

EU's Sustainability Capitalism: varieties of transition to climate neutrality

dr Agnieszka Smoleńska (Institute of Law Studies, Polish Academy of Sciences)

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1. The green finance gamble

Sustainable finance, green finance, or the idea that private investments can contribute to realising the transition to a net zero future and mitigating the climate crisis seems ubiquitous these days. Global policymakers see in this trend an opportunity to shift the gears of global finance and accelerate the transformation of the real economy. Experts and pundits are divided: the ESG is either the golden opportunity to green our economies, or a greenwashing scam there to divert attention from the real policy choices of transition. In the fierce debate on sustainable finance, the issue of the differentiated potential of sustainable finance across different socioeconomic systems has so far received little attention. Meanwhile, as this paper posits, greening finance through harmonising regulatory measures as is the case in the European Union, is likely to do something different across the variegated economies. The concomitant transformation of financial capitalisms is also likely to look different across divergent institutional constellations. Conversely, as this paper argues, an exploration of how legal and other institutions interplay in the context of financial instruments deployed in the service of sustainability transition can offer insights for the emerging literature on legal constitution of capitalism and finance. In particular, this paper discusses the potential of sustainable finance across different financial systems as well as – given the broader systemic change required by the sustainability transition – across different types of institutional constellations found in the EU. As such this paper outlines a framework for studying how the outcomes that EU's harmonising sustainable finance regulation brings about may be determined by different capitalist institutions.

Sustainable finance is broadly seen as a market trend, driven *inter alia* by changing investor preferences. However, law and regulation are shaping this trend in critical ways. Sustainable finance in this sense is an example of how legal institutions shape modern capitalist market (Pistor 2019, Levi-Faur 2017). As Grewal argues “capitalism is not (or not merely) a socioeconomic system. It is a juridical regime. It is a form of a modern ‘rule of law’” (2017, p. 485). Both in private law and regulatory terms “capitalism is a regulatory institution—one that is being constituted, shaped, constrained and expanded as a historically woven patchwork of regulatory institutions, strategies and functions” (Levi-Faur 2017). Legal regulations furthering the idea of sustainable finance do precisely that: they nudge market participants in a green direction and more generally inbuild ESG and transition concerns into relationships between creditors and borrowers. They tinker with the private property and accumulation-

driven nerve system of modern capitalist economies since sustainability transition presupposes an alteration in the economic calculus, namely the inclusion by financial institutions of their impact on the environment (so-called “double materiality”) in their financial decisions. Regulatory measures want to make green investments cheaper for borrowers, an outcome captured by idea of a “greenium”, a spread on ESG financial instruments (Feola 2020). Even more far-reaching are arguably the financial instruments designed to facilitate the transition of the real economy, which alter the nature of corporate governance and the horizon of creditor-borrower relationship.

Sustainable finance regulation is clearly on the rise. The scale and scope of such regulatory impetus in recent years is impressive: one recent study identifies over 130 green financial policies introduced in OECD countries following the signature of the Paris Agreement in 2015 which had raised the issue of aligning international capital flows with climate change mitigation. Such public interventions span measures to increase market transparency, create product standards, raise financial institutions’ governance requirements and introduce state subsidies or other forms of de-risking green financing and crowding-in/leading by example (Steffen 2021, Bengtsson 2008a, Bengtsson 2008b, Scholtens and Sievänen 2013). The EU has been a leader in this regard with no less than ten new pieces of harmonising regulations since 2018 *inter alia* on sustainability disclosures, prudential bank rules, low-carbon benchmarks and classification system for green investments (Green Taxonomy). Greening finance is a central element of EU’s strategy to close the investment gap needed to realise the Green Deal. Where sustainable finance is largely about the leveraging the position of finance vis-à-vis the “real economy” in the service of the transition, a discussion about the significance of the (divergent) institutional context of the sustainable finance regulations across the EU is conspicuously lacking (though see IPCC, 2022 for a broader global discussion). Although the EU, and the euro in particular, is the global leader in sustainable finance, the uptake across the Union varies greatly (AFME, 2021). If European capitalisms continue to diverge, can a project of altering the core of capitalist regime *inter alia* through EU regulations bring about similar outcomes throughout? An institutionalist perspective is necessary to understand the policy choices facing regulators in meaningfully harnessing the potential of sustainable finance for transition.

This paper advances the idea that institutional constellations within particular EU economies are consequential for the outcomes which harmonising EU sustainable finance regulation will bring about. Such outcomes may depend on the type of the financial system: its depth, structure, dominant type of asset class. However, sustainable finance thrust will accelerate financialisation processes across EU Member States through mechanisms, which warrant a wider perspective. Finance’s power will be strengthened through extended control and enforcement powers vis-à-vis the borrowing firms, rather the disciplining effect of capital mobility (Braun and Koddenbrock, forthcoming, Braun and Deeg, 2020, 360, Grittersová 2014, 363). A broader consideration of other institutional factors: industrial relations, corporate governance, inter-firm relations is needed. With view to develop an adequate

analytical framework in this paper I connect different strands of comparative political economy, international political economy and legal institutionalist literature. Section 2 outlines the core argument relating to the legal constitution of sustainable finance, including through a number of EU regulations. Section 3 discusses the differentiated potential of sustainable finance across different financial system types in the EU. Section 4 argues that a broader institutionalist perspective, might be better suited to understand outcomes which sustainable finance may bring about in terms of transition. Section 5 concludes and outlines the research outlook.

2. Legal constitution of sustainability finance

2.1. Sustainable finance in EU public policy

Mitigating climate change and, more broadly, making our economies more sustainable in the long-term requires profound changes in our socioeconomic systems. The urgency of transition rises with each report of the International Panel of Climate Change (IPCC, 2022). The EU has agreed on common goals to achieve climate neutrality in 2050, with 2021 Climate Law enshrining in the EU legal system also intermediate targets of domestic reduction of GHG emissions of at least 55 % compared to 1990 levels by 2030 (Ananicz, Buras and Smoleńska, 2021).

Such a socioeconomic shift of paradigm requires immense upfront investment and reallocation of value across the economy. The European Commission estimates that to make a ‘net zero’ future a reality, an additional 520 billion euro will need to be invested in the transition annually up to 2050 (2021). A 2021 “net zero” report by McKinsey meanwhile suggests the figure to be twice as high at almost 1 trillion euro of investments a year over the next 30 years, spent primarily in decarbonising transport and buildings (2021). Public investment will not be enough here: public budgets remain constrained, and the required amounts dwarf the 2021-2027 EU budget which – even with the post-pandemic Recovery Fund top-up – will barely reach 100 billion euro annually for green investments. Private capital is therefore called upon to make close the gap. As this paper shows, funding shortage is not the only reason why policymakers turn to financial regulation to accelerate the transition. Centrality of the financial sector as intermediaries and operators of the means of payment is arguably as important.

Financial sector is, however, not so willing to pursue green ventures on its own, and looks to regulatory encouragement. In an industry report, McKinsey argues that environmentally optimal options are not (yet) optimal at the level of individual consumers or businesses. The consultancy provides here specific estimates: “95 percent of capital expenditures [needed for net zero transition] lack positive business cases; for buildings, it’s 85 percent; for power 46 percent; for transportation 36 percent; and for agriculture 11 percent” (2021, 34).” Proposed regulatory encouragement may involve direct financing interventions (contracts for difference, feed-in tariffs), price measures and de-risking interventions

oriented at reducing investment risks and pro-climate financing models internalising the costs of climate-friendly solutions (e.g. in buildings). Such de-risking might come however, with some risks of its own to the state in particular. Daniela Gabor has persuasively analysed such efforts in the context of international development financing showing how they lead to privatisation of profits and socialisation of losses (2020). Katharina Pistor meanwhile, discussed such regulatory efforts as giving capitalism “legal steroids” (2022). To better understand these claims it is important to understand first what law (such as mandatory rules prescribed through regulation) does in the context of individual financial relationships and the financial system more broadly.

