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# **Organizational Size and Social Capital in the Public Sector: Does Decentralization Matter?**

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## **Abstract**

Organization theory suggests that the strength of the ties between employees is likely to be weaker in large organizations, but that decentralization of decision-making can help to generate norms of collaboration, trust and shared mission. This paper explores the separate and combined effects of size and decentralization on perceptions of organizational social capital in central government agencies in Europe. The statistical results suggest that there is a negative relationship between organization size and organizational social capital and a contrasting positive relationship between decentralized decision-making and social capital. Further analysis revealed that decentralization of key decisions can overcome the internal social dysfunctions associated with being a big organization. Theoretical and practical implications are discussed.

## **Keywords:**

Organizational social capital; organization size; decentralized decision-making; civil service; quantitative methods.

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## **Introduction**

The literature on human resource management within the public sector is currently expanding at an ever increasing pace (Burke, Noblet & Cooper, 2013). Even so, there has been comparatively little systematic analysis of the organizational influences on the norms of collaboration, trust and shared mission amongst public servants, despite calls for research on the role that such social capital might play in public sector organizations (Pil & Leana, 2009; Tantardini & Kroll, 2015). In particular, little is known about the impact of organizational size and structure on the strength of the social capital, which underpins the capability to “deliver” within civil service organizations – public sector agencies noted for the labour intensity of their work. In fact, few previous studies undertaken in the public or private sector have analysed the determinants of organizational social capital (Payne, Moore, Griffis & Autry, 2011). Of those that do, most examine individual antecedents (e.g. Parzefall & Kuppelweiser, 2012) or are concerned only with the antecedents of social networking (e.g. Burt, 1997). In this paper, the focus is on organizational antecedents of a multi-dimensional measure of organizational social capital, with a particular emphasis on the organizational size-social capital relationship in the public sector.

Classical organization theory suggests that strength of the ties between employees is likely to be weaker in large organizations, for the simple reason that the average quantity (and therefore quality) of contact between individual organizational members is much less (Caplow, 1957). At the same time, classic theories of public administration, as well as principal-agent theories, suggest that decentralization of decision-making can help to generate norms of collaboration, trust and shared mission where senior

management faces problems of bounded rationality (Simon, 1976), collective integration (Selznick, 1957), and information asymmetry (Miller, 1992). This may be especially important within the large professional bureaucracies found in the public sector, as such organizations rely upon high levels of worker autonomy and close personal relationships to get things done (Nigro, Nigro & Kellough, 2006). Despite widespread recognition of these distinctive aspects of the “human side” of public service organizations, the role that the size and structure of organizations might play in determining the strength of organizational social capital in civil service organizations has rarely been examined. Do big public organizations have lower levels of internal social capital? Can decentralized decision-making strengthen the bonds between organizational members? Might decentralization hold the key to building social capital in large public bureaucracies?

To answer these questions, the inter-relationships between size and decentralized decision-making and perceptions of organizational social capital are examined in central government agencies using data drawn from a comparative large-N survey of senior public sector managers in Europe. The paper begins by exploring theoretical perspectives on size, structure and social capital, developing hypotheses about the separate and combined effects of size and decentralization on organizational social capital. Following that the data and methods employed in the study are described and the results of the statistical analyses that are carried out are reported. The paper concludes by exploring the theoretical and practical implications of the findings.

## Organization Size and Social Capital

According to knowledge-based theories of the firm, organizations are “social communities where individual and social expertise is transformed into economically useful products and services” (Kogut & Zander, 1992, 384). For the transfer of knowledge within an organization to occur as efficiently and effectively as possible, then positive relationships between employees can be regarded as collectively-owned “assets” which can facilitate organizational improvements (Nahapiet & Ghoshal, 1998, 243). These collective assets take the form of three types of social capital, which may enable the unlocking of expertise that can positively influence organizational outcomes: *structural* (connections among actors); *relational* (trust among actors); and *cognitive* (shared goals and values among actors) (Nahapiet & Ghoshal, 1998).

Although the presence of strong interpersonal connections, high levels of trust and a shared sense of mission amongst organizational members may bring organizational benefits, theorists of social capital emphasise that such relationships cannot be taken for granted. Rather, the development of social capital requires purposeful investment of time and money in the design of organizational structures and routines conducive to its growth (Barney, 1991). Likewise, cultural theories of public administration emphasize the need for organizational leaders to foster identification with the organization and its mission (Selznick, 1957). This may mean addressing potential barriers to the emergence of connections, trust and shared mission, as much as cultivating positive member behaviours. According to Coleman (1990), a high level of mutual interdependence is one of the main sources of social capital. Institutional forces that weaken relationships between individuals may therefore be especially likely to hamper efforts to build social

capital. One such factor is the relative size of the organization of which an individual is a member. Put simply, in big organizations people engage in fewer of the meaningful interactions with others that lead to strong interpersonal connections. By contrast, in small organizations, people meet one another more frequently and, by getting to know each other better, develop stronger social bonds and a sense of interpersonal trust.

