

# 6

## Teacher Policy and Labor Market Outcomes

A Comparison of Sixteen Countries

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### 6.1 Introduction

This chapter extends the focus beyond the English and French cases to understand the links between teacher policy and labor market outcomes through a comparative analysis of sixteen countries, including England and France. Consistent with the conceptualization presented in Chapters 2 and 3, teacher policy is defined as the interaction of three policy domains: teacher education and certification, teaching labor market and careers, and teacher evaluation and governance. However, in contrast to the previous chapters, which focused on teacher employment regimes and careers, this chapter reopens the analysis to a multidimensional conceptualization of teacher policy. It takes a comprehensive approach to teacher policy to capture the regulatory models observed in different contexts (Voisin & Dumay, 2020) and their relationship to labor market outcomes such as the value of the profession; satisfaction with the profession, employment conditions, and work environment; and teacher attrition.

As noted in the Introduction to this volume, the teaching profession is facing major challenges in terms of declining attractiveness, retention, and legitimacy. At the same time, the institutional landscape of the teaching profession has undergone major changes, in Europe but also elsewhere. At the intersection of global trends, specific sociopolitical and historical contexts, and the cultural and structural conditions of the profession, a number of policy initiatives have been promoted to reform the teaching profession in the areas of teacher education, labor markets and careers, and professional governance. Because significant changes are taking place that are fundamentally altering

the employment regimes and careers of teachers, these changes follow different institutional trajectories in different contexts (see Chapters 3, 4, and 5).

France and England are relevant illustrative cases of such differences in the way the teaching profession is regulated in different countries. In education systems such as France, which have historically been characterized by protected administrative statuses and bureaucratic regulation of teachers' employment conditions, the dualization and flexibilization of public service work is leading to a gradual reconfiguration of the teaching workforce. This challenges the notion of standard employment conditions, albeit secured by competitive examinations orchestrated at the central level and used as a strategy by the state to protect teaching positions. Meanwhile, in England, which is characterized by market-oriented professional regulation, standards and accountability mechanisms monitor the quality of teacher education as well as that of teachers and schools, while multiple forms of internal and external flexibilization are at work, significantly shaping teaching labor markets and teachers' career paths (see Chapters 4 and 5).

While these enduring trends are reconfiguring the institutional landscape of the teaching profession in contexts emblematic of market-oriented or bureaucratically oriented regulation, such as England or France, respectively, several studies have also highlighted cross-country differences in the effects of teacher policies in other contexts (e.g., Akiba et al., 2007; Verger et al., 2019). However, the effects of different teacher policy domains have often been studied separately, focusing on the impact of specific policies. This chapter contends that teacher policy is best understood as an institutional system that includes domestic policies on teacher education, teacher labor market and careers, and teacher accountability. It examines the impact of four institutional systems of professional regulation, respectively the Market, Bureaucratic, Training, and Professional Skills models, on labor market outcomes in sixteen countries across four continents. The analysis is based on the Teaching and Learning International Survey (TALIS) 2018 dataset and founded on cross-sectional analyses that focus on the differences between typical institutional systems of teacher policy, thus adding a broader comparative dimension to the three previous chapters that analyzed the institutional evolution of teacher policy and teacher employment regimes in France and England.

The chapter is organized as follows. First, the literature on teacher policy and labor market outcomes is reviewed. We then present an original typology of institutional systems of professional regulation (Voisin & Dumay, 2020) and test its impact on labor market outcomes before discussing the added value of such an institutional approach to the analysis of the teacher labor market and outcomes.

## 6.2 Teacher Policy and Labor market Outcomes

Since the 1990s, a rich literature on teacher policy and teacher labor markets (e.g., Eiden et al., 2004; Kelchtermans, 2017; Loeb & Reininger, 2004) has developed to help us understand the determinants of teacher labor market outcomes (e.g., teacher attrition, teacher shortages) and how these may be detrimental to educational quality and economic resources (García & Weiss, 2019). First, the literature on teacher retention (Guarino et al., 2006), teacher attrition (Borman & Dowling, 2008; Ingersoll, 2001; Nguyen et al., 2020), and teacher shortages (Ingersoll & Smith, 2003; Podolsky et al., 2016) has examined the role of individual and school factors. Research has examined teacher-level factors such as demographic characteristics (e.g., age, gender, family variables) and qualifications (e.g., type of initial education, degree attainment). School-level factors are typically categorized into organizational characteristics (e.g., school leadership, professional collaboration, and shared decision-making), resources for teaching and learning, and student characteristics (Borman & Dowling, 2008; DeAngelis & Presley, 2011). Second, these categories (i.e., personal and school factors) have been expanded to include influences from external/policy factors (Nguyen et al., 2020).

Of the studies that have examined the effects of teacher policies on teacher attrition, those on the effects of teacher evaluation and accountability systems are the most developed. Studies have focused either on teacher turnover at the school level in relation to evaluation and accountability pressures felt by teachers or on variations in accountability policies and their effects (at the state or national education system level). Research on school-level variation has, not surprisingly, found that accountability makes it more difficult to retain teachers in low-performing schools (Clotfelter et al., 2004; Reback et al., 2014; Ryan et al., 2017). However, studies of policy variation conducted primarily in the US context have been less conclusive, showing no obvious differences between forms of accountability (Loeb & Cunha, 2007; Sun et al., 2017; Shirrell, 2018).

The literature on teacher education policy covers a wide range of related questions about the effects of teacher certification and degree status, pathways into the profession, types of education programs, and early career and induction (Cochran-Smith et al., 2011). Research on degree status provides little support for the contention that teachers with greater academic competence stay in the profession longer (e.g., LaTurner, 2002). The benefits of alternative entry routes (i.e., alternative certification programs) or partnership models of teacher preparation (such as Professional Development Schools [PDS]) are much more controversial. Emerging and still inconsistent trends show lower

attrition rates for PDS programs but higher attrition rates for alternative certification programs (Boyd et al., 2006; Coppe et al., 2023; Zhang & Zeller, 2016). The type of training program also matters. Ingersoll and colleagues (2014) found that, regardless of college type, degree, and preparation route, beginning teachers who had taken more courses in teaching methods and strategies, learning theory, and child psychology were significantly less likely to leave the profession. Finally, studies have pointed to consistent positive effects of teacher induction practices on teacher migration and attrition, particularly supportive communication from school leadership (e.g., Ronfeldt & McQueen, 2017).

Finally, workforce factors and labor market policies are relatively recent additions to the literature on labor market outcomes, with the exception of the extensive literature on teacher salaries (Nguyen et al., 2020). Studies have shown that salary increases slightly reduce teacher turnover (e.g., Hanushek et al., 2004). Moreover, research on cross-country differences in teacher salary levels has provided evidence that differences in the economic status of the teaching profession help explain variation in the attractiveness of the profession (e.g., Park & Byun, 2015), but, to our knowledge, no study has examined the impact of cross-country differences in the attractiveness of the profession on teacher retention.

