Politicization, Bureaucratic Legalism, and Innovative Attitudes in the Public Sector

Abstract: Previous studies have identified institutional, organizational, and individual factors that promote innovation in public organizations. Yet, they have overlooked how the type of public administration—and the type of administrators—is associated with innovative attitudes. Using two large, unique comparative data sets on public bureaucracies and public managers, this article examines how bureaucratic politicization and legalistic features are associated with senior public managers’ attitudes toward innovation in 19 European countries. Results of multilevel analysis indicate that the bureaucratic politicization of an administration and the law background of public managers matter. Public managers working in politicized administrations and those whose education includes a law degree exhibit lower pro-innovation attitudes (i.e., receptiveness to new ideas and creative solutions and change orientation).

Evidence for Practice
- Senior public managers’ attitudes toward innovation vary significantly across countries.
- The results of this study indicate that the features of a national bureaucracy and the educational background of public managers matter for pro-innovation attitudes.
- Senior managers working in more politicized bureaucracies and those with a legal education background show lower tolerance for new ideas and creative solutions, and they are less willing to take actions that might upset the status quo.
- Policy makers should consider personnel systems and the individual educational background of civil servants as significant factors that encourage favorable attitudes toward innovation.

Why are some public sector managers highly receptive to new ideas and changes in the operational processes of their organizations or public service delivery? Why are some public managers willing to take risks to implement new ideas despite uncertainty of success? Earlier public management literature often focused on attitudinal or behavioral differences toward innovation between public and private sector employees (Baarspul and Wilderom 2011; Bysted and Hansen 2015). However, we still do not know to what extent public officials’ attitudes toward innovation differ across countries and what explains such variations. Previous European public administration literature has often referred to the prevalence of an excessive, formalistic, and legalistic administrative culture as a major obstacle to efficient and innovative public management (Kickert 2007, 2011). However, little is known empirically about how administrative characteristics are linked with public servants’ pro-innovation attitudes.

Previous public sector innovation studies have identified various sources of innovation, including environmental, organizational, and individual-level antecedents (Clausen, Demircioglu, and Alsos 2019; Demircioglu 2019; de Vries, Bekkers, and Tummers 2016; Walker 2014). However, despite growing scholarly interest (Berry 1994; Borins 2000; Light 1999; Walker 2006), past research has generally relied on qualitative single-country case studies (mostly the United Kingdom or the United States) or comparative studies of a few countries (de Vries, Bekkers, and Tummers 2016; Dryzek and Tucker 2008; Wynen et al. 2014). Large-N comparative studies are unusual. In particular, to our knowledge, no research has examined the link between a bureaucracy’s national characteristics and the pro-innovation attitudes of public managers.

Some political science literature has reasserted the importance of studying bureaucracy to the understanding of government performance (Olsen 2006; Rothstein and Teorell 2008). Previous cross-national and subnational empirical research shows that certain macro characteristics of public bureaucracy (known as “Weberian bureaucracy”)—

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meritocratically recruited and impartial public administration—are strong predictors of positive macro outcomes such as economic growth (Evans and Rauch 1999), improved health outcomes (Cingolani, Thomsson, and de Crombrugghe 2015), lower levels of corruption (Dahlström, Lapuente, and Teorell 2012a; Rauch and Evans 2000), innovative outputs and scientific productivity (Fernández-Carro and Lapuente-Giné 2016; Suzuki and Demircioglu 2019), and government effectiveness (Dahlström and Lapuente 2017). However, this literature focuses on the aggregate level, examining how institutional factors influence country-level outcomes, overlooking the association between individual civil servants’ attitudes and the characteristics of bureaucracy. In this article, we combine these two separate streams of the literature, exploring the effects of the characteristics of the bureaucratic personnel systems on attitudes toward innovation among public managers.

We explore the link between pro-innovation attitudes and the characteristics of national bureaucracy in 19 European countries. Our dependent variable is not the diffusion of innovations (Maranto and Wolf 2013; Shipan and Volden 2006; Teodoro 2009) or their effective implementation (Damanpour and Schneider 2008), given the lack of comprehensive comparative data on these variables. We focus on a previous stage in the chain of innovation: senior public managers’ pro-innovation attitudes, operationalized by three distinctive indicators: (1) receptiveness to new ideas and creative solutions, (2) change orientation, and (3) attitudes toward risk. We argue that macro-level bureaucratic factors are important determinants of pro-innovation attitudes. In particular, the existence of an innovation-inducing bureaucratic labor market plays a key role. We operationalize this with two variables: the degree of (1) political interference and (2) bureaucratic legalism in personnel policy. Civil service systems that allow politicians to arbitrarily interfere and limit public officials’ career mobility with strict legalism are significant obstacles to pro-innovation attitudes. We also argue that bureaucratic legalism’s negative influence manifests at the individual level among managers with a legal educational background. Using two cross-national data sets, our multilevel analysis shows that bureaucratic politicization and legal background matter.

We begin with a brief discussion of the characteristics of European public administrations, highlighting comparisons with Anglo-American ones. The second section presents the conceptualization of pro-innovation attitudes and our independent variables. Section three provides theoretical explanation and hypotheses. Section four explains data and methods, and section five reports empirical results; the discussion, limitations, and conclusion follow.