The notion that group size plays a critical role in shaping social attitudes and norms is an idea with a venerable history. Aristotle argued that the civic friendship upon which society depends could only be achieved in smaller cities. In fact, several empirical studies identify a negative relationship between community size and social capital (e.g. Coffe & Geys, 2005; Oliver, 2000). Nevertheless, although organization size has long been a central topic in the study of organizational behaviour (Kimberley, 1976), comparatively little research has investigated whether ‘small is beautiful’ or ‘big is better’ for organizational social capital (though see Indik, 1965, for related work).

From the perspective of classical organization theory, increased size is thought to bring with it greatly inflated complexity in coordination of an organization’s activities (Rushing, 1967). In particular, bigger organization bear witness to a proliferation of communication problems for leaders and members alike (Morgernstern, 1951). Mathematically speaking, the number of possible social relationships within an organization increases as an exponential function of the organization’s size (Caplow, 1957). However, this comes at the price of less frequent and meaningful social interactions, which in turn, problematizes the kind of mutual interdependence underpinning the growth of interpersonal connections, trust and values. It also makes it more difficult for managers to facilitate the development of positive social interactions

within organizations. Although social capital tends to be path-dependent and evolve comparatively slowly, it is nevertheless something that can be cultivated by managers and organizations, albeit not very quickly or easily (Leana & van Buren, 1999). All of which is likely to mean that large organizations will have lower levels of social capital than smaller ones, leading to the first hypothesis that:

**Hypothesis 1:** There will be a negative relationship between organization size and organizational social capital.

### **Decentralization and Organizational Social Capital**

Organizations are ‘a collection of social positions not an aggregate of individuals’ (Hage & Aiken, 1967). As such, the rules and responsibilities associated with occupation of each different social position within an organization constitute its structure. Classic theories of public administration point towards the need for senior management to design this structure in a way that can enable them to overcome problems associated with bounded rationality (Simon, 1976). In particular, because there are limits to how much information senior managers are able to assimilate and utilise for the purposes of strategic decision-making, it is necessary for them to delegate authority in certain key areas of organizational activity and to rely on reports from subordinates (Gulick, 1937). In a similar vein, principal-agent theory highlights that top managers may empower individuals lower down within the organizational hierarchy to make important decisions to reduce the transaction costs associated with directly monitoring their work (Eisenhardt, 1989). Such a decentralizing approach is especially important in the public sector, as it

may cultivate the growth of the professional values and public service ethos that underpin collective integration within governmental organizations (Selznick, 1957).

From the bounded rationality perspective, the decentralization of decision-making is a necessary feature of management in large organizations, and may represent an especially effective means of generating decisions likely to satisfy the goals of all organizational members (Simon, 1976). From a principal-agent perspective, less hierarchical structures may afford greater opportunities for the free transfer of valuable knowledge, and for the resolution of collective action problems without recourse to formal control mechanisms (Miller, 1992). According to cultural approaches to public management, decentralized decision-making is a way of encouraging organizational members to identify more closely with the mission of an organization and to thereby institutionalize that mission (Egeberg, 2012). Overall, then, decentralized decision-making would seem likely to strengthen social capital. Decentralization should increase the prospect of more frequent informal communication between leaders and members and therefore of a commitment to sharing and acting upon valuable information from multiple sources. Similarly, by decentralizing decisions senior managers demonstrate that they have faith in the ability of middle managers to make good calls, thereby cultivating positive trusting relationships between organizational members. It is also possible that these benefits of decentralization for the organization will inculcate a stronger sense of mission, since leaders and members all feel that they have a genuine and meaningful stake in charting the direction of the organization. This leads to the second hypothesis, that:



**Hypothesis 2:** There will be a positive relationship between decentralized decision-making and organizational social capital.

### **The Moderating Effect of Decentralization**

The development of social capital requires repeated interactions and close social relations, which are dependent upon people's time and effort (Adler & Kwon, 2002). In large organizations, the development of proxies for social interaction might represent one particularly effective way to overcome the horizontal and vertical distance between members and leaders (Luhmann, 1979). Such proxies might range from fairly informal techniques for gathering information from across the organization, whether through 'gossip' or the work of 'boundary-spanners', right through to the application of formal rules and opportunities for positive social conduct within an organization. Within the public sector, in particular, civil servants are noted for adhering to a strong set of collective values that are often embodied in a professional code of behaviour (Lynn, 2006). Nevertheless, although a strong culture of public service may be present in governmental organizations, institutional proxies for the kinds of social interaction that underpin knowledge creation and transfer may not be sufficient to overcome the dislocation effects associated with large size. Hence, it is important to consider the role that decentralization might play in ensuring that 'bigness' does not crowd out the development of positive social relations.