### 6.3 Institutional Systems of Teacher Policies

While a large literature has focused on isolated policies (e.g., alternative certification programs, teacher induction, salary policies, etc.) and their effects, mainly on a single country case, this chapter argues, in line with a growing literature that takes a comprehensive approach (e.g., Tatto, 2007; Darling-Hammond et al., 2017), that teacher policies are best thought of as institutional systems that reflect choices, path dependencies, and worldviews (e.g., about education and teachers). In this vein, we have suggested in previous work (Voisin & Dumay, 2020) that dominant patterns and key rationales underpin the regulation of the teaching profession in different contexts, shaping the institutional landscape of the teaching profession and the ways in which education systems organize and regulate teacher education, teaching labor markets, and profession accountability. We have argued for a detailed analysis of the characteristics and interactions between these dimensions not only because of the central place they occupy in scholarly and public debates but also because of the critical importance of these intertwined institutional pillars that constitute the foundations of the teaching profession and whose

Table 6.1 Institutional Models of Teacher Policy

	Market model	Bureaucratic model	Training model	Professional Skills model
<b>Dominant pattern</b>	Market and standards-based regulation	Bureaucratic and subject matter expertise-based regulation	Professional knowledge and autonomy-based regulation	Bureaucratic and professional skills-based regulation
<b>Teacher education</b>	Diversification of ITE pathways and providers	University-based ITE focusing on academic disciplines	High ITE selectivity and academic standards	Off- & on-the-job teacher education and preparation
<b>Labor-market regulation</b>	Openness, flexibility, and competition for jobs	Bureaucratic rules and impersonal criteria	School autonomy and teacher qualification	Bureaucratic rules and professional standards
<b>Profession governance</b>	Performance, managerial and market-based accountability	External/hierarchical control and teacher autonomy	Professional autonomy and expertise	Professional accountability
<b>Countries</b>	England, Australia, USA, New Zealand, Chile	France, Italy, Portugal, Spain	Finland, Denmark, Norway	Japan, Singapore, Shanghai, Korea

ITE, initial teacher education.

Source: Voisin & Dumay 2020 p. 7.

framing can support the work of professionals and enable them to be defined and viewed as such (Freidson, 2001).

We have proposed that different models of regulation of the teaching profession, embedded in a bureaucratic, market, or professional approach, not only articulate these three institutional pillars in specific ways but also refer to a belief in imaginary worlds, each based on a different set of assumptions that underlie policy choices, shape the way work is organized and controlled, and share different conceptions of work and professionals (see Table 6.1). A bureaucratic approach relies primarily on the definition of rules and norms that structure the organization of work, coupled with bureaucratic and external forms of control as well as standardized procedures and practices. A market-oriented approach, on the other hand, relies primarily on the principles of competition, flexibility, and mobility that structure teaching labor markets and the employment regime of teachers. Finally, a professional approach (of which we have identified two different versions called Training and Professional Skills models) focuses on professional control, expertise, and professional autonomy and emphasizes a work organization that should

support professional autonomy. This framework has allowed us to draw attention to the common institutional features and characteristics that transcend the boundaries of education systems and to highlight key dimensions that structure the institutional landscape of the teaching profession in different contexts (for more details on this work, see Voisin & Dumay, 2020). Demonstrating its relevance for studying the impact of teacher policy, recent work has built on this typology to examine the different forms that performance-based accountability and teacher evaluation can take in different regulatory models (Parcerisa et al., 2023; Ferrer-Esteban et al., 2024) or cross-country differences in the public valorization of the profession (Akiba et al., 2023). We now briefly explain the four models (Market, Bureaucratic, Training, and Professional Skills).

In the Market model, which characterizes England, Australia, the United States, New Zealand, and Chile, the diversification of teacher education providers and entry routes into the teaching profession is coupled with various standards, assessments, and testing procedures designed to ensure and control the quality of initial teacher education, teachers, and schools. While labor market regulation is based on the principles of openness, flexibility, and competition for jobs, performance-based accountability systems might imply that teachers enjoy relatively low levels of professional autonomy and strong regulation of their core work. In terms of the implications of such a model, low teacher autonomy coupled with increased control over teachers' work might create a sense of lack of trust in teachers (Ingersoll & Collins, 2017; Price & Weatherby, 2018), while more flexible labor market regulation could contribute to greater satisfaction with working conditions, which could nevertheless be mitigated by the intense pressures teachers face through rigorous accountability mechanisms (Parcerisa et al., 2022; Perryman & Calvert, 2020; Smith & Holloway, 2020).

The Bureaucratic model, which characterizes countries such as France, Italy, Portugal, and Spain, is based on the central definition of bureaucratic rules and impersonal criteria that govern teachers' allocation to schools, employment status, and career trajectories. A relatively high level of teacher autonomy is accompanied by a relatively low level of teacher accountability. In terms of the implications of such a model, secure employment conditions and status might contribute positively to overall satisfaction with the profession. However, limited opportunities for career development might negatively impact teachers' satisfaction with their employment and working conditions and, more broadly, their sense of how the profession is valued by society (Kim & Loadman, 1994; Price & Weatherby, 2018). Although the Bureaucratic model is strongly rooted in rules and criteria, the growing

teacher shortage has forced the emergence of an alternative labor market for teachers, referred to in Chapters 4 and 5 as the “dualization of teacher employment.” This alternative market is characterized by low security and unstable status, in contrast to the original mechanism of the Bureaucratic model. Teachers who fall into it have shown dissatisfaction with the profession and are more likely to leave the profession than are other teachers (Bertron et al., 2021; Coppe, 2022; Dumay, 2024).

The last two models are arguably different versions of a professional model (Freidson, 2001), emphasizing selective and high-quality initial teacher education and professional development. The Training model, characteristic of Finland, Denmark, and Norway, relies on highly selective university-based teacher preparation as a key foundation for teachers’ professional competence and autonomy and favors collaboration and quality assurance processes at the school level. The Professional Skills model, characteristic of Japan, Singapore, Shanghai, and Korea, is also based on long-term selective initial teacher education but relies on a mix of bureaucratic rules and professional standards as well as the definition of hierarchical career ladders that include professional development and performance-based elements coupled with various forms of accountability. In both models, teachers enjoy a high professional status (Price & Weatherby, 2018), but the pressures they face in professional competency models due to multiple accountability systems (Katsuno, 2012; La Londe & Verger, 2022) and performance-based education systems may contribute to a greater sense of dissatisfaction with the work environment.

## 6.4 Institutional Systems of Teacher Policy and Labor Market Outcomes

To investigate how cross-national variations in the institutional systems of teacher policy affect teaching labor market outcomes, the Organisation of Economic Cooperation and Development (OECD) TALIS 2018 data for the sixteen education systems classified within the models of professional regulation discussed in the previous section (England, Australia, the United States, New Zealand, Chile, France, Italy, Portugal, Spain, Finland, Denmark, Norway, Japan, Singapore, Shanghai, Korea) are used. We examine the extent to which these models can explain variations in teachers’ perceptions of the value placed on the profession; their satisfaction with the profession, their work environment, and their employment conditions; and their intention to leave the profession within the next five years, variables that have been widely used as proxies for teacher turnover and retention (Madigan & Kim, 2021).

