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The impact of self-regulation in the governance of European higher education systems on quality and equity

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THEMATIC ARTICLE

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ABSTRACT

Self-regulation in the governance of higher education systems is often assumed to improve institutional performance, accountability, and responsiveness. Although studies of higher education governance have addressed the extent of self-regulation across national systems, there has been less investigation of the links between self-regulation and quality and equity. Nevertheless, the universal adoption of the United Nations Sustainable Development Goals (SDGs) commits all countries to equal access to affordable and quality education, including higher education, by 2030. To assess the relationship between self-regulation, quality, and equity, this paper presents a novel higher education self-regulation index trialed using the cases of England, Finland, France, and Germany. The index compares self-regulation, based on the respective national legal and policy frameworks, in core higher education functions: control and evaluation, funding, strategy and structure, personnel, and teaching and research. Each area is analyzed using six conditions reflecting the level of autonomy of an institution which could be met in full, in part or not met and assigned to a proxy number ranging from 0, 0.5 and 1 respectively. Each of these areas is summarized with a level that is either High, Medium, or Low and these are the levels then shown in the composite index. The impact of varying levels of self-regulation in a higher education system on quality and equity is then analyzed. Whereas higher levels of self-regulation do appear to have some impact on quality, the study found that a mix of policy steering, and institutional initiatives are needed to improve equity. Further refinement and testing of the self-regulation index would improve its utility as a tool to support governments and institutions to enhance higher education governance in support of the SDGs.

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KEYWORDS

higher education, higher education reform, self-regulation, governance, measurement, comparative analysis, England, Finland, France, Germany, Sustainable Development Goals, SDG4

INTRODUCTION

Self-regulation, which describes the ways in which a sector of private or public activity is enabled to define and collectively pursue its own interests, has become prevalent as a form of governance (Peters & Pierre, 2016). The procedures, rules and norms of self-regulation may be formal or informal, although they should be sufficiently institutionalized to be widely recognized by the actors in the sector. Governance explains how decisions are made and how they are implemented through policies, plans, activities, and structures (Amaral et al., 2002). Under the notion of governance, institutions are increasingly understood as complex entities involving multiple actors with different formal and informal powers (Hénard & Mitterle, 2010). If the governance of higher education by the state could until the 1980s often be typified as governance by regulation, or state control, the relationship has been shifting since then under the new public management (NPM) discourse (de Boer, Enders, & Schimank, 2008). As a result, many governments have included elements of self-regulation in their higher education reforms (Benavides, Arellano, & Vásquez, 2019; Kitamura, 1997; Maassen & Stensaker, 2003). From state control, many countries now have a governance structure more aligned to state supervision (Sporn, 2007), which delegates aspects of state authority to market-based, network governance (de Boer & Huisman, 2020), while retaining oversight, quality assurance, and other evaluation competences (Neave, 2012).

Self-regulation in relation to higher education governance refers at system level to the ability of higher education institutions (HEIs) to decide freely and independently how to perform their tasks. It is also conceptualized as a series of policy mechanisms and ideas that enhance or seek to evaluate the performance of HEIs while at the same time allowing the sector to 'shape the rules they depend upon' (Porter & Ronit, 2006, p. 67). This leads states to introduce decentralization and privatization mechanisms to deregulate higher education (Dill, 1997), and are intended to introduce markets or market style competition to the system (Varghese, 2016). In turn, these are designed, in principle, to increase quality in higher education. In the same way, policies to provide HEIs with greater options for self-regulation are also intended to drive up quality by making HEIs more responsive and directly accountable for the education they provide. Self-regulation has a strong connection with institutional autonomy, but the concepts are not entirely analogous. Where self-regulation is the ways in which a sector (in this case, higher education) is enabled to define and collectively pursue its own interests, institutional autonomy refers to the 'degree of freedom the university has to steer itself' (Askling, Bauer, & Marton, 1999, p. 177). The link between institutional autonomy and self-regulation comes from the notion that autonomous HEIs are 'able to pursue their goals more effectively than those controlled by the government' (Sanchez-Ferrer, 1997, p. 165). However, it is important to note that institutional autonomy does not intrinsically mean that there will be a greater level of self-regulation in higher education, as a system could be arranged in a way that allows for institutions to have autonomy in several operational and academic matters, while still being evaluated and funded according to policies and standards fully determined and enforced by the government, or government-controlled agencies, without any influence of the institutions or their representatives.

Although previous studies of higher education governance have addressed the *extent* of self-regulation across national systems, there has been less investigation of the *impact* of self-regulation on specific aspects of higher education, including quality and equity. Nevertheless, the universal adoption of Agenda 2030, the United Nations Sustainable Development Goals (SDGs), includes SDG 4, which commits all countries to ensuring inclusive and equitable quality education. Specifically, target 4.3 is 'By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university'. Making connections between SDG 4 and self-regulation as a form of governance in higher education is challenging. Studies on SDG 4 and higher education have tended to focus on the implementation of various of the 17 SDGs through higher education's missions of teaching, research, and engagement (e.g. Chankseliani & McCowan, 2021). Literature that does make connections between the SDGs and governance seems to focus exclusively on the institutional level, for example whether HEIs have a sustainable development policy/action plan (Leal Filho et al., 2021), offering institutional case studies of change in response to the SDGs (Paletta & Bonoli, 2019) or examining tools for HEIs to assess the implementation of sustainability policies (Findler, Schönherr, Lozano, & Stacherl, 2019). Studies making links between aspects of governance of higher education systems (such as self-regulation) and the goals of SDG 4 to increase quality and equity have not been identified.

In response, this paper provides an evidence-based contribution to the public debate about self-regulation in systems of higher education around the world with direct implications for the fulfilment of SDG 4. It does so by investigating whether there is a relationship between self-regulation in higher education and quality and equity in national higher education systems. The article focusses on four European cases: England, Finland, France and Germany, each of which represents a different model of governance (and therefore scope for self-regulation) and where there have been recent governance reforms. Following an overview of the recent reforms, the article presents a new self-regulation index designed to measure and compare the level of self-regulation at national level. The index is trialed using the four cases. A selection of higher education indicators that act as proxies for quality and equity are then reviewed for each of these countries and conclusions derived in comparison to the countries' representation in the self-regulation index.

