Reshaping the Teaching Profession: Patterns of Flexibilization, Labor Market Dynamics, and Career Trajectories in England

Cécile Mathou, Marc A. C. Sarazin, and Xavier Dumay

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This chapter draws on research from the TeachersCareers project, which has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation program (grant agreement N° 714,641).

C. Mathou (✉)
Institute of Social Sciences (ISS), University of Lausanne, Lausanne, Switzerland
e-mail: cecile.mathou@unil.ch

M. A. C. Sarazin
Moray House School of Education and Sport, University of Edinburgh, Edinburgh, UK
e-mail: marc.sarazin@ed.ac.uk

X. Dumay
Institute for the analysis of change in contemporary and historical societies (IACS), UCLouvain, Ottignies-Louvain-la-Neuve, Belgium
e-mail: xavier.dumay@uclouvain.be

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I. Menter (ed.), *The Palgrave Handbook of Teacher Education Research*,
https://doi.org/10.1007/978-3-030-59533-3_59-2

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Abstract

This chapter presents an overview of a set of studies conducted in the context of the *TeachersCareers* project to understand the reshaping of the teaching workforce in England, and the reconfiguration of labor markets for teachers. Studies include interviews with HR and line managers on the flexibilization of HR practices and the labor market; social network analyses of teacher flows between schools in the London labor market to study patterns of teacher mobility; and trajectory analyses based on individual interviews with 47 secondary school teachers. Key results show limited external flexibilization but pervasive forms of internal flexibilization (regarding working time, pay, and job boundaries and workplaces); embedded employment relations into internal labor markets; and a fragmentation of career models and types. Results are discussed in terms of theories of liberalization, professionalism, and the institutional foundations and embeddedness of labor markets for teachers.

Keywords

Teachers · Careers · Labor market · Social network · England

Introduction

In a context where the link between the teaching workforce and the quality of education has been strongly asserted, teachers and teaching have come to the "forefront of the global educational policy reform agenda" (Tatto, 2007, p. 7). Some of the major policy issues include the attractiveness of the profession, the retention of teachers, the quality of initial teacher education, professional development, and career-long learning (Paine et al., 2016). Maria Teresa Tatto's (1997) identification of persistent policy issues such as the attractiveness of the profession remains salient today. Existing research indicates a crisis in teacher supply in many countries, which could reflect a decline in the relative social and economic status of the teaching profession. Studies conducted in the USA (Strizek et al., 2006) and France (2011) find that teachers now have a higher average level of educational attainment, but that national education systems still have difficulties in attracting people with the highest academic profiles (Corcoran et al., 2004). The teacher workforce tends to be diversified in terms of the paths for entering the profession (e.g., second-career teachers, fast training tracks, etc.), contractual conditions, and levels of qualification, mostly in *global south* countries (Fyfe, 2007) but also in the UK (Martindale, 2019) for instance. The growing variation in teacher characteristics is reflected in the increasing fragmentation of educational provision. Research in the USA (Loeb & Reininger, 2004), UK (Sims & Allen, 2018), and Belgium (Dumay,

2014) indicates that schools with high minority enrolments also have higher proportions of less certified and less experienced teachers and that the association between students' and teachers' characteristics reinforces inequalities in students' learning environments. High rates of teacher attrition are observed in most modern educational systems (Nguyen et al., 2020), particularly among novice teachers who are more likely to be confronted with less favorable employment conditions.

Despite the apparent global nature of teacher policies and teachers' labor market issues, the literature has notably neglected the analysis of the interfaces between globalization and teachers' labor markets, including working conditions, career pathways, collective mobilization, and industrial relations (Sorensen & Dumay, 2021). However, it is of fundamental importance to understand the role of institutional factors (global, national, local) in determining the recruitment of teachers, their allocation across schools, and their professional trajectories, for at least three reasons. Firstly, economic sociologists have consistently demonstrated that labor markets do not operate in a vacuum. Rather they are institutionally embedded (Beckert, 2009), which means that economic exchange is usually constrained and defined by noneconomic institutions (e.g., policy) while actors do not behave or decide like atoms outside a social context (Granovetter, 1985; Sarazin et al., In Preparation). In this perspective, patterns of employment relations and professional careers are embedded in institutional frameworks, which both constrain alternatives and enable teachers and employers to organize their collaboration. Secondly, comparative institutional analyses of employment or education regimes have highlighted that patterns of change linked to globalization take different trajectories depending on the interactions between historical models of regulation and current trajectories of reforms (Kalleberg, 2018; Thelen, 2014). More specifically in this chapter, we start from the premise, grounded in comparative analyses of employment systems, that England is best characterized as a case of a "market" employment regime (Gallie, 2007) following a liberal deregulation path (Kalleberg, 2018), with minimal employment regulations, the exclusion of organized labor from decision-making, and a reliance on market adjustment. Thirdly, institutionally shaped models of regulation of the teaching profession will plausibly have an impact on labor market outcomes, such as the attractiveness of the profession or patterns of mobility (see Voisin & Dumay, 2020), in the same way as different patterns of liberalization of labor markets and welfare systems impact differently on economic insecurity, transitions to adulthood, or even happiness.

This chapter presents an overview of a set of studies conducted as part of the *TeachersCareers* project at UCLouvain together with the University of Oxford to understand the reshaping of the teaching workforce in England, and the reconfiguration of labor markets for teachers. The study team adopted as a theoretical prism the idea of the institutional embeddedness of labor markets, meaning that the reconfiguration of the teaching workforce is analyzed in light of changing political environments surrounding education and the teaching profession. The analysis presented in this chapter strives to articulate economic and work sociology with institutional analyses of trajectories of work and employment flexibilization.

Over the last 30 years, major policy-induced transformations have likely reshaped the teaching workforce in England.

Firstly, some flexible Human Resource (HR) arrangements have been progressively introduced. All schools have been required to introduce performance-related pay (PRP) for all teachers following a major reform of teachers' pay in 2013. Even before then, schools were encouraged to individualize pay to some degree. With the new changes introduced in 2013, all schools are able to set each teacher's pay on an individual, performance-related basis, removing pay progression based on length of service, requiring schools to revise their appraisal to reflect closer links between performance and pay.

Secondly, local labor markets have become increasingly fragmented. Quite central in this perspective has been the academies program, a set of policies initiated by Tony Blair's Labor government (1997–2010) as a means for improving underperforming schools (with the support of a "sponsor"), and later expanded under the Coalition government (2010–2015). Well-performing schools were then encouraged to "convert" voluntarily to academy status. This program has created a new type of state-funded school, which is not regulated by local authorities, and not bound to employ new teachers on the terms and conditions agreed at the national level and set out in the School Teachers' Pay and Conditions Document (STPCD). In addition to the deregulation of pay and working conditions, regulations concerning teachers' qualified status have been relaxed. Until 2012, leaving aside teachers in training and overseas teachers, hiring unqualified teachers was only possible under certain conditions and for a limited period of time. Since 2012, all academies can set aside regulations on teachers' qualifications.

