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**Teacher Autonomy in the Age of Performance-based  
Accountability: A Review based on Teaching Profession  
Regulatory Models (2017-2020)**

*Lluís Parcerisa*

University of Barcelona  
Spain

*Antoni Verger*

Autonomous University of Barcelona  
Spain

*Marcel Pagès*

University of Girona  
Spain



*Natalie Browes*

Autonomous University of Barcelona  
Spain

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*Resistance*, guest edited by Meghan Stacey, Jessica Holloway, Jessica Gerrard, Anna Hogan, and Mihajla Gavin.

**Abstract:** In recent decades, the governance of educational systems has experienced dramatic changes in many countries. Schools have been given more autonomy whilst being held increasingly accountable at the central level through standardized testing and other forms of external evaluation. The mechanisms of performance-based accountability (PBA) and the consequences attached to test results vary. In high-stakes systems, teachers' careers are more directly connected to students' performance, and low performing schools might risk closure, whereas in lower-stakes systems, the official administrative consequences of accountability for school actors are more symbolic than material. The main aim of this paper is to understand the impact of different forms of PBA on teachers' work from a comparative perspective. Most research on this topic is based on single-context case studies, which makes it difficult to understand the impact of policy factors and professional contexts in teachers' decisions and autonomy. To address this challenge, we review recent investigations (2017-2020) on the topic and compare their findings in different teachers' regulatory contexts. The review includes 101 articles from the SCOPUS and Web of Science databases. We find that evidence on the impact of PBA on teachers' perceptions and beliefs are variegated, and that the implications of PBA on teachers' autonomy does not only depend on the level of accountability stakes, but on teachers' professional regulation.

**Keywords:** professionalism; accountability; autonomy; standardized testing; teachers; decision-making

### **Autonomía docente en la era de la rendición de cuentas basada en el desempeño: Una revisión basada en los modelos regulatorios de la profesión docente (2017-2020)**

**Resumen:** En las últimas décadas, la gobernanza de los sistemas educativos ha experimentado cambios drásticos en muchos países. A las escuelas se les ha dado más autonomía mientras se las responsabiliza de sus resultados a nivel central a través de pruebas de evaluación estandarizadas y otras formas de evaluación externa. Los mecanismos de rendición de cuentas basados en el desempeño (RdC) y las consecuencias asociadas a los resultados de las pruebas varían. En los sistemas de alto riesgo, las carreras de los docentes están más directamente conectadas con el desempeño de los estudiantes, y las escuelas de bajo rendimiento corren el riesgo de cerrar, mientras que, en los sistemas de bajo riesgo, las consecuencias administrativas de la rendición de cuentas para los actores escolares son más simbólicas que materiales. El objetivo principal de este artículo es comprender el impacto de las distintas formas de RdC basada en el desempeño sobre el trabajo docente desde una perspectiva comparada. La mayoría de las investigaciones sobre este tema se basan en estudios de casos focalizados en un solo país, lo que dificulta comprender el impacto de los factores políticos y los contextos profesionales en la autonomía de los docentes y en la toma de decisiones. Para abordar este desafío, revisamos investigaciones recientes (2017-2020) sobre el tema y comparamos sus hallazgos en diferentes modelos regulatorios de la profesión docente. La revisión incluye 101 artículos obtenidos a partir de las bases de datos SCOPUS y Web of Science. Encontramos que la evidencia sobre el impacto de la RdC en las percepciones y creencias docentes es variada, y que las implicaciones de la RdC para la autonomía de los y las docentes no solo dependen del nivel de las consecuencias en juego, sino también de la regulación profesional de los docentes.

**Palabras-clave:** profesionalismo; rendición de cuentas; autonomía; pruebas estandarizadas; docentes; toma de decisiones

**Autonomia docente na era da prestação de contas baseada no desempenho: Uma revisão baseada nos modelos regulatórios da profissão docente (2017-2020)**

**Resumo:** Nas últimas décadas, a governança dos sistemas educacionais passou por uma mudança dramática em muitos países. As escolas agora têm mais autonomia, porém estão sendo cada vez mais responsabilizadas a nível central através de testes padronizados e outras formas de avaliação externa. Os mecanismos de responsabilização baseada no desempenho (PBA) e as consequências associadas aos resultados dos testes variam. Nos sistemas de alto risco, as carreiras dos professores estão mais diretamente ligadas ao desempenho dos alunos, e as escolas de baixo desempenho podem correr o risco de fechar. Enquanto isso, nos de baixo risco, as consequências administrativas oficiais da PBA para os atores escolares são mais simbólicas do que materiais. O objetivo principal deste artigo é entender o impacto das diferentes formas de PBA no trabalho dos professores a partir duma perspectiva comparada. A maioria das pesquisas sobre este tópico são baseadas em estudos de caso de contexto único, o que dificulta a compreensão do impacto dos fatores políticos e dos contextos profissionais nas decisões e na autonomia dos professores. Para enfrentar este desafio, revisamos investigações recentes (2017-2020) sobre o assunto e comparamos suas descobertas em diferentes contextos regulatórios da profissão docente. A revisão inclui 101 artigos das bases de dados SCOPUS e Web of Science. Descobrimos que as evidências sobre o impacto do PBA nas percepções e crenças dos professores são variadas e que as implicações do PBA na autonomia dos professores não dependem só do nível das consequências em jogo, mas também da regulamentação profissional dos docentes.

**Palavras-chave:** profissionalismo; prestação de contas; autonomia; testes padronizados; docentes; tomada de decisões

**Teacher Autonomy in the Age of Performance-based Accountability: A Review based on Teaching Profession Regulatory Models (2017-2020)**

Accountability policies, together with other outcomes-based, incentivist and data-intensive policy instruments have been widely adopted in education, usually under the auspices of new public management (NPM). In the last two decades, much has been written about the effects of performance-based accountability (PBA) policies in the governance of education and the teaching profession in particular (Parding et al., 2012, 2020). Most of this literature has been produced in countries that can be labelled as 'early NPM adopters' such as the United States, England and Chile. In these countries, accountability systems are predominantly high stakes and have often been enacted to calibrate market competition and inform school choice. These policies have profoundly transformed teachers' roles, practices and identities, and have generated a new understanding of what it means to be a good teacher (Ball, 2003; Holloway & Brass, 2018; Valli & Buese, 2007).

However, the effects of PBA on the teaching profession might vary in other settings, where the adoption of NPM instruments is much more recent and may follow other policy rationales. Indeed, PBA is a globalizing policy approach to educational governance and control, but this neither means that PBA instruments are adopted to achieve the same objectives nor that they have similar effects everywhere. In fact, PBA instruments are being adopted in countries that regulate the teaching profession quite differently, and that have school assessment and accountability traditions other than PBA. Nonetheless, these 'other' educational contexts are still underrepresented in international literature on PBA.

All over the world, PBA systems have common features: they assemble learning standards, targets, data delivery procedures and national large-scale assessments focusing on core learning areas

such as numeracy and literacy (Maroy & Pons, 2019). The standardization of learning metrics is another common feature: it enables schools and teachers to be directly compared and monitored in such a way that standardization itself becomes a technology of regulation and control. Despite these common features, the intensity and nature of PBA consequences vary between countries. The literature usually distinguishes between high- and low-stakes accountability systems (see Hamilton et al., 2002). In high-stakes systems, student test results are often tied to rewards and sanctions for the school, principal and/or teachers (for example, performance-based pay, teacher dismissal, and school intervention; Verger, Parcerisa et al., 2019). In low(er) stakes or soft accountability systems however, there may be no official administrative consequences; rather, evaluation results offer descriptive information mainly for educational administration purposes and for formative purposes at the school level (Thiel et al., 2017). Nonetheless, low-stakes accountability may still result in significant reputational impacts - at both the school and teacher level - particularly acute in contexts with some freedom of school choice and/or where external assessment results are published (Bunar & Ambrose, 2016).

