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Just Transition

Issues for Central Banks and Financial Regulators

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Abstract

Recent calls on central banks and financial regulators to use the tools at their disposal to help mitigate the negative economic and social impacts of climate policies are based on several false analogies between the energy transition and the "just" energy transition. The same false analogies explain why voluntary efforts to incorporate just transition considerations into private financial decisions and products copying approaches from climate finance have so far failed to gain traction. None of the above invalidates the just transition as a political aspiration. However, only the government has the legitimacy and authority to identify the regions or sectors where the negative impacts of the energy transition are to be mitigated, determine the extent and instruments for this mitigation, and adjust them over time in line with shifting social preferences. This is an essentially political task that cannot be delegated to technocratic agencies. Nevertheless, within the parameters established by the government, central banks and financial regulators can play a supporting role by ensuring accurate data on the social impact of the energy transition, enforcing disclosure requirements, sensitizing financial firms to just transition–related risks, and raising awareness among financial firms. However, they must be cautious not to overstep their mandate, and remain mindful of the limitations of their toolkit and of the risks and potential unintended consequences of their actions.

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Just Transition: Issues for Central Banks and Financial Regulators

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I. Introduction

As the adverse impact of the transition to a low-carbon economy on certain sectors and local economies is starting to be felt, governments are coming under pressure to ensure that this process is "just" or fair. Despite the environmental benefits and new economic opportunities it will create, the transition to a low-carbon economy will also cause localized job and income losses and broader economic and social disruption. Making this a "just" transition means compensating for these losses and ensuring that the benefits of the energy transition are shared as widely as possible.

Governments in different countries are implementing various public policy initiatives to tackle this challenge. These initiatives are focused on individual sectors (like coal mining or fossil fuel-based energy generation) and consist of fiscal measures, such as transfers, subsidies, public investments, and publicly-funded re-training or early retirement for workers in the affected industries. Many of these initiatives also include incentives for private finance in order to magnify the economic impact.

At the same time, in the private sector, voluntary initiatives are attempting to introduce just transition considerations into financial transactions by copying approaches and instruments used in climate finance. These initiatives are led mainly by trade associations, international organizations, or nongovernmental organizations (NGOs) but have had limited success so far.

More recently, there have been calls on central banks and financial regulators to play a more active role in the just transition using the policy and regulatory tools at their disposal.[1] These calls appear to be predicated on three arguments: that regulatory intervention is necessary to ensure discipline in a field currently dominated by a multitude of non-transparent and often contradictory environmental, social and governance (ESG) ratings; that ignoring the negative employment and social implications of climate-related financial transactions or investments could create "social risks" for the financial system, and mitigating these risks falls within the mandate of regulators; and that—somewhat in contradiction to the previous argument—central banks and financial regulators, regardless of their mandate, have a duty to promote important societal ambitions, such as the transition to a low-carbon economy and the United Nations (UN) Sustainable Development Goals, and the just energy transition agenda provides a link between these two. These arguments have triggered a debate on the potential role of financial regulation in the just transition.

This paper contributes to this debate by examining the emerging policy literature rigorously, assessing the associated risks and unintended consequences of the proposals put forward and, on this basis, outlining a realistic agenda for central banks and financial regulators. The

[1] See, for example, Robins, N. (2020), "*Financing a Just Transition*," in: Fisher, P. (ed.), *Making the Financial System Sustainable,* Cambridge University Press; ILO (2022), *Finance for a Just Transition and the Role of Transition Finance*, G20 Sustainable Finance Working Group Input Paper, May 2022, Geneva: International Labor Organization; Monnin, P. and N. Robins (2022), "*Supporting the just transition: a roadmap for central banks and financial supervisors*," Policy Briefing Paper 10, Centre for Sustainable Finance and Grantham Research Institute on Climate Change and the Environment, LSE, December 2022.

paper argues that many of the arguments advanced to incorporate just transition considerations in central banks and financial regulators' mandate are based on a number of misunderstandings and false analogies between the goal of the energy transition and that of the just energy transition. This is also one of the reasons behind the very limited success of the attempts to incorporate just transition considerations into private financial business decisions by copying instruments and approaches used in climate finance. Dispelling this confusion is necessary in order to place the debate on the potential role of financial policy and regulation in the just transition on a sound economic basis.

This paper concludes that, while the just transition is not the responsibility of central banks and financial regulators, they can still play a supporting role. Ensuring that the process of climate transition corresponds to social norms of "fairness" or justice is a fundamentally political task that must be mediated through the political process. Nevertheless, within the boundaries of a just transition strategy set by the government, and mindful of the risks and potential unintended consequences of their actions, central banks and financial regulators can play a supportive role by ensuring accurate data on the social impact of the energy transition, enforcing disclosure requirements, sensitizing financial firms to just transition-related risks, and raising awareness among financial firms.

The rest of the paper is organized as follows. Section II discusses key concepts of the just transition, including the history of the just transition idea and the associated conceptual and analytical difficulties in translating it into a public policy goal. Section III provides an overview of just transition policy initiatives, including challenges and lessons learned, and reviews private sector just transition finance initiatives. Section IV discusses the topic of "social taxonomies", arguing that despite being presented as the instrument of choice for signaling priorities and aligning incentives for the just transition, social taxonomies are not necessary for a just transition policy framework. Section V examines critically the arguments put forward for regulatory action to support a just energy transition, as well as the associated risks and unintended consequences. Finally, section VI discusses the three false analogies that have so far been hampering the debate on the potential role of financial regulation and concludes with an outline of a realistic agenda for central banks and financial regulators in the just transition.

II. Just transition: Key concepts

The concept of "just transition" refers to mitigating the distributional impact of any transition to a new technological or economic paradigm. It does not apply exclusively to the process of moving toward a low-carbon economy: concerns about the implications of digitalization and artificial intelligence, for example, have also generated calls to ensure a just transition.[2]

[2] See, for example, "The Just AI Transition: Where are the Opportunities and Threats?" Euractiv Conference, March 2, 2021; Buhovskaya, A. (2017), "Towards a Just Transition for Inclusive Digitalization," Institute of Development

A just *energy* transition would require that the transition out of carbon-intensive sectors and activities be accompanied by measures to minimize the impact on the workers and communities that are negatively affected. Despite the broader environmental benefits, the transition to a low-carbon economy will inevitably cause stranded assets, lost jobs, and sizeable shifts in income and wealth across regions and economic sectors. When a coal mine closes, for example, carbon emissions are reduced but mine employees and their families lose wages and benefits, the local economy suffers from lower spending, and local governments lose tax revenue. These effects can be very long-lasting: forty years after the abrupt decline of the coal mining industry in the United Kingdom (UK), regions that were once economic powerhouses still bear the scars of the upheaval that comes with rapid structural change. Unemployment, ill health, and social disadvantage persist in areas that once supported over a million mining families.[3] In this context, a just energy transition would involve helping workers and communities develop new sources of employment and growth and prevent or mitigate the dislocations resulting from the mine closures.

A just energy transition would in principle also require addressing adverse consequences from the transition to a low-carbon economy that go beyond the local economies that are directly affected, although this dimension is usually overlooked. For example, land conversions for renewable energy projects can exacerbate competition for land, destroy areas of natural beauty, or damage biodiversity. The removal of energy subsidies would have significant economic and distributional repercussions. Higher energy prices due to carbon taxes and the costs of transition goods and services, such as electric vehicles and energy-efficient building upgrades, may be unaffordable for low-income households or small and medium enterprises (SMEs). The sharp increase in demand for transition-related minerals and raw materials can have profound environmental, social, and human rights consequences. These broader adverse consequences of climate transition fall within the scope of the just energy transition but are rarely acknowledged in practice.

The concept of a just transition[4] was first articulated by the International Labour Organization (ILO) and has gained political momentum since then.

- In its 2015 *Guidelines for a Just Transition,*[5] the ILO defined the just transition as "greening the economy in a way that is as fair and inclusive as possible to everyone concerned, creating decent work opportunities and leaving no one behind, […] maximizing the social and economic opportunities of climate action while minimizing and carefully

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Studies; and "'Going digital?—Go inclusive!' Trade Union Advisory Committee (TUAC) sends a clear message to the OECD Ministerial Consultation Meeting," April 3, 2019.

[3] Beatty, C., S. Fothergill, and T. Gore (2019), *The State of the Coalfields 2019: Economic and Social Conditions in the Former Coalfields of England, Scotland and Wales*, Centre for Regional Economic and Social Research, Sheffield Hallam University.

[4] In the rest of this paper, the term "just transition" will refer to the just energy transition.

[5] ILO (2015), *Guidelines for a Just Transition Towards Environmentally Sustainable Economies and Societies for All*, Geneva: International Labour Organization.

managing any challenges, including through effective social dialogue among all groups impacted, and respect for fundamental labor principles and practices."

- The concept of the just transition was incorporated in the Paris Agreement in 2015, which called for "taking into account the imperatives of a just transition in the workforce and the creation of decent work and quality jobs in accordance with nationally defined priorities."[6]
- It was reinforced at the 24th Conference of the Parties of the Climate Change Convention (COP24) through the *Solidarity and Just Transition Silesia Declaration*; at COP25 in 2019 through the initiative *Climate Action for Jobs*; at COP26 in 2021 through the *Declaration on Supporting the Conditions for a Just Transition Internationally*, signed by the governments of 17 countries plus the EU; and at COP27 in 2022 through the *Sharm el-Sheikh Implementation Plan*.

The concept of a just transition is based on social norms of fairness or justice. These norms include *procedural justice* (ensuring a transparent and inclusive decision-making process for energy transition policies); *distributive justice* (sharing fairly the costs and opportunities of the transition); and *restorative justice* (ensuring that past, present, and future negative impacts of the transition are properly rectified).[7] Needless to say, these norms are context-dependent and variable across countries and over time.

Translating these social norms into practical policies faces daunting conceptual and operational challenges.

- A fundamental challenge is coming to an agreement on a policy goal: exactly *how much* just transition do we want? Since the just transition reflects social norms, defining and agreeing on a goal involves judgments on the balance of interests of different groups, on the desirable degree of remediation for private damages incurred as a result of energy transition policies, and on the appropriate time horizon for such remediation. There are no objective, science-based yardsticks for making these judgments.
- A related challenge is measuring the contribution of various economic activities to the goal of a just transition. The original ILO definition, as well as all other attempts to describe the just transition, frame it in very broad and vague terms ("leaving no-one behind," "minimizing any challenges from climate transition," "creating decent work and quality jobs," etc.). Given that all economic activities have socially beneficial effects, such as job creation, the production of socially desirable goods and services, and income generation, almost anything could contribute to the just transition. Moreover, the magnitude of its impact would depend on whether one chooses to focus on its effects on employment, on income distribution, or on other environmental, developmental, and broader social

[6] UNFCCC (2015), *The Paris Agreement*, United Nations.