A third, significant transformation is the diversification of entry routes into the profession (Burn & Menter, forthcoming). Recent governments have encouraged market-based and employment-based approaches, which have led to an increasingly differentiated teaching workforce. In 1993, School Centred Initial Teacher Training (SCITT) providers were granted permission to establish their own consortia, with or without university partners. Then, in 2010 the "School Direct" system was introduced, allocating an increasing proportion of training places directly to schools. The rise in school-based training routes means more and more teachers are expected to find their first permanent posts where they have been trained, blurring the distinction between training institutions and workplaces. These training routes could also provide new modes of socialization into the profession. This is particularly true of the Teach First program, a founding affiliate of Teach For All launched in 2003 with the aim of recruiting highly qualified graduates.

Based on a set of studies including interviews with 28 HR and line managers, social network analyses of teacher mobility between schools from 2013 to 2016, and interviews with 47 secondary school teachers, this chapter presents an overview of our key findings related to three analytical dimensions: the *flexibilization* of the teaching workforce, the *institutional embeddedness of labor markets* for teachers, and the reconfiguration of *teachers' careers*.

Flexibilization of the Teaching Workforce

This first section looks at the flexibilization of teachers' employment relations in England in the context of an accelerated deregulation of work and employment conditions and of educational provision. Looking at the two types of regulatory changes described above (the deregulation of pay and working conditions, and the relaxation of regulations concerning teachers' qualified status), one could expect two types of effects: an increasing diversification of teachers' pay and working conditions, and a more widespread employment of nonqualified teachers – in the other words, internal and external flexibilization. External flexibility consists in relaxing hiring or firing regulations and using workers who are not regular employees to adjust the size of the workforce according to fluctuations in demand. It relies on different kinds of nonstandard employment relations such as workers who can be recruited and selected quickly, who are hired for finite periods, and/or who cost less than regular employees (Kalleberg, 2003). Internal flexibilization strategies instead affect "core" workers in regular full-time jobs, providing firms with temporal, functional, and financial flexibility (Atkinson, 1984).

Box 1 London Fieldwork: Data and Methods

*The case study is based on fieldwork carried out in three London boroughs between April and November 2019. The 32 London boroughs, each corresponding to a local authority (LA) district and governed by a London borough council, make up Greater London. The three London LAs were selected to provide contrasting cases, in terms of: (1) the academization process (*i.e.*, the proportion of LA-maintained schools, of sponsored/converter academies, of academies in large Multi-Academy Trusts, MATs*[1]*); (2) their geographical position (inner* vs. *outer London); (3) the socioeconomic composition of schools – namely, proportions of pupils eligible for Free School Meals (% FSM); (4) political leadership (Labor* vs. *Conservative council majorities).*

*Within these boroughs, 14 secondary schools were approached and eight accepted to take part in the study. These secondary schools (*i.e.*, serving the 11–16/18 age range) reflect a diversity of positions on the teacher labor market, resulting from schools' legal status (LA-maintained* vs. *academy), religious denomination, selective status, levels of deprivation (% FSM), current and recent Ofsted inspection results, and membership of multi-school organizations or interschool networks (namely, MATs, dioceses, and Teaching School Alliances (TSA)). School names were changed to numbers to help ensure anonymity; numbers are followed by "AC" for standalone academies,*

(continued)

[1] Schools brought under the control of a MAT are called "sponsored academies" and possess significantly less autonomy compared to "converter" academies.

Box 1 (continued)
by "MAT" for academies belonging to MATs, by "LA" for Local Authority-maintained schools and by "GS" for Grammar schools (state-funded schools which select their pupils through exam results).

*The study team conducted 28 interviews with individuals with responsibility over employment relations, teacher recruitment, and/or HR management: 18 were individuals working in organizations operating across schools (3 LAs, 3 Dioceses, 2 large MATs, 2 recruitment agencies, 2 TSAs, 1 trade union); 10 were senior leaders (*i.e.*, head teachers and assistant or deputy head teachers) in the sampled secondary schools. The interview data was supplemented with evidence from DfE documents, national collective bargaining documents, trade union publications, and other available documentation (*e.g.*, pay policies, working time policies) pertaining to the sampled schools and organizations. In these 8 schools, 47 semi-structured interviews were carried out with teaching staff whose profile varied in terms of gender, subjects taught, professional backgrounds, training routes, and seniority.*

All but two interviews were audio-recorded and fully transcribed and analyzed thematically using NVivo. The coding scheme combined descriptive codes and analytical categories derived from the literature. For more details on the fieldwork and methodology, see Mathou et al. (2020, In Preparation).

The analysis of the fieldwork data (see Box 1) brings to light a contrasted picture, whereby external flexibilization, through the recruitment of unqualified teachers, seems to be contained by a mixture of diverse but convergent interests and norms from the State, teacher unions, and employers. Meanwhile, various forms of internal flexibilization (regarding working time, job boundaries, and workplaces) appear to be more pervasive, leading to the erosion of defining features of the employment relations (Kirkpatrick & Hoque, 2006) that have characterized regulated, permanent contracts in the state-funded education sector.

The (Limited) Use of External Flexibility: Constraints on the Hiring of Unqualified Teachers

Against the backdrop of the recent deregulation of teachers' employment, external flexibilization has remained a generally unattractive solution for educational employers, because of structural conditions, regulatory constraints, professional norms, and the "problem of value" (Beckert, 2007). Interviewees perceived numerous constraints surrounding the use of the recruitment flexibility granted to academies. First, there is considerable legal uncertainty about the relaxation of rules for hiring unqualified teachers – a category of staff only recently "normalized" – exacerbated by a context of high stakes accountability and a constant fear of Ofsted (the Office for Standards in Education, Children's Services and Skills inspections).

In addition to the confusion about which types of schools were indeed allowed to loosen the QTS (Qualified Teacher Status) requirements, recruiting unqualified teachers was described as a risk factor for failing to meet the "safer recruitment" guidelines imposed on schools. Now, for individuals with responsibility over employment relations and/or HR management, whether at local authority, MAT, or school level, safeguarding remained the absolute priority when schools got the "Ofsted call," announcing the visit from the Inspectorate. Even staff in large MATs, endowed with extensive HR departments, expressed concerns. Hiring teachers without QTS also seemed to contravene professional norms, norms that were strongly upheld by unions. Teacher trade unions have indeed long opposed the hiring of unqualified teachers, as they deem that it endangers the status of the profession. Several school leaders and mid-level actors, in turn, were wary of antagonizing the unions, given the latter's capacity to mobilize staff.