Despite the growing amount of research on PBA, only a small number of investigations have carried out cross-country comparisons to analyze the effects of such policy instruments on teachers' work (see Houtsonen et al. 2010; Lewis & Holloway, 2019; Mausethagen, 2013; Osborn, 2006; Prøitz et al., 2017; Salokangas & Wermke, 2020; Thompson et al., 2021). In this paper, we reinforce this line of inquiry by examining how PBA has been enacted in different world regions, and to what extent PBA triggers distinct effects in teachers' work according to the regulatory regime in place. This research is unique in mapping and comparing contemporary research on PBA in different world regions and in trying to identify how and to what extent PBA produces different outcomes in teachers' roles and autonomy according to the regulatory context. Our research, based on a systematic literature review, is guided by the research question: To what extent, in what ways, and under what conditions do PBA policies affect teachers' sense of autonomy and work?

The article is structured as follows: First, we present the conceptual framework of the article that combines theories about teacher autonomy and the regulation of the teaching profession. Next, we describe the methodological approach of the research, which is based on a systematic literature review of recent evidence on PBA and teacher work. Third, the findings are structured based on different teachers' regulatory regimes. Here, we follow the typology of teachers' regulatory models elaborated by Voisin and Dumay (2020), who distinguish between the market model, the rules model, the training model, and the professional skills model. Finally, the conclusions underline the importance of regulatory and organizational factors to understand the effects of PBA instruments on teachers' sense of autonomy and work.

## **Teachers' Autonomy and the Regulation of the Teaching Profession**

Autonomy and control are key variables in the definition of teacher professionalism (see Ingersoll, 2003). According to Day (2002), teacher professional identity is constituted by a mixture of elements (social, cultural, biographical, and institutional) and varies as a function of the specific roles and circumstances where it is exercised. Traditionally, collegiality has been considered a typical characteristic of professionalism (Freidson, 2001). According to Frostenson (2015), "collegiality contextualizes professional work, and the common professional value system and other mechanisms, such as educational requirements and entry barriers, condition work and its criteria for perfection" (p. 21).

The concept of teacher professionalism is thus intrinsically attached to notions of teacher autonomy, which can be broadly understood as "the capacity, freedom, and/or responsibility to make choices concerning one's own teaching" (Aoki, 2002, p. 111). In both policy and academic

circles, many argue in favor of expanding teacher autonomy and conceive it as a virtuous principle, since “it can be a source of job satisfaction, health and well-being for teachers, a source of creativity, experimentation and variety and a source of effectiveness” (Cribb & Gerwitz, 2007, p. 206).

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Nonetheless, teachers’ autonomy is a multidimensional and context-sensitive phenomenon (Salokangas et al., 2020) that cannot be easily captured, let alone measured empirically. This has not prevented many attempts to operationalize the concept and reveal its multiple dimensions. To start with, autonomy can be exercised in some areas (and not in others), namely: learning organization, organization of instruction, personnel management, financial matters, and resource and facility management (Rürup, 2007; cited by Christ & Dobbins, 2016, p. 4). Furthermore, in relation to each of these areas, teachers can make decisions on their own or together with other agents. Other conceptualizations put more emphasis on the multi-level character of autonomy. For instance, Wermke and Forsberg (2017) distinguish between two main levels of autonomy, namely, the *institutional dimension*, which refers to “the collective autonomy of an occupation to have and sustain certain criteria: a strong boundary, academic credentials, a self-governing professional body, or a code of ethics” and the so-called *service dimension*, which refers to “the autonomy of both the individual teacher practice in the classroom and also the practice of the school” (p. 4).

Similarly, Frostenson (2015) distinguishes between professional, collegial, and individual autonomy. *Professional autonomy* refers to the power of teachers to define the boundaries and frames of their professional work. It manifests in areas of decision-making such as in the definition of broader school organization principles, requirements to enter the profession, teacher education, definition of the curricula, and so on (Frostenson, 2015). For this autonomy to happen, teacher representatives need to be recognized as a collective actor and as a valid political interlocutor by the state. The *collegial autonomy* of teachers refers to teachers’ collective capacity to influence and decide on the main strategies and practices of the school, in both organizational and educational aspects. For this type of autonomy, the presence of principles of cooperation and collegiality in the educational system is key (Frostenson, 2015). *Individual autonomy* refers to the opportunity and capacity of individual teachers to define their teaching practices and instructional strategies. Individual autonomy “involves the existence of a practice-related auto-formulation of the contents, frames and controls of professional work” and “includes choice of teaching materials, pedagogy, mandate to decide on the temporal and spatial conditions of work, and to influence the evaluation systems of professional teaching practice” (Frostenson, 2015, p. 24). Nonetheless, it is worth noting that teachers can enjoy greater individual autonomy under two very different circumstances. Firstly, when local school management and leadership has limited opportunity or capacity to influence teachers’ decisions (this would be a sort of teachers’ autonomy *by default*). Secondly, when the educational system and educational authorities place a lot of trust in individual teachers (this would be an intentional type of autonomy or autonomy *by design*).

Finally, there are also those that emphasize the dynamic character of teacher autonomy. To them, autonomy evolves with the acquisition of experience by teachers, but also with the capacity of teachers to negotiate and gain their own decision-making space, both collectively and individually. For this reason, some authors prefer to use the concept of “professional space” to that of “professional autonomy” (see Oolbakkink-Marchand et al., 2017; Maaranen & Afdal, 2020).

## **Accountability, Autonomy and Teachers' Regulatory Regimes**

The tensions between accountability, central control, and autonomy are at the center of contemporary debates on the regulation of the teaching profession. To many, NPM-style external pressures have reshaped what it means to be a teaching professional today (Ball, 2003; Forrester, 2000; Hargreaves, 2000; Holloway, 2021) and have promoted a shift from occupational toward organizational forms of professionalism (Evetts 2009; Lundström, 2015). Occupational professionalism is based on collegial authority and professional autonomy. In contrast, organizational professionalism is characterized by "rational-legal forms of authority [in a Weberian sense] and hierarchical structures of responsibility and decision-making. It involves increasingly standardized work procedures and practices, consistent with managerialist controls. It also relies on external forms of regulation and accountability measures, such as target-setting and performance review (Evetts, 2009, p. 248)."

Nonetheless, teachers' autonomy manifests differently in different instances and spaces. Specifically, the autonomy that teachers enjoy at distinct levels and areas of decision (e.g., instruction, assessment, management, and so on.), individually, collegially and institutionally, cannot be disentangled from the broader professional and regulatory regime in which teachers develop their work. According to existing literature, there are four main teachers' regulatory models in OECD countries, all of which manage the tension between autonomy and external control differently. Namely, these are the bureaucratic model, the professional training model, the professional skills model, and the market model (Voisin & Dumay 2020).

a) The market model is guided by the principles of flexibility and mobility. It favors multiple and flexible pathways to training and entering the profession, but also differentiates in terms of salaries and workloads according to productivity and other criteria (Voisin & Dumay, 2020). The regulation of teachers' work and quality relies on centrally defined standards. This model is strongly consolidated in Anglo-Saxon countries, where new public management reforms, outcomes-based management and test-based accountabilities have been implemented for decades. Individual teachers' autonomy tends to be much more restricted in this context than in other regions.<sup>1</sup>

b) The professional training model, "puts occupational control, expertise, and professional autonomy at its center" (Voisin & Dumay, 2020, p. 2). It consists of a very demanding and selective training system that provides the future professionals with the necessary skills to perform complex tasks that require the exercise of discretion." This model predominates in Nordic European countries, where the level of teachers' professional autonomy is high, and educational authorities and users tend to trust in professional expertise. This wide level of autonomy and professional space is rooted in a longstanding governance tradition and has been intentionally favored by public authorities.

c) The bureaucratic or rules model, "organized by the search for efficiency, [...], favors bureaucratic and external modes of control as well as standardized procedures and practices" (Voisin & Dumay, 2020 p. 2). The predominating form of accountability focuses more on input control and on compliance with bureaucratic rules than on academic results or learning processes. This model predominates in Southern European countries and in France. The level of teacher autonomy in these contexts tends to be relatively high, but more by default than by design.