Characteristics of European Public Administrations

The characteristics of public administrations are heterogeneous across European countries, making a general comparison difficult. However, European public administrations have several distinctive features compared with those in Anglo-American countries. First, while Anglo-American public administrations, especially the United States, are rooted in a weak “stateless legacy” tradition (Stillman 1997), European public administrations are embedded in a strong state tradition (Peters 2010), called “stateness” (Rutgers 2001). Second, while the managerial approach to public administration has been dominant in Anglo-American countries (Peters 2010; Rosenbloom 1983), a legal approach is strong in continental Europe. While the managerial approach emphasizes the role of the administrator as a manager and highlights values such as “the maximization of effectiveness, efficiency, and economy,” the legal approach stresses administrators providing “procedural safeguards” (Meyer et al. 2014, 865) or “identification of the legal foundations of public actions and implementation of that law” (Painter and Peters 2010b, 8). Third, while the dominant approach to administrative training in the United States relies on a management and social science perspective (Sager et al. 2012), legal training plays a central role in continental Europe (Stillman 1997). For example, German public administration has a clear preference for job candidates with a law degree (Veit and Scholz 2016). In Southern Europe, administrative lawyers make up the vast majority of public officials (Kickert 2008).

Pro-Innovation Attitudes of Public Managers

We examine managers’ psychological attitudes toward innovation and define “pro-innovation attitude” as a favorable attitude toward the generation and implementation of new ideas inspired by a concept of innovative behavior (Scott and Bruce 1994; Yuan and Woodman 2010). We recognize that “individual agency by itself is a necessary but not a sufficient condition for innovation in public services” (Osborne and Brown 2011, 1342). Innovation adoption may be contingent on many other factors, such as environmental pressures, organizational network and collaboration, slack resources, leadership styles, and innovation type (de Vries, Bekkers, and Tummers 2016). Nonetheless, a focus on managerial innovation orientation is justifiable. Previous psychology literature indicates that one’s beliefs and attitudes tend to influence behavioral intentions, subsequently affecting actual behaviors and outcomes (Damanpour and Schneider 2008). Managers’ pro-innovation attitudes thus positively influence innovation adoption by cultivating an atmosphere of employee innovation (Damanpour and Schneider 2008; Moon and Norris 2005). Particularly in European public administrations, senior civil servants are considered influential actors with significant decision-making responsibilities (Knasmüller and Veit 2016). Furthermore, comparative studies of public sector innovation using large-N country samples are rare, and few studies focus on innovative attitudes or behavior. Most studies examine innovation at the policy, organizational, or project level (Miao et al. 2018).

We focus on managers’ (1) receptiveness to new ideas and creative solutions, (2) orientation toward change, and (3) attitudes toward risk. Composition of a single multidimensional measure of pro-innovation attitudes would be ideal, but data limitations do not allow for this. Reliance on a few survey items limits us; nonetheless, these three measures have been used separately as pro-innovation attitudes or innovation measures previously. Furthermore, scholars have not reached an agreement on defining and measuring innovation in the public sector (de Vries, Bekkers, and Tummers 2016; Demircioglu and Audretsch 2017; Fernandez and Pitts 2011).

Our first variable is related to the generation of innovative ideas, while the latter two concern implementation. Despite lacking a clear definition of public sector innovation, scholars agree that innovation must be related to new ideas (Clausen, Demircioglu,
and Alsos 2019; Demircioglu 2019; Demircioglu and Audrętšch 2017). Numerous works consider new ideas or creativity as factors associated with individual or organizational orientations toward innovation (Bysted and Hansen 2015; Damanpour and Schneider 2006; Fernandez and Moldogaziev 2012; Wynen et al. 2014). Our second dependent variable is public officials’ change orientation. Positive attitudes toward change increase innovation adoption (Boye et al. 2005). As Lewis, Rich, and Klijn (2018, 3) argue, innovation can be defined as “some kind of discontinuity” and includes a “radical break with what has occurred previously.” Consequently, dissatisfaction with the status quo and the need to change in order to introduce new ideas is regarded as a crucial source for innovative behavior within organizations (Jung and Lee 2016; Yuan and Woodward 2010). Our third dependent variable is attitudes toward risk, as risk aversion has been traditionally considered a major obstacle to innovation (Brown and Osborne 2013).

**Politization and Bureaucratic Legalism**

Following Teodoro (2009, 2011), we focus on the “labor market for public managers” as a key explanatory factor for variations in pro-innovation attitudes. A labor market for bureaucrats that values public officials’ and job candidates’ merits and capabilities and encourages job mobility should connect to pro-innovation attitudes. Conversely, the absence of a true labor market for public managers—because either politicians interfere with their appointment or strict legalistic norms prevent appointment of the most capable candidates—should be an obstacle to innovative attitudes. We thus focus on these two impediments for the functioning of an efficient labor market for public managers: the politicization of appointments and bureaucratic legalism in the personnel system. In a politicized bureaucracy, recruitment and promotion of public officials largely depends on their political masters (Dahlström 2011). The recent development of a cross-national data set of bureaucratic structures enables researchers to quantify remarkable variations in the degree of politicization across countries. While European public administrations in general tend to be less politicized, some countries, such as Serbia, Slovakia, and Hungary, show a high level of politicization even from a global comparative perspective (see Dahlström, Lapuente, and Teorell 2012).

We also focus on bureaucratic legalism in personnel systems, which public administration and political science scholars often refer to when explaining various administrative characteristics, including formal structures, core values, basis of rationality, administrative culture, employment conditions, and administrator training (Meyer et al. 2014; Pierre 2011; Rosenbloom 1983). There is no agreed-upon-definition of legalism in bureaucracy, but it is often associated with adherence to law as a guiding principle (Painter and Peters 2010c), law as a safeguard against political arbitrariness (Meyer et al. 2014), little discretion for public officials (Horton 2011), a strictly regulated and rule-based personnel system (Lægreid and Wise 2015), the importance of legal training for public administrators (Painter and Peters 2010a), and the strong presence of administrative lawyers or law degree holders (Horton 2011). Bureaucratic legalism is robust in European public administration (Meyer et al. 2014), particularly in countries within the Rechtsstaat (rule of law) tradition and in Southern Europe (Kickert 2011; Meyer et al. 2014).