Data from the TALIS 2018 survey of lower secondary teachers ( $n = 53,178$  teachers working in 3,076 schools) in the sixteen education systems in our sample are the main source for our analysis. Analyzing the link between institutional systems of teacher policy and teacher labor market outcomes poses at least two main methodological challenges. The first is to isolate the part of the variance in teachers' perceptions that is directly related to variation across systems, which means separating within-system variation between teachers and between schools from between-system variation and controlling for differences between teachers and between schools that could explain between-system variation. Based on existing meta-analyses (Borman & Dowling, 2008; Nguyen et al., 2020) and available variables in TALIS 2018, we control for teachers' gender, the number of schools they work in, working hours, and experience, and, for the school composition, turnover, level of teacher collaboration and stakeholder participation, principal leadership, effective professional development, and the quality of the relationship climate at the school level.

The second is that the variation across systems captures a variety of effects other than teacher policy. Put another way, the potential for omitted variable bias in this analysis is serious, so the empirical models used should carefully assess the risk of overestimating the effect of country-level teacher policies. As just one example, the estimates for the Professional Skills model are obviously confounded with everything else about pan-Asian regionalism. Our strategy for limiting these risks is therefore to identify system-level confounders based on the literature and test the extent to which differences related to teacher policy systems are confounded with other system-level variables.

We identified three categories of confounders (Park & Byun, 2015). The first is the economic status of the teaching profession, which we capture as the average salary level of secondary teachers (mean of starting salary, salary after ten years of experience, salary after fifteen years of experience, and salary at the top of the scale) and their relative salary (standardized ratio of salaries after fifteen years of experience to gross domestic product [GDP] per capita of typical lower secondary education from the Programme for International Student Assessment [PISA], 2015). The second are cultural differences between countries, which we approach using Hofstede's system of cultural dimensions, in particular the individualism–collectivism scale (Hofstede, 2011). The third are regional effects. The difficulty here, however, is to find a definition of regional categories that does not completely overlap with the categories of our typology of teacher policy institutional systems. The countries of the bureaucratic model are indeed largely concentrated in continental Europe, those of the training model in Northern Europe, and

those of the Professional Skills model in Southeast Asia. Only the market model countries are more widely scattered across different regions of the world (North and South America, Europe, Oceania). We therefore define the regional categories as follows: America, Europe, and Asia/Oceania.

The third methodological challenge is directly related to the TALIS study design and the cross-cultural validity of the measures. The literature on international comparisons assumes that the constructs being measured should have the same metric properties across countries, which is only partially the case for our dependent variables (i.e., reaching partial scalar invariance—for details on these technical considerations, see Dumay et al., under review). We analyze the data using two-level models to adjust for differences across countries according to control variables measuring differences between teachers and schools and then test whether teacher policy systems are related to these adjusted mean differences in value of the profession, satisfaction with profession, employment conditions and work environment, and intention to quit the profession. Finally, we examine the extent to which the effects of teacher policy systems on labor market outcomes are resistant to the three types of confounders (status of the profession, cultural differences, and regional effects).

Interestingly, the results show clear differences between the institutional systems of teacher policy (see Table 6.2; results by country are available in Appendix B). First, the analyses indicate significant differences between the Bureaucratic model and the Market and Professional Skills models in terms of the perceived value of the profession, suggesting that teachers in the Bureaucratic model tend to perceive their profession as less valued than teachers in the other two models. Incidentally, this result holds even when the

**Table 6.2** Institutional Models of Teacher Policy and Labor Market Outcomes (Mean and Standard Deviation)

	Value of the profession	Satisfaction with employment	Satisfaction with the profession	Satisfaction with the workplace	Intention to quit
<b>Market</b>	<i>.182(.311)</i>	<i>.301(.344)</i>	<i>.226(.145)</i>	<i>.232(.102)</i>	<b>.156(.046)</b>
<b>Bureaucratic</b>	<b>-.448(.145)</b>	<b>-.389(.458)</b>	<i>.178(.467)</i>	<i>.089(.160)</i>	<i>.033(.011)</i>
<b>Training</b>	<i>.104(.425)</i>	<i>.275(.112)</i>	<i>.224(.062)</i>	<i>.321(.207)</i>	<i>.105(.028)</i>
<b>Professional Skills</b>	<i>.480(.582)</i>	<i>.295(.312)</i>	<b>-.173(.103)</b>	<b>-.397(.125)</b>	<i>.134(.135)</i>

Bold is the reference group; italics are systems that are statistically different from the reference group.  
Source: Dumay Voisin & Coppe under review.

analyses control for the economic status of the profession (see Appendix C1), which is particularly important because the economic status of teaching is significantly lower in the Bureaucratic model countries. While this finding is consistent with work that has highlighted similar trends in terms of the perceived low value of the teaching profession in countries such as France or Spain (Organisation for Economic Cooperation and Development [OECD], 2014), a more surprising finding relates to the dissatisfaction with employment conditions expressed by teachers in the Bureaucratic model compared with the three other models. This is striking given that the Bureaucratic model provides teachers with a protected status and secure employment conditions from the beginning of their careers. One possible explanation is that teachers in this model have poor opportunities for career development and professional mobility, both vertically and horizontally. As a growing body of literature on teachers' careers shows (e.g., Crehan, 2016), teachers' opportunities for career development can be seen as a key lever for improving satisfaction with working conditions and the attractiveness of the profession. A second interpretation is linked to the form of professional democracy, which in the Bureaucratic model is highly focused on unionism. Studies have consistently shown the central role of teachers' unions in negotiating and contesting teacher policy in these countries (e.g., Dumay & Burn, 2022) but rarely considered the possible gap in teachers' views between union leaders, simple union members, and non-affiliated teachers, which could also explain why teachers on the ground, despite being highly represented in policymaking, do not feel that their profession has much control over decisions (an item taken into account in the measure of teachers' sense of value attached to the profession). Finally, it should be noted that the less positive image that teachers in the Bureaucratic model have of their profession does not translate into less satisfaction with the profession. More strikingly, teachers in the Bureaucratic model are significantly less likely to intend to leave the profession than those in the Market model. Despite significant dissatisfaction with employment conditions and a perception that teaching is undervalued in this model compared with the Market and Professional Skills models, employment conditions may provide a safety net to reduce teacher turnover. However, these considerations overlook a growing proportion of teachers in the secondary segment of the labor market, which is characterized by fewer jobs and a higher risk of turnover (see Chapter 4 of this book, for a discussion of the French case).

Regarding the Market model, our study highlights that teachers in this model tend to perceive their profession as more valued and are more satisfied with their employment conditions than their counterparts in the

Bureaucratic model. The results regarding teachers' satisfaction with their employment conditions in the Market model are very surprising, not least because of the extensive literature focusing on education systems such as those in the United States, England, or Chile. Most of the literature suggests that teachers' employment conditions in these countries are highly differentiated, poor, or have deteriorated (Avalos, 2013; Lawn, 1995). In Chile, for example, heated debates and extensive literature highlight the need to improve teachers' employment and working conditions as well as the status of a teaching profession working in an extreme case of a market-oriented and highly segregated education system (Avalos, 2013; Ávalos & Bellei, 2019). Moreover, policy initiatives have recently been taken to address the main issues facing the teaching profession in Chile, particularly in terms of employment and working conditions (Ruffinelli Vargas, 2016). Therefore, we may wonder whether the specific characteristics of some of the education systems included in this model, which differ in terms of the perceived value given to the profession and satisfaction with employment conditions, especially Australia, could have influenced our results.

