Generalising the political economy of structural change: A Structural Political Economy approach

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Abstract

The paper builds on the classical understanding of the interplay between material processes and political conflicts, but generalises it in several key respects. This approach does not assume relevant political-economic aggregations ex ante (such as industries or 'classes'); rather, it explores different possible ways of aggregating social groups and defining their interests depending on the situation under investigation. Moreover, interdependencies in the economy impose the need to keep conflicts within boundaries that are compatible with the viability of the system. Because sectors and groups can be aggregated in different ways, dynamics also depends on how actors represent the system and their position therein, and hence what they understand their interest to be. Different representations give rise to different definitions of competing interests and viability requirements, which in turn generates different endogenous dynamics of the political-economic system. The approach is illustrated through the examples of the Eurozone crisis and Covid-19 crisis.

Keywords: Political economy of structural change, Structural Political Economy, Eurozone, Systemic interest, Special interest groups

JEL codes: B12, D70, F45, L16, P16

1. Introduction

In classical political economy and modern structural economic analysis, structural change is typically seen as resulting from the interplay between changes in material and technical conditions of production on the one hand, and changes in distribution of surplus between classes defined on the basis of the type of income received (wage, profit, rent) on the other hand (Smith, 1976 [1776]; Ricardo, 1951a[1817]; Marx, 1978 [1885]; von Neumann, 1945-46; Pasinetti, 1981; Quadrio Curzio, 1986; see Landesmann, 2018).

Structural Political Economy (Cardinale, 2015, 2017, 2018b; Cardinale and Landesmann, 2017; Cardinale, Coffman and Scazzieri, 2017; Cardinale and Scazzieri, 2019) draws on the aforementioned tradition in that it detects sectoral interdependencies, draws implications for social groups including those derived from income distribution and their roles in the productive system, and traces the impact they have on the dynamics of the economy. However, it proposes a broader framework of analysis that makes it possible to study political aspects in a more comprehensive way. This framework has three key analytical features.

First, it considers the political relevance of a number of potential social aggregates—not only classes but, for example, social groups defined by the industries (or 'sectors') in which they operate. Such sectors can be variously defined, e.g. on the basis of output they produce (i.e., industries) or different inputs they rely on (such as energy, public goods, infrastructure, etc.). In what follows, we will call 'sectors' all aggregations of firms, and 'social groups' the aggregations of economic actors that are

not based on firms, such as organizations of workers, voters, households, territorial entities, etc.[1,2] The analysis considers both what Truman (1951) calls manifest interest groups, which are already organised to influence policy-making, and potential interest groups, which are not organised at a given moment but could do so under certain conditions. This makes it possible not to assume *ex ante* which aggregations will actually form out of the many that are possible in a given situation.

This leads to the second fundamental feature of the SPE approach. Understanding how actors act in the political sphere to pursue their economic interests requires determining what such interests are. However, it can be shown that an actor's interest cannot be taken as given, but it depends on the representation of the system that one adopts. For example, Cardinale (2018a) shows that in a Sraffa system (Sraffa, 1960), which assumes uniform rates of wage and profit, labour appears as a uniform pool, and so does capital. The result is that workers are likely to be seen as having a common objective (increasing the share of surplus that goes to wages) against capitalists. But if one adopts an open Leontief system (Leontief, 1941), where no assumption of uniformity of wage and profit is made, then what is salient is the potential conflict between industries concerning where value added is formed,[3] irrespective of how it is then distributed between profits and wages (and rents) within each industry. In this case, potential conflict between industries becomes visible.[4] This reasoning holds from the viewpoint of actors as well: how actors construe their interest and how they act upon it in the political sphere depends on how they represent the system within which they act, and their position therein.

Third, the SPE perspective highlights the political dimension of economic interdependencies, and in particular the limits they impose on the pursuit of particular interests. In the limit, such interdependencies express themselves in terms of a 'systemic interest' in the viability and, more generally, the mode of functioning of the system as a whole (see Cardinale, 2015, 2017, 2018a, 2018b).

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[1] Of course, social groups and sectors can overlap, for example because firms could be part of territorial entities (firms' geographical location also exposes them to the destinies of territorial entities), and because receivers of profit are also voters. But such overlaps are instances of the fact, which we discuss below, that each economic actor may belong to different potential aggregations, so that their economic interest cannot be assumed ex ante .

[2] In Quesnay's (1972 [1759]) *Tableau économique*, the relevant social aggregations were defined on the basis of economic activities, i.e. broadly the equivalent of what we would call industries in modern language (which, in this paper, are in turn seen as one possible way of aggregating firms into sectors), which were linked together by the interdependencies of the "circular flow" (see also Leontief, 1991 [1928]). In contrast, for the classical economists and Marx, the relevant political-economic aggregations were classes defined by income type. Modern structural economic analysis (Leontief, 1941; von Neumann, 1945-46; Sraffa, 1960) has developed the analysis of the circular flow with modern techniques, but has not considered the possibility that sectors may constitute relevant political-economic aggregations. Doing so is a key aim of the SPE approach. In this paper, in particular, we consider both sectors and classes as potentially relevant political-economic actors, but we allow for different ways of defining sectors and classes in different contexts, as described in the text.

[3] Such interest formation at the sector level and conflicts of interest between sectors could result from a common interest in pricing power (on the output and input markets), the relative dependence on essential (and scarce) inputs that might be privately or publicly supplied (e.g. infrastructure) and an industry-based interest in furthering innovation and productivity growth in their sector that would contribute to value added growth.

[4] It can be shown that, in a Leontief open system, there is a certain range within which prices must remain; outside of those, distribution of value added would prevent some industries from continuing production—and this would make the whole economy unviable (Steenge and van den Berg, 2001). But within that range, different sets of prices are possible, each being associated with a particular distribution of value added across industries. Hence, there is the possibility of conflict, in order to obtain policies that influence prices, but also a limit to conflict, because prices must remain within the range compatible with viability.

This paper puts forward an SPE analysis of structural change. It outlines a dynamic model that traces how structural change results from the interaction between the actions of social groups and the material interdependencies that characterise at any point in time the 'structures in existence'. Structural change involves changes in productive interdependencies as well as in income distribution. Classical political economy was particularly interested in how income distribution affects expenditure patterns and thereby output structure. SPE goes further in the analysis. It examines how structural change is initiated by 'forward-looking' activities at the sector level which, in the first place, include investment of all types (in physical and human capital, R&D, etc.) but also includes pressure on public policies, and how different social groups react in the political sphere to distributional outcomes and to other structural changes, such as provision of public goods, employment outcomes, etc. These political reactions can impact on the programmes of political parties, the formation of electoral coalitions, electoral outcomes, etc.[5] They also have effects on international interdependencies and on conflicts (but also cooperative efforts) in international relations, which again influence the dynamics of (national) economies.

By doing so, our model brings into a coherent framework economic and political processes, involving sectors and social groups variously defined depending on the situation under study, how they are located in economic structures and the webs of interdependencies that define such structures, and how they are affected by and have an impact on structural change. The model traces sectoral and group interests and how these get widened through the experience and perception of systemic interdependencies.

In the remainder of the paper, we proceed as follows. Section 2 outlines the key features of an SPE approach to structural change. Section 3 presents the key model of the paper. Section 4 illustrates the argument with reference to some key issues of European integration. Section 5 draws implications for the study of structures and transformations. A brief section concludes.

2. Structural change from an SPE perspective

In structural economic analysis, each representation of a given economy is characterized by a definition of its relevant components, which defines the units of analysis, and their interdependencies, which determine the working of the economy (Baranzini and Scazzieri, 2012a, 2012b; Landesmann and Scazzieri, 2012). For example, firms can be aggregated on the basis of their being involved, directly or indirectly, in the production of a given output (Pasinetti, 1973), based on their reliance on different scarce resources (Quadrio Curzio, 1986), by exposure to export markets (i.e., to final and intermediate external demand) as opposed to domestic markets, on the basis of their contribution to innovation (high- vs. low- tech), and so on.

Each representation can be used for the purposes of political-economic analysis. In fact, each representation defines firms' aggregates and social groups and their position in the system, and hence the fundamental interdependencies and potential conflicts in the economy. For example, in von

[5] In the paper, we do not consider cases in which forward-looking behaviour is expressed by different actors, such as public authorities, except when their actions represent the interests of sectors or other social groups. The reason is that the purpose of our paper is to develop the classical understanding of how structural change takes place endogenously as a result of the behaviour of actors located within economic structures. Hence, we focus on structural change initiated by the political-economic actions of sectors and groups as defined above.