We have already noted that decentralization may offer an effective means for encouraging better intra-organizational communication, interpersonal trust and goal commitment. It is therefore highly conceivable that the benefits of decentralized decision-

making for the development of social capital will be especially important in large organizations, which are less hospitable environments for the spontaneous emergence of mutual interdependence (see Indik, 1963). Although big bureaucracies may prefer to centralize decision-making to counteract the centrifugal tendencies associated with size, decentralization may be a more successful approach to overcoming the challenges posed by bounded rationality (Simon, 1976) and the need for collective integration (Selznick, 1957). By devolving decision-making power in large bureaucracies, top management can provide sub-units with a greater stake in both the decision-making and mission of those organizations (Egeberg, 2012). Moreover, principal-agent theories suggest that decentralization is likely to encourage information-sharing and the sense of reciprocity that undergirds leader-member exchange (Miller, 1992). This may be especially important in the public sector, where large bureaucracies are typically staffed by individuals for whom professional autonomy and authority is very important (Gulick, 1937). The scant evidence related to this issue, tends to support the idea that big organizations become even more socially alienating when they rely on heavily bureaucratic modes of control. Indik (1965), for example, finds that within large organizations remote methods of managerial control are less successful than personal interactions in eliciting worker participation. Given the assumption that organizational members can be motivated to participate in decisions and their implementation (March & Simon, 1958), the third hypothesis is:

**Hypothesis 3:** Decentralized decision-making will moderate the negative relationship between organization size and organizational social capital.

## **Data and Methods**

The analysis utilizes data from a comparative large-N survey of senior public managers conducted in ten European countries (Austria, Estonia, France, Germany, Hungary, Italy, Netherlands, Norway, Spain, United Kingdom). The survey was based on a full census of all central government ministries and agencies. It covered the population of top and higher level public managers in each country (for more details see Hammerschmid, Oprisor & Stimac, 2013). The survey was implemented online with standardized versions of the webpage in each country's language. Data cleaning and harmonization was carried out by the central research team at the end of the survey, to make sure that final results were comparable across countries. The data are subject to strict anonymity regulations, to protect individual respondents, in particular, informants were *not* given the opportunity to provide their names on the questionnaire.

The survey was implemented in two rounds (May-July 2012, and September-November 2012). These two rounds combined were sent out to over 21,000 high ranking civil servants in the ten participating countries via post and email (using either a personalized access link or an anonymous one), depending on each country's predefined access strategy. Invitations were followed by reminders and in cases where response rates were low, teams took additional measures, such as phone or postal reminders, to increase the number of survey participants. In the beginning of November 2012, all surveys were closed and all datasets were cleaned, checked and harmonized according to a standardised procedure. By the end of 2012, there were 4,814 valid answers available from ten participating countries and an overall response rate of 22.6%. Table 1A in the

Appendix shows the total number of questionnaires distributed and the response rate in each country.

Although the response rate for the survey is comparatively low, signifying that the results should be interpreted with some caution, the demographic characteristics of the sample of respondents is similar to that observed for the population of senior public managers in Europe (see OECD, 2013). Nevertheless, to add further confidence in the findings, the potential for non-response bias to influence the regression results was examined by comparing early respondents (first 10% of returned questionnaires) and late respondents (last 10% of returned questionnaires) in each country (Armstrong and Overton 1977). Independent sample t-tests uncovered no significant differences between both groups, which suggests non-response bias is not a problem in this case.

### *Dependent Variable*

According to Nahapiet and Ghoshal (1998) organizational social capital consists of *structural* (connections among actors), *relational* (trust between actors) and *cognitive* (shared goals and values among actors) dimensions of the relationships between organization members. The *structural* dimension of social capital was gauged by asking informants to score on seven-point scales ranging from 1 (strongly disagree with the proposed statement) to 7 (strongly agree with the proposed statement) three questions about the exchange of information between organization members. Informants were asked three questions about the strength of their working relationships with colleagues in order to assess the *relational* dimension of social capital. The *cognitive* dimension of social capital was then evaluated by posing three questions enquiring about the extent to

which values and objectives are shared by all staff within the organization. These nine survey items (see Table 1 for full descriptions) are drawn from a larger battery of items used by Leana and Pils (2006) to assess the relationship between organizational social capital and the performance of public schools.

Within the literature, social capital is often treated as a latent construct that cannot be directly observed, but rather is composed of separate though inter-related dimensions that are susceptible to observation. Although, each of these dimensions may have an independent life of their own, taken together they constitute a theoretically coherent representation of an underlying concept (Chuang, Chen & Chuang, 2013). For the purposes of this study, Leana and Pils' (2006) approach to measuring social capital is therefore followed, with each of the three dimensions combined into a single organizational social capital index using principal components analysis. The measures load on to a single factor accounting for sixty-six per cent of the variance in the data. All of the factor loadings are over 0.75, signifying that they are important determinants of the variance explained. The social capital index also displays extremely strong scale reliability (Cronbach's alpha of .94).