2.2. Legal coding of sustainable finance

Law and regulation constitute finance and financial capitalist system more broadly (Pistor 2013 and 2019, Grewal 2017, Levi-Faur 2017). Emerging field of finance studies, which spans comparative and international political economy as well as legal institutionalist approaches, draws attention to the power relationships which reside in different forms of financial claims. Such claims exist in law through the constitutive modules such as property and contract (Braun and Koddenbrock forthcoming, Pistor, 2019). Consequently, law and regulation may alter the foundations of capitalism e.g. by introducing rules which influence the rate of return on capital, which is particularly important in the context of sustainability transition (Grewal 2017, p. 489).

Traditionally different financial instruments entail different trade-offs between risk and reward, between control and profits. Sustainable finance regulations change this trade-off in different ways, for example by introducing new dimensions of control in relationship between the firm and the creditor. Law and market practice is forcing a change in the coding of the financial instruments developed with sustainability transition in mind. Such transformation can already be observed in the context of both debt and equity instruments emerging to finance the sustainability transition.

On the debt side, we see the emergence of new types of instruments, such as sustainability-linked loans, which introduce a new element of control over the borrower’s decarbonization trajectory endows the creditor with new disciplining (enforcement) mechanisms (Table 1). This change is particularly consequential for bonds, where generally the creditor has no direct influence over the decisions of the borrower, except through pricing. What characterizes such transition debt instruments is predominantly new inherent forms of contractually coded control, where this has not been the case previously. In return the issuer should benefit from a premium (“greenium”) – which in the EU hover between 2-3 basis points for corporate issuers (AFME, 2022). Whereas these instruments have emerged in a market practice (and therefore contractually), they are increasingly further encased by mandatory regulations (e.g. EU’s Green Bond Standard).

Table 1: Transition finance instruments

Name of financial instrument	Examples of (EU) issuers 2020-2021	Special features
Vanilla bond	BCPE (finance, France) to finance sustainability-linked corporate bonds with transition-related KPIs; SNAP (gas, Italy) to retrofit gas distribution network to low-emission energy sources	Marked and labelled as transition finance.
Sustainability-Linked Bond (SLB)	H&M (fashion, Sweden) and CHANEL (fashion, France) to reduce emissions (scope 1, 2 and 3) Lafarge Holcim (cement, France) to reduce carbon intensity of cement production	Issued by entities operating in high-emitting sectors that have set emission reduction targets.
Sustainability-Linked Loan Revolving Credit Facilities (SLL RCF)	AbinBev (alcoholic beverages, Belgium) to improve resource efficiency (inc. GHG emission reduction) Pandora (jewelry, Denmark) to become carbon neutral by 2025	Interest margin set as a function of sustainability performance targets.
Sustainability-Linked Convertible Bond	Schneider Electric (power utility, France) to avoid CO2 emissions	Premium payment triggered if average score of KPIs lower than indicated.

Source: OECD (2021)

On the equity side, sustainable finance entails greater disclosures (to increase the disciplining effects) as well as the emergence of standards for market infrastructure services, such as low-carbon benchmarks (indices). For example, in addition to introducing greater granularity with regard to nonfinancial disclosures, the EU has recently introduced a binding requirement that 50,000 of EU's large and medium firms will have to present a plan on how they plan to reach climate neutrality by 2050 (CSRD). A 2019 Regulation on low-carbon benchmarks defines which companies may be included in an index marketed as climate-friendly (Peridis and Smoleńska, 2021). In addition to these labelling efforts, a direction of travel is emerging towards introducing greater control to solve problems of “dirty assets” on companies’ balance sheets. In one paper Armour et al. (2022) propose a “green pill” to secure greater control and a dual-class ownership structure ensuring voting rights are exercised with climate mitigation in mind. Shareholder and stakeholder engagement, activism and litigation is further leading – in some jurisdictions – to significant pressure on management to implement decarbonisation strategies (Setzer 2020).

A particularly interesting from the point of view of understanding the transformative power of sustainable finance are the transition (or sustainability-linked) bonds or loans, which are dedicated specifically to financing the decarbonisation of existing activities. Per OECD such instruments are best understood as “acknowledging and aiding the process of becoming green as opposed to being green” and “capital market instruments with a set of core functions/attributes rather than a specific label”

(OECD 2021, pp. 18-19). This means transition finance encases creditor's engagement with the strategy of "transitioning" firm. The latter needs to have in place an appropriate plan of change, implementing technological green innovations, phasing-out high emitting activities where possible. This requires that the firm has specific strategic and competency capacities. Given the climate science-based pathway towards 'net zero', individual strategy of firms may or may not take on board particular national policies. The simultaneous central importance and the contractual nature of transition finance makes it a novel element of the "code of capital". EU regulations (and less often directives) shape and constrain these new instruments in a number of ways.

2.3. EU's regulatory capitalism in the service of sustainability transition

Since the 2008-2009 crisis, EU's policymakers have regulated financial markets more incisively and granularly. Since unfettered banking integration proved to bring with it seeds of economic instability, matters ranging from risk management, bank insolvency as well as market conduct matters (Anti-Money Laundering) became an ever-greater concern at EU level. Brussels became more involved in regulating other market segments such as financial infrastructures, asset managers and credit ratings providers. Regulatory measures were developed connecting finance with broader public interest for example by facilitating SME access to financing, protecting critical banking functions or curbing bankers' overly risky behaviour. For the euro area countries, a further integration step was taken through the creation of the Banking Union in 2014.

Against this background, the turn to sustainable finance at EU level represents a further step in shaping of EU's financial capitalism through regulation. In the context of EU's capitalist varieties discussed further below, there is something quite different about this step. Differences in financial markets were of course important in the context of the preceding financial regulation steps: bank market structure plays a role in determining which banks can safely exit the market for example (under the new resolution rules). In the context of Capital Market Union project, various regional solutions were discussed to accommodate different levels of financial market development (European Commission, 2018). The differentiated potential of sustainable finance instruments has received little attention so far. Arguably however, the scope for regional variation will need to be understood, to determine what type of sustainable finance – if at all – has the potential to meaningfully accelerate the real economy's net zero transition. Financial sector is here intended to be used as a lever for a socioeconomic shift to a more sustainable paradigm. A legal institutionalist perspective captures a number of possible impacts of such EU regulation, including by providing a framework for understanding better various unintended consequences across the EU (Ringe and Gözlügöl, 2022).

Sustainable finance regulation covers a variety of regulatory requirements and standards oriented at mainstreaming ESG concerns in financial relationships and in management of financial institutions.

The most politicised and contentious has been the Green Taxonomy, which introduces a common EU classification for business activities deemed as making a significant contribution to meeting EU's environmental objectives. Further regulations, adopted following the 2018 Sustainable Finance Action Plan, cover disclosure requirements, new risk management obligations and sustainable product standards (e.g. green bonds, sustainable investment products, low-carbon benchmarks).