[7] McCauley, D. and R. Heffron (2018), "*Just Transition: Integrating climate, energy, and environmental justice*," Energy Policy, 119: 1-7.

aspirations (such as human rights or quality of life); on the time horizon over which one expects these effects to materialize; and on the scale (local, national, or global) at which these effects are to be measured. There are no generally accepted approaches to answering these questions. This becomes a major hindrance when there are trade-offs between conflicting objectives (or between objectives applying to different time frames) that require balancing one against another and arriving at an estimate of the net impact, which would then need to be measured against the cost of the policy.

- When it comes specifically to finance, the focus on the impact of climate transition projects on local economies and communities is another challenge. Financial transactions typically involve the supplier(s) of a financial service (such as funding, risk coverage, or maturity transformation) and a single client (such as an individual or corporate borrower, a client purchasing insurance, or an entity issuing equity or debt). Taking into account just transition considerations potentially expands the set of stakeholders whose interests might need to be considered beyond the parties directly involved in the transaction.

Delivering a just transition is therefore a political project. Making these essentially arbitrary judgments in a way that corresponds to shifting social norms of fairness or justice is fundamentally a political priority that should be mediated through the political process. In addition, the just transition is a political project in another sense: aside from any inherent merits in terms of procedural, distributive, or restorative justice, the just transition is primarily seen by its advocates as a key instrument for maintaining voter support for climate action.[8] These points have important implications for the debate on the potential role of central banks and financial regulators in the just transition, discussed in section V

III. Just transition initiatives

Public policies

As governments started implementing climate transition policies by phasing out the most GHG-intensive forms of energy generation and associated economic activities—notably coal mining—there were political pressures for rectifying the negative impact on the directly affected sectors and regions. These pressures essentially reflected demand for *restorative justice* and spurred the emergence of a variety of public policy interventions for the just transition—although they did not always use this label.

Most of the government interventions have so far been piecemeal, focusing on specific regions or sectors, and using mainly fiscal instruments to rectify the impact. As illustrated by

[8] There is evidence that perceived fairness is one of the strongest predictors of both support for climate action and behavior change. See, for example Drews, S. and J. van den Berg (2016), "*What Explains Public Support for Climate Policies? A Review of Empirical and Experimental Studies*," Climate Policy 16 (7): 855–876.

the examples in Appendix I, these initiatives are essentially fiscal packages focused mainly on coal mining or fossil fuel-based energy generation.

- They consist of a combination of public transfers, subsidies, infrastructure investments, early retirement schemes, worker re-training or relocation assistance, etc. aimed at compensating workers for losses and providing them with new employment opportunities.
- Their impact is localized by design. None of these initiatives include measures that address society-wide effects from the energy transition (e.g., on low-income consumers).
- Although they incorporate, to varying degrees, an element of public-private sector collaboration, in all cases they are led and funded by the (national or regional) government.

There have also been just transition initiatives at the level of local communities or economic sectors. These are typically the result of agreements between companies, unions, and local NGOs. While they are supported by the government, they often involve little or no government funding—and as such, they may not qualify as "policy" initiatives. Nevertheless, two such examples are summarized in Appendix II.

While none of these initiatives have a financial policy or regulatory component, a few proposals specifically addressing just transition finance have recently emerged. These, however, are still largely at the concept stage, with little operational content.

- The ILO prepared an outline of a just transition finance framework for the G20 Sustainable Finance Working Group under the Indonesian Presidency in 2022.[9] The paper focuses on ways to integrate social and employment dimensions in climate transition finance. It emphasizes its preliminary and exploratory nature: its aim is to provide "initial considerations, […] identify building blocks for supporting alignment of financial flows [with just transition goals], and highlight selected potential entry points relevant for the design of transition finance frameworks." Its proposals encompass several actors, including financial firms, multilateral development banks, international organizations and standard-setters, and policy makers. As regards the latter, it is proposed that governments should "promote transparency around the socio-economic impacts of low-carbon transition" and central banks and financial regulators should "increase their efforts to manage the risks posed by climate change […] and explore their role towards enabling the financial system to support the just transition."
- British International Investment (BII), the UK's development finance institution (formerly the Commonwealth Development Corporation—CDC), produced a "Roadmap" for just transition finance in India in two reports.[10] The Roadmap sets out just transition priorities

[9] ILO (2022), *Finance for a Just Transition and the Role of Transition Finance*, G20 Sustainable Finance Working Group Input Paper, May 2022, Geneva: International Labor Organization.

[10] Tandon, S. *et al.* (2021), *Towards a Just Transition Roadmap for India: Laying the Foundations for Practical Action*, CDC Insight, June 2021, London: Commonwealth Development Corporation; and Modak, P. *et al.* (2023),

for India and provides examples of available metrics that could be used to measure impact. The policy content, however, is vague. For the Reserve Bank of India, in particular, the Roadmap envisages the same role as the ILO paper does for central banks in general (climate risk management and disclosure, greening the central bank balance sheet, etc.), with the additional element of supporting the just transition through priority sector credit allocation schemes that are specific to India.

- One of the background papers prepared for South Africa's Presidential Climate Commission focuses specifically on just transition finance.[11] One of the most significant obstacles facing just transition finance, according to the paper, is capacity constraints at all levels: corporate, financial firms, local communities, and government. As regards financial policy makers, the paper emphasizes the need to arrive at a "shared vision of just transition goals"; ensure these are aligned with their respective mandates; and provide consistent signals to the market. The paper focuses on fiscal policy tools (public investment, incentives for green projects, risk sharing schemes, and the creation of a Just Transition fund) and on innovative financial instruments (e.g., social bonds), but includes no specific proposals for financial policy or regulation.

The European Union (EU) has made more progress than other jurisdictions in integrating these piecemeal interventions into an overarching policy framework and has taken some steps to reflect indirectly just transition considerations in financial decision-making (Box 1). The Just Transition Mechanism (JTM) incorporates a system for determining just transition priorities delegated, within certain parameters, to national governments through national Territorial Just Transition Plans; a mechanism for funding projects that combines public resources and blended finance instruments; and several initiatives that promote better disclosure, improved risk management, and capital mobilization for the just transition. Finally, the non-binding guidelines issued by the Commission for the Nonfinancial Reporting Directive (NFRD), as well as supervisory guidance issued by the European Central Bank (ECB), could be seen as initial steps in the direction of incorporating partially and indirectly just transition considerations into the EU regulatory framework.

Just Finance India: Mobilizing Investment for a Just Transition in India, CDC Insight, February 2023, London: British International Investment.

[11] Lowitt, S. (2021), *A Just Transition Finance Roadmap for South Africa: A First Iteration*, December 2021, Pretoria: Trade and Investment Policy Strategies.

Box 1. The EU's just transition policy framework

In January 2020, as part of the European Green Deal, the European Commission proposed a Just Transition Mechanism (JTM) with three elements. All investments under the JTM are to be made based on national Territorial Just Transition Plans, prepared by EU countries and approved by the Commission.

- A Just Transition Fund (JTF) to support the economic diversification in regions affected by the energy transition. The Commission's original proposal for a €40 billion JTF was reduced by the Council to €17.5 billion, with member states required to provide co-financing.
- Budgetary guarantees under the InvestEU program that are expected to mobilize €10-€15 billion in private investments to help those regions find new sources of growth.
- A public sector loan facility combining €1.5 billion of grants from the EU budget with €10 billion of loans from the European Investment Bank, to mobilize €18.5 billion of public investment in energy and transport infrastructure, district heating networks, energy efficiency measures, and social infrastructure.

The EU's sustainability taxonomy and non-financial disclosure requirements could be seen as an *indirect* way to incorporate just transition considerations. This interpretation, however, has not yet been tested in practice.

- The EU is—so far—one of only two major jurisdictions to have introduced a statutory ESG taxonomy (the other is China): the Framework to Facilitate Sustainable Investment—the so-called "Taxonomy Regulation" (Regulation (EU) 2020/852). To qualify as sustainable, an activity must make a "substantial contribution" to at least one of six environmental objectives while doing "no significant harm" to any other and meeting certain "minimum standards." These standards include the United Nations Guiding Principles on Business and Human Rights and OECD Guidelines for Multinational Enterprises on Responsible Business Conduct. Although the just transition is not mentioned, this could arguably provide an entry point for just transition considerations to be taken into account in the classifications.
- The Commission issued in 2019 non-binding guidelines to help EU-based companies comply with the NFRD (Directive 2014/95/EU). These incorporate the principle of "double materiality," which requires companies to disclose how ESG factors impact their activities ("outside-in") but also how their activities impact ESG factors ("inside-out"). This "inside-out" perspective could be seen as an indirect way to require companies to start considering the social impact of their climate-related activities.

However, efforts by the Commission to introduce a "Social Taxonomy" *directly* incorporating social impact in regulation have so far failed to gain political support. The proposed taxonomy would classify economic activities on the basis of their "substantial contribution" to three objectives (decent work; adequate living standards; and inclusive and sustainable communities) while "doing no significant harm" to any other, and would also identify certain activities as always "socially harmful." Failure to reach consensus on "socially harmful" activities and the tensions between national legislation and legal and political traditions in member states with an EU-wide set of social priorities have so far hampered the adoption of this proposal.

In the financial sector, the ECB may be cautiously moving toward reflecting just transition elements in its supervisory guidance. Like some other major central banks, the ECB has issued supervisory expectations on climate-related and environmental risks for banks. One of them (expectation 7.5) advises banks to take into account the OECD Guidelines for MNEs in their due diligence assessment of clients in order to reduce reputational and liability risks. While far from a "just transition regulation," this step could perhaps be seen as an indirect way to introduce just transition considerations in banks' risk management.

Things may change in the future, if the EU sets requirements for how financial institutions manage ESG risks. The legislative process around the EU Banking Package is now entering its final stages. While the primary aim is to implement the Basel III framework, the proposed revisions to the Capital Requirements Directive (CRD) and Capital Requirements Regulation (CRR), known collectively as CRD6/CRR3, include ESG provisions not present in the Basel III text that change the nature of risk management for EU banks, including for social risk.