The findings of this investigation point out to a complex and nuanced relation between self-regulation of higher education systems and overall performance, connecting in some respects such as the increase of the employment rates of graduates, partially linking in others such as institutional quality and the increase in access rates, and not showing a clear pattern in parameters such as in the evolution of completion rates. The article aims to trigger a broader debate on the role of self-regulation as an aspect of governance in higher education vis-à-vis global commitments to increase quality and equity in education.

RESEARCH QUESTION

The research question in this paper is: To what extent can a relationship between self-regulation in higher education and quality and equity in higher education systems be identified?

To assess whether such a relationship exists, this paper presents a novel self-regulation index trialed using the cases of England, Finland, France, and Germany. The index compares the level

of self-regulation across five core higher education functions – control and evaluation, funding, strategy and structure, personnel, and teaching and research – then presenting an overall level of self-regulation for each country. The impact of varying levels of self-regulation in a higher education system on quality and equity is then analyzed.

The conceptual framework for this paper has three elements, combining 1) a theoretical approach to the governance of higher education at system level, 2) a case study of four national cases, and 3) the development of the new self-regulation index along with measures to examine quality and equity using the index. The self-regulation index and quality/equity measures are discussed in detail in the following sections.

The theoretical framing for the study considers three ideal-typical models of higher education governance – state-centered, collegial, and managerial – that form the main models of governance developed in the literature (Clark, 1983; Dobbins, Knill, & Vögtle, 2011; Shin & Kim, 2018). Each model permits for the self-regulation of higher education in different ways. As ideal-typical models, it should be accepted that a certain degree of convergence will exist between models and that mixed modes of governance may coexist. For example, there may be a strong governing board and lay membership governing the institutions, but at the same time, academics have a central role in academic matters (Mora & Vieira, 2009). To recap, self-regulation is understood as a feature of the governance of higher education systems and differs from institutional autonomy due to the emphasis on sector-level mechanisms (rather than pertaining to individual HEIs).

Although the state-centered model suggests state control over the system, the state is also capable of creating mechanisms to expand and then monitor self-regulation. These include quality assurance mechanisms, performance monitoring (e.g. through contracts between the state and HEIs), and rankings. As such, self-regulation in the state-centered model is top-down, with the state's key role being to hold HEIs to account. Within this model, the use of quality assurance (QA) agencies, often staffed by civil servants, is typically limited to a clearly defined role to evaluate and enforce the use of the QA measures that the government has established.

The collegial model is the most naturally self-regulated in the sense of bottom-up direction for HEIs driven by faculty members. Peer review, advocacy bodies and decisions made by individual faculty members are key instruments for steering higher education. If these tools are widespread in a sector, it becomes organically self-regulated. Within this model, the composition of buffer organizations may have a stronger presence of representatives from universities, and broader competences than traditional quality assurance bodies, for example in advising the government on policy, new standards or higher education funding forecasting.

Finally, the managerial model is underpinned by the principles of the market. In some systems, though not exactly following classical market mechanisms, we can still identify the prevalence of market values such as privatization, competition, or the emphasis on quantitatively comparable performance indicators. Under this model, the higher education sector is self-regulated in ways that are similar to private sector self-regulation. Notions such as cost-benefit and customer (student) choice are relevant. HEIs adopt standards, codes, and other tools voluntarily to prove their effectiveness and quality in a competitive market. The role of the state is to promote competition and assure quality, rather than directly intervening with the running of higher education. In this role, the state may deploy policy instruments such as regulations on

tuition fee amounts, tax incentives for donors, or requirements to meet quality standards. In the same way that private sector bodies may award a trademark or certificate to suppliers meeting certain quality standards, QA bodies under this model can provide a similar attestation function in higher education (Jongbloed, 2004).

The case study approach enabled the selection of four cases that collectively represent a different configuration of each of the three models: managerial (England[1]), state-centered (France) and collegial (Finland, Germany[2]). These cases were also selected based on the availability of comparable data and their shared geographical and political context, which reduces – though does not remove – the potential impact of cultural differences in the comparison. The case studies were developed as part of a larger study, which contains more detailed information about each of the countries.

This section presents an overview of the most recent higher education reforms in the four selected countries and the impact this has had on the level of self-regulation in governance at system level. A common trend has been to grant HEIs more financial autonomy, commonly by permitting them to seek non-state funding. This is often linked to reductions in the level of government expenditure on higher education. There has also been a tendency to introduce accountability/evaluation mechanisms designed to enable governments to monitor the effectiveness of self-regulation. The most frequent type of mechanism in this regard has been the creation of a new regulatory body between government and HEIs.

A recent development in the higher education sector in **England** was the passing of the Higher Education and Research Act 2017. The Higher Education and Research Act provides a comprehensive definition of institutional autonomy, which is noteworthy because the differences between self-regulation and institutional autonomy are not always clearly distinguished. The Act also includes an express statutory duty on the regulator created under the Act, the Office for Students, to have regard to the need to protect the institutional autonomy of English higher education providers as they go about its functions. The Office for Students is funded jointly by the government and HEIs and is an independent regulator of higher education. It is responsible for implementing the priorities of the government's annual guidance letter, including the distribution of financial resources to higher education providers.

One year after the introduction of the 2017 Act, the Quality Code for Higher Education was updated, having first been introduced in 2012. The Quality Code is a key reference point for the higher education sector in terms of setting and maintaining expectations for standards and quality, although quality assurance in England is not regulated by law (Eurydice, 2019).

A major governance reform in **Finland** was the New Universities Act of 2009 (implemented in 2010), which guarantees the financial and administrative autonomy of universities and

[1]We refer to England given that the devolution of higher education in the United Kingdom means that higher education policy now differs between the nations of the UK. However, where literature and reports refer to the United Kingdom as a whole, we also use that terminology.