### *Independent Variables*

The size of the civil service organizations in which managers worked is measured using a survey question asking respondents to indicate the approximate overall number of employees within the organization in which they worked. Respondents to the survey shared their insights based on the broader agency in which they worked. At the start of the questionnaire, they were requested to regard their organization as follows: "the

organisational entity that you work for. Usually, it is a ministry (in the UK this is a ‘Department’) or an agency. It is never only a section, division, or subunit within a ministry or agency. Agencies or other subordinate bodies who have autonomy versus the Ministry should be regarded as own organisation and not part of the Ministry.” A copy of the questionnaire can be accessed via the following link <http://www.cocops.eu/wp-content/uploads/2013/06/COCOPS-Questionnaire.pdf>.

Because hard data on employee numbers is not uniformly available for all the organizations included within the sample, the study is restricted to using subjective perceptions of organization size as a means of collecting comparable cross-country information on this key variable. Indik (1963) suggests that the size of organizations can be defined as “the number of individuals who are members of the system, according to their own definition and the definition of the system” (370), so respondents’ perceptions of size have some face validity, especially given their seniority. To guide the responding managers in determining the size of their organizations, they were asked to assign it to one of six groups (less than 50 employees, 51-99, 100-499, 500-999, 1000-5000, over 5000 employees). To facilitate analysis of the separate and combined effects of size and decentralization on organizational social capital, the size variable is treated as an ordinal scale (see Esteve, Boyne, Sierra & Ysa, 2013 for a similar treatment of organization size).

The survey also asked informants to comment on the extent to which a range of key management instruments were used in their organization on a seven point Likert scale from 1 (not at all) to 7 (to a large extent). Within this battery of survey items were two questions that sought to capture the relative degree of decentralization within an organization. Hage and Aiken (1967) suggest that centralization is a reflection of the

‘hierarchy of authority’ and the ‘degree of participation in decision-making’. To capture the salience of both these organizational factors, managers were asked about the presence of ‘decentralization of financial decisions’ and ‘decentralization of staffing decisions’ within their organizations. To create an index of decentralization for inclusion in the statistical models, the scores for both these items were then added together and an average decentralization score calculated. This decentralization index displayed strong scale reliability (Cronbach’s alpha of .76).

Following Podsakoff et al.’s (2003) recommendations, the presence of common method bias (CMB) was tested in a number of ways. First, the data collection process ensured respondents’ anonymity, and used a variety of scale formats. Second, Harman’s single-factor test was performed and revealed that the first factor did not account for the majority of the variance. Because the first factor does not account for the majority of the variance observed, it is likely that the regression results presented below are not subject to the common method bias that can affect studies drawing on the same data sources for the independent and dependent variables.

### *Control Variables*

A number of individual-level control variables are introduced that may influence the relationships being studied, beginning with the gender, age and education level of managers. As regards gender, a dichotomous variable is constructed for inclusion in the statistical model by coding male respondents one and female respondents zero. Men are anticipated to perceive higher levels of social capital due to their usually occupying a dominant social position within organizations (Timberlake, 2005). Respondents’ age is

measured in the survey using five categories (35 or less, 36-45, 46-55, 56-65, and 66 or older). Using aged 35 or less as the reference category, four dichotomous variables capturing the other age groupings were included in the statistical model. It is anticipated that older respondents will perceive levels of social capital to be higher as they are more motivated to invest time in developing positive social relationships within the organizations that they work than their younger counterparts (Cohen, 1993). Within the survey, education level is captured by a question asking respondents to indicate their highest level of qualification in relation to three general categories (graduate, postgraduate (Master's level) and doctoral degree). Two dichotomous variables coded 1 for postgraduate and doctoral degree respectively and 0 otherwise were added to the model, with graduate degree level education used as the reference category. Because more educated individuals have higher levels of interpersonal trust (Brehm & Rahn, 1997), education is expected to be positively related to organizational social capital.

Additional controls for individuals' job characteristics are also included in the statistical models. Firstly, respondents' length of tenure within the organization was measured using five categories (less than one year, one to five years, five to ten years, ten to twenty years, and more than 20 years). Using less than one year as the reference category, four dichotomous variables capturing the other length of tenure categories were included in the statistical model. Tenure is anticipated to be positively related to social capital, due to the time it takes for newcomers to develop norms of reciprocity and cooperation within organizations (Leana & van Buren, 1999). Secondly, the place respondents occupied within the management hierarchy was gauged by asking them to indicate what kind of position they currently held in the organization – top hierarchical



level, second hierarchical level, or third hierarchical level. Two dichotomous variables coded 1 for top and second hierarchical level respectively and 0 otherwise were added to the model, with third hierarchical level used as the reference category. Because they tend to have a more positive view of the organizations in which they work (Bowman & Ambrosini 1997), respondents from the top hierarchical level are expected to perceive higher levels of social capital.