While ambitious, it remains to be seen how well the JTM will function in practice. Challenges include the very broad scope of the JTF, going well beyond support for displaced workers, which could complicate the prioritization of projects and result in the JTF resources being spread too thinly; and the fact that not all member states have aligned their climate transition targets with the EU's goal to phase out coal by 2030, including some of the largest potential recipients of support under the JTM. Some critics have also pointed out that the JTF's size is too small compared to the requirements of a just transition, and that the template for preparing national Territorial Just Transition Plans is too bureaucratic and excludes local communities.[12]

Private initiatives in just transition finance

While public policies have so far been mainly focused on fiscal interventions to compensate for the negative impact of climate transition policies in specific sectors and regions, private financial firms are coming under pressure to take into account just transition considerations in their business practices. This pressure is not regulatory or policy-driven. Central banks and financial regulators have been focusing their efforts on assessing climate-related risks and—in certain jurisdictions—setting supervisory expectations on how financial firms measure, manage, and disclose these risks.[13] None of these regulatory initiatives, however, specifically address just transition issues—with the possible exception of the EU where, as discussed, recent steps could be seen as moving toward a more expansive definition of sustainability that might include just transition considerations.

The pressure on financial firms is coming from different sources in their operating environment.

- Political declarations, such as the Paris Agreement and the United Nations (UN) Sustainable Development Goals (SDGs), as well as the *UN Guiding Principles (UNGPs) on Business and Human Rights*[14] and the *OECD Guidelines for Multinational Enterprises (MNEs) on Responsible Business Conduct,*[15] *which* refers explicitly to the just transition,

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[12] Calice, P. and D.G. Demekas (2023), "Mobilizing Finance for the Just Energy Transition in the European Union," EFI Policy Note, Washington DC: World Bank; Cameron, A., G. Claeys, C. Midões, and S. Tagliapietra (2020), "*A Just Transition Fund—How the EU Budget Can Best Assist in the Necessary Transition from Fossil Fuels to Sustainable Energy,"* Luxembourg: Publications Office of the European Union; and Foundation Robert Schumann (2020), "*What should we make of the Just Transition Mechanism put forward by the European Commission?*" European Issue No. 567, July 13, 2020.

[13] For a recent survey of supervisory approaches to climate-related risks, see Demekas, D.G. and P. Grippa (2022), "*Walking a Tightrope: Financial Regulation, Climate Change, and the Transition to a Low-Carbon Economy*," Journal of Financial Regulation, 8: 203-229. See also BCBS (2022), *Principles for the Effective Management and Supervision of Climate-Related Financial Risks*, Basel Committee on Banking Supervision.

[14] The UNGPs are based on the concept of do no harm that stresses the states' "responsibility to protect" and the corporate "responsibility to respect" human rights. See United Nations (2011) *Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework*, United Nations.

[15] The OECD Guidelines provide standards of "responsible conduct" for multinational firms that include observance of the UNGPs. The most recent (2023) update of the Guidelines makes explicit reference to the need to "to assess and address social impacts in the context of their environmental management and due diligence activities and to take action

provide a set of high-level norms for business and create expectations that financial firms consider the broader social and human impact of their business decisions.

- In addition to these expectations, any voluntary commitments to a just transition and to related global norms may create litigation risks for financial firms if they are seen to be falling short.[16] While such risks have not yet materialized in relation to the just transition, they are a growing concern for both financial and non-financial firms in relation to climate commitments.[17] It should be noted, however, that the effect of litigation risk is ambiguous: it may incentivize greater compliance with these commitments and norms or, conversely, dissuade financial firms from making these commitments in the first place.[18]
- Pressure to take into account just transition considerations in financial business decisions may also arise internally. During the last two decades or so, there has been a gradual increase in investor and shareholder interest in ESG issues.[19] Its influence is increasingly felt in boardrooms, investment committees, and shareholder meetings. While the focus has so far been on climate issues, just transition considerations may attract increasing attention going forward.

In response to these pressures, a number of voluntary private sector initiatives are attempting to introduce just transition considerations into financial transactions by copying—with limited success—approaches and instruments used in climate finance. These initiatives are led mainly by trade associations, international organizations, or NGOs. The experience, however, has highlighted considerable conceptual and practical challenges.

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to prevent and mitigate such adverse impacts both in their transition away from environmentally harmful practices, as well as towards greener industries or practices." See OECD (2023), "*OECD Guidelines for Multinational Enterprises on Responsible Business Conduct,"* Paris: OECD Publishing.

[16] Clifford Chance (2021), "*Just Transactions*," White Paper on Just Transition and the Banking Sector, December 2021, Institute for Human Rights and Business and CDC Group.

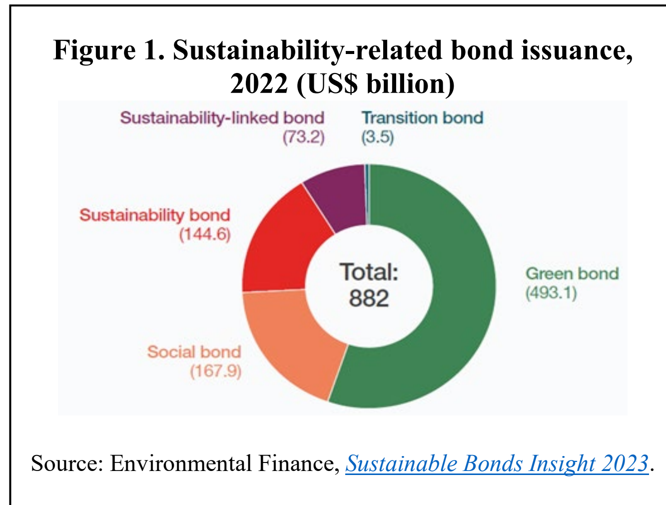
[17] In a database of climate-related litigation maintained by the Sabin Center for Climate Change Law at Columbia University, only a handful of cases—all of them in North and South America—are related to just transition issues, and none of them so far involve financial firms. See also: "San Francisco, Oakland can sue oil companies over climate change in California State Court," San Francisco Chronicle, October 24, 2022; "U.S. Cities and States are suing Big Oil over climate change," Frontline, PBS, August 1, 2022. See also NGFS (2023), "*Climate-related Litigation: Recent Trends and Developments*," NGFS Technical Document, Network for Greening the Financial System.

[18] "U.S. banks threaten to leave Mark Carney's green alliance over legal risks," Financial Times, September 21, 2022.

[19] Lee, A.H. (2021), "A Climate for Change: Meeting Investor Demand for Climate and ESG Information at the SEC," Speech by the Acting SEC Chair Allison Herren Lee, March 15, 2021, Securities and Exchange Commission. A shift in tactics was also notable. While the majority of proposals by ESG advocates until the early 2000s sought companies to adopt social or environmental goals or to take specific action with respect to a business activity, the tone began to change in the middle of the decade, with an increasing number of proposals seeking disclosure, risk assessment, and oversight of particular issues (see Papadopoulos, K. (2019), *The Long View: US Proxy Voting Trends on E&S Issues from 2000 to 2018,* Harvard Law School Forum on Corporate Governance). This changed the conversation from an argument about ethics to an economic discussion about environmental and social risks and profitability.

Some of the innovative debt instruments developed to finance green and sustainability-related projects could in theory be adapted for financing just transition projects (Appendix III). While the market for these instruments is still relatively small, it is growing rapidly. Global issuance of sustainability-related financial instruments exceeded US$1 trillion in 2021 (compared to global bond issuance in the same year of over US$9 trillion) before falling slightly to US$0.9 trillion in 2022 reflecting the headwinds facing the global fixed income market.[20] Over half of these instruments are green bonds (Figure 1). The rest, especially the social, sustainability, and sustainability-linked bond labels (SSSLs) could in principle be used for just transition purposes. However, the experience so far has revealed a number of major obstacles to scaling these instruments, particularly for social goals.

Figure 1. Sustainability-related bond issuance, 2022 (US$ billion)



Source: Environmental Finance, Sustainable Bonds Insight 2023.

- Given the greater flexibility on the use of proceeds compared to traditional green bonds, SSSLs can be attractive to issuers. They can also be attractive to investors, as they provide a greater choice of sectors than green bonds. At the same time, SSSLs require issuers to document the achievement of the desired environmental, sustainability, or social impact through Key Performance Indicators (KPIs). The clarity, verifiability, and robustness of KPIs are thus critical. Given the multitude of different dimensions of social impact, KPIs need to be painstakingly designed and negotiated for every deal. This is often the biggest hurdle for issuers of and investors in SSSLs. Moreover, in the case of sustainability-linked bonds, in particular, the penalty for failure to achieve KPIs in terms of stepped-up coupon payments is often too modest relative to the issuer's total cost of borrowing, reducing the incentive to achieve them and, therefore, the potential benefits of the instrument.
- In some cases, KPIs were already achieved (for example, through the selection of backdated indicators by the issuer), and the benefits of issuing SSSLs were limited, leading to accusations of "social washing."
- Last but not least, their rapid growth notwithstanding, all SSSLs have a short track record. Green bonds—the oldest of the sustainable bond labels—have existed since 2007, and the rest have even shorter histories. These instruments are, therefore, children of the post-financial crisis world, in which yields were extremely low. It remains to be seen how they will perform in an environment of higher rates—and early signs are not promising.[21]

[20] Environmental Finance, Sustainable Bonds Insight 2023.

[21] "Why No-One Wants to Pay for the Green Transition," The Wall Street Journal, November 30, 2023.

A different approach to introducing just transition considerations in financial products is to set up investment vehicles that screen the underlying assets based on how much their issuers' corporate strategies are consistent with a just transition (Appendix IV). By allowing investors to differentiate between bonds based on their just transition characteristics, this approach—which could in theory also be extended to equity—aims to increase financial flows toward companies that are factoring in their transition plans their employment and social impact, as well as incentivize more issuers to do so. The lack of agreed metrics, however, means that the social impact or 'just transition' rating of each asset or issuer is assessed solely by the companies' in-house analysts on the basis of proprietary methodologies. The lack of transparency, verifiability, and auditability are inevitable pitfalls of this approach.

There are also examples of innovative initiatives in insurance that could provide a template for just transition-related insurance products. One such initiative is the Climate and Risk Adaptation in the Caribbean (CRAIC) project.[22] CRAIC launched in 2014 a parametric weather-indexed microinsurance product called the Livelihood Protection Policy (LPP) aimed at low-income individuals exposed to extreme weather events.[23] Although the coverage is small (following Hurricane Matthew in 2016, individuals in Saint Lucia received payouts totaling US$102,000 on their LPPs), the simplicity and speed of payouts make this instrument suitable as a first layer of protection against losses caused by extreme weather events and, by the same token, potentially interesting for mitigating the adverse impacts of transition on vulnerable groups.

