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(Mis)Measuring Competitiveness: the Quantification of a Malleable Concept in the European Semester

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1 Introduction

Few concepts receive the constant amount of attention in EU strategy papers, treaties, and policy debates as does ‘competitiveness’. It plays an important role in the institutional framework of the European Union since its inception as an economic partnership. Numerous references can be found in the *Treaty of the European Union* and the *Treaty on the Functioning of the European Union*. In 2000, the Lisbon strategy explicated the goal of making Europe “the most competitive [...] economy in the world” and since the *Annual Sustainable Growth Strategy 2020* (ASGS, published in 2019), the concept of ‘competitive sustainability’ forms the center of the economic model pursued by the Union.

This paper is concerned with the measurement of ‘competitiveness’ in the main policy coordination framework of the European Union – the European Semester. The prime focus is on how an *a priori* ambiguous concept such as ‘competitiveness’ gets translated into allegedly unambiguous quantitative indicators, and what the practical implications of this process are. This entails questions on whether there is a consistent view on the nature and determinants of ‘competitiveness’ within the Semester, and what quantitative measures for ‘competitiveness’ are used. Finally, the paper also asks what alternative operationalizations could have been used, and what the consequences of such alternative operationalizations would have been.

The motivation for this assessment is twofold: On the one hand, the literature on socio-economic polarization and divergence in Europe suggests that one factor for unequal development in the EU today is the *competition among Member States*. More precisely, the current institutions are said to foster a competitive ‘race for the best location’ that reinforces existing core-periphery patterns and aggravates the path-dependence of developmental trajectories (e.g. Kapeller et al., 2019) – a tendency that is in stark contrast to the promise of social convergence offered by the European Union, as formalized already in the Maastricht Treaty in 1992. This disparity between the narrative of the general strategies that focus on the *competitiveness of the EU as a whole*, and the detrimental implications of a *competition within the EU* motivates a closer inquiry into how ‘competitiveness’ is conceptualized within the regulatory framework of the EU.

On the other hand, the existing literature indicates that the concept of ‘competitiveness’ is *malleable*: a number of conflicting interpretations of its precise content co-exist and are subject to considerable political struggles and competing policy paradigms (e.g. Borrás and Radaelli, 2011; Princen and Esch, 2016). Examples for different views of competitiveness include the ideas of *cost* competitiveness, *technological* or *quality* competitiveness, or the above mentioned *competitive sustainability*. While some of these views are difficult to compare since they refer to very different properties, others, such as *cost* and *technological* competitiveness, contain conflicting views on what makes actors successful in certain

situations. Thus, the very process of translating a malleable concept into a quantitative indicator necessarily entails important conceptual and political assumptions, which shall be the main subject of the present analysis.

To this end, the rest of the paper is structured as follows: Section 2 reviews the existing literature on the role of competitiveness within the governance structure of the EU. Then, section 3 describes the key institutional elements of the European Semester and discusses the relevance of informal institutions for its actual functioning. Against this backdrop, Section 4 searches for a consistent interpretation and measurement of ‘competitiveness’ in the most important strategy document of the Semester, the *Annual Sustainable Growth Strategy* (ASGS). Because this search will turn out to be unsuccessful, Section 5 turns to the *Macroeconomic Imbalance Procedure* (MIP) and discusses the quantitative indicators used to measure ‘competitiveness’ therein, and compares them to alternatives. Finally, section 6 summarizes the main insights and concludes. The paper is also accompanied by an appendix, which contains more detailed information about the formal time line of the European Semester, its general content, and the classification of countries within the MIP and *Stability and Growth Pact* (SGP).

2 Theoretical framework and existing literature

The present paper builds upon three different strands of the existing literature: first, works on the malleability of the concept of competitiveness in general and in relation to EU rules; second, literature explicitly concerned with the contents and effects of the European Semester, and, finally, the literature on comparative economic development in Europe, which has identified competition within the EU as one driver of polarization patterns.

2.1 The malleability of competitiveness as a theoretical concept

The first branch of literature is concerned with the reliability of EU rules on malleable concepts and the underlying conflict between different policy paradigms,¹ which is closely related to the fact that there are many different and contradicting theories of competition in the social sciences and the humanities, many of which take very different ontological, epistemological or normative standpoints (e.g. Altreiter et al., 2020). For instance, Borrás and Radaelli (2011) explain how the Lisbon strategy, by placing the broad and underdetermined concept of ‘competitiveness’ at its core, has helped to considerably expand the policy space of the EU. In contrast to the sole focus on economies of scale within the Single Market Strategy before, the reference to competitiveness has stressed the relevance of institutional factors (Borrás and

¹ The notion of a ‘policy paradigm’ goes back to Hall (1993) and refers to a set of beliefs and assumptions about relevant problems and feasible solutions.

Radaelli, 2011, p. 474), thereby expanding the strategic role of policy makers (e.g. Davies, 2014). As a governance architecture the Lisbon Strategy had an important ‘ideational’ component. An ideational component is made up of a set of ideas, such as ‘governance’, ‘competitiveness’, or ‘sustainability’. As argued by Borrás and Radaelli (2011), these ideas themselves have no clear-cut meaning *a priori*. Rather, their precise meaning is discursively malleable, i.e. “they are infused with norms that can be contested, changeable or purposefully created.” (Borrás and Radaelli, 2011, p. 470). These struggles are not only about the precise meaning of the term ‘competitiveness’, but also about the institutions that are supposedly most beneficial for the competitiveness of the Union (see also Princen and Esch, 2016).

The vagueness of the concept, however, does not compromise its relevance (Aiginger, 2006, p. 63): The practical implications are visible, for instance, in the distinct ways sanction mechanisms are applied in practice². Moreover, the malleability of the underlying concept also comes with an expansion of the policy space since its vagueness enables competitiveness to be a “rhetorical device” that can be used by politicians almost to their liking in justifying policies (Linsi, 2020, p. 865). This fact has been discussed in the literature on the European Union not only with regard to the Lisbon strategy, but with regard to European institutions more generally, especially when it comes to the topic of competitiveness: since there is no universally agreed upon core concept of ‘competitiveness’ (e.g. Blyth, 2013; Hay, 2007; Princen and Esch, 2016), its ultimate interpretation is subject to discursive power struggles among different policy actors.

