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Exploring Regionalism in Public Management Reforms: The Case of the Italian Hospital Sector

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Introduction

A goal of New Public Management (NPM) reforms in many countries has been to increase the autonomy of public organisations (such as hospitals) and recruit more business experts to run them (Hood and Lodge, 2006). Yet, while these changes have been global in nature, the available research cautions against any tendency to overstate convergence. This is undoubtedly true at the national level, where the research points to distinctive change pathways that are heavily influenced by the institutional contexts of each country (Ashworth et al, 2013; Hammerschmid et al, 2013). Hood (1995), for example, differentiates between 'high' and 'low' NPM-adopter groups of countries. Similarly, Pollitt and Bouckaert (2011, 34) assert that 'conceptually identical reforms develop differently in one national context as compared with another'.

However, despite this understanding of the role of national institutions in shaping NPM reforms, there is still a risk of glossing over the full extent of variation. This is especially the case in those countries where key decisions on the management and design of public services are more decentralised to regional and local tiers of government (Paris et al, 2010; Rodríguez-Pose and Sandall, 2008). In these contexts, it is possible that there have also been significant path dependent variations in the implementation of public management reforms within countries. This in turn may have been influenced not only by the level of autonomy enjoyed by regions to respond to local conditions, but also – just as at the national level – by the political preferences of ruling elites.

Recently, there has been some interest in exploring the impact of this 'regional dimension' on the performance of public services (Costa-Font and Rico, 2006; Andrews and Martin, 2010). However, less

attention has focused on how decentralisation might impact on the adoption of NPM reforms or the factors that might explain variations. Potentially important here is the degree of autonomy of regions, influencing their discretion to make decisions and the role of political orientations at regional level. The latter is suggested by the wider NPM literature, notably in relation to studies focusing on local government (Hansen, 2011; Fredriksson et al, 2010; Wassenaar et al, 2013).

In this paper our aim is to address this concern focusing on the case of health service management reforms in one country context: Italy. Italy is theoretically interesting because, although it has a unified national health service - the Servizio Sanitario Nazionale (SSN) - with attempts since the early 1990s to restructure management (Lega et al, 2010), it is also a 'unitary-decentralised' state (Pollitt and Bouckaert, 2011) with considerable decision making power delegated to regional governments in selected areas, including health. As we shall see, regional governments have been key players in shaping the nature and trajectory of public management reforms (Mattei, 2007), although how far this has resulted in real differences in adoption remains unclear.

Focusing on this national case, we investigate two related questions. First what is the extent of a regional effect on the implementation of hospital management reforms? Second, are the reforms influenced by the context of the regions in terms of: a) the degree of autonomy of regions and; b) the political orientation of the regional governments, responsible for the design and delivery of healthcare services?

To address these questions we first review the literature on comparative hospital management reforms and the impact of regionalism to develop our main research hypotheses. Following a discussion of the Italian case, we then describe the data used in the analysis and the chosen methodological approach. In the next section, the main findings are presented with regard to variations in the implementation of 'corporate style' management reforms in Italy and possible antecedents (degree of

autonomy and political orientation). In the final section we discuss the significance of our findings for theory and practice and possible avenues for future research.

Literature review

Hospital management reforms: convergent and divergent tendencies

Health systems are facing growing pressure to control resources in the face of rising costs, new technologies and demographic trends (Kuhlmann and Annandale, 2012). Governments have responded to this in different ways, although a common focus has been on seeking to enhance the management capabilities of hospitals and other provider organisations. Specifically this has led to the development of what Kirkpatrick et al (2013) describe as 'corporate style' models of public hospital management.

A hallmark of this more corporate hospital management model is changes in governance 'that seek to make public hospitals semi-autonomous, with their own separate supervisory boards and with considerable independence of decision making' (Saltman et al, 2011, 7) . Changes to the legal status of some hospitals and increases in the financial autonomy and decision making capacity of governing boards, are all (at least in theory) designed to increase the flexibility of managers to respond to local (or market) demands and improve the quality and effectiveness of services. In line with this change have also been moves to strengthen the management capabilities of hospitals, for instance recruiting a larger number of managers from the private sector. This represents 'part of the New Public Management zeitgeist' (Petrovsky et al, 2014, 4) and has been especially marked in health services. Indeed, Durán et al, (2011, 43), note how 'NPM reforms have often sought to weaken the managerial role of physicians by opening up institutional management positions to professional managers who may be non-clinicians'. These reforms have also pushed for the establishment of dedicated management and administrative support functions in public hospitals, for example in areas such as finance, planning, human resources, audit and procurement (Ackroyd et al, 2007).

These ideas about how and why to best transform the management of public hospitals have been widely disseminated around the world. However, as we noted earlier, while it is possible to define common templates of hospital management, it would be a mistake to over-state convergence. Comparative research on health management has identified variations in the timing, pace and objectives of healthcare management reforms and 'distinctive national or regional variants' (Dent, 2005, 624). Dorgan et al (2010) for example, note that while non-clinically qualified managers/administrators make up approximately 42% of all managers in the hospital system of the UK, the figure is 36% in France and only 10% in Italy.