[2]We refer to Germany here though it is worth mentioning that funding for universities in Germany continues to come from the level of the respective State (Länder). It is also at that level that the main regulations on university governance and autonomy are established. The German analysis for this study describes the funding and governance structures in Brandenburg, Hesse, and North Rhine-Westphalia.

granted them independent legal status as corporations (subject to public law) or foundations (subject to private law) (Lindqvist, 2018). Two of the 14 universities in the country are now registered as foundations but nevertheless operate under the Finnish Ministry of Education and Culture. Foundation-run universities are also subject to the Foundation Act (Kohtamäki, 2020). The New Universities Act has further underpinned the market-oriented direction of Finland's higher education system by greatly increasing universities' freedom of action and at the same time enhancing their accountability and responsibilities to society (Broucker, Wit, & Leisyte, 2016; Lindqvist, 2018).

The main reform of the previous decade impacting governance in **France** was the 2013 Law on Higher Education and Research (Eurydice, 2018). It contains several provisions to enhance student success and replaced the previous Higher Education and Research Clusters with University and Institution Communities (COMUE). This is a new organizational form, effectively a federation or confederation of universities and institutions in the same geographic area (Eurydice, 2018). COMUE are designed to strengthen higher education coordination in territories, enhance collegial working, and improve the international competitiveness of French higher education. The Law also stipulates the governance arrangements of COMUE. The Law also established a High Council on Research and Higher Education Evaluation, as well as a new Strategic Council for Research. This body advises the Prime Minister on high-level national research strategy.

The establishment of the **German** Accreditation Council in 2017 marked a major shift in governance through the creation of a shared accreditation system across the country. Furthermore, two recent Federal–State agreements were reached to jointly finance professorships and programs at Universities of Applied Science (in 2018) and to promote the further development and strengthening of teaching across the German higher education system (in 2019) (Eurydice, 2020).

Table 1, compiled by the authors, summarizes the recent governance reforms across the four case study countries and the possible implications of the reforms.

On balance, these recent government reforms do not seem designed to enhance self-regulation but rather to provide mechanisms to monitor self-regulation or to increase direct control of higher education. Two exceptions can be found in recent reforms in England and Finland. England is the only country in the case selection to have a voluntary Quality Code, which is a feature of sectorial self-regulation typically seen in the private sector. In Finland, recent reforms appear designed to increase the distance between the government and higher education even while the state remains the largest financer of higher education.

METHODS

The identification of recent governance reforms in the national case studies illustrated the broader plans for higher education in the country and the willingness and capacity for implementing change to governance at system level. In the extended version of the case studies, the recent reforms were contrasted with a broader review of system level governance in higher education. The main higher education functions affecting system-level governance arising from the case studies were then compared to the findings of previous international studies that had examined some (but not all) aspects relating to self-regulation to inform

Table 1. Recent reforms in higher education governance and their implications for self-regulation

Country	Direction of recent governance reforms	Implications for self-regulation
England	Voluntary sector-wide Quality Code. Created new independent regulator for higher education. Protected institutional autonomy in law.	Greater use of information-based instruments lends well to sectorial self-regulation, furthered by the enshrinement of institutional autonomy as a legal principle. Self-regulation is monitored through an independent regulator.
Finland	Financial and administrative autonomy of universities is guaranteed in law. Granted universities independent legal status as public or private organizations.	Recent reforms increase prospects for self-regulation by creating distance between government and institutions. Creates more freedom of action for universities, but also more accountability.
France	Created new organizational form – (con)federation of universities and institutes in the same region. Created national bodies on research and evaluation.	Potentially increases self-regulation at system level given the autonomy of new (con)federations. Self-regulation is monitored through new national bodies.
Germany	Created first nationwide accreditation system. Federal-state cooperation to drive reform in professorships and programs' funding, and HE teaching.	The creation of a quality (accreditation) agency is a recognized mechanism to monitor self-regulation. Focus on other reforms of specific areas may limit institutional self-regulation e.g., to fully set their own research agenda.

Table compiled by authors.

the development of a self-regulation index. To the best of the authors' knowledge, this index is the first attempt to bring together a measurement of the level of self-regulation in a higher education system with a quantitative assessment of the impact of self-regulation on quality and equity.

The earlier studies that proved relevant for the self-regulation index were the OECD Education Policy Analysis (OECD, 2003), the European University Association's *University Autonomy in Europe* scorecard (European University Association, n.d.) and an academic study of cross-national governance patterns in 46 countries (Song, 2019). The (now discontinued) *OECD Education Policy Analysis* (OECD, 2003) provided a snapshot of university autonomy across 14 OECD member countries based on the results of a survey of university governance. Although it was acknowledged that this portrays a simplified picture and was accompanied by more detailed explanations in the report, the snapshot was nevertheless able to convey a broad trend 'for a reduction in direct state control in most OECD countries' (OECD, 2003, p. 63) which appeared to have accelerated in recent years.

The emphasis on university autonomy is also highlighted by the European University Association (EUA). Like OECD, the EUA recognizes that there is 'broad agreement on the

importance of autonomy for the achievement of universities' missions in the 21st century' (Estermann & Nokkala, 2009, p. 6) but notes that there has not been specific information systematically mapping the level of autonomy and accountability across national systems. To that end, a questionnaire and interviews were conducted with EUA member representatives of the National Rectors' Conference and this led to the creation of profiles for European countries/higher education systems. Published in 2009, 2011, and 2017, the *University Autonomy in Europe* scorecard examines autonomy across four dimensions: organizational, financial, staffing, and academic (European University Association, n.d.). The similarities between the OECD snapshot and this EUA scorecard underline the legitimacy of these factors as representative measures of dimensions of autonomy.

An important contribution to the self-regulation index from the academic literature was Song's (2019) cross-national study of governance patterns. The countries included almost all OECD member countries (including the four cases in this study) and 15 other countries from non-OECD states. At system level, the variables are designed to measure the extent of government regulation using data from the World Economic Forum's Global Competitiveness Index (e.g. 'how burdensome is it for businesses in your country to comply with governmental administrative requirements?'), and the level of financial support through UNESCO data on government expenditure on tertiary education. At institutional level, the study draws from a range of data sources to measure the level of institutional oversight and the type of university management.

Song's study produces four clusters of higher education governance that identify the likelihood of the system moving towards academic capitalism. Although this focus on academic capitalism is different from the emphasis in this study's self-regulation index on quality and equity, there are many parallels in the study design and choice of data points. For example, Song's selection of OECD member countries as national cases was mirrored in this research, as were some of the variables used by Song e.g., on government expenditure and method of appointing the leader of the HEI. This helps affirm the validity of data selection. Song's detailed quantitative analysis could also serve as a useful exemplar for the further development of this self-regulation index.