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<sup>1</sup> Beyond the OECD context, other logics of teachers' professionalism and autonomy are at play. For instance, there are countries where regulatory frameworks and organizational styles are conducive to teachers' autonomy, but this autonomy is not enacted because teachers do not have the necessary training or skills to take advantage of these opportunities. This tends to be the case in low-income countries, where teacher training and teachers' development programs are under-developed, and the status of the teaching profession is low.

d) The professional skills model is a variant of the professional model that can be found in high-performing systems of south-east Asia (Singapore, Shanghai, Japan, and Korea). This model also relies on highly selective training, although it puts more emphasis on practical skills and on-the-job training than the professional training model. It combines professional accountability and professional standards with central guidelines regarding curricula, learning outcomes and related testing policies (Voisin & Dumay, 2020).

Historically, PBA has a presence within the market regulatory model, where this form of accountability emerged to favor school competition and school choice back in the 1980s. Later, PBA instruments spread to countries where professional and bureaucratic forms of accountability are in place, and following a different set of rationales, among which the promotion of transparency, an evaluation culture and quality assurance stand out (Verger, Fontdevila et al., 2019). In these contexts, PBA interacts, not always easily and often in tension, with accountability agents and instruments that enjoy a longer tradition, such as hierarchical inspection services (in the case of the bureaucratic regulatory model) and professional accountability (in the case of the professional skills and training regulatory models). In this paper we analyze whether the four professional regulatory models strategically mediate the way in which accountability instruments are designed, calibrated and enacted, and how and to what extent they alter teachers' sense of autonomy.

## **Methods**

The article is based on a systematic literature review (Petticrew & Roberts, 2006) conceived as a “way of bringing together what is known from the research literature using explicit and accountable methods” (Gough et al., 2012, p. 1). Specifically, we used a configurative review. This type of review is especially recommended to identify “patterns provided by heterogeneity” (Gough et al. 2012, p. 4). In this paper we use the professional regulatory models as an analytical category to unveil the factors that mediate the effects of PBA policies on teachers, as well as a heuristic tool to gather and organize the review data. In this article we follow the review steps indicated by Pawson (2006) to strengthen the rigor and transparency of the process.

### **Inclusion and Exclusion Criteria**

The selected studies included in the review were empirical research articles published in journals indexed in the databases ‘SCOPUS’ and/or ‘Web of Science’ (WoS). To be included, papers had to show thematic adequacy with the purpose of the systematic literature review and analyze the enactment and/or effects of PBA on teachers' decision-making and work. Since in recent years there has been an explosion of literature focused on the effects of PBA on teachers, initially our review only included empirical articles published between the years 2017 and 2020.

### **Search Strategy**

As mentioned above, the search strategy was carried out using an advanced document search (see the syntax in the Annex) in the above-mentioned databases. Due to the overrepresentation of studies focused on English-speaking countries (Verger & Parcerisa, 2017), in the final stage of the review, we also included 19 articles that were obtained following a hand-searching strategy through Google Scholar. This was particularly useful to gather complementary documents to map the enactment and effects of PBA on teachers in under-represented contexts.

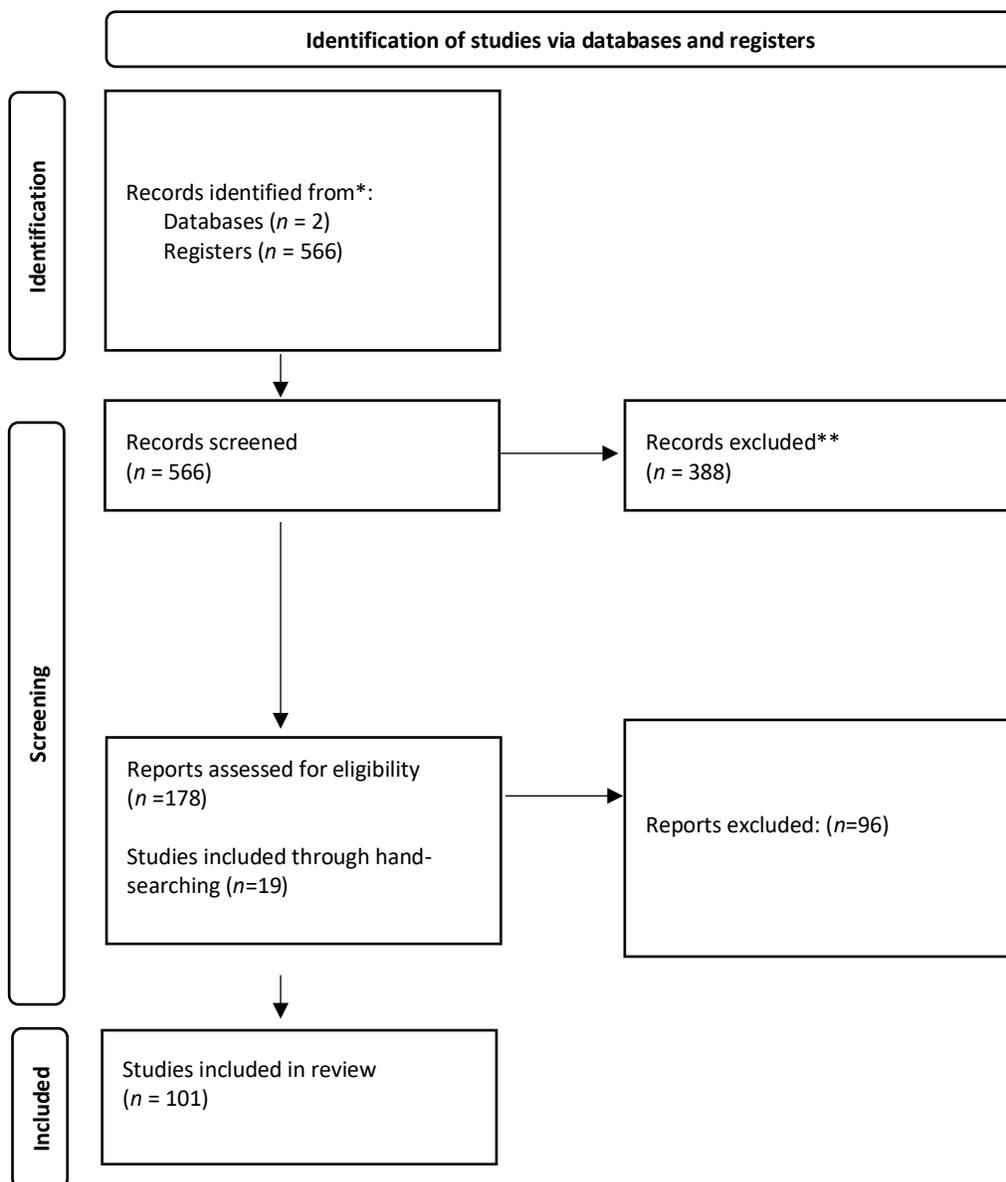
To carry out this configurative synthesis of the literature we mainly used two scientific databases: SCOPUS and Web of Science, considered as the most reliable and comprehensive databases in social sciences research (Harzing & Alakangas, 2016; Zhu & Liu, 2020). The search

strategy followed an iterative process on the basis of which the syntax was developed. In the syntax (see the Annex), we combined different keywords to capture literature focused on the variegated effects of PBA policies on teachers' work. The search was limited to compulsory education and the subject areas of social sciences, humanities and arts, business, and economics.