The general thrust of these regulations is to create incentives for sustainable finance market development by e.g. improving the quality of information available thus allowing market participants to make the green choice. From the perspective of understanding impact on transition finance instruments introduced above, the key features of EU's sustainable finance regulations relate to the high level of centralisation of rules and the level of impact (both direct and indirect) on the relationships between investors, bankers and firms.

First, high level of centralisation of rules at EU level means scope for their national adaptation is limited. Though the EU regulates sustainable finance matters both through generally applicable regulations (Green Taxonomy, Green Bond standards, Benchmark Regulation) as well as directives which must then be implemented nationally (SFRD, CRD, CSRD), there is a clear trend in favour of the former. Key concepts related to ESG and sustainability are defined in regulations. For example, the Green Taxonomy defines as sustainable an activity that has a significant positive impact on one of the six EU's environmental objectives, does not negatively impact the remaining five and is carried out by a business in compliance with international good governance standards (Art. 3 Green Taxonomy). In the context of climate change, transitional activities are defined as those which have best performance GHG emissions in the sector, do not crowd-out low-carbon alternatives and lock-in of carbon-intensive assets (Art. 10(2) Green Taxonomy). Sustainable finance secondary legislation is complemented with detailed regulations developed by EU agencies. The rules end up being highly prescriptive and granular leading to high formalisation of sustainability definitions (Smoleńska 2021, Grundmann, Petit and Smoleńska 2017). As a result, there is a strong harmonisation drive towards a particular sustainability transition governance model. Since the scope for national options is constrained, this allows for a comparison of impact triggered across different EU economies.

EU sustainable finance rules affect a variety of private law relationships and contracting between investors and financial firms, as well as between financial firms and borrowers (see Grundmann, 2017). This happens both directly and indirectly and regardless of the type of financing (both debt and equity). Directly, EU rules create specific duties in financial advisory relationships such as requiring that retail investors reveal their sustainability preferences (MIFiD Relegated Act 2021). Furthermore, the disclosure requirements relating to highly specific sustainability matters – such as EBA's Pillar 3 Implementing Technical Standards relating to ESG disclosures and the Green Taxonomy's Green Asset Ratio) – require that banks obtain the relevant information from their clients.

Indirectly, the qualitative and quantitative requirements on new sustainable finance products (such as EU Green Bond Standard) will lead to new obligations imposed on the borrowers, not covered in existing nonfinancial disclosure regulations (such as NFRD or its successor – CSRD). Banks individual transition plans, that is projections of how banks intend to become ‘net zero aligned’ by 2050 – which will soon have to be presented in some form to the supervisor – will also have implications for banks’ relationships with borrowers. Even if the supervisory guidance does not address it directly, such plans will have an impact on client relationships: after all a bank cannot decarbonise its balance sheet unless its real economy borrowers do so. New processes in relationships with clients will have to be implemented as a result. How financial institutions will operationalise the new requirements will depend on the institutional context and practice.

Increased interest of financial institutions with the emissions profile of the real economy counterparties will be affected regardless of whether equity or debt are involved. The new governance sustainability standards being implemented create new types of duties on corporate managers, with shareholders interested in environmental issues as well as stakeholders more broadly, having more legal instruments to force management down a path of sustainable transition. Such instruments – with the support of courts – include new interpretations of duties of care (e.g. in Shell’s decarbonisation targets case). Meanwhile, in the context of transition debt instruments discussed in the previous section, EU rules reinforce the novel forms of control and verification mechanisms in bond instruments. Whereas in the past, bond financing was characterised by an absence of control by the financier – except pricing – now with additional pre- and post- issuance reporting requirements new forms of control by creditors emerge. Breach of the sustainability commitments may lead to legal liability/breach of contract.

2.4. Varieties of sustainability transition finance in the EU

EU sustainable finance regulation will have far-reaching consequences for the political economy of (private) financing transition in the EU. However, different expectations can be formulated about the outcomes that EU’s sustainable finance regulation may have different roles and impacts across the EU. An intuition about the institutional-contingency of success of sustainable finance can only be supported by the significant differences which exist in local uptake of green finance across Member States. In 2020, almost 80% of European sustainable funds were domiciled in five countries (37% in Luxembourg, 19% - France, 12% - Ireland and 6% - Sweden). Similarly in the green bonds market. Collectively the EU is a global leader in sustainable bond issuance, however in 2020 82% of EU’s green bond issuers were located in Germany, France, the Netherlands, Sweden and Spain (European Commission 2021, pp. 28-29, trend continues in AFME 2021 and KMPG 2021).

When it comes to the impact of harmonising EU regulation across variegated socioeconomic contexts, institutionalist literature offers a number of possibilities. First: convergence. Favourable market-making

regulation applicable directly and generally will give rise to emergence of markets for sustainable transition financial products across the EU. EU regulations introducing a certain institutional change lead adjustments along the different institutional constellations (Hardie 2013, Rapacki 2013, Nahm 2021, p. 3), potentially reinforced by a layering effect (Thelen and Streeck, 2014). Even when “unity in diversity” does not mean immediate convergence, at least some sort of functional equivalence is to be expected: the goal of achieving transparent sustainable finance markets will be achieved provided transaction costs of such markets are lowered (by regulation).

Alternatively, theory predicts that persistence of certain institutions means that a regulatory change might trigger different institutional adaptations across different Member States (Regan and Johnston 2021, Farcas 2016, Teubner, 2001), with path dependency prevailing. Such changes may not necessarily lead to institutional adaptations within a given socioeconomic system, but rather in a disruptive manner lead to “negative inter-sectoral feedback effects”, eroding institutional complementarities (cf. Braun and Deeg, 2020). It is the second route which appears more convincing in the context of transition finance given the importance of close coordination, alignment but also new forms of creditor power associated with the relevant instruments.

EU harmonisation efforts in sustainable finance are likely to further differentiate, rather than lead to convergence, of transition finance conditions across the EU. Such an intuition is supported by the fact that sustainability transition is inherently linked with the transformation of socioeconomic institutions. But which institutions are decisive here? If we accept the findings of comparative political economy, namely that economies differ in a meaningful way by how various institutions in the economy interact with view to achieve a “comparative advantage” or support a particular “growth regime”, there are at least two possibilities. Since the financial sector is the transmission mechanism of the sustainable finance agenda, the differences in the type of financial sector could be the determinant factor for the outcomes in terms of the impact of sustainable finance instruments of decarbonisation agenda (Section 3). However, given the nature of sustainability transition, which requires not only an adjustment of the financial sphere, but as well a wider reshaping of capitalist institutions, a broader approach may be more fruitful in understanding different dynamics of institutional change triggered by sustainable finance law (Section 4).

3. Financial systems in sustainability transition

The financial system links various actors in the economy: firms, households and governments as investors or borrowers. Financial institutions (banks, asset managers) intermediate these relationships and are increasingly aided in this endeavour by a wide range of market infrastructure service providers (e.g. credit rating agencies). Financial systems differ in terms of their depth, structure or the relative popularity of various types of financing/asset classes. This section introduces the literature on models

of financial systems and explains its relevance for the purpose of studying the outcomes of sustainable finance regulation.