2.2 Content and effectiveness of the European Semesters

The second stream of relevant literature is concerned with the content of the European Semester and its political foundations. In this context, Princen and Esch (2016) discuss to what extent the SGP as part of the Semester corresponds to a consistent policy paradigm. They find that “the clash between [...] different perspectives, and the high political level at which decisions were taken, is likely to have led to power-based bargains and compromises without a clear underlying policy paradigm.” (p. 363).

This relates to the general debate about the conflict between economic and social policies in the Semester. At least the design of the European Semester suggests that it is theoretically envisaged so as to enhance the role social policy should play in the governance architecture of the European Union (Verdun and Zeitlin, 2018). Recent developments related to the *European Pillar of Social Rights* are further evidence of the Commission’s efforts to strengthen social

² The sanctions apply only in the context of the *Excessive Deficit and Imbalance Procedure* of the Semester (for a detailed description see the Appendix); in this case e.g. the Commission can call for policies that increase ‘competitiveness’ as a means to reduce public deficits.

objectives (European Commission, 2021a). Recent analyses of country-specific recommendations show, however, that the “policy direction” of the EU expressed therein is not clearly social (Haas et al., 2020) and that the core of the decision-making process are sound budgets indicating at least the political contestation of social policy in the EU (Bekker, 2018; Copeland and Daly, 2018). Maricut and Puetter (2018) refer to the malleability of rules and concepts mentioned in Section 2.1 by showing that much of coordination within the European Council and especially the Economic and Financial Affairs Council is subject to informal policy dialogue. Within these power struggles, finance ministers usually enjoy advantages relative to “social” ministers in such coordination, indicating that economic interests are prioritized over social concerns.³

Then there are also studies concerned with the actual effectiveness of the European Semester. Several use the implementation scores published by the European Commission and mainly find little evidence for the effectiveness of the MIP (Darvas and Leandro, 2015; Deroose and Griesse, 2014; Efstathiou and Wolff, 2018, 2019; Hradisky et al., 2016; Hradisky, 2017). The use of implementation scores to judge the effectiveness has, however, been seriously called into question (see, e.g., Bokhorst (2019))⁴. Yet, there are also a few case studies that analyse the impact of the MIP on domestic policy agendas (for more details see, e.g., Bokhorst, 2019; Eihmanis, 2017; Louvaris, 2018; Maatsch, 2017; Schreiber, 2017; Schulten and Müller, 2015).

2.3 Competition and comparative development trajectories in the EU

The final branch of literature relevant for the content of this paper approaches the topic of competitiveness from a different angle: rather than studying how it is infused with meaning in political discourses, it focuses on its implications for comparative socio-economic development. Kapeller et al. (2019), for instance, discuss the central role played by intra-European competition for the accelerating polarization tendencies in the Union: European institutions provide incentives for countries to engage in a ‘race for the best location’ *within* Europe. To win this race they rely on their technological superiority (e.g. Austria or Germany) without providing technologically less developed countries the

³ The governance architecture of the European Union is complex and influenced by specific legislative competences. Verdun and Zeitlin (2018) reflect that the introduction of the European Semester represents “a fundamental shift in EU socioeconomic governance” (p. 139). The authors cited in this section are well aware of those shifts and that the introduction of the Semester enhanced EU institutions’ impact on national policy making although no legal shift of sovereignty from members to the Union preceded. The Treaties form the actual legal basis of the European Union and are determined by the Unions nature of economic and market integration. This focus influences the direction that economic and social policies exhibit (Copeland and Daly, 2018).

⁴ For a short discussion of implementation scores regarding CSRs as used by the Commission see the appendix.

chance to catch up, or on particular institutional ‘location factors’ such as low corporate tax rates (e.g. Ireland, the Netherlands), low labor market regulation (such as many Eastern European countries), or unregulated financial markets (e.g. Luxembourg or Malta). The effects have been documented extensively in the literature and include a structural polarization in terms of industry structures and technological competitiveness (e.g. Gräbner, Heimberger, et al., 2020a; Simonazzi et al., 2013; Storm and Naastepad, 2015), the pursuit of different (and incompatible) growth models (e.g. Baccaro and Pontusson, 2016; Gräbner, Heimberger, et al., 2020a), and, in the end, a divergence of living standards (e.g. Kapeller et al., 2019). To better understand the reasons for the growing polarization in Europe, an increasing number of studies applies the structuralist distinction between core and periphery countries (e.g. Celi et al., 2018; Simonazzi et al., 2013), where economic development is explained not only by the single country characteristics alone, but also historical events and interdependencies between the economies (for methodological remarks see Gräbner and Hafele, 2020). While the classical distinction is that of a ‘core’ and a ‘periphery’, Gräbner, Heimberger, et al. (2020b) have delineated four self-reinforcing development trajectories in the EU: core countries, periphery countries, financial hubs and catch-up countries, all of them featuring different main sources for their international competitiveness.

3 The European Semester

Before studying the operationalizations of ‘competitiveness’ within the European Semester, a concise description of the Semester as such will be provided below.⁵ More precisely, this section explains its role within the institutional framework of the EU as well as the important role of *informal* institutions for its functioning. It closes with an overview over those documents that will then be used to study the operationalization of ‘competitiveness’ within the Semester.

The European Semester is the “framework for the coordination of economic policies across the European Union” (European Commission, 2021b) that was established in 2010 to address an apparent lack of policy coordination prior to the financial and economic crisis. It synchronized existing policy coordination frameworks, and extended the scope of policy coordination by not only considering fiscal, but macroeconomic policies more generally. It comprises *inter alia* rather abstract strategy papers such as the *Annual Sustainable Growth Strategy*⁶, the more concrete Country Reports and country-specific recommendations (CSRs), as well as specific indicators with corresponding thresholds,

most of them consolidated within the *Macroeconomics Imbalance Scoreboard* (MIS). The Semester is overseen by the Commission, which monitors the compliance of Member States with the prescriptions of the Semester and delineates country-specific recommendations. All decisions of the Commission are then formally adopted by the European Council.⁷

The name of the European Semester stems from the fact that it formally runs over the period of about one year, starting in November. It is separated into an autumn, winter, spring, and implementation package (see Figure 1). In the course of each Semester, general strategy papers such as the ASGS or the Alert Mechanism Report are published and recommendations tailored to each Member State issued (country reports, country specific recommendations).