In total, 566 articles were obtained. After reading the title and the abstract of each article, we first eliminated duplicates and then selected papers according to their fit with the objectives of the research. After applying the first screening, 178 articles remained. In a second stage, two researchers separately reviewed the articles and selected those that had (relevant) empirical evidence. Once this had been done, we were left with a total of 101 papers focusing on the enactment of PBA policies by teachers.

**Figure 2**

*Flow of Information through the Different Phases of the Systematic Literature Review*



Source: Adapted from Page et al. (2020)

## **Data Extraction and Synthesis of the Evidence**

All the articles included in the corpus of the review have been analyzed using a review form that contains the following sections: a) Identification record (reference, reviewer, addressed policies, geographical area, quality and validity); b) theoretical framework; c) methods; d) main characteristics of the policy; e) findings (policy interpretation and effects of the policy on teachers identity, subjectivity, decision-making and work, and main mediating factors); f) wordlist of key effects; g) comments on the article. Subsequently, the results have been organized and analyzed based on countries' fit within different teachers' regulatory models.

## **Limitations of the Study**

Despite the several advantages and benefits of this methodological approach, we consider it necessary to acknowledge some of its main limitations. First, systematic literature reviews tend to over-represent certain countries (this is especially the case for English-speaking countries), while other countries and regions are clearly under-represented. Second, policy instruments tend to evolve quickly and in unpredictable ways (Verger, Fontdevila et al., 2019). This is why we decided to focus on recent publications on PBA and teachers' work in our research design.

## **Findings**

### **Market Model**

Within the market model, PBA policies have acquired an incremental dynamic. The uses and consequences, but also the metrics and school grades directly impacted by accountability have expanded over time. In many of the countries that are part of the market regulatory model (e.g., England, USA, Australia, and Chile), PBA instruments that initially focused on the aggregate school level are increasingly used to also evaluate teachers and take decisions regarding their promotion. Teachers' decisions and practices are strongly shaped by PBA in the countries that adopt this model.

Decisions to dedicate more time to test preparation are amongst the most frequently documented effect within the 'market model'. 'Teaching to the test' – including practices of test simulation and test to the item - has become naturalized in many school settings (Avalos et al. 2020), and it is "now simply the order of the day" (Lewis & Hardy 2017, p. 233). Teaching to the test is not only an instructional practice, but it also involves decisions at the organizational level, such as placing the most experienced teachers in the assessed grades or planning intensive test-preparation periods in the school calendar (Falabella 2020). Even teachers from schools with a progressive pedagogical approach decide to teach to the test when facing external accountability pressure, although may also do so for pragmatic reasons. As shown by Scott (2017), Montessori school teachers in the USA see teaching to the test as an effective way to comply with accountability requirements in a short time, and as a way to gain time to dedicate to their own curricular priorities and educational goals.

Narrowing the curriculum - which consists of dedicating more teaching hours and school resources to the externally-assessed subjects, at the expense of teaching other subjects, contents and skills- is another well documented practice. In the reviewed literature, teachers report that PBA prerogatives have impacted their curricular decisions (Harris & Graham, 2019) and reduced their sense of control in instructional planning, thus conducting their decisions towards curriculum narrowing (Farvis & Hay, 2020). Teachers are aware of and, in general, reflexive about the tensions that PBA generates in their teaching approach. Numerous studies report that teachers feel that the way in which curricula is covered for the purpose of test preparation, conflicts with deep learning and richer ways of working within the curriculum (Bradford & Braaten, 2018; Thompson & Cook,

2017), inclusivity in education (Alderton & Gifford, 2018), and even humanistic values (Horn 2018). Other teachers critique that the current emphasis on performance data misrepresents students' learning and is, in fact, detrimental to learning (Simpson, 2017).

Performance pressures also make teachers risk averse, and plan lessons more conservatively (Winter, 2017). These pressures are thus seen as undermining teachers' creativity (Appel 2020) and agency in educational planning (Farvis & Hay, 2020). Ingersoll et al. (2017), with OECD PISA (Programme for International Student Assessment) data, show that U.S. teachers have less influence over key decisions than the OECD average. In this country, "teachers on average have only limited power and control over key decisions concerning the day-to-day management of their work and their workplaces" (p. 81). Other studies show a deterioration of this situation over time. Berkovich (2019) conducted a longitudinal study, also with PISA data, showing that, "in 2012, relative to 2006, more teachers experienced the change both in the USA and in Australia as limiting their ability to control the content of the curriculum" with this situation being more severe in the US. Kaynak (2020) confirms these trends in a study conducted amongst nine teachers working in the US mid-West. He finds that "all participants shared the perception that they had less power and less control over what they were doing in the classroom now than in the past, which reduced the pleasure they took in teaching". (p. 30)

Performance pressures also impact the amount of attention that teachers give to specific groups of students. Triage practices are widely reported in the context of high-stakes accountability systems. Teachers use test data to identify those students that underperform and provide them with additional assistance to boost their performance in the next testing cycle (Hardy, 2019; Hardy et al., 2019). Testing thus becomes a core tool to categorize students, and develop ability grouping practices on the basis of these categories. In this instance, a "more reductive form of educational practice" is at play (Hardy et al., 2018, p. 347), with underperforming students – so-called 'bubble kids' - receiving "intensive instruction" in core subjects such as Math and English (Horn, 2018, p. 401).

Several papers show how, collegiality and, with it, collegial autonomy, tend to be undermined by PBA. Farvis and Hay (2020) identifies a tradeoff between collegiality and competition within PBA settings, according to which "the decline in collaborative planning between teachers increased a sense of isolation and also increased potential for discord". School grading in external assessments provokes a sense of competition among teachers (Crawford-Garrett et al., 2017), and has "the potential to 'corrode the communicative structure of everyday contacts' (Habermas, 1996, p. 369) that [occur] in the school" (Hardy, 2018, pp. 16-17). Nonetheless, other studies acknowledge that, by promoting inter-school competition, PBA can have the effect of strengthening teacher cohesion *within* a school. Falabella (2020) refers to this phenomenon as the "sticky web of multidirectional surveillance and pressure", which makes teachers "feel accountable, motivated, and committed to maximizing school performance and also, very importantly, to share responsibility, blame, and feelings of guilt" (p. 12-13).

Different forms of resistance to PBA are well-documented in the countries that are part of the market model. There, resistance and activism are seen as an act of re-professionalization and an attempt to open the possibility of finding a 'balance between accountability and professional autonomy'" (Ben-Peretz, 2012, p. 64, in Warren & Ward, 2021). Falabella (2020), in the Chilean context, identifies a group of teachers who refuse to be assessed based on their students' results in trial tests, and who sabotage external evaluations (p. 16).

Nonetheless, open conflict with educational authorities is not the predominant form of resistance identified. Subtle and micro-level forms of resistance are more frequently at play. Simpson (2017) identifies a group of literature teachers that resisted PBA prerogatives by designing their own

enquiry-based approach and making space in their schedules to teach literature deeply and collaboratively. Lockton et al (2020) find that teachers resist accountability and push for “more meaningful connections between evidence of student learning and instructional change” – although they also find that, these efforts do not always pay off (p. 8). Crooks (2019) uses the concept of strategic compliance to reflect on how some teachers develop means of satisfying the demands of accountability and datafication by “exploiting the ambiguity of the representational relationship between digital data and behavior” (p. 495). Finally, in the Australian context, Hardy, Hamid and Reyes (2018) found that teachers strive to ensure they take a “holistic approach to their students’ learning needs, and to try to be attentive to all of their students’ learning needs, not simply those ‘targeted’ for additional intervention” (p. 348).