However, our results also suggest that teachers in this model are more likely to report wanting to leave the profession in the next five years than those in the Bureaucratic model, which is consistent with the observation of high teacher turnover in liberal systems as found in the United States or England (Ingersoll & Smith, 2003). As discussed above, the secure employment conditions offered by the Bureaucratic model may help to limit teacher turnover through secure employment conditions that are not offered in the Market model. Teachers' intentions to leave the profession, and consequently the causes of teacher turnover in the Market model, may also be related to their increasingly precarious working conditions, particularly due to accountability pressures (Parcerisa et al., 2023; Smith & Holloway, 2020; see also Chapter 4). Moreover, the contrast between the Bureaucratic and Market models observed here may also suggest explanations in terms of labor market permeability, which is likely to be more important in the Market model. In the Market model, mobility across sectors may have been facilitated by the development of short-track training and alternative certification programs over the past two decades (Boyd et al., 2006; Zhang & Zeller, 2016) and the development of new types of teaching careers (Chapter 5). While in the Bureaucratic model the growing number of alternatively certified or uncertified teachers has created a secondary labor market, this is not the case in the Market model. In fact, the existence of these non-traditional teachers is already accounted for in the flexibility of the model. Nevertheless, and beyond the regulatory models, the very real opportunities for mobility for individuals may also depend

on their level of specialization and their ability to transfer acquired skills and expertise to sectors other than teaching.

Another striking result of our analyses is the lower level of satisfaction with the work environment (and to a lesser extent with the occupation) in the Professional Skills model that groups together systems such as those of Japan, Korea, Singapore, and Shanghai. This finding raises interesting considerations, especially since this model is based on a strong emphasis on on-the-job training and professional development programs linked to career ladders. Thus, our findings potentially draw attention to the psychological costs borne by teachers in high-performing systems that invest heavily in teacher training and professional development and that involve high stakes for teachers. This is compounded by the pressure to perform that results from multiple accountability mechanisms. Combined with studies of work-related stress in countries such as South Korea and Japan, we can hypothesize that these incentives for professional development and performance may be experienced by teachers as pressure and stress.

## 6.4 Discussion

Around the world, the teaching profession faces significant challenges. Key policy issues in the teaching profession include attractiveness, retention, and shortages. Our goal in this chapter was to demonstrate the added value of an institutional approach to teacher policy compared with more common approaches to teacher labor markets that analyze labor market outcomes based on individual teacher and school organizational characteristics or local market dynamics (Nguyen et al., 2020). Based on a comprehensive approach to teacher policy, we have shown how institutional patterns of teacher policy affect teacher labor market outcomes. Analyses indicated how countries embedded in different types of institutional systems not only have different levels of professional value, satisfaction with employment, profession, and workplace but also how their institutional characteristics explain these differences.

The results for the Bureaucratic model are particularly interesting. While job security is high in these systems, teachers report low satisfaction with their employment conditions and low value for their profession, yet they tend to stay longer. Possible explanations for teachers' feelings of devaluation and dissatisfaction with employment conditions can be sought in a complex set of elements. In a context that offers few opportunities for vertical or horizontal mobility, we can hypothesize that teachers' sense of devaluation may

be exacerbated by the lack of prospects for professional growth and career advancement, which may lead to a sense of lack of control over their careers. However, the literature on the effects of career advancement opportunities suggests that teaching career ladders and teachers' opportunities for career advancement may have mixed effects on labor market outcomes (Crehan, 2016; Tournier et al., 2019). We therefore need complementary explanations, which our analysis of the French case allows us to identify. First, the analyses conducted in Chapter 3 show a decline in the attractiveness of teacher entrance exams and the development of a secondary labor market that has doubled in size in fifteen years, and these converge on the thesis of increased employment precariousness in bureaucratic systems. Although our analyses controlled for wage levels (absolute and relative), we also cannot rule out the possibility that the combination of a closed labor market and low/middle economic status of the profession is a significant source of accelerated dualization of the teaching labor market. Second, and equally important, career analyses (see Chapter 5) have shown that the relationship to a long career in teaching is gradually becoming deinstitutionalized and that it is the articulation of more complex forms of commitment (and not just to the profession or to status) that enables teachers to navigate and sustain their careers. It is also worth noting that the career model for contract teachers is particularly ambivalent because many of them value status and a long career, but in practice this is very rarely achieved, even in the form of a long-term contract. The institutional model of the status of the profession is thus being challenged from both within and without, in a configuration where the trajectory of teacher policy is particularly uncertain (see Chapter 3). In response to the relative decline in the status of teachers, there have been recent policy initiatives, such as raising the level of education required to enter the teaching profession and the level of salary in the early years but the policy framework remains in deep tension between the stability of the bureaucratic system, largely supported by neocorporatist arrangements, and attempts to further destabilize the status of the teaching profession and employment conditions, pushed by new political coalitions entangled in EU influences.

The panorama in the Market model, characterized by a greater diversification of entry paths into the profession, greater flexibility in labor market regulation, and a strong emphasis on control mechanisms, appears to be quite distinct. Among the salient findings of our study, we reported higher levels of satisfaction with employment conditions compared with the Bureaucratic model but also higher prospects of leaving the profession. Teachers' satisfaction with their employment conditions may be surprising at first, but they do indeed converge on the results uncovered in England concerning the

increased precarity of work rather than employment. Looking at the sources of teacher satisfaction in England, Klassen and Anderson (2009) highlight that the sources of teachers' job dissatisfaction have evolved over time, with teachers in the 1960s being more concerned with external sources of job (dis)satisfaction such as salary or poor human relations, whereas, in the 2000s, they seem to be more concerned with what the authors call factors related to teaching itself (time demands and student behavior) (Klassen & Anderson, 2009, p. 745). Moreover, as noted in Chapters 4 and 5, concerning the English case, differentiated conditions according to organizational specificities and horizontal mobility may allow flexibility in the search for employment and working conditions that are better adapted to individual expectations. However, the opposite reasoning to the Bureaucratic model regarding secure employment conditions can be used to understand those teachers who indicated that they wanted to leave the profession in the next five years. This finding, which is consistent with studies highlighting the teacher retention crisis in England or the United States, may also be related to the pressures introduced by the accountability mechanisms prevalent in this model (Perryman, 2022) and the increasing precarity of working conditions overall.