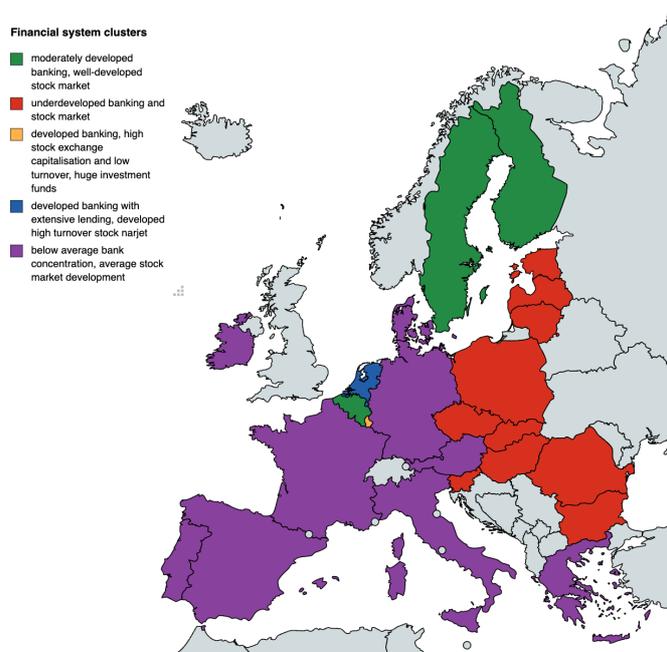
3.1. Typology of financial systems

Financial systems across EU Member States differ in their market depth and development, which has enormous implications for the availability of capital for sustainability transition. It affects as well the complementary role that state, EU funds or public development banks may play in financing the required transition. Beyond thinking purely in size, specific features of different financial systems draw our attention to governance implications relevant when we start thinking about the potential of sustainable finance. Categorising national economies by their financial systems predates all-encompassing classifications of capitalisms. Zysman's (1983) distinction between capital market-based systems and the bank-based systems informed Hall and Soskice's Varieties of Capitalism model, which is discussed further below. Whether market-based or bank-based finance prevailed in the relationships between firms and financial institutions was then found to be highly consequential from the perspective of growth trajectory of the particular economy with different types of innovations supported. In the former shareholders and bondholders held more power, in the latter – the banking sector (Braun and Deeg 2020, p. 261). This traditional distinction has been questioned more recently with more models in Europe attaining market-like qualities (Hardie et al 2013, Rapacki, 2021, Farcas 2016). However, there is also evidence of model persistence (Grittersová 2013). The nationalist politics of some CEE countries have also pushed back against the dependency of the financial sector (Ban and Bohle 2021). Nahm suggests that what continues to make financial systems different are “expectations about rates of return, the time frame within which investments must generate a profit, and the willingness to invest in novel technologies and practices” (2021, p. 62). A recent categorisation (Farcas 2016, see also Rapacki 2021) differentiates between five different types of EU's financial systems on the basis of level of banking system development, bank concentration, relative size of insurance and asset management markets and size of the stock market (see Graph 1)

International mobility of capital of course requires that such categorisations be taken with a grain of salt due to the internal differentiation of financial regimes (Deeg 2009). For example, while international corporations may have similar corporate finance strategies across the EU due to combined trends of financialization, rise of market finance and internationalisation of market economies (Maden, Martens and van der Zwan 2020, Mattei and Haskell 2017). They may accordingly be subject to international finance pressures. For example, international asset managers (Vanguard, Blackrock) and insurance companies (AVIVA, UNIQUA) are the largest private investors in Polish coal company (PGE). Meanwhile, a EU survey of small and medium-sized companies reveals very different preferences when it comes to preferable investment type at SME level. For example, preference for

equity financing ranges from below 1% in Czechia and Italy to above 20% in Latvia and Denmark (interestingly these preferences do not neatly correspond to particular financial market type).

Graph 1: Financial System Clusters



Source: Farcas (2016)

Nevertheless, the types of financial system goes some way towards explaining some existing phenomena: the market with the highest number of investment funds in general (Luxembourg), is the one with greatest number of sustainable funds (European Commission, 2021). The most developed stock market (Netherlands) exhibits highest interest in ESG securitisation (AFME, 2022). The least developed financial markets in Europe (measured e.g. as stock market capitalisation to GDP), barely feature in existing sustainable finance statistics (AFME, 2022). One exception are sustainability-linked bonds which gain in popularity e.g. in Czechia, which suggests that these kinds of products focused on transition (rather than direct development of environmentally friendly technologies), may be better suited for less developed financial markets. Such correlations are only the first step towards understanding better the institutional contingency of financing transition.

3.2. Financial systems and the sustainability transition

A strand of CPE literature has already been looking at how the type of financial system shapes the green transition in terms of fostering innovation, in particular in renewable energies. For example, more readily available Venture Capital in the US meant more investment in cutting-edge technologies, while more patient bank capital in Germany financed long-term firm specialisation (Nahm 2021). Lack of capital meanwhile, as Četković and Buzogány found, curtails the deployment of innovative renewable technologies across CEE (2017). Where sustainability transition is in this context perceived through the lens of innovation and growth, it effectively builds on the insights of the finance & development literature, where the type and depth of financial system is consequential for growth pathways (Beck and Levine 2002, Demirgüç-Kunt, Feyen and Levine 2013; Gambacorta, Yang and Tsatsaronis 2014).

Scholars have also begun to explore the link between sustainability transition and finance more broadly, showing for example how quickly financial regulation paradigm can change in the context of a profound crisis (COVID-19, 2008-2009 financial crisis), exploring the role of finance in developing green industries, and exploring the transition of the financial sector itself (see Steffen and Schmidt 2021 for an overview, Naidoo 2022). A relationship between control and financing sustainability transition has already been identified. Popov and de Haas (2019) show that firms in financial systems which rely more on equity – as opposed to “patient bank capital” – have thus far tended to decarbonise faster. Specifically, they find that stock markets reallocate investment towards more carbon-efficient sectors and facilitate the adoption of cleaner technologies in polluting industries (p. 6). Such a tendency can be driven by regulation, including one enforcing greater availability of information. Along these lines, Taube et al. argue for the development of equity markets to facilitate decarbonisation (2017, p. 28). Ownership type has also been shown to have an impact on individual firm trajectories. Shive, Forster and Scheinkman show that concentrated ownership and responsibility have a positive effect on US firms’ environmental performance (2020). On the surface, such findings may be seen at odds with the traditional view that patient bank capital is more conducive to socially optimal choices due to “long-term planning horizons” contrasted with shareholders “short-term strategies driven by the need to maximize shareholder” (Nahm 2021, p. 103). What could be more long-term in the present context than thinking about mitigating climate change? What could potentially drive shareholders interest in decarbonisation and long-term transition? Two explanations can potentially explain such tensions: first a market trend or a bubble – driving the shift of funds to ESG-aligned segments. Even with greenwashing rife, enough firms comply with decarbonisation goals. Preferences of retail investors – especially the sustainably-minded Millennials – make sustainable projects more marketable (European Commission 2021, p. 32). The second explanation is one of control. The tension at the heart of policymakers’ green finance agenda is that it simultaneously wants to drive capital to green investments and make such investments cheaper for firms. The desired outcome is a “green premium”, that is the relatively lower cost of borrowing for sustainable projects. However, to compensate for the altered

risk/reward balance, finance demands a “de-risking”, which can take the form of greater control over the governance and individual firm transition to the new sustainable consumption/production paradigm. In legal terms, this means new types of contractual obligations. It is this second explanation which seems particularly promising in the context of broader international finance and legal institutionalist research, especially since EU regulations have begun to strengthen the transition governance element across sustainable debt relationships.