A special role is played by the ASGS, which gets published at the beginning of the semester and sets European policy priorities for the next 12 to 18 months. Its relevance derives from the fact that all instructions and suggestions to be developed during the current semester must be traceable to the most recent ASGS. In other words: only measures that are anticipated in the current ASGS can be implemented later. It, thereby, mainly forms the ‘frame of feasibility’ of the current semester and while it remains rather abstract in its wording, it is a key source for identifying the current policy priorities within the Union.

Another center stage element is the Macroeconomic Imbalance Procedure since, together with the Stability and Growth Pact (extended by the Fiscal Compact), it is the legally binding element of the Semester. It runs through the whole cycle and thus, the evaluation of Member States and the actions they take respectively, are not a one shot incident but resemble a thorough process. Member States are first screened for breaches of thresholds assigned to specific indicators. The screenings are revised again and if necessary in-depth reviews are arranged. Intensified monitoring and discussion with Member States follow that ultimately culminate in tailored prescriptions that are reassessed in next year’s cycle.

The official time line from Figure 1 suggests that the Semester is a highly formalized process. In practice, however, the analysis of the definite functioning of the Semester is aggravated by the fact that the actual coordination among the European Union and its Member States follows to a considerable extent *informal* (and, thereby, largely undocumented) institutions. In effect, it is not straightforward to discern the actual implementation of the Semester from the official documents. For instance, while the time table

⁵ A more extensive description of the official time line of the Semester and its formal functioning as well as a table with abbreviations of the most important institutions used throughout the section is provided in the appendix.

⁶ Prior to 2020 the *Annual Sustainable Growth Strategy* was called the *Annual Growth Survey*. In the following we will only use the term *Annual Sustainable Growth Strategy* (ASGS).

⁷ While the Semester is overseen by the Commission, the Council and the European Council, the introduction of the mechanism of Reverse Qualified Majority Voting respective Commission propositions under the excessive deficit and imbalance procedures significantly increased the influence of the Commission (Van Aken and Artige, 2013). Additionally, the Economic Governance Framework as amended and shaped by the two-pack and six-pack has recently been put under review by the current Commission.

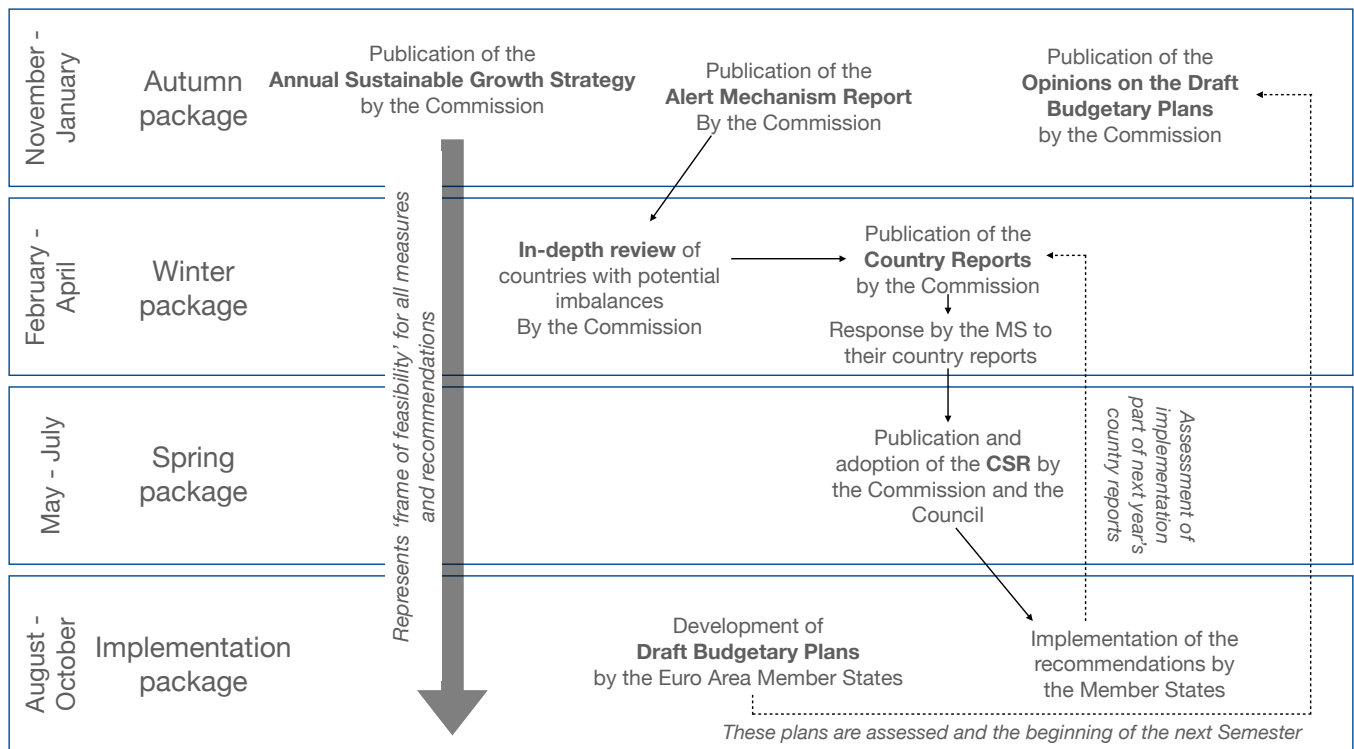


Figure 1: The official time line with the main elements of the European Semester. A more extensive description of this time line and its elements is provided in the appendix.

in Figure 1 (and more precisely described in the appendix) suggests a clear coordinational hierarchy with first the Commission setting general policy guidelines in the ASGS and country reports, and Member States then answering back, ultimately leading to agreed upon recommendations in the form of the CSRs, *de facto* Member States coordinate with the Commission at the beginning of the Semester and decide upon priorities to be determined officially only later on.⁸ Another example concerns the development of the ASGS. This document is elaborated by several parties by means of circulation. Each party involved may include or exclude passages, words and phrases. Due to the different political orientations of the actors involved the end product integrates a large range of policy directions and a wide variety of indicators, which might be surprising in case one does not know about the circumstances in which the document gets compiled.