Also, countries' approaches to teacher policy in general and teacher education in particular certainly help to make sense of our findings for the Market model. Mayer and Mills (2020) point out that teacher professionalism in England and Australia is increasingly associated with increased accountability and the use of professional standards and measures of teacher performance, as is the case in the United States (Zeichner, 2014) and Chile (Avalos, 2004). However, beyond the similarities in terms of increased accountability, standards, and performance management, England, Australia, and Chile differ particularly in terms of the key role of universities in teacher education, with England being "dominated by a series of pathways that reduce or eliminate the role of universities" (Mayer & Mills, 2020, p. 57). In Australia, however, teacher education policy has moved toward a central role for universities since the 1980s, when teacher education became an integral part of university preparation. The aim was to raise the status of the teaching profession, and the prospect of a single system prevailed from the 1980s onward. Although alternative routes into teaching were introduced in Australia in the 2000s in response to problems of teacher attrition, the process of embedding teacher education in universities remains a key element in the development of teacher policy in that country. The embedding of teacher education in universities and the strong state regulation of teacher education is certainly a process that characterizes recent policies to regulate the teaching profession in Chile.

In fact, Chile has recently reformed teacher careers by introducing structured and hierarchical career ladders that incorporate elements of performance and professional development (Ruffinelli Vargas, 2016). Accreditation mechanisms for teacher education institutions and programs and the definition of standards to regulate teacher education and teacher careers (Ruffinelli Vargas, 2016) are also part of these recent initiatives to regulate the teaching profession. These elements are important because they help to highlight the specificities of education systems that are grouped under the same model.

As for the Professional Skills model, multiple accountability systems alongside structured teacher career paths, a strong emphasis on practical and on-the-job training, and a strong regulatory role for the state are certainly key features that distinguish this model from the other three. Education systems grouped under this model, such as Singapore and Korea, have recently received considerable attention, particularly for their performance in international studies of academic achievement. Indeed, as Hwa has noted, these education systems have been “lionized as educational ‘reference societies’” (de Roock & Espeña, 2018 and Takayama, Waldow, & Sung, 2013 cited in Hwa, 2021, p. 543). As for the case of Singapore, its distinctive features include a “thick accountability regime” (Högberg & Lindgren, 2021, cited in Hwa, 2022), where “teachers’ work is managed within a national system of tiered performance standards and formal evaluations, with a structured career ladder and substantial bonuses (Sclafani & Lim 2008, quoted in Hwa, 2021, p. 543). Interestingly, our results suggest that this model appears to be the one in which teachers express a greater sense of dissatisfaction with their work environment. Given this model’s emphasis on on-the-job training, second-generation career structures, and professional development in the workplace, this finding seems surprising. Nevertheless, in line with studies in occupational health and well-being showing average high levels of work stress in countries such as Japan or South Korea (e.g., Kawakami & Tsutsumi, 2016) and studies in the field of education also showing a high level of pressure felt by students both in schools and in outside-school learning activities, we can hypothesize that the pressure to perform, which is also associated with high stakes in terms of career advancement, may be the very source of teacher dissatisfaction. In Singapore, the literature highlights teachers’ views of a system described as competitive, progress-oriented, and essentially based on rewards and punishments (Hwa, 2021). However, Hwa (2021) shows that teachers’ responses to accountability pressures depend on cultural contexts, highlighting that Singapore’s high-stakes system is seen as consistent with the meritocratic principle that dominates Singapore’s sociocultural context, so that teachers are unlikely to show much resistance. Therefore, teachers’

dissatisfaction with the work environment may be related to a combination of factors, such as significant pressures associated with multiple accountability systems and labor market regulation that allows little horizontal mobility, thus limiting teachers' freedom to change their work environments.

The contrast with the Bureaucratic model is also particularly interesting. In the Bureaucratic model, the value of the professional group and its status is low, while teachers individually are more attached to their profession and their work context. In the Professional Skills model, the relationship between the value of the profession and individual perceptions is reversed. Teachers in this system perceive a high value in their profession and their employment conditions, but, on an individual basis, they are more dissatisfied with their profession and especially with their working environment. Moreover, levels of attrition are particularly low in bureaucratic systems and significantly higher in the Professional Skills model. Future studies could therefore try to clarify what in each of these two systems contributes most to professional attrition on the assumption that, in both cases, regardless of the level of valuation of the profession in society, this dimension plays a relatively minor role in professional attrition. This is relevant to systems using the Bureaucratic model because there seems to be a disconnection between low valuation of the profession and low attrition intentions and, in Training systems, because the high level of valuation does not seem to translate into low attrition intentions. The difference between the two systems is therefore likely to be explained by the relationship to the work environment, which is centered on strong professional autonomy in the Bureaucratic model and on multiple accountabilities anchored in work contexts in the Training model.

Finally, regarding the Training model that characterizes countries such as Finland, Norway, and Denmark, our results suggest positive perceptions of employment conditions and a fairly high level of satisfaction with the profession and the workplace, which is consistent with this model being based primarily on the principles of professional autonomy and discretion that their high level of initial education confers on them. Promoted as being based on a culture of trust toward the teaching profession (Sahlberg, 2007), the Finnish education system has been scrutinized and presented as an example to follow, in terms of both teacher training and the organization of its school system. As highlighted by Hwa (2021), unlike Singapore, which “uses a comprehensive, tiered, and competitive performance management system that deploys promotions and performance bonuses to manage the processes and outputs of teacher practice in schools” (p. 222), Finland has favored a “thin” accountability system (Hwa, 2021) that focuses on setting standards at the point of

entry into the teaching profession and uses few incentive or penalty systems (Hwa, 2021). In Finland, teaching is presented as a high-status profession (Simola, 2005). Finnish teachers have been described as highly trained professionals who go through a selective initial education and are “conscious, critical consumers of professional development and in-service training services” (Sahlberg, 2007, p. 25). In addition, a significant proportion of teachers in Finland continue their education to the doctoral level. Regarding the permeability of labor markets, the authors point out that the basic requirement for entering the teaching profession, which is a master’s degree, also opens doors to public employment and the private sector in areas such as business and industry. This probably explains the medium level of turnover intentions in these systems.

In conclusion, our study has paved the way for research looking at the institutional foundations of teacher policy and their impact on labor market outcomes. We used most of the TALIS survey potential, taking into account its limitations in measuring, modeling, and controlling for confounders at different levels. In this respect, our control strategy for the three types of system-level confounders (economic status of the profession, cultural variations, and regional effects) has instead demonstrated the robustness of our analyses. In particular, statistical control for the economic status of the profession did not call into question the differences found between the Bureaucratic model and the Market and Training models for the value of the profession and satisfaction with employment conditions. Only the Training model was no longer positively differentiated from the Bureaucratic one, which may be explained by the particularly low economic status of the profession (especially relative wages) in the Training model. Similarly, controlling for cultural differences in individualism–collectivism cancels out the difference between the Bureaucratic and Training models for satisfaction with employment conditions. This change in effect can be explained here by the strong individualism observed in the Training model countries, as opposed to a clearer collectivism in countries using the Bureaucratic model. Finally, controlling for cultural differences does not, as might be expected, cancel out the differences between the Professional Skills model and the three others in terms of satisfaction with the work environment. Only the regional effects modify more significantly the results for the value of the profession and the turnover intentions, which become non-significant. Although this strategy is common in the literature, it clearly confuses some of the effects we have been trying to measure since it is difficult to separate economic, cultural, institutional, and political orientations (Dupriez & Dumay, 2006).