Importantly, external flexibilization also posed a "problem of value" arising from hiring staff whose quality cannot be guaranteed. S8 for instance, belonged to MAT_A, whose policy, according to the head teacher, was to never employ unqualified teachers: "you'd have to ask the question, what are you doing as a teacher if you're [choosing to remain unqualified]?". This is related to a third point: the diversification of training routes (in particular school-based routes) provides new opportunities to obtain QTS while working in schools. Several interviewees expressed skepticism that teachers would want to remain unqualified: this meant potentially being paid on lower pay scales with less margin for progression and being at the bottom rung of "school hierarch[ies]" (Diocese_1, Senior manager). Given the existence of many routes for gaining QTS, including some with bursaries or salaries, supporting these unqualified teachers to obtain their QTS were described as initiatives to increase staff retention, and appeared to be a key part of schools' efforts to differentiate themselves on the labor market.

Overall, these insights suggest that the hiring of nonqualified teaching staff has not been the main channel for the flexibilization of the workforce. Academies (and LA-maintained schools in some areas) have instead made use of the leeway regarding internal flexibility granted by recent deregulation.

The Internal Flexibilization of the "Core" Workforce: Toward the Erosion of Standard Employment?

Various HR strategies exist to make staff more flexible "internally", from the transformation of working time and job boundaries to the allocation of staff to multiple workplaces. Among all the schools visited, temporal and functional flexibility measures were quite widespread, although they were most pronounced in large MATs.

The intense and increasing workload of teachers in England is now well-established in the literature (Allen et al., 2020). The workload issue could also be intrinsically linked to the status of teachers as employed professionals, whose working time is governed by the underlying ethos of "getting the job done"

(Mangan, 2009, p. 2). However, the recent mix of deregulation and austerity has further intensified work in different ways.

The extension of working hours in large MATs especially was the main concern for trade unions, some MATs having removed limits on working time even though STPCD provisions are already very loose. MAT_A, for instance, had no limit at all on working time for teachers. One of its schools had designed extended school days, such that teachers had to be in school longer.

In extreme cases, the intensification of teachers' work leads to what Sims and Allen (2018) call a "recruit-burnout-replace" staffing model. Several interviewees reported that this model – based on a constant inflow of trainees and Newly Qualified Teachers (NQTs) – can indeed be found in some large academy chains (though not the MATs included in the study), "they pay high, give them lots of benefits, work them really hard, long hours, forget all the restrictions in the STPCD" (Diocese_1, Senior manager). In the words of a senior manager in MAT_A, making sure that staff can cope with strenuous working conditions entails attracting the right people, through generating a "talent pool." Such "talents" are especially found among the trainees of the MAT's own training program, and among Teach First participants. Teach First, a teacher training program that aims to attract top graduates into teaching for at least a 2-year commitment, is indeed characterized by an extreme pressure placed on trainees who are in charge of a full timetable after only 6 weeks of in-house training (Bailey, 2015). Teach First trainees are thus already socialized into this culture of hard work, that "shared experience [. . .] like you were in the trenches together, you know, like you've both seen battle" (Charles, S8_MAT, Assistant head).

The intensification of work can also take other, less visible forms, such as a close monitoring of absences. In some academies, policies (not agreed with the unions) and HR practices regarding attendance management could discourage teachers from taking time off, a concern expressed by the local trade union representative in LA_1 (where most secondary schools are academies). Another less visible form of work intensification is the reduction of noncontact time for teachers and the increase in class sizes. The latter can be a last-resort "strategy," used not only to cut staffing costs but also to deal with acute staffing shortages, both in academies and LA-maintained schools.

Secondly, interviewees reported numerous examples of task-related functional flexibility, making job boundaries increasingly porous. Functional flexibility means moving employees cross-functionally between tasks and workplaces based on the assumption that their skills are transferable (Bernhardt & Krause, 2014). This less "visible" form of flexibilization, relying on a more intense use of internal resources, was commonly used to avoid using expensive and/or unreliable external staff provided by supply agencies, whose "opportunistic behaviour" (Grimshaw et al., 2003) was vehemently denounced by our interviewees. Like non-QTS teachers, supply teachers posed a fundamental problem of value (Beckert, 2007), being "really hopeless a lot of the time" (Senior leader, S2_AC) in terms of the quality of their teaching.

Covering for other teachers is a prime example of a situation where the definition of tasks and duties are blurred. Whereas the STPCD specifies that teachers "should be required to provide cover only rarely, and only in circumstances that are not foreseeable," academies are by definition not bound by these regulations. Accordingly, the trade union representative in LA_1 (where academies abound) witnessed an increase in cover teaching. Interviewees in every sampled school reported instances of teachers covering for other teachers. In some academies, this internal flexibilization was even built into the organization of the school day. Thus, S8 (MAT_A) had policies on managing cover internally, which sought to avoid the use of cover supervisors and supply teachers: an extended school day (with more "free periods," i.e., periods when teachers were not teaching their class) and lower teaching loads for some staff allowed for teachers to cover for absent colleagues. Although legitimized by the goal of providing high quality education to pupils, internal cover to "fill the gaps internally" was nevertheless deemed problematic by a member of MAT_A's central services. In the other schools – i.e., not only those in large MATs – there was also a preference for managing absences internally. Senior leaders referred once again to the "higher" goal of providing quality education – claiming that this was preferable to using supply teachers – and the ethical tensions underpinning such decisions.

Functional flexibility can also entail geographical mobility, i.e., the redeployment of staff across school networks. This type of flexibility was strongly promoted by HR managers of multi-school organizations (MATs, Dioceses), and associated with discourses lauding the "flexible" teacher enthusiastically taking up the challenge of working across schools. Meanwhile, union representatives feared that such mobility might become increasingly involuntary. Mobility across networks of schools was already embedded in some MAT-level contracts. MAT_B, for instance, created contracts whereby teachers were expected to work in two or more local schools. These contracts were supposed to help attract high quality candidates, and retain experienced, confident teachers, although a senior manager in the MAT admitted that staff tended to be, at the time, "reluctant" to move. Their description of the MAT's future plans in terms of internal mobility implicitly suggested that some of this mobility might have to be "pragmatic" rather than a desired choice, namely, for teachers in subjects with low curriculum needs. Similarly, MAT_A tried to promote a "culture that encourages mobility" (MAT_A, Senior manager). Some key preconditions for mobility were already in place at the time of fieldwork, starting with staff contracts. Teachers on the senior leadership team in one of their schools were employed by the network, making transfers to other network schools possible. Diocese_1 had recently created a MAT in part to benefit from this advantage: because teachers' contracts were with the trust, not with schools, staff could "technically" be asked to move to other schools.