3.3. Why a financial systems’ perspective is not enough

The type of financial system is evidently relevant from the perspective of understanding the impact of sustainable finance (Loewen 2021, 112432). There are two reasons, however, for why a broader approach is needed. First, different types of sustainable finance instruments may suit different transition trajectories in the EU (3.3.1). Second, sustainability transition is not merely about financing innovation, but shifting the gears of the prevailing mode of production and consumption, and consequently we need to incorporate in the analysis broader institutional setting (3.3.2).

3.3.1. Differentiated financing needs of transition

Different geographies face different sustainability transition challenges defined by geography and climate change. Such planetary factors include local climate, CO2 storage opportunities, local agriculture practices, and the amount of land available for reforestation and construction of wind farms and solar plants. In their report of Europe’s net zero transition, McKinsey distinguishes five countries (Germany, France, Italy, Poland and Ireland) as well as five regions (Iberia, Benelux, Southeast Europe¹, other central Europe² and Nordics (including the Baltics) based on the specific properties of the transition trajectories (2021, p. 20 and Graph 2).

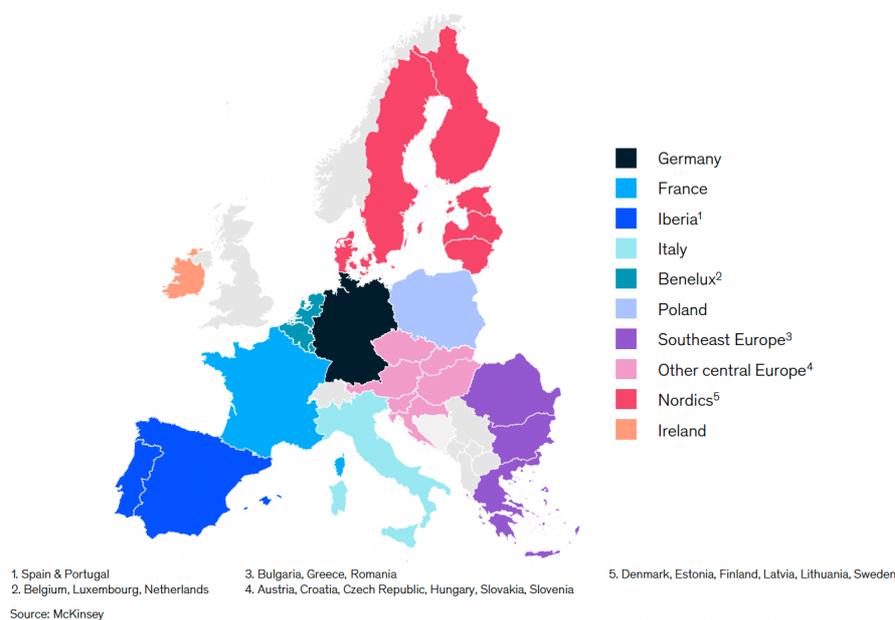
Despite sustainability transition policies being increasingly formulated jointly at EU-level, the differences between countries’ trajectories remain significant even before we bring varieties of capitalisms into the picture. The national transition pathway is defined by local politics as well as societal (e.g. just transition) and geopolitical (e.g. energy security) concerns at national political level generating significant policy differences (Aman et al 2020). As a result, the score for Climate Change Policies Index which aggregates various aspects of climate change transition, for Sweden and Denmark (two top ranked EU Member States) is twice as high as for Hungary and Poland (two lowest-ranked EU Member States). The national energy mix defines the emission-intensity of large and small companies, subsequently affecting their access to finance and the total emissions of the value chains of which they

¹ Bulgaria, Greece, Romania

² Austria, Croatia, Czech Republic, Hungary, Slovakia, Slovenia

form part. For example, scope 2 and 3 emissions of any business activities in countries with high fossil fuel use (e.g. Poland, Ireland, Italy) in total energy mix makes them automatically more “dirty”, as opposed to low CO2 energy mix countries (France, Nordics). This effect is amplified in countries with low energy efficiency (e.g. South Easter Europe). This recognition further highlights the fact that transition will continue to be dependent on state policies and presence in the economy, and transition-relevant sectors (e.g. utilities).

Graph 2: Diversities of ‘net zero’ transition trajectories



Source: McKinsey, 2021

Different transition strategies imply a different balance between the types of financing (reallocation of asset value) needed for transition. Sustainability transition requires three such types: front-loading investment in innovative green technologies, writing off stranded assets and supporting adjustment of the economy in between (see Table 2). Investing in innovative technologies should become cheaper and easier, notwithstanding uncertain profitability and technology risks (Fancy 2021). Losses generated from investments under the previous, unsustainable paradigm estimated will have to be absorbed by financial institutions, but also potentially the public, given the concentration in strategic industry sectors (iron, steel, refining sectors (McKinsey 2021, p. 16, Semeniuk et al 2022). A great many adjustments, however, will fall somewhere in the middle and involve the transition of existing business activities with view to reduce emissions and improve energy efficiency (OECD 2021, Platform for Sustainable Finance 2022).

Table 2: Differentiated financing needs of sustainability transition

Financing needs	Examples of financial instruments	Applicable EU rules
Investment in innovative technologies	ESG bonds, ESG loans, SFRD Art. 9 products	Green Taxonomy, SFRD
Investment in transition	Sustainability-linked bonds, Transition bonds	Possible extended Taxonomy
Stranded assets loss absorption	Write-offs, bad banks	State aid, EU resolution law

In a number of cases the trajectory and financing needs of transition coincide with a less developed financial market, which effectively appears to restrict the role which sustainable finance may play. For example, all countries in the least developed financial system group in Farcas' classification above (Graph 1), have above average GHG emission level intensities per unit of GDP (European Commission, 2021b). This may simply imply that a dedicated set of instruments may be needed to develop the market, coupled with a greater crowding in role for state and public development bank financing. Looking at sustainable finance, however, only functionally from the perspective of providing the capital needed for climate neutrality by 2050 does not do justice to the type of adjustment of capitalist institutions that sustainability transition requires.

3.3.2. Sustainability transition and institutional change

Sustainability transition – to the extent it is compatible with a capitalist regime – entails a broader rethinking than incremental institutional change, tinkering at the edges (Feola 2020). It implies a shift in the socio-technical systems of particular sector (energy, transportation, manufacturing) with view of achieving a more sustainable mode of production and consumption. Transition is goal-oriented at reducing emissions and supporting broader societal, environmental and governance (ESG) objectives. The mechanism through which it can happen is both top-down from the state, but as well bottom-up: as it is the individual businesses that will have to align their business activity with environmental and social objectives. Transition therefore requires unprecedented long-term coordination, even as the power in finance-firm relationships shifts to accommodate for the long-term goal of 'net zero'.

As Markard argues, sustainability transition *a priori* requires coordination among actors around a particular goal (2012, p. 957). Conceived in those terms, sustainability transition implies convergence of different socioeconomic systems along such specific features, notwithstanding the institutional differences discussed above. Transition is therefore not only about innovating along the new green growth paradigm, but dispersion of the new governance regime oriented at net zero transition in the

long-term. In the context of sustainable finance, what will matter – in addition to the availability of finance – is the new type of finance’s influence over the long-term strategies of firms.