In addition to inquiring about their tenure and place within the organizational hierarchy, respondents were asked to identify the type of organization in they worked from amongst five different groups: ministries of central government (e.g. the Department of National Education in France); agencies at central government level (e.g. the Environment Agency in the UK); ministries at regional level (e.g. Regional Health Authorities in Spain); agencies at regional level (e.g. Regional Directorates of the Federal Employment Agency in Germany); and ministries/agencies at a subnational level (e.g. Local Health Authorities in Italy). In this case, working for a central ministry was taken as the reference category and dichotomous variables capturing working within the other types of organizations entered into the statistical models. It is anticipated that social capital will be lower in agencies than in ministries, as previous research suggests these organizations are less inclusive environments in which to work (Andrews & Ashworth, 2015). Near identical findings to those presented below were observed when also controlling for the broad policy area in which respondents worked (e.g, defence, education, environment, health). The descriptive statistics for all the variables used in the statistical modelling are shown in Table 1. Skewness tests revealed that the variables were all normally distributed.

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Insert Table 1 about here  
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## Statistical Results

The results of four Ordinary Least Squares (OLS) regressions are presented in Table 2 in the following sequence. The first model regresses the measure of organizational social capital on to the control variables; in the second model the measure of organization size is added; the measure of decentralization is included in the third model; and in the fourth model a variable interacting organization size and decentralization is added. The average Variance Inflation Factor (VIF) score for the independent variables in all of the models is less than 3, suggesting the results are unlikely to be distorted by multicollinearity. The models are estimated with robust standard errors and country unit fixed-effects to account for clustering effects and unobserved heterogeneity across countries. Critically, this controls for the potential influence of cultural and structural attributes within civil service organizations that vary across countries.

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Insert Table 2 about here  
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The estimates for model 1 explain about 9.4% of the variation in perceptions of organizational social capital amongst senior public managers. The results for these estimates suggest that several of the control variables may be important determinants of the social capital within civil service organizations across Europe. As anticipated, men, older managers, and those in the top level of the hierarchy all perceive levels of social

capital to be higher in the organizations in which they work, as do managers with more than twenty years of experience within a given organization. By contrast, those whose highest qualification is a postgraduate degree appear to perceive lower levels of social capital. Although this finding was unexpected, it does mirror a similar result observed in a prior study of the antecedents of organizational social capital (Parzefall & Kuppelweiser, 2012). The type of organization in which managers work does not seem to influence social capital, with no differences observed between ministries and agencies. Cross-country variations in levels of social capital were also observed, with Estonia, Norway and the UK having the highest levels and France, Germany and Italy the lowest. These findings hold when the main independent variables of interest are added to the model.

Turning to the relationship between organization size and social capital, we can observe that inclusion of the size variable increases the explanatory power of the model – albeit only slightly. At the same time, the coefficient for size is statistically significant and negative as predicted, providing confirmation for the first hypothesis that the individuals within bigger organizations have weaker social relationships than smaller ones. This implies that due to their sheer size, large public bureaucracies may be unable to realise the benefits of social capital for organizational functioning. Inclusion of the measure of decentralization also increases the explanatory power of the model – in this case by almost two per cent. The coefficient for decentralized decision-making is statistically significant and positive as expected, thereby confirming the second hypothesis that the devolution of responsibility for key decisions might improve social relations within organizations. This indicates that centralized public bureaucracies may

be less likely to be able to build the kind of social relationships that could hold the key to effective knowledge creation and transfer.

Taken together, the findings for the independent effects of size and decentralization suggest that large centralized government bureaucracies may be less conducive than smaller decentralized ones to the kinds of open communication, trusting relationships and shared mission and values that underpin organizational effectiveness. This implies that the best way to structure civil service organizations may be to design smaller units with greater managerial autonomy over key decisions. Of course, this may not always be practical or cost-effective, so it is important to evaluate whether decentralization improves the prospects of big organizations building strong internal social relationships.

To test whether the negative effects of large size for organizational social capital can potentially be overcome by decentralizing decision-making a variable interacting the size and decentralization variables is therefore included in the statistical model. Inclusion of the interaction variable results in a small improvement in the explanatory power of the model. Moreover, the coefficient for size x decentralization is statistically significant and positive as anticipated, providing *prima facie* support for the third hypothesis regarding the moderating effect of decentralization on the size-social capital relationship.

To explore the combined effect of size and decentralization thoroughly it is necessary to calculate the marginal effects of size on social capital at varying levels of decentralization. More specifically, this entails identifying at what level decentralized decision-making has a statistically significant impact on the relationship between size and organizational social capital. Graphing the slope and confidence intervals of the marginal effects is the most effective way to present this information (see Brambor, Clark &

Golder, 2006). Accordingly, figure 1 presents a graphical illustration of the influence of decentralization on the relationship between organization size and social capital.