Bringing together the findings from the case studies with the OECD and EUA autonomy scorecards and the cross-national governance study by Song led to the identification of five core functions affecting levels of self-regulation in higher education systems that were mobilized for this study.

1. Control and quality evaluation: how higher education is controlled and evaluated; what is controlled and how quality is assured and improved.
2. Funding: the main funding base for higher education, funding allocation mechanisms, and the extent to which HEIs can determine their budget allocations.
3. Strategy and structure: who sets HEIs' mission, vision, and academic profile, and how student number allocations are determined.
4. Personnel: how HEI leaders and high-level academic staff are appointed and dismissed; the composition of HEI governing bodies where they exist.
5. Teaching and research: who decides which degrees will be offered, which courses students need to study to complete a degree, as well as who awards degrees. How the research mission of the HEIs (if applicable) is set and how research is funded.

RESULTS

Annex 1 elaborates on the features of self-regulation that were included under each of the five functions and how they were measured. Based on the results from each area, Table 2 shows the overall level of self-regulation in these higher education systems through a composite index. Each of the six areas is summarized with a level that is either High, Medium, or Low.

The composite self-regulation index shows a high level of consistency. In England, where the overall level of self-regulation is high, it is high in four out of five core functions and medium in the fifth. Similarly for Finland and France, the overall level (medium for Finland, low for France) corresponds to the level of self-regulation found in four out of five functions and where the fifth is one level above. The only exception was in Germany, where although the overall low level of self-regulation matched the finding in four out of five functions, the fifth (teaching and research) was high.

Having created the composite self-regulation index, the next step was to measure quality and equity, and then to compare these findings with the overall level of self-regulation. The focus on quality and equity aligns to target 4.3 of SDG 4, which, as previously noted, is 'By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university'. Four indicators were selected, two to measure quality and two to assess equity.

To measure quality, which is more open to interpretation (Green, 1994), it was necessary to adopt proxy measures. The selected indicators were institutional quality, calculated based on standings in global university rankings, and labor market outcomes, as assessed by graduate employment rates. The equity indicators – enrolment and completion – were adopted from two existing robust sources of equity-based assessments that both use the same components. Each indicator was examined over the most recent five-year period for which data was available at the time of writing to better understand change or stability within the national higher education systems.

To measure institutional quality, the proportion of universities in a country that feature in the top 10 and top 100 of one of three major global university rankings (Times Higher Education, ARWU [Shanghai], and QS) was examined. Each ranking collects data on a wide range of measures perceived to relate to institutional quality in teaching/education, research, and community engagement. Although they have been criticized for reifying a particular Anglo-European model of the university, the use of university rankings to define and communicate the

Table 2. Composite self-regulation index

	Area of self-regulation					
Country	Control and evaluation	Funding	Strategy and structure	Personnel	Teaching and research	Overall level
England	Medium	High	High	High	High	**High**
Finland	Medium	Medium	Medium	High	Medium	**Medium**
France	Low	Medium	Low	Low	Low	**Low**
Germany	Low	Low	Low	Low	High	**Low**

Table compiled by authors.

standing of HEIs in relative terms has rapidly diffused at both international and national levels in recent years (Brankovic, Ringel, & Werron, 2019). Rankings are now commonly used by policymakers to stimulate or enhance competitiveness and quality within national systems and are used to serve political agendas more broadly.

The data used for labor market outcomes was trends in graduate employment rates as collected by the OECD. Graduate employability has been seen as an aspect of quality in higher education, with higher post-study employment rates being seen as one way of understanding the effectiveness (quality) of higher education programming (Støren & Aamodt, 2010).

UNESCO's *Handbook on Measuring Equity in Education* identifies five groups of education indicators that are used to measure inequality (UNESCO Institute for Statistics, 2018) that cover access and participation, completion, learning, attainment, and resources. The emphasis in the handbook is on compulsory (school level) education and as a result, not all of indicators are applicable to higher education. Furthermore, this data is not disaggregated by equity-deserving groups (females, students with disabilities, ethnic minorities, refugees, etc.) or by students' economic status. In that regard, the only higher education specific dataset that appears to be available is the *Indicators of Higher Education Equity in the United States* (Cahalan et al., 2020). This report has collected data covering enrolment, institutional type, student funding, and attainment. As an American resource, it stands to reason that some of the indicators are not relevant for all global settings. For example, the indicator about the type of HEI that students attend is predicated on the system being highly stratified as is the case in the United States.

In line with the two indicators used in both these reliable sources, enrolment and completion were accepted as the measures to assess equity. For enrolment, gross enrolment rates in higher education across the student population as a whole and among women students as a specific group were examined. Data on gross enrolment rates for tertiary education was accessed from UNESCO Institute for Statistics. As enrolment in higher education has increased in most countries, so too have graduation rates. This means that longstanding issues relating to student persistence are being addressed and are decreasing the number of students who drop out partway through their program. To measure completion, gross graduation rates from Bachelor's and Master's degree level programs were examined both for all students and for women students. Data was also accessed from UNESCO.

It is critical to note that the purpose of the index was not to imply causality. Rather, the intention of the index is to highlight relationships that may exist among factors. The self-regulation index is an initial effort that was developed by the authors. Fuller consultation with a wider range of experts on the index on which measures to include, identifying other possible data sources, etc. was not possible at this initial stage, and neither was detailed statistical analysis of the data. The index is based on secondary data. While the datasets that were consulted are rigorous and reliable, and themselves draw on primary data, it could be seen as a limitation that the index relies on data points selected by other organizations. However, this is also a strength in that the data is open access, which could encourage others to further refine this initial approach by supplementing other publicly available statistics.

In this initial version of the self-regulation index, it was possible to look at data on gender (male/female) but it was not possible to identify reliable cross-national data on other areas where there are known inequalities in higher education. It is expected that this type of data is collected at national level in many countries, but it is not currently aggregated. This is not an easy task as

certain equity-deserving groups are specific to particular settings, just as who exactly comprises those groups can also be country and region specific (Salmi & D'Addio, 2021). Nevertheless, this would be an important area to tackle.