This informal character of the Semester poses a challenge for the objective of the present paper: since ‘competitiveness’ is a malleable theoretical concept and because of the number and heterogeneity of actors (who might hold very different views on what the right or most adequate conception of competitiveness is) involved in the delineation of general documents such as the ASGS, it will be hard to distill a consistent notion of competitiveness from the Semester. To

⁸ Information regarding the informal institutions and character of the European Semester stem from interviews with experts and practitioners.

address this challenge we proceed as follows: First, despite the informal way of its creation, the ASGS plays a decisive role in the overall Semester: each measure or policy that is going to be implemented or requested during the semester must be traceable to the ASGS. It, therefore, defines the ‘frame of feasibility’ of the European Semester. Thus, if one wishes to understand what particular interpretation of ‘competitiveness’ dominates, the ASGS simply cannot be ignored. At the same time, none of the instructions or indicators in the ASGS is legally binding. With very few exceptions, there are no sanctions for non-compliant members.

This is different for the *Macroeconomic Imbalance Procedure* (MIP) and the *Stability and Growth Pact* (SGP): these are the elements of the Semester that have the strongest legislative basis – the SGP itself, the related *Six Pack* and *Two Pack* contracts, as well as the *Treaty on Stability, Coordination and Governance in the Economic and Monetary Union* – and that even allow for sanctions for non-compliant Member States. With this legal character comes the necessity to formulate clear target dimensions and values. It is this set of target dimensions and values that will be used to infer the underlying notion of ‘competitiveness’ of the Semester.⁹

⁹ Thus, we do not discuss ‘intermediate’ documents, such as the country reports and CSRs. However, a short description of implementation scores and designated policy areas as used by the Commission to assess the success of CSRs is provided in the appendix. While we analyzed these documents and did not find a coherent thread concerning competitiveness but instead several, over the years mostly inconsistent applications and implications – a finding that is in line

4 Frame of feasibility – the Annual Sustainable Growth Strategy

The ASGS is *the* central strategy paper of the European Semester. The first one – back then the *Annual Growth Survey* – was published along with the introduction of the European Semester in 2010. The ASGS sets policy priorities for Europe for the next 12 to 18 months and its exceptional relevance derives from the fact that it defines the contentual frame for the current semester. Topics and measures that are not anticipated in the ASGS are extremely unlikely to be required or suggested in other documents in the current semester, such as, for instance, country reports or country-specific recommendations – hence, frame of feasibility. Thus, one might expect that the framing and interpretation of the concept of competitiveness in the ASGS yields important information about how it is understood in the overall Semester.

However, in practice the ASGS is a rather general strategy paper that accommodates a wide range of issues and refers to a very diverse set of indicators without being ever too explicit. Definite indicators that entail a clear target dimension or concrete target values are extremely rare. Then again one can find dozens of general instructions regarding what should either be accomplished by Member States or the European Union as a whole, but nothing with regard to what is meant by competitiveness specifically. More precisely, whenever the ASGS is concerned with the topic of ‘competitiveness’, the indicators referred to are rather broad, comprising, for instance, both indicators concerned with innovation and technological competitiveness, as well as cost variables meant to measure cost competitiveness.

This is consistent with the malleable and heterogeneous character of the theoretical concept as discussed in section 2.1. And while disappointing at first, the result is actually not surprising if one considers that the ASGS is written in circulation, with various actors making suggestions on adding or removing certain formulations. Thus, the document entails quasi per construction a wide array of different notions of ‘competitiveness’. This implies that the concept is used rather inconsistently (or very broadly), aggravating a consistent interpretation of the ASGS. Hence, while the ASGS is not as useful as one might expect when it comes to the concrete interpretation of ‘competitiveness’ within the Semester, the way it is written allows for the deduction of contentual trends in the Semester and the relative importance of considerations on competitiveness. To extract this information from the documents the text of the ASGS was analyzed via a word count analysis for selected words in all ASGSs from 2011 to 2021. The results illustrate the relative importance of ‘competitiveness’ as compared to other central concepts and are summarized in Figure 2.

with the “rhetorical device” character of competitiveness discussed in the literature (e.g. Linsi, 2020) – we do not report on these results for reasons of space and because these documents are neither as central as the ASGS nor legally binding as is the MIP.

The concepts of *growth*, *investment*, *jobs/employment* traditionally form the core of the ASGS; concepts related to *sustainability* became quite relevant recently. Therefore, the relative frequency of these terms were used as reference points to assess the relative importance of terms related to *competitiveness*. In order to put the topic of ‘competitiveness’ into relation to the overall promise of economic convergence (which, according to the literature surveyed above, is potentially in conflict with a focus on competition), the terms *convergence* and *cohesion* – used rather synonymously in the ASGS – were also considered. The results in Figure 2 indicate that the topic of competitiveness is of similar importance if compared to the other concepts mentioned before, although the topic of ‘sustainability’ does have a greater presence just now. If compared to the other topics, however, the relevance of ‘competitiveness’ remains rather stable over time.

In all, the analysis of the ASGSs has shown (1) that there is no consensus about the precise meaning of ‘competitiveness’ in the main strategy document of the Semester, which reflects the malleable character of ‘competitiveness’; (2) that the topic of ‘competitiveness’ is of continuous relevance in the ASGS, notwithstanding the fact that policy makers involved do not share an unanimous definition; and (3) that ‘competitiveness’ is written about as much as about convergence, an interesting insight given the argument from the literature that the relation between the two concepts is rather intricate (e.g. Kapeller et al., 2019, see also Section 2.3).

5 The measurement of country competitiveness in the Semester

As indicated in section 3, the MIP and SGP allow to sanction, in some cases, countries not adhering to the rules and recommendations issued based on the MIP/SGP. This requires the respective rules to be formulated more concretely, which is why at this point concrete, quantitative indicators are used to measure the performance of the Member States. The indicators used to measure competitiveness are part of the MIP (the SGP refers largely to national budgets) and are compiled in the MIS, which in all comprises 14 headline and 28 auxiliary indicators.¹⁰ Three headline indicators are explicitly labeled as measuring ‘competitiveness’ (European Commission, 2011) and, thereby, contain information on how the Commission interprets this malleable concept in practice.

All indicators of the MIS come with respective thresholds used to identify countries that suffer from macroeconomic imbalances. If Member States are trespassing the thresholds, the Commission commands an in-depth review (IDR) and declares the countries in its *Alert Mechanism Report* (see section 3 and the appendix). The IDR consists in visits to

¹⁰ A more complete description of all indicators, the thresholds and the resulting assessments of the countries can, again, be found in the appendix.