Regionalism and public management reforms

Notwithstanding this growing understanding of how national politics are shaping healthcare reforms, questions remain about the extent to which this is also the case within countries. Important here may be the degree to which the authority of central governments has been decentralised to regional tiers of administration (Lee and Haque, 2006). On the one hand this can represent a form of political decentralisation where regions may elect their own governments, especially in what Pollitt and Bouckaert (2011) term federal states, where there is a formal separation of powers giving regions considerable autonomy legally enshrined in a constitution (for example in Germany). It may also apply to unitary states where, although political powers remain concentrated centrally, there has been extensive delegation of powers to regions, notably in the UK and Italy (see below).

More often than not, this political decentralisation goes hand in hand with varying degrees of administrative decentralisation to regions, including powers to fund and manage public services, including health (Paris et al, 2010; Rodríguez-Pose and Sandall, 2008). In the UK, for example, since 1999 the newly established Scottish Parliament and National Assembly for Wales have assumed direct responsibility for delivering public services and exercise considerable autonomy over the ways in which these are managed and regulated (Andrews and Martin, 2010). Political decentralisation in Spain has

also led to the (variable) transfer of healthcare responsibilities from the Central Government to seventeen Autonomous Communities (Antón et al, 2014).

Returning to the main concerns of this paper, while the research is limited, all the implications are that a combination of political and administrative decentralisation to regions will have a significant impact on the uptake of NPM reforms. In the UK, for example, it is noted how devolved regions (Scotland and Wales) have implemented quite different models of governance in the National Health Service (NHS), with less emphasis on markets and competition than England (Andrews and Martin, 2010), Similar observations have been made about health care reforms in Spain, notably in the models of hospital governance that have been adopted by regions (Álvarez and Durán, 2011). As such, our first hypothesis is that:

H_1: Countries where there is a high level of political and administrative decentralisation to regions are likely to display variations in the extent to which public hospital management reforms are adopted.

A further set of questions relate to what conditions influence this variation? Here, two factors may be important. First concerns the level of autonomy regions enjoy and the extent to which political and administrative decentralisation has occurred (Rodríguez-Pose and Sandall, 2008). This is most likely in countries that have pursued hybrid, two track models of decentralisation. For example, in the UK and Spain both political and administrative decentralisation varies between regions (Andrews and Martin, 2010; Costa-Font and Rico, 2006). In the former, Wales and Scotland have significantly more delegated powers when compared to England (Andrews and Martin, 2010). As we shall see, in Italy there has also been an asymmetrical devolution, with some regions holding additional powers (originally granted by the 1948 Constitution) to determine the funding levels of key public services such as health. Hence it is important, in some contexts, to recognise variations between regions in the level of autonomy they

exercise to shape policy and innovate with new ways of organising services. This in turn, leads us to hypothesise that:

H_{2a}: Variations in the adoption of public hospital management reforms will be influenced by variations in the level of political and administrative decentralisation to regions.

A second factor likely to influence variation in the adoption of NPM reforms are the political orientations of regional governments. Support for this assumption comes from a number of studies that have analysed the influence of local politics on public administration, with the expectation 'that right-wing parties will be more supportive of NPM reforms than left wing parties' (Lee and Haque, 2006, 606). Hence, Fredriksson et al (2010, 637) find that right wing parties tended to be hold more positive 'attitudes towards and perceptions of competitive tendering' in the case of Finnish social services, while Stolt and Winblad (2009) draw similar conclusions with regard to elderly social care services in Sweden. Although there have been fewer studies focusing on regional levels of government, the available research points in the same direction. Focusing on the manifestos of Italian political parties Fattore et al (2012, 229) conclude that 'NPM seems more popular with the political right than the centre-left coalition'. Reay and Hinings (2009) also note how the dominance of a pro-market political ideology in the context of Alberta was partially responsible for policies aimed at making health services more 'business-like'. Of course, an important caveat is that in recent years, some centre-left governments (for instance, New Labour in the UK) have supported NPM reforms, including limited privatisation. However, in these cases there is often a more pragmatic emphasis on notions of 'best value' and rhetoric of adopting new management practices on the basis of what works, as opposed to ideology (Newman and Clarke, 2009). As such, our final hypothesis is that:

H_{2b}: The adoption of public hospital management reforms will be greater in regions dominated by right wing political parties.

Hospital management reforms in Italy and the regional dimension

To address these concerns, we focus on the specific case of health reforms in one European state: Italy. Following a pattern common to other countries, Italy has embarked on a process of NPM-driven reforms since the beginning of the 1990s. These reforms covered the whole public sector addressing matters of common interest such as relations with service users, organisation and rationalisation of resources, human resource management, and administrative decentralisation (Anessi Pessina and Cantù, 2006).

In this context, specific attention has been given to the management of healthcare (Lega et al, 2010). An early reform in 1992-93 reduced the number of local health providers from about 660 to around 200 local health enterprises (Aziende Sanitarie Locali). At the same time, it allowed around 100 public hospitals the opportunity to convert into semi-independent hospitals (Aziende Ospedaliere). The aim of this re-organisation was to introduce greater competition into the SSN also opening up possibilities for the entry of private providers (Jommi et al, 2001). This re-structuring went hand in hand with attempts to strengthen management capabilities of Italian public hospitals. The latter was characterised by the introduction of the Chief Executive Officer (CEO - Direttore Generale) role, with greater authority (and accountability) of clinical directorates (Lega, 2008).

