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DECISION-MAKING POWER AND INSTITUTIONAL LOGIC IN HIGHER EDUCATION INSTITUTIONS: A COMPARATIVE ANALYSIS OF EUROPEAN UNIVERSITIES

S. Kubra Canhilal, Benedetto Lepori and Marco Seeber

ABSTRACT

The aim of this paper is to analyze responses of public universities to the introduction of New Public Management (NPM) as the outcome of balancing between the managerial logics endorsed by NPM and the academic professional logics. Building on the institutional logics approach, we develop a framework concerning how universities will achieve compliance to conflicting claims by strategies like compartmentalization and blending stipulations of both logics. Empirical results based on a large-scale survey of 26 universities in eight European countries display how compatibility is

achieved through highly differentiated adoption of logics that depends on the task considered. The results reveal that the strength of NPM pressures strongly affects the adoption of managerial practices within universities yet has no significant effect on the academic characteristics.

INTRODUCTION

In the last 30 years, there have been changes in the way public policies manage public services. The idea of such reforms is rooted back to the 1980s with Margaret Thatcher and Ronald Reagan. Namely New Public Management (NPM) reforms introduced certain policy narratives explaining how public organizations should operate, regardless of the characteristics of their particular sector of activity (Brunsson & Sahlin-Andersson, 2000; Ferlie, Musselin, & Andresani, 2008). These narratives emphasize the importance of economic values and objectives and foresee that public organizations should be managed like private companies.

However, empirical evidence indicates that the responses of public sector organizations to NPM reforms are more differentiated than isomorphic compliance to policy pressures (Ashworth, Boyne, & Delbridge, 2009; Bovaird & Downe, 2006) and are influenced by organizational characteristics like history, tasks, and position with respect to the state (Lægreid, Roness, & Rubecksen, 2007). Moreover, not only do responses vary between organizations, but compliance is selective with respect to different organizational features (Andrews, 2011).

Responses are particularly complex in sectors such as education and healthcare, which are characterized by resilient professional cultures which establish different modes of managing such organizations with respect to the private sector (Leicht & Fennell, 2008; Thornton, Ocasio, & Lounsbury, 2012). When public policies are coercive in implementing NPM, this would risk generating conflict and jeopardizing key elements of the professional culture, like the importance of trust and the autonomy of professionals, which is considered central to the performance of these organizations (Adler, 2008). In those cases, resistance from the organization is expected (Townley, 1997).

In this paper, we aim to investigate responses to the introduction of NPM policies in the case of public universities in Europe. Our analysis builds on the theoretical perspective of institutional logics. In this context,

the aim of this paper is to investigate how the interaction between managerial and academic logic shapes responses from European public universities to NPM pressures. We hypothesize that rather than selecting one competing logic, universities are likely to develop more differentiated strategies to achieve some level of compatibility and to avoid conflict, adopting the core practices of the managerial logic, while keeping some central features of the academic logic and resorting to compromise in case of conflict.

For this aim, we investigate the adoption of two sets of practices, related respectively to the managerial and academic logic. The introduction of an organizational hierarchy and rule system represents two key stipulations of managerial logic (Brunsson & Sahlin-Andersson, 2000), while collegial decision-making and the participation of academics in decision-making are two core features of the academic logic. Accordingly, we expect that the considered cases, when subject to NPM pressures, will introduce hierarchy and rule systems, but try at the same time to maintain collegial decision-making and academic participations especially for those tasks considered central to the academic logic, such as the management of teaching and research. When stipulations of the two logics conflict on the same tasks, universities are expected to achieve some level of compatibility by compromising: for example, top-hierarchical positions might be occupied by academic leaders holding also professional authority, while the consultation and involvement of academics in decisions could be maintained also within a hierarchical and rule-based structure.

The contribution of this paper is twofold. On the one hand, we provide a more nuanced understanding of the public organization's response to NPM pressures quantitatively, particularly when the field is characterized by the presence of a strong professional culture. On the other hand, these results hint at the possibility that the introduction of managerial practices does not necessarily lead to the dysfunctional outcomes feared by some authors, like jeopardizing trust and demotivation of employees (Diefenbach, 2009). It suggests that the presence of a strong academic culture might allow universities to be selective in adopting managerial practices, while keeping some central elements of the academic logic which are functional to the characteristics of their activities.

INSTITUTION LOGICS AND RESPONSES TO INSTITUTIONAL PRESSURES

Institutional logics are socially constructed, historical patterns of assumptions, values, beliefs, rules and material practices by which individuals

produce and reproduce their material subsistence, organize time and space, and provide meaning to their social reality (Thorton & Ocasio, 1999, p. 804). Logics provide cognitive and practical templates to organizations on how to perform certain tasks. Research has provided extensive evidence that many organizational fields are characterized by lasting institutional pluralism, that is, by the enduring presence of legitimate alternative logics (Friedland & Alford, 1991; Kraatz & Block, 2008).

Earlier institutional studies assumed that organizations would comply with one single logic and resist the other (Greenwood & Hinings, 1993). Namely, it was argued that blending institutional logics would jeopardize the identity of the organization, lead to conflicts at the level of activities, and generate uncertainty and ambiguity for the employees. Professional organizations would then have to decide whether to resist NPM pressures or become managerially orientated. In turn, decoupling would be an alternative strategy (Meyer & Rowan, 1977), which is risky when pluralism is long lasting, as audiences over time may become aware of the purely ritual character of compliance.