The controversy surrounding the EU’s Green Taxonomy elucidates the difference between narrowly-construed green innovation and broader sustainable transition further. Green Taxonomy establishes the criteria for technologies which can be considered to make a significant positive contribution to EU’s sustainability objectives, such as climate change mitigation. Such criteria define the innovation frontier of green growth: what firms across a variety of industries should be aspiring to and innovating towards. Such assets as EU researchers find, can cover maximum of 15 % of the economy (Battiston et al 2019). The boundary between the green innovation frontier and the rest of transition is clearly a place of politics, which explains the high level of politicisation of the EU’s delegated act on the classification of nuclear and gas. It is in effect the boundary between industrial policy within the green growth paradigm and sustainability transition more broadly. For sustainability transition to be achieved it must cover not only the frontier green innovation, but effectively decarbonise the high emitters and broader economy – also those who are not cutting-edge green innovators (Platform for Sustainable Finance 2022). This point brings us closer to firm governance, the legal institutionalist link which – through shaping the relationship between finance and firms, is in this paper identified as a key component of the sustainability transition.

4. Towards a broader institutional perspective on sustainable finance

Since its emergence in early 2000s, the rich Varieties of Capitalism (VoC) literature has provided lens through which differences across institutions building the socio-economic models of different Member States could be captured (Hall and Soskice, 2001). Such differences reside in different ways that firms, labour markets and the state interact, with certain types of institutions being particularly consequential, e.g. industrial relations, vocational training and education, corporate governance, inter-firm relations, relations with employees and type of finance. Comparative analysis of institutions and their complementarity across different constellations allowed to differentiate between models which were based on coordination and collaboration and those which were more decentralised, adversarial and where uncoordinated bargaining prevailed. This allowed Hall and Soskice and their collaborators to explain the particular comparative advantages across the systems. The two paradigmatic capitalist types – Liberal Market Economies (LME) such as the UK and Coordinated Market Economies (CME) such as Germany – were then differentiated by how market actors coordinate (through competitive markets and formal contracts or interfirm networks and associations respectively), what industrial relations look like (pluralist and market based vs corporatist and consensual), how labour force is educated and trained (general skills vs vocational training) and how innovation spreads (based on markets vs joint ventures

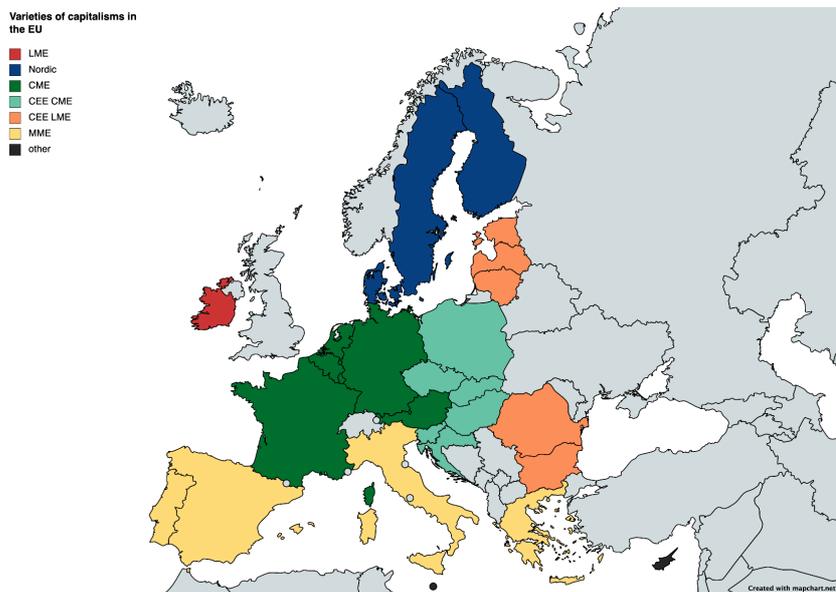
and business associations). Importantly for this paper, different models of capitalism are differentiated by how investments are financed and – relatedly – how corporate governance works in a particular economy. Capital markets and dispersed control would play a central role in the LME systems, whereas for CME, “patient” bank capital would be coupled with concentrated shareholder ownership and high degree of insider control over the firm. Various notions of complementarity link the different institutions. The LME-CME distinction has given rise to fertile scholarship both questioning and building on the Hall and Soskice’s framework.

Applied in the context of the EU, the framework allowed to capture differences in institutional set-ups which were often overlooked (Amable 2003, Rapacki 2021). “Unity in diversity”, EU’s motto, implies a certain way of understanding institutional difference: diversity is inherent to the EU and such diversity does not preclude common pursuits. In fact, scholars of EU integration have long argued that there is functional equivalence in responses to EU integration across heterogenous models of capitalism (Scharf and Schmidt 2000 in Johnston and Regan 2021). More recently, following the sovereign debt crisis in particular, critical investigations of the extent to which the design of EU – and in particular its monetary union – favours certain types of constellations of market institutions (i.e. export-led economies such as Germany) became more popular among scholars of European integration (Johnston and Regan 2021). Such scholarship replaces the competitive advantage frame of Hall and Soskice, with a focus on the drivers of the “growth regime”, such as production or consumption. This strand of research generally is expressly interested first and foremost in identifying the “winners” and “losers” by determining which model of capitalism (“growth regime”) is better suited to adapt to European integration (Johnston and Regan 2021, 18). Such insights lead to questioning of the capacity of “continued coexistence of capitalist diversity within the Union”.

No less than six (and by some accounts more) types of capitalist economies in the EU can be identified in the EU (Graph 3), albeit of course any such categorisation can be disputed. France, Germany, Austria and the Benelux countries are typically classified as Coordinated Market Economies. Given their welfare state systems and corporatist coordination mechanisms (strong role of trade unions), the Nordics (Denmark, Sweden, Finland) are a type of their own (Lindgren 2011). Likewise, Italy, Spain, Portugal and Greece are typically lumped together as a Mixed Market Economy / Mediterranean type (Burrone et al 2021). Ireland, perhaps due to long influence of the UK, is generally considered an LME. The Central and Eastern European (CEE) countries’ categorisation has also proven to be a tough nut to crack. For example, the dependence on foreign capital and multinational companies to drive growth has led Nölke and Vliegenthart to distinguish a “dependent” model of capitalism (2009, see also Farcas 2016). Other scholars have sought to fit CEE into the existing CME/LPE categories, which can also interestingly be linked with the differentiated transition experience (Bohle and Greskovits 2012, Feldmann 2006, Ahlborn et al 2016, Schweickert et al 2013). EU small islands – Malta and Cyprus – appear to be too small to be classified in many EU studies. Such a brief overview already reveals the

difficulty in looking beyond regional and geographical clusters defined by diverse points of institutional commonality. A recent study is a case in point by developing a variegated classification of Member States based on the length of EU membership (“old Member States”), geography (“Nordics”, “Mediterranean Market Economies”), while reserving the traditional classification of LME/CPE for Central and Eastern European space (Ademmer 2018). Ultimately all EU countries may at this point be some sort of “patchwork capitalism” or evolved past their early-2000 classification (Rapacki 2021, Braun and Deeg 2020).