While education quality indicators are often more widely available at national level, based on their respective quality assurance mechanisms, internationally comparable HEI quality indicators are much rarer. The selected proxies have their limitations; however, they do represent some of the main outcomes that society at large uses as proxies for higher education quality. For example, although rankings are limited indicators, they have become a policy priority around the world (Hazelkorn, 2011). Their functions are rightfully contested for creating a 'competition fetish' (Naidoo, 2018), despite their widespread institutionalization. As the index in this paper is the first of its kind, it stands to reason that the proxy indicators could continue to be developed and refined through further research.

DISCUSSION

Table 3 compares the overall level of self-regulation in the four case study countries to the number of universities featured in global rankings. This demonstrates very little change over time, perhaps unsurprisingly given the sheer volume of universities across a high number of countries competing for a top 100 position. In Finland and Germany, the situation appears highly stable with the three rankings reporting either identical results for 2015 and 2020 or a decrease of one university. The declines in the number of English universities between 2015 and 2020 are more noticeable. However, this is likely to be attributable to the growth in competition and less connected to a drop in institutional quality. In the context of the rankings producing very little variation over time, it is worth mentioning the increased number of French universities. All three rankings report an increase of one or two universities appearing in the top 100 in the case of France. This could suggest an increase in institutional quality across the range of university functions.

Looking across the four countries, it is difficult to make connections between performance in global rankings and the overall level of self-regulation. Both France and Germany have introduced 'excellence' policies that seek to improve rankings performance by providing targeted funding to selected HEIs, in line with the lower level of self-regulation that was found in these two countries. However, the effect is only visible in the case of France. It is notable that overall government expenditure on higher education in both France and Germany has been stable,

Table 3. Self-regulation and quality: institutional quality

Country	Overall level of self-regulation	Change in number of universities in rankings (2015–2020)
England	High	Decline
Finland	Medium	Stable
France	Low	Increase
Germany	Low	Stable

Table compiled by authors. Rankings data sources: Times Higher Education, ARWU [Shanghai], and QS rankings websites.

which does not imply new funding but the reallocation of the same overall amount of funding to deliver different outcomes. However, it is not clear that these outcomes have been achieved, although this may become more apparent over time.

In England and Finland, where self-regulation is high and medium, government funding has also declined in recent years. This could potentially be a cause of the stable or decreased outcomes in university rankings, but it seems more likely that this is attributable either to global factors (growing competition) or local contexts, e.g. the small size of the national system in the case of Finland, which has 39 universities compared to 134 in England.

As shown in Table 4, employment rates for all those aged 25–34 with tertiary education barely changed over the period 2014 to 2019 and decreased by 1% in France and 4% in Germany. Only England saw a positive change of 1% in employment over the five-year period. The situation for female graduates has been more encouraging, with increases of between 2% and 9% over the same period. By 2019, female graduates were employed at a higher rate than the overall rate (for both males and female graduates). This important achievement took place in a relatively brief period, seeing as in 2014 the employment rate for female tertiary-level graduates was lower than the overall rate across all the countries.

There appears to be some association between changes in employment rate and level of self-regulation. In England and Finland, which were identified as having high or medium levels of self-regulation, the change in overall employment rate of 0% or 1% and the change in female employment rate of 8%–9% is very similar. It could be inferred from this that higher self-regulation has a slightly positive effect on employment. This is particularly pertinent in relation to teaching and research and the ability of HEIs to determine the content of their degree programs in relation to labor market and other requirements. These two countries have either medium or high levels of self-regulation in the teaching and research area.

In France, where overall self-regulation is low and self-regulation in teaching and research is low, the smallest gains were made by women in the labor market and there was a negative trend in overall employment rates. It is possible that the lower ability of French HEIs to determine factors such as the size of student body and the introduction of new programs negatively impacts subsequent employment. However, the situation is complicated by the findings for Germany. Although the overall level of self-regulation in Germany was also low, its level of self-regulation in teaching and research was high. The overall employment rate has shrunk while at the same time growing for female graduates.

Enrolment in higher education compared to self-regulation is shown in Table 5. Where gross enrolment ratios have increased, it can be expected that access to higher education has

Table 4. Self-regulation and quality: labor market outcomes

Country	Overall level of self-regulation	Overall increase in employment rate (2014–2019)	Increase in female employment rate (2014–2019)
England	High	1%	8%
Finland	Medium	0%	9%
France	Low	−1%	2%
Germany	Low	−4%	5%

Table compiled by authors. Employment rate data source: OECD Education at a Glance.

expanded, with implications for access for female students. In three of the four countries, females are more represented in higher education than males and in the fourth (Germany), there is equal female and male representation. This means it is not additionally necessary to examine whether self-regulation patterns bring greater gender balance for women into higher education.

In England, the country with the highest level of self-regulation, enrolments have increased. In Finland, which has a medium level of self-regulation, enrolments have dropped by a small amount. From this it can be surmised that self-regulation does not necessarily have a positive effect on access, and that in systems with more self-regulation, other factors such as population change may have more impact on changes in access to higher education.

A contrasting picture emerges from France and Germany, where overall self-regulation is low but where enrolment has grown by well over 10%. This suggests that systems with higher levels of government steering, and lower self-regulation may in fact be better placed to improve access to higher education through targeted policies (e.g. quotas, performance indicators on access and therefore funding conditionality). However, it should also be noted that France and Germany have lower educational attainment rates than England and Finland. It could therefore also be the case that the proportionately higher increases in access to higher education in France and Germany is equally or alternately attributable to the larger scope to expand access to more of the population.

In three of the four countries, there was no noticeable difference in the findings for the overall student population and for female students. Female enrolment grew faster than overall enrolment in Germany which again may be attributed to the lower starting point than in the other countries (this time including France).

The overall picture for completion rates, as seen in Table 6, is uniformly positive, with 13%–20% more students graduating in the four countries over a five-year period. For female students,

Table 5. Self-regulation and equity: enrolment

Country	Overall level of self-regulation	Change in enrolment (2014–2019)	Change in female enrolment (2014–2019)
England	High	7%	8%
Finland	Medium	−1%	−2%
France	Low	12%	12%
Germany	Low	13%	17%

Table compiled by authors. Enrolment data source: https://data.uis.unesco.org/.