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Insert Figure 1 about here  
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The centre line in figure 1 illustrates the predicted values of organizational social capital depending upon varying levels of decentralization, while controlling for all the other variables included in the model. The dotted lines represent the upper and lower bounds of the confidence intervals for those predicted values. The area above the upper bound and below the horizontal zero line indicates the presence of a statistically significant relationship. The figure confirms that the relative level of decentralization is likely to have an important effect on the relationship between organization size and social capital. In fact, the negative relationship between size and social capital becomes statistically indistinguishable from zero (where the upper confidence interval meets the zero line on the graph) when the index of decentralization is about one standard deviation above the mean level (a combined score of approximately five). Further analysis revealed that 862 respondents affirmed that decentralization was of this strength or higher in their organization (about twenty-eight per cent of the sample).

Figure 1 indicates that decentralized decision-making has the potential to wipe out the negative marginal effect of organization size on organizational social capital; though it is important to note that very high levels of decentralization do not turn the negative effect of size positive. The graph therefore highlights that, in Europe at least, senior

public managers working in large organizations that also decentralize financial and staffing decisions appear to be less likely to negatively evaluate the social capital within their organization. Practically speaking, this suggests that decentralized decision-making can help to support organizational social capital in large public bureaucracies, which in turn is likely to have benefits in terms of employees' commitment (Parzefall & Kuppelweiser, 2012), organizational effectiveness (Pil & Leana, 2009) and innovation performance (Maurer, Bartsch & Ebers, 2011).

## **Discussion**

This study has examined the relationship between organizational size, structure and social capital. The analysis indicated that size was negatively related to perceptions of social capital within European civil service organizations, but that decentralization was positively related to those perceptions. At the same time, decentralization moderates the negative impact of size on social capital. These findings have important implications.

Prior quantitative studies of organizational social capital have typically focused on individual-level determinants of individual social capital, generally network linkages and structural holes (e.g. Burt, 1997) and a single dimension of social capital, especially trust (see Kramer, 1999). To date, scant research has investigated the organizational antecedents of organizational social capital or dealt with a composite measure of the social capital within organizations (though see Chuang, Chen & Chuang, 2013; and Parzefall & Kuppelweiser, 2012). The analysis presented here highlights that organizational characteristics may have distinctive independent and moderated effects on the level of social capital within organizations. In particular, the relative degree of

decentralization within an organization is likely to influence the connection between organizational size and social capital. The findings illustrate the need for researchers to pay closer attention to organizational determinants of social capital, and for senior managers to consider the relative merits of decentralized decision-making for developing organizational social capital.

The larger organizations from which the sample of senior civil servants are drawn appear to be suffering weaker internal communication and collaboration, less trusting relationships and less commitment to organizational goals. This finding is strongly suggestive of the alienation members of large social communities are often thought to experience (Oliver, 2000). It also confirms arguments about the positive social aspects that characterise work within smaller organizations (see Indik, 1963). Even so, this evidence is not sufficient to underpin a cast-iron conclusion that being big is bad for larger bureaucracies. For example, it is possible that the social costs of being big are counterbalanced by the economic benefits, especially in terms of the savings in administrative overheads (Andrews & Boyne, 2009), and the greater capacity for addressing organizational challenges (Jung, 2013) – something that further research should explore in greater detail.

In stark contrast with the findings for organization size, high levels of decentralization seem to be conducive to higher levels of social capital. This finding provides confirmation for classical theories of public administration that emphasize the need for organizational structures that enable senior managers to resolve the issue of bounded rationality (e.g. Simon, 1976), and that are conducive to the development of the shared professional values that characterize public sector work (e.g. Selznick, 1957). It

also affirms principal-agent theories that focus on the empowerment of subordinates (e.g. Miller, 1992) and mirrors prior studies which find that excessive supervision by organization leaders can crowd out norms of cooperation (Langbein, 2000). Nevertheless, although decentralized decision-making appears to bring social benefits for organizations, it can potentially have other unwelcome effects, especially in terms of slower decision-speed and responsiveness to environmental change (Wally & Baum, 1994). This again points to the need for research comparing the separate and combined effects of size and decentralization on a range of organizational outcomes before firm conclusions can be drawn about the relative importance of internal social capital as an organizational goal.

The interaction findings indicate that large organizations can potentially overcome the social dysfunctions that are brought about by their sheer size by decentralizing key decisions about staffing and finances. Further analysis revealed that when the interaction effects were disaggregated by dimension of social capital, the moderating effect of decentralization on organization size was strongest for the structural dimension of social capital. For senior management, decentralizing decision-making in big bureaucracies therefore seems especially likely to facilitate better knowledge exchange and information-sharing – something that knowledge-based theories of the firm suggest is critical to the adoption of innovations that will improve performance (Kogut & Zander, 1996). In fact, both size and structure may play an important role in ensuring that the potential benefits of social capital for organizational functioning are realised. For instance, previous work suggests that decentralization moderates the relationship between social capital and organizational effectiveness (Andrews, 2010). All of which is to say



that there is a pressing need for more research into both the antecedents and effects of organizational social capital.