Finally, in contrast to temporal and functional flexibility, pay flexibility appeared more limited. One reason is that it was seen as opening the door to uncontrolled risks and uncertainties in a competitive labor market. It also raised problems of equity, which in turn may conflict with professional norms. As highlighted by a senior union official, most MATs have chosen a common pay structure for their employees, with

no significant departure from the national pay scales recommended by unions. Several reasons explain this relative conformity with existing norms. First, common rules allow the mobility of staff: if an academy were to move away from teacher pay structure that is in place in other local schools, "they [would] find it very difficult to recruit teachers from other schools" (senior union official). Another reason for academies and MATs working to the old scales instead of "playing the market" is the fear of upsetting the unions and encroaching on shared norms in the profession. The individualization of pay could lead to a "two-tiered workforce where you get cheaper teachers coming in" (Trade union representative), generating "huge animosity within school[s]" (LA_3, Senior official). Academies could also have staff who were employed before academization (therefore keeping their pay and conditions under TUPE regulations) as well as new staff with different employment conditions.

These various forms of internal flexibilization strategies point to the pervasive (although uneven) erosion of standard employment arrangements (Kalleberg, 2000), especially in two areas: performance of work on preset schedules and workplaces, and jobs having well-defined boundaries. This process has taken place in London schools with varying legal statuses, student intakes, and performance levels. However, the flexibilization strategies described were more intensely mobilized (though not only) by managerial staff in MATs working in specialized HR services, whose "corporate habitus" embraces processes "belonging to the modern, *real* world of business" (Courtney, 2015, p. 222). Finally, internal flexibilization may have benefitted from other measures, such as the proliferation of teacher qualification routes. These newer routes, namely, school-based training routes and the Teach First route, respectively, aim to encourage career changers and ambitious graduates to join the teaching profession.

Embeddedness of Labor Markets for Teachers

This section reports on the embeddedness of teacher labor markets and how this phenomenon can create internal labor markets that are crucial for understanding teacher mobility. It thus expands on some of the key findings presented in the previous Section about functional flexibility, which had been consistently found more prevalent in the newly created organizational ensembles such as the MATs.

The effects of embeddedness on teacher mobility have been underexplored, in large part because many studies assume that teachers' decisions to move, especially in a deregulated labor market such as England's, are the result of teachers' rational decision-making, which is minimally affected by institutional considerations. This perspective also supposes that teacher movements are largely independent of each other – except insofar that a teacher leaving a school will usually create a vacancy that could be filled by another "moving teacher." Accordingly, existing studies employ methods that conform to these assumptions, and which additionally focus on either the characteristics of "sending schools" or of "receiving schools" on the likelihood of teacher movements. Much existing research therefore neglects dependencies between teacher movements, and tendencies for teachers to move to schools

with similar institutional characteristics to those that they are leaving – phenomena that, as we will see, can contribute to the creation of organizational internal labor markets.

Both phenomena can result from the embeddedness of teacher movements within social networks and organizational environments. This embeddedness stems from the uncertainties that are inherent in much economic action, including moving schools and recruiting teachers (see Beckert, 2009; Granovetter, 1985). Discerning which schools are "good schools" to work in is likely to be difficult for teachers. This will especially be the case if, as evidence suggests, teachers above all judge schools according to their working conditions and less according to more observable characteristics, such as student body composition (Simon & Johnson, 2015). Conversely, educational employers may find it hard to differentiate between job applicants. Again, this is likely to be exacerbated in teacher labor markets with high teacher turnover, such as those in England, which are likely to feature higher proportions of less experienced teachers, whose quality and intentions to stay in the profession may be more difficult to ascertain.

Teachers and educational employers have several means of alleviating this uncertainty. Teachers can do this by simply moving to schools that are similar with regard to key organizational characteristics. They can thus move to schools with similar student compositions or to schools with similar styles of governance, where they can expect similar working conditions. In London, the latter types of movements may be particularly likely among sponsor-led academies, which are among the oldest and most established academies in the country (see Gunter, 2011) and whose branding and ethos may appeal to teachers that already work in similar environments (Mathou et al., 2020, In Preparation). Conversely, educational employers can prioritize hiring teachers that are working in schools similar to their own. They may thus hire teachers who are working with similar populations of students, or who are used to similar pedagogies and ways of working. Again, these latter characteristics, in England, have become tightly associated with schools' governance structures (Mathou et al., In Preparation), such that employers in different kinds of academies, or LA-Maintained schools may be particularly likely to hire teachers from schools with similar governance structures.

Another way of alleviating this uncertainty, as suggested by much literature in economic sociology (Beckert, 2009; Granovetter, 1985; Jabbar et al., 2020; Rubineau & Fernandez, 2015), is to rely on the information and trust provided by social networks. Job seekers and employers can thus turn to "connectors," individuals who provide signals (e.g., referrals or recommendations) indicating that schools or potential hires are a good fit for the job seeker or employer. Crucially, since network ties tend to be more concentrated within schools than between schools (e.g., Sinnema et al., 2020; Spillane et al., 2015), teachers that move schools are well poised to act as connectors between colleagues and employers in their old and new schools. They may also form part of "chains" of connectors that pass on recommendations and referrals among several schools, thereby acting as key intermediaries in the brokering of trust and sharing of reliable information among groups of schools.

These network processes are likely to lead to *dependencies* between mobility events, such that the occurrence of one teacher movement is associated with the occurrence of another. Some dependencies that are likely to occur are represented in Annex 1. "Dyadic" dependencies occur when a teacher movement from a school A to a school B is associated with another movement from A to B ("Entrained Movement") or from B to A ("Reciprocal Movement"). Meanwhile "triadic" dependencies can occur when network ties connect A and B indirectly (through third-party schools C, D, etc.), for instance, because teachers moving from A to C and C to B have acted as a chain of connectors. In this way, movements from school A to third-party schools (C, D, etc.) and from third-party schools to school B can lead to direct teacher movements from A to B ("Transitive Closure Movement") or B to A ("Cyclic Closure Movement"). Triadic dependencies are especially interesting to investigate, as they can effectively create internal labor markets not just between pairs of schools, but among groups of three or even more schools.

To test whether, in London, (1) teachers tend to move to schools with similar governance structures and (2) triadic dependencies exist between teacher movements, Exponential Random Graph Models (ERGMs) were fitted to the School Workforce Census (SWC) (2013–2016) dataset. The data and analysis procedure are briefly outlined in Box 2. Annex B partially reproduces the results from these ERGMs, focusing on effects related to schools' governance structures and to triadic dependencies. Full ERGM results, as well as details about these models and the analysis strategy adopted, can be found in Sarazin et al. (In Preparation).