Nevertheless, CRAIC's commercial viability remains unproven and its experience underscores some of the key obstacles that have to be overcome for such products to gain traction.[24] These include the lack of consumer education (especially in the working of the parametric model, which does not take into account actual losses); the limited distribution channels in environments with low insurance penetration; and, under these conditions, the challenge for insurers to keep costs low so as to make the business profitable. Ultimately, CRAIC—and similar schemes for livelihood restoration (Pakistan) and agricultural insurance (India)—have so far been viable only thanks to financial support by the government or NGOs.

[22] CRAIC is the product of a collaboration between the ILO's Impact Insurance Facility and the Munich Climate Insurance Initiative (MCII), a charitable organization of insurers, research institutes, and NGOs, supported by the German federal government.

[23] *Parametric (*or *index-based) insurance* products are insurance contracts that make payments based on the intensity of an event (for example, hurricane wind speed, earthquake intensity, volume of rainfall) and the amount of loss caused by these events calculated by a pre-agreed model. Payouts can therefore be made very quickly after an event. This is different from traditional insurance contracts that require an on-the-ground assessment of individual losses before a payment can be made. *Weather-indexed microinsurance* refers to policies typically designed for individuals that pay out after certain pre-determined triggers, such as excess rainfall or high wind speed, have been met. These payouts may be used for repairing damage to physical assets or to compensate individuals for income losses.

[24] MCII (2020), *Climate Risk Insurance in the Caribbean: 20 Lessons from the CRAIC Project*, Bonn: Munich Climate Insurance Initiative.

In banking, just transition-related initiatives are still at a nascent stage. They are led by trade associations and academics and have not gained much traction in actual business practice. Two such initiatives are typical examples.

- The Loan Syndications and Trading Association (LSTA), together with the Loan Markets Association (LMA) and the Asia Pacific Loan Markets Association (APLMA) published a set of voluntary high-level principles for social loans (the Social Loans Principles—SLP) and for sustainability-linked loans (the Sustainability-linked Loan Principles—SLLP), building on ICMA's Social Bond Principles and Sustainability-linked Bond Principles, respectively.[25] These principles could provide a template for developing a framework for just transition lending, but it is not clear how widely they are used by banks.
- The ILO, together with LSE's Grantham Research Institute, developed a "Just Transition Finance Tool" for banking and investing.[26] This Tool provides generic recommendations to banks and asset managers on how to embed just transition in broad corporate strategies, internal governance, product design, and client management. At best, it can be seen as an awareness-raising pamphlet rather than an operational guidance document for banks.

In summary, the financial industry has not yet succeeded in incorporating systematically just transition considerations in business decisions at scale. The transposition of innovations and products used in climate finance has not worked well for just transition purposes. As discussed later in the paper, this is largely due to some fundamental differences between transition finance and just transition finance that get overlooked.

IV. Is a "social taxonomy" necessary?

Taxonomies and the associated disclosure requirements are often presented as a way to promote various environmental or social goals, including the just transition. There is by now a significant body of experience with various classification and disclosure schemes for climate finance, and proposals are emerging for "social" taxonomies that would perform a similar function for just transition finance.[27] Their advocates contend that social taxonomies would help direct *private* finance toward social objectives by (i) signaling the projects or sectors where investments would have the most sizeable benefit in terms of these objectives; and (ii) providing much-needed discipline in a field currently dominated by a multitude of non-transparent and often contradictory

[25] APLMA, LMA, and LSTA, *Social Loan Principles*, April 2021; and *Sustainability-linked Loan Principles*, March 2022, New York: Loan Syndications and Trading Association.

[26] ILO and LSE Grantham Research Institute for Climate Change and the Environment (2022), *Just Transition Finance Tool for Banking and Investing Activities*, Geneva: International Labour Organization.

[27] See, for example, "Why Do We Need a Social Taxonomy?" *SPI Journal, Summer 2020*, Sustainable Policy Institute, London: Official Monetary and Financial Institutions Forum; and Platform on Sustainable Finance (2022), *Final Report on Social Taxonomy*, February 2022, Brussels: European Commission.

ESG ratings, thereby limiting the scope for "social washing." These are the same arguments used for introducing green taxonomies to support finance for the climate transition.

Before examining these arguments, it may be useful to recall the theory underpinning taxonomies of all kinds. Taxonomies and the associated disclosure requirements can play a useful supporting role in achieving environmental, social, or other goals by disclosing certain relevant but not readily observable characteristics—for example, GHG emissions—to influence the allocation of capital toward less polluting activities without direct policy intervention through regulation or taxation.[28] The direct benefit is that rational investors receive superior information on which to make decisions in line with their preferences. There is also an indirect benefit, since greater transparency about the impact of a company's activities—in this example, on climate—may help better quantify related risks on the balance sheets of lenders. The combination of these effects would, in theory, induce a shift in capital supply toward green activities.

In practice, however, the effectiveness of taxonomies and disclosures is limited by a host of factors. In the example above, the magnitude and timing of this shift in capital supply would depend on how heterogeneous investor preferences translate into aggregate demand for green assets; how quickly issuers, in turn, respond; and—since most real-world investment transactions involve financial intermediaries—on the agency conflicts and collective decision-making problems affecting those intermediaries, which are typically large, complex organizations.

Two additional complications can limit the effectiveness of taxonomies and disclosures.[29]

- They can be applied to ***two different types of information*** about the environmental, social, or other impact of economic activities: unevaluated quantitative or qualitative information ("raw data") and a summary normative assessment ("label"). In ideal, frictionless markets, where rational agents can process complex information costlessly, disclosure of raw data would be sufficient; in real-world markets, bounded rationality and transaction costs mean that labels are more useful. However, to be effective as tools to reallocate capital, labels must be accurate, consistent, and credible.
- They can be applied to ***three different levels of economic activity***: an individual product (e.g., car production); a company (issuer); and an asset portfolio that combines instruments from different issuers. Applying environmental or other taxonomies to an individual product or activity is the most coherent and transparent approach. Unfortunately, it is fraught with measurement problems (extent of coverage of supply chains, impact over the

[28] For the standard economic recommendations on dealing with activities that entail environmental externalities, see Baumol, W. (1972), "*On Taxation and the Control of Externalities*," American Economic Review, 62(3): 307-322; Deewes, D. N. (1983), "*Instrument Choice in Environmental Policy*," Economic Inquiry, 21(1): 53-71; and Deewes, D. N., F. Mathewson, and M. Trebilcock (1983), "*The Rationale for Government Regulations of Quality and Policy Alternatives in Quality Regulation*," in: Deewes, D. N. (ed.), *Markets for Insurance: A Selective Survey of Economic Issues*, Butterworth.

[29] Steuer, S. and T. H. Tröger (2022), "*The Role of Disclosure in Green Finance*," Journal of Financial Regulation, 8: 1-50.

product life cycle, estimate of recyclability, etc.). Applying them to the company or issuer level (as with green or social bond taxonomies) runs into the problem that, according to standard corporate finance theory, debt instruments are issuer-financing devices and cannot be interpreted as funding a specific activity (this is a problem that use-of-proceeds bonds are trying to address). And applying them to a portfolio (e.g., an investment fund) further obscures the true environmental or other impact of the multitude of underlying economic activities.

These inherent limitations of taxonomies have been abundantly highlighted by the experience. Voluntary sustainable or "green" taxonomies and disclosure standards proliferated during the last decade in response to increasing investor interest in ESG issues. Most were developed by industry groups, environmental advocates, ESG ratings advisers, or international organizations. IOSCO has identified more than 45 such initiatives.[30] Most of these taxonomies have major shortcomings in the areas of transparency, coherence, governance, and auditability. Many products are labeled by their issuers (or by ESG advisers) as "green" or "sustainable" without a clear link to how the product is contributing to the climate or sustainability goals, and there is no external evaluation of compliance. As a result, different providers often come up with different ratings for the same companies.[31] The lack of consistency and rigor in defining and applying these criteria, as well as extensive evidence of "greenwashing" and "social-washing,"[32] risk undermining the credibility of these classifications.[33]

Drawing on this experience, researchers at the Bank for International Settlements (BIS) have put forward five principles for the design of effective sustainable finance taxonomies.[34] These principles would apply just as well to social taxonomies. Effective taxonomies should ensure:

- Alignment not only with the high-level policy objective but also with measurable interim targets, since the high-level objective (e.g., achieving net zero or providing sustainable alternative employment to laid-off workers) may be beyond the time horizon of investors.
- Focus on one single objective ("one taxonomy, one objective"), otherwise investors would be uncertain about exactly what information the "label" conveys.

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[30] IOSCO, *Sustainable Finance and the Role of Securities Regulators and IOSCO*, Final Report, April 2020, International Organization of Securities Commissions.

[31] Murray, S., "Navigating the thicket of ESG metrics," Financial Times, October 24, 2021.

[32] Amenc, N., F. Goltz, and V. Liu (2021), "*Doing Good or Feeling Good? Detecting Greenwashing in Climate Investing*," Paris: EDHEC Business School.

[33] NGFS (2021), "*Sustainable Finance Market Dynamics*," NGFS Technical Document, Network for Greening the Financial System; OECD (2020), "*ESG Investing: Practices, Progress and Challenges*," Paris: Organization for Economic Cooperation and Development.

[34] Ehlers, T., D. Gao, and F. Packer (2021), "*A taxonomy of sustainable finance taxonomies*," BIS Papers No. 118, October 2021, Basel: Bank for International Settlements.

- Focus on outcome-based, simple, and measurable KPIs, rather than on abstract principles. This would allow low-cost, independent verification of the process and the certification.
- Incorporation of both activity-level and company-level information, to avoid the potential for "greenwashing" in case of classification of issuer-based instruments.
- Sufficient granularity, covering both high and low sustainability performance, to allow differentiated ("shaded"), rather than just binary ("green-brown") classifications.

Against this background, the challenges in designing an effective social taxonomy become clear. Unlike green taxonomies, where the impact of a product or investment project is, at least in principle, measurable (by estimating GHG emissions), a social taxonomy is intended to encourage the flow of financial resources toward activities that promote (or do no harm to) certain social "goods," such as quality jobs, human rights, or quality of life. However, these "goods" are value-laden and not easily translated into the outcome-based, quantitative targets and KPIs needed for a taxonomy to work. Creating a taxonomy without an objective basis for measuring impact would do little to limit "social washing." Instead, the process would inevitably become a negotiation about the classification of various activities and sectors that would reflect the political power of various actors rather than their true social impact.