Recent research has shown that both blending and hybridity are more widespread than assumed, and that organizations can be intentional and goal-oriented in this process (Greenwood, Diaz, Li, & Lorente, 2009). Responses can be broadly classified into two groups (Greenwood, Raynard, Kodeih, Micelotta, & Lounsbury, 2011). On the one hand, structural responses aim to reduce tensions by creating subunits following different logics, for example, a technical department with a public-service mission and a sales department with a marketing mission (Jarzabkowski, 2004). Compartmentalization implies the adoption of intact groups of practices from individual logics (Pache & Santos, 2013). For instance, universities might adopt managerial practices for management tasks, while keeping academic practices for tasks more directly related to teaching and research. On the other hand, blending and compromising responses have been identified, where organizations combine elements of different logics by exploiting their compatibility (Jay, 2013) and, thereby, develop original sets of practices. For instance, when pressured by NPM to introduce a stronger hierarchical structure, universities might introduce elements of it, but soften it through participative arrangements and by avoiding any overt use of power. While managerial and professional logics might be incompatible at the level of general principles and values, it is possible that at the level of specific tasks, compatibility is achieved through case-by-case solutions. Further, it has been highlighted that organizations can be highly strategic in managing their legitimacy and, therefore, be selective in coupling with institutional logics (Pache & Santos, 2013). This means that, strategically,

organizations will respond to a conflict between the logics by selectively complying with those stipulations considered central by each individual logic, in order to enhance legitimacy towards audiences.

Beyond the simple opposition between managerial and professional logics, this discussion first suggests that to understand how public organizations cope with pluralism, a highly differentiated analysis of the content of each logic and of the centrality of the different practices is needed. Second, it suggests that public organizations are more likely to seek compatibility through strategies like compartmentalization and blending, than to overtly oppose managerial logics, as this strategy would allow conflicting legitimacy claims to be better managed.

Achieving Compatibility

In our empirical investigation the focus is on two central stipulations of the managerial logic, that is, the introduction of hierarchy and rationality (Brunsson & Sahlin-Andersson, 2000), and two central stipulations of the academic logic, that is, decision-making by consensus (collegiality) and participation of individual academics to decision-making. A straightforward selective coupling argument would lead to the expectation that, in order to be compliant with both managerial and academic logic, universities would introduce *hierarchy* and *rationality*, while keeping at the same time collegiality and participation. However, things are not so simple, as these principles might contradict each other and, therefore, organizations are obliged to choose or to compromise. Therefore, a more careful analysis is required. In the managerial logic, organizational *hierarchy* is structural and is based on the definition of layers of leaders and followers (de Boer, Enders, & Leisyte, 2007); central control and vertical coordination with leaders defining goals and strategies and subordinates implementing them. Hierarchy should be enforced through formalized assignments of responsibilities and the definition of formal decision-making procedures. These principles would contradict an academic conception of hierarchy, which is based on professional authority, and where horizontal coordination prevails (hence rectors and deans are considered *primus inter pares*).

We suggest two approaches to limit conflicts in the introduction of a managerial hierarchical structure: on the one hand, focusing on those organizational activities which are not core in the academic understanding of a university, like administrative tasks, logistics, and resourcing. On the other hand, for those activities which are core to academia, like teaching and research, universities might reduce the cognitive distance between

management and individual academics by empowering faculty leaders rather than university leaders; further, even within a hierarchical structure, they might reduce the power asymmetry by foreseeing consultation and participation of academics to decision-making and by preferring the construction of consensus against the overt use of hierarchical power.

In terms of rationality, the managerial logic endorses a conception where human action should be goal-oriented and based on the systematic evaluation of its consequences, emphasizing efficiency and precise measurement of outcomes as key values. In formal and practical terms, it draws on the adoption of planning instruments in decision-making and the diffusion of routines as tools to solve day-to-day problems in a predefined way (Brunsson & Sahlin-Andersson, 2000; Townley, 2002). Therefore, rationality is a complex and multi-layered concept which includes both an interpretive framework on the reality (theoretical rationality), a set of values which should direct the action (substantive rationality), and recipes on how to deal with day-to-day problems (practical rationality; Kalberg, 1980; Townley, 2002).

These distinctions allow for a more precise identification of points of conflict and elements of compatibility with the academic logics. Namely, the academic logic is not necessarily contrary to the adoption of simple rules in order to perform some tasks, like the repartition of the budget or the execution of managerial tasks. Stronger resistance from organizations is expected when rule systems involve judgments by the organizational leadership concerning the quality of academics, respectively, an understanding that the goal of a university should be to become more efficient.

Collegiality, as a core component of the academic logic, emphasizes the autonomy of professionals and their equal value, as well as a world where action should be driven by academic values and by the search for novelty, related to the unpredictability of scientific inquiry. In formal and practical terms, it emphasizes decision-making based on consensus. Academics who hold prestigious positions are often involved in the governance of the universities' tasks related to teaching and research, therefore academic merit usually has influence on university politics (Bergquist, 1992). Similarly, participation is about the involvement of academics and their power in the decision-making process and design of control instruments (Adler & Borys, 1996). On the one hand, such participatory arrangements are likely to be more acceptable in terms of the characteristics of academic work; on the other hand, rule systems co-shaped with professionals will enjoy a higher level of legitimacy and will meet less opposition and thus be more effective (Courpasson, 2000) (Fig. 1).

