.-L. Mengel, G. Presidente and J. Tirole, *EU Innovation Policy. How to Escape the Middle Technology Trap* (EconPol Europe, 2024); available at: https://www.econpol.eu/publications/policy_report/eu-innovation-policy-how-to-escape-the-middle-technology-trap (date accessed: 25 June 2024)
[80] W.-G. Ringe, 'Lessons from the Pandemic for European Finance: A Twin Transformation Towards Green Technology' in C. Gortsos and W.-G. Ringe (eds.), *Financial Stability Amidst the Pandemic Crisis: On Top of the Wave* (European Banking Institute, 2021), p. 62.
[81] W.-G. Ringe, 'Lessons from the Pandemic for European Finance: A Twin Transformation Towards Green Technology' in C. Gortsos and W.-G. Ringe (eds.), *Financial Stability Amidst the Pandemic Crisis: On Top of the Wave* (European Banking Institute, 2021), p. 62.
[82] W.-G. Ringe, 'Lessons from the Pandemic for European Finance: A Twin Transformation Towards Green Technology' in C. Gortsos and W.-G. Ringe (eds.), *Financial Stability Amidst the Pandemic Crisis: On Top of the Wave* (European Banking Institute, 2021), p. 63.

investment in environmental, social, governance (ESG) are priorities for EU firms, but businesses are not faring as effectively with the adoption of technologies. [83]

As shown in EIB findings, the EU is at the forefront of the use of sustainable and green technologies, such as carbon-reducing solutions and energy efficient applications, but the rate of adoption of digital technologies, such as AI, is lagging the United States and China. [84] The findings are consistent with surveys of the number of patents of digital innovations across countries in the euro zone. [85] Within the euro area, digitalisation is at a slower pace than global counterparts and SMEs' adoption of technologies is conspicuously low, given the sheer quantity of active SMEs. Continuous datasets of results on the EU twin transition – covering not just technology adoption, but also qualifications, employment, and skills – are evincing the differences between EU states in the progress of sustainability and digitalisation. [86]

The changing patterns in the growth of sustainable and digitalised business activities are also being borne out by investment demand and perceptions relating to the appetite of financial institutions to extend credit. According to the EIB, highly innovative firms are seemingly more pessimistic about the availability of external finance. The sense of pessimism is more accentuated in view of the increase of investment (much of which was through grants from public authorities and agencies) to innovative firms during the pandemic. [87] It is not simply a case of public supports turning a cold shoulder towards innovative businesses following the spending of the pandemic era. There are compelling reasons for risk aversion.

Businesses which specialise in the use of innovative technologies – including for sustainable and environmentally-beneficial purposes – automatically amount to a credit risk for lenders who are unfamiliar with these business models. Prospective borrowers may not have substantial fixed physical assets to pledge as loan security. Innovative firms are archetypally engaged in investment in intangible assets, such as R&D, software and data, human resources, and

---

[83] W.-G. Ringe, 'Lessons from the Pandemic for European Finance: A Twin Transformation Towards Green Technology' in C. Gortsos and W.-G. Ringe (eds.), *Financial Stability Amidst the Pandemic Crisis: On Top of the Wave* (European Banking Institute, 2021), pp. 79–80.
[84] EIB, *Investment Report 2023/2024: Transforming for Competitiveness* (EIB, 2024), p. 143.
[85] ESCB Expert Group on Productivity, Innovation and Technological Change, 'Digitalisation and Productivity' (ECB Occasional Paper No. 339) (2024).
[86] See especially the Bruegel Future of Work and Inclusive Growth in Europe project's Twin Transition Skills Dashboard; available at: https://www.bruegel.org/dataset/twin-transition-skills-dashboard (date accessed: 25 June 2024).
[87] EIB, *Investment Report 2023/2024: Transforming for Competitiveness* (EIB, 2024), p. 159.