In contemporary research on PBA, logics of consent, acceptance and internationalization of the constant ‘school improvement’ dynamic that comes with accountability are more frequently reported than forms of resistance. Decades of datafication and accountability in education have been “complicit in the constitution of teacher subjectivities thoroughly responsive and reactive to data” (Lewis & Hardy, 2017, p. 231). Paufler et al. (2020) observes that a majority of teachers interviewed reported that the standardized test had a positive impact on their practices, and encouraged them to be more reflective and innovative. Alderton and Gifford (2018), in their comparison of PBA policy in Turkey and England find that, in England, teachers are more likely to comply with PBA prerogatives than their counterparts in Turkey. Holloway (2019) considers that, over time, the possibility of resisting PBA is diminishing. To her, “the increasing alignment between teacher training, evaluation, professional development, and discipline thus erodes the space for dissension, as the possibility for opposition becomes an unimaginable position for teachers to take”. (p. 186)

Lewis and Hardy (2017) observe that teachers have internalized the (self-)disciplinary discourses around performance that come with the Australian national large-scale assessment, NAPLAN. In this context, “teachers sometimes construed data in largely positive ways, and saw themselves as the ‘trackers’ of NAPLAN data” (p. 231). These authors talk about data dependence to mean that measurability becomes essential for many teachers to identify students’ progress (Hardy, 2019) and refer to the ‘allure of order’ associated with more standardized measures, which more and more teachers welcome (Hardy 2018). Similarly, Falabella (2020) identifies a number of Chilean teachers who consider that the accountability system has brought “greater ‘order’, ‘structure’, and continuous monitoring and assessment along with ‘rational planning’ at the school and classroom level, as opposed to an instinctive, random, and improvised approach” (pp. 10-11). In some cases, teachers are becoming less reluctant to teach to the test because some students think that test results are important for their future (Taylor, 2019).

In countries that are part of the market regulatory model, PBA effects are especially documented in socially disadvantaged school settings. Teachers in schools with a privileged student population do not need to adapt their educational and organizational practices to PBA demands so strictly (Fujishiro et al., 2017). In fact, the administrative rules of numerous PBA systems exclude well-performing schools from certain surveillance and reporting practices. Wronowski (2020) shows that teachers in American urban public schools with higher percentages of disadvantaged students “are more likely to perceive a sense of de-professionalization and demoralization compared to teachers in suburban schools serving predominantly white and higher socioeconomic students”. To him, “the connection of school characteristics to public school teacher perception of de-professionalization and demoralization to high-needs schooling contexts could plausibly be explained by increased accountability pressure” (p. 20). Numerous studies focusing on countries that are part of the market model arrive to the same conclusion: see for instance Farvis and Hay (2020),

Alderton and Gifford (2018), Manuel, Carter and Dutton (2018), Martin et al (2020), Stacey, Wilson, and McGrath-Champ (2020), Fitzgerald et al (2019), and Keddie (2018).

Within the market model, the role of the principal is key in understanding how external PBA pressures reach teachers. Principals can be both an attenuating or rather incrementing brokerage force of such pressures. In a study conducted in Australia, Hardy, Reyes and Hamid (2019) found that the fact that the principal had to meet specific regional targets is something that "placed increased pressure on teachers" (p. 26). Whereas Falabella (2020) finds that, in the Chilean context, some principals interpret test results "harshly", and use them to promote institutional changes and to distribute responsibilities among school actors. The predominant line of reasoning here is that teachers in schools with a more distributed or balanced leadership feel better supported by their management and more able to tackle accountability challenges (Sugrue & Mertkan, 2017; Ingersoll et al., 2017). Yet, the reverse is also true, and a lack of support and trust from management appears to translate into teachers feeling additional pressure in PBA settings (Perryman et al., 2020).

Finally, through different framing strategies, skilled school leaders can transform PBA pressures into incentives to promote positive change at the school level. This negotiation between principals and teachers is "essential to how policy gets instantiated in practice." (Spillane et al., 2019, p. 122). Sullivan and Johnson (2020) observe how school leaders can use PBA instruments as opportunities to encourage commitments to school improvement among teachers. These strategies are particularly effective with early career teachers, who rapidly embraced new "forms of self-governance" and are more sensitive to "the constant scrutiny and judgements as they *assess* their own quality as teachers" (p. 10). Pressures on teachers are also intensified when PBA is enacted in parallel to other educational reforms, such as instructional or curricular reforms (Manuel et al., 2018).

## **Training Model**

Within the educational systems where the training model dominates, PBA advances through soft accountability policies predominantly based on quality assurance logics (Verger, Fontdevila et al., 2019). In most of the Nordic European countries where this model is found, standardized testing has been adopted in recent years for formative purposes and to facilitate data use among schools and teachers (Kelly et al., 2018). Performance metrics tend to focus on the school level, and the results on these national assessments imply low stakes for both schools and teachers. In these countries, there is a longstanding tradition of trust in teachers and high levels of general, collegial and individual professional autonomy (Frostenson, 2015; Voisin & Dumay, 2020). Thus, within the training regulatory model, teachers usually exhibit higher levels of autonomy and agency, experiencing fewer constraints in terms of their decision-making and professional practice.

However, since the initial adoption of PBA instruments in the Nordic countries, reputational stakes (especially for schools and teachers) have increased as the result of the adoption of new policy tools (the publication of league tables). The effects of accountability policies on teachers' autonomy and professional space have been increasingly documented in the North of Europe, although in such contexts teachers seem to have greater room for maneuver, to accommodate PBA demands into their own pedagogical beliefs. Maaranen and Afdal (2020) conducted a comparative study in Finland, Norway and the US, which included 17 interviews with teachers working in middle-upper class communities in each country. The authors point out that Finnish teachers – where national assessments are sampled-based - enjoy higher trust and professional space compared to American teachers, but also to Norwegian ones.

Teachers can adopt a wide range of responses to cope with performative pressures and external control. Norway is probably the Nordic European country where PBA reforms have generated more research and controversy, especially in the first years of their enactment (see

Camphuijsen et al., 2021). In Norway, teachers' responses to PBA are ambiguous. Although Norwegian teachers perceive high levels of "freedom to decide on their classroom practices" (p. 125), they also feel that PBA instruments constrain their individual pedagogical autonomy and their decision-making power over teaching practices. Based on a qualitative comparative analysis in six primary schools, Werler and Færevaag (2017) find that standardized testing constrains teachers' autonomy, privileging "certain kinds of testable knowledge" and obliging them to allocate the time reserved to support disadvantaged students to test preparation activities (p. 77). Thus, covert forms of teachers' resistance towards performance metrics are also identified in Norway. Despite public authorities actively promoting the use of performance metrics among teachers in order to support underperforming students (see Da Silva & Mølsted, 2020), it was common for teachers to still rely on their professional judgement as the main source of knowledge to plan teaching activities.

Nonetheless, Nordic countries have a welfare state tradition that, by putting more emphasis on equity than on market competition, seems to attenuate the side-effects of PBA. For example, in Denmark, Kelly et al. (2018) found that the publication of schools' performance results at the municipal level had indirect and softer effects both in pedagogical and curricular terms compared to England. However, the publication of the test results did generate a certain performative pressure on school principals, who felt the need to improve learning outcomes, and "led to the introduction across schools of a new strategy with guidelines for national test preparation and administration" (Kelly et al. 2018, p. 9). Performance pressures also triggered governing effects on teachers' work and children's schooling. Danish teachers expressed that PBA instruments have affected some children's educational experiences negatively, and that the standardized test has increasingly framed their teaching strategies and approaches. Nonetheless, many other teachers also see test preparation activities positively, and conceive the mock test as a helpful tool to familiarize students with the standardized test (Kelly et al., 2018).