Box 2 Social Network Analysis of the London Labor Market: Data and Method

Section 3 draws on a study that employed computational models – Exponential random graph models (ERGMs) – To investigate patterns of teacher mobility in London, UK, between 2013 and 2016. The models were fit to a dataset of teacher movements constructed from the school workforce census (SWC), an administrative database consisting of an annual census of teachers in England and the schools they work in (for more details, see Sarazin et al., In Preparation*).*

The SWC is an administrative census covering all teachers in regular service in state-funded schools in England. We restricted the analysis to London secondary schools operating throughout 2013–2016 (N = 412 schools). We constructed a database of teacher and school leader movements from the SWC, consisting of all cases where staff members were recorded as working in one school in 1 census year and working in another school in the following census year. These were operationalized as binary ties between schools, which we analyzed using ERGMs: Whenever one or more staff members were recorded as having moved from a school A to a school B (from 1 year to the next) at any point throughout 2013–2016, a tie was

(continued)

Box 2 (continued)
recorded from A to B. there were 4555 such binary ties in the database, formed from a total of 5020 movements among 64,157 staff members.

*To test (1), we included "Homophily," "activity," and "popularity" parameters in the models. The Homophily parameters test whether movements are more likely to occur when both "sending" and "receiving" schools have similar forms of governance (*e.g.*, they are both converter academies). Since such homophily effects could simply occur by chance, if schools with particular governance structures were especially prone to both "sending" and "receiving" teachers (therefore sending teachers to each other by chance), models control for corresponding "activity" and "popularity" effects. Activity and popularity effects test whether schools with particular forms of governance are especially likely to send and receive teachers, respectively. We also included similar activity, popularity, and homophily parameters (not reported here) according to levels of deprivation in schools' student bodies, to control for the possibility that trends according to school governance could in fact be driven by schools' student compositions. Similarly, to test (2), we included parameters for transitive closure and cyclic closure movements. Since these triadic dependencies could be driven by other trends, namely, dyadic dependencies, differential tendencies for schools to send and receive teachers, and general tendencies for indirect movements, we included parameters for these (not reported here) in our models. Finally, we included parameters to assess whether triadic dependencies were particularly likely when "sending" and "receiving" schools (schools "A" and "B" in Annex A) had the same governance structure. These parameters, added to model A to form model B, assessed whether triadic dependencies were particularly likely to foster internal labor markets among schools with similar forms of governance. Model B equally includes parameters (not reported here), which control for the tendency of schools with different levels of student deprivation to be involved in triadic dependencies, in case these tendencies explained similar results according to governance structure.*

(New) Organizational Infrastructures and Internal Labor Markets

The parameter estimates for activity and popularity according to governance structure in Model A show that school governance has implications for schools' tendencies to send and receive teachers. Both converter and sponsor-led academies have positive and significant parameter estimates for activity and popularity, showing that both kinds of academies are more likely than LA-maintained schools to send and receive teachers. This is likely due to the turbulence associated with becoming an academy: indeed, most academies in London (and the rest of England), including all converter academies, have become academies relatively recently (since 2010). For sponsor-led academies, the trend could also be driven by some schools operating a

"high-use-high-loss" staffing model (Sims & Allen, 2018). However, the estimates for homophily show marked differences between the two kinds of academies: while teachers leaving sponsor-led academies, just like teachers leaving LA-maintained schools, tend to move to schools with similar governance structures, those leaving converter academies do not tend to move to other converter academies. These results indicate that there are distinct tendencies for internal labor markets to form in London among schools with similar governance structures – but only when these schools are sponsor-led academies or LA maintained. This suggests a surprising similarity between the two types of schools, which otherwise differ markedly in their governance.

Model A also shows us that triadic dependencies among teacher movements are generally prevalent in London. The positive and significant parameters for transitive and cyclic closure show that, whenever there are indirect movements between A and B (i.e., teachers leave A for third schools and move to B from these third schools), direct movements are also likely to occur from A to B and from B to A, respectively. Model B, meanwhile, tells us whether triadic dependencies are more or less likely to occur when schools have similar governance structures. It shows that, while there is no particular trend for cyclic closure to occur or not occur when schools have similar forms of governance, the same cannot be said for transitive closure movements. Indeed, these movements are significantly more likely to occur when sending and receiving schools (schools A and B in Annex A) are sponsor-led academies, but not more or less likely to occur when both schools are LA maintained or converter academies. Even more significantly, the homophily effect for sponsor-led academies, which was previously positive and significant in Model A, is nonsignificant in model B. This means that, when taking into account the tendency for transitive closure to happen between sponsor-led academies, there is no additional tendency for teachers leaving these academies to move to other sponsor-led academies – or, put differently, that transitive closure among sponsor-led academies actually *explains* the tendency for teachers in sponsor-led academies to move to similar schools. Moreover, this result contrasts markedly with results for LA-maintained schools, among which there is no particular tendency for movements to exhibit transitive closure and for which the homophily effect remains positive and significant. Meanwhile, the overall effects for transitive and cyclic closure movements remain positive and significant. This indicates that these particular trends according to governance structure do not account for the overall prevalence of triadic dependencies among teacher movements – or, put differently, that triadic dependencies also occur more generally, regardless of schools' governance structures.

Patterns of Teachers' Careers and Forms of Career Commitments

This final Section draws on the strand of the study concerned specifically with teachers' careers, drawing on interviews with 47 teachers (see Box 1). Two questions underpin the analysis: what does a "career" in teaching means for teachers in the context of the far-reaching transformations that are reshaping teachers' labor market,

and especially in London, with its very diverse educational landscape and particularly high levels of interschool mobility (Sarazin et al., In Preparation)? And what does it mean to "commit" to the teaching profession, in the context of a diversification of entry routes, roles, and school types?

This strand of the study therefore aimed at uncovering the (variety of) career patterns that arise during labor market flexibilization and deregulation. To this effect, the analysis drew on an interactionist approach (Becker, 1952, 1960) while considering the institutional context shaping career trajectories to further the dialogue between research on teachers' lives and on teachers' labor markets (Rinke, 2008). Becker's concepts provide solid foundations for apprehending and accounting for the diversity of teachers' career patterns and commitments. His concept of career enables a comprehensive analysis of both the reasons for action put forward by individuals and the objective positions successively occupied by these individuals, while being attentive to the differentiated and time-varying commitments of individuals. Becker's (1960) definition of commitment, a key concept in the study of careers, enables a dynamic and multifaceted approach to careers. First, commitments develop and evolve over time. Second, commitments are based on interests extraneous to the activity itself – Becker uses the analogy of "side bets" to understand the social mechanism of commitment. Side bets constraining a line of activity can be of different kinds, for instance, cultural expectations (e.g., not changing job too often), impersonal bureaucratic arrangements (e.g., point systems), or individual adjustments to social positions. Departing from the consistent line of activity one is engaged in will therefore have a cost (financial loss, loss of connections, of membership in a specific organization, loss of ease in doing one's work). Importantly, commitments can be plural and based on a "complex of side bets" (Becker, 1960, p. 38) and even conflicting side bets. This plurality of commitments, combined in specific ways and evolving over time, translate into a diversity of career patterns, which can be objectively described as the successive positions occupied by individuals. The concept of career can thus be defined as the series of adjustments made by an individual to the network of institutions, organizations, and relationships in which their work is performed – resulting in movements up or down between positions differing in hierarchical rank, prestige, and income (Becker, 1952).