In these respects Italy has followed the path of many other countries in seeking to develop the management capabilities of public hospitals (Kirkpatrick et al, 2013). However, of central concern to us in this paper is the regional dimension of these reforms. Italy is a textbook example of unitary and increasingly decentralised state, characterised by a medium level of vertical dispersion of power (Pollitt and Bouckaert, 2011). Initially highly centralised after the shift from monarchic state to republic following the Second World War, a degree of political autonomy was underwritten by the 1948 constitution. The process of administrative decentralisation however was given a further boost by a

major constitutional reform in 2001 (Tediosi et al, 2009), making Italy to some extent comparable to the institutional architecture of Nordic European countries (Pollitt and Bouckaert, 2011).

With regard to healthcare, while central government continues to influence core funding and service guidelines, Italian Regions have responsibility both for the allocation of funds and the organisation and administration of services locally. In relation to financing, regions access a central pot of resources (the Fondo Sanitario Nazionale - FSN), determined by a weighted capitation formula, but can also allocate their own resources from local taxation. More specifically, regions can change the allocation of funding between primary and secondary care and adjust national fees for services for the financing of public and private hospitals. They also have powers to: determine the governance model of healthcare services; to establish and clarify the strategies and objectives needed to implement them; and, crucially, to appoint, evaluate and (if necessary) fire the CEOs of hospitals (Tediosi et al, 2009).

Italy therefore represents an archetypal case of a system where - consistent with H_1 - we might expect there to be considerable variation between regions in the implementation of health management reforms. In addition to this, since the 1948 Constitution, five autonomous regions (Aosta Valley; Trentino-Alto Adige/Südtirol; Friuli-Venezia Giulia; Sardinia and Sicily) have been awarded even greater legislative, administrative and financial autonomy in the running of public services, including healthcare. These regions do not receive state funding for the financing of healthcare spending, but allocate their own resources with only a minimal contribution from the FSN in some cases. In this respect, Italy is also a country where there is internal variation in the level of administrative decentralisation, a point that may be significant with respect to H_{2a}.

Finally, the available research suggests that in Italy centre-right wing political coalitions are historically more prone towards NPM-style reforms compared to centre-left coalitions. Centre-right wing parties are mostly associated with a neo-liberal political ideology that is traditionally pro-market

and likely to impose more stringent limits on public expenditure. Conversely, centre-left parties traditionally share a preference for relatively large governments, and are more inclined to expand the provision of social services (Fattore et al, 2012). As such, Italy represents a useful illustrative case to test our third hypothesis (H_{2b}) regarding the influence of regional politics on the implementation of public hospital management reforms.

Methods

To test our hypotheses we focus on management reforms in independent publicly owned hospitals in the Italian SSN. These hospitals can be divided into three categories: general hospitals (Aziende Ospedaliere – AOs), teaching hospitals (Aziende Ospedaliero-Universitarie – AOUs) and research hospitals (Istituti di Ricovero e Cura a Carattere Speciale – IRCCSs).

Due to the lack of a central repository of information on Italian hospital governance the first step was to construct a unique dataset by manually working through hospital websites. Our sample of hospital CEOs was taken from their appointment decrees published on the Regions, while all other information (on hospital staff composition and our control variables) was accessed through the Italian Ministry of Health's main data repository.

The total population of public hospitals in the Ministry of Health database amounted to 105 organisations in 2011 located in 16 of the 20 Italian regions. Within four excluded regions (Abruzzo, Aosta Valley, Molise and Trentino-Alto Adige/Südtirol) all public hospitals are not independent but directly managed by local health enterprises. A number of hospitals were excluded from our analysis because of organisation changes during the period under investigation and others due to the absence of reliable information on governance. This left a final sample of 90 hospitals in 2008, 93 hospitals in 2009, 98 hospitals in 2010 and 98 hospitals in 2011. The data covers four years (2008-2011) for the

hospital CEOs professional and educational background and two years (2009-2010) for the ratio of hospital administrative staff to clinical staff.

Dependent variables

Three proxies were used to assess the extent to which a 'corporate style' of hospital management has been implemented in Italian public hospitals. First is whether hospital CEOs had clinical or non-clinical professional backgrounds. Historically clinicians have dominated the Italian health system, including senior leadership roles (Tousijn, 2002). In this regard, the appointment of CEOs with a non-clinical background indicates a break from the norm, reflecting a stronger commitment amongst policy makers to experiment with new approaches to management. We therefore created a dummy variable (NonClinCEO), distinguishing between hospital CEOs with clinical (medicine and nursing) professional expertise from those CEOs who were not clinicians (generally career civil servants as well as individuals with professional background in the private sector).

Second, we consider the educational background of non-clinical CEOs, differentiating between those with an academic degree in business-oriented disciplines and those with a degree in administrative sciences. The appointment of senior executives with a greater understanding and affinity with business disciplines is indicative, we argue, of an even stronger commitment to corporate style management reforms, in contrast with the Italian tradition of selecting for top executive positions senior civil servants with a background in administrative sciences (Cassese, 1999). Another dummy variable (BusCEO) allowed us to distinguish CEOs with an academic degree in business-type disciplines (Economics / Finance / Management / Business / Accounting) and those CEOs with an academic degree in administrative sciences (Law / Political Science).