Table 6. Self-regulation and equity: completion

Country	Overall level of self-regulation	Overall graduation rate increase (2014–2019)	Female graduation rate increase (2014–2019)
England	High	13%	10%
Finland	Medium	15%	14%
France	Low	13%	12%
Germany	Low	20%	32%

Table compiled by authors. Completion data source: https://data.uis.unesco.org/.

each country has also witnessed an increased graduation rate ranging from 10% to 32%, a positive development in terms of equity.

However, this is not an unalloyed good, as the gains for female students are slightly lower in England, Finland and France compared to the overall student population. The picture in Germany, where the starting point for female completion was lower than the other countries by 10% or more, the reverse occurred with a much higher rate of increase in female student graduation compared to all students. While there is greater gender parity in access to higher education, more needs to be done to support female students to persist and complete their studies.

While the main headline in relation to graduation rate changes is positive, the link between these achievements and self-regulation is unclear. The increased rates are seen across countries with high, medium and low levels of self-regulation with no obvious patterns. For example, both England and France have increased overall completion rates by 13% but the overall level of self-regulation was identified as high in England yet low in France.

CONCLUSION

Enhanced self-regulation of higher education is intended mainly to decentralize decision-making and is sometimes used to create an enabling environment for HEIs to perform their functions: teaching, research and community engagement, in light with the changing demands of industry and society. This paper has examined self-regulation in higher education as a feature of system-level governance and its connections to improvements in quality and equity using four country cases by developing a self-regulation index. As the first initiative of its kind, the index is intended to provoke debate and discussion and should be viewed as an initial attempt that future studies could refine. Although the role of higher education in advancing the 17 Sustainable Development Goals (SDGs) in general and SDG 4 in particular is somewhat acknowledged in the literature, there has been a gap in understanding how progress towards SDG 4 could be examined from a governance perspective. As such, the focus on quality and equity in this study was an effort to make stronger connections between the SDG 4 and the ways in which higher education systems are governed in contemporary Europe.

The self-regulation index was designed based on the country case studies as well as previous assessments of autonomy and a cross-national study of governance patterns. The index assessed the level of self-regulation in England, Finland, France and Germany in five core higher education functions with governance implications: control and quality evaluation; funding; strategy and structure; personnel; and teaching and research. The composite level of self-regulation derived from the findings of each of the five functions was found to be high in the case of England, medium in the case of Finland, and low for France and Germany.

To compare the overall level of self-regulation to quality and equity, four indicators – institutional quality, measured by global rankings; labor market outcomes, measured by graduate employment rates; enrolment, and completion, measured by graduation rates – were applied and measured over a five-year period. The results of this initial assessment showed no clear connections between policies to increase self-regulation, the environments in which self-regulation flourishes, and better quality and equity in higher education.

Neither did it appear to be uniformly the case that policies aimed at enhancing self-regulation lead to greater levels of self-regulation. A mix of policy steering and autonomous institutional initiatives could expand the possibilities for improving access and equity in higher education.

Increased self-regulation alone may not guarantee higher quality, just as less self-regulation may not necessarily preclude better performance. Nonetheless, more self-regulation has been expected to provide a better framework for fostering these factors. It is also worthwhile to note that government's stance or policies which enhance or reduce self-regulation of HEIs may not be, in some contexts, motivated by the desire to improve the performance of the higher education sector but influenced by other reasons for example, the political system's relationship with HEIs.

As noted in the methodology section, it was not in the scope of this project to undertake an econometric analysis and seek causal relationships between factors. This would be an important area for future development. Another area in which research on this topic deserves greater attention is on the contextual factors in these case study countries which enable or impede quality and equity measures reported in this analysis. Third, interviews with leaders of higher education institutions in the four countries could offer more perspective regarding how the relationship between the state and higher education institutions affects their autonomy. This would complement the quantitative data from this new self-regulation index.

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ANNEX 1

Features of the self-regulation index

Overview

The five tables that follow show the breakdown of the composite self-regulation index by each of the core functions affecting self-regulation in higher education systems:

1. Control and quality evaluation: how higher education is controlled and evaluated; what is controlled and how quality is assured and improved.
2. Funding: the main funding base for higher education, funding allocation mechanisms, and the extent to which HEIs can determine their budget allocations.
3. Strategy and structure: who sets HEIs' mission, vision, and academic profile, and how student number allocations are determined.
4. Personnel: how HEI leaders and high-level academic and administrative staff are appointed and dismissed
5. Teaching and research: who decides which degrees will be offered, which courses students need to study to complete a degree, as well as who awards degrees. How the research mission of the HEIs (if applicable) is set and how research is funded.

Each area has six conditions which could be met in full (marked 'Yes'), in part (marked 'Partial') or not met (marked 'No'). The only exception to this schema is for the funding function, where one condition was marked with 'Above average', equating to 'Yes' elsewhere; 'Average', corresponding to 'Partial', and 'Below average' which matched to 'No'.

Each area is summarized with a level that is either High, Medium, or Low, and these are the levels shown in the composite index. To achieve these levels, a proxy number was assigned to the responses: Yes/Above Average = 1; Partial/Average = 0.5; No/Below Average = 0. A maximum total of 6 was possible for each area. Where the total was between 0 and 2, the level given was Low. Totals of 2.5–4 equate to Medium and 4.5 to 6 were assigned High. In the overall index, the composite level was based on the value (High/Medium/Low) that recurred most frequently for each country.

Table 1. Control and evaluation

This part relates to the overall level of steering by government and how governments assure the quality of institutions.

1.1. Public funding is conditional on institutions meeting teaching and research criteria laid out in a contract or performance indicators.
Operationalisation: Existence (Yes/No) of contracts or agreements between HEIs and the state, linking general transfers of funding with the achievement of agreed objectives and targets. It was considered 'Partial' when the conditionality existed but did not affect most of the public funding. The rationale for this indicator is the assumption that the government devolves the expenditures' assignment responsibility to HEIs and uses the contract to steer the overall result of their activities.