A dynamic typological approach was adopted to account for the increasing complexity and diversity of teachers' careers (Demazière, 2013). Based on first inductive and iterative classification process, cases were aggregated around six typical career patterns, which seemed particularly contrasted on a continuum oscillating between stable careers (commitment to one school, longevity in the career, no desire for vertical mobility) and more mobile and flexible careers. A second, more theory-led analytical process led to identify different "foci" of commitment toward which our 47 cases gravitated – the profession, the organization, and the enterprising self. The subsections below present these careers patterns, grouped under three main "foci" of commitment.

Committing to the Profession: Vocational and Subject Specialist Careers

Two career patterns were centered around a commitment to the teaching profession: the "vocational" career and the "subject-specialist" career. Teachers exhibiting such career patterns expressed a strong sense of collective identity (anchored in a pastoral or academic vocation) and of belonging to a professional group. The prevailing view was that teachers were highly skilled professionals managing their own time and work, based on trust, without "micromanagement" or targeted scrutiny on a daily basis: "You have to be accountable to yourself" (Brian, S3_LA).

These teachers had all trained at university, and most held the standard postgraduate qualification for teachers (the PGCE). They emphasized the importance of a solid training with a theoretical grounding, equipping teachers to work in a diversity of environments, as opposed to the "frying pan" model, "learning on the job," where "you're only basically going to learn based on the school ethos" (Jade, S3_LA).

Their careers (or projected careers for those who had just started) were characterized by horizontality (moving between different subjects and roles in the same school, endorsing teacher training roles) or slow vertical progression toward middle management, with a lack of interest (or even rejection) for "managing people" or leadership roles. Vertical mobility was instead experienced as a constraint or a nuisance as it would drive them away from what constituted the foundation of their commitment to the profession: the relationship with their pupils, and the passion for their subject. Interestingly, several teachers had taken a step back after moving to middle management, because they did not feel ready or did not enjoy the management side of the role.

Beyond their common "focus" of commitment, these two career patterns were typically found in different types of schools. Vocational teachers were characterized by a stable engagement in a LA-maintained school. Their commitment was underpinned by a strong sense of vocation, often nurtured by the family environment, a strong sense of responsibility in changing pupils' lives (hence their choice of working in high-poverty boroughs and schools) and desire to play a role in the local community. Longevity and feeling "comfortable" in a school were viewed positively, as it allowed them to develop "caring" relationships with their pupils and colleagues – fostering a "family feel" or "comradery" among peers. Subject specialists would instead seek to stabilize in a school with a sixth form (the equivalent of a high school – for pupils studying for their end-of-school exams) and a homogeneous middle-class intake where you can "stretch the pupils" (Geneviève, S7_GS). We found these teachers in a high-performing converter academy (S2_AC) and a grammar school (S7_GS).

Committing to an Organization: Corporate and Accidental Careers

Two variations of this type of commitment were found, translating into two careers patterns: the corporate career and the accidental career.

These teachers were first and foremost committed to a career in their employing organization, often the same organization where their training and professional socialization had taken place (e.g., MAT training institute, school-direct training). This specific organizational socialization led them to accept or even welcome some degree of standardization instead of seeking autonomy in their daily work. Leaving the organization – whether a school or a multi-school organization – would mean losing both the ease of doing one's work (partly based on standardization and routines) and the social networks that supported their progression in the organization.

The first variation of this pattern is named "corporate careers" because their mode of commitment rests on mechanisms typical of "corporate" professionalism: development of a sense of organizational membership, a hard work ethos underpinned by the desire to contribute to the success of the organization, standardization of work processes and routines (to facilitate effectiveness), and loyalty based on rewards (Faulconbridge & Muzio, 2008). Interviewees who fit this career pattern did not talk much about their choice of profession. The reasons for entering teaching were rather pragmatic, driven by extrinsic motivations. For some, Teach First legitimized teaching (because it is a competitive, prestigious graduate scheme) and made it possible in financial terms. Others were trained through a school-based or "on the job" form of training ("School Direct," MAT training institute,). Notably, their early professional socialization took place in an academy chain environment. This had clear consequences on their expectations regarding working conditions, practices, and routines.

This type of career is characterized by an adjustment to a specific MAT. Interschool mobility is facilitated by the standardization of organizational routines and teaching practices, a common "vision" and "mindset" leading to a "smooth transition" between schools, as well as by the sharing of information internally (alleviating the risk of moving schools). As one teacher remarked, "What you're teaching is different but it feels more like. . . moving office" (Jeremy, S8_MAT).

Gladys was a typical example of a "MAT career" teacher, not feeling comfortable moving outside the MAT for fear of having to readjust to new routines and practices. She did not mind the lack of autonomy and instead perceived the positive sides of having preset routines and ready-to-use materials, or "being told what to do and how to do it." It also provided a reassuring framework for an early career, insecure teacher. Consistency and standardization also helped her to cope with the functional flexibility that was expected from her, such as when she was provided with the material and instructions to get a quick grip on things to teach mathematics in addition to her main subject.

In Larry's case, the comfort of staying within the trust helped him to progress rapidly to a middle leadership position. In his case, a key adjustment mechanism was his integration in a network of social relations. Moving outside the trust would mean potentially losing his "trustworthy member" status and having to rebuild relationships. However, not all welcomed vertical mobility. Besides, somes teachers felt they did not match the organization's expectations of being seen progressing. Interestingly, "flat" teaching careers seemed unproblematic overall in our interviews with teachers in LA-maintained schools.

Accidental careers, as corporate careers, are underpinned by a commitment to one organization, and a close adjustment to the relations, routines, and positions specific to this organization. While such processes operate in all schools, they are most clearly seen among teachers embarking in a teaching career "accidentally," who stumbled into teaching "a bit randomly." They trained and socialized in the same school (via a school-based training route), usually taking advantage of training opportunities offered to them as existing staff members (e.g., as teaching assistants (TAs)). If it had not been for these opportunities, they may never have become teachers. These teachers subsequently adjusted very well to this one particular school, described in terms of a "family" (Rahima_S5_LA) where most of the staff have been through the same socialization process (training in the school). They also defined themselves as "locals" (sometimes former pupils) and expressed a sense of connection with the pupils. Some envisaged working in this one school in the medium to long term. Others seemed much more uncertain, drifting toward a more "open" or "non-committal" career (see described below).