Neumann's model, the fundamental trade-off between profit and the cost of subsistence of workers determines the maximum rate of growth of the economy (von Neumann, 1945-46).[6] Sraffa (1960), in contrast, calls attention to the conflict between profit and wage concerning distribution of a given net product. Another example is the distributive conflict between wages, profits and rents in Quadrio Curzio's (and earlier, David Ricardo's) model of a growing economy subject to scarcities (Quadrio Curzio, 1967, 1986; Quadrio Curzio and Pellizzari, 2009; see also Quadrio Curzio and Pellizzari, 2018; Scazzieri et al., 2015). However, as mentioned above, in other models conflicts could take place between industries. For example, in an open Leontief model, the fundamental conflict could be about the formation of value added in different industries (see Cardinale, 2018a).

However, the existence of interdependencies between sectors gives rise to system-wide constraints that have implications for conflicts and complementarities of sectoral interests. For example, interdependencies derive from the price system. In fact, in each sector, the choice of technique depends on the price system of the whole economy, which in turn depends on each sector's choice of technique that minimises cost. This in turn shapes the distribution of value added across sectors, which depends on the price system. The evolution of a certain system of relative prices thus benefits certain sectors and, by affecting their unit costs, harms others. Furthermore, if we move away from a perfectly competitive situation, differential mark-ups in different sectors again affect input costs but also profit rates and the distribution of value added and of scarce resources across sectors in an economy.

Interdependencies can be seen as imposing limits on each social group's pursuit of its particular interest. The interest of each group in ensuring the viability of the system of interdependencies can be called 'systemic interest'; it can be seen as a constraint on the pursuit of sectoral interest in a narrow sense.[7] But since clusters of interdependencies can be found between a group of industries, within a region, a country, at the supranational level, and potentially at the global level, different definitions of systemic interest are possible. This means that a given economic structure makes it possible to identify systemic interest in various ways and at different levels. Which form of systemic interest prevails in a given situation is likely to depend on existing economic structures as well as the representation of the economy adopted by relevant sectors and social groups; it also depends on the existence of institutional platforms of coordination that make it possible to act upon such systemic interest. Defining sectoral interests in a broader sense requires taking account of interdependencies of sectors (for example through the system of relative prices, but also through the distribution of aggregate demand – and its components – across sectors).

[6] We refer here to a trade-off rather than an explicit conflict because von Neumann's model assumes that "[workers] do their work in return for rations of shelter, fuel, food and clothing. […] The costs of labour thus consist of the goods which maintain the workers" (Champernowne, 1945, p. 12). In other words, in that model workers are only considered from the viewpoint of the technology of the system (that is, its conditions for reproduction) but not from the viewpoint of distribution.

[7] A fundamental notion of viability has to do with whether the system can reproduce its inputs and grow at a non-negative rate (Hawkins and Simon, 1949). However, the concept can also be understood more broadly. For example, in a competitive international scenario, different growth paths of different national economies, which might all be positive and therefore satisfy the viability condition in the narrow sense, might nonetheless make economies that move along a lower growth trajectory 'non-viable' in the long-run as they might lead to more and more of the 'global surplus' to be taken out of them, especially if the more competitive economies use their market power to turn terms of trade more and more in their favour. More generally, the concept of viability that is relevant for the analysis depends on the model adopted (for example, in an open economy an important aspect of viability depends on the sustainability of external accounts and debt positions) and the timeframe considered (for example, environmental constraints on viability typically emerge in the long run).

In the evolution of sectoral interest in a broader sense, there will also be a gradual process of recognition of the relevance of these systemic 'interdependencies', initially at the local – partial – level, and gradually evolving to include wider and wider regions and dimensions (such as through the price system, dependence on the level and composition of demand, the relative availability of infrastructure and general public goods, etc.). This recognition of systemic interdependencies will in turn shape the type of 'political action' that different sectors would take, both regarding how they conceive of the sector's own interest but also with regard to common interests (or conflicts of interest) across sectors.

Of course, as economic structures change, the salient definitions of systemic interest could also move from wider to narrower ones. For example, if creation of a wider market leads to industrial concentration in some areas, it is possible that sectors in those areas will understand systemic interest as the preservation and furthering of that cluster of interdependencies, rather than as an interest in the dynamics of the national economy. Of course, there will still be interdependencies with the national economy, but these might be evaluated as being less relevant than those within the areas of industrial concentration—especially if its external interdependencies tend to lie outside the national economy. As a result, those sectors might support policies that strengthen those areas irrespective of their effects at the national level.[8] The same type of argument can be made in relation to sectoral interest defined at the regional (sub-national) level that might become more (rather than less) prominent as a result of closer regional clustering of economic activities, for example with regions competing more strongly for locational infrastructural and other advantages.

As we mentioned above, a model's assumptions have direct implications for the definitions of interests it suggests. For example, let us consider, on the one hand, models that make assumptions that lead to see classes in homogenous terms, such as assumptions regarding a uniform rate of profit and uniform wage rate (such as the von Neumann or Sraffa models); and, on the other hand, models that do not make such assumptions, and hence allow for 'sectoral interests' to become apparent (such as the open Leontief model). In the latter case, sectoral interests can play an important role in affecting relative price structures (through their relative market power) and their impact on the generation and appropriation of 'systemic surplus' across sectors and social groups within sectors. This in turn has an impact on 'viability' of the system as different 'appropriations' of the systemic surplus and its uses have an impact on growth patterns.

This principle can be explored in dynamic contexts too. For example, the fundamental conflict depends on whether one allows for the possibility of differentiated profit rates (and possibly wage rates across sectors), or whether one assumes 'competitive' conditions, i.e. a uniform profit rate across sectors (see Pasinetti, 1981). In the former case, the conflict could be between wage and profit as well as between sectors (Cardinale, 2018a). In the latter case, the conflict would only be between wage and profit. In Pasinetti's model, systemic interest could be associated with satisfying what he calls the 'fundamental macroeconomic [equilibrium] condition', which guarantees full employment and full capacity utilization. It must be noted, however, that in this model the system could be viable also if the macroeconomic condition is not met—in the sense that this would not impede the capacity of the

[8] In principle, those policies should consider interdependencies at the national level, but such interdependencies might end up being defined in a minimal way – or even ignored – if sectors' representation of the system mostly focuses on interdependencies outside the national economy. We shall return to a discussion of this issue in Section 4 of this paper when discussing tensions in defining systemic interest at national, European or global levels.

system to carry out production indefinitely, but it would simply lead to a path that does not fully meet the collective objectives of full employment and full capacity utilization.

A key feature of our analysis is that we distinguish between sectors, whose action tends to be 'forward-looking' (i.e., aggregations of firms across industry lines, sectoral or regional lines, and so on), and social groups, whose actions tend to be reactive (i.e., other social groups). The rationale is that a key activity of firms is 'investment', which is driven by expectations about variables that influence the rate of return of investment. Other social groups, on the other hand, respond mostly to actual outcomes (such as to income or employment), hence on the *observed* effects of investment activities, of interdependencies, and of induced system dynamics, including the effects of public policy and international integration. Hence, we can expect different actions in the political sphere: firms' lobbying is oriented to future outcomes, whereas political reactions of social groups and their electoral behaviour largely respond to observed outcomes. While social groups in the economic and political arenas also form expectations about how future developments will affect them, a good deal of their efforts goes in the direction of dealing with and (politically) reacting to the impact that such developments have.[9] This implies that sectoral-interest politics precedes electoral politics as certain 'thresholds' have to be crossed for the impact of social group interest politics to become an issue at the electoral political level. In our model, this assumption generates leads and lags in the political actions of the carriers of different economic interests.

The distinction between forward-looking and reactive behaviour, and the differential impact of structural change on different sectors and groups is the key reason why, depending on their positioning in the economy, we can expect different sectors and groups to act (at a given time) as 'forces of change' or 'resistances to change'.[10] In the model we put forward in this paper, sectors' and groups' political and economic actions depend on their understanding of their particular interests as well as of systemic interest (see also Cardinale and Scazzieri, 2019). But the particular interests of each group/sector depend on positioning within an economic structure, which depends on how they develop a representation of the economic system (i.e., how sub-entities and their interdependencies are identified). The same holds for systemic interest, which is an interest in the viability of the system and therefore depends on how the system is represented, because each representation prescribes different requirements about systemic coherence. This has important analytical consequences. First, observed political and economic actions are only specific realizations out of the many that are possible in principle, because interests cannot be defined a priori but depend on actors' interpretation of the system and of their position therein—and hence of congruence requirements. Second, a given system could evolve in different ways (both in terms of endogenous forces of change and of responses to exogenous shocks), depending on actors' representations of the system, and hence of the consequences of endogenous or exogenous changes. Third, if different actors adopt different

[9] There are certain equivalents for actors such as workers and public authorities to the investment activities of firms, such as the setting up of trade union structures to equip groups of workers to deal with and influence the outcomes of certain economic developments, or the setting up of administrative structures and programmes by public authorities to support certain activities and react to possible negative (social) impacts of other economic developments. But the forward-looking part of these agents' actions is not usually as central to their behaviour as it is to that of firms. See also footnote 5.