Graph 3: Capitalist diversity in the EU



Source: Farcas, 2016, Ademmer, 2018, Rapacki 2021, Schweickert 2013

The key usefulness of the VoC framework lies not in the bulletproof nature of the typology, but rather the recognition that the weight of different institutions for the purpose of defining the interactions within the overall system can differ. Such a holistic approach to the economy is necessary to capture the sustainability transition process. This insight goes a long way when we shift our attention to finance and its relationship to real economy firms and the state. For example, in economies which rely less on coordination between firms, deploying sustainable finance instruments will require different adjustments than in more coordinated economies. In legal terms this translates into using different sustainable finance instruments or different mechanisms of control (remuneration) provided for in the contracts. In other words, even if EU regulation will be outlining the mandatory conditions and definitions of a given sustainable finance product, its mechanism of operation will actually be mediated by relevant local institutions.

If we accept that the uptake of sustainable finance will result in significant institutional change, what will the ripple effects be? Comparative political economy literature typically tries to predict, on the basis of a specific reform impulse, the trajectory of institutional change given the complementarity of institutions and their coevolution along a specific growth regime. CPE research has produced interesting insights with regard to the different trajectories of renewable energy deployment across different institutional constellations (e.g. Četković and Buzogány 2017, Nahm 2021). For example Jonas Nahm argues that “some EU varieties of capitalism face less structural constraints than others and are thus better equipped to achieve economic, social and environmental benefits from advancing renewable energy sectors” (2021, p. 652). Following the comparative political economic logic, such differences are driven by different terms of interactions between state, firms, labour and investors. CME economies such as Germany foster collaborative, broad-based innovation “coordinated and locally embedded government–industry–finance–science–society interactions”, whereas the absence of such a nurturing environment has hindered RES development in the UK (LME) (Četković and Buzogány 2017, Bernauer and Bohmelt 2013, Lachapelle and Paterson 2013). The institutional set-up in Central and Eastern economies, Četković and Buzogány argue, limits the renewable industry growth and innovation potential. Specific factors they point to are: “lack of transparency and policy stability, high corruption, weak state capacity, low environmental awareness, financing constrains and strong state involvement in the traditional power sector” (2017, p. 651). Given that sustainability transition requires wider change along various institutions, further analysis of how sustainable finance is operationalised across different capitalist regimes may facilitate our understanding of the transformative power of law in different institutional context and whether the project may be significantly more suited to particular institutional constellations.

5. Conclusions

This paper develops a framework for the analysis of the impact of EU’s harmonising sustainable finance regulations across a heterogenous institutional context. Sustainable financial instruments, furthered and shaped by EU regulations, alter existing relationships and create new (power) dynamics in the service of the long-term transition to net zero. Focusing on the specificity of transition finance in particular, it is argued that since sustainability transition implies new forms of coordination and control between firms, state and finance, different types of socioeconomic systems will be differently affected. This insight – obvious on the surface – raises profound questions about how law interacts with other socioeconomic institutions in the context of transformational change.

The already visible differences in the uptake of sustainable finance project are likely to accentuate rather than lead to a convergence of the transition across the EU, especially in an unstable economic environment. Consequently, from the perspective of achieving EU goals of climate neutrality it is

important to gain further understanding into the mechanics of the impact of EU's sustainable finance project on national economies with view to possibly develop a further set of institutionally contingent policies to support the achievement of policy objectives.

From a wider perspective, the paper shows how finance can be used as a lever for socioeconomic transformation, furthering and developing new dimensions of the financialisation process. Since regulation structures the market, codes the market relationships, it can be used to change the socioeconomic paradigm. Nevertheless, tinkering with the nerve system of capitalism regime without cognisance and acknowledgement of potential differences in local institutional adaptations may lead to unforeseen – and potentially counterproductive – consequences. Conversely, an understanding of the institutional contingency of sustainable finance can help develop complementary measures to support policy objectives.

References

- Adamski, D. (2018). *Redefining European Economic Integration*, Cambridge: Cambridge University Press.
- Ahlborn, M., Ahrens, J. and Schweickert, R. (2016) 'Large-scale transition of economic systems – do CEECs converge towards western prototypes?', *Comparative Economic Studies* 58(3): 430–54.
- Ahlström, H., & Monciardini, D. (2021). *The Regulatory Dynamics of Sustainable Finance: Paradoxical Success and Limitations of EU Reforms*. *Journal of Business Ethics*. Online first publication, February 2021.
- Alessi, L., Battiston, S., Melo, A.S. and Roncoroni, A. (2019), *The EU sustainability taxonomy: a financial impact assessment*, Joint Research Centre Technical Report.
- Alexander K. & Fisher P. (2019). 'Banking Regulation and Sustainability', in F.-J. B. van den Boezem, C. Jansen & B. Schuijling (eds.), *Sustainability and Financial Markets*. Deventer: Wolters Kluwer.
- Amable, B. (2003). *The diversity of modern capitalism*. Oxford: Oxford University Press.
- Ámon A., Popp R. & Heilmann F. (2020). *The Political Economy of Energy in Central and Eastern Europe: Supporting the Net Zero Transition*, E3G Report, 30 January 2020.
- Arent, D., Arndt C., Miller M., Tarp F. and Zinaman O. (2017). *The Political Economy of Clean Energy Transitions*, Oxford: Oxford University Press.
- Armour et al 2022, <https://www.law.ox.ac.uk/business-law-blog/blog/2021/07/corporate-carbon-reduction-pledges-beyond-greenwashing> ; <https://www.law.ox.ac.uk/business-law-blog/blog/2022/06/dark-and-dirty-assets-greening-climate-driven-asset-partitioning>
- Bernauer, T., & Boehmelt, T. (2013). Are economically 'kinder, gentler societies' also greener? *Environmental Science and Technology*, 47, 11993–12001
- Bohle, D., & Greskovits, B. (2012). *Capitalist Diversity on Europe's Periphery*, Ithaca: Cornell University Press.
- Burroni, Luigi, Emmanuele Pavolini, and Marino Regini, eds. *Mediterranean Capitalism Revisited: One Model, Different Trajectories*. Cornell University Press, 2021.
- Ćetković, S., & Buzogány, A. (2016). Varieties of capitalism and clean energy transitions in the European Union: When renewable energy hits different economic logics. *Climate Policy*, 16(5), 642–657.
- Chadwick, A. (2017). Regulating excessive speculation: Commodity derivatives and the global food crisis. *International and Comparative Law Quarterly*, 66(3), 625-655.
- Chang, Y., Garoupa, N. & Wells, M. T. (2020). Drawing the Legal Family Tree: An Empirical Comparative Study of 170 Dimensions of Property Law in 129 Jurisdictions, *Journal of Legal Analysis* 12.
- Coen, D and Héritier, A (2005). *Refining Regulatory Regimes: Utilities in Europe*. Cheltenham: Edward Elgar.
- De Haas R. and Popov A. (2019) *Finance and carbon emissions*, ECB Working Paper No 2318.
- De Serière, V. (2020). Idealism or realistic approaches? Regulatory possibilities to require financial institutions to more substantially contribute to achieving climate goals? An overview. *Journal of International Banking Law and Regulation*, 35(3), 94–106.
- Deakin S. and Pistor K. (2012) *Legal origin theory*. Cheltenham: Edward Elgar.
- Deakin, S., Gindis, D., Hodgson, G. M., Huang, K., & Pistor, K. (2017). Legal institutionalism: Capitalism and the constitutive role of law. *Journal of Comparative Economics*, 45(1), 188–200.
- Esposito, L., Gatti, E. G., & Mastromatteo, G. (2019). *Sustainable finance, the good, the bad and the ugly: A critical assessment of the EU institutional framework for the green transition*. Milan: Dipartimento di Politica Economica, Università Cattolica del Sacro Cuore.
- Feichtner, I. (2020). *Law of Natural Resource Extraction and Money as Key to Understanding Global Political Economy and Potential for Its Transformation*. In P. Kjaer (Ed.), *The Law of Political Economy: Transformation in the Function of Law* (pp. 152-180). Cambridge: Cambridge University Press.
- Grewal D, Kapczynski A & Purdy J. (2017). *Law and Political Economy: Toward a Manifesto*, 6 November 2017, available at: <https://lpeblog.org/2017/11/06/law-and-political-economy-toward-a-manifesto>.
- Grittersová, J. (2013). Non-market cooperation and the variety of finance capitalism in advanced democracies. *Review of International Political Economy*, 21(2), 339–371. doi:10.1080/09692290.2012.742920
- Grundmann, S. (2015). *The Banking Union Translated into (Private Law) Duties: Infrastructure and Rulebook*. *European Business Organization Law Review*, 16(3), 357–382.
- Grundmann, S. & Micklitz, H.-W. (eds.) (2019). *The European Banking Union and Constitution: beacon for advanced integration or death-knell for democracy*, Oxford: Hart Publishing.