Among the several dimensions of legalism, we focus on the management of public sector personnel. Legalistic employment conditions typically include sectoral closure (distinctiveness of public service career), highly regulated personnel systems, closed recruitment and career paths with limited mobility, seniority-based promotion, lifetime employment, and civil servants’ special status to guarantee neutrality (Meyer et al. 2014). Using a different terminology, scholars have long noted the distinction between “open” and “closed” civil service systems (Auer, Demmke, and Polet 1996; Bekke and Meer 2000). Closed bureaucracies are highly legalistic: entry and promotion are greatly formalized; internal candidates fill job openings, and they frequently follow seniority rules; and working conditions are subject to specific labor laws, different from those of private sector employees. Job mobility is limited. In contrast, in “open” or less legalistic systems, bureaucrats join the civil service through less formalized exams, lateral entries are common, and job vacancies are advertised outside the administration. Throughout their careers, bureaucrats move across agencies, and sometimes to the private sector and back. This guarantees high job mobility (Dahlström and Lapuente 2017).

Finally, we focus on one individual-level characteristic linked to legalism: the legal training of public managers. Scholars have noted the importance of professional norms and values in shaping the innovative behavior of civil servants and politicians. We think that public managers with legal backgrounds strongly exhibit legalistic and formalistic values. In continental Europe, public managers’ training tends to focus on law rather than management. According to Dragos and Langbroek (2018, 1068), “the dominant perspective in administrative law has become that of the judge” in law schools in continental Europe. The central focus of training for future public managers is not about how to respond to rapid changes in societal demands but how to ensure legal certainty and law enforcement.

**Theory**

This study aims to explain senior managers’ pro-innovation attitudes by focusing on bureaucratic features and the professional training background of public managers. As with private sector labor markets, government jobs are subject to competition (Teodoro 2009). Selection and promotion criteria vary across and within countries. Some governments hire public officials on merits and capacities; others value political references. Some countries have less legalized and more open labor markets for civil servants, in which lateral entry from private to public sector is common, allowing for mobile public managers.

We stress the importance of an innovation-inducing, competitive job market for public managers. The necessity of rewarding innovation is not easy in the public sector. Unlike their private sector counterparts, public managers cannot expect large bonuses, although they may expect career incentives, such as promotions and mobility. Indeed, an active labor market for bureaucrats fosters the diffusion of innovation across American agencies (Teodoro 2009). We argue that personnel systems suffering from political interference and limited job mobility face major obstacles for inducing pro-innovation attitudes.

First, we expect managers whose career prospects mostly depend on the will of their political superiors to show less pro-innovation
orientations than those whose career prospects mostly depend on their capacities and merits. If public managers know that future internal promotions or openings in other agencies depend exclusively on the candidates’ merits and capacities, they will have more incentive to innovate. However, if public managers fear that their political superiors will opportunistically interfere in their career prospects, they will be less likely to innovate. Managers may refrain from innovating if they are not confident their political superiors will reward them because of their performance, instead of their political allegiance (Dahlström and Lapuente 2017). Successful implementation of an incentive system requires a shared belief that the distribution of rewards will be fair, following the logic of “procedural justice,” which is “perceptions of the degree to which decision making in the organization is viewed as fair” (Rubin and Kellough 2011, 124). Procedural justice influences employees’ positive work attitudes or organizational outcomes (Hassan 2013; Rubin 2007; Rubin and Kellough 2011).

If senior positions in a public administration are politicized, the incentives—for excelling in performance, for innovating—will not be perceived as fair. Civil servants may think that rewards are distributed based on other criteria (OECD 2003). Consequently, “where the level of political appointments is high, procedural justice mechanisms may be harder to set,” and this has a “demotivating impact” (OECD 2004, 72) on public employees. Conversely, if the level of political appointments is low and public officials perceive they will be judged on their job performance, they may be more motivated to innovate. Consequently, this is the testable proposition to be subjected to empirical contrast:

**Hypothesis 1:** The more bureaucratic careers depend on their political connections rather than the merits and capabilities of the candidates, the less public managers will show pro-innovation attitudes.

We argue that bureaucratic legalism is another obstacle to pro-innovation attitudes and approach it by focusing on employment conditions. To foster innovative behavior, public agency promotions should be open to the widest possible talent pool. There are several interrelated mechanisms through which one should expect the openness of bureaucratic job markets to foster pro-innovation attitudes. If job openings are closed to external candidates (i.e., reserved for internal ones), public administration may become a “monocracy” (Thompson 1965), rewarding loyalty and deference to superiors, and an environment in which, fearing retaliation, not only in cases of failure but even in successful cases, few dare to challenge the status quo as innovation goes against the traditions and conventions of the bureaucracy. As Teodoro (2011, 3) shows for a sample of 153 agency heads in the United States, “where opportunities for career advancement are only within single organizations, administrators are less likely to innovate.”

Alternatively, when a bureaucracy is “open”—that is, when public officials do not spend their entire professional lives in the same bureau, and lateral movements to other agencies (or to the private sector) are encouraged—they may feel more motivated to be innovative. If public officials expect to move to other government (or private) agencies, they will prioritize the overall impact of their innovations for their own professional reputation in the whole public sector, and the whole society, rather than the acquiescence of their immediate hierarchical superior. Encouraging mobility will reduce fear of retaliation by superiors and create more opportunities for career promotions in other agencies, which should also motivate innovation. Consequently, we expect the following:

**Hypothesis 2:** The more closed a civil service system is, the less public managers will show pro-innovation attitudes.