Accordingly, when hierarchy is introduced, compliance or compromise will depend on whether the task in question is a core or a non-core academic
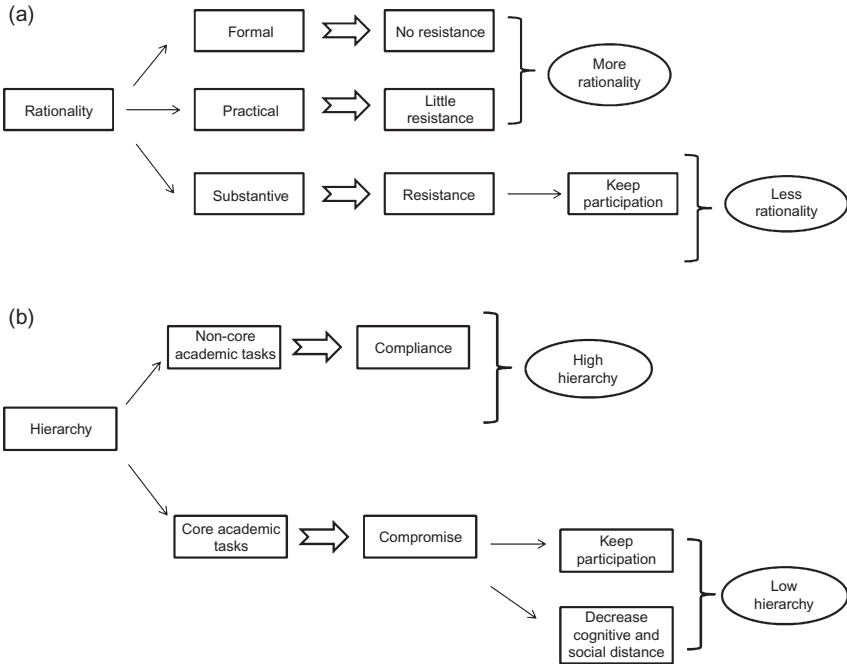
Fig. 1. Interaction of NPM with Hierarchy and Rationality. *Source*: Prepared by the Authors.

task. The expected behavior is that for the core academic tasks there will be a compromise, and in our case participation will be kept in tandem with a reduction of the cognitive distance between the various organizational subunits. Concerning rationality, we predict that substantive rationality will meet more resistance because it is connected to value, therefore compromise is needed to balance between the two logics by keeping the participation of individual academics to the creation of the evaluation tools.

INSTITUTIONAL LOGICS: CASE OF HIGHER EDUCATION

Public universities in Europe can be considered as a prototypical case of organizations subject to conflicting stipulations from a professional logic and

from a managerial logic (Albert & Whetten, 1985). On the one hand, they were traditionally considered to be highly specific organizations, characterized by loose coupling (Weick, 1976) and the dominance of the profession (Mintzberg, 1979). The professional logic of academia emphasizes the specific nature of research activities, which cannot be controlled from the outside, and accordingly provides a rationale for autonomy of research and the lack of central control (Musselin, 2007). Moreover, it considers scientific disciplines to be the central cognitive and social structure of academia (Becher, 1994) through which professional careers are managed, and accordingly, results into decentralized universities (Becher & Trowler, 2001; Clark, 1983). Finally, it considers peer-to-peer coordination and collegial decisions based on consensus and formal equality of academics, to be central components of the decision-making process (Thornton & Ocasio, 1999).

On the other hand, in the past three decades universities in Europe have increasingly been subject to pressures to become similar to other organizations, to introduce a formal organizational structure, and to become "rational organizations" with well-defined goals and strategies (Ramirez, 2009). Normative pressures to align with the corporate model are part of a broader process of diffusion of a global organizational template, where all organizations compete worldwide, while characteristics related to individual sectors and countries should disappear (Meyer, Boli, Thomas, & Ramirez, 1997).

While in the United States this process began before1960s, in Europe public universities were protected from managerial pressures by an alliance between the State and the profession, built on an understanding that public organizations in general, and universities in particular, had different goals and ways of functioning when compared to companies (Ramirez & Christensen, 2013). Competition between universities has been a fact in the American ecology of higher education for a very long time. Universities are engaged in raiding faculty from other universities and in shielding themselves from other university efforts to seduce their faculty. External offers are a mechanism through which one may improve one's salary. On the other hand, in the European context, the institutional environment of European universities profoundly changed in the 1980s with the introduction of NPM narratives in public policies (Ferlie et al., 2008; Paradeise, Reale, Bleiklie, & Ferlie, 2009), which promoted an understanding that public organizations should also be managed like private companies, and specifically, develop a clear identity and introduce hierarchy and rationality in their structure (Brunsson & Sahlin-Andersson, 2000). Normative pressures were also accompanied by coercive interventions from the State and thus became more forceful, albeit with significant differences across countries in terms of

the pace and extent of reforms (de Boer, Enders, & Schimank, 2007; Paradeise et al., 2009). Policies were implemented through regulatory changes, like granting more autonomy to universities, the introduction of market arrangements in funding (Teixeira, Jongbloed, Dill, & Amaral, 2004), and the diffusion of evaluation systems at the national level (Whitley & Glaser, 2007).

Table 1 displays how the academic and managerial logic provide widely different stipulations on how universities should be managed (Thornton & Ocasio, 1999). The managerial logic conceives universities as corporate actors oriented towards market competition and that performance should be managed through a well-defined hierarchy, where authority rests on the top management and it is legitimized by hierarchical relationship. The managerial logic foresees the centralization of decisions and their implementation through command and rule systems guiding employees in their activities. In contrast, the academic logic considers a university as a "community of scholars," whose main mission is to produce scholarly knowledge and maintain its reputation among peers. Authority is based on professional seniority and academic reputation, whereas decisions should be taken by consensus, and autonomy of academics should be guaranteed.