Lastly, we focus on the size of the administrative staff of hospitals (relative to clinical, operational staff) as a proxy for the level of commitment to the development of management capabilities within

hospitals (Kirkpatrick et al, 2013; Ackroyd et al, 2007). Although a number of factors may influence staffing levels (Andrews and Boyne, 2014), we argue that an increase in the proportion of administrators is indicative of wider organisational changes in public hospitals. Following Mintzberg (1993), it suggests a move away from the traditional model of 'professional bureaucracy' – dominated by a clinical 'operating core' – towards an organisation where greater resources are devoted to 'support staff' and 'technostructure' functions, both of which suggest more active 'management' or 'administration' of professional work. To make these comparisons, we used the ratio between the number of hospital employees involved in non health related functions at the managerial and clerical levels (for example, HR, accounting and other supporting services), and those with direct involvement in the healthcare provision (AdmSTAFF). This classification draws on the categorisation of healthcare public sector employees officially used by the Italian Ministry of Health.

Using these proxies, to test H_1 we performed Chi-square analyses for the dummy variables related to CEOs expertise and ANOVA analysis for the administrative staff continuous variable. To test H_{2a} and H_{2b}, we used Logistic regressions for the variable related to CEOs professional expertise and multiple linear OLS regressions for the administrative staff variable. Further Chi-square analysis was carried out to investigate the significance of the difference in non-clinical CEOs educational background.

Independent and control variables

Turning our attention to the independent variables, we explored whether two main factors explained the degree of implementation of NPM reforms in hospital management. First, in line with H_{2a}, we focused on the degree of autonomy enjoyed by a minority (5 out of 20) of the regions (AutREGION), differentiating between autonomous and non autonomous regions. As noted earlier, the former are the regions awarded by the 1948 Constitution a special statute that recognises, among other areas, greater decision making power in healthcare matters, powers that were further expanded by the 2001 reform.

Second, to test H_{2b} we explore the predominant political orientation of the regional government (RightREGION). Here a dummy variable was used to differentiate between centre-right and centre-left regional governments. For the analysis investigating the CEOs professional and educational background, the political majority of the regional government was determined at the CEO appointment date. Conversely, for specifications of the empirical model analysing the staff composition (AdmSTAFF), the political majority in the regional government was determined at the t-1 period.

To account for the possible impact of organisational characteristics and the context on hospital management five control variables were included in the analysis. First, we controlled for the managerial complexity of hospitals according to their size, using the log transformation of the total number of beds available (SIZE). Larger hospital are generally more complex to manage which, in turn, might account for who is appointed CEO and the proportion of administrative staff. Second, we controlled for the hospital case mix to capture the degree of hospital operational complexity (CaseMIX) (Fetter et al, 1980). A higher case mix in relation to the national mean indicates that a hospital caters for patients with a greater severity of illnesses and treatments required and, posing different management challenges. Third, hospitals were differentiated according to their status, by distinguishing general hospitals (AOs) from teaching (AOUs - TeacHOSP) and research (IRCCSs - ResHOSP) hospitals. We expected that AOs were more likely to be associated with a non-clinical CEO, in part because of the special autonomy they had been granted to manage their own affairs. Fourth, we checked for the possible impact of hospital competition on the degree of NPM implementation, using a Herfindahl index of hospital concentration by region. Because these results were not significant they are not reported here. Finally, time dummies were included to control for time effects.

TABLE 1 HERE

Findings

In line with the Italian tradition of having clinicians in top executive positions, we found that, on average, public hospitals in our sample were more likely to be led by clinical CEOs (59.6%). Of the remaining non-clinical CEOs (40.4%), the majority were civil servants with degrees in administrative sciences. Only a quarter of the hospitals in this group (23.2%), or 6.9% overall, were led by CEOs with a business-type educational background (see Table 1). This suggests that hospitals with a more pronounced corporate style model of governance represented the minority of our sample. With regard to the breakdown of hospital staff, on average, the proportion of administrative staff to clinical staff stood at around 41%, although there were wide variations between hospitals (from 17 to roughly 69 per cent).

TABLE 2 HERE

Table 2 reports the Pearson bivariate correlations of the variables employed, which allows to check for possible multicollinearity between independent and control variables. As a rule of thumb, a problem of multicollinearity exists if the pair-wise correlation coefficients between two regressors is high, normally in excess of 0.8 (Gujarati, 2004). The figures reported in the table indicate that the pair-wise correlation coefficients for each of the independent and control variables in the regression models ranged from -0.422 to 0.327 with only two exceptions. One was the relatively high, significant correlation (-0.704) between the dummy for research hospital status and the hospital size. Indeed, IRCCs were expected to be of smaller size in comparison to the other two types of service providers in the sample as they are traditionally organisations that focus intensively on their research activity and offer limited, specialised services to patients. However, the tests for the Variance Inflation Factor and tolerance were all within acceptable limits for the variables employed. We therefore did not proceed to exclude any variable. Second, the coefficient (0.879) above the indicative upper limit value between 'RightREGION (CEO)' and 'RightREGION (t-1)' did not raise concerns as these dummy variables were not employed in the same specifications of the regression models.