Attitudes toward innovation may depend not only on labor market factors but also on an individual characteristic linked to bureaucratic legalism: the professional training of public managers. It has been noted that professional norms and values may shape the innovative behavior of bureaucrats (Brehm and Gates 1997; Lipsky 1980) and politicians (Shipan and Volden 2006). Professions provide sources of collective knowledge that stimulate innovation (Rashman, Withers, and Hartley 2009; Walker 2014), and professional associations have been found to promote the adoption of innovations in the United States (Balla 2001; Berry 1994). There have been empirical studies on the impacts of economic versus legal education on decision-making in the education literature, but few have examined the influence of university education on public officials’ decision-making in public management (Rosengart, Hirsch, and Nitzl 2019).

There are several reasons to expect public managers with law degrees to be more reluctant to innovate than public managers with another degree. First, public administration scholars often contrast legal values with managerial values. While the former includes values such as entitlements, uniformity, and the search for predictability, legal security, and procedural fairness, the latter includes needs, adaptation to clients’ requirements, and the search for efficacy, effectiveness, and efficiency (Painter and Peters 2010b; Pierre 2011). Pro-innovation attitude, which emphasizes new ideas, changes, and risk, falls into the latter category. We might also expect public managers with a law degree to prioritize the former values over the latter.

The association between law training and preference for legal values could be due to self-selection—that is, conservative individuals with a higher preference for order tend to study law. It could also be due, at least in part, to socialization at law school. Lawyers have a “general aversion to risk [that] is ingrained in law students during their legal education, as they are constantly exposed to case law involving controversies directly related to ambiguity of one sort or another” (Luppino 2007, 168). This “filtration bias” (Langevoort and Rasmussen 1996, 377) of lawyers’ shared reality may lead to a “cautionary bias” (419) in their actions, which, in turn, may become legitimate in the legal profession through the socializing processes of training, experience, and collegial self-definition” (413).

Similarly, at law school, students learn that arguments need to be supported by case references. This predisposes them to behave conservatively when joining the labor market. Law degree holders are thus more inclined to prefer every task and process to be as predictable as possible, and be skeptical of initiatives that have not been exhaustively tested (Bible 2016). Lawyers resist the temptation to innovate because of this aversion to risk (Croft 2016) and a reluctance to step into the unknown (Bible 2016). Consequently, in the private sector, lawyers are frequently seen as “weak ties” in the process of innovation (Smeltzer, Van Hook, and Hutt 1991) or as obstructionists (Hobbs 1997; Luppino 2011) who exhibit an inherent attachment to the status quo (Furlong 2013). A similar
inherent bias against innovation among individuals with a law degree should also be expected in the public sector. Consequently, we hypothesize the following:

**Hypothesis 3**: Public managers with a law degree will have weaker pro-innovation attitudes than managers without such a degree.

**Data and Methods**

Despite scholars' increasing consideration of the influence of contextual factors in public management and performance (Meier, Rutherford, and Avellaneda 2017), little comparative research on bureaucracy has been undertaken (Dahlström, Lapuente, and Teorell 2012b). In addition, studies of public management often fail to take into account bureaucracies’ national characteristics, proceeding under the assumption that “all states are alike” (Milward et al. 2016, 312; Roberts 2018). We join their recent call to bring state factors to public management studies of public management and aim to address this oversight in the literature by combining two unique cross-national data sets (See also Suzuki and Hur 2019). The first data set is the COCOPS (Coordinating for Cohesion in the Public Sector of the Future) Executive Survey on Public Sector Reform in Europe (Hammerschmid 2015), which is made up of survey answers from 9,333 senior public sector executives from 21 European countries. The second data set is the QoG (Quality of Government Institute) Expert Survey Dataset II (Dahlström et al. 2015), which represents the opinions of more than 1,200 country experts and reveals characteristics of national bureaucratic structures. Many academic publications utilize both data sets independently, which demonstrates the reliability of the data sets. (See the Supporting Information online for the data sets and variable operationalization.)

**Dependent Variables**

We use three dependent variables from the COCOPS survey that capture public managers’ pro-innovation attitudes: (1) receptiveness to new ideas and creative solutions, (2) change orientation, and (3) risk attitudes. As a robustness check, we created a factor variable of three variables composed using the principal factor method. All three variables are based on the degree to which the respondent agrees or disagrees with three statements. The first dependent variable is measured using the statement “Being creative and thinking up new ideas is important to me”; the second from the statement “I avoid doing anything that might upset the status quo”; and the third dependent variable from the statement “I like to take risks.” In the three questions, respondents were asked to select their responses from 1 (strongly disagree) to 7 (strongly agree). These dependent variables are thus ordinal variables. We rescaled the dependent variables from 1–7 to 1–3 for the sake of parsimony. The values of 1, 2, and 3 in the original variables fall into the first category in the rescaled variables, the values of 4 and 5 are in the second category, and the values of 6 and 7 are in the third category. As a robustness check, we reran the same models with the original category. Figure 1 shows average values of each dependent variable across countries in the sample, using the original scale dependent variables.

**Independent Variables**

We use the QoG Expert Survey Dataset II to capture the first two independent variables: (1) politicization and (2) bureaucratic legalism in recruitment policy. Both are aggregate measures that have been employed by earlier researchers (Dahlström and Lapuente 2017; Dahlström, Lapuente, and Teorell 2012a). Politicization comes from the following four questions: (1) “When recruiting public sector employees, the skills and merits of the applicants decide who gets the job”; (2) “When recruiting public sector employees, the political connections of the applicants decide who gets the job”; (3) “The top political leadership hires and fires senior public officials”; and (4) “Senior public officials are recruited from within the ranks of the public sector.” We ran a principal component analysis to construct the politicization index as an additive index (Cronbach’s alpha = 0.91). This variable was then standardized as a z-score ranging from −1.60 to 1.94; larger values indicate politicization. Figure 2 shows variations in levels of politicization. In our data sample, countries such as Serbia, Hungary, Croatia, Portugal, and Italy have the most politicized bureaucratic structures.