Table 1. Dimensions of the Academics and Managerial Logics.[a]

	Managerial	Academic
Economic system	Performance-based	Membership-based
Sources of identity	University as a corporate organization	University as professional organizations
Sources of legitimacy	Hierarchical position	Scholarly reputation
Sources of authority	Top management	Academic profession
Basis of mission	Increase organizational performance	Produce scholarly knowledge
Basis of attention	Performance measures	Peers judgment
Basis of strategy	Positioning in market niches	Constructing university reputation
Logic of investment	Focus on activities where the university enjoys a competitive advantage	Provide large freedom of research and teaching to the professorial body
Governance mechanism	Managerial decisions by top-hierarchy	Collegial principle

[a]Based on the dimensions of Thornton and Ocasio (1999).

Since the introduction of NPM reforms in Europe, it has been highly contested whether public policies would be able to transform universities into corporate organizations, with some scholars arguing that because of the characteristics of their activities and structural conditions related to the profession, transforming universities into organizational actors was not possible, and if so, it would be highly dysfunctional (Whitley, 2008).

Empirical evidence reveals a complex situation as well. On the one hand, policy pressures are changing European universities from being administrated organizations towards being managed organizations, with stronger central leadership and strategic capability (Krücken, Kosmützky, & Torka, 2007), where principles of efficiency, cost-effectiveness, and central strategic control are introduced (Christopher & Leung, 2015; de Boer, Enders, & Leisyte, 2007; Enders, Kehm, & Schimank, 2015; Kogan, Bauer, Bleiklie, & Henkel, 2006). On the other hand, there is a great deal of variation in this process (Sahlin, 2012), and changes are rather gradual and incremental (Musselin, 2007). The so-called World Class Universities have maintained traditional characteristics: they are internally decentralized, governance is co-shared between the faculty and the administration, and a high level of socialization among academics is maintained (Paradeise & Thoenig, 2011). Instead, universities grasping for the elite, the "wannabes," centralize power in managers, reduce both the power of deans and room for shared governance, and in doing so they downplay the community principles (Paradeise & Thoenig, 2013; Tuchman, 2009). Comparative analysis displays a systematic association between the strength of NPM pressures and the introduction of managerial elements like hierarchy and rationality (Seeber et al., forthcoming), but also that universities respond to the dilemma between central control and professional autonomy by combining formal and informal mechanisms of control (Bleiklie, Enders, & Lepori, forthcoming).

METHODOLOGY

Sample

The sample of universities was purposefully constructed in order to mirror some central dimensions of diversity in European universities, in terms of age, size, international reputation, and disciplinary concentration. Accordingly, the sample includes a rather heterogeneous set of universities in terms of size (number of students ranges from 2,000 to 90,000), age

(foundation year between the middle-age and the late 1990s), international reputation (some universities in the sample being among the first 100 in international rankings, others not included at all) and finally, discipline concentration, as the sample includes both generalist universities and highly specialized technical universities. Moreover, the sample covers countries which are very different in terms of their politico-administrative systems (Bleiklie & Michelsen, 2013), as well as the strength and timing of the introduction of NPM policies (Bleiklie, Enders, Lepori, & Musselin, 2011; Paradeise et al., 2009).

The survey resulted in 687 respondents and a response rate of 48%. At the university level, the number of respondents ranged from 7 to 55, with response rates between 26% and 79%. In terms of the category of respondents, we collected 246 questionnaires from senate members (response rate 45%), 235 from middle managers (48%), 162 from board members (50%), 20 from central administrators (74%), and 24 from rectors (89%). In terms of roles, the composition of our respondents is thus rather similar to the original population.

Constructs

In order to test our hypothesis, we use a survey delivered to people occupying five different roles in 26 European universities. These are: members of the university board, members of the senates, rector or president, the person responsible for infrastructure and management (the "central administrator") and, finally, faculty deans. All survey questions were closed, most of them using 5-point Likert scales, with the exception of some questions which used a 3-point scale. Since not all questions were included in the questionnaires given to all groups, the number of respondents varies between questions (see Table 2 for all constructs and questions used).

Hierarchy
In order to analyze hierarchical structure, we used a survey question concerning the actual level of decision-making power for 13 different items and for three organizational levels inside universities (central level, faculty, and shopfloor which refers to the academic heartland; Clark, 1998). This question is suitable for our investigation because it deals with actual power and not just with formal competences, and it provides a fine-grained view by a large number of items. Moreover this question allows us to analyze the decision-making power of each organizational level by looking at different tasks (e.g., core and non-core academic and managerial tasks). Factor

Table 2. Constructs Table.