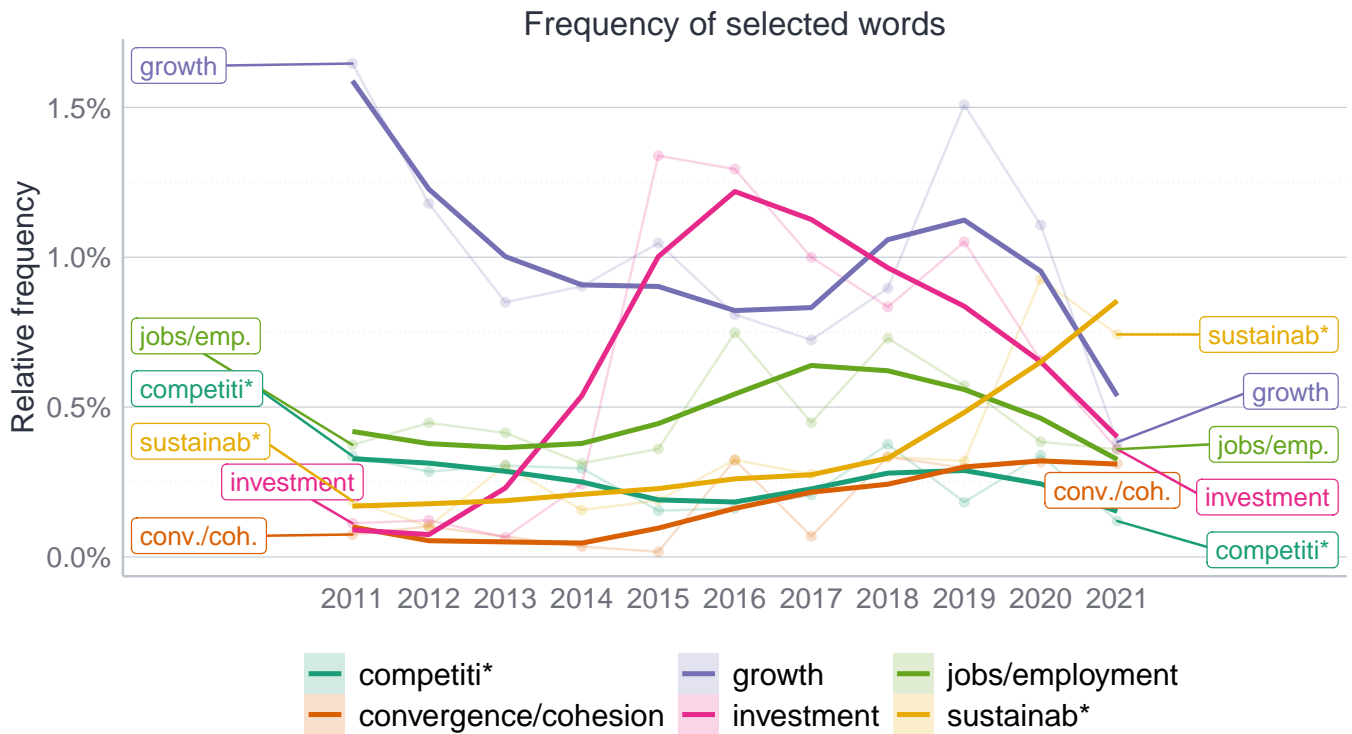


Figure 2: Relative frequency of the words 'growth', 'investment', 'jobs/employment', 'convergence/cohesion' and the stubs 'sustainab*' and 'competiti*'. Frequency is measured by the share of these words of all words in each of the ASGS between 2011 and 2021. Points and shaded lines are actual observations, the bold line is the kernel estimate representing the underlying trend.

Member States, closer monitoring and a closer inspection of alleged imbalances. If the suspicion of serious imbalances gets confirmed during the IDR, concrete recommendations will be issued to remedy them.

The three headline indicators that are explicitly meant to quantify the competitiveness of Member States are (1) the three-year percentage change in the real effective exchange rate (REER), which should not exceed ± 5 or ± 11 per cent for Euro and non-Euro countries, respectively; (2) the five-year percentage change in export world market shares, which should not fall below -6 per cent; and (3) the three-year percentage change in nominal unit labour costs (ULC), i.e. the ratio of labour cost to labour productivity, which should not exceed 9 or 12 per cent for Euro and non-Euro countries, respectively. All three indicators refer to percentage changes and, thereby, do not take into account the different levels of the countries.

Figure 3 shows the dynamics of the indicators for countries following different development models. The development models referred to were identified in Gräbner, Heimberger, et al. (2020b) and are summarized in Table 1.¹¹ The

reason why Figure 3 refers to the development models and not individual countries is that this allows for the relation of the present considerations with the result of the polarization literature surveyed in section 2.3.¹² This literature argues that *competition among Member States* and a simultaneous *divergence in competitiveness* among Member States are an important driver of a polarization in living standards, pointing to a conflict between the overall goal of convergence within the EU on the one hand, and competition among Member States on the other (e.g. Kapeller et al., 2019).

[tb]

Four main conclusions emerge from an inspection of the indicators and their dynamics. The first concerns the selection of indicators in the first place: two of the three measures of competitiveness are directly meant to measure *cost* competitiveness (labor costs and relative exchange rate). More precisely, if one understands 'competitiveness' broadly as the ability to gain market shares for one's products on global markets, then one can distinguish between two main sources of competitiveness: low prices or exceptional goods (or, similarly, goods of exceptional quality, see Sutton, 2012). Given

¹¹ Different development models are characterized by different main drivers for the country's development. For instance, the economic development of core countries relies mainly on a sizeable and complex industry sector, whereas financial hubs rely mostly on the value added created in their financial sectors. See Gräbner, Heimberger,

et al. (2020b) for more details, and Baccaro and Pontusson (2016) for the related concepts of a growth model.

¹² Moreover, a visualization containing all individual countries, which we provide in the appendix, is less clear and, thereby, less illustrative.

Table 1: The country groups delineated by Gräbner, Heimberger, et al. (2020b).