The second independent variable is bureaucratic legalism, measured by closedness in the personnel system. Following previous literature,
we base the index on a principal component analysis (Cronbach’s alpha = 0.75) of the following three questions: (1) “Public sector employees are hired via a formal examination system”; (2) “Once one is recruited as a public sector employee, one remains a public sector employee for the rest of one’s career”; and (3) “The terms of employment for public sector employees are regulated by special laws that do not apply to private sector employees.” Higher values indicate an increasingly legalized or “closed” system, leading to limited mobility of bureaucrats. The variable is standardized from −1.74 to 1.46. Figure 2 reports variations in the degree of bureaucratic legalism in our samples. More closed, legalistic public bureaucracies can be found in countries such as France, Belgium, Italy, Croatia, Austria, and Germany, while bureaucracies in Sweden, Finland, the United Kingdom, and Denmark are the least legalized.

Finally, the third independent variable considers the professional background of public sector managers and, in particular, whether they have a law degree. Information comes from the COCOPS survey question that asks, “What was the subject of your highest educational qualification?” Figure 2 reports the mean value of respondents with law degrees in all countries. Germany, Croatia, Hungary, Spain, Austria, and Italy score higher in terms of the percentage of law degree holders.

**Control Variables**

This study controls for additional factors expected to influence individual-level innovative attitudes. Because of the relatively small number of countries (N = 19), the data do not allow us to include a large number of country-level controls. Therefore, we limit the number of controls to significant macro-level factors that likely affect public managers’ individual attitudes: level of democracy (Polity score) from the QoG Standard Dataset (Teorell et al. 2017) and the number of women in the public sector from the QoG Expert Survey. We control for individual-level gender difference as well as country-level female representation in the public sector because the effects of individual-level gender differences on attitudes may appear only at certain levels of gender representation at the country level. As a robustness check, we reran the same models using a different set of control variables. We also control for the following individual-level factors: organizational type, organizational size, respondent’s current position, age, public sector experience, private sector experience, educational level, degree of job autonomy, job satisfaction, and organizational goal clarity. All variables were collected or created based on the COCOPS survey data set.

Table 1 presents descriptive statistics for all the variables used in the analysis. Based on our main models, we used variance inflation factors (VIF) to conduct collinearity diagnostics. VIF mean values are less than 1.74. For individual variables, the highest individual VIF score is 3.45 (public sector experience). The correlation matrix is shown in table A1 in the Supporting Information. At 0.52, age and public sector experience have the highest Pearson’s correlation. Based on these results, it is unlikely that the models have a problem with multicollinearity. For the purpose of an additional robustness check, we ran analysis for the same model without the public sector experience variable.

Scholars have discussed common source bias (George and Pandey 2017; Jakobsen and Jensen 2015). Our dependent variables and two of our independent variables (i.e., bureaucratic politicization and legalism) are from different data sets. Therefore, common source bias is not an issue. Law background and the dependent variables are from the COCOPS data set. However, factual information such as educational background, gender, and position is unlikely to suffer from common source bias (George, Van de Walle, and Hammerschmid 2019). Furthermore, we also ran several analyses, dropping different control variables separately, to test whether any of the controls lead to spurious results. However, we did not find any major changes in our results.

**Limitations**

There are five limitations to this study. The first limitation is the restriction to managers’ attitudes rather than actual innovation output. The adoption of innovation is a complex process consisting of several distinguishable phases and involving multiple stages (Hartley, Sørensen, and Torfing 2013). Each stage may be influenced by different factors. Therefore, we cannot make conclusive statements about innovation adoption.

Second, we rely on managers’ self-reporting for data on pro-innovation attitude. This survey methodology relies on managers’


perceptual judgments of their own attitude, which may be simply mirroring broader societal/cultural values, institutional expectations/pressures, and political and social contexts. To remedy this issue, we controlled for national cultural factors from Hofstede's dimension of cultural values as well as a different set of country-level variables related to the institutional and socioeconomic contexts of each country. Our results still held. However, we cannot completely rule out a measurement equivalence issue.

The third limitation is the use of limited survey items. Ideally, we should use multivariate items to measure pro-innovation attitudes, but the COCOPS survey does not contain various items pertaining to innovation. The survey was designed to capture a wider range of the opinions and perceptions of top executives, thereby responding to the lack of large-scale data sets of bureaucracy (Van de Walle et al. 2016). Relatively, we could not control for various individual factors, such as deeper beliefs or ideological orientation, which may be related to innovative attitudes.

Fourth, because of anonymity issues, the COCOPS survey does not allow researchers to associate each respondent with a specific organization. Past innovation research has shown that organizational-level antecedents such as policy area, past success/failure of innovation, and engagement in collaboration networks may influence innovation adoption or organizational capacity for innovation.

Finally, our study includes only European countries. Even though these countries show variation, our samples do not include developed countries outside Europe, which have wider variation in levels of politicization and legalism. We cannot claim that our findings are generalizable to other contexts. Despite these limitations, this study shows how the pro-innovation attitudes of public managers are associated with bureaucratic structures and professional background. In the field of comparative bureaucratic research, data collection is still in its early stages. We offer suggestions for future research methodologies in the conclusion.

### Empirical Strategy

Our multilevel analysis seems to be an appropriate method (Jones 2008) as our data have a hierarchical structure: public sector managers (level 1) are nested within country-level factors (level 2). A random intercept model is applied because the intercepts of individual-level variables may vary across countries because of country-level factors. Since the dependent variables are ordinal variables that have a natural ordering measured on three scales from 1 to 3, we employ multilevel ordered logit models.