Constructs	Survey Question	Scale	Category Respondents	Items	N	Alfa	ICC[a]
H1: Hierarchy: managerial	Please indicate the extent to which actors within your university have actual decision-making power for the listed issues	3-point	All	Average score for 8 items by three levels (central, faculty, leadership)	583	.715	.10
Max (leadership, faculty)-shopfloor						.742	.12
						.743	.07
H2: Hierarchy: academic	Please indicate the extent to which actors within your university have actual decision-making power for the listed issues	3-point	All	Average score for 5 items by three levels (central, faculty, leadership)	580	.740	.13
Max (leadership, faculty)-shopfloor						.712	.13
						.742	.06
R1: Rule-based allocation	How important is each of the following factors in resource allocation to units?	5 point	Central administrator, senate, middle management	3 items referring to formula allocation	434	.701	0.22
R2: Comparison between units	For which of the following activities does your university systematically compare different units?	3 choices	Central administrator and middle management	Average score for 5 items	217	.850	0.11
R2: Evaluation of individuals	For which of the following activities does your university systematically compare individuals	3 choices	Central administrator and middle management	Average score for 5 items	192	.807	0.15
P1: Participation in the strategy	Importance of cooperation in realizing the university strategy	5 point	Rector, Central administrator, senate, board	Average score for 3 items	364	.768	0.06

C1: Collegiality	Do you agree with the following statements concerning your university?	5 point	All		675	.594	0.05
PA1: Power of the individual academics (shopfloor) — managerial tasks	Please indicate the extent to which actors within your university have actual decision-making power for the listed issues	3-point	All	Average score for 8 items by three levels (central, faculty, leadership)	583	743	.07
PA2: Power of the individual academics (shopfloor) Academic tasks	Please indicate the extent to which actors within your university have actual decision-making power for the listed issues	3-point	All	Average score for 5 items by three levels (central, faculty, leadership)	580	.742	.06

[a]The Intraclass correlation coefficient (ICC) measures the proportion of variance between groups. Values below 0.10 are indicative of no meaningful variations (Snijders & Bosker, 2012).

analysis run separately on the three levels provides convergent results and allows for the classification of items into two broad groups.

The first group includes the items related to the power concerning the nomination of hierarchical positions and management issues: (1) selecting leadership, (2) selecting the head of units, (3) setting the goals of units, (4) defining the budget of units, (5) setting employment conditions for a new chair, (6) setting rules and procedures for the evaluation of units, (7) defining policies for the management of academic staff, (8) setting study places for each curriculum.

The second group includes the items related to teaching, research, and academic appointments: (1) establishing the profile of a new position, (2) selecting the candidate for a new chair, (3) establishing new teaching programs, (4) evaluating individual academic performance, and (5) establishing research programs. Having these two groups allows us to measure hierarchy in terms of the power of each organizational level for academic and managerial tasks. We construct two measures of hierarchy as managerial hierarchy (see H1 in Table 2) and academic hierarchy (see H2 in Table 2). In order to measure managerial and academic hierarchy we construct it by taking the maximum between the leadership level and the faculty level, and subtract it from the shopfloor level.

Rationality
To analyze rationality we use the questions related to the introduction of rule systems. The first question is concerned with the use of criteria for the internal allocation of resources. Three items refer to formula allocation based on students, graduates, and external funding, which load onto a single factor. We construct a variable for *rule-based allocation* (see R1 in Table 2) as the average score for these three items.

The second question measures the two variables concerning whether the university systematically compares its units, respectively, subunits and individuals, for five dimensions (teaching performance, teaching process, research performance, research process, and non-academic affairs). The five items for each of the two questions load onto a single factor in the factor analysis and display a high level of consistency. We construct two distinct variables, one variable for units and one variable for subunits and individual comparisons (see R2 in Table 2).

Collegiality, Participation, and the Power of Individual Academics
In order to measure collegiality, we measure the decision-making power of the shopfloor level (see PA1 and PA2 in Table 2). Therefore, we use the

same question of hierarchy; however, we analyze the power of the shop-floor. The question includes 13 items. Additionally, to measure participation, we use a question about cooperation with three items, regarding: (a) the importance of cooperation and participation in the creation of the universities' strategy; (b) the power of the individual academics (shopfloor level) for managerial tasks like nomination of heads, and (c) power of individuals regarding budgets and employment conditions. While in a purely collegial setting these tasks should be managed by academics as well, they are not central to the notion of academic autonomy per se.

New Public Management Reform Pressures

In order to analyze the impact of NPM, a variable has been constructed measuring the strength and duration of NPM policies on an indexed scale from 0 to 1. Four main criteria were considered: *timing*, which measures how long the NPM narrative has influenced the reform discourse in higher education; *competition* considers the share of public funds allocated via competitive streams of formula and projects; *accountability* is a proxy for the relevance of teaching and research evaluations promoted by ministries and agencies; *autonomy* is estimated by how leadership is selected (appointed or elected), and what is the power of the university to reorganize itself, for example, by changing the statute, creating new faculties or courses (Paradeise et al., 2009). Table 3 provides the NPM scores of each country involved in this study.

Data Analysis

First, we compare the means of the respondent's answers inside each university; since differences in responses by groups of respondents are non-significant for most of the questions we use, this procedure is robust against differences in the composition of the sample. We use a paired *t*-test in order to compare whether observed differences in the average of university means are statistically significant.

Secondly, in order to analyze the impact of NPM pressures on our variables, we perform multi-level analysis using as dependent variables the scores for each individual respondent. Independent variables include the level of NPM and organizational controls, as well as dummies for respondent's roles. Our model consists of responses from individuals within the universities. We model individual scores as an outcome of both individual

Table 3. Level of NPM Pressures.