[10] This distinction is related to that between 'progressive' and 'regressive' coalitions that are formed around the introduction of technological innovations (Bianchi and Miller, 1996). In that case, the relevant interdependencies are between different productive processes that would be affected by technological innovations. This is a critical application of the general principle of concentrated benefits and diffused costs (Olson, 1965), which we also discuss in Section 3.

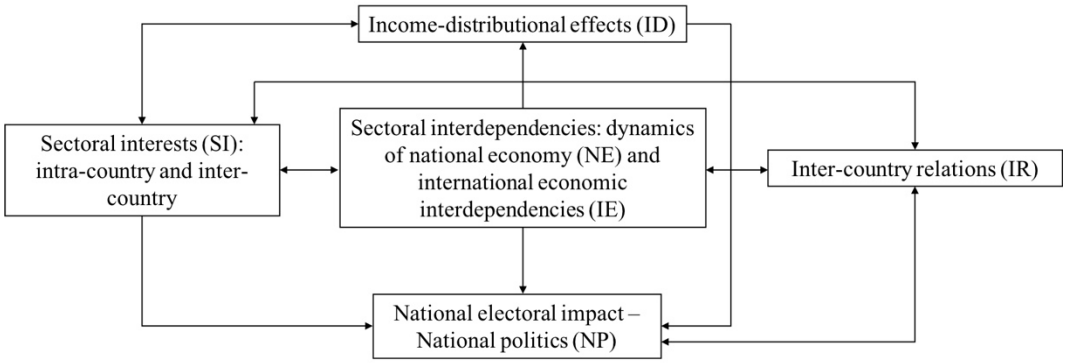
representations of the system and of systemic interest, it becomes less likely that their actions are mutually compatible in the preservation of viability of the system.[11]

3. The framework

In this section, we outline a framework that brings together political economy processes that have been studied in the economic and political literature to varying extents, and outlines a dynamic interpretation based on the SPE perspective discussed in the previous section. The framework can be represented through the following 'diamond':

Figure 1: The 'diamond'

[11] Within the tradition of structural economic dynamics, a different approach to the interface between economic and political aspects is Lowe's *political economics* (Lowe, 1976). This approach emerges from Lowe's *instrumental analysis* whereby, given an initial state of the system and a final state taken as a goal, it is possible to specify alternative trajectories with different features, such as maximising adjustment speed, minimizing resource waste, etc. Lowe stresses that doing so requires moving from *pure economics* to *political economics*, because (i) "the goals to be subjected to instrumental analysis are the value-laden outcome of a political decision and are as such beyond the concern of the analyst" (Lowe, 1976, p.14); and (ii) the analysis must consider the "influence of the environmental forces or [indicate] the manner, in which these forces can be reoriented so as to harmonize with the required behaviour" (ibid.) that is necessary to pursue the chosen trajectory of change. There are two fundamental differences between Lowe's approach and ours. First, our analysis is largely positive rather than normative. In fact, we do not take the perspective of a policy-maker who tries to achieve a systemic objective, but we aim to explain why different dynamic trajectories take place. Second, we do not consider a single objective – that of a policy-maker – but the plurality of objectives of different actors, each of whom might represent the system differently and pursue different objectives; on that basis, we aim to explain the systemic dynamics that ensue. Of course, our approach can also provide a basis for normative analysis insofar as it makes it possible to discover viability conditions and hence forms of systemic interest that actors must take into account. There is also another, more recent approach called *political economics* (see Persson and Tabellini, 2000), which derives not from the structural analysis tradition but from the application of rational choice theory to problems of a political-economic nature. This is a rich and diverse research programme, and it is beyond our scope in this paper to fully articulate the differences vis-à-vis our approach. At first approximation, some aspects of that literature could be relevant for our approach – and are indeed inspired by some of the foundational works we discuss in Section 3 – but there are also important differences. In very general terms, that literature aims to explain economic policy as the result of "modeling policy choices as the equilibrium outcome of a well-specified strategic interaction among rational individuals" (Persson and Tabellini, 2000, p.2). SPE too is concerned with the actions of political-economic actors, though not within the framework of rational choice theory narrowly defined but rather within a broader theory of action that is compatible with structural economic analysis (see Cardinale, 2018b; Cardinale and Scazzieri, 2019; see also Section 5 of this paper, where we discuss what factors might shape actors' representations of the system). More specifically, in this paper we are interested in interactions that are often not 'well-specified', because (i) different political economic-actors – typically not individuals, but social aggregates – may adopt different representations of the system and their positions therein, and different dynamics ensue from different representations and actions; and (ii) the effects of some actors' decisions on other actors are often observed *with a time lag*, so that many actions are made without interaction with other actors who are affected by them (see Section 3). Finally, at a more general level, we are interested in the dynamic interplay between political-economic actions and the changing viability conditions imposed by economic structures, which shape actions and are shaped by them in turn.



The basic idea behind this 'diamond' (if we adopted a 'closed economy' version of this framework, it would be a 'triangle' without the IR corner, and without IE in the middle box) is that the formation of sectoral interests plays an important role in economic structural developments (investment, production, trade, innovation, employment) as well as in influencing policies at national, supranational and global levels.

We start from a brief overview that does not aim to be exhaustive but rather to give an idea of the processes involved, before proposing an SPE interpretation.

The processes connecting NE/IE to the other variables are relatively well studied, although in separate literatures that are not often brought together.

NE/IE → ID. The impact of structural developments on income distribution is a classic theme in economic analysis. The first comprehensive formulation studied how a growing economy, which requires the cultivation of less and less fertile land, displays an increase in the share of labour devoted to agriculture and in the share of net product appropriated by rent, so that profit declines over time (Ricardo, 1851a [1817]). Further, modern structural dynamics theory has studied, for example, income distribution in a multi-sectoral economy in which sectors grow at different rates due to changes in technology and consumer preferences, thereby determining which profit rate would ensure compatibility between full employment and structural change (Pasinetti, 1981), and the complex dynamics of wage, profit and rent in a multi-sectoral economy with scarce resources (Quadrio Curzio, 1986).

ID → NP. The effects of income distribution on national politics have been studied from many angles. For example, an early exploration of the political consequences of policies pursuing full employment led to the idea of a political business cycle due to influence of industrial and rentier interests on government spending, without explicit reference to the role of elections (Kalecki, 1943). Another line of research developed rational-choice models based on the median voter, where candidates or parties vie for votes by offering policies demanded by voters (Downs, 1957; Wittman, 1973; Roemer, 2001). This approach has also originated a theory of political business cycles based on elections; in its seminal formulation, incumbent governments were seen as reducing unemployment before elections

to maximise their chance of re-election, and letting it rise after elections (Nordhaus, 1975). An important source of changes in income distribution is exposure to trade (Stolper and Samuelson, 1941; see also Rogowski, 1987) and its effects on voting have been seen as particularly relevant for the recent rise of anti-globalization movements and parties (Autor et al., 2020; Colantone and Stanig, 2018; Fetzer, 2019).

NE/IE → NP. The impact of sectoral interests and structural change on party policies and electoral outcomes has been studied, in contraposition to the median voter approach, by looking at sectors' investment in political influence (Ferguson, 1995; Ferguson, Jorgensen and Chen, 2018). Instead of starting from voters' preferences and seeing parties as competing to respond to those, this approach starts from the premise that only policies and candidates that can be financed (and which therefore constitute a good investment for sectors) will be presented to voters. Because of the size of the investment required, investing in political influence is largely a prerogative of firms and/or sectors. Industrial structure therefore has an important influence on the power blocs within parties and the policies they will pursue, and changes in industrial structure are expected to lead to changes in policies.

NE/IE → IR. The relevance of structural dynamics for inter-country relations has many aspects. For example, dependency theory linked the interdependencies between 'core' and 'periphery' economies to structural dynamics in the latter that would lead to persistent underdevelopment (Frank, 1967) or at most 'dependent development' (Cardoso and Faletto, 1979). The link between international division of labour and country-level development has inspired contemporary research on global value chains (see Ponte, Gereffi and Raj-Reichert, 2019). This approach emphasises the importance of a country's positioning in global value chains for the shares of value added that are created and retained within the country, and the potential conflicts that ensue. Another mechanism, which is particularly relevant in monetary unions, is that which links the dynamics of tradable and non-tradable sectors to external imbalances and the build-up of debt position. This can lead to asymmetric access to policy tools and potential adjustment paths, and therefore to tensions between countries on how to address crises (Cardinale and Landesmann, 2017).

Sectoral interests can also have direct effects on other variables, i.e. not mediated by NE/IE.