While the fast progression that is offered to these young teachers was seen as gratifying, as a reward for their commitment, endurance, and competence, it also entailed the constraints of a huge workload and very long hours. Interestingly, none of those who progressed early seemed driven to progress much further. Strikingly, these teachers were more apprehensive about the risks of moving school than leaving teaching. One reason was the fear of readjusting to an unknown environment, but also the suspicion that the pressure and workload would be the same or worse in other schools, without the support they had in their "training school." In a way, these teachers had staked the ease of doing their work and coping with their work on staying in this particular school.

Committing to the Enterprising Self: Strategic Careers and Open Careers

Two career patterns were found to be primarily oriented toward teachers' own development and characterized by high levels of mobility (interschool and/or vertical mobility): the "strategic career" and the "open career."

In the case of strategic careers, the commitment to a career in the state-funded system was conditioned upon a quick improvement of working conditions, financial remuneration, and status through interschool mobility. "Strategic teachers" explicitly sought vertical mobility toward senior leadership positions. This conscious commitment was often accompanied by a lucid reflection about what they would have to forego while moving up. Having integrated the norms of recruiters, they were constrained by labor market arrangements in place in London (valorization of mobility and "making it" through rough schools, showing leadership skills, resilience, and adaptability. . .). In Becker's words, their commitment started when they accepted to work under the market rules in force, where applicants compete to be hired in the most attractive places or roles. Adam (S2_AC), for instance, worked in three contrasting schools (including a sponsored academy in a large chain notorious

for its high workload, a Grammar school, and a high-performing converter academy). That diversity helped him build a CV that was strong enough for him to apply for senior leadership (SLT) posts.

Strategic teachers can be grouped into two profiles. First, we found first-career teachers who had mapped out a career plan, based on rapid vertical mobility, and were keen not to "miss out" on opportunities. They would often accept to move to schools perceived as more difficult schools (higher level of deprivation, bad Ofsted rating) to boost their CV, acquire valuable skills, and find their next post. Interschool mobility became necessary (not always enjoyed per se) to get them closer to a position of leadership.

A second group of vertical movers were second-career teachers coming from the private sector (typically managerial positions) and seeking vertical mobility mostly to preserve their social status. Because they had entered the teaching profession quite "late," they faced various forms of pressure and constraints to move up and follow what they perceived to be their "natural" trajectory. Dan, for instance, who entered teaching in his late 30s, and was already Head of Year in his second school, had "ambition" and saw his next step as becoming assistant head, on the senior leadership team (Dan, S1_AC).

Teachers pursuing "open careers" shared a similar desire to progress and develop their career, but not necessarily in the education sector. Their commitment to teaching can be described as temporary, something they will do "for a while," keeping an open perspective ("I'll keep my options open"). Some had an exit plan from the start, others had taken this path with a sense that it would only be temporary. Rather than committing to a career in teaching, they were consistently engaged in developing their "enterprising self," to refer to the notion that Smart et al. (2009) use to characterize Teach First trainees. A key leitmotiv in their discourse was the notion of not being "tied down," not "boxed in," rejecting a firm commitment to one determined line of activity, at least within the remit of one profession: "I don't like commitment so (laughter) [. . .] I wouldn't want to sign a permanent contract cause I do not know what I want to do, that would terrify me" (Dorothee, S6_MAT).

Among our interviewees, such career patterns were found primarily among teachers working in large MATs and who had trained on-the-job. Such teachers tended to downplay the importance of formal training, emphasizing as a "trial and error" process. Perhaps as a result, the (varying) degrees of standardization of teaching practices and the provision of "ready to use" materials in the schools where they worked were not so much experienced as a constraint: "it doesn't bother me like, I'll do what I'm told" (Dorothee, S6_MAT). This attitude toward standardization is not surprising for two reasons. Firstly, training via school-based programs often gives trainee teachers a high teaching load. This turns preplanned lessons into a helpful form of support as trainees struggle to just cope with the experience of the classroom. Secondly, given their absence of long-term commitment, investing too much time into didactics and pedagogy might not be pay off.

Their motivation to enter the profession was rather instrumental and pragmatic. For Dorothee and Charles, for instance, the training route itself (Teach First, among other prestigious graduate schemes) legitimized teaching. Similarly, Jameela chose

Teach First before choosing the profession, as an "enthusiast" who developed identity projects around social issues (Gillis, 2019) but whose discourse also echoed the managerial discourse around "thriving on challenges," hard work, and resilience (Bailey, 2015). Indeed, Teach First is not only about investing in the self but also about acquiring skills, which can be transferred to other careers. In their pursuit of self-improvement, self-actualization, and self-development (Smart et al., 2009), these teachers were looking for a role which would be challenging enough so that they do not get bored or adjust too quickly. Feeling "comfortable" was seen as a sign that they must move on. They also expressed a confident view of their position in the labor market. Charles came to School 8 to "make an impact here before moving on to something else." His generic discourse bore little connection with the intrinsic activity of teaching, "it's just been about getting the challenge and then the support right." Although enjoying his time at MAT A – sharing features with "organizational" careers – he had clear plans to leave education, exhibiting the Teach First ethos to always "excel" (Smart et al., 2009, p. 41): "if it ever gets to the point where I feel like I've lost that passion, then I really don't want to be that teacher" (Charles, S8_MAT).

Discussion

In this chapter, an overview of findings on the reconfiguration of labor markets for teachers in London was presented. England was considered as a case of liberal deregulation, which involves the replacement of collective mechanisms of labor regulation by the imposition of market processes toward minimal employment regulations, the exclusion of organized labor from decision-making, and a reliance on market adjustment. Most specifically, studies looked at how the combination of flexibilized employment relations, the increased autonomy of educational organizations in Human Resource Management (HRM), and the diversification of entry routes into the profession, have transformed and reshaped the employment and working conditions of teachers, their mobility patterns, and their career models.

The Argument Is Threefold

First, a general erosion of some of the defining features of the employment relations and working conditions that have characterized regulated, permanent contracts in the state-funded education sector, particularly though not only in newly created types of organizational environments (e.g., MATs), was found. Analyses indicate that flexibilization is rather internal and functional, which leads us to suggest that precarity is more that of work than of employment per se. This can be explained by the fact that a weak regulatory framework governs contracts in the teaching sector in England: teachers are employees; access to the labor market, although conditioned on some training or certification requirements, is rather open; and the termination of a permanent contract is of relatively limited legal constraint for the employer. This limited flexibilization of employment thus reflects the minimal standardization needed to establish market exchanges and guarantee some "quality" of education in a context of strong accountability, rather than signaling

the protection of high-quality jobs. Indeed, major changes (e.g., temporal, functional flexibility, etc.) strongly affect employment relations and working conditions within the "core" educational workforce – those employed directly by schools on full-time, open-ended contracts.