While the statistical findings provide support for the hypothesised antecedents of organizational social capital, the study has clear limitations that provide opportunities for further research. First, the cross-sectional nature of the data means that levels of association only are reported. Future research with longitudinal or experimental designs could address the issue of causality with greater rigour. Second, although the analysis deals with organizational determinants of social capital, it is carried out exclusively at the individual level due to data limitations. Subsequent research could build on this exploratory study by using multi-level modelling to examine cross-level interactive effects (Payne, Moore, Griffis, & Autry, 2011). Interesting areas for further investigation in this context include study of the antecedents and effects of social capital at different levels of the organizational hierarchy. For instance, organizational members often differentiate between the level of trust they experience amongst their peers and that placed in senior figures (see Luhmann, 1979). Comparisons of the different influences on horizontal and vertical social capital could therefore contribute to the literatures on human resource management, leadership and strategic integration in the public sector.

Third, the analysis presented here has examined a particular group of senior managers working within a particular set of public organizations during a specific time period. It would therefore be important to identify whether the relative importance of size and structure differs over other time periods and in other organizational settings in the public sector. Civil servants are typically thought to possess especially high levels of organizational commitment and motivation (Horton, 2012). The level of social capital

extant within the organizations identified by the survey respondents in this study may therefore be unrepresentative of that found within other parts of the public sector or amongst street-level bureaucrats, for example. A research agenda which sought to systematically compare the antecedents and effects of social capital in multiple settings could therefore add considerably to our understanding of the human side of public organizations.

## **Conclusion**

This article has examined the separate and combined effects of organization size and decentralization on the level of social capital within central government agencies in Europe. In doing so, it highlights that information-sharing, interpersonal trust and a sense of shared mission may be weaker in large than small bureaucracies, but that decentralized decision-making is associated with a higher level of social capital. Moreover, decentralization can mitigate the negative effect of size on this critical aspect of the human side of public organizations. These findings represent an important contribution to the theories of human resource management in the public sector and, in particular, assist us in further unpacking the ways in which the design of better organizational structures can lead to improved public policy outcomes. The evidence suggests that public organizations with decentralized decision-making are especially well-placed to cultivate the positive social interactions, which facilitate knowledge-sharing – a finding which has major implications for public managers and policy-makers. Nevertheless, the evidence also implies that further research is required which investigates the ways in which public managers and organizations can seek to harness the benefits of social capital.

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**Table 1.** Descriptive Statistics

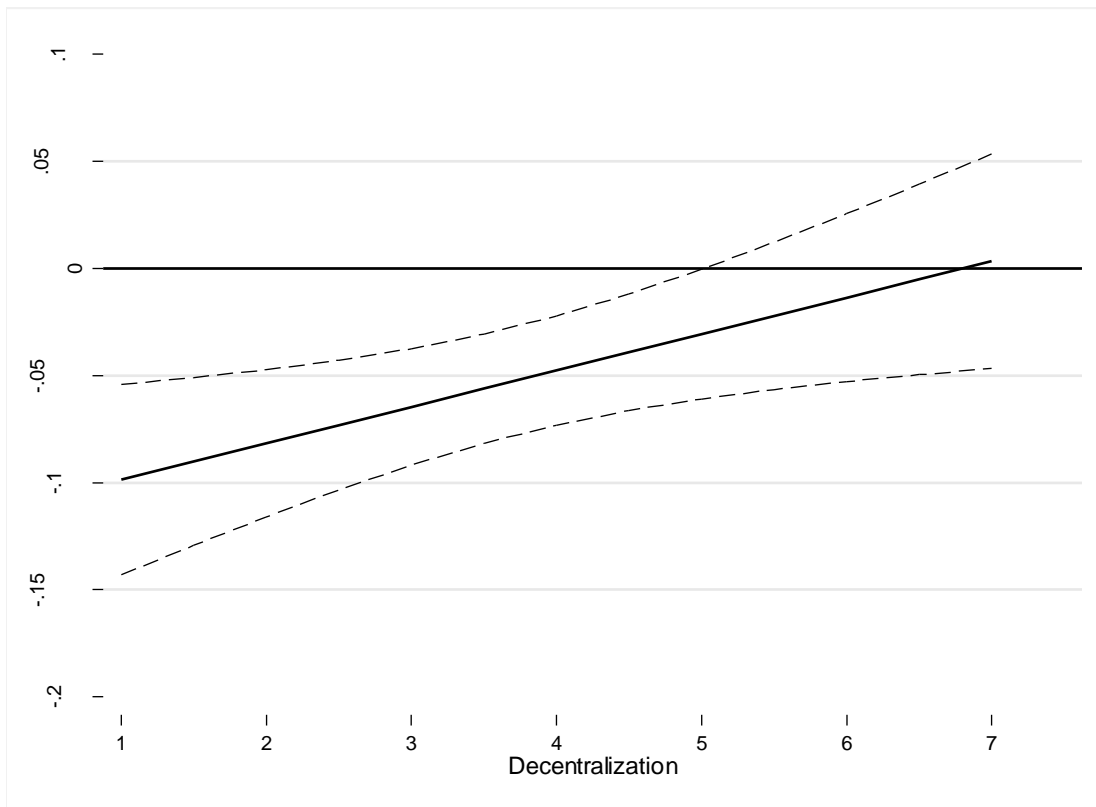
	Mean	s.d.
Organizational social capital ( <i>People in my organization...</i> )		
Engage in open and honest communication with one another	5.12	1.28
Share and accept constructive criticisms without making it personal	4.51	1.32
Willingly share information with one another	4.96	1.36
Have confidence in one another	4.83	1.32
Have a strong team spirit	4.79	1.48
Are trustworthy	5.47	1.19
Share the same ambitions and vision for the organisation	4.70	1.36
Enthusiastically pursue collective goals and mission	4.58	1.40
View themselves as partners in charting the organisation's direction	4.31	1.51
Organization size	3.73	1.50
Decentralization of financial decisions	3.67	1.88
Decentralization of staffing decisions	3.39	1.85
Male	.70	.46
Aged 35 or less	.05	.22
36-45 years	.21	.41
46-55 years	.41	.49
56-65 years	.33	.47
66 year or more	.01	.09
Graduate degree is highest qualification	.15	.36
Postgraduate degree (MA level)	.69	.46
Doctoral degree	.16	.36
Under 1 year in the organization	.05	.21
1-5 years in the organization	.29	.45
5-10 years in the organization	.19	.39
10-20 years in the organization	.26	.44
20+ years in the organization	.22	.41
Top level	.27	.45
Second level	.38	.48
Third level	.35	.48
Central ministry	.34	.70
Central agency	.31	.46
State or regional ministry	.17	.37
State or regional agency	.10	.29
Other subnational body	.09	.29