SI → NP. An important aspect of the influence of sectoral interests on national politics has been studied by the literature on special interest groups. Starting from the premise that organized groups can obtain concentrated benefits whose costs are diffused among the broader population (Olson, 1965), this literature studies how special interest groups obtain influence through activities such as lobbying and rent-seeking (Becker, 1985; Grossman and Helpman, 1994, 2001). While much analysis focuses on special interest groups' influence on national politics, those activities have also been documented at the supranational level, such as in the lobbying of European institutions (Coen, 2007; Coen and Richards, 2009; Klüver, 2013).

SI → ID.[12] An important type of conflict here is that between receivers of different types of income. A classic example is the conflict between capitalists and rentiers underlying Ricardo's advocacy of

[12] It is not straightforward to clearly distinguish this effect from the above, because presumably an important aspect of sectors' influence on political decisions has to do with obtaining higher income. However, here we may refer to analyses that focus on the effects of sectoral interests on income distribution without explicitly tackling how the efforts to influence are organised at the political level.

free international trade and criticism of the Corn Laws (Ricardo, 1951a[1817]; 1951b[1815]). Other conflicts may be between receivers of the same type of income, e.g. between sectors. For example, important conflicts in a monetary union are likely to be between tradable and non-tradable sectors for what concerns the dynamics of the real exchange rate, and between real and financial sectors for what concerns the winding down of debt positions (see Section 4 below; see also Cardinale and Landesmann, 2017). It can also be interesting to consider the reverse effect (ID → SI), i.e. the impact of income distribution on sectoral interests, which has been studied less extensively. For example, changes in income distribution and employment structures can lead to delocalization of production. As a result, the definition of the sector that remains in the country changes, and so does the articulation of its interest (e.g., it could shift from an integrationist to a national orientation) (Cardinale and Landesmann, 2017).

SI → IR. The impact of sectoral interests on inter-country relations has been documented to go back at least to British imperialism, for example by historians who have traced the influence of landed interests on the British expansion overseas between 1688 and 1850, and of commercial and financial interests from 1850 to 1945 (Cain and Hopkins, 1986, 1987). A different type of influence on cross-country relations has been explored in the literature on the political economy of trade policy, in particular in contributions that analyse the influence of special interests on protection of specific goods from international trade (see Grossman and Helpman, 1994). Sectoral interests can also affect foreign policy *tout court* because of its economic ramifications (e.g. McLean and Whang, 2014). Another aspect has to do with considering how the interests of sectors can influence decisions concerning crisis resolutions that directly affect economic relations between countries, such as in the case of the Eurozone.

The field covered by the aforementioned strands of literature is extremely vast; no framework could be comprehensive enough to encompass such a range of processes. Our aim is to explore a dynamic interpretation of the connections between some of those processes (the details of which could be addressed through the studies cited above), highlighting the role of sectoral interests and of the evolving definitions of systemic interest.

From an SPE perspective, a key source of endogenous dynamics has to do with how sectoral interest (SI) affect the evolution of economic structures at the national level (NE), and also interdependencies outside the country (IE). Through lobbying, sectors also directly try to affect policies at the national level (NP) and the intercountry and supranational level (IR). Change in economic structures (NE) in turn has effects on national politics (as some sectors will gain more weight than others, and some sectors might start supporting different policies) and on income distribution, which also influences national politics (e.g. through elections as well as influences on parties and other political organisations). Moreover, structural change (NE) can precipitate economic and political changes by challenging the continuation or viability of a particular growth path. The effects of structural change in a given economy can also have an international dimension, as they can generate or accentuate disequilibria in the balance of payments and hence the building up of credit-debt positions between countries. These in turn can put strain on relations between debtor and creditor countries (IR) and on supranational institutions, as well as lead to asymmetric adjustment processes.

The political responses to structural change and income distribution can also *feed back* on the formation and articulation of sectoral interests. Within-sector heterogeneity is likely to be important in this regard: different segments of a sector might be more or less affected by income distributional and aggregate developments. This can lead to changes in the definition of that sector's interest, and hence

to a different stance towards national policies and international policy frameworks. Such changes might also derive from a stronger recognition of inter-sectoral interdependencies and of systemic growth and viability conditions. These changes can have effects in national, international and supranational (such as EU/EMU) arenas. For example, sectors could lobby supranational institutions directly. Moreover, the impact of changing sectoral interests on national political positions impinges on inter-country relations (IR) and on the system of rules, regulations, joint policies and technocratic bodies on which supranational integration rests.

Two elements are central for the dynamic interpretation just outlined. The first is the *leads and lags* in the diamond's relationships for what concerns both economic and political effects. The reason for the leads and lags is that a core activity of firms in economic sectors is 'investment', which makes them *forward-looking*, in the sense that their actions are driven by expectations regarding variables which affect the 'rates of return' from investment activities. In fact, firms' actions, including lobbying, have to be oriented to exploit possibilities to expand its activities and pursue good returns on these activities. Social groups, in contrast, respond mostly to *observed* outcomes (such as income or employment), which are the result of investment activities (including public investment) and of the system dynamics that investment gives rise to. The electoral dimension is one sphere in which social groups respond to these outcomes.[13]

The second element is the relevance of *thresholds*. Because of their forward-looking behaviour, formation and articulation of sectoral interests (SI) will typically precede the income distributional (ID) and national electoral/political (NP) responses to structural economic developments. In fact, certain thresholds have to be crossed for the impact of sectoral interest politics to become apparent, and hence to become an issue at the electoral level. When the impact is below a certain quantitative threshold, it may not yet constitute an important enough issue to be considered from an electoral viewpoint. (Obviously politicians also respond to sectoral interests through various kinds of political influence). Once the effect of sectoral interests on economic structure have taken place, aggregate economic outcomes (e.g. macroeconomic imbalances) or strong income distributional and national electoral responses to economic developments could in turn lead to a re-definition and realignment of sectoral interests (both at national and international levels).

The dynamic interpretation outlined above has important consequences for the possibility to define and act upon systemic interest – and hence to preserve systemic viability. In fact, sectoral interests do not usually have full insight into the general interdependencies in the economy, especially in its effects over time—and neither do they take responsibility for it. As we said, the pursuit of interests through forward-looking behaviour leads to changes in economic structure. By the time the effects on social groups are perceived, economic structure is different, and the space of possibilities (i.e. what can be pursued through policy) is a different one. The result is that the full implications of forward-looking behaviour may be in many ways (and to varying extents) removed from the political arena, exactly because systemic implications are only perceived once the structure has changed. By then, (i) structural changes might be difficult to reverse, and/or (ii) systemic interest could have taken different forms, so that reverting to the previous structure might not be in the interest of a sufficiently large or influential coalition of groups. For example, guaranteeing high wages in order to achieve a sufficient level of domestic demand may be seen as a form of systemic interest by some influential sectors in a country. If over time cross-border integration makes those sectors significantly more export-oriented, domestic demand might be seen as less important. However, the effect is only visible after a certain

[13] See footnote 5.

threshold has been crossed. Once that has happened, high wages might be seen as detrimental to the tradable sector and therefore to an export-led growth trajectory; as such, they could be seen as incompatible with (this specification of) systemic interest. And neither is it necessarily easy or politically feasible to reverse structural changes.

The asymmetries discussed above are between sectors (which are forward-looking) and other social groups (which are not, or at least less so). But systemic interdependencies might also entail asymmetries between sectors, for what concerns their degrees of freedom for action. In fact, intra- and inter-sectoral interdependencies may constrain one sector more than another. For example, tradable and non-tradable sectors in a country are both subject to the systemic interest deriving from the constraints on external imbalances that guarantee the long-run viability of an open economy. However, if the constraint on external imbalances is violated, the two sectors might be affected asymmetrically. In fact, reducing debt positions might imply a long period of low domestic demand, which mostly hits the non-tradable sector, while causing an adjustment in the real exchange rate, which benefits the tradable sector (Cardinale and Landesmann, 2017).

Something similar can be said for what concerns interdependencies between countries. For example, in order to tackle a viability problem such as unsustainable external imbalances, some countries in a monetary union might need a high growth rate of the union as a whole, which requires coordination with other countries within the union. Other countries might instead be able to achieve a sufficiently high growth rate much more independently of the growth of the monetary union as a whole (though the latter would likely allow those countries to enjoy an even higher growth rate). The difference between these countries may lie in factors such as whether the country is a structural 'surplus' or a 'deficit' country, its degree of openness, the relative weight of its interdependencies with other countries within and outside the union, etc. In any case, it is likely that countries will be constrained asymmetrically by their interdependencies, and that this will imply different degrees of freedom for policy (Cardinale and Landesmann, 2017).