The experience with the EU's attempts to introduce a social taxonomy provides ample illustration. The Platform on Sustainable Finance (PSF), an advisory expert group, was tasked by the European Commission to prepare a proposal for a Social Taxonomy. The PSF report, published in February 2022,[35] laid out three objectives for such a Taxonomy: decent work, adequate living standards and wellbeing for end-users, and inclusive and sustainable communities. The proposed Social Taxonomy would classify economic activities on the basis of their "substantial contribution" to each of these objectives while "doing no significant harm" to any other, and would also identify certain activities as always "socially harmful." The report acknowledged several challenges—which should be familiar, based on the preceding discussion: (i) distinguishing the "substantial contribution" of an economic activity to these three objectives from the inherent social benefits generated by *all* economic activities is conceptually hard and context-dependent; (ii) some types of "significant contribution" are best assessed at the product/activity level, while others can only be assessed at the entity level; and (iii) to assess impacts, the proposed taxonomy would have to define target populations (such as youth, farmers, the unemployed) or target geographies, which would introduce significant complexity (and result in political negotiation). In addition, given the political sensitivities, the proposal shied away from naming "socially harmful" activities,[36] and left unclear how to reconcile national legislation and political traditions (for instance, regarding

[35] Platform on Sustainable Finance (2022), *Final Report on Social Taxonomy*, February 2022, Brussels: European Commission.

[36] Perhaps in response to the proposal, the French National Assembly passed a resolution calling for the protection of the European weapons industry—a likely candidate for a "socially harmful" activity under any social taxonomy.

the role of trade unions) in member states with an EU-wide social taxonomy. Reflecting these pitfalls, the European Commission appears to have shelved the PSF proposal for the foreseeable future.[37]

Ultimately, however, a fully-fledged social taxonomy is not necessary for a just transition policy. Social taxonomies have loftier ambitions and a much wider scope than the just transition: to encourage the flow of finance toward activities that serve a set of high-level social goals. While these goals may include the just transition, they are much broader and not specifically targeted to groups or regions impacted by climate transition policies. Policy makers, however, can promote the just transition by simply indicating the priority sectors or regions for interventions to mitigate or offset the negative impact of the energy transition, as well as the specific policy tools they intend to use for this purpose. Indeed, all just transition policy interventions reviewed in section III were implemented without a social taxonomy. In practice, trying to tackle the intractable conceptual, political, and practical problems of designing a social taxonomy does little to advance the political priority of a just transition.

V. Is there a role for financial regulation in the just transition?

While government initiatives to mitigate the negative impact of climate policies are multiplying as a result of political pressures, the debate on the potential role of financial policy and regulation is just beginning. It has so far been one-sided, led by the advocates of a more active role of regulation in the just transition, who may not pay enough attention to the risks and potential pitfalls such a role may entail. This may be a good time to examine their arguments systematically. This section approaches the question from three different perspectives:

- It discusses how issues related to the just transition might fit within the current risk-focused regulatory approach.
- It examines the argument put forward by some commentators in academia that financial regulators should compel financial firms to take into account the social implications of their business decisions regardless of risk.
- Finally, it discusses some of the pitfalls and potential unintended consequences if regulators were to take on an active role in promoting a just transition.

The term "financial regulation" is used here in a broad sense, to encompass all rules, policies, and supervisory expectations applying to financial firms, regardless of who is the rule-maker and oversight authority (legislature, central bank, or other regulatory agency).

[37] "EU puts key plank of ESG rulebook on hold amid infighting," Bloomberg. July 31, 2022.

Just transition and the current regulatory framework

Incorporating just transition considerations in the current regulatory framework would be relatively straightforward if they could be associated with identifiable sources of financial risk. The current approach to financial regulation is risk-focused, whether the objective is microprudential (the safety and soundness of financial institutions), macroprudential (the stability of the financial system), investor protection, or market integrity. If an "unjust" transition jeopardized the achievement of any of these objectives, it would in principle be relatively easy to use regulatory tools to mitigate this risk.

Unfortunately, translating just transition considerations into financial risk runs up against formidable analytical and practical difficulties. First, at the conceptual level, just transition-related risks are hard to define in an operational manner. Second, the measurement difficulties associated with the social impact of energy transition projects, as well as the lack of a historical track record of such projects, mean that the impact of such risks on financial institutions' balance sheet is hard to quantify.[38] These difficulties are examined in turn below.

What exactly is a "just transition-related" financial risk? At the most general level, it is the risk of financial losses caused by energy transition-related activities that do not take sufficiently into account their employment or social impact—a form of environmentally-driven social risk.[39] For example, withdrawing bank financing from coal mining or fossil fuel-based energy generation without considering the loss of jobs and incomes in the communities where these facilities are located; funding or providing insurance coverage to renewable energy plants without considering the impact on the local environment; financing the extraction and processing of minerals needed for electric car batteries that involve violating workers' rights or human rights; or providing loans for efficiency upgrades to residential properties to affluent households, while leaving behind poorer households, who might actually benefit more from such upgrades.

While it is easy to see the socially harmful dimension in these examples, it is harder to translate it into financial risk. In other words, it is hard to see the channel through which the negative social impact of the climate transition could be transformed into losses for the banks, insurance companies, or asset managers involved. Three such channels have been proposed in the literature:

- ***Systemic risk of social inequality***. Failing to take into account the social dimension of energy transition would presumably increase social inequality. This could arguably lead to higher crime, social instability, lower health and educational outcomes for part of the

[38] See also the discussion in EBA (2021), "On Management and Supervision of ESG Risks for Credit Institutions and Investment Firms," EBA/REP/2021/18, European Banking Authority.

[39] Ibid., 43-44.

population and, eventually, lower productivity and long-term growth.[40] There is also some evidence that income inequality is associated with higher risk of financial instability.[41]

- ***Higher risk of delayed transition***. Ignoring the negative employment and social impacts of the energy transition might give rise to political pressures to delay or dilute climate policy, thereby increasing climate-related risks for financial firms.[42]
- ***Litigation risk***. Failure to take into account global norms related to the social impact of economic activities, such as the UNGPs or the OECD Guidelines for MNEs, might expose financial (and non-financial) firms to litigation.

The first two channels involve mechanisms that are essentially speculative, as well as very long time horizons. Social dynamics and the outcomes of the political process are highly uncertain and context-dependent. Correlations between inequality and long-term growth are at best tenuous and manifest themselves over time horizons that are well beyond those relevant for the decisions of financial investors or intermediaries. In addition, over such long time horizons, the economic and political ramifications of social inequality are just some—and probably not the most pressing—of the many uncertainties facing the economy and the financial system, from geopolitical upheavals to technological change to pandemics. Lastly, the empirical evidence on the correlation between income inequality and financial instability is mixed and not sufficient to establish a *causal* link from inequality to instability.[43] Therefore, while plausible, these mechanisms cannot provide useful input to risk managers in financial firms seeking to assess future expected losses or to regulators seeking to estimate and mitigate systemic risk.

The third channel is potentially relevant for the financial industry. Litigation risk is already present in jurisdictions (like the EU) where "soft law" standards, such as the UNGPs or the OECD Guidelines for MNEs, are codified into "hard law" (like the Taxonomy Regulation); or in jurisdictions where the courts are willing to draw on these standards as a source to inform the scope and nature of companies' duties toward third parties that might be affected by their operations (like

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[40] Wood, D. (2016), "*Why and How Might Investors Respond to Economic Inequality,*" Discussion Paper, Principles for Responsible Investment and Initiative for Responsible Investment, Harvard Kennedy School; Cort, T., S. Park, and D. Nascimento (2022), "*Business Risks Stemming from Socio-Economic Inequality*," The Columbia Law School Blog on Corporations and the Capital Markets, April 15, 2022.

[41] Čihak, M. and R. Sahay (2020), "*Finance and Inequality*," *Staff Discussion Note SDN/20/01*, Washington DC: International Monetary Fund.

[42] Robins, N. (2020), "*Financing a Just Transition*," in: Fisher, P. (ed.), *Making the Financial System Sustainable,* Cambridge University Press; Monnin, P. and N. Robins (2022), "*Supporting the just transition: a roadmap for central banks and financial supervisors*," Policy Briefing Paper 10, Centre for Sustainable Finance and Grantham Research Institute on Climate Change and the Environment, LSE, December 2022.

[43] See, for example, Bordo, M.D. and C.M. Meissner (2012), "*Does Inequality Lead to a Financial Crisis*?" Journal of International Money and Finance 31(8): 2147– 2161; Atkinson, A.B. and S. Morelli (2015), "*Inequality and Crises Revisited*," Economia Politica 32(1): 31– 51; Perugini, C., J. Hölscher, and S. Collie (2016), "*Inequality, Credit and Financial Crises*," Cambridge Journal of Economics 40(1): 227– 257. For a survey of the mixed evidence and the circular relationship between inequality, credit, and instability, see Bazillier, R. and J. Hericourt (2017), "*The Circular Relationship Between Inequality, Leverage, and Financial Crises*," *Journal of Economic Surveys* 31(2): 463-496.

in some European countries and certain U.S. states).[44] Litigation risk, of course, has a broader coverage: any aspect of a financial firm's operations could be subject to this risk, regardless of whether or not it is related to environmentally-driven social risk. But it is a viable channel for introducing just transition-related risks in the current risk management framework.

Litigation risk falls under operational risk in the Basel framework. Operational risk is defined as the risk of loss resulting from inadequate or failed internal processes, people, and systems or from external events. This definition includes legal risk, but excludes strategic and reputational risk.[45] Estimating operational risk and calculating operational risk capital (ORC) requirements is one of the most difficult aspects of the Basel framework, especially since the operational environment for banks has been changing rapidly in the last two decades. To reduce the wide disparities of operational risk calculation across banks, Basel III established a Standardized Approach for calculating minimum ORC requirements, replacing the three alternative calculation methods under Basel II. The new formula is a function of a bank's income and historical losses.

The link to historical losses highlights the other major difficulty in incorporating just transition-related risks into the regulatory framework. There is no historical record of losses associated to litigation risk related to the just transition. This means that well-established risk management tools in the financial industry, such as Value-at-Risk models or stress tests, cannot readily be used to assess this risk. More fundamentally, unlike other litigation-related risks, where awards to plaintiffs are related to quantifiable economic losses, plaintiffs' claims for violations of human rights or social norms of fairness are essentially arbitrary. And if these claims are successful, any court-mandated compensation would be entirely at the discretion of the court. This makes just transition-related litigation risk and the associated ORC requirements extremely hard to estimate.