However, both the results and the design of our study should be viewed with caution. The differences that exist between and within countries and education systems grouped under the same model are inevitably blurred in our study, which emphasizes commonalities. In fact, beyond the similarities, variations between and within education systems are important and need to be taken into account to gain an in-depth understanding of the trajectory and impact of teacher policy in different contexts. Therefore, detailed analysis of national and local cases, as in this book for the cases of England and France, is needed and should provide further insight into the findings discussed in this chapter. Moreover, as noted above, the interpretation of teachers' perceptions is difficult to separate from the specificities of the sociocultural, political, and historical contexts in which teachers work. It is important to keep in mind that teachers' perceptions are subjective and changing and that these perceptions are mainly related to teachers' immediate social environment. More complex measures of teacher satisfaction are needed, just as it is necessary to question the limitations of the cross-sectional data used in our study.

## References

- Akiba, M., Byun, S. Y., Jiang, X., Kim, K., & Moran, A. J. (2023). Do teachers feel valued in society? Occupational value of the teaching profession in OECD countries. *AERA Open*, 9, 23328584231179184.
- Akiba, M., LeTendre, G. K., & Scribner, J. P. (2007). Teacher quality, opportunity gap, and national achievement in 46 countries. *Educational Researcher*, 36(7), 369–387.
- Ávalos, B. (Ed.). (2013). *¿Héroes o villanos?: La profesión docente en Chile*. Editorial Universitaria de Chile.
- Ávalos, B., & Bellei, C. (2019). Recent education reforms in Chile: How much of a departure from market and new public management systems? In C. Ornelas (Ed.), *Politics of Education in Latin America* (pp. 43–71). Brill Sense.
- Ávalos, B., & De Los Ríos, D. (2013). Reform environment and teacher identity in Chile. In D.B. Napier & S. Majhanovich, *Education, dominance and identity* (pp. 151–175). Brill Sense.
- Bertron, C., Buisson-Fenet, H., Dumay, X., Pons, X., & Velu, A. (2021). Les enseignants contractuels de l'Éducation nationale: vers l'institutionnalisation d'une gestion coutumière de la pénurie? *Revue Française de Socio-Économie*, 27, 121–140.
- Borman, G. D., & Dowling, N. M. (2008). Teacher attrition and retention: A meta-analytic and narrative review of the research. *Review of Educational Research*, 78(3), 367–409.

- Boyd, D. J., Grossman, P., Lankford, H., Loeb, S., Michelli, N. M., & Wyckoff, J. (2006). Complex by design: Investigating pathways into teaching in New York City schools. *Journal of Teacher Education*, 57(2), 155–166.
- Clotfelter, C.T., Ladd, H.F., Vigdor, J.L., Diaz, R.A. (2004). Do School Accountability Systems Make it more difficult for Low-performing Schools to Attract and Retain high-quality Teachers? *Journal of Policy Analysis and Management*, 23(2), 251–271.
- Cochran-Smith, M., Cannady, M., McEachern, K. P., Piazza, P., Power, C., & Ryan, A. M. Y. (2011). Teachers' education, teaching practice, and retention: A cross-genre review of recent research. *Journal of Education*, 191(2), 19–31.
- Coppe, T. (2022). *Untangling second career teachers' entry process in TVET schools: From the suitability of entry profiles to the benefits of social capital for a successful work socialization process*. Unpublished doctoral dissertation, UCLouvain.
- Coppe, T., März, V., & Raemdonck, I. (2023). Second career teachers' work socialization process in TVET: A mixed-method social network perspective. *Teaching and Teacher Education*, 121, 103914.
- Crehan, L. (2016). *Exploring the impact of career models on teacher motivation*. International Institute for Educational Planning/UNESCO.
- Darling-Hammond, L., Burns, D., Campbell, D., Goodwin, A.L., Hammerness, K., Ling Low, E., McIntyre, A., Sato, M., Zeichner, K. (2017). *Empowered Educators: How High-Performing Systems Shape Teaching Quality Around the World*. Jossey-Bass.
- DeAngelis, K. J., Presley, J. B. (2011). Toward a more nuanced Understanding of new Teacher Attrition. *Education and urban society*, 43(5), 598–626.
- Dumay, X., & Burn, K. (Eds.). (2022). *The status of the teaching profession: Interactions between historical and new forms of segmentation*. Routledge.
- Dumay, X. (2024). La dualisation de l'emploi enseignant en France. *Revue Française de Sociologie*, 65(3), 401–428.
- Dumay, X., Voisin, A., & Coppe, T. (under review). How teacher policies shape teacher labor market outcomes: Results from cross-national comparison.
- Dupriez, V., & Dumay, X. (2006). Inequalities in school systems: Effect of school structure or of society structure?, *Comparative Education*, 42(2), 243–260.
- Eiden, E., Goldhaber, D., Brewer, D. (2004). The Teacher Labor Market and Teacher Quality. *Oxford Review of Economic Policies*, 20(2), 230–244.
- Ferrer-Esteban, G., Fontdevila, C., & Verger, A. (2024). Between Teachers' Governance and Development: Shifting Emphases, Methods, and Global Policy Trends in Teacher Appraisal. In X. Dumay, T.B. Sorensen, & L. Paine (Eds.), *The World Yearbook of Education 2025: The teaching profession in a globalizing world: governance, career, learning* (pp. 25–55). Routledge.
- Freidson, E. (2001). *Professionalism, the third logic: On the practice of knowledge*. University of Chicago Press.

- García, E., & Weiss, E. (2019). *The teacher shortage is real, large and growing, and worse than we thought*. Economic Policy Institute.
- Guarino, C. M., Santibanez, L., Daley, G. A. (2006). Teacher Recruitment and Retention: A Review of the Recent Empirical Literature. *Review of Educational Research*, 76(2), 173–208.
- Hanushek, E. A., Kain, J. F., & Rivkin, S. G. (2004). Why public schools lose teachers. *Journal of Human Resources*, 31(2), 326–254.
- Hofstede, G. (2006). Dimensionalizing cultures: The Hofstede model in context. In W. J. Lonner, D. L. Dinnel, S. A. Hayes, & D. N. Sattler (Eds.), *Online Readings in Psychology and Culture, Unit 2: Conceptual, Methodological and Ethical Issues in Psychology and Culture*. Center for Cross-Cultural Research.
- Hwa, Y. Y. (2021). Contrasting approaches, comparable efficacy? How macro-level trust influences teacher accountability in Finland and Singapore. In M. Ehren & J. Baxter (Eds.), *Trust, accountability and capacity in education system reform* (pp. 222–251). Taylor & Francis.
- Ingersoll, R. M. (2001). Teacher Turnover and Teacher Shortages: An Organizational Analysis. *American Educational Research Journal*, 38(3), 499–534.
- Ingersoll, R. M., & Collins, G. J. (2017). Accountability and control in American schools. *Journal of Curriculum Studies*, 49(1), 75–95.
- Ingersoll, R. M., Merrill, L., & May, H. (2014). *What are the effects of teacher education and preparation on beginning teacher retention?* Consortium for Policy Research in Education.
- Ingersoll, R., & Smith, T. (2003). The wrong solution to the teacher shortage. *Educational Leadership*, 60(8), 30–33.
- Katsuno, M. (2012). Teachers' professional identities in an era of testing accountability in Japan: The case of teachers in low-performing schools. *Education Research International*, 1–8.
- Kawakami, N., & Tsutsumi, A. (2016). The Stress Check Program: A New National Policy for Monitoring and Screening Psychosocial Stress in the Workplace in Japan. *Journal of Occupational Health*, 58(1), 1–6.
- Kelchtermans, G. (2017). 'Should I stay or Should I go?': Unpacking teacher Attrition/retention as an Educational Issue. *Teachers and Teaching: Theory and Practice*, 23(8), 961–977.
- Kim, I., & Loadman, W. E. (1994). *Predicting teacher job satisfaction*. US Department of Education.
- Klassen, R. M., & Anderson, C. J. (2009). How times change: Secondary teachers' job satisfaction and dissatisfaction in 1962 and 2007. *British Educational Research Journal*, 35(5), 745–759.
- La Londe, P. G., & Verger, A. (2022). Comparing high-performing education systems: Understanding Singapore, Shanghai, and Hong Kong. *Discourse: Studies in the Cultural Politics of Education*, 43(1), 158–171.