An additional consideration concerning whether systemic interest can help preserve viability is that, as discussed in Section 2, how sectors or groups understand their particular interests and systemic interest depends on how they represent the economic system and their position therein. This implies, first, that the dynamic patterns described above will differ depending on how sectors and groups represent the system; and, second, that if different sectors and groups represent the system differently, it is unlikely that they will converge on a shared understanding of systemic interest.

In sum, our framework suggests that, because of (i) the leads and lags and thresholds in economic and political effects, (ii) the asymmetries in how interdependencies constrain different sectors and countries, and (iii) the different representations that different sectors and groups might adopt, which lead to forming different understandings of particular and systemic interests, there is no reason to expect that the system will necessarily reach a 'spontaneous order' in which relevant groups, sectors and countries share a common specification of systemic interest and take it into account when pursuing their particular interests. What seems more likely is that, as a result of exogenous shocks as well as endogenous changes deriving from both forward-looking and reactive behaviour, the variables considered in our diamond will display continuous changes and feedback effects, giving rise to periods of higher vs lower integration, converging vs diverging dynamic paths, etc.

In principle, coordination of particular interests in view of systemic interest could be pursued by institutions associated with different levels of policy-making (local, national and supranational). For

example, technocratic bodies at various levels could in principle act as platforms in which bargaining between conflicting parties takes place and methods of conflict resolution are applied. They could therefore act as 'trustees of viability', i.e. ensure the sustained functioning of an economic and political system. However, a number of factors could prevent this from happening. For example, technocratic bodies' legally or constitutionally defined 'missions' could be too partial, in the sense of being geared to respond to some interests or some economic dynamics but not to address the systemic compatibility of interests and their dynamics as it results from the leads and lags described above. In addition, technocratic bodies might be carriers of specific views (i.e., specific representations of the system) which could make them less open to recognising forms of systemic interest that are different from those that their representations make apparent. Moreover, technocratic bodies are subject to political pressures from various kinds of actors whose relative influence can vary substantially. In other cases, constitutional constructions regarding the interaction of technocratic bodies might prevent them from coordinating interests in a satisfactory fashion.

Of course, this is not to say that suitable coordination is impossible. For example, the years leading to the 2008-09 financial crisis displayed an encouraging path of economic convergence, which seemed associated with a broad coherence of interests. But the crisis exposed the precarious nature of such coordination: the economic and political effects manifested themselves in the ensuing crisis of the Eurozone and European Union, and can again be observed in the Covid-19 crisis.

4. Illustration

In this section, we illustrate the foregoing framework with reference to the impact of the two aforementioned crises on the EU integration process. In particular, the first illustration discusses the political-economic processes surrounding the build-up of major external disequilibria between member states prior to the financial crisis 2008/09 and the tensions that arose from dealing with the debt build-up during that crisis. The second illustration briefly addresses the political-economic developments of the Covid-19 crisis, which reveal both centrifugal and centripetal forces for what concerns cohesion in the European Union.

With the financial crisis of 2008/09, it became clear that the Eurozone (EZ) and even the wider European economy (EE) had built up unsustainable current account imbalances amongst its members that would then lead to very costly adjustment processes.[14] We have examined elsewhere the sectoral

[14] Imbalances have characterized not only member states of the Eurozone and European Union, but also of the wider European Economy. Persistent current account deficits are unsustainable once they can no longer be financed by persistent net capital inflows; adjustments take place through the real exchange rate (see also footnote 15). For countries outside the EZ, this can be achieved through changes in the nominal exchange rate. There is also the possibility of shifts in some countries' exchange rate regimes; for example, changes in pegged or fixed exchange rates regimes as well as countries leaving (or joining) the EZ, which has emerged as being a possibility during both crises. For countries in the EZ, the nominal exchange rate cannot vary; hence, adjustments must take place through the price component of the real exchange rate. This is why the problem of imbalances is most pressing for EZ countries. In fact, adjustments in prices largely take place through wage dynamics, which give rise to high social costs for deficit countries. This problem of imbalances is of course present in any currency area, including those at the country level. But whereas countries are also areas of fiscal sovereignty, which are associated with automatic stabilisers and internal transfers, in the Eurozone fiscal responsibilities remain national, and hence fundamental elements of a working currency area are lacking. In this section we focus on EZ countries, but the fundamental issues also hold for other EU and EE countries (see Cardinale and Landesmann, 2017 for a detailed discussion).

interests that shaped the process of European integration, as well as how they led to significant shortcomings in its institutional construction, especially for what concerns the emergence of sustained (or 'structural') external imbalances (Cardinale and Landesmann, 2017). Here we shall simply take as the starting point that such imbalances are driven by cross-country sectoral interests, and analyse the further political processes that emerge from imbalances. In particular, we will show that such sectoral interests also often play an important role when switches in political stances and decisions take place following an economic crisis that questions the viability of a system of sectoral interdependencies. In this context, we will discuss the formation of *within-country* sectoral interests as well as their implications for *inter-country relationships*.

For the purpose of studying 'structural external imbalances', it is useful to consider each country's economy as being composed of '*tradable*' and '*non-tradable' sectors*. The former comprise activities that compete on foreign and domestic markets with international competitors; the latter are – at least in a direct way – insulated from such competition The interest of the tradable sector is relatively simple: it wants to sell more both on external and domestic markets. In order to support its competitiveness, it is interested in a relatively low 'real' exchange rate[15]. The non-tradable sector – by definition – can sell its products or services only on the domestic market; hence, its prime interest lies in a high level of domestic demand. One could then – at first approximation – identify a conflict of interest between the two types of sectors in that the tradable sector is particularly interested in 'cost/price competitiveness' while the non-tradable sector is particularly interested in the level of domestic demand[16]. In a simple model, the outcome with regard to the level of the 'real exchange rate' in a particular bilateral trade relationship depends on how the two types of sectors can influence the determinants of the real exchange rate in the different economies[17].

As 'structural' external imbalances are – by definition - 'unsustainable', why is there no *a priori* mechanism in the EZ to prevent their emergence? In other words, why is there no recognition of a systemic interest defined in terms of maintaining the long-run viability of an open economy, and hence an institutional set-up that prevents the emergence of unsustainable external imbalances? One reason may lie in the difference between sector-driven processes and the macroeconomic (systemic) consequences which might become apparent only with a *time lag,* or emerge as a result of an unexpected shock. Macroeconomic imbalances are an aggregate feature of an economy, the result of adding up the impacts of net balances across a wide range of activities. In contrast, sectoral interests

[15] The 'real' exchange rate considers overall price (or cost) competitiveness of a domestic producer relative to foreign producers. It thus takes into account not only the nominal exchange rate, but also the price (or cost) levels of the two competing producers. Ideally, although it is difficult to do so in practice, measurement of real exchange rates should also take account of 'quality' differences in the products and services supplied by different producers; in other words, real exchange rates should be 'quality-adjusted'.

[16] The tradable sector is of course also interested in the level of domestic demand as it will sell more at a given level of price competitiveness if domestic demand is high (this amounts to a shift in the demand curve while the real exchange rate determines the position on the same demand curve). However, tradable and non-tradable sectors differ in their relative consideration of the importance of cost vs. level of domestic demand.

[17] Of course, real exchange rates are not simply determined by the interest positions and the relative weights of tradable and non-tradable sectors. A different representation of the economy in terms of sectors could highlight the role of the financial sector, which plays a role in affecting real exchange rate developments because financial flows are the entries in the capital account that mirror the entries in the current account. There are also further macroeconomic processes that play an important role, such as economy-wide wage and productivity dynamics. However, at this stage of our argument we will limit ourselves to analyse the influence of sectoral interests on wage rates, which represent both a 'cost factor' (of particular relevance to the tradable sector) and a 'demand factor' on domestic markets (particularly relevant for the non-tradable sector).

driving these activities are in principle 'particularistic', in that in normal times they do not (or only to a limited extent) take account of the aggregate implications of their actions.

However, once the macroeconomic implications of a particular constellation of international economic interdependencies reveal themselves as unsustainable, sectoral interest positions might 'switch', i.e. they might 'internalise' the macroeconomic implications and develop a stance that takes into account systemic interest. This might be the case, for example, when the unsustainability of external accounts becomes apparent in the form of a 'sudden stop', i.e. when external financial flows no longer support the persistently negative trade balances of a particular country. Such switches in sectoral interest positions might, in principle, happen in both the persistent 'deficit' country (call it "EZ-South") and the persistent 'surplus' country (call it "EZ-North").[18]

Matrix 1 schematically represents the interests of tradable and non-tradable sectors. We distinguish between the situation 'before the crisis', i.e. when the unsustainability of continued external imbalances did not yet manifest itself, and the 'post-crisis' situation, i.e. when financial markets reacted with a sudden stop. Before the crisis (Matrix 1a) sectoral interests are as follows. Tradable sectors in both EZ-North and EZ-South were interested in an 'undervalued' real exchange rate of its own country. The non-tradable sectors wanted a strong real exchange rate (again, each in its own country) which would boost domestic purchasing power. What therefore characterises the pre-crisis situation is that the tradable sector in one country had a complementary interest with the non-tradable sector in the other country as regards the level of the real exchange rate, while the two tradable sectors in the two countries have conflictual sector interests. We thus obtain the sectoral-interest constellations pre- and post-crisis represented in Matrix 1.