In contrast to high-stakes contexts, where negative opinions and beliefs about PBA instruments and performance metrics are common, we find a predominance of mixed views and ambivalent feelings in the countries associated with the training model (Gunnulfson & Roe, 2018; Kelly et al. 2018). In Norway, for example, Mausethagen, Prøitz and Skedsmo (2020) note that the majority of interviewed teachers show favorable attitudes and opinions regarding the national standardized test. Thus, Norwegian teachers associate standardized tests with positive values "such as transparency, meeting the needs of the students and innovation". According to these authors, the views of Norwegian teachers reflect adherence to public values and express the need for transparency and control over the work of teachers and the school. In this sense, the teachers' opinions show that "it is not primarily the tests themselves that create value dilemmas, but the number of tests and how the test results are used" (p. 6). Teachers' concerns are related to the excessive performance orientation of PBA instruments and the lack of knowledge and support to use available data to help students (Mausethagen et al., 2020). Overall, the trajectory of PBA in Norway has been characterized by a tension between trust and mistrust, accountability and control. The official discourse however, acknowledging the professional dimension of teachers' work, has opted for privileging professional responsibility and extended autonomy (Mølsted & Prøitz, 2019; Smith, 2018).

In a similar vein, Kelly et al. (2018) note that Danish teachers expressed mixed feelings regarding the usefulness of using standardized tests to support students' learning. According to these authors, teachers expressed positive opinions about the data generated by the standardized test, perceiving it to be a good proxy of students' progress and proficiency. However, they "had less confidence in the tests as a unique measure of worth, regarding them instead as helpful in supporting learning and informing teaching, even whilst their managers began to shape classroom

practice to try to improve results, despite the low stakes attached” (p. 10). As predicted by enactment theory, Kelly et al. (2018) show that PBA instruments’ reception and interpretation is key to understand policy translation. Specifically, they observe that the “extent to which testing was important for individuals depended on whether results could hinder or advance their interests, whilst how they could influence these outcomes depended on the freedoms, constraints and opportunities which were available to them”. This investigation also points out that both teachers and school managers found data use practices had positive effects on professional satisfaction, since they were able to enact such practices “to serve the interests of their students” (p. 15).

Another group of studies underlines the role of school leaders in mediating both meaning-making processes and teachers’ enactment of PBA policies (da Silva & Mølstad, 2020; Gunnulfsen, 2017; Gunnulfsen & Roe, 2018; Maaranen & Afdal, 2020). Here, Gunnulfsen (2017) identifies different leadership strategies to build consensus with and among teachers and how situated and professional contexts influence the negotiation of policy expectations. In addition, principals and school leaders appear to guide policy interpretation and promote specific data use approaches and practices at the school level. Whereas according to Maaranen and Afdal (2020), principals and their trust in teachers seem to be crucial mediating factors in the three countries studied (Finland, Norway and USA) and can have both a negative and positive impact on teachers’ perceived trust and control as well as on their sense of professional space.

On their part, da Silva and Mølstad (2020) find that school leaders actively promote collegial autonomy among teachers. In some cases, school leaders organize “meetings by school grade and subject, so teachers take part in weekly meetings to discuss and plan pedagogical activities together. Teachers, especially beginning teachers, experienced this arrangement as positive because it allows them to plan and share good practices” (p. 125). Nevertheless, these authors suggest that in the Norwegian school system, collegial autonomy, and more specifically teamwork dynamics, can be experienced by teachers as both a source of empowerment and a source of control that limits teacher individual autonomy.

Generally speaking, the training regulatory model favors the emergence of mixed perceptions about PBA and performance metrics. In such contexts, teachers tend to experience high levels of professional autonomy, allowing them to recontextualize performance metrics in meaningful ways to serve students’ interests. Importantly, in these contexts, teachers have more opportunities to influence the broad accountability policy framework through their professional representatives. Despite these general trends, we observe that teacher-level variables also influence their policy reception and translation of PBA instruments. Among other factors, seniority seems to help teachers cope with performative pressures and empowers them to enact their professional agency and autonomy (Maaranen & Afdal, 2020).

### **Bureaucratic Model**

Within the educational systems that are part of the bureaucratic model, PBA has been implemented unevenly and has often followed erratic policy trajectories, partially because of the salient refusal of teachers and teachers’ unions, but also because of administrative hindering factors (Maroy & Pons, 2019; Pagès & Prieto, 2021; Verger, Fontdevila et al. 2019). Under this regulatory model, which predominates in Southern European countries, the approach to PBA tends to be critical and dominated by negative perceptions, especially among teachers. The practices associated with PBA are diverse and uneven in countries and regions ruled by a so-called bureaucratic model. Interestingly, although the consequences attached to accountability tend to be soft, school actors still perceive PBA to be a source of excessive pressure, and the impact that it has on school practices does not much differ from that seen in high-stakes contexts.

In Southern European contexts and regions, such as Madrid, the increasing pressures of administrative and market accountability generated diverse school responses, affecting key elements of teacher professionalism (including an increasing focus on teaching to the test, or the alignment between external accountability instruments and internal evaluative tools). Furthermore, data use practices associated with PBA were often only adopted ceremoniously; decoupling formal structures from actual school and professional practices (Pagès, 2021). Not coincidentally, Madrid is one of the regions in Spain where teachers are more critical of external evaluations and new forms of accountability (Monarca & Fernández-Agüero, 2018). In the context of another Spanish region, Andalusia, Molina-Perez and Luengo, (2020) find that external forms of accountability might limit teacher autonomy and undermine the social recognition of the teaching profession, “reconfiguring teaching as a technical profession and limiting their space for critic and reflection” (p. 71).

Continuing in Spain, Monarca and Fernández-Agüero (2018) show how school actors interpret external evaluation mechanisms in critical ways, “identifying more weaknesses than strengths” (p. 268). However, different trends can be identified according to territory, educational levels, and the role of participants. Participants from Catalonia, the Basque Country and Andalusia identified more strengths than weaknesses regarding the instructional impacts of external evaluations. In contrast, in Madrid and Galicia participants reported more weaknesses of the external evaluation in almost all the dimensions analyzed (p. 268).

In France, the legitimacy of accountability in education is strongly questioned as well (Maroy et al., 2020). In this context, the managerial discourse of performance and accountability seems to be taking place just in rhetorical terms, while the “opposition, to certain tools of steering by results (notably the use of particular indicators), and the resistance to the use of these tools to induce changes in teaching practices is very common” (Maroy & Pons, 2019, p. 226).

In Portugal, Flores and Ferreira (2019) highlight how school actors “deal with traditional and persistent bureaucratic centralism with new demands of managerialism, accountability and performativity” (p. 154). In this context, Flores (2018) finds that principals are skeptical about the usefulness of teacher evaluation in the professional development of teachers. In general, principals are not satisfied with the quality of the support for teachers’ professional development associated with the teacher evaluation process, and up to 85.7% of participants indicate that the teacher evaluation system has “involved tensions among the teaching staff” (Flores, 2018, p. 232). However, principals in Portugal also identified positive aspects of teacher evaluation, including “greater involvement of teachers in schools’ activities, greater concern with teaching practice and more reflection on teaching” (p. 236). In Spain, principals also appear to develop more positive impressions than teachers do; and “primary education teachers highlight the strengths over the weakness of the external evaluation for instructional impacts and informative purposes” (Monarca & Fernández-Agüero, 2018, p. 268).