- LaTurner, R. J. (2002). Teachers' Academic Preparation and Commitment to Teach Math and Science. *Teaching and Teacher Education*, 18(6), 653–663.
- Lawn, M. (1995). Restructuring teaching in the USA and England: Moving towards the differentiated, flexible teacher. *Journal of Education Policy*, 10(4), 347–360.
- Loeb, S., & Reininger, M. (2004). *Public Policy and Teacher Labor Markets: What we Know and Why it Matters*. The Education Policy Center at Michigan State University.
- Loeb, S., & Cunha, J. (2007). *Have assessment-based accountability reforms influenced the career decisions of teachers?* (Working paper). The Urban Institute.
- Madigan, D. J., & Kim, L. E. (2021). Towards an understanding of teacher attrition: A meta-analysis of burnout, job satisfaction, and teachers' intentions to quit. *Teaching and Teacher Education*, 105, 103425.
- Mayer, D., & Mills, M. (2020). Professionalism and teacher education in Australia and England. *European Journal of Teacher Education*, 44(1), 45–61.
- Nguyen, T. D., Pham, L. D., Crouch, M., & Springer, M. G. (2020). The correlates of teacher turnover: An updated and expanded meta-analysis of the literature. *Educational Research Review*, 31, 100355.
- Organisation for Economic Cooperation and Development (OECD). (2014). *TALIS 2013 Results: An international perspective on teaching and learning*. OECD Publishing.
- Parcerisa, L., Verger, A., Browes, N. (2022). Teacher Autonomy in the Age of Performance-Based Accountability: A Review Based on Teaching Profession Regulatory Models (2017–2020). *Education Policy Analysis Archives*, 30(100), 1–26.
- Parcerisa, L., Verger, A., Pagès, M., & Browes, N. (2023). The professionalism, accountability, and work of teachers in different regulatory regimes. In L. Maestripieri & A. Bellini (Eds.), *Professionalism and social change* (pp. 187–208). Palgrave Macmillan.
- Park, H., & Byun, S. Y. (2015). Why some countries attract more high-ability young students to teaching: Cross-national comparisons of students' expectation of becoming a teacher. *Comparative Education Review*, 59(3), 523–549.
- Perryman, J. (2022). *Teacher retention in an age of performative accountability*. Routledge.
- Perryman, J., & Calvert, G. (2020). What motivates people to teach, and why do they leave? Accountability, performativity and teacher retention. *British Journal of Educational Studies*, 68(1), 3–23.
- Podolsky, A., Kini, T., Bishop, J., & Darling-Hammond, L. (2016). *Solving the Teacher Shortage: How to Attract and Retain Excellent Educators*. Learning Policy Institute.
- Price, H. E., & Weatherby, K. (2018). The global teaching profession: How treating teachers as knowledge workers improves the esteem of the teaching profession. *School Effectiveness and School Improvement*, 29(1), 113–149.

- Reback, R., Rockoff, J., & Schwartz, H. L. (2014). Under pressure: Job security, resource allocation, and productivity in schools under No Child Left Behind. *American Economic Journal: Economic Policy*, 6(3), 207–241.
- Ronfeldt, M., McQueen, K. (2017). Does New Teacher Induction Really Improve Retention? *Journal of Teacher Education*, 68(4), 394–410.
- Ruffinelli Vargas, A. (2016). Ley de desarrollo profesional docente en Chile: De la precarización sistemática a los logros, avances y desafíos pendientes para la profesionalización. *Estudios pedagógicos (Valdivia)*, 42(4), 261–279.
- Ryan, S. V., Nathaniel, P., Pendergast, L. L., Saeki, E., Segool, N., & Schwing, S. (2017). Leaving the teaching profession: The role of teacher stress and educational accountability policies on turnover intent. *Teaching and Teacher Education*, 66, 1–11.
- Sahlberg, P. (2007). Education policies for raising student learning: The Finnish approach. *Journal of Education Policy*, 22(2), 147–171.
- Shirrell, M. (2018). The Effects of Subgroup-Specific Accountability on Teacher Turnover and Attrition. *Education Finance and Policy*, 13(3), 333–368.
- Simola, H. (2005). The Finnish miracle of PISA: Historical and sociological remarks on teaching and teacher education. *Comparative Education*, 41(4), 455–470.
- Smith, W. C., & Holloway, J. (2020). School testing culture and teacher satisfaction. *Educational Assessment, Evaluation and Accountability*, 32, 461–479.
- Sun, M., Saultz, A., & Ye, Y. (2017). Federal policy and the teacher labor market: Exploring the effects of NCLB school accountability on teacher turnover. *School Effectiveness and School Improvement*, 28(1), 102–122.
- Tatto, M. T. (2007). *Reforming Teaching Globally*. Symposium Books.
- Tournier, B., Chimier, C., Childress, D., & Raudonyte, I. (2019). *Teacher career reforms: Learning from experience*. International Institute for Educational Planning, UNESCO.
- Verger, A., Fontdevila, C., Parcerisa, L. (2019). Reforming Governance through Policy Instruments: How and to What Extent Standards, Tests and Accountability in Education Spread Worldwide. *Discourse*, 40(2), 248–270.
- Voisin, A., & Dumay, X. (2020). How do educational systems regulate the teaching profession and teachers' work? A typological approach to institutional foundations and models of regulation. *Teaching and Teacher Education*, 96, 103144.
- Zeichner, K. (2014). The struggle for the soul of teaching and teacher education in the USA. *Journal of Education for Teaching*, 40(5), 551–568.
- Zhang, G., Zeller, N. (2016). A Longitudinal Investigation of the Relationship between Teacher Preparation and Teacher Retention. *Teacher Education Quarterly*, 43(2), 73–92.