**Table 2.** Organization Size, Decentralization and Social Capital

	Model 1	Model 2	Model 3	Model 4
Organization size		-.041** (.013)	-.057** (.013)	-.116** (.029)
Decentralization			.096** (.011)	.034 (.027)
Size x decentralization				.017** (.007)
Male	.087* (.041)	.088* (.041)	.082* (.040)	.084* (.040)
<i>Age (reference category under 35 years)</i>				
36-45 years	.143 (.100)	.147 (.099)	.159 (.101)	.155 (.101)
46-55 years	.171† (.099)	.174† (.099)	.191† (.100)	.185† (.101)
56-65 years	.242* (.102)	.234* (.102)	.257* (.103)	.249* (.104)
66 years or more	.043 (.201)	.019 (.200)	.057 (.196)	.048 (.194)
<i>Education (reference category – degree)</i>				
Postgraduate degree (MA level)	-.110* (.053)	-.106* (.053)	-.087† (.053)	-.090† (.053)
Doctoral degree	-.015 (.070)	-.019 (.070)	.011 (.069)	.006 (.069)
<i>Tenure within the organization (reference category under 1 year)</i>				
1-5 years in the organization	.003 (.085)	.004 (.085)	-.006 (.084)	-.006 (.084)
5-10 years in the organization	.059 (.088)	.064 (.089)	.057 (.088)	.056 (.088)
10-20 years in the organization	.135 (.086)	.148† (.086)	.128 (.085)	.128 (.085)
20+ years in the organization	.161† (.088)	.190* (.089)	.176* (.087)	.175* (.087)
<i>Position within hierarchy (reference category third level)</i>				
Top level	.221** (.049)	.216** (.050)	.179** (.049)	.186** (.049)
Second level	.048 (.046)	.048 (.046)	.041 (.046)	.043 (.046)
<i>Organization type (reference category central ministry)</i>				
Central agency	-.013 (.046)	-.007 (.046)	-.047 (.045)	-.054 (.046)
State or regional ministry	-.030 (.057)	-.050 (.058)	-.075 (.057)	-.074 (.057)
State or regional agency	-.054 (.076)	-.056 (.076)	-.123 (.076)	-.125† (.075)
Other subnational body	.049 (.065)	-.001 (.066)	-.030 (.066)	-.025 (.066)
(Constant)	.001 (.150)	.177 (.160)	-.109 (.162)	.103 (.189)
F statistic	14.20**	14.13**	17.05**	16.56**
R <sup>2</sup>	.094	.097	.119	.121
N	3101	3101	3101	3101

Robust standard errors in parentheses. Country fixed effects not shown. † p<0.1; \* p<0.05; \*\* p<0.01.



**Figure 1.** Marginal Impact of Size on Organizational Social Capital Contingent on Decentralization

## Appendix

**Table 1A.** Number of Questionnaires and Response Rates

Country	Questionnaires Delivered	Questionnaires Completed	Response Rate %
Austria	1745	637	36.5
Estonia	913	321	35.2
France	5297	1193	22.5
Germany	2295	566	24.7
Hungary	1200	351	29.3
Italy	1703	343	20.1
Netherlands	977	293	30.0
Norway	1299	436	33.6
Spain	1778	321	18.1
UK	3100	353	11.4
Total	20307	4814	23.7