organisational or team-based efficiencies. [88] If there are scarcities in public assistance with the financing of technology-centred businesses, creditworthiness assessments may also be complicated by the legal and regulatory ambiguities clouding technologies such as AI, ML, and advanced analytics. [89] Economic concerns have also undermined confidence in AI and algorithmic technologies. Although productivity gains are expected to be yielded by technologies which could, in time, prove to be tantamount to General Purpose Technologies (GPTs), such as electricity, [90] there is apprehension about the possible inequalities which could be sewn between countries – and between business sectors within jurisdictions – as a consequence of widespread adoption of AI and related technologies. [91]

In order to instill trust in investors and to galvanise market financing, public intervention is essential. As recommended by the EIB in responding to the "big structural challenge" of climate change and digitalisation, "government investment has a role to play in providing public goods and catalysing private investment." [92] Summaries of government expenditure within the RRF initiative certainly attest to the impact which public supports can have on investment in smart, sustainable and inclusive growth (26% of the total amount of funding), green transition (17.9% of overall funding), and digital transformation (9.2%). [93] However, public supports should not be the exclusive driving force. As articulated by the EIB, targeted public support can take the form of grants and subsidies. [94] A measured degree of public funding should thereby help to prompt enhanced market financing for innovative business activities in sustainability and digitalisation. As proposed by the research of Philippe Aghion and others, the underdeveloped venture capital and private equity investment markets within the EU signify that "stimulating green innovation falls squarely in the realm of government policies." [95]

---

[88] See EIB, *Investment Report 2023/2024: Transforming for Competitiveness* (EIB, 2024), p. 157.
[89] Of the many examples of academic commentary on the conundrum of satisfactorily regulating AI, see M. Buiten, 'Towards Intelligent Regulation of Artificial Intelligence' (2019) 10(1) *European Journal of Risk Regulation* 41, and J. Schuett, 'Defining the Scope of AI Regulations' (2023) 15(1) *Law, Innovation and Technology* 60.
[90] ESCB Expert Group on Productivity, Innovation and Technological Change, 'Digitalisation and Productivity' (ECB Occasional Paper No. 339) (2024). The relationship between AI use and firm productivity is also referred to in EIB, *Investment Report 2023/2024: Transforming for Competitiveness* (EIB, 2024), p. 167.
[91] A. Korinek, M. Schindler and J. Stiglitz, 'Technological Progress and Artificial Intelligence' in V. Cerra, B. Eichengreen, A. El-Ganainy, and M. Schindler, *How to Achieve Inclusive Growth* (Oxford: Oxford University Press, 2022).
[92] EIB, *Investment Report 2023/2024: Transforming for Competitiveness* (EIB, 2024), p. 56.
[93] EIB, *Investment Report 2023/2024: Transforming for Competitiveness* (EIB, 2024), Figure 15, p. 75.
[94] EIB, *Investment Report 2023/2024: Transforming for Competitiveness* (EIB, 2024), p. 133.
[95] Aghion et al, 'Financial Markets and Green Innovation' (ECB Working Paper No. 2686) (July 2022), p. 3.

As argued over the two articles, there is a robust case for the retention of financial support measures in the interests of public policy objectives, specifically the achievement of a twin transition of sustainability and digitalisation. The argument corresponds to the insights referred to in this section in respect of the pivotal role of public supports. Yet, the EU – and, more precisely, individual Member States – cannot be left to carry the burden of rejuvenating markets for investment in innovation. This article concludes by advocating for the ongoing provision of loan guarantee programmes, which permit some of the risk to be assumed by participating financial institutions. Moreover, when there is government backing of lending for the benefit of sustainable and digital innovation, financial institutions should be more prepared to undertake due assessments of the applicants seeking funding through guaranteed facilities.

Loan guarantees can operate in the same format as the schemes described in the first article, but with the decisive distinction that guarantees will be explicitly implemented to support solvent and viable businesses that fulfil criteria of being involved in sustainable and digitalised innovation. A further criterion should be that these firms would not otherwise be capable of attaining financing without some proportion of a public guarantee. The extent of the guarantee could be at least 70% of the loan value, depending on the most suitable option for individual Member States. Although lenders should duly exercise discretion in deciding whether to approve applications, the decision-making in guarantee programmes can be overseen by centralised public agencies, including an ability to hear appeals in relation to refused applications. [96] It is the proposition of this article that the sharing of risks can ultimately improve on the existing limitations of present EU initiatives to fund innovation and research.