We conducted five robustness checks. First, we reran the models using a single index variable instead of three different dependent variables to test whether we could see any major changes in results. Second, we reran the same models but using different country-level control variables instead of women in the public sector. These alternative variables include corruption perception among public officials/civil servants, administrative burden index, government net debt, government expenditure, government revenue, population size, Hofstede's cultural values (power distance, individualism, and uncertainty avoidance). We also included the country-level response rate of the COCOPS survey to control any potential country-level bias caused by survey participation. Third, we added the following individual-level variables to our main models in order to further test the robustness of our results: policy area of the respondent's organization, respondent's attitude toward collaboration networks, respondent's perception of whether public sector reform is driven by politicians or public officials/administration, and their perception of the importance of innovation in public sector reform in the past five years. Fourth, we reran the same models without the public sector experience variable, which caused relatively high VIF scores. Finally,

### Table 1 Descriptive Statistics

| Dependent variables                                      | N   | Mean | SD  | Min. | Max. |
|----------------------------------------------------------|-----|------|-----|------|------|
| Receptiveness to new ideas and creative solutions        | 5,335 | 2.60 | 0.65 | 1    | 3    |
| Change orientation                                       | 5,257 | 2.42 | 0.74 | 1    | 3    |
| Risk taking                                              | 5,265 | 2.02 | 0.72 | 1    | 3    |
| Independent variables                                    |     |      |     |      |      |
| Bureaucratic politization (H1)                           | 19  | -0.01 | 1.02 | -1.60 | 1.94 |
| Bureaucratic legalism (H2)                               | 19  | 0.04  | 1.02 | -1.74 | 1.46 |
| Law background (H3)                                      | 5,335 | 0.26 | 0.44 | 0    | 1    |
| Individual-level controls                                |     |      |     |      |      |
| Female executives                                        | 5,335 | 1.38 | 0.48 | 1    | 2    |
| Organizational type                                      | 5,335 | 1.16 | 1.20 | 0    | 5    |
| Organizational size                                      | 5,335 | 2.46 | 1.47 | 0    | 5    |
| Respondent's position                                    | 5,335 | 1.12 | 0.75 | 0    | 2    |
| Age                                                      | 5,335 | 1.00 | 0.77 | 0    | 2    |
| Public sector experience                                 | 5,335 | 1.35 | 0.75 | 0    | 2    |
| Private sector experience                                | 5,335 | 1.54 | 1.26 | 0    | 4    |
| Educational level                                        | 5,335 | 0.95 | 0.57 | 0    | 2    |
| Degree of job autonomy                                   | 5,335 | 29.37 | 10.67 | 8  | 56  |
| Job satisfaction                                         | 5,335 | 16.08 | 3.75 | 3    | 21   |
| Organizational goal clarity                              | 5,335 | 10.87 | 2.78 | 2    | 14   |
| Country-level controls                                   |     |      |     |      |      |
| Polity score                                             | 19  | 9.60 | 0.65 | 8    | 10   |
| Women in the public sector                               | 19  | 54.59 | 5.07 | 46.77 | 63.31 |

Notes: Countries included in analysis: Austria, Belgium, Croatia, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Lithuania, the Netherlands, Norway, Portugal, Serbia, Spain, Sweden, the United Kingdom. Samples are based on model 1.1.
calculated and visualized the predicted probabilities for the first and second dependent variables by degree of politicization calculated, based on the main model (figure 3). Higher values in the x-axis mean a more politicized bureaucracy, while lower values indicate a more meritocratic bureaucracy in terms of staff recruitment and promotion. The y-axis reports the predicted probabilities of three different attitudes toward two dependent variables. The first category (1 = strongly disagree) indicates that respondents show strong disagreement with the ideas that being creative and thinking up new ideas are important or change orientation. A value of 3 indicates that respondents have the most favorable attitudes toward creativity and new ideas. A value of 2 indicates a relatively neutral position.

As seen from figure 3, the probability of having a favorable attitude toward new ideas receptiveness and change orientation decreases as the degree of politicization increases. For instance, the probability of selecting the most favorable attitude toward new ideas is around 80 percent in professional bureaucracy, with a politicization score between −2 and −1.5 (Norway and Ireland levels), while the probability is around 40 percent in the most politicized bureaucracy with a score of 1.5 to 2 (Serbia and Hungary levels). Alternatively, the probability of selecting a negative attitude in these measures increases as the degree of politicization increases.

Tables 3 and 4 report predicted probabilities of receptiveness to new ideas and creative solutions and change orientation with a law degree. The probability of selecting the most favorable attitude (strongly agree) is slightly lower among managers with law degrees than those without. On the other hand, the probability of selecting the least favorable attitude (strongly disagree) are slightly higher among managers with a law degree. Having an educational background in law has a negative influence on the two foregoing measures, although the magnitude is not large.

Finally, one additional result that deserves mention is the positive effects of age on receptiveness to new ideas. Being 56 years or older is correlated to a higher value compared with managers less than 45 years old (p < .01). Being 56 years or older and being 46–55 years old are also associated with higher values of change orientation, but their statistical significance is not strong (p < .1). Previous studies on innovation have been divided regarding the effects of age. Longer tenure in the public sector, often associated with age, allows managers more insight into public organization tasks and to be more innovative but older managers often accept existing organizational conditions through socialization and have higher levels of psychological commitment to them; an obstacle for innovation (Damanpour and Schneider 2008). It is noteworthy that our results show positive associations between age and receptiveness to new ideas. In fact, recent meta-analysis of common older worker stereotypes reveals that they should not necessarily be associated with lower willingness to change (Ng and Feldman 2012). Our study adds further empirical evidence for doubting stereotypes of older workers.