Matrix 1. Tradable and non-tradable sectors' interests pre- and post-2008/09 crisis

Matrix 1a. Pre-crisis

		EZ-North	
		TS	NTS
EZ-South	TS	(-,+)	(-,-)
	NTS	(+,+)	(+,-)

Matrix 1b. Post-crisis

		EZ-North	
		TS	NTS
EZ-South	TS	(+,+)	(+,-)
	NTS	(+,+)	(+,-)

Note: In this matrix, we consider sector interest positions with regard to an 'under-valued' real exchange rate from the EZ-North's viewpoint (and an 'over-valued' real exchange rate from the EZ-South's viewpoint). The first element in any of the brackets refers to the particular sector interest (TS for tradable sector, NTS for non-tradable sector) from the EZ-North perspective, and the second element from the EZ-South perspective. For example, the top-left item in Matrix 1a means that

[18] The "EZ-North" and "EZ-South" country groupings, which include, respectively, persistent surplus countries that developed credit positions, and persistent deficit countries that developed debt positions, are useful to capture the fundamental dynamics and conflicts around imbalances and debt before and after the crisis. However, not all countries can straightforwardly be assigned to these groups. For example, Italy is not a persistent deficit country and did not develop significant private debt positions, but it has historically had high levels of public debt. So, while some of the issues surrounding debt that we discuss in this section are relevant for Italy too, the origin of the problem and potentially some conflicts of interests surrounding it might differ from other countries with high levels of debt. Elsewhere we have discussed the trajectories of different groups of countries in detail (Cardinale and Landesmann, 2017).

the tradable sector in each country is against real exchange rate appreciation in its own country. This means that the TS in EZ-North disapproves of real exchange appreciation in EZ-North, which TS in EZ-South approves of. Equivalently, the TS in EZ-South approves of real exchange appreciation in EZ-South, which TS in US-North disapproves of. Hence, a (-,+) or (+,-) sign indicates a conflict, whereas a (+,+) or a (-,-) indicates an agreement.

A crisis of non-sustainability (Matrix 1b) means that a particular constellation can no longer persist: the EZ-South will not have access to the support from financial markets to continue to sustain a persistent trade deficit. This realisation could lead to a switch in the sectoral interests of the EZ-North tradable sector, which shifts away from its previous interest in an under-valued real exchange rate. In other words, the realisation that important export markets collapse if the external imbalance persists, can lead to a change of the sector's stance, for example on its country's wage policy. In Matrix 1b, the EZ-North TS thus switches signs from (-) to (+), so that its interests become complementary to that of EZ-North's NTS. Hence, on this view, the realisation of macroeconomic implications in a system of international interdependencies leads to a switch of particular sectoral interest towards taking into account systemic interest.

However, 'real exchange rate' adjustment was only one dimension of the political-economic conflicts of interests in the wake of the financial crisis. Another dimension had to do with the build-up of foreign debt positions, especially vis-à-vis other EZ countries, which is the 'stock' effect of the 'flow' issue constituted by persistent current account disequilibria prior to the crisis. In fact, before the crisis, the private sector in many EZ-Southern countries developed substantial private-sector debt which contributed to the build-up of external debt. This dimension of the analysis concerned inter-country relations (IR in the 'diamond' in Fig. 1). As a result, a further dimension of conflict arose, which derives from the development of creditor-debtor relationships and their political implications for inter-country (IR) relationships. Matrix 2 shows the interests of two types of political-economic actors that are particularly relevant in this case: one is the banking sectors (BS) in the EZ-North and the EZ-South, and the other a social group (rather than a sector), and specifically the taxpayers (TP) in the EZ-North and the EZ-South.[19]

Before the crisis, there was a strong congruence of interests between the banking sectors of the EZ-North and EZ-South to support borrowing (mostly by the private sector) in the EZ-South. This was also welcomed by the tradable sector of the EZ-North (see Matrix 1 above), whose ability to sell its exports benefited from finance provided to the EZ-South. Before the crisis, the issue of non-sustainability of debt build-up was either not considered at all or insufficiently considered to sway BS interests. Taxpayers in the EZ-South were similarly interested in the financing of their imports; this is reflected in Matrix 2a, which mostly displays (+) signs showing the congruence of interests amongst sectors and taxpayers. There are also some (~) indifference signs, which represent the EZ-North taxpayers' lack of concern (before the crisis) in the debt build-up in the EZ-South.

Matrix 2. Creditor-debtor interests pre- and post-2008/09 crisis

2a. Pre-crisis: debt build-up

2b. Post-crisis: debt write-off

[19] Of course, the social group defined as 'taxpayers' is a first approximation. One could delve deeper into the structuring of that group, considering the tax burden on different subgroups, on different generations, etc. Moreover, since firms pay taxes too, their interests as taxpayers may overlap in different ways with their interests as sectors variously defined. This in turn raises the question of which political bodies represent the interests of taxpayers – whether governments, parties, bodies that represent firms, etc.

		EZ-North	
		BS	TP
EZ-South	BS	(+, +)	(~, +)
	TP	(+, +)	(~, +)

		EZ-North	
		BS	TP
EZ-South	BS	(-/+,+)	(-,+)
	TP	(-,+)	(-,+)

Note: In this matrix we analyse the interests of banking sectors (BS) and taxpayers (TP) in EZ-North and EZ-South before and after the 2008/09 crisis. The issues here are (i) the attitudes vis-à-vis the build-up of debt positions in the EZ-South before the crisis – financed by the banking sectors of the EZ-North – and (ii) the issue of debt relief (or debt write-off) following the crisis when the debt position of the EZ-South became unsustainable. As before, the first element in each bracket refers to the interests of the EZ-North's banking sector (BS) and tax payers (TP); the second element in each bracket the interests of the EZ-South's BS and TP. A (+) sign means an interest in the build-up of credit by EZ-North banks (and debt by the EZ-South) prior to the crisis. Post-2008/09, a (+) or (-) sign means respectively a (positive or negative) attitude towards write-off of the debt that had built up in the EZ-South. The (+/-) sign as regards the position of EZ-Northern banks towards debt write-off captures the initial phase of the post-crisis period, and specifically the issue of whether banks or taxpayers of the EZ-Northern countries should bear the cost of debt write-off in the EZ-South (see footnote 21).

The situation turned much more conflictual in the post-crisis period, when it became apparent that the debt situation had become unsustainable and the issue arose of who should bear the cost of the necessary debt relief or write-off. A multiplicity of conflicts of interest emerged.[20] After the crisis, the private sector in the EZ-South had built up unsustainable debt and this got represented in severely deteriorating balance-sheets of EZ-Southern banks and also the balance-sheets of EZ-Northern banks insofar as they were involved in lending to the EZ-South. The situation in the EZ-South became so severe that EZ-Southern banks were either bankrupt or close to bankruptcy. Some other agent(s) would have to step in to take over the costs of necessary debt relief or write-off so that the banking system would not collapse with dramatic consequences for the Euro-banking system as a whole. In addition, an ensuing severe recession in of the EZ-South would also directly affect the EZ-North's tradable sector, and indirectly also its non-tradable sector (see Matrix 1).

As a result of the threat to systemic viability, in the post-crisis period there were a number of 'switches' in interest positions vis-à-vis the pre-crisis period. In particular, the banking sectors in both EZ-North and EZ-South became interested in debt relief; in fact, they developed a congruence of interests to push the responsibility of debt relief or write-off to the taxpayers of each group of countries. The new conflict that emerged – and the attempts at resolving the debt situation – was no longer between the banking sectors of the two groups of countries, but between the taxpayers.[21] This became characteristic of the major political-economic tensions within the Eurozone after the 2008/09 crisis. Two features of these tensions and their consequences are particularly relevant for our analysis.

[20] Matrix 2b only represents conflicts of interest between banks and taxpayers across countries; conflicts between banks and tax payers of the same country would require a further matrix.

[21] However, in the initial phase there was also the issue of the intra-country distribution of costs between banks and tax-payers. In fact, the question which arose was whether EZ-Northern banks should bear some of the costs of debt write-off that resulted from their exposure in EZ-South lending. As it happened, the EZ-Northern banks managed to quickly escape from this situation, mostly because of EZ-Northern governments' fear of too strong a weakening of the banking sector in the respective countries during a very fragile phase in global financial markets. As a result, the conflict shifted towards one between taxpayers in the EZ-North and the EZ-South regarding the costs of debt resolution.