	Timing of NPM Reforms	Funding		Accountability: Top-Down Evaluation of HEIs Research and Teaching Performance[a]	Autonomy: Leadership Selection, Decision-Making on Organization and Profile[a]	Overall NPM Influence
		Share of formula in core budget[b]	Share of project[b]			
Norway	From 2000 (2)	45% (2)	20% (2)	Evaluation system based on reports produced by HEIs (2); teaching program externally evaluated (2)	Appointed leaders at faculty and department Level (2); HEIs have the right to decide on internal organization (3)	0.45
Portugal	From 2000	90% (2)	3% (1)	Research evaluation and assessment and accreditation of HEIs and their study cycles done by independent agencies (2)	Mostly elected leaders (2). Power to reorganize within the legal framework, creation of courses submitted to the accreditation agency (2)	0.27
Italy	From 2000	7% (1)	3% (1)	Research assessment but limited impact (1); central accreditation (2)	Leaders elected by academics (1); HEIs can reorganize, teaching courses must satisfy law requirement (2)	0.00
Germany	From 2000	Federal funding (2)	12% (2)	*excellenz* initiative (2) accreditation agencies (2)	Leaders can be appointed top-down; most are still academics (1) reorganization power limited (1)	0.18
France	From mid-2000 (1)	Performance contracts (2)	30% (2)	Recent establishment of agencies for HEIs evaluation (2); timid evaluation of courses (1)	Leaders elected by academics (1), reorganization power is limited, although growing (2)	0.00
Switzerland	From 2000 (2)	Federal funding (2)	21% (2)	No HEIs wide teaching or research evaluation, which are up to each HEI (1)	Rectors appointed but often limited powers (2); some liberty to reorganize but also strong state intervention capability (2)	0.18

| UK | From 1980s (3) | 59% (3) | 29% (3) | Research assessment exercise with strong impact (3); market-oriented accreditation (2) | Strong university leadership (appointed by board) and autonomy to reorganize (3) | 1.00 |
| The Netherlands | From mid-1980s (3) | 90% (3) | 10% (2) | Research evaluation for internal allocation (2); central accreditation (2) | Vertical system of appointment (3), within given national boundaries HEIs are free to reorganize (3) | 0.82 |

For individual items we use a three-point scale 1 = low; 2 = medium; 3 = high. Total score is calculated as the average of the four items, rescaled from 1 (highest NPM influence) to 0 (lowest NPM influence).

[a]Paradeise et al. (2009).

[b]Share of funding allocated via formula and project (Chinchilla-Rodriguéz, Ferligoi, Miguel, Kronegger, & de Moya-Anegón, 2012; Lepori, Benninghoff, Jongbloed, Salerno, & Slipersaeter, 2005; Reale & Seeber, 2011).

level and university level variables. We treat the responses as continuous and use OLS. We calculate it as:

$$y_{ij} = \beta_1 + \beta_2 x_i + \beta_3 x_j + u_i + \varepsilon_{ij}$$

More specifically, we use j as the respondent and i as the university, and u_i as the observations at the individual level within the same university. We use this variable because these observations are not independent.

In terms of organizational controls, we use *the level of disciplinary concentration*, which is calculated by the Herfindahl index of the share of students enrolled in each of the nine subject domains of educational statistics. *Size* is measured through the number of students at the concerned university. Size is relevant since smaller organizations might be easier to manage through informal processes and thus display a lower level of formal hierarchy and rationality. *Age* is measured by the foundation year of the university. Finally, an indicator of *international reputation* has been derived from the Scimago Ranking (2011), the most complete world ranking in terms of organizational coverage that includes more than 1,000 Western European research organizations.

RESULTS

Descriptive Analysis

The results are consistent with our expectations that variations IN the managerial logic characteristics are higher than the variations IN the academic logic's characteristics, such as participation and collegiality with respect to rationality and hierarchy. When analyzing the measure of involvement of academics and of the collegial nature of the university, a noteworthy feature is that these characteristics are more uniform across the whole sample than those of hierarchy and rationality. The same applies for the intraclass correlation coefficient, showing that less than 6% of the responses' variance is at the university level. The only other indicators displaying such limited variation between universities, are those of shopfloor power, which can be largely interpreted as a similar measure of the involvement of academics in decision-making. This supports the assumption that the involvement of academics represents a common feature of the universities considered, which is rather uniform and less influenced by differences in national policies, as well as in the extent of NPM pressures.

Table 4. Paired Sample *T*-test Results.

	Paired Differences			*t*	df	Significance (Two-Tailed)
	M	SD	SEM			
Rationality formula-based allocation Rationality comparison between units	.13065	.14373	.02819	4.635	25	.000
Rationality comparison between units Rationality evaluation of individuals	.04016	.11513	.02303	1.744	24	.094
Hierarchy managerial Hierarchy academic	.23501	.11727	.02300	10.219	25	.000
Power academic shopfloor power Power management shopfloor	.22936	.10780	.02114	10.849	25	.000

With regard to the relationship among the variables, the results confirm our expectations. Fig. 2 demonstrates that rationality in resource allocation is higher than rationality when comparing units and individuals, respectively; furthermore, resource allocation is more formal than evaluating units and individuals, therefore, it is more applicable. More specifically, evaluating individual academics is quite contrary to the academic logic, therefore, it is not surprising to see that it has the lowest score among the other aspects of rationality. In the case of hierarchy, the results show that hierarchy for managerial tasks is higher than the hierarchy for academic tasks, which was also expected with the introduction of NPM reforms.

Lastly, the data reveal that the power of individual academics is higher in academic tasks than in management tasks. Therefore, competing logics do not require compliance for all their stipulations and do not oppose each other concerning all organizational activities (Greenwood et al., 2009; Jay, 2013). Descriptive statistics concerning the differences are statistically significant (*t*-test on paired samples, $p < 0.001$). However, the difference between units and individuals cannot be confirmed, as it is only marginally significant (Table 4).