Conclusions
This article has argued that public managers’ pro-innovation attitudes depend on their educational background and labor market conditions. Extrinsicly, public managers’ motivation depends on the existence of a competitive labor market offering them promotion opportunities in their public agency as well as in other (public or private) agencies.
### Table 2: Results from Multilevel Ordered Logistic Estimates

| Model 1.1 | Model 2.1 | Model 3.1 |
|-----------|-----------|-----------|
| **Receptiveness to New Ideas and Creative Solutions** | **Change Orientation** | **Risk Taking** |
| Independent variables | | |
| Bureaucratic politicization (H1) | \(-0.67^{**}\) | \(-0.59^{***}\) | \(-0.27\) |
| (0.33) | (0.13) | (0.20) |
| Bureaucratic legalism (H2) | 0.00 | \(-0.44^{***}\) | \(-0.06\) |
| (0.35) | (0.14) | (0.21) |
| Law background (H3) | \(-0.24^{***}\) | \(-0.15^{**}\) | \(-0.09\) |
| (0.08) | (0.07) | (0.06) |
| Individual-level controls | | |
| Female executives (ref. = male executives) | 0.11 | 0.11 | 0.00 |
| (0.07) | (0.06) | (0.06) |
| Org. type (ref. = Ministry at central gov’t) | \(-0.14^{*}\) | \(-0.22^{***}\) | \(-0.03\) |
| = Agency/subordinate gov. body central gov. | (0.09) | (0.07) | (0.07) |
| = Min. at state/regional gov. lvl. | \(-0.37^{***}\) | \(-0.03\) | \(-0.12\) |
| (0.13) | (0.11) | (0.11) |
| = Agency/subordinate gov. body at state/gov. | \(-0.19\) | 0.00 | \(-0.25^{**}\) |
| (0.15) | (0.12) | (0.12) |
| = Min. or other pub. body at sub. lvl | \(-0.41^{***}\) | \(-0.28^{**}\) | 0.25^{**} |
| (0.15) | (0.13) | (0.13) |
| = Other | \(-0.13\) | \(-0.29\) | \(-0.08\) |
| (0.34) | (0.27) | (0.27) |
| Organizational size (ref. <50) = 50–99 | \(-0.09\) | \(-0.05\) | \(-0.03\) |
| (0.14) | (0.12) | (0.12) |
| = 100–499 | \(-0.01\) | 0.10 | \(-0.05\) |
| (0.11) | (0.10) | (0.09) |
| = 500–999 | 0.10 | 0.31^{***} | 0.11 |
| (0.13) | (0.11) | (0.11) |
| = 1,000–5,000 | 0.13 | 0.29^{**} | 0.04 |
| (0.13) | (0.11) | (0.11) |
| = More than 5,000 | 0.05 | 0.29^{**} | 0.16 |
| (0.14) | (0.12) | (0.12) |
| Respondent’s position (ref. = top level in org.) | 0.06 | \(-0.16^{*}\) | 0.04 |
| = Second hierarchical level in org. | (0.09) | (0.08) | (0.08) |
| = Third hierarchical level in organization | 0.07 | \(-0.23^{**}\) | \(-0.04\) |
| (0.11) | (0.09) | (0.09) |
| Age (ref. = 45 or less) = 46–55 | 0.14 | 0.14 | 0.03 |
| (0.10) | (0.08) | (0.08) |
| = 56 or older | 0.34^{***} | 0.18 | 0.09 |
| (0.11) | (0.10) | (0.09) |
| Public sector experience (ref. = less than 10 years) | \(-0.19^{*}\) | \(-0.09\) | \(-0.06\) |
| = 10–20 years | (0.10) | (0.09) | (0.08) |
| = More than 20 years | \(-0.20\) | \(-0.22^{**}\) | \(-0.05\) |
| (0.13) | (0.10) | (0.10) |
| Private sector experience (ref. = none) | \(-0.06\) | 0.03 | 0.07 |
| = Less than 1 year | (0.10) | (0.08) | (0.08) |
| = 1–5 years | 0.17 | 0.16^{***} | 0.23^{***} |
| (0.09) | (0.08) | (0.07) |
| = 5–10 years | 0.38^{***} | 0.31^{***} | 0.27^{***} |
| (0.13) | (0.11) | (0.10) |
| = More than 10 years | 0.29^{**} | 0.03 | 0.54^{***} |
| (0.14) | (0.12) | (0.11) |
| Education level (ref. = BA level) = master’s level | 0.06 | 0.06 | 0.06 |
| (0.10) | (0.09) | (0.08) |
| = Doctoral level | 0.26^{***} | 0.23 | 0.12 |
| (0.13) | (0.11) | (0.11) |
| Degree of job autonomy | 0.02^{***} | 0.01^{**} | 0.02^{***} |
| (0.00) | (0.00) | (0.00) |
| Job satisfaction | 0.03^{***} | 0.00 | 0.01 |
| (0.01) | (0.01) | (0.01) |
| Organizational goal clarity | 0.01 | 0.02 | 0.00 |
| (0.01) | (0.01) | (0.01) |
| Country-level controls | | | |
| Polity score | \(-0.87^{*}\) | \(-0.57^{***}\) | \(-0.15\) |
| (0.50) | (0.19) | (0.30) |
| Women in the public sector | \(-0.03\) | \(-0.03\) | \(-0.02\) |
| (0.07) | (0.03) | (0.04) |
| Country-level variance | 1.55^{***} | 0.21^{**} | 0.55^{***} |
| (0.52) | (0.08) | (0.19) |
| Number of individuals (level1) | 5,335 | 5,311 | 5,319 |
| Number of countries (level2) | 19 | 19 | 19 |