Country group	Member
Core countries	Austria, Belgium, Denmark, Finland, Germany, Sweden
Periphery countries	Cyprus, France, Greece, Italy, Portugal, Spain
Financial hub	Ireland, Luxembourg, Malta, Netherlands
Catchup countries	Bulgaria, Croatia, Czechia, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia

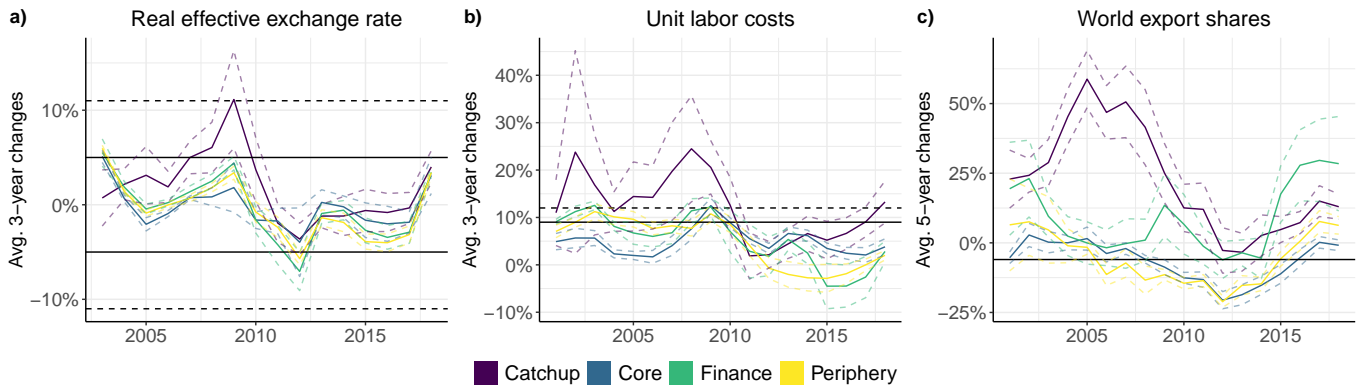


Figure 3: The three main competitiveness indicators of the MIP for countries in different country groups. The complete line refers to the average, the dashed lines indicate the standard deviation of the group. The black line refers to the threshold of the MIP. If there is an alternative threshold for non-Euro countries, it is indicated via a dashed black line.

the relatively high social and ecological standards in the European Union, the pursuit of an export strategy that is mainly built on cost advantages is not promising (see also Kapeller et al., 2019). Rather, the relatively advanced countries in the European Union must base their export model on *technological* competitiveness, i.e. their ability to produce products that other regions cannot produce (or, at least, cannot produce on the same level of quality). Policy measures that boost the cost competitiveness of a country are, however, unlikely to boost its technological competitiveness since the production of more advanced products usually comes with *higher* costs. Given that for advanced countries such as Euro Member States it is technological rather than cost competitiveness that is of particular relevance on international markets (e.g. Carlin et al., 2001; Dosi et al., 2015; Storm and Naastepad, 2015), it is notable that two of the three measures of competitiveness are directly meant to measure cost competitiveness via labor costs (ULC) and the relative value of the European currency (REER).¹³ The third indicator, export shares, is a very broad measure of general competitiveness. The dimension of *technological* competitiveness is not considered in the MIS indicators, nor does one find any reference to the

¹³ Moreover, these measures are computed using information on the entire economy. One might argue that only the costs in selected sectors are relevant for actual cost competitiveness, since, e.g., the health care sector is only concerned with offering services in the local economy, but is not meant to compete on global markets. This issue could be addressed by using sectoral data.

concept of ‘competitive sustainability’, which, while being vague itself, takes a prominent place in the current Annual Growth Strategy of the Union (see Section 4).

Second, the three main indicators exclusively refer to relative changes of individual countries, i.e. percentage point changes with regard to previous values. This means that they do not consider the performance of a country relative to others, which would be more intuitive given the general meaning of ‘competitiveness’, but only its individual trend. The fact that absolute differences between countries are likely to be relevant is illustrated in Figure 4, where we compare the levels of the third indicator, world export shares, after controlling for the population size of the different countries, to its average changes between 2010 and 2019. The relationship is not very pronounced, indicating that the focus on relative changes over time shallows important differences in levels across countries.

To underscore the relevance of the previous two points, the competitiveness of the Member States as measured by the MIS indicators is now compared with a measure of technological competitiveness, that also allows for a direct comparison of the levels across countries. More precisely, we will use the index of economic complexity (ECI, Hidalgo and Hausmann, 2009), which is meant to measure the level of technological capabilities accumulated in a given economy. It has, in a slightly modified version, also been used as a direct measure for the overall competitiveness of a country (Tacchella et al., 2013). A comparison of the