In sum, although it is possible to speculate that an "unjust" transition could create risks for the financial system, the theoretical underpinnings of this argument are weak; and in practice, with the exception of litigation risk, these risks are impossible to quantify and incorporate in the current regulatory framework. Many aspects of the just transition—especially the social and political dynamics and the evolution of social norms of fairness—are state-contingent and subject to radical (Knightian) uncertainty. The probability distribution of outcomes is unknown, as is the time horizon over which these outcomes could materialize. While these facts do not invalidate just transition-related risks, they make them hard to fit into the current regulatory approach, which focuses on evidence-based, quantifiable risks over a short- to medium-term horizon. Only litigation risk represents a plausible channel for bringing just transition-related risks in the Basel framework for banks. But even in this case, the nature of these risks makes them very problematic to estimate. It is perhaps for these reasons that the European Banking Authority,

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[44] Clifford Chance (2021), "*Just Transactions*," White Paper on Just Transition and the Banking Sector, December 2021, Institute for Human Rights and Business and CDC Group.

[45] FDIC (2006), "*Operational Risk Management: An Evolving Discipline*," Washington DC: Federal Deposit Insurance Corporation.

in a recent report on the appropriateness of the current Pillar 1 framework to address ESG risks, limited its recommendations to identifying whether social factors, including those environmentally-driven, constitute triggers of operational risk losses.[46]

Going beyond risk: Should regulators promote the just transition?

In part reflecting the difficulties in introducing just transition-related risks in the current regulatory framework, some commentators have argued that regulators should abandon their risk focus and take steps to promote the just transition regardless of risk.[47] According to this view, financial regulators have a responsibility to ensure that the social and human dimensions of the energy transition are fully taken into account by the financial institutions they supervise.

This argument seems to rest on the role of companies as social actors. Companies—including financial firms—have a duty to contribute to societal ambitions, such as the Paris Agreement and the SDGs, and the just transition agenda provides a link between these two. The way companies manage the energy transition and its negative social effects will have an impact on their "social license to operate:" companies that do not engage with workers and communities nor take their concerns into account might face operational and consumer repercussions and suffer reputational cost. Therefore, according to this line of reasoning, regulators must direct financial firms to internalize the social effects of their activities related to the energy transition regardless of the impact of these effects on their risk profile.

The flaw in this argument is that it conflates the responsibility of financial firms as social actors with the mandate of regulators. The former is a matter for the shareholders, investors, and managers of financial firms: only they can decide whether and how to discharge this responsibility. Indeed, a number of financial firms have voluntarily committed to supporting the just transition (although, much like ESG ratings, these commitments are not binding, specific, or auditable).[48] For regulators to *compel* firms to take on this responsibility, however, they need a mandate. And the current legal mandates of central banks and financial regulators do not generally include the promotion of "societal ambitions," such as the just transition.

To be sure, the legal mandates of regulators can be changed or expanded, provided this is done through the political process. Historically, central bank and financial regulators' mandates have evolved in response to external events: for example, the global financial crisis prompted an

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[46] EBA (2021), "On the Role of Environmental and Social Risks in the Prudential Framework," EBA/REP/2023/34, European Banking Authority.

[47] Robins, N. (2020), "Financing a Just Transition," in: Fisher, P. (ed.), *Making the Financial System Sustainable,* Cambridge University Press.

[48] See, for example, the Investors for a Just Transition initiative, including 22 asset managers with some €4.3 billion AUM; the commitments of the financial firms participating in the UK's Financing a Just Transition Alliance; M&G plc.'s "Position on a just transition to a sustainable world"; or Citi's commitment to include "qualitative elements related to the just transition" in its TCFD reporting.

expansion of these mandates to cover systemic stability. It is thus possible to imagine these mandates extended to include support for the just transition. This, of course, is not something that central bankers and financial regulators can (or should) do by themselves: it has to be done through the political process and be accompanied by appropriate political oversight and accountability arrangements for the regulatory agencies that would be given these additional responsibilities.

However, promoting the just transition is not a task that should be delegated to regulatory agencies. In their now-classic investigation of the delegation of policy tasks from politicians to technocratic agencies independent from the government, Alesina and Tabellini outlined four principles of delegation.[49] A policy task should be delegated to a technocratic agency if:

1. The task is such that politicians cannot make a credible commitment to fulfill it (due, e.g., to time inconsistency or the influence of strong vested interests).
2. The policy goal—and thus the criteria of success—can be specified *ex ante*.
3. Social preferences around the policy goal are reasonably stable.
4. The policy does not have significant distributional consequences.

It could be argued that the task of achieving a just transition meets the first criterion, but it clearly fails to meet the other three: ensuring that the climate transition meets social norms of procedural, distributive, and restorative justice has—by definition—significant distributional consequences. Moreover, the norms themselves are context-dependent and variable and cannot easily be distilled into a specific, *ex ante* agreed operational target, for whose achievement the regulator can be held accountable.

Risks and unintended consequences

In adapting their policies to the challenge of the just transition, central banks and financial regulators need to weigh carefully the potential pitfalls. These pitfalls fall into two groups: (i) the risk that steps to support the just transition would fail to achieve their stated objectives, thereby damaging the regulators' credibility; and (ii) the consequences that undertaking such a task might have for the regulators' own independence and ability to achieve their other policy goals. These risks and possible unintended consequences are present regardless of whether regulators are given explicitly the mandate to support the just transition or begin to do so without a formal delegation.

The tools available to financial regulators to promote the just transition are not likely to be very effective. The regulatory tool most frequently suggested for influencing credit flows toward socially desirable objectives is the capital framework: by reducing (increasing) risk weights through *ad hoc* adjustment factors for socially desirable (undesirable) projects, bank lending would

[49] Alesina, A. and G. Tabellini (2007), "*Bureaucrats or Politicians? Part I: A Single Policy Task*," 97(1): 169-79; Alesina, A. and G. Tabellini (2008), "*Bureaucrats or Politicians? Part II: Multiple Policy Tasks*," Journal of Public Economics 92: 426-47.

be re-directed toward the former.[50] While this step has not yet been specifically proposed for just transition projects, it is unlikely to be effective for this purpose. Moreover, support for using the capital framework even for supporting green finance appears to be waning, including in the EU.[51]

- First, using the capital framework for two different goals—risk mitigation and directing credit to socially desirable projects—would violate the "Tinbergen" constraint of correspondence between policy objectives and tools and inevitably create policy conflicts. To illustrate this, consider the following examples: there is evidence that higher-income households make more energy-saving upgrades in their residential properties than lower-income households;[52] and that in the event of climate shocks, such as floods or severe weather events, small and medium-size farms face larger losses than large farms.[53] On the basis of this evidence, other things being equal, risk minimization would require banks to extend loans at better terms to more credit-worthy and less risky high-income households and large farms; but just transition considerations would dictate the exact opposite. The regulator would be unable to set risk weights so as to meet both objectives.
- Second, the experience from using *ad hoc* adjustments to RWA for other purposes suggests that while risk weights are effective as risk mitigation tools, they are not effective in influencing credit flows. The EU's "SME supporting factor," which was introduced in order to encourage bank credit to SMEs, has had no material impact on lending prices or volumes to SMEs.[54] This is corroborated by model estimates that show that even a massive "Green Supporting Factor" (effectively halving the capital requirement for "green" lending) would have a negligible impact on overall credit growth and a very low impact on financing for the targeted energy transition projects.[55]

[50] The proposal to introduce "Green Supporting Factors" and "Brown Penalizing Factors" in risk-weighted assets (RWA) calculations has been discussed at length, and the EU, in particular, has seriously considered this step. See, for example, Berenguer, M., M. Cardona and J. Evain (2020), "*Integrating Climate-Related Risks into Banks' Capital Requirements*," Paris: Institute for Climate Economics; Nieto, M.J. (2019), "*Banks, Climate Risk and Financial Stability,*" Journal of Financial Regulation and Compliance 27(2): 243-262; Dombrovskis, V. *(2017), "*Greening finance for sustainable business," Speech by Valdis Dombrovskis, Vice President of the European Commission, 12 December 2017, Brussels: European Commission; and the review of the literature in Demekas, D.G. and P. Grippa (2022), *"Walking a Tightrope: Financial Regulation, Climate Change, and the Transition to a Low-Carbon Economy,"* Journal of Financial Regulation, 8: 203-229.

[51] "Proposed fossil fuel penalties for EU banks likely to be challenged," FitchRatings, September 21, 2022.

[52] Clara, N., J.F. Cocco, S.L. Naaraayanan, and V. Sharma (2022), "*Investments that Make our Homes Greener: The Role of Regulation*," available at SSRN: https://ssrn.com/abstract=4009054.

[53] Liu, T. (2022), "*Save the Farms: Nonlinear Impact of Climate Change on Bank's Agricultural Lending*," University of California Santa Cruz, May 2022.

[54] EBA (2016), "*EBA Report on SMEs and SME Supporting Factor*," EBA Report 2016/04, 23 March 2016, European Banking Authority.

[55] Chamberlin, B. and J. Evain (2021), "*Indexing Capital Requirements on Climate: What Impacts Can Be Expected?*," September 2021, Paris: Institute for Climate Economics (I4CE).

Another set of challenges that central banks and financial regulators face vis-à-vis the just transition relates to their own governance and independence. Prior to the global financial crisis, central banks were by and large focused on price stability: as one of the leading central bankers of the day put it, their "ambition was to be boring."[56] The crisis and the Great Recession that followed prompted countries to overhaul their central banking and regulatory frameworks. Although the new arrangements varied across countries, in almost all cases central banks were given substantial additional responsibilities, notably for financial stability. Because these did not fit well within the governance model that had been established for monetary policy, they created frictions—and, in some cases, a political backlash against central bank power—and prompted a search for new governance and accountability arrangements.[57] Given this history, central banks and financial regulators taking on (or being tasked with) supporting the just transition—a fundamentally political project—may face renewed criticism for mission creep. This might compromise their independence and ability to achieve not just their just transition objectives but *all* their policy goals.

In sum, using the regulatory framework to encourage financing flows toward just transition projects would create risks for regulators but have little practical benefit. It would divert attention and resources from their core objectives; pose difficult technical tradeoffs in the targeting of their tools; create demands for stronger governance and greater accountability for achieving the new objective—which is anyway not a good candidate for delegation to an independent technocratic agency; and expose them again to a potential backlash against unchecked power. At the same time, it is doubtful that it would have a major real-world impact in terms of re-directing financial flows towards the just transition.