TABLE 3 HERE

First, Chi-square analyses (for NonClinCEO and BusCEO) and ANOVA analysis (for AdmSTAFF) were performed to check if the regional dimension had any impact on hospital management reforms (H_1). The results of these tests were significant at the customary levels for each of three proxies of public management reforms employed (see Table 3 Panel A). This supports our first hypothesis that within a unitary-decentralised state like Italy, the regional dimension has an impact on the implementation of hospital management reforms.

We also performed Chi-square and ANOVA analyses of our proxies of NPM across the Italian geographical areas (North, Centre and South of Italy). The tests showed statistically significant variations, but the geographical distribution does not explain variations in the implementation of reforms (see Table 3 Panel B). While Non-Clinical CEO are more likely to lead hospitals located in regions of the South of Italy (53.21%) than of the North (39.32%) and the Centre (21.31%), business-CEOs appeared to be more likely appointed in regions in the North (30.19%) than within the South (21.74%) and Centre (0.00%). Statistically significant differences were also found in relation to the size of the administrative staff (0.463 in the North, 0.341 in the South, 0.332 in the Centre).

The next section reports our findings relating to H_{2a} and H_{2b}. Specifically it considers the impact of two factors (degree of administrative autonomy and political orientation) on the three specific dimensions of public hospital reforms.

Appointment of non-clinical CEOs

TABLE 4 HERE

Turning to our first proxy (NonClinCEO), as shown in Table 4, the findings of the different specifications of the Logistic regression model testing the effect of political orientation and regional autonomy on CEO's clinical/non-clinical professional background were highly significant. Thus, our analyses provide support for H_{2a} and H_{2b}. As we predicted, specifications (1) and (2) of the model highlighted respectively a positive and highly significant impact of the autonomous status of the region ($\beta = 1.382$, $p < 0.01$) and centre-right political majority in the regional government ($\beta = 0.789$, $p < 0.01$) on the likelihood of having a non-clinical CEO running a hospital. In specification (3) we then considered both main independent variables and, as shown in the table 4, the coefficients maintained the same positive sign with a relatively lower statistical explanatory power only for 'RightREGION (CEO)' variable ($p < 0.05$). We also checked for the interaction effect between the two main explanatory variables. Unsurprisingly, the evidence appears to suggest an even greater likelihood of appointing a hospital CEO with a non-clinical background when the region is autonomous AND controlled by a centre-right political majority ($\beta = 2.019$, $p < 0.05$).

As for the control variables, hospital size appeared to negatively affect the probability of having CEOs with non-clinical background, with a p-value statistically significant in all three model specifications. The proxy for operational complexity (case mix) did however not provide significant results. Research status of hospitals also seemed to negatively and significantly affect the presence of non-clinical CEOs. This can be explained by the fact that research hospitals are fundamentally less autonomous than the other two types of hospitals, being mainly and directly funded by the (central) Italian Ministry of Health. The recognition of the IRCCS status is further subordinated to a periodical check conducted at the national, central level (Compagni and Tediosi, 2012). By contrast, the results were far less conclusive where teaching hospital status was concerned.

Appointment of CEOs with business qualifications

TABLE 5 HERE

Turning to our second proxy (BusCEO), Table 5 reports the findings of Chi-square tests, showing that hospitals led by CEOs with educational backgrounds in business-oriented disciplines compared with those organisations led by CEOs with an academic degree in administrative disciplines, were clearly less numerous in our sample. Consistent with our predictions, hospitals governed by business-CEOs were more likely to be located within autonomous regions (25%) than within non autonomous ones (22.62%). Similarly, business-CEOs appeared to be more likely appointed in regions with centre-right governments (30.65%) than with a centre-left political majority (14%). Importantly, the Chi-square test was statistically significant only with reference to the political orientation variable (4.302, $p < 0.05$) and not in relation of the special autonomy of the region, although this could have been determined by the relatively limited number of cases. Thus, for the second proxy of NPM, we can assert that while H_{2b} is supported, our findings are not significantly consistent with H_{2a}. As a further robustness test, logistic regressions were carried out and are presented in appendix. The results of this analysis were similar but, mindful of the relatively limited number of observations in relation to the number of variables used, they have to be cautiously considered.

With regard to other predictors, the presence of a business-CEO was far more likely to occur within general hospitals (30.14%), than within teaching (13.79%) and research (0%) hospitals (6.430, $p < 0.05$). Again, this can be explained with the fact that AOs are more autonomous and less subjected to institutional control which provides a fertile terrain for the adoption of corporate-style governance approaches (Anessi Pessina and Cantù, 2006).

Development of administrative staff functions

TABLE 6 HERE

Finally, Table 6 shows the outcomes of the analysis focused on the third proxy for NPM implementation (AdmSTAFF). The results of OLS regressions using the level of regional autonomy as an independent variable were inconsistent and therefore did not support H_{2a}. However, our analysis did suggest that the ratio of administrative and clerical staff to health staff was positively related to the presence of a centre-right political majority in the regional government, a finding that was statistically highly significant (respectively $\beta = 0.103$, $p < 0.01$, and $\beta = 0.119$, $p < 0.01$), thus supporting H_{2b}. Further analysis for an interaction effect between these variables failed to produce statistically significant results.