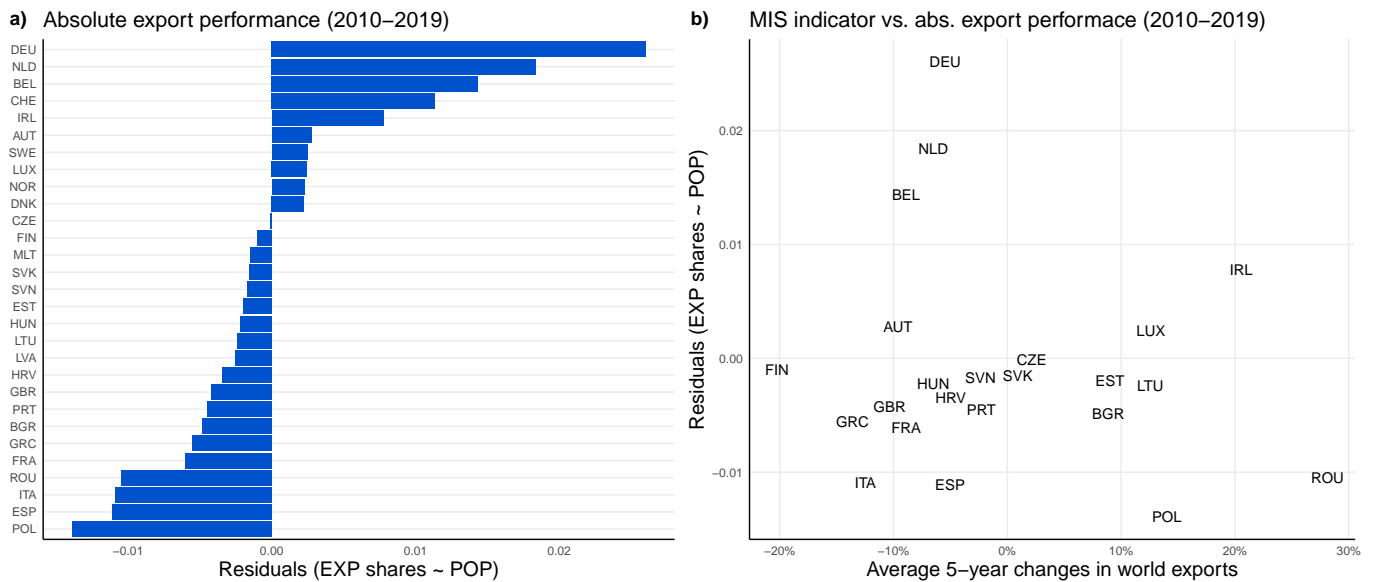


Figure 4: The residuals after regressing world market shares on population as an absolute measure for competitiveness (panel a) and the relationship of this measure to the average 5-year changes of world export shares as used in the MIS. Data refers to the period between 2010 and 2019. Source: Eurostat.

ECI with the measures used in the Semester might show to what extent the latter takes into account the dimension of *technological* competitiveness.

As can be seen in figure 5, however, the correlation between the ECI and all variables used in the MIS is modest at best. Regarding ULC, the correlation tends to be positive, indicating that more advanced countries have higher ULC, consistent with the fact that more complex products usually have higher factor costs. For the other two variables, no clear pattern shows itself. One has to keep in mind, however, that the ECI is a stock variable, whereas the MIS indicators measure changes. Nevertheless, if one takes them as general measures of country competitiveness, one would expect a clearer relationship than the one observed in figure 5.

To compare changes in economic complexity with the indicators in the MIS one would need to use changes in the global ranks of economic complexity since changes in the indicator as such cannot be meaningfully compared over time. However, even if changes in the ranks are considered, the relationship is not as clear as one would have expected (see figure ??): ULC are, if anything slightly positively associated with improvements in the global ECI ranking, consistent with the quality interpretation above. There is a slightly positive relationship for the REER, which is surprising in the sense that a higher REER implies a reduction in cost competitiveness, but consistent with the results according to which cost competitiveness is not essential for the export success of advanced countries (e.g. Carlin et al., 2001; Dosi et al., 2015; Storm and Naastepad, 2015). Finally, there is a considerably positive relationship with changes in the world export shares. This latter point is by far the most straightforward relationship, yet it is largely driven by countries from the Eastern European catch-up category. For the remaining

countries the relationship is moderate at best.

The third noteworthy issue with regard to the headline indicators on competitiveness is the fact that these indicators measure not mainly how individual countries contribute to the competitiveness of the EU as a whole, but rather how these countries perform within the EU. Sometimes, their individual competitiveness is explicitly measured against that of other EU countries. For the computation of the REER, for instance, the rate is relative to a set of 42 countries in which 27 countries are from the EU itself. When computing world export shares, an increase in the competitiveness of one EU country comes, *ceteris paribus* also with a decline of competitiveness of the other Member States. While measuring the competitiveness of the EU as a whole is not trivial, the misalignment of the rhetoric in the strategy papers and the indicators used in the Semester is noticeable. While measuring the competitiveness of the EU as a whole is not trivial, the misalignment of the rhetoric in the grad strategy papers, such as the Lisbon Strategy or Europe 2020, and the indicators used in the Semester is noticeable.

Finally, when it comes to the actual dynamics of the indicators, one cannot observe any clear pattern for countries following different development models (see figure 3). While one might interpret this as evidence against the findings of the polarization literature surveyed above, an alternative interpretation would stress the fact that the MIS indicators do not measure the kind of competitiveness that, according to the literature, is decisive for the success of the development models, i.e. (differences in the level of) *technological* competitiveness. This latter interpretation is more consistent with the observation that differences among groups are visible if one takes into consideration measures for technological competitiveness, such as the ECI, which show

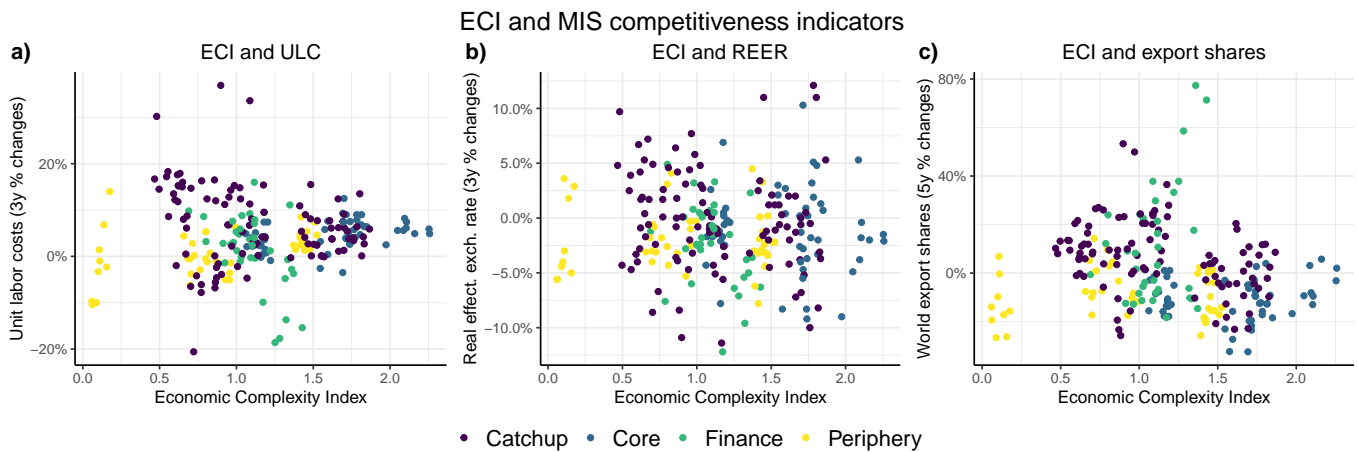


Figure 5: The relationship between the Economic Complexity Index as a main indicator for technological competitiveness and the competitiveness indicators in the MIS. Data spans from 2010 to 2019. Source: Eurostat and Atlas of Economic Complexity; authors' own calculations.

intuitive behaviors for the different country groups (Gräbner, Heimberger, et al., 2020a).