Impact of NPM

In order to analyze the impact of NPM, we ran multi-level analysis (see Table 5). Accordingly, we tentatively conclude that there is no impact of NPM on collegiality and participation (see Table 5 for the results of the regression). In our models, the effect of NPM on the indicators we have presented in order to measure academic logic; collegiality, participation,
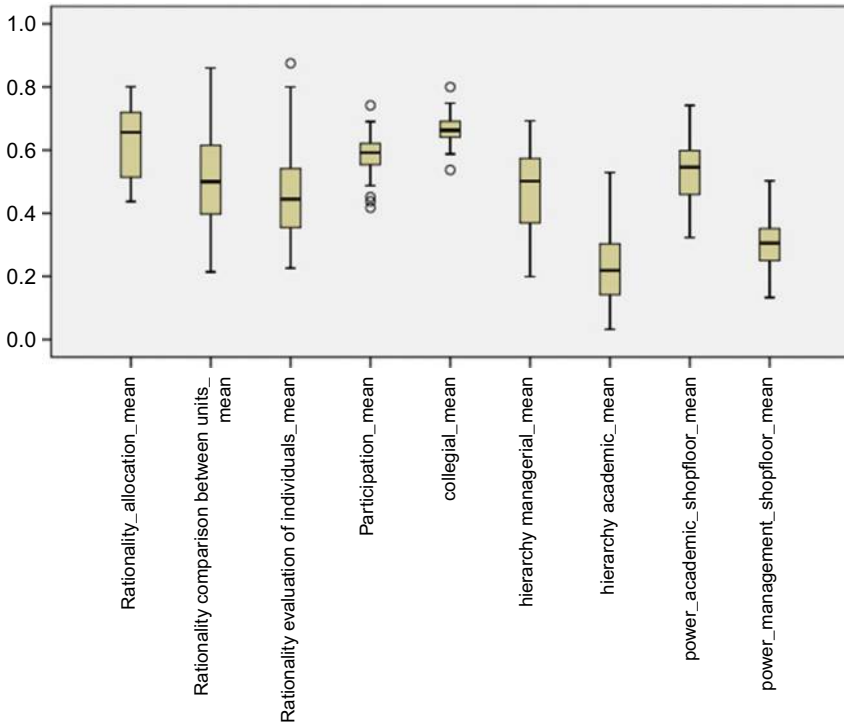
Fig. 2. Boxplots of Means of Responses Inside Individual Universities, $N = 26$.

and power of individual academics are found to be non-significant. This is an important finding since the demise of collegiality is often assumed in the literature that is critical of new public management. This also supports the insight that the involvement of academics represents a common feature of the universities considered, which is rather uniform and less influenced by differences in national policies, as well as in the extent of NPM pressures. On the other hand, the results reveal that NPM coefficients are fairly large and highly significant for hierarchy in managerial tasks as well as the variables within rationality (formula-based allocation, comparison between units and individuals) (Fig. 3).

We also run a multi-level regression separately for each dimension related to managerial logic. A stronger NPM (i.e., value of 1, corresponding to the level of the United Kingdom) generates a clear increase in the level of hierarchy and rationality, but in a way that is compatible with

Table 5. Multi-Level Regression Results.

Response	Hman_Full Hierarchy managerial	S.E.	Hacad_Full Hierarchy academic	S.E.	R1_Full Rationality formula-based allocation	S.E.	R2_Full Rationality comparison between units	S.E.	R3_Full Rationality evaluation of individuals	S.E.	P_Full Participation	S.E.	C_Full Collegial	S.E.	Sfac_Full Power_academic	S.E.	Sf_Manfu Power_management	S.E.
Fixed part																		
Cons	0.478	0.286	0.053	0.35	0.859***	0.195	−0.274	0.312	0.739*	0.319	0.692*	0.202	0.611***	0.127	0.609*	0.301	0.173	0.171
NPM	0.239***	0.054	0.171**	0.067	0.295***	0.037	0.212**	0.066	0.339***	0.069	0.036	0.039	−0.025	0.024	−0.002	0.057	−0.155	0.035
Disciplinary conc.	−0.133	0.084	−0.082	0.104	0.127*	0.053	0.122	0.1	0.124	0.106	0.103	0.059	0.07	0.038	0.126	0.088	0.131**	0.053
Size	−0.002†	0.001	−0.002	0.002	−0.001	0.001	0.004**	0.001	−0.001	0.001	0.001	0.001	.	0.001	0	0.001	0.001	0.001
Age	−0.032	0.108	0.009	0.131	−0.072	0.073	0.287*	0.118	−0.105	0.119	−0.045	0.076	−0.02	0.047	−0.036	0.114	0.066	0.062
Int. reputation	0.029	0.079	0.079	0.096	−0.167**	0.054	0.027	0.09	−0.168	0.095	−0.032	0.057	0.053	0.035	−0.014	0.082	−0.006	0.05
Rector	0.006	0.055	0.003	0.07	.	.	.	.	.	.	.	.	0.116***	0.032	−0.029	0.056	0.027	0.047
Central administrator	−0.032	0.062	−0.017	0.079	0.046	0.043	0.095	0.062	.	.	−0.004	0.045	0.068	0.036	0.014	0.063	0.102	0.053
Senator	0.004	0.031	0.063	0.039	0.017	0.02	.	.	.	.	.	0.023	−0.022	0.016	−0.054	0.031	0.009	0.025
Board member	0.054	0.035	0.13**	0.044	.	.	.	.	.	.	.	.	0.011	0.018	−0.076**	0.035	0.004	0.029
Random part																		
Level: institution																		
Cons/cons	0.003	0.002	0.004	0.003	0.001	0.001	0	0	0	0	0.001	0.001	0	0	0.004	0.002	0	0.001
Level: caseID																		
Cons/cons	0.073	0.005	0.118	0.007	0.036	0.003	0.07	0.007	0.064	0	0.038	0.003	0.026	0.001	0.074	0.005	0.053	0.003
−2*loglikelihood empty model	157,655																	
−2*loglikelihood:	131,474		391,383		−199,199		38,657		17,454		−154,979		−542,283		−26,951		155,586	
DIC:																		
pD:																		
Units: institution	26		26		26		26		25		26		26		26		26	
Units: caseID	538		539		434		217		192		364		675		540		538	