VI. The way forward: A realistic agenda for financial regulation

Three false analogies

A fundamental conceptual flaw about the nature of the just transition underlies the attempts to incorporate just transition considerations in private financial decisions by copying tools used in climate finance, as well as the arguments for using financial regulation to promote the just transition. Dispelling this confusion is necessary in order to set the debate about the

[56] King, M. (2000), "Balancing the Economic See-Saw," Speech by Mervyn King, Deputy Governor of the Bank of England, 14 April 2000, London: Bank of England.

[57] See Bean, C. (2017), "*Central Banking After the Great Recession*," The 2017 Harold Wincott Memorial Lecture, Economic Affairs 38(1): 2-15; Balls, E., J. Howat and A. Stansbury (2018), "*Central Bank Independence Revisited: After the Financial Crisis, What Should a Model Central Bank Look Like?*" Mossavar-Rahmani Center for Business & Government Working Paper, Harvard Kennedy School; Tucker, P. (2018), *Unelected Power*, Princeton University Press; and Demekas, D.G. (2019), *Building an Effective Financial Stability Policy Framework: Lessons from the Post-Crisis Decade*, London School of Economics and Political Science.

potential role of financial regulation on a sound basis. Three false analogies are at the root of the confusion.

- ***False analogy 1. The just energy transition is just like the energy transition***. Just as the energy transition requires a climate policy framework to encourage the investments necessary for decarbonization, the just transition—the analogy goes—requires a just transition policy framework to ensure that this process is fair and just. This analogy is false. The need for the energy transition is underpinned by a scientific consensus on the impact of GHG emissions on climate. It is therefore relatively straightforward to define a concrete and time-bound policy goal (e.g., net zero GHG emissions by 2050), and progress in achieving it—while politically difficult—can be measured by objective indicators. The economic investments required for decarbonization can be clearly identified and, at least in principle, quantified. Finally, the (positive or negative) contributions of various economic activities to this goal can be estimated—albeit with considerable uncertainties. It is therefore feasible to design a policy framework for the climate transition with concrete operational targets, suitable monitoring instruments and policy tools, and appropriate accountability. The just transition, however, has none of these features. It is a moral aspiration to compensate those who will be negatively affected by the energy transition and to share fairly the opportunities it will create, as well as a political tactic for maintaining popular support for the energy transition against the economic hardship it will cause. Important as they may be, these aims are not concrete, measurable, or time-bound. They reflect context-dependent, variable, and subjective social norms, and progress in achieving them cannot be assessed objectively. There is no specific "quantum of justice" that would satisfy the aspiration of a just transition, and no means of estimating the precise contribution of various forms of compensation or other schemes to restorative, distributive, or procedural justice. Indeed, other than the word "transition," there is little the energy transition and the just transition have in common as policy goals.

- ***False analogy 2. Private finance can be mobilized for the just transition in the same way as for the energy transition***. There is a sizeable literature exploring the failures that explain why the market will not supply the amount of finance required for the climate transition. These include the lack of historical precedent, extreme uncertainty, non-linearities, and tipping points of climate pathways; the conceptual difficulties associated with fat-tailed distributions and catastrophic outcomes; the endogeneity of technical change; time inconsistency or the 'tragedy of the horizon;' and collective action problems.[58] Government and regulatory policies are thus required to address these market failures through carbon taxes, subsidies for R&D and investment in climate mitigation, and improvements in the flow of information about climate-related risks and opportunities to

[58] For a review of the literature, see Krogstrup, S. and W. Oman (2019), "Macroeconomic and Financial Policies for Climate Change Mitigation: A Review of the Literature," *IMF Working Paper WP/19/185*, Washington DC: International Monetary Fund.

investors. However, there is no obvious market failure holding back private finance for the just transition. The negative economic impact of climate transition on specific sectors or regions is the result of public policies. The means and the extent to which this impact should be mitigated, workers compensated for job losses, or economic sectors or regions revitalized are policy decisions that should, in principle, be funded by public resources allocated through the political process. The government may decide to signal its priorities (perhaps through a "social taxonomy") and to spend some of these resources on subsidies or risk-sharing schemes in order to encourage the private sector to participate, but this is not done in order to redress fundamental information or market failures, as in climate finance.

- ***False analogy 3. Social risk can be assessed and regulated just like any other financial risk***. Financial risk management, as well as the current regulatory framework for finance, are designed to address present and measurable risks, which could be realized within a short- to medium-term time frame; have a probability distribution that is, at least in principle, possible to approximate; and would generate quantifiable losses for the lenders or investors involved. Failure to take into account the negative impact of climate transition investments on employment, local communities, labor relations, or human rights may have undesirable consequences, but these cannot readily be translated into financial risk, as discussed earlier: the transmission channels are speculative (especially when they involve political dynamics), the time horizons uncertain, and the losses unknown or very hard to quantify—even when they relate to litigation risk, which is part of the current operational risk framework. Using the label "social risk" to bundle these disparate hypothetical consequences can only confound the discussion about the potential role of financial regulation.

A modest proposal

The just transition is a valid public policy objective. Notwithstanding any confusion about its nature, measurement, and the role of private finance in achieving it, minimizing the adverse consequences of the climate transition and ensuring that it is as "fair" as possible are important societal aspirations. In addition to their inherent moral worth, they are pre-conditions for maintaining popular support for the climate transition through the substantial upheaval and economic dislocation it is likely to cause during the coming decades. Since the climate transition will involve major new investments and a significant reorientation of financial flows, financial decision-makers should at least be aware of the social impact of their actions.

The just transition is a fundamentally political task. The notions of restorative, distributive, and procedural justice are abstract, variable, and context-dependent social norms, and embedding them in policy decisions can have far-reaching economic, distributional, and social implications. This is not a task that should be delegated to technocratic agencies, such as central banks and

financial regulators, but has to be mediated as transparently as possible through the political process.

A just transition policy framework should have three broad components:[59]

- ***Hierarchy of priorities.*** A system for determining a transparent, broadly accepted, and relatively stable hierarchy of economic activities, sectors, and target groups that is prioritized for (i) compensation for the negative impacts they suffer from the transition to a low-carbon economy, reflecting restorative justice considerations; and (ii) financial support because they contribute directly to a more equitable sharing of the costs and opportunities from the transition, reflecting distributive justice considerations.

- ***Fiscal transfer.*** A mechanism to allocate public funds in a time-consistent manner in line with the above priorities. As the experience with just transition policy initiatives thus far shows, their time horizon extends well beyond the budget cycle and even the electoral cycle. To be effective and credible, a just transition finance policy framework would need to incorporate safeguards to ensure that the necessary public resources would be available for the duration of the just transition programs.

- ***Financial flows enablers.*** A set of instruments or policy interventions to facilitate private financial flows to activities or projects that are deemed to contribute to a more just transition, which would also ideally incorporate procedural justice considerations. Since different jurisdictions have different needs, degrees of financial development, institutional arrangements, and political and regulatory traditions, there is no general formula. The policy interventions should be tailored to the characteristics of each individual jurisdiction.

Establishing such a framework is the responsibility of the government. Only sovereign governments have the authority and accountability to put in place all three components of a just transition policy framework, guarantee that they meet these criteria and, if necessary, adjust them in line with shifting social preferences.

Nevertheless, within the parameters established by the government, central banks and financial regulators can play a supporting role.

- While establishing a hierarchy of social priorities lies outside their mandate, central banks and financial regulators can help ensure that granular, high-quality, auditable data on the social impact of climate transition projects are collected and used by financial firms. They can help raise awareness among financial firms of the government's just transition agenda, and ensure that any disclosure and reporting requirements are consistently enforced across

[59] For a full discussion, see Calice, P. and D.G. Demekas (2023), "Mobilizing Finance for the Just Energy Transition in the European Union," EFI Policy Note, Washington DC: World Bank.

the financial sector. In this connection, regulators have a special responsibility to ensure that the risk of "social washing" by issuers and asset managers is minimized.[60]

- In line with their mandate, central banks and financial regulators must sensitize financial firms to just transition-related risks. In the first instance, this means litigation risk. Ongoing work to strengthen operational risk frameworks would help improve financial firms' ability to assess and mitigate this risk. If other just transition-related risks begin to materialize, they should also be included in these efforts.
- More broadly, central banks and financial regulators can help financial firms understand the longer-term social impact of their business decisions. Even though this may not translate into quantifiable risk within a foreseeable time horizon, increased awareness among financial firm managers of these qualitative aspects can potentially lead to greater business resilience. Regulators follow a similar approach to climate-related risks. Even though the scenario-based models currently used to estimate these risks are not reliable or accurate enough to size firms' capital adequacy or to set capital requirements, they can still be useful by allowing them to envisage long-term adjustments that may be necessary to their business models, as well as what might be the collective impact of their responses to the wider economy.[61]
- Another important task for financial regulators is to identify and remove any obstacles that may prevent financial firms from incorporating the social impact of their financing decisions in their business, as well as to encourage and enable financial innovations that facilitate it, provided these do not compromise financial stability. This may involve, for example, assisting in the definition and compilation of data related to social impact; providing training to build skills in the financial industry in the areas of social impact assessment and measurement, client engagement, etc.; encouraging governance changes in financial firms that help embed a business culture that is more sensitive to the just transition agenda; and establishing regulatory sandboxes, if appropriate, for innovative instruments in the area of blended finance or de-risking.
- Transnational regulatory networks, such as the Basel Committee on Banking Supervision, the International Organization of Securities Commissions, and the International Association of Insurance Supervisors, can also play an important role spearheading and coordinating some of these initiatives at the global level, notably setting standards for data collection on social impact—as the Task Force on Climate Related Financial Disclosures did for climate-related data.

[60] In this connection, the US SEC has recently undertaken a number of initiatives to combat "greenwashing" among fund managers, which could in principle be extended to "social washing" ("The SEC war on greenwashing has begun," Bloomberg, June 15, 2022).

[61] Bank of England (2022), "*Results of the 2021 Climate Biennial Exploratory Scenario (CBES)*," May 2022, London: Bank of England.

For central banks and financial regulators to play this role effectively, a necessary precondition is a clear overarching just transition strategy by the government. Collecting social impact data, enforcing disclosures, raising awareness, encouraging innovation, building skills, and disseminating best practices in the financial industry require a clearly defined objective and a sense of social priorities. This can only be provided by a politically accountable government. General principles, like the UNGPs and the OECD Guidelines for MNEs, cannot substitute for a comprehensive just transition strategy at the national level, which takes into account social preferences, political culture, capabilities, and infrastructure. These general principles can serve as signposts, but the government needs to build the road. Even for just transition-related risk mitigation, which lies firmly within the regulators' mandate, a national strategy is needed to help narrow the range of these risks and their time horizon.