Even though the first article noted the problems which can affect the quantification of the success or efficacy of a support measure, this second article has reinforced the motives for maintaining public support for policies and business practices which define the years after the pandemic. In so doing, this article endorses Berkhout's perspective that "[s]ustainable innovation … needs to be seen as being socially embedded, involving engagement, collaboration and communication with a wide range of societal actors and in societal arenas."

[96] For an instance of administrative oversight of lending facilities within an EU Member State, see the Strategic Banking Corporation of Ireland (SBCI) website at: https://sbci.gov.ie/ (date accessed: 25 June 2024).

[97] Financial support measures must be predicated on the leadership of public authorities – at EU level and at Member State level – but perhaps the truest way of adjudging the supports' success will be in how the measures bring about public-private cooperation in building a life beyond the pandemic.

Conclusion

As the second half of two articles on the legacy of COVID-19 financial support measures, this article has elaborated on the rationale for retaining public supports in the interests of identifiable policy objectives. The achievement of a twin transition towards sustainability and digitalisation is a foremost EU policy goal for the years ahead. To accomplish a genuine transition, financial support measures must be as innovative as the changes occurring in contemporary business practices. When harnessing public funds for the benefit of policies beyond the pandemic, there are still important learnings to be gained from the measures taken in immediate response to the pandemic.

The measures introduced in the midst of the pandemic were a reaction to an unprecedented crisis. The need to bolster short-term liquidity was the prime motive in the initial phase of intervention. However, it would be simplistic to view the pandemic-era measures in isolation, or in the vacuum of the emergency circumstances at the onset of the pandemic. Ranging from direct grants to loan guarantee facilities, the various types of implemented support measures should not be viewed as unique to the pandemic years. Due to the constrained conditions of the pandemic, it can be particularly difficult to ascertain the success of the different measures initiated across the EU and internationally.

As discussed in this article, the medicine which was dispensed during the pandemic could have grave side-effects. There is a possibility of scarring effects on the EU economy and latent risks for the future. Nonetheless, since the pandemic, EU legislative and policy frameworks have been considerably strengthened to include mechanisms for investment, as exemplified by the NGEU and the RRF. Reforms to EU fiscal rules could potentially inhibit incentives for allowing a steady supply of public funds to innovative – and often untested – business ventures and projects, but, as reiterated in this article, it would be a counter-productive reversal that runs

[97] F. Berkhout, 'Sustainable Innovation Management' in M. Dodgson, D. Gann and N. Phillips (eds.), *The Oxford Handbook of Innovation Management* (Oxford: Oxford University Press, 2014), p. 298.

counter to stated EU policies since the pandemic. Legislative proposals for simplified and accessible insolvency proceedings for microenterprises are another facet within a broader framework which is being influenced by the lessons of the pandemic response.

It is a folly to assume that an argument for keeping public supports for innovation in sustainability and digitalisation would not draw accusations of taking an illogically idyllic perspective on how EU taxpayers' money should be used. On the contrary, this article indicates that financial support measures can be utilised for responsible business growth. If these measures are not available to support the twin transition objectives, it is hard to see where the necessary investment will appear for green and technological innovation, irrespective of the developments in the NGEU and RRF.

Over the course of both articles, the merits of a solvency-based approach were illustrated. Furthermore, to enable accurate creditworthiness assessments to be made, it was reasoned that financial institutions should participate in the use of support measures, especially through loan guarantee facilities. These supports are blatantly in line with the design of programmes and schemes brought into force during the pandemic. The decisive distinction is that these financial supports are envisioned to contribute to the business landscape for years beyond the pandemic, in a life which should conceivably be more sustainable, digitalised, and innovative.