Turning to other predictors in the model, as can be seen from Table 6, it would seem that more specialised hospitals require a greater investment in administrative and clerical resources supporting hospital management. This may be partly explained by the variety and complexity of activities related to teaching and research (Del Vecchio and Cuccurullo, 2013).

Concluding discussion

A starting point for this paper is the observation that while the literature has noted variations in the implementation of NPM policies between countries, less attention has focused on a possible regional dimension to change in countries where policy control over public services is significantly decentralised (Paris et al, 2010; Pollitt and Bouckaert, 2011). Taking Italy as an illustrative case our aim in this paper has been to address this concern focusing on the questions of whether and how regionalism affects the adoption of 'corporate style' type of hospital management. Perhaps unsurprisingly, our findings lend support to the first hypothesis (H_1) about the impact of regional decentralisation (political and administrative) on the formal adoption of NPM reforms. Consistent with observations made elsewhere in the literature (Andrews and Martin, 2010; Antón et al, 2014), we saw how in Italy there was some

variation between regions in the extent to which aspects of 'corporate style' management (CEOS with business backgrounds and increased levels of administration) had been adopted.

The study findings also help to address more specific questions about the antecedents of this variation. First this is with regard to H_{2a}, concerning the impact of the level of regional autonomy on the adoption of NPM policies and practices. Although the findings were mixed our analysis shows that regions with greater autonomy were more likely to depart from convention and appoint CEOs with non-clinical backgrounds. Even stronger support was found for H_{2b} focusing on the impact of right wing political orientations on the adoption of more 'corporate style' models of hospital governance and administration.

Consequently, the paper contributes to the extant literature in several ways. First, it goes beyond existing accounts of national path dependency in the adoption of public management reforms (Pollitt and Bouckaert, 2011; Dent, 2005) to highlight the importance of further regional variations, within states. While this possibility has been hinted at in some of the literature (Fattore et al, 2012; Reay and Hinings, 2009), to date it has not been explored systematically. Of course it remains to be seen how far the tendencies we observe apply to other countries where there has been significant decentralisation. But even with this caveat our study remains useful in highlighting the importance of the regional dimension in wider comparative research on public management reforms (Ashworth et al, 2013).

A second, related, implication of our study is to highlight some of the antecedents of regional variation, especially with regard to political orientations. While more longitudinal research is needed to fully establish the direction of causality it is notable just how significant these political orientations are in the Italian case, not just on CEO appointments (as one might expect), but on actual levels of administration in public hospitals. Indeed, the latter suggests a quite different explanation for

'administrative intensity' in public services, to those – drawing on contingency theory - which emphasise more the technical characteristics of organisations (Andrews and Boyne, 2014).

Lastly, our study has implications for understanding change in the Italian context. In particular, it highlights the links between political commitments, greater autonomy in regions and (arguably) key decisions regarding the management of public hospitals. The importance of Italian regions in mediating the nature and direction of health reforms is well understood in the literature (Mattei, 2006). However, until now, it has been hard to say precisely how far (if at all) this impacted on the adoption off management practices locally.

Obviously, when drawing these conclusions a number of caveats and areas for further research need to be considered. As noted already, more work is needed to assert the direction of causality. Beyond this, a primary limitation of this study concern the data collected. The proxies used to assess the implementation of management reforms in relation to CEO background are based on academic qualifications but, clearly, expertise can be measured in a number of ways. As such, there is the scope to conduct a more fine-grained analysis of different kinds of expertise, including tenure in the organisation (and sector), perhaps also using different sources of data, including surveys or interviews. More focused (possibly case study based) research would also be useful to explore the dynamics of how policy decisions about hospital management are made by regions and the impact of other factors, such as the strength of political networks and relative stability of governments over time. Following on from this, work could be done to test how far the regional dimension of public management policy making is apparent in other countries, including those that have unitary decentralised and more federal political structures (Pollitt and Bouckaert, 2011). Lastly are questions about the role of political orientations on public management policy. While this study (and others) have found a strong correlation between centre-right (neo-liberal) politics and these reforms, it is possible that, in other contexts, centre-left or even left-leaning governments may favour changes in public management. A classic example of this, as

we noted earlier, is the 1997-2010 New Labour administration in the UK which pursued health management reforms with great vigour (Newman and Clarke, 2009).

Notwithstanding these caveats, our analysis breaks new ground in helping to quantify the impact of regionalism on the adoption of public management reforms and to specify the role of autonomy and political orientations in this process. While more work is needed to refine this analysis and look beyond the Italian case, our findings highlight the importance of this 'regional dimension' and how it needs to be given more weight in other studies exploring the comparative developments in public management within as well as between countries.