1.2. Overall quality standards are laid out in a voluntary code of practice/good practice guide
Operationalisation: If the code of practice is enforceable by the state, country was marked as 'No', if the code was voluntary, as 'Yes'. Only England had a nationwide voluntary code of practice, a classic self-regulation mechanism.

1.3. Institutional quality assurance/evaluation is a voluntary process
Operationalisation: Marked as 'Yes' for voluntary processes and 'No' for mandatory ones. England was marked as 'Partial' since mandatory quality evaluation affects only the research activities of universities, while the teaching and learning activities follow voluntary schemes, except for the assessment of professional programs. This indicator did not account for the initial process of registration for new HE providers, but rather focuses on periodic quality assurance mechanisms for existing institutions.

1.4. Institution decides which quality assurance agency to work with
Operationalisation: Based on the assessment made by the European University Association (EUA) index on university autonomy ('Universities can choose the quality assurance agency freely according to their needs (including agencies from other countries)'). Not including professional programs as the assumption is that they would all be regulated.

1.5. Institutions are primarily responsible for the quality of their programs
Operationalisation: 'Yes' if program quality standards are decided on the institution level, either by having its own QA processes or by following a self-assessment procedure. 'No' or 'Partial' if they are fully or partially set by the government or an official QA body.

1.6. Peer review is widely used in program and/or institutional quality evaluation
Operationalisation: 'Yes' if these quality evaluations could be peer review organized by HEIs or peer review organized by quality agencies. That is, mainly being performed by personnel from another HEI or program, as opposed to evaluations mainly conducted by government bodies or agencies themselves. 'Partial' when there may be a small number of peers but they are not the main or only group doing the review.

Control and evaluation

Country	Public funding is conditional on a contract or performance indicators	A voluntary code of practice lays out quality standards	Institutional evaluation is a voluntary process	Institution can choose quality assurance agency	Institutions are primarily responsible for program quality	Peer review is widely used in quality assurance	Self-regulation level
England	Partial	Yes	Partial	No	Yes	Yes	Medium
Finland	Yes	No	No	Yes	Yes	Partial	Medium
France	Yes	No	No	No	Yes	Partial	Low
Germany	Partial	No	No	Yes	No	Partial	Low

Table 2. Funding

This part uses the indicators that relate to what the EUA defined as financial autonomy, focused on how HEIs are funded. A key argument is that institutional autonomy can be enhanced and protected through diversifying HEI funding bases. This assumes that the higher the proportion of income that comes from non-government sources, the greater their freedom of action.

2.1. Level of private funding (not fees or household)
Operationalization: The OECD average for private funding of higher education is 29%. Private funding for HE among OECD countries is between 0 and 71%. Therefore, if a country's share of private funding towards HE is 0–19% (Below Average equating to No elsewhere); 20–40% (Average equating to Partial elsewhere) and 41–71% (Above Average equating to Yes elsewhere).

2.2. Unrestricted block grant funding is the main source of public expenditure
Operationalization: 'Yes' if unrestricted block grant funding is the main source of public expenditure towards HEIs; 'No' if restricted block grant funding is the main source of public expenditure towards HEIs; and 'Partial' if there is somewhat a balance between unrestricted and restricted block grant funding. Unrestricted block grant funding means that funds from the government do not have to be spent in support of a particular program, thereby granting the receiving HEIs more financial autonomy as they can freely allocate the funding to different budget lines.

2.3. Institutions' main income source is tuition fees
Operationalization: 'Yes if universities' main income is tuition fees, 'No' if universities main income comes from the government.

2.4. Institutions can borrow money without restrictions
Operationalization: 'Yes' if universities can borrow money without restrictions; 'No' 'if they cannot borrow money and 'Partial' if they can borrow money but with the need of approval from an external authority or worth other types of restrictions.

2.5. Institutions can retain surplus without restrictions
Operationalization: 'Yes' if surplus can be kept without restrictions; 'No' if surplus cannot be kept; and 'Partial' if surplus can be kept with restrictions or approval from external authority.

2.6. Institutions can own buildings without restrictions
Operationalization: 'Yes' if universities are allowed to own their buildings; No if they are not allowed to sell their buildings and Partial if universities can sell their budlings but with need for approval from an external authority or with other types of restrictions.

Funding (Sources and degree of autonomy for institutions)

Country	Level of private (non-tuition fee) funding	Public expenditure is mainly unrestricted block grant funding	Tuition fees as main income source	Can borrow money	Can retain surplus	Can own buildings	Self-regulation level
England	Above Average	Yes	Yes	Partial	Yes	Yes	High
Finland	Below Average	Yes	No	Yes	Yes	Partial	Medium
France	Average	No	No	Partial	Yes	Partial	Medium
Germany	Below Average	Yes	No	Partial	Partial	No	Low

Level of private funding based on range (0-71%) and average (29%) among OECD members: Below Average (<19%); Average (20-40%), Above Average (>41%).

Table 3. Strategy and structure

This part relates to what the EUA defines as organizational autonomy, 'a university's ability to decide freely on its internal organisation, such as the executive leadership, decision-making bodies, legal entities and internal academic structures'. This part also uses two indicators of EUA's financial autonomy indicators ('Tuition fees for national/EU students at Bachelor/doctoral level'). The operationalisation is based on these two sets of EUA indicators.

3.1. Institution sets its own strategy/vision/mission
Operationalization: Based on Eurydice reports on national education systems. If HEIs have responsibility for their own strategy, vision, and/or mission: marked as 'Yes'. If the autonomy to do so is limited, marked as 'Partial'. If the right to do so does not exist, marked as 'No'.

3.2. Institution decides whether to include external members on Governing Body
Operationalization: 'Universities can decide to include external members' for 'Yes'. 'Universities cannot decide as they cannot include external members' and 'Universities cannot decide as they must include external members' for 'No'.

3.3. Institution chooses external members of the Governing Body
Operationalization: 'Universities can freely decide on external members' for 'Yes'. 'Partial' is determined by the indicator 'External members are partly appointed by the university and partly by an external authority' for France and Germany (Hesse State), and by 'Other appointment processes' (Germany, North Rhine-Westphalia State).

3.4. Institution decides its own academic structure
Operationalization: 'Universities can decide on their academic structures without constraints' for 'Yes'. In France, 'Guidelines exist in the law', which is marked as 'No'.