## Appendices

### Appendix A: Countries Classification

Institutional pillars and dimensions	Indicators	Country classification
Training programs ITE structure (dominant model of ITE)	Concurrent	Denmark, Finland, Norway, Chile, Australia, New Zealand, Singapore, Korea, Japan, Shanghai
	Consecutive	France, Italy, Spain, Portugal, England, USA
ITE diversification (e.g., short-duration programs, employment-based training)	Yes	England, USA, Australia, New Zealand, Denmark
ITE orientation (ITE main focus)	Subject-matter expertise (CK)	France, Italy, Portugal, Japan, New Zealand, Spain, England, Chile, USA, Shanghai, Singapore, Korea, Japan
On-the-job training	Pedagogy and teaching methodology	Denmark, Finland, Norway, Australia
	High	Australia, New Zealand, Singapore, Japan, Shanghai, Korea, USA, England, France
Labor market regulation		
Port of entry (teachers' allocation to school)	Centralized system	France, Spain (autonomous regions), Singapore, Italy (with schools), Japan, Finland (with schools), Denmark (with schools), USA (with schools), Korea (with schools), USA (with schools)
	Decentralized (intermediate/ local level authority)	
Teacher status	Open recruitment system (schools)	Chile, England, Australia, New Zealand, Korea, Shanghai
	Civil servants	France, Spain, Portugal, Italy, Japan, Singapore, Korea
	Non-civil servants	Denmark, Finland, Norway, England, USA, Australia, New Zealand, England

*continued*

Institutional pillars and dimensions	Indicators	Country classification
Teacher careers structure	Flat Hierarchical	France, Italy, Spain, Portugal, Italy, Japan, Singapore, Korea Denmark, Finland, Norway, England, Japan, Singapore, Korea, Shanghai
Dominant criteria for teachers' promotion and careers ladders	Seniority based Performance- and / or professional-development based	France, Italy, Spain, Portugal, Denmark, Finland, Norway Chile, USA, Australia, New Zealand, England, Japan, Singapore, Korea, Shanghai
Division of labor		
Organizational forms of accountability: Teachers' accountability on what?	Subject knowledge (CK)	Chile, France, Italy, Portugal
	Pedagogical practices Assessment practices students results	Chile, France, Italy, Portugal Chile, England, Portugal USA, England, Chile, New Zealand, Australia, Singapore, Spain, Italy, Portugal
	External (inspectors)	France, Japan, Korea, New Zealand, Singapore, Spain, England, Shanghai
Organizational forms of accountability: Teachers accountability on whom (teachers' formal appraisal by)?	Head teachers & school management team peers (mentors, other teachers)	Australia, Chile, Demark, Finland, Japan, Korea, New Zealand, Norway Portugal, Singapore, USA, England, Shanghai Australia, Japan, Korea, New Zealand, Norway, Portugal, Singapore, USA, England, Shanghai
	Assessment policies (defining)	Demark, Norway, Italy
	Learning material (Choosing)	Demark, Finland, France, Italy, Korea, New Zealand, Norway, Portugal

ITE, initial teacher education.

Source: Voisin & Dumay 2020 p. 14.

## Appendix B: Adjusted Means per Country

	Value of the profession	Satisfaction with employment	Satisfaction with the profession	Satisfaction with the workplace	Intention to quit
Australia (1)	0.536	0.687	0.418	0.167	0.085
Chile (1)	-0.280	-0.225	0.328	0.403	0.153
England (1)	0.129	0.497	0.052	0.143	0.204
New Zealand (1)	0.137	0.211	0.151	0.212	0.149
USA (1)	0.391	0.335	0.181	0.238	0.189
France (2)	-0.613	-0.147	0.239	0.164	0.031
Italy (2)	-0.312	-0.451	0.379	0.095	-
Portugal (2)	-0.529	-1.005	-0.490	-0.136	0.045
Spain (2)	-0.341	0.046	0.586	0.235	0.023
Denmark (3)	-0.373	0.153	0.154	0.480	0.116
Finland (3)	0.443	0.373	0.276	0.086	0.073
Norway (3)	0.242	0.301	0.242	0.398	0.127
Japan (4)	-0.122	-0.027	-0.202	-0.488	0.106
Korea (4)	0.085	0.140	-0.305	-0.507	0.033
Shanghai (4)	1.022	0.374	-0.121	-0.239	0.067
Singapore (4)	0.935	0.693	-0.066	-0.354	0.333

(1): Market; (2): Bureaucratic; (3) Education; (4) Training

## Appendix C: Institutional Models of Teacher Policy and Labor Market Outcomes (Controlling for Profession Status, Cultural Differences, and Regional Effects)

### C.1. Institutional Models of Teacher Policy and Labor Market Outcomes (Controlling for Economic Status of the Profession)

	Value of the profession	Satisfaction with employment	Satisfaction with the profession	Satisfaction with the workplace	Intention to quit
Market	<i>.218(.232)</i>	<i>.347(.203)</i>	<i>.240(.173)</i>	<i>.234(.100)</i>	<b>.169(.025)</b>
Bureaucratic	<b>-.375(.177)</b>	<b>-.309(.155)</b>	<i>.208(.132)</i>	<i>.097(.106)</i>	<i>.055(.040)</i>
Training	<i>-.072(.284)</i>	<i>.166(.249)</i>	<i>.145(.212)</i>	<i>.276(.120)</i>	<i>.091(.042)</i>
Professional skills	<i>.509(.251)</i>	<i>.282(.220)</i>	<b>-.157(.187)</b>	<b>-.378(.074)</b>	<i>.123(.037)</i>

Bold is the reference group; italics are systems that are statistically different from the reference group.

## C.2. Institutional Models of Teacher Policy and Labor Market Outcomes (Controlling for Cultural Differences)

	Value of the profession	Satisfaction with employment	Satisfaction with the profession	Satisfaction with the workplace	Intention to quit
Market	.197(.255)	.292(.174)	.228(.179)	.235(.075)	.158(.057)
Bureaucratic	-.467(.189)	-.378(.174)	.176(.133)	.087(.065)	.038(.045)
Training	.367(.306)	.114(.326)	.265(.250)	.364(.141)	.142(.074)
Professional skills	.283(.298)	.417(.138)	-.202(.106)	-.429(.118)	.108(.071)

Bold is the reference group; italics are systems that are statistically different from the reference group.

## C.3. Institutional Models of Teacher Policy and Labor Market Outcomes (Controlling for Regional Effects)

	Value of the profession	Satisfaction with employment	Satisfaction with the profession	Satisfaction with the workplace	Intention to quit
Market	.129(.468)	.497(.175)	.052(.305)	.143(.168)	.201(.047)
Bureaucratic	-.449(.209)	-.389(.175)	.178(.136)	.090(.075)	.033(.047)
Training	.104(.319)	.276(.267)	.224(.208)	.322(.115)	.105(.066)
Professional skills	.272(.591)	.343(.494)	-.406(.386)	-.433(.213)	.222(.118)

Bold is the reference group; italics are systems that are statistically different from the reference group.