Overall, school principals appear to play a key mediating role in the development of PBA in this region as well. In a study developed in Italy, Paletta (2019) suggests that accountability systems “can provide an opportunity for school improvement if school leaders limit the potential bureaucracy” and enhance the school organization as a professional learning community (Paletta, 2019, p. 392). The role of school principals is also stressed in other studies conducted in Italy, outlining that “teacher professional practices and teaching methods are affected in an indirect way by the principal’s strategic alignment and guidance of the self-evaluation and improvement processes”. However, other stronger mediating factors should be considered, and appear to be related to the school organizational level (collaborative culture and learning environment) as well as to teacher level factors, including self-efficacy (Paletta et al. 2020, p. 156). Other authors also support the idea of organizational and “professional school cultures” as well as “school singularities”

as mediating factors resulting in diverging responses of the accountability mandate in Italy (Landri, 2021).

### **Professional Skills Model**

The professional skills model is characterized by practical knowledge and professional skills. Under this model, described primarily in research conducted in South-East Asia, teachers face diverse forms of school- and teacher-level accountabilities, often tied to student performance results, but also to professional and peer evaluation mechanisms, sustained under an important collaborative culture (Voisin & Dumay, 2020).

PBA and performance-based mechanisms have generated important impacts on teaching practices in these contexts, limiting the autonomy and the work control of teachers, shifting the educational approaches towards testing cultures, and increasing workloads and dynamics of competition among teachers. In this context, some authors consider the configuration of the PBA system to have been influenced by the intersection between performativity, Confucianism and neo-liberalism, since all these elements are highly conducive to testing and examinations in educational settings (Tan, 2018). In fact, in East Asian countries, families have high academic expectations and encourage external assessments, generating high performance pressure on children, teachers and schools (Tan, 2018).

In Hong Kong, Tsang and Kwong (2017) describe a process of goals displacement in which the increasing accountability pressures derived from the policy environment have contributed to changing teaching tasks – away from educational and teaching goals and towards administrative oriented objectives (Tsang & Kwong, 2017, 852). In this context, a model of school-based management was introduced with increasing demands for external accountability. This reform approach generated important administrative tasks and resulted in limited instructional time and a lack of teachers' work control (Tsang & Kwong, 2017). Other authors support this results in Hong Kong, where a high-stakes PBA policy resulted in a performative environment with salient impacts on increasing workloads and stress among teachers, who tried to balance accountability demands and professional autonomy (Lee et al., 2020, pp. 646-647).

The accountability policy discourse in Singapore reflects a hybrid notion of teacher professionalism based on a combination of managerial and professional approaches to teaching regulation. However, the managerial approach prevailed under the tenets of the human capital ideology, which could “end up neglecting teachers' voices and constraining teachers' professionalism to the narrow boundary of curriculum implementation and translation” (Ro, 2020, p. 9). In Korea, similar results are found, where teachers' professional identities might be under tension from increasing administrative workloads and teaching to the test cultures (Ro, 2019).

The professional skills model is apparently highly conducive to PBA policies. Yet still, teachers' perceptions of PBA differ according to the policy characteristics and the context of implementation. In Shanghai, La Londe (2017) has analyzed the divergent perspectives of policy makers and school actors regarding the intended objectives of performance-based compensation (PBC) as a school accountability mechanism. PBC was designed to improve teaching quality by bringing together incentives and standardization, yet teachers developed a more ambivalent interpretation of these policy tools, challenging the taken-for-granted relationship between merit pay and teaching quality. Specifically, teachers who questioned the connection between incentives and teaching quality perceived merit pay as non-effective way to improve teacher motivation in general, as ill-suited to improve the performance of low-performing teachers, and at best, as a salary boost for well-performing teachers (La Londe, 2017, p. 16).

## Conclusions

Teachers' professional autonomy is being challenged by the rise of accountability policies through standardized testing, the definition of common learning standards, and prerogatives on how to instruct and evaluate students in specific subjects. Nonetheless, the effects of PBA on teachers' autonomy and practices vary across the globe. As this paper shows, the regulatory models of the teaching profession intervene in the variegated perceptions and effects of PBA among teachers. The paper highlights the critical role of institutional and policy factors to understand how PBA is lived, experienced and recontextualized by teachers, and how and to what extent it affects their autonomy.

The studies reviewed suggest that PBA instruments tend to limit teachers' agency and decision-making power at the individual level - this is, teachers' decisions and actions are increasingly conditioned by external assessments, performance metrics, and related policies. In line with the core premise of the sociology of numbers, the mere adoption of PBA instruments generates performative effects on actors' beliefs and behaviors (see Espeland & Sauder, 2007). Indeed, PBA instruments contribute to reconfiguring teachers' subjectivity and the internalization of new values and rationalities linked with the "new culture of competitive performativity" (*cf.* Ball, 2003, p. 219), creating new understandings of what a good teacher is. However, the intensity of these changes is not constant. The interaction between specific PBA configurations and teachers' regulatory regimes are crucial to understand the variegated policy perceptions and the changes experienced by teachers regarding their professional autonomy.

Trust-based regulatory regimes with high collective and institutional autonomy mitigate the effects of performative pressures on both teachers' sense of autonomy and their work, as we have observed in the context of Nordic European countries, where a professional training model prevails. In the context of the training model, teachers are more likely to resort to their professional judgment and knowledge when making decisions about instruction and evaluation, although they perceive the data collected through standardized testing as complementary, helping to inform their choices and promote school improvement. The professional practices enacted in these contexts are more ambivalent, and teachers usually show higher levels of policy appropriation and autonomy than in the context of other regulatory models.

In contrast, within the bureaucratic model, given the high level of *de facto* autonomy, the predominant sentiment of mistrust with external evaluations, and the prevalence of a bureaucratic form of accountability that gives more importance to rule compliance than to performance outcomes, it is easier for teachers to "escape numbers" (see Gorur, 2018; Piattoeva & Boden, 2020).

It is clearly in the context of the market model where PBA has more drastically transformed and restricted teachers' individual autonomy. This is not only due to the higher stakes associated with PBA, but also to the fact that these policies have been implemented more consistently and for a longer period in a context in which the teaching profession has witnessed gradual professional devaluation. The intensity of certain non-intended side-effects (e.g., teaching to the test, narrowing the curriculum, ability grouping) is more significant and intense, or at least very frequently reported, in the educational systems that integrate the market regulatory model.

In the context of East Asian countries, PBA combines managerial and professional logics, in a cultural context that is highly conducive to performativity and academic excellence. Significantly, the resulting pressures have also contributed to reconfiguring the nature of teachers' work over the last few decades.

The article also highlights the importance of the locally 'situated context' (*cf.* Ball et al., 2011) of the school to understand how teachers deploy their professional autonomy. On the one hand, school leaders seem to play a key role in the reception and transformation of the meanings of PBA in all the regulatory models considered in this review. In particular, school principals are influential

in modulating whether PBA will generate additional pressure on teachers or rather soften it, but also in understanding the effects of PBA over collegial autonomy. On the other hand, the schools' socioeconomic contexts also intervene in the pressure experienced by teachers. Teachers who work in schools with minority and working-class populations tend to experience much greater pressure from the PBA system and a greater constriction of their professional space. In contrast, teachers in middle-class environments perceive greater autonomy in their work and are less concerned with PBA pressures. Thus, our findings confirm that, beyond the role of the broader teacher regulatory regime in place, teachers' professional space differs depending on the material, organizational and social contexts of their work (Finnigan, 2010; Keddie, 2014).

In this paper we have focused on the mediating role of regulatory regimes in understanding the effects of PBA on teachers' autonomy, and on how different types of autonomy interact in the production of different patterns of PBA outcomes. Nonetheless, more research is necessary to understand how PBA itself can affect the very configuration of teachers' regulatory regimes. The regulatory power of PBA is, to a great extent, behind what some authors see as a recent trend towards the hybridization of teachers' professionalism (Noordegraaf, 2016). It is clear by now that PBA instruments have the capacity to affect individuals' subjectivity and organizational behavior, but not yet clear how and under what circumstances the aggregation of these changes can result in the longer-term transformation of the very nature of educational regulation and governance.