3.5. Institution decides level of tuition fees for domestic undergraduate students
Operationalization: 'Universities are free to set the level of tuition fees' for 'Yes'. 'Universities can set the level of tuition fees under a ceiling set by an external authority' for 'Partial' (England). 'No' is determined by either 'Only an external authority is allowed to set the level of tuition fees' (France) or 'There are no tuition fees' (Finland, Germany).

3.6. Institution decides level of tuition fees for domestic PhD students
Operationalization: Same categories as in point 3.5, also same results except for England.

Strategy and structure (What can institutions decide for themselves)

Strategy and structure	Institutional strategy/ mission	Whether to include external members on the Board	Choice of external members of the Board	Academic structure	Tuition fees for domestic undergraduate students	Tuition fees for domestic PhD students	Strategy and structure level of self-regulation
England	Yes	Yes	Yes	Yes	Partial	Yes	High
Finland	Yes	No	Yes	Yes	No	No	Medium
France	Yes	No	Partial	No	No	No	Low
Germany	Partial	No	Partial	Yes	No	No	Low

The Board may also be referred to as the Governing Body or Council. It is the highest decision making body in an institution. Academic structure refers to faculties, institutes etc.

Table 4. Personnel

This part draws its indicators from the EUA's index on staffing autonomy, which they define as 'a university's ability to decide freely on issues related to human resources management, including recruitments, salaries, dismissals and promotions'. The rationale is linked to HEIs having to operate in a globally competitive environment, where they would benefit from being able to select the best candidates for their staff, particularly for their senior staff and leadership.

4.1. Governing body appoints a leader
Operationalization: 'Yes' if the Governing Body appoints the head of the University, 'No' if the leader of the University is appointed by an external authority, 'Partially' where appointments need to be regulated by an external authority or other restrictions apply.

4.2. Institution sets criteria for leader
Operationalization: 'Yes' where Institutions internally set the criteria for the university leader; 'No' where the criteria is set by an external authority.

4.3. Institution decides senior academic appointments
Operationalization: 'Yes' where Institutions decide senior academic appointments, 'No' where senior academic appointments are decided by an external authority; 'Partial' where these appointments are regulated by an external authority or other restrictions apply.

4.4. Institution decides senior administrative appointments
Operationalization: 'Yes' where Institutions decide senior administrative appointments, 'No' where senior administrative appointments are decided by an external authority; 'Partial' where these appointments are regulated by an external authority.

4.5. Institution can set its own regulations to dismiss senior administrative staff
Operationalization: ‘Yes’ where there are no sector-specific regulations concerning dismissals (national labour regulations apply) ‘No’ where dismissals are strictly regulated due to civil servant status for all staff; ‘Partial’ where dismissals are subject to other regulations specific to the sector.

4.6. Institution employs faculty and staff
Operationalization: ‘Yes’ where recruitments for faculty and staff are carried out freely by universities, ‘No’ where the number of posts is regulated by an external authority for all or some staff; ‘Partial’ where there are other restrictions relating to employing faculty and staff.

Personnel (What can institutions decide)

Country	Board appoints leader	Selection criteria for leader	Senior academic appointments	Senior administrative appointments	Senior administrative dismissals	Employ faculty and staff	Self-regulation level
England	Yes	Yes	Yes	Yes	Yes	Yes	High
Finland	Yes	No	Yes	Yes	Yes	Yes	High
France	Yes	No	Partial	Partial	No	No	Low
Germany	Partial	No	Partial	Yes	Partial	Partial	Low

The Board may also be referred to as the Governing Body or Council; it is the highest decision making body in an institution.
Table: [illegible] • Created with Datawrapper

Table 5. Teaching and research

This part relates to what the EUA defines as academic autonomy, and the operationalisation is based on EUA indicators.

5.1. Institution decides size of student body
Operationalization: ‘Yes’ is defined by ‘Universities decide independently on the number of study places’ (England). ‘No’ is marked when the country applies a free admission policy (France) so anyone can attend without selection criteria chosen by the institutions. ‘Partial’ is marked when ‘Universities negotiate with an external authority’ (Germany, Finland).

5.2. Institution can introduce new taught programs without restrictions
Operationalization: ‘Yes’ for ‘Universities can open degree programmes without prior accreditation’ (England). ‘Partial’ for ‘Other restrictions’ (Finland, Germany: Hesse). ‘No’ for ‘All new degree programmes/courses must be submitted to prior accreditation to be funded’ (France) or ‘All new degree programmes/courses must be submitted to prior accreditation to be introduced’ (Germany: North Rhine-Westphalia). Same indicators with the same results per country apply for both Bachelor and Master’s level.

5.3. Institution can introduce new PhD programs without restrictions
Operationalization: Same indicators as in point 5.2 above, though with different results per country.

5.4. Institution can decide content of programs without restrictions

Operationalization: From the EUA university autonomy index, the question 'Universities can freely design the content of degree programmes and courses (other than for the regulated professions)' is used.

5.5. Institution can terminate programs without restrictions

Operationalization: 'Yes' for 'Universities can terminate degree programs independently'. 'Partial' for 'The termination of degree programs requires negotiation between universities and an external authority'.

5.6. Institution can choose language of instruction for undergraduate programs

Operationalization: 'Yes' for 'Universities can choose the language of instruction for all programs' (England, Finland, Germany). 'No' for 'Universities can only offer degree programs/courses in the national language' (France). The other options did not apply for the reviewed countries.

Teaching and research (What can institutions decide without restrictions)

Country	Students' number	New programs	New PhD programs	Programs' content	Programs' termination	Instruction language	Self-regulation level
England	Yes	Yes	Yes	Yes	Yes	Yes	High
Finland	Partial	Partial	Partial	Yes	Partial	Yes	Medium
France	No	No	No	Yes	Yes	No	Low
Germany	Partial	Partial	Yes	Yes	Yes	Yes	High

Size of student body: in Finland and Germany, HEIs have to negotiate this with another body; in France, admission is unregulated so anyone can enter. Content of programs: does not include programs in regulated professions.

Table: [illegible] • Source: IESALC • Created with Datawrapper