The first feature is the *asymmetries* in bargaining positions of different actors in a conflictual relationship which determines to a large extent the outcome of such bargaining. In fact, it was the populations of the EZ-South that carried much more of the costs than the populations of the EZ-Northern countries – largely through strict conditionalities imposed on debt relief or restructuring programmes that led to extended periods of austerity in the EZ-South. The reason for such asymmetric positions in bargaining processes is that in many crisis situations the pressure ('urgency') to resolve the crisis is stronger on one side of the bargaining process than on the other. Given the external accounts and debt problems within the EZ, the pressure on the deficit or debtor countries was much higher than on the surplus or creditor countries, as the former faced a 'sudden stop', i.e. a drying out of access to financial markets and the danger of collapse of their banking systems. Hence the relatively weak bargaining situation of the EZ-South.

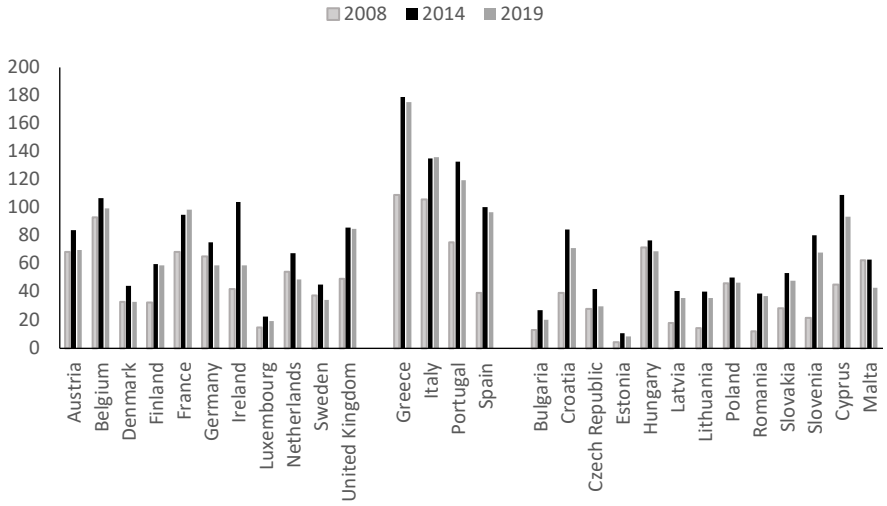
The second feature is the *distributional consequences* (ID in Fig. 1) of systemic developments which impact on different social groups *unevenly* and which in turn affect political processes at the national and inter-country levels. It became increasingly clear that the relative costs of prolonged periods of post-crisis low growth (EZ-North) or economic contractions (EZ-South) were unevenly distributed across different segments of the population. The relative impact of austerity on people working in different regions, in different sectors and with different skills is uneven and there is significant evidence that this expresses itself in voting behaviour and social dissatisfaction at national and regional levels (see the impact on national politics, NP, in Figure 1 and the discussion of the national political dimension in Section 3; see also Dijkstra et al., 2015; Rodriguez-Pose, 2018; Storper, 2018). These prevalently crisis-driven impacts aggravated the effects of longer-run structural changes such as deindustrialisation, agglomeration of high value-added service activities in larger conurbations, automation, etc., which had had their own distributional impacts. If austerity and longer-term structural changes are associated by social groups with aspects of European or international integration, or with perceived injustices in inter-country relationships (such as between the debtor-creditor relationships), then such uneven distributional consequences can express themselves politically also in nationalistic and anti-integration sentiment. The asymmetric impact of the crisis and the policies adopted for its resolution may explain why the swings towards Euro-scepticism in the post-crisis period were much stronger in the Southern EZ-countries (where support for EU integration was strong before the crisis) than in the Northern EZ-countries. This, in turn, affected inter-country relations (IR) and encouraged centrifugal forces in the European Union.

The asymmetries and distributional conflicts discussed above set the stage for the impact of the Covid-19 epidemic on the EU. We shall focus on three respects in which its political-economic effects on the European integration process differ from those of the financial crisis.

First, the Covid-19 crisis was initiated by a global 'symmetric shock', in that the epidemic hit every country in the world. It thus differed from the 2008-09 crisis in the EZ/EE, which was ignited by the global financial crisis that started in the US but it arguably accelerated dynamics in the EZ that were intrinsically unsustainable, i.e. the longer-term evolution of unbalanced economic structures that reflected the positions of different sectoral interests in different economies (financial, export- and domestic-market oriented sectors). However, despite the broadly 'symmetric' nature of the Covid-19 shock, its impact turned out to be uneven. The key reason has to do with differences in starting positions, including inherited uneven public debt positions and therefore uneven constraints in public spending capacity (see Figure 2), the relative strengths and weaknesses of the health sectors in different countries, the relative dependence of economies on exports, the demographic composition, the management of care homes. and the fact that different sectors were more of less vulnerable in

different phases of the Covid-19 crisis – such as during the 'lockdown' phase (see e.g. Odendahl and Springford, 2020). The uneven impact of the epidemic on different European economies generated a new bout of centrifugal forces.

Figure 2. Public Debt (in % of GDP)



Source: wiiw Annual Database incorporating national and Eurostat statistics. Data 2019 estimates, wiiw and Ameco.

Second, when it comes to political responses to the crisis one has to take into account that the Covid-19 crisis followed a previous deep crisis (2008/09 and its aftermath). It can be conjectured that the cumulative experience of crises made salient the threat to the systemic viability of the Eurozone and potentially of the European integration process as a whole. According to our framework, this created an urgency that, because of asymmetries in how different actors are affected when viability is threatened, is not usually present. As a result, some actors reacted relatively quickly to counter the renewed unleashing of centrifugal forces that the uneven impact of the Covid-19 epidemic would cause. It is interesting, however, to note that different views of systemic interest emerged. Some 'big actors', whose political choices could have a significant impact on the 'viability' of the system, seemed to form an expansive view of systemic interest, which recognised interdependencies within the EZ/EU and the need to keep the system viable, despite the burden on taxpayers, in order to pursue their macroeconomic objectives. One can argue that this is what underlay the so-called 'Franco-German proposal', which lay the ground for an ambitious plan proposed by the Commission (European Commission, 2020). Other countries arguably defined systemic interest at the national level, identifying it with the interest of their 'taxpayers', and continuing to perceive the situation in a non-cooperative setting of inter-country conflicts. The fact that not all countries shared the same definition of systemic interest seems to confirm the view that a variety of understandings of systemic interest can be present at any point in time, which can explain divergencies on crisis resolution strategies.

Third, it is interesting to note the role in the two crises of supranational bodies acting as 'coordination platforms' of the interests involved. In the financial crisis and between the two crises, the European Commission and European Central Bank intervened to preserve or further the European integration process, for example through the banking union, but these initiatives stalled. One could argue that it required the cumulative impact of both crises to create the political conditions for discussing the

implementation of what are generally regarded as the essential elements for a proper functioning of a Monetary Union, and especially the development of fiscal stabilisation instruments, a common tax base, common automatic stabilisers such as common unemployment insurance, and a policy arm in the direction of social security provisions in areas of health, employment guarantees, and poverty alleviation. Hence, one can conjecture that when awareness of viability problems (such as an existential threat to European integration) becomes acute, EU countries (and other relevant political-economy actors) might be willing to give a stronger role to supranational bodies that can contribute to develop programmes that are driven by a more expansive understanding of systemic interest.

In sum, the Covid-19 crisis shows how the cumulative experiences of crises may accentuate conflictual relationships within countries (threatening social cohesion) and across countries (cementing perceptions of unfairness and ineffectiveness of existing policy frameworks). In the EU, the crisis has led to more acute centrifugal forces threatening the European integration process as a whole, but it has also shown the potential to mobilise centripetal reactions more quickly and forcefully. While centrifugal forces often result from particular interests deriving from a 'local' understanding of interactions, centripetal reactions typically require awareness of system-wide interdependencies and viability conditions (see also Cardinale, 2019). In particular, the latter rely on important actors shifting their policy stances in response to existential threats to systemic stability as well as supranational bodies that may act as platforms of coordination of interests. No doubt, complex political processes will emerge at national and inter-country levels as a consequence of the operation of these forces, and these processes will significantly shape the future of European integration. At the analytical level, understanding the interplay of centrifugal and centripetal forces requires considering the political-economic decisions that depend on competing representations of the system and definitions of systemic interest.

5. Implications for structures and transformations

Besides its immediate aim – to provide a comprehensive framework that integrates economic and political dynamics at the national and international level – this paper's framework has a number of implications for the study of structural change.