Note: Standard errors in parentheses.  
***p < .01;  
**p < .05;  
*p < .1.
Public managers tend to exhibit more innovative attitudes, first, when career advancements in a country’s public sector largely depend on their performance, and not on their political connections; and, second, where the job market is open to diagonal movements to other public agencies or the private sector. Public managers working in systems in which promotions are highly regulated and restricted to internal candidates are likely to show lower levels of pro-innovation attitudes. We have also argued that a law degree discourages pro-innovation attitudes because legal values—as opposed to managerial values—imply preference of precedent over ambiguity and an overstatement of risk. Bureaucratic organizations creating a more innovative culture will be those using merits and capabilities to determine bureaucrats’ careers, opening managerial positions to external applicants and where most public managers do not have legal training. Empirically, we have shown that professional bureaucracies encourage public sector managers to take pro-innovation attitudes, as measured by their views toward the importance of creative and new ideas and change orientation (hypothesis 1). Also, a law degree is slightly negatively related to public managers’ potential to be innovative, measured by the same attitudes (hypothesis 3).

Our work contributes to the literature on good governance and public sector innovation in three ways. First, the results show variation in civil servants’ attitudes toward innovation across countries and a link between bureaucracy characteristics and such variations. Good governance studies show the key role that bureaucratic institutions’ characteristics play in determining the level of macro-level outcomes. However, they overlook an association between macro-level factors and individual public officials, leaving civil servants out of the analysis. This study aimed to bring individual civil servants into studies of national bureaucracy.

Second, our study examined a link between bureaucratic legalism and pro-innovation attitudes from a comparative perspective. In the public administration field, there is a dearth of large-N comparative studies of civil servants’ attitudes and of large-scale cross-national studies of public sector innovation (Clausen, Demircioğlu, and Alsol 2019; de Vries, Bekkers, and Tummers 2016). While bureaucratic politicization and excessive legalism have been considered as obstacles for low-performing governments (Kickert 2007; Painter and Peters 2010c), empirical evidence is not enough. The study’s results suggest the importance of examining macro-institutional factors for individual civil servants’ attitudes and values, which has been missing in public management (Milward et al. 2016; Roberts 2018). Finally, our results suggest that senior managers’ attitudes toward innovation are linked with the foregoing institutional and individual factors. Future cross-national study should investigate how attitudinal differences lead to actual innovation outcomes.

The following are suggestions for future research. First, our data set does not allow for measuring multidimensionality of pro-innovation attitudes utilizing multisurvey items or to control for potentially significant factors, including past innovation success/failures, or managers’ engagement in collaboration networks. Furthermore, our data set does not contain objective organizational-level variables (e.g., on capacity, resources, leadership, past innovation experience, and innovation outputs). Further data collection on those variables could shed more light on what leads to pro-innovation attitudes in the public sector. Second, future research could utilize alternative research designs—such as panel data, experimental data analysis, or qualitative case studies—to obtain more insights into the causal mechanisms linking individual and administrative characteristics to pro-innovation attitudes. Third, we encourage further data collection focusing on street-level or mid-level civil servants—not just senior managers—as well as on countries outside Europe to seek generalizability of results and a more context-based analysis.

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Notes
1 Anglo-American countries include the United Kingdom, Ireland, the United States, Australia, Canada, and New Zealand.
2 See previous meta-analyses of innovation for the positive association between managerial attitudes toward change and innovation (e.g., Damanpour 1991).
3 In their review article, which identified 20 theoretical frameworks of innovation adoption, Wisdom et al. (2014) show that individual-level readiness and motivation for change and attitudes toward change are associated with the pre-adoption stage of innovation (e.g., innovation awareness). Furthermore, pro-innovation attitudes and individual- and organizational-level perceived need for change have a positive link with innovation adoption. In a meta-analysis of 73 publications, de Vries, Tummers, and Bekkers (2018) find resistance to change to be a negative factor for innovation adoption.
4 The COCOPS Executive Survey data set is used, for example, in Fernández-Gutiérrez and Van de Walle (2019); George, Van de Walle, and Hammerschmid (2019); Hammerschmid et al. (2019); Jeannot, Van de Walle, and Hammerschmid (2018); Lapuente, Suzuki, and Van de Walle (2020); Suzuki and Hur (2019); and Van der Voet and Van Walle (2018). The QoG Expert Survey is used, for example, in Charron, Dahlström, and Lapuente (2016); Cornell (2014); Cornell and Grimes (2015); Dahlström and Lapuente (2017); Nistotskaya and Cingolani (2016); Schuster (2016, 2020); and Suzuki and Demircioglu (2019).
5 The index is multiplied by −1 to reverse its scale (i.e., larger values indicate more politicization).
6 We thank an anonymous reviewer for pointing this out.
7 We thank an anonymous reviewer for pointing this out.
8 For example, Fernandez and Moldogaziev (2012) and Fernandez and Pitts (2011) use a single survey item regarding new ideas as an indicator for employee motivation to innovate: Jung and Lee (2016) use risk taking as one factor for employees’ aspirations for innovation and use readiness for new challenges, which is similar to our second dependent variable. In Damanpour and Schneider (2008), pro-innovation attitude consists of survey items regarding favoring competition and entrepreneurship, which are slightly related to our first and second dependent variables but do not include items regarding risk taking. In Bysted and Jespersen (2014), innovative work behavior includes attitudes toward new ideas but does not include change and risk attitudes. Torugsa and Arundel (2017) specifically examine a relationship between risk adverse organizational culture and innovation success.

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Supporting Information
A supplementary appendix may be found in the online version of this article at http://onlinelibrary.wiley.com/doi/10.1111/puar.13175/full.