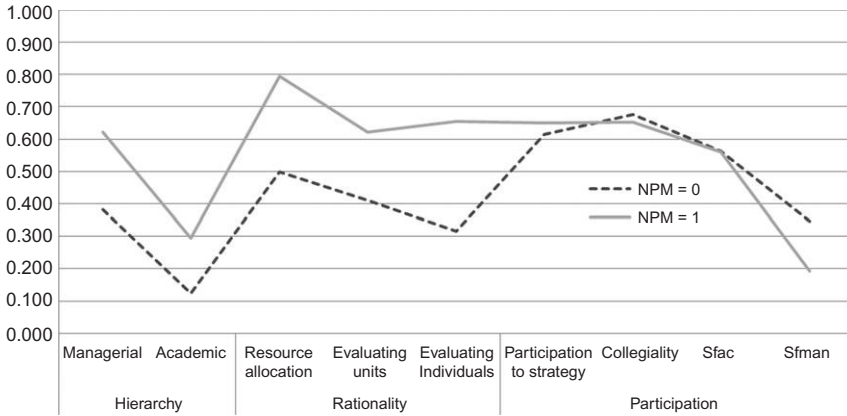***<0.001, **<0.01, *<0.05, †<0.1, df = $N - 1 -$ (variables).

Fig. 3.   The Impact of NPM.

the academic logic, since participation and collegiality are not affected. In the following section, we discuss the implication of our findings.

DISCUSSION AND CONCLUSION

In this paper, we show the effect of the NPM-inspired reforms on European universities by focusing on hierarchy and rationality from managerial logic and participation and collegiality from academic logic. We do so by looking at different tasks as well as different working groups in a university in order to be able to construct our measures. Our results provide a nuanced understanding of responses of public universities to managerial pressures enforced through NPM policies. On the one hand, we found evidence that NPM is associated with the introduction of hierarchy and rationality inside the case universities − more specifically, a stronger NPM pressure is correlated with a steeper hierarchy and differences in the level of power between leaders as foreseen by the managerial logic. The type of measures used, which refer directly to decision-making and power rather than to formal structure, makes it unlikely that these responses are purely ritualistic in nature (Meyer & Rowan, 1977). On the other hand, we also found that compliance is highly selective and strongly influenced by the presence and characteristics of the academic logic, like the participation of academics in decision-making processes; as there seems to be no significant

association with NPM pressures. Thus, we found evidence of the phenomenon of compartmentalization (Pache & Santos, 2013).

These results are consistent with institutional theory, and particularly recent work on organizational responses to institutional pluralism (Kraatz & Block, 2008). When subject to conflicting institutional pressures, universities will try to find ways to simultaneously comply with managerial pressures and with the academic logic by developing highly differentiated responses according to the type of tasks. This way, this paper also contributes to the growing literature on hybridization and the co-existence of logics within the organizations (Battilana & Dorado, 2010; Jay, 2013).

Consequently, we would like to highlight two implications of our findings in the context of a better understanding of organizational change processes within public organizations as well as when it comes to the design of public policies. The empirical findings support previous studies suggesting that, under increasing NPM pressures, public organizations are indeed moving towards managed and more complete organizations and introducing some managerial element of hierarchy and rationality (Seeber et al., forthcoming). At the same time, the data show that this does not necessarily imply moving towards the corporate model of organizations, but rather moving in the direction of models found in other professional and knowledge-intensive organizations, like soft bureaucracies (Courpasson, 2000) or "enabling bureaucracies" (Adler & Borys, 1996). However, in certain cases, the emergence of *an enabling bureaucracy* does not occur for all the organizations. In certain cases, there are some individual universities in which the introduction of rationalization has been accompanied by stronger negative perceptions, arguably because the approach was less consensual (Ramirez, 2006). This might point to an interesting venue for future research, that is, under what ideal conditions do more hierarchy and rationality result into the development of an enabling bureaucracy. Importantly, the presence of a strong academic logic was central to this process and, accordingly, we might argue that it plays a key role in maintaining some characteristics of the professional work when introducing managerialism and in avoiding some of the most negative consequences of NPM reforms, like demotivation of workers, weakening of trust, and loss of flexibility and autonomy. In turn, this would suggest that public authorities should not consider professional logics as opponents to managerial reforms, which should be curbed. These should rather be considered as useful counterbalances that help to avoid the negative consequences of managerialism by taking into account the specific characteristics of the field.

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