First, whilst allowing for exogenous dynamic impulses, our model emphasizes the endogenous impulses that derive from the forward-looking activity of firms (and hence sectors). It then traces its systemic effects and the reactions they engender. Hence, it is an analysis based on *leads and lags*. We have discussed above that, as a result, the full implications of forward-looking behaviour may often be removed from the political arena, because they lie in the future and their outcome is (to varying extents) uncertain. Moreover, they might be open to political conflict in an asymmetric way, because changes in structure can alter the bargaining power of different groups.

Second, our model, following the SPE approach, presents an important difference vis-à-vis the treatment of the political sphere that is typical of structural economic analysis, which is concerned with 'classes' defined on the basis of the type of income received. Our analysis also considers relevant aggregations of firms (i.e. 'sectors') as potential political actors. In particular, our analysis stresses that firms could be aggregated in different ways, such as by location in the networks of input-

output interdependencies, size classes, export orientation, technological capabilities, or use of inputs such as energy or infrastructure. Moreover, within-sector heterogeneity could lead to differentiation and divergences in the formation of political stances within the same sector. Symmetrically, also social groups not associated with firms could be defined in manifold ways, such as by socio-economic features, geographic location, electoral participation, etc. In sum, in our approach the relevant political-economic aggregations are not assumed *ex ante* but depend on the process under investigation.

Third, the fact that sectors and groups can be aggregated in different ways implies that dynamics also depends on how economic and political actors represent the system and their position therein, and hence what they understand their interest to be. In fact, different representations will lead to different understandings of particular and systemic interests, and hence to different economic and political actions, which will in turn lead to different system-wide dynamics. This is a significant innovation vis-à-vis classical writings as well as most structural economic analysis, where only the straightforward position of industries in the context of a system of material interdependencies and a corresponding price system is considered. While those studies also address distributional issues, they only do so through a 'system-wide' class analysis, without considering sectors variously defined as potential political actors.

Fourth, as a result, by considering interdependencies (between industries, between industries and 'classes', between countries), this approach allows not only for conflict between social groups, but also for the necessity to keep conflict within boundaries that are compatible with the viability of the system. This is done through the concept of systemic interest. And because it reconstructs such interdependencies in a dynamic sense, it can provide a dynamic, intertemporal understanding of the requirements of systemic coherence of the system.

Finally, this approach can act as an essential complement to empirical analyses of political-economic change. Whilst the latter reconstruct processes that have taken place, this approach suggests that those are not the only possibilities compatible with existing circumstances. For example, the identification of particular and systemic interests in a given case depends on a certain (implicit or explicit) representation of interdependencies, and hence of the positions of actors within them, and of their particular interests. However, different representations of the system could be possible. As a result, different interests would appear and different alliances would form, and therefore different types of systemic interest emerge. For example, systemic interest can be found at the regional, national or international level, and this depends on what system is seen as relevant (Cardinale and Landesmann, 2017).

The manifold possibilities to represent interdependencies highlight the importance of economic analysis (and hence SPE) for what concerns its ability to highlight alternative patterns of interdependence. This not only calls attention to roads not taken and therefore to the non-inevitability of roads actually taken. It also provides a potentially substantial role to political-economic analysis as a way to highlight different possibilities for systemic interest, which may not be immediately apparent to political-economy actors.

Empirical developments of the approach put forward in this paper could study how the relationships between the different corners of the diamond build on each other, resulting into processes of political-economic change in specific situations. An interesting aspect of the analysis could be to reconstruct how and why some possibilities prevail in practice out of those which could be possible in principle,

given the existing political-economic structure. For example, why different forms of viability emerge instead of others (when many forms are possible), and whether this may be due to industrial structure, existing institutional arrangements, the international context, established traditions whereby groups form along certain lines instead of others, etc.

An important aspect of this reconstruction would be to study how political-economy actors represent the system and their position therein, and how such representations are formed. For example, they might originate in established traditions of organisation of interests along given lines (such as trade unions representing workers by industry, or industry associations representing firms by output or size), whereas different forms of aggregation might also be possible and relevant (such as aggregating workers by skill level or mobility, or aggregating firms by export orientation, by countries they export to or import from, by reliance on energy sources or infrastructure, etc.).

Established ways of understanding interests might also derive from economic theories or pragmatic views that are prevalent in 'epistemic communities' associated with national or international platforms of coordination.[22] In fact, a key feature of an epistemic community is that it has "shared belief or faith in the verity and the applicability of particular forms of knowledge or specific truths" (Haas, 1992, p. 3, fn. 4). Participants in epistemic communities could therefore take for granted specific representations of the economy and understandings of its mechanisms. As we have seen, each representation is associated with specific ways of aggregating firms and social groups, as well as explicit or implicit views about collective objectives and forms of viability. This can result in the persistence of 'received' views of social aggregations and interest formation even in the face of structural change that could make different aggregations and interests more suitable. For example, reliance on purely macroeconomic models can make it difficult to conceive of conflicts of interest between industries, not unlike how assuming uniform rates of profit and wage makes it difficult to conceive of conflicts within capital and within labour. Yet, in some situations, cooperation between 'capitalists' and workers within a firm or industry, in view of conflict with other firms or industries, could be more relevant than the traditional conflict between 'capitalists' and workers. Structural change could also make different cleavages more relevant at different moments, such as cleavages between firms that are against or in favour of major infrastructure projects, of specific foreign policies, etc.

Whether 'received' ways of aggregating social groups (and therefore of understanding particular and systemic interests) derive from existing platforms of coordination or from theoretical views, the SPE analysis developed in this paper could help conceive of possibilities that go beyond those which might be immediately apparent to political-economic actors. Such possibilities must be grounded in economic and political structures but might go beyond the status quo, especially for what concerns helping to recognise viability requirements and envision forms of systemic interest associated with them.

6. Conclusion

[22] Epistemic communities are networks of experts that play a role in "articulating the cause-and-effect relationships of complex problems, helping states identify their interests, framing the issues for collective debate, proposing specific policies, and identifying salient points for negotiation" (Haas, 1992, p. 2).

Classical political economy and modern structural analysis explain structural change as resulting from the interplay between distribution and the material conditions of production. This paper has proposed a generalization of that approach on the basis of Structural Political Economy coordinates. In particular, it does not assume social aggregations ex ante; instead, it explores the multiple ways of aggregating social groups and defining their interests that are made possible by existing economic structure. In addition, because of economic interdependencies, when actors form their particular interests and hence pursue their goals, they must consider systemic interest, which is the interest in keeping the system viable. Systemic interest in turn depends on how actors represent the system and their position therein, and this could give rise to a variety of definitions of systemic interest on the part of different actors.

The paper has outlined a dynamic framework in which (i) there are leads and lags in the actions of different social aggregates (sectors and groups) and thresholds in the political and economic effects of those actions; (ii) interdependencies constrain different sectors, groups and countries asymmetrically; and (iii) different sectors and groups are likely to adopt different representations of the system and their positions therein, which lead to different understandings of particular and systemic interests.

This framework provides significant innovations vis-à-vis classical political economy and modern structural economic analysis. In fact, those traditions specify an overall economic structure and a systemic objective – such as viability, growth or full employment – and consider how conflicts over distribution influence dynamics and whether they are compatible with the systemic objective. This paper, instead, takes various forms of viability or systemic features as constraints that relevant actors need to consider when pursuing their own interests. It goes on to highlight that different representations of the system are possible and may be adopted by actors, and hence different systemic constraints may be relevant. Because of the different definitions of systemic interests adopted by groups, sectors and countries, there is no guarantee that they converge on a shared representation of the system and its viability requirements, and therefore on a shared systemic interest within which particular interests are pursued. Rather, the framework provides an explanation for uneven dynamics—both in economic terms and in institutional arrangements—on the basis of the asymmetric positions of actors within the system and their different understandings of systemic interest.

The multiplicity of systemic interests may also provide an explanation for the shortcomings of institutional frameworks and policies that are conceived of from the viewpoint of a system-wide systemic interest. For example, monetary unions could in principle afford a higher growth trajectory than mere trade integration. However, this assumes that actors converge on a systemic interest defined in terms of keeping the monetary union viable so that all actors can benefit from higher growth. But we have highlighted that interdependencies constrain different actors asymmetrically, and therefore give rise to different partial views of systemic interests. In the absence of effective platforms to coordinate interests, a monetary union could be imposing a lower growth path than even mere trade integration.

In sum, this paper calls for studying the interface between economic and political dynamics by considering evolving viability requirements, competing definitions of systemic interest, and the pursuit of particular interests within them. Doing so requires the tools of structural economic analysis and Structural Political Economy, which make it possible to detect patterns of interdependence and congruence between interests, and thus to explain observed dynamics as well as envision dimensions of systemic interest that may not be apparent to political-economic actors.

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