- Grundmann, S., Petit, C.-A., & Smoleńska, A. (2017) 'Bank Governance', in: F. Barrière, (ed.), *Le traitement des difficultés des établissements bancaires et institutions financières: approche croisée*, Paris: LexisNexis.
- Guidi, M., Guardiancich, I., & Levi-Faur, D. (2020). Modes of regulatory governance: A political economy perspective. *Governance*, 33(1), 5–19.
- Hall S. and D. Soskice, (eds.) (2001). *Varieties of Capitalism: The institutional foundations of comparative advantage*, Oxford: Oxford University Press.
- Hardie, I., Howarth, D., Maxfield, S., & Verdun, A. (2013). Banks and the false dichotomy in the comparative political economy of finance. *World Politics*, 65(4), 691–728.
- Hancké, B., Rhodes, M., & Thatcher, M. (Eds.). (2007). *Beyond varieties of capitalism: Conflict, contradictions, and complementarities in the European economy*. OUP Oxford.
- Hay, C. (2020). Does capitalism (still) come in varieties? *Review of International Political Economy*, 27(2), 302–319.
- Héritier, A. & Schoeller, M. (eds.) (2020) *Governing Finance in Europe: A Centralisation of Rulemaking?*, Cheltenham: Edward Elgar Publishing.
- Hofmann, H., Pantazatou, K., & Zaccaroni, G. (Eds.). (2019). *The Metamorphosis of the European Economic Constitution*. Cheltenham: Edward Elgar.
- IPCC (2022), *Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, P.R. Shukla, J. Skea, R. Slade, A. Al Khourdajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.), CUP, Cambridge,
- Kennedy, D. (2006) 'Three Globalizations of Law and Legal Thought: 1850–2000' in D. Trubek & A. Santos (Eds.), *The New Law and Economic Development: A Critical Appraisal*. Cambridge: Cambridge University Press.
- Kjaer, P. (ed.). (2020). *The Law of Political Economy: Transformation in the Function of Law*. Cambridge: Cambridge University Press.
- Kukovec, D. (2015). Law and the periphery. *European Law Journal*, 21(3), 406–428.
- La Porta R., López-de-Silanes F., Shleifer A. & Vishny R. (1998) Law and Finance, *Journal of Political Economy* 106: 1113.
- Levi-Faur, D. (2017) *Regulatory Capitalism, Regulatory Theory: Foundations and applications*, Drahos, P (ed).
- Markard J., Raven R., Truffer B., (2012) Sustainability transitions: An emerging field of research and its prospects, *Research Policy* 41(6), 955-967.
- Mattei U. and Haskell J. (2017) *Research Handbook on Political Economy and Law*, Cheltenham: Edward Elgar.
- Menz, G. (2017) *Comparative Political Economy*, Oxford: Oxford University Press.
- Mertens, D., & van der Zwan, N. (2020). *Routledge International Handbook of Financialization*. Abingdon: Routledge.
- Nölke, A. & Vliegthart, A. (2009). Enlarging the varieties of capitalism: The emergence of dependent market economies in East Central Europe. *World Politics*, 61(4).
- North D. (1990). *Institutions, institutional change, and economic performance*. Cambridge: Cambridge University Press.
- Piketty, T. (2020). *Capital and Ideology*, Harvard: Harvard University Press.
- Pistor, K. (2013). A legal theory of finance. *Journal of Comparative Economics*, 41, 315–330.
- Pistor, K. (2019). *Code of Capital*, Princeton: Princeton University Press.
- Rapacki, R. (ed.) (2019). *Diversity of Patchwork Capitalism in Central and Eastern Europe. Diversity of Patchwork Capitalism in Central and Eastern Europe*, Abingdon: Routledge.
- Rodrik, D. (2011). *The Globalization Paradox: Why Global Markets, States, and Democracy Can't Coexist*. Oxford: Oxford University Press.
- Scharpf, F. W. (2010). The Asymmetry of European Integration: or why the EU cannot be a 'social market economy. *Socio-Economic Review* 8: 211-250.
- Schoenmaker D. & Schramade W. (2018). *Principles of Sustainable Finance*. Oxford: Oxford University Press.
- Schweickert, Rainer et al. (2013) : *Large-Scale Transformation of Socio-Economic Institutions - Comparative Case Studies on CEECs. Interim Report, WWWforEurope Working Paper, No. 16.*
- Shapiro, M. & Stone Sweet A. (2002). *On Law, Politics and Judicialisation*. Oxford: Oxford University Press.
- Shive, S., Forster M. and Scheinkman J. (2020) "Corporate Governance and Pollution Externalities of Public and Private Firms," *Review of Financial Studies, Society for Financial Studies*, vol. 33(3), pages 1296-1330.

- Siems, M. (2019). The Power of Comparative Law: What Types of Units Can Comparative Law Compare?. *The American Journal of Comparative Law* 67(4): 861–888.
- Siems, M., & Deakin, S. (2010). Comparative Law and Finance: Past, Present, and Future Research. *Journal of Institutional and Theoretical Economics JITE*, 166(1), 120–140.
- Smoleńska, A. (2021). ‘Governing EU banks after the Great Financial Crisis: from regulation to governance’, in *The Legacy of the Global Financial Crisis*, Y. Cassis and J. van Helten (eds.), London: Bloomsbury.
- Streeck, W. (2014). *Buying Time. The Delayed Crisis of Democratic Capitalism*. London: Verso.
- Teubner, G. (2003). ‘Legal Irritants: How Unifying Law Ends up in New Divergences’ in S. Hall & D. Soskice, (eds.), *Varieties of Capitalism*, Oxford: Oxford University Press.
- Tienhaara, K. (2014) Varieties of green capitalism: economy and environment in the wake of the global financial crisis, *Environmental Politics*, 23:2, 187-204
- Vogel, S. K. (2018). *The Marketcraft Thesis. Marketcraft: How Governments Make Markets Work*, Oxford: Oxford University Press.
- Wilkinson M. and Lokdam H. (2018) *Law and Political Economy*, LSE Law, Society and Economy Working Papers 7/2018 London School of Economics and Political Science Law Department.
- Zysman, J. (1983). *Government, Markets and Growth: Financial Systems and the Politics of Industrial Change*. Ithaca: Cornell University Press.