Second, patterns of mobility were shown to be increasingly embedded in (new) organizational ensembles reflecting the restructured governance of education linked to academization. Social network analysis methods allowed to show how distinctive mobility patterns exist in sponsored and converted academies, and in long-institutionalized local authorities. First, both types of academies show increased levels of outgoing and incoming teacher movements compared with local authority-maintained schools, which indicate higher levels of teacher turnover in these environments. Second, LA-maintained schools and sponsored academies are distinctive in that they show distinct tendencies for "homophily": when teachers leave these schools, they tend to move to other LA-maintained schools or sponsored academies, respectively. However, while in sponsored academies, this homophily effect is captured by the embeddedness of mobility patterns within complex forms of dependencies between movements (i.e., transitive closure); this is not the case among LA-maintained schools. These two characteristics of sponsor-led academies (higher turnover and complex forms of mobility) resonate with our findings on the flexibilization of working conditions (e.g., functional flexibility entailing geographical mobility, or the "recruit-burnout-replace" staffing model based on constant inflows of trainees and Newly Qualified Teachers) found in some academy chains, which are mostly composed of sponsor-led academies. More broadly, these distinct patterns of mobility according to organizational type possibly reflect distinctive forms of HRM and labor markets for teachers. While converter academies seem to be best described as atomized organizational environments, sponsor-led academies appear to have on average larger perimeters for teacher mobility and in some cases (e.g., MATs) forms of specialized and centralized HRM. The latter could potentially lead to new types of internal labor markets in which the rotation of personnel among schools is a central part of managing employees. Meanwhile, local authorities also appear to form internal labor markets, but of a different kind. Based on their high levels of homophily but low levels of embeddedness in complex dependencies between teacher movements, it may be that what makes teachers "stick to" local authority-maintained schools is more an identification with a particular kind of school, as opposed to specific HRM practices, for instance, linked with the use of network recruitment or the rotation of teachers among networks of schools.

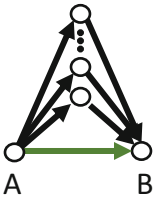
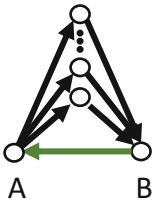
Finally, analyses of career trajectories not only revealed diversified forms of commitment leading to contrasted career patterns. They also indicated that different career patterns in part correspond to different types of schools and organizational environments, and to diversified entry routes into the teaching profession. In particular, three of the patterns identified (the accidental career, the corporate career, and the open career) are typically embraced by teachers whose socialization into the profession took place in settings and organizations that emerged 10–20 years ago. "Accidental careers" were found among teachers who entered the profession through School Direct (although not all teachers entering via this route followed this pattern).

Similarly, "open careers" were found among former Teach First and school-based trainees; teachers who embraced "organizational careers," meanwhile, were characterized by a professional socialization in MATs.

In addition, teachers engaging in these contrasted career patterns tend to be found in different types of schools. Among our interviewees, teachers embracing a vocational career predominantly worked in local authority-maintained schools, although a few were found in other schools (for instance, long-serving teachers in schools that were forced to become academies). In contrast, almost all teachers whose careers fitted the "open" and "corporate" career types worked in large MATs. The deregulation of employment relations, the rise of new organizational environments (multi-academy trusts) sharing some features with large corporations (e.g. internal promotion through mobility within networks), entail different types of adjustment processes and side bets underpinning commitments to the teaching profession. In particular, corporate careers in MATs are characterized by adjustment mechanisms to the flexibilization of working conditions. Faced with particularly intense pressures and demands (which were also found outside MATs, all teachers reporting "insane" workload levels), these teachers have adjusted to their MAT's organizational routines and standardized practices. The latter provide a familiar framework that gradually conditions the "ease of performance" of their work, to use Becker's terms. Thus, certain teachers found stability and predictability inside a MAT, while paradoxically also embracing the managerial discourse around change, flexibility, and adaptability.

Overall, studies suggest that the fragmentation of teacher labor markets jointly brought about by the diversification of organizational environments, the flexibilization of employment and working conditions, and the multiplication of entry routes, entails deep transformations to the teaching profession. The fragmentation of labor markets reflects the fragmentation of the profession, characterized by a coexistence in the same system of old forms of professionalism centered on the profession as occupational value (Evetts, 2011), with changing forms developed within new organizational ensembles or focused on the individual professionals themselves. These different cohabiting forms of professionalism are precisely shaped at the crossroads of different training programs (and related forms of professional knowledge), ways of controlling and organizing work, and labor markets and careers. They are also fueled by the shifting institutional environment of education and of the teaching profession (Helgetun & Dumay, 2021).

Annex 1 Types of embedded movements

Name of embedded movement	Graphical representation	Interpretation
Entrained movement		When a teacher has moved fom school A to school B, another teacher is likely to do the same
Reciprocal movement		When a teacher moves fom school A to school B, another teacher is likely to move from B to A
Transitive closure movement		When teachers leave school A for third schools (C, D etc.), and teachers move to B from these third schools, another teacher is likely to move from A to B
Cyclic closure movement		When teachers leave school A for third schools (C, D, etc.), and teachers move to B from these third schools, another teacher is likely to move from B to A

Annex 2 ERGM Results. Models A and B, respectively, correspond to Models 2 and 3 in Sarazin et al. (In Preparation)

	Model A		Model B	
	Par. Est.	S. E.	Par. Est.	S. E.
Activity, popularity, homophily according to school governance structure				
Activity (reference group: LA maintained school)				
Converter academy	0.124	0.054*	0.095	0.056+
Sponsor-led academy	0.298	0.051***	0.254	0.052***
Free school	0.082	0.142	0.012	0.15
Popularity (ref: LA maintained)				
Converter academy	0.150	0.054**	0.125	0.055*
Sponsor-led academy	0.180	0.055**	0.128	0.057*
Free school	−0.019	0.098	−0.039	0.1
Homophily				
Converter academy	0.045	0.07	0.047	0.081
Sponsor-led academy	0.292	0.089**	0.165	0.126

	Model A		Model B	
	Par. Est.	S. E.	Par. Est.	S. E.
LA maintained school	0.223	0.064***	0.274	0.074***
Triadic dependencies between teacher movements				
Transitive closure	0.335	0.019***	0.384	0.054***
When schools A and B are both converter academies			0.068	0.059
When schools A and B are both sponsor-led academies			0.219	0.084**
When schools A and B are both LA maintained			−0.020	0.048
Cyclic closure	0.124	0.016***	0.266	0.054***
When schools A and B are both converter academies			−0.080	0.055
When schools A and B are both sponsor-led academies			−0.113	0.076
When schools A and B are both LA maintained			−0.048	0.044

Par. Est. parameter estimate, S.E. standard error

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