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## Annex

*TITLE-ABS-KEY* ("education polic\*" OR "education reform" OR "school reform" OR "accountability") AND *TITLE-ABS-KEY* ("accountability" OR "new public management" OR "NPM" OR "public governance" OR "school-based management" OR "school autonomy" OR "teacher\* evaluation" OR "teacher\* assessment" OR "benchmarks" OR "standards" OR "targets" OR "test\*") AND *TITLE-ABS-KEY* ("teacher\*") AND *TITLE-ABS-KEY* ("workload" OR "teacher\* salar\*" OR "teacher\* role" OR "class size" OR "working environment" OR "teach\* conditions" OR "teacher mobility" OR "teacher\* attrition" OR "teacher\* retention" OR "teacher\* dropout" OR "SES" OR "professionalism" OR "deprofession\*" OR "teacher identity" OR "proletarianization" OR "teacher\* autonomy" OR "trust" OR "teacher role" OR "teacher agency" OR "teacher\* self-efficacy" OR "teacher\* development" OR "teacher\* career trajector\*" OR "teacher\* creativity" OR "performativity" OR "teacher\* effective\*" OR "teacher decision making" OR "recogni\*" OR "self determination" OR "teacher\* motivation" OR "teacher engage\*" OR "job satisfaction" OR "stress" OR "teacher emotion" OR "burnout" OR "teacher\* turnover" OR "teacher vulnerab\*" OR "teacher\* recogni\*" OR "teacher\* well being" OR "teacher\* self esteem" OR "teacher\* work" OR "peer learning" OR "teacher\* support" OR "teacher\* relationship\*" OR "teacher\* interaction\*" OR "teacher\* coopera\*" OR "isolation") AND NOT ("Higher education") AND NOT ("Kindergarten" OR "early education") AND NOT ("adults") AND NOT ("nurse") AND NOT ("family") AND (*LIMIT-TO* (*SUBJAREA*, "SOCI") OR *LIMIT-TO* (*SUBJAREA*, "BUSI") OR *LIMIT-TO* (*SUBJAREA*, "ECON") OR *LIMIT-TO* (*SUBJAREA*, "ARTS") OR *EXCLUDE* (*SUBJAREA*, "MEDI") OR *EXCLUDE* (*SUBJAREA*, "AGRI") OR *EXCLUDE* (*SUBJAREA*, "BIOC") OR *EXCLUDE* (*SUBJAREA*, "CHEM") OR *EXCLUDE* (*SUBJAREA*, "COMP") OR *EXCLUDE* (*SUBJAREA*, "DENT") OR *EXCLUDE* (*SUBJAREA*, "EART") OR *EXCLUDE* (*SUBJAREA*, "ENER") OR *EXCLUDE* (*SUBJAREA*, "ENGI") OR *EXCLUDE* (*SUBJAREA*, "ENVI") OR *EXCLUDE* (*SUBJAREA*, "HEAL") OR *EXCLUDE* (*SUBJAREA*, "MATE") OR *EXCLUDE* (*SUBJAREA*, "MATH") OR *EXCLUDE* (*SUBJAREA*, "NURS") OR *EXCLUDE* (*SUBJAREA*, "ECON") OR *EXCLUDE* (*SUBJAREA*, "NEUR") OR *EXCLUDE* (*SUBJAREA*, "PHAR") OR *EXCLUDE* (*SUBJAREA*, "PHYS") OR *EXCLUDE* (*SUBJAREA*, "MULT") OR *EXCLUDE* (*SUBJAREA*, "VETE"))

## About the Authors

### **Lluís Parcerisa**

Universitat de Barcelona

lluisparcerisa@ub.edu

ORCID: <https://orcid.org/0000-0002-6755-1988>

Lluís Parcerisa is a Juan de la Cierva Postdoctoral Researcher at the Department of Teaching and Learning and Educational Organization of the University of Barcelona (UB). His main research interests include the role of international organizations in the global governance of education, the datafication of schooling, and the enactment and effects of school autonomy with accountability reforms in the education sector.

### **Antoni Verger**

Universitat Autònoma de Barcelona

antoni.verger@uab.cat

ORCID: <https://orcid.org/0000-0003-3255-7703>.

Antoni Verger is professor of sociology at the Autonomous University of Barcelona and research fellow at the Catalan Institution for Research and Advanced Studies (ICREA). With a cross-disciplinary training in sociology and education studies, his research examines the relationship between globalization, governance institutions and education policy.

### **Marcel Pagès**

Universitat de Girona

marcel.pages@udg.edu

ORCID: <https://orcid.org/0000-0003-3438-9379>

Marcel Pagès is adjunct professor in sociology of education and comparative education at the University of Girona, Department of Pedagogy. His research interests are education reform processes, school governance and inequalities in education.

### **Natalie Browes**

Universitat Autònoma de Barcelona – University of Amsterdam

browesn@gmail.com

ORCID: <https://orcid.org/0000-0002-4451-9192>

Natalie Browes is a research fellow at the Autonomous University of Barcelona. She is currently conducting research as part of the international ‘ReformEd’ project, where her work examines the adoption, development and enactment of school accountability policies in the Autonomous Dutch system. In particular, she focuses on the impact of test-based accountability policies on primary school teachers’ beliefs and practices in different school settings.

## About the Editors

### **Meghan Stacey**

UNSW Sydney

[m.stacey@unsw.edu.au](mailto:m.stacey@unsw.edu.au)

<https://orcid.org/0000-0003-2192-9030>

Meghan Stacey is senior lecturer in the UNSW School of Education, researching in the fields of the sociology of education and education policy. Taking a particular interest in teachers, her

research considers how teachers' work is framed by policy, as well as the effects of such policy for those who work with, within and against it.

**Mihajla Gavin**

University of Technology Sydney

[mihajla.gavin@uts.edu.au](mailto:mihajla.gavin@uts.edu.au)

[https:// orcid.org/0000-0001-6796-5198](https://orcid.org/0000-0001-6796-5198)

Mihajla Gavin is lecturer at UTS Business School. Her PhD, completed in 2019, examined how teacher trade unions have responded to neoliberal education reform. Her current research focuses on the restructuring of teachers' work and conditions of work, worker voice, and women and employment relations.

**Jessica Gerrard**

University of Melbourne

[jessica.gerrard@unimelb.edu.au](mailto:jessica.gerrard@unimelb.edu.au)

[https:// orcid.org/0000-0001-9011-6055](https://orcid.org/0000-0001-9011-6055)

Jessica Gerrard is associate professor at the Melbourne Graduate School of Education. Jessica researches the changing formations, and lived experiences, of social inequalities in relation to education, activism, work and unemployment. She works across the disciplines of sociology, history and policy studies with an interest in critical methodologies and theories.

**Anna Hogan**

Queensland University of Technology

[ar.hogan@qut.edu.au](mailto:ar.hogan@qut.edu.au)

[https:// orcid.org/0000-0003-1934-2548](https://orcid.org/0000-0003-1934-2548)

Anna Hogan is senior research fellow in the School of Teacher Education and Leadership at the Queensland University of Technology. Her research focuses on education privatisation and commercialisation. She currently works on a number of research projects, including investigating philanthropy in Australian public schooling, the privatisation of global school provision, and the intensification of teachers' work.

**Jessica Holloway**

Australian Catholic University

[jessica.holloway@acu.edu.au](mailto:jessica.holloway@acu.edu.au)

<https://orcid.org/0000-0001-9267-3197>

Jessica Holloway is senior research fellow and ARC DECRA fellow at the Australian Catholic University. Her research draws on political theory and policy sociology to investigate: (1) how metrics, data and digital tools produce new conditions, practices and subjectivities, especially as this relates to teachers and schools, and (2) how teachers and schools are positioned to respond to the evolving and emerging needs of their communities.

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