Regulators should remain mindful of the limitations of their toolkit and of the risks and potential unintended consequences of their actions. Central banks and financial regulators are facing pressures to take on additional responsibilities for ensuring a just transition. However, the regulatory tools at their disposal are unlikely to be effective for this purpose, and attempting to use them to promote the just transition would pose difficult operational tradeoffs. In addition, the just transition is not part of their legal mandate. Adopting it, explicitly or implicitly, as a goal might undermine their independence. Ultimately, the biggest risk is lack of policy coordination: if central banks and financial regulators move ahead on their own to support the just transition—a fundamentally political goal—without a framework and a clear sense of priorities provided by the government, their efforts would not only prove fruitless but could also trigger a backlash, potentially compromising their ability to achieve their other policy goals.

Lastly, it is important to remember that the just transition agenda for finance goes beyond regulation. While this paper has focused on the role of central banks and financial regulators, financial firms have social responsibilities that they can and should discharge without regulatory compulsion. Several voluntary initiatives and financial innovations, discussed in the paper, show how the private sector can contribute to the just transition. The task of the government, supported by regulators where appropriate, is not to displace these initiatives with regulation but to signal political priorities, align incentives, and establish a broad framework that would help direct and amplify their impact, as well as to complement them with judicious policy action where markets fail.

Appendix I. National just transition policy initiatives

Greece's Fair Transition Fund.[62] Because Greece's ambitious coal phase-out targets in the context of its 2018 National Energy and Climate Plan would affect especially two regions (western Macedonia and central Peloponnese) where lignite mines and power plants are concentrated, a Fair Transition Fund was set up in 2018 to support these local economies. The Fund collects 6 percent of the revenue from auctioning the allowances of the EU's Emissions Trading System, or around €20 million per year. In addition, after submitting a Just Development Transition Master Plan to the EU in 2021, Greece was allocated €755 million to support projects in clean energy, smart agriculture, sustainable tourism, handicrafts and trade, and technology and education in these regions.

The Latrobe Valley Authority in Australia.[63] After the closure of the Hazelwood Power Station in 2016, the government of Victoria established the Latrobe Valley Authority to support workers who lost their jobs and promote economic diversification in the area. Although it is a government department, the Authority has significant discretion in setting priorities and allocating funds. Key achievements include the retrofitting and upgrading of 1,000 local homes to reduce energy bills; setting up a new private electric vehicle assembly plant in the area; establishing a technology research cluster in cooperation with various universities; and funding a study for developing the area's horticulture and food industry. The work of the Authority resulted in more than 2,500 new jobs and A$99 million of private investment in the Latrobe Valley by 2020.

South Africa's Just Transition Framework and Just Energy Transition Investment Plan.[64] A Presidential Climate Commission, established in September 2020, after holding extensive consultations and commissioning several studies, approved in 2022 a Framework for a Just Transition for South Africa. The Framework does not contain specific policies or financing commitments but is a high-level strategy outlining a "vision for achieving a just transition in South Africa." The accompanying Just Energy Transition Investment Plan (JET-IP) sets out the investment priorities by sector needed to implement South Africa's nationally-determined contribution for reducing GHG emissions. The Plan targets investments totaling ZAR 1,480 billion (about US$100 billion) for 2023-27 and is supported by an international partner group comprising the UK, USA, Germany, France, and the EU. Although the purpose of these investments is to reduce emissions, many also have a just transition aspect.

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[62] OECD (2021), *Toward a just transition in Greece's lignite-dependent regions*, October 2021; European Commission (2021), *Analysis of the Recovery and Resilience Plan of Greece*, Commission Staff Working Document SWD(2021) 155, 17 June 2021.

[63] Briggs, C. and F. Mey (2020), *Just Transition: Implications for the Corporate Sector and Financial Institutions in Australia*, Prepared by ISF for the Global Compact Australia and National Australia Bank, Sydney.

[64] Presidential Climate Commission (2022), *A Framework for a Just Transition in South Africa*, Government of South Africa, June 2022; The Presidency of South Africa (2022), *South Africa's Just Energy Transition Investment Plan (JET-IP) for the Initial Period 2023-27*, Presidency of South Africa.

Appendix II. Local and sectoral just transition policy initiatives[65]

Closure of the Diablo Canyon nuclear power facility. Diablo Canyon is a nuclear power plant in California, owned and operated by Pacific Gas and Electric (PG&E) utility, employing some 1,200 workers. In 2016, the plant faced uncertainty about whether the state of California would renew its lease or close down. Environmental NGOs were campaigning for closure and PG&E was not inclined to seek re-licensing, citing market conditions. The trade union and PG&E, with support from NGOs, reached a deal whereby the plant would remain open until 2024; workers were given a package combining retention for some and generous severance pay for others; and PG&E committed to start developing a portfolio of energy efficiency, renewable energy, and energy storage solutions to replace Diablo Canyon. It is too early to say whether the plan will achieve its intended results.

Upskilling in the construction sector in Belgium. Stronger energy efficiency standards in the EU have increased demands for upgrading/retrofitting buildings, as well as building new structures to a higher standard of energy efficiency. This has created reduced demand for traditional building skills and increased demand for new skills. To address this challenge, the three main Belgian trade unions worked with employers in the sector to develop training courses for green buildings and energy efficiency upgrades. Unions and employers assess the needs for skills training jointly, and the training programs are funded and executed by the government.

[65] Smith, S. (2017), *Just Transition*, A Report for the OECD, May 2017, Just Transition Center, International Trade Union Confederation.

Appendix III. Sustainability-related capital market instruments[66]

Green bonds. Green bonds are fixed-income instruments with proceeds earmarked exclusively for new and existing projects that have environmental benefits. The Green Bond Principles (GBP) developed under the auspices of the International Capital Markets Association (ICMA) have four components: use of proceeds, process for project evaluation and selection, management of proceeds, and reporting. These principles were updated in June 2021 to identify key recommendations regarding green bond frameworks and external reviews. A number of countries and jurisdictions have developed their own set of guidelines for green bond issuance, many of which align with the GBP. Blue bonds are green bonds focused on the financing of water-related sustainable projects.

Social bonds. The use of proceeds from social bonds is directed toward projects that aim to achieve positive social outcomes especially, but not exclusively, for a target population. ICMA's Social Bond Principles (SBP) have four components analogous to the GBP: use of proceeds, process for project evaluation and selection, management of proceeds, and reporting. The 2017 SBP were updated in June 2020 to reflect changes in the market in light of COVID-19, notably by expanding social project categories and target populations, and again in June 2021 to identify key recommendations regarding social bond frameworks and external reviews.

Sustainability bonds. Sustainability bonds are debt instruments whose proceeds finance or refinance a combination of green and social projects. The Sustainability Bond Guidelines established by ICMA are aligned with the core components of both GBP and SBP.

Sustainability-linked bonds. Sustainability-linked bonds (SLBs) are performance-based bonds that are not earmarked for specific projects. Rather, the financial characteristics of these bonds (for example, the coupon rate) are adjusted depending on achieving predefined sustainability objectives. The objectives are measured through key performance indicators and assessed against sustainability performance targets. In June 2020, ICMA published the Sustainability-Linked Bond Principles (SLBP), providing guidelines on structuring features, disclosure, and reporting.

Climate transition bonds. Climate transition bonds are new products that aim to finance the transition to a low-carbon economy. ICMA has not published separate guidelines for transition-labeled bonds. The "Climate Transition Finance Handbook" published by ICMA in December 2020 recommends disclosures for issuers marking either use-of-proceeds or sustainability-linked instruments with a climate transition label. Four key elements of the recommended disclosures are the issuer's climate transition strategy and governance; business model environmental materiality; climate transition strategy that is science based, including targets and pathways; and implementation transparency.

Other labels. Some issuers have also used other marketing labels for debt funding, such as blue, adaptation, or SDG bonds. In essence, most of these bonds remain use-of-proceeds bonds aligned

[66] Amundi Asset Management and IFC, *Emerging Markets Green Bond Report 2021*, June 2022.

with ICMA principles, but their branding has been adapted to single out a specific feature. Some bonds labeled "sustainable development bonds" depart from ICMA principles though, as they are not "use-of-proceeds" bonds but rather general purpose bonds from issuers who wish to flag that their mission is inherently sustainable. The proliferation of labels requires vigilance from investors on the actual project eligibility, allocation, and impact reporting commitments attached to labeled bonds.

Appendix IV. Just transition-focused private investment funds[67]

***The Just Transition for Climate fund**,* launched by Amundi in 2021 with about CHF 425 million of assets under management, is based on the Bloomberg Barclays Euro Aggregate Corporate index, which includes more than 3,100 European corporate bonds. It aims to maintain a carbon footprint that is 20 percent lower than this benchmark. At the same time, bonds should have an environment, social, and governance rating and a "just transition rating" that are higher than or equal to E, with A being the highest and G the lowest. Amundi's just transition score looks at the different social aspects involved in the transition to a low-carbon economy, such as impact on employees, consumers, and local communities. In addition, the fund has a dedicated engagement policy that involves the managers sending an annual letter to companies to encourage them to produce transition plans.

***The Global Sustainable Transition Bond fund**,* launched by Ostrum Asset Management (OAM) in September 2022, invests in sovereign or corporate fixed-income instruments that finance projects in renewable energy, green buildings, clean mobility, inclusive development (health care, education, decent housing), or ecosystem preservation. They must meet three criteria: (i) reducing the issuer's carbon footprint, (ii) promoting positive social impact, and (iii) protecting ecosystems and local economies. Adherence to these criteria is assessed by OAM at the level of both the issuer and the individual instrument by a proprietary methodology which, OAM claims, allows for a "better assessment of risks and long-term value for our clients."

[67] Amundi Asset Management (2021), "*Transitioning to a New World: How Will The Paris Agreement Affect Fixed Income Investors as the World Transitions Away from Fossil Fuels?"* Amundi.com, September 17, 2021; Kirakosian, M. (2021), "Amundi Launches Just Transition for Climate Fund," *CityWire Selector,* April 8, 2021; Leguilloux, C. (2022), "Ostrum AM Lance Ostrum Global Sustainable Bonds," *Boursier.com News*, September 26, 2022; EFAMA (European Fund and Asset Management Association) (2022), *Asset Management in Europe: An Overview of the Asset Management Industry.* 14th Edition Facts and Figures. Brussels: EFAMA.