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Table 1: Variables definition and descriptive statistics

	Variables	Definition	N	Mean	S.D.	Min	Max
1	NonClinCEO	Dummy equal to 1 if CEO has a non-clinical background	376	0.404	0.491		
2	BusCEO	Dummy equal to 1 if CEO has a business educational background	112	0.232	0.424		
3	AdmSTAFF[a]	Administrative/health staff ratio	184	0.406	0.116	0.170	0.686
4	AutREGION	Dummy equal to 1 if autonomous region	379	0.153	0.360		
5	RightREGION (CEO)[b]	Dummy equal to 1 if centre-right regional government at CEO appointment date	379	0.496	0.501		
6	RightREGION (t-1)	Dummy equal to 1 if centre-right regional government the previous year (t-1)	182	0.462	0.500		
7	CaseMIX[c]	Hospital Case Mix	365	1.078	0.170	0.660	1.570
8	SIZE	Natural Log transformation of total number hospital beds	366	6.440	0.665	4.111	7.537
9	ResHOSP	Dummy equal to 1 if research hospital	379	0.119	0.324		
10	TeachHOSP	Dummy equal to 1 if teaching hospital	379	0.264	0.441		

Note:

[a] Hospital staff is classified on the basis of its role within each hospital according to the categorisation used within the Italian SSN by the Ministry of Health. On the basis of this classification, we define as Administrative staff all the employees that are not directly involved in the provision of health care. Thus, Administrative staff includes: lawyers, engineers, architects, geologists, religious assistants, atypical qualifications, postgraduates, social workers, administrative directors, administrative assistants, analysts, statisticians, sociologists, social workers, programmers, technical collaborators and assistants. Differently, we define as Health staff all the employees that are directly involved in the provision of health care. Therefore, Health staff includes: doctors, dentists, nurses, pharmacists, biologists, chemists, physicists, psychologists, teaching staff, health technicians, rehabilitation staff, supervision and inspection staff.

[b] A centre-right (centre-left) wing political majority occurs if the political parties that represent the majority in the regional government are associated to a centre-right (centre-left) political ideology according their electoral programme.

[c] Case Mix is measured on the basis on the following formula:

$$\sum_{drg=1}^{k}(a_{drg} \times N_{drg\ hospital}) : \sum_{drg=1}^{k} N_{drg\ hospital} / \sum_{drg=1}^{k}(a_{drg} \times N_{drg\ national}) : \sum_{drg=1}^{k} N_{drg\ national}$$

(where: drg = diagnosis related group; k = Number of DRG; a_{drg} = specific weight for drg; $N_{drg\ hospital}$ = number of discharged patients for each drg within each hospital; $N_{drg\ national}$ = number of discharged patients for each drg within the National territory). If Case Mix > 1, the hospital overall activity is more complex than the National Mean; if Case Mix < 1, the hospital overall activity is less complex than the National Mean.

Table 2: Pearson bivariate correlations

	Variables	1	2	3	4	5	6	7	8	9	10
1	NonClinCEO	1									
2	BusCEO	[a]	1								
3	AdmSTAFF	0.045	0.005	1							
4	AutREGION	0.196***	0.024	0.027	1						
5	RightREGION (CEO)	0.167***	0.196**	0.247***	0.150***	1					
6	RightREGION1 (t-1)	0.167**	0.193	0.327***	0.323***	0.879***	1				
7	CaseMIX	-0.056	0.006	0.031	-0.118**	-0.407***	-0.422***	1			
8	SIZE	0.008	-0.046	0.064	-0.162***	0.126**	0.111	-0.061	1		
9	ResHOSP	-0.126**	-0.172*	0.089	0.116**	-0.136***	-0.079	0.166***	-0.704***	1	
10	TeachHOSP	-0.074	-0.132	0.021	0.111**	-0.355***	-0.338***	0.216***	0.244***	-0.2198***	1

Note:

Significance level indicated by: * p-value <0.1; ** p-value <0.05; *** p-value <0.01

[a] The Pearson bivariate coefficient between 'NonClinCEO' and 'BusCEO' is not estimated as 'NonClinCEO' is a costant variable in respect to 'BusCEO'

Table 3: Chi-square and ANOVA tests of hospital management reform implementation among regions and geographical areas

Percentage	Non clinical-CEOs		Business CEOs		Administrative Staff
(N)	NonClinCEO	ClinCEO	BusCEO	AdmCEO	Mean
Panel A: Regions					
Apulia	58.33% (7)	41.67% (5)	0.00% (0)	100.00% (6)	0.389
Basilicata	57.14% (4)	42.86% (3)	[a]		0.329
Calabria	56.25% (9)	43.75% (7)	37.50% (3)	62.50% (5)	0.296
Campania	21.62% (8)	78.38% (29)	0.00% (0)	100.00% (8)	0.311
Emilia Romagna	20.83% (5)	79.17% (19)	0.00% (0)	100.00% (5)	0.444
Friuli Venezia Giulia	30.00% (6)	70.00% (14)	0.00% (0)	100.00% (4)	0.478
Lazio	40.63% (13)	59.38% (19)	0.00% (0)	100.00% (13)	0.313
Liguria	100.00% (4)	0.00% (0)	0.00% (0)	100.00% (4)	
Lombardy	44.83% (52)	55.17% (64)	44.83% (13)	55.17% (16)	0.458
Marche	0.00% (0)	100.00% (5)	-	-	0.278
Piedmont	43.75% (14)	56.25% (18)	27.27% (3)	72.73% (8)	0.510
Sardinia	81.82% (9)	18.18% (2)	14.29% (1)	85.71% (6)	0.330
Sicily	80.77% (21)	19.23% (5)	35.29% (6)	64.71% (11)	0.406
Umbria	0.00% (0)	100.00% (8)	-	-	0.307
Veneto	0.00% (0)	100.00% (10)	-	-	0.389
Tuscany	0.00% (0)	100.00% (16)	-	-	0.396
Chi^2	70.07***		22.42**		
ANOVA F					7.17***
Panel B: Geographical areas [b]					
North	39.32% (81)	60.68% (125)	30.19% (16)	69.81% (37)	0.463
Centre	21.31% (13)	78.69% (48)	0.00% (0)	100.00% (13)	0.332
South	53.21% (58)	46.79% (51)	21.74% (10)	78.26% (36)	0.341
Chi^2	16.76***		5.43*		
ANOVA F					36.53***