In all, the elaborations above suggest that, first, within the MIS the malleable concept of competitiveness is translated into a consistent set of quantitative indicators, and thereby, interpreted in a very particular way. Thus, in contrast to the (vague) ASGS, not all different interpretations of 'competitiveness' are considered, but mainly the specific idea of cost competitiveness. Second, the indicators show differences in levels across countries; they only measure changes in the competitiveness of single countries. This is a rather counterintuitive approach, given the general character of 'competitiveness' as a *relative* concept. Finally, the way 'competitiveness' is measured is inconsistent with the common narrative of the EU to become a competitive region *as a whole*; rather, the indicators focus on country-specific rather than EU-wide competitiveness. As will be discussed below, this has also some important implications for how the measurement of competitiveness in the Semester relates to the overall promise of economic convergence.

6 Discussion

The present paper was concerned with the interpretation (and operationalization) of the concept of 'competitiveness' in the central policy coordination framework of the EU, the European Semester, an analysis that was aggravated by the relevance of informal institution governing the actual practice of the Semester as such. This question is, nevertheless, relevant since while the concept of 'competitiveness' is regularly mentioned in the main strategy papers of the EU, the existing literature has stressed its malleability and the fact that the ultimate interpretation of what 'competitiveness' means and how it is determined has been subject to discursive struggles and differing policy paradigms within the EU.

Against this backdrop the paper was concerned with the search for translations, which turn the theoretically ambiguous concept into concrete and quantitative indicators. The first attempt to identify such translations was made with regard to the central strategy document of the Semester, the ASGS. While the ASGS is extremely important since it defines the 'frame of feasibility' for a whole cycle of the Semester, the Commission therein remains very vague on the specific definition and determination of competitiveness. Instead of translating the ambiguous concept into concrete indicators, references are made to a wide array of different and conflicting interpretations found in the theoretical literature. This, however, does not compromise the importance of 'competitiveness': the word count analysis indicates that competitiveness is a constantly discussed subject within the ASGS, the extent of which is currently comparable to central concepts such as 'convergence', 'growth' or 'employment'.

The encountered ambiguity motivated the analysis of the legally most binding parts of the Semester, the MIP and SGP. In the MIP, the concept has been translated into three concrete headline indicators, which are meant to measure the competitiveness of countries. They, in turn, allow for the deduction of the underlying theoretical concept that turns out to be much more homogeneous than the one confronted with in the (vague) ASGSs.

The analysis of these indicators has produced three major insights that deserve further attention. As conjectured above they all show a close relation to the empirical results found in the literature on European socio-economic polarization that diagnose a conflict between the central promise of economic convergence and competition between Member States. First, the indicators used in the MIP are mainly meant to measure *cost* competitiveness. There are no indicators concerned with *technological* competitiveness present in the MIP, suggesting a constriction of the concept that deserves to be subject of closer inspection. This is partic-

ularly relevant since earlier, as well as more recent results from the polarization literature highlight the relevance of *technological* rather than *cost* competitiveness (e.g. Carlin et al., 2001; Dosi et al., 2015; Kapeller et al., 2019; Storm and Naastepad, 2015). *Technological* competitiveness is the main determinant of the success on international markets for more advanced economies. At the same time, the lack thereof in poorer periphery countries is at the root of current polarization tendencies (e.g. Gräbner, Heimberger, et al., 2020a). Therefore, the absence of a measurement for technological competitiveness is problematic, at least given the goal of the EU to foster convergence among Member States.

Second, the indicators used in the MIP tend to place competition *between* Member States at center stage; they do not measure how individual countries contribute to the competitiveness of the EU *as a whole*, but rather how their own competitiveness changes over time. This points to an inconsistency with the alleged goal of the more general strategy papers such as the Lisbon Strategy, where the main concern is to enhance the competitiveness of Europe *as a whole* and, more fundamentally, with the promise of the EU to achieve a convergence of living standards among its Member States – a topic that is at least as important in the yearly ASGS as is competitiveness. In practice it means that beggar-thy-neighbor policies, which may help to increase the competitiveness of a single Member State at the expense of the others, are not desirable from this general viewpoint, but they can improve the assessment of a country within the MIP. Of course, one might argue that the competitiveness of the European Union as a whole is nothing but the sum of the competitiveness scores of its members, and that the individualistic incentives currently in place actually are fostering overall competitiveness as well. However, there are dilemma-like situations where overall cooperation and coordination among Member States would be preferable as compared to a state where each country maximizes its own competitiveness. Collecting corporate taxes or ensuring ecological production standards are only two of the most prominent examples in this regard. This second insight emphasizes the potential of the indicators to foster divergence since competition *between* countries in the EU is a main driver of the current polarization patterns (e.g. Kapeller et al., 2019).

Third, existing indicators focus on *changes* in the competitiveness of countries rather than their levels relative to others. This is potentially problematic since it shallows the obvious heterogeneity of countries. The literature on comparative economic development has found that *absolute differences* of competitiveness across countries are one important reason for the accelerating polarization between core and periphery countries in the EU (e.g. Gräbner, Heimberger, et al., 2020a). The current measurement is inapt to reflect these difference. However, if the central policy coordination mechanism of the EU does not measure the present heterogeneity, it is less likely to become addressed by adequate policies. Rather, in order to put the persistent differentials in levels of com-

petitiveness on the agenda, they have to be highlighted by the relevant indicators. A consideration of such indicators, such as the ECI used above, would point to the fact that not only considerable differences exist, but also that without addressing these differences the political promise of the EU to foster social convergence becomes ever more difficult to achieve. What is needed is a strategy geared towards improving the competitiveness of the currently least competitive countries in the EU – at least if one wishes to realize the original convergence promise of the European Union.

In all, ‘competitiveness’ is a theoretically diverse, malleable and contested concept, with a close connection to the problem of economic convergence. The present analysis has focused on the translation of such a contested theoretical concept to a set of quantitative indicators in the European Semester, and has highlighted several aspects that warrant further attention. This has provided a glimpse on the numerous implicit assumptions that enter the operationalization of competitiveness, but also highlighted the powerful implications different approaches to its measurement have, especially with regard to the topic of economic polarization within Europe.

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Supplementary material

An online appendix for this paper is available : <https://claudius-graebner.com/files/papers/MisMeasuringCompetition-Appendix.pdf>.

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