Note:

Significance level indicated by: * p-value <0.1; ** p-value <0.05; *** p-value <0.01

[a] The Basilicata Region is not covered for Business CEOs distribution due to missing data.

[b] The identifications of geographical area is made on the basis of ISTAT data classification. More specifically the North of Italy includes Liguria, Lombardy, Piedmont, Friuli-Venezia Giulia, Emilia Romagna and Veneto. The Centre of Italy includes Lazio, Tuscany, Umbria, Marche regions. Finally, the South of Italy includes Basilicata, Calabria, Campania, Apulia, Sardinia, and Sicily.

Table 4: Logistic regression analysis of non clinical-CEOs

Variables	(1)	(2)	(3)
AutREGION	1.382***		1.269***
	(0.368)		(0.372)
RightREGION (CEO)		0.789***	0.657**
		(0.277)	(0.283)
CaseMIX	0.485	0.778	1.089
	(0.706)	(0.747)	(0.760)
SIZE	-0.520**	-0.732***	-0.643**
	(0.249)	(0.251)	(0.255)
ResHOSP	-2.649***	-2.400***	-2.715***
	(0.641)	(0.625)	(0.652)
TeachHOSP	-0.692**	-0.131	-0.424
	(0.285)	(0.290)	(0.311)
Time Dummies	Yes	Yes	Yes
LR chi^2	35.07***	28.16***	40.54***
Pseudo R^2	0.073	0.059	0.084
Hospitals x Year observations	360	360	360

Note:

Significance level indicated by: * p-value <0.1; ** p-value <0.05; *** p-value <0.01

Standard errors are given in brackets.

Table 5: Chi-square analysis of business CEOs

Percentage	Regions		Regions		Hospitals		
(N)	Autonomous	Non Autonomous	Centre-right	Centre-left	General	Teaching	Research
BusCEO	25.00% (7)	22.62% (19)	30.65% (19)	14.00% (7)	30.14% (22)	13.79% (4)	0.00% (0)
AdmCEO	75.00% (21)	77.38% (65)	69.35% (43)	86.00% (43)	69.86% (51)	86.21% (25)	100.00% (10)
Tot.	(28)	(84)	(62)	(50)	(73)	(29)	(10)
Chi^2	0.067		4.302**		6.430**		

Note:

Significance level indicated by: * p-value <0.1; ** p-value <0.05; *** p-value <0.01

Table 6: OLS regression analysis of administrative staff

Variables	**(1)**	**(2)**	**(3)**
AutREGION	0.011		-0.049*
	(0.026)		(0.027)
RightREGION (t-1)		0.103***	0.119***
		(0.019)	(0.020)
CaseMIX	-0.011	0.090	0.087
	(0.056)	(0.055)	(0.055)
SIZE	0.048**	0.030*	0.023
	(0.019)	(0.018)	(0.018)
ResHOSP	0.108***	0.094**	0.097**
	(0.041)	(0.038)	(0.038)
TeachHOSP	0.004	0.043**	0.057***
	(0.021)	(0.020)	(0.021)
Time Dummies	Yes	Yes	Yes
F	1.430	6.810***	6.390***
Adjusted R^2	0.014	0.162	0.173
Hospitals x Year observations	184	182	182

Note:

Significance level indicated by: * p-value <0.1; ** p-value <0.05; *** p-value <0.01

Standard errors are given in brackets.

Appendix

Logistic regression analysis of business CEOs

Variables	(1)	(2)	(3)
AutREGION	0.668		0.325
	(0.702)		(0.739)
RightREGION (CEO)		1.729**	1.670**
		(0.755)	(0.767)
CaseMIX	1.420	3.746*	3.814*
	(1.852)	(2.164)	(2.181)
SIZE	-1.102*	-1.582**	-1.555**
	(0.603)	(0.643)	(0.647)
ResHOSP			
TeachHOSP	-2.117**	-1.737**	-1.843*
	(0.834)	(0.836)	(0.867)
Time Dummies	Yes	Yes	Yes
LR chi^2	12.96**	18.26***	18.45**
Pseudo R^2	0.120	0.169	0.171
Hospitals x Year observations	96	96	96

Note:

Significance level indicated by: * p-value <0.1; ** p-value <0.05; *** p-value <0.01

Standard errors are given in brackets.