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# **When and why high civil servants demand information from interest groups in policymaking.**

## **A Southern European perspective**

Giliberto Capano and Andrea Pritoni

### **Abstract**

Studying how public administrations proactively search for information from interest groups provides a new perspective for a better understanding of how bureaucratic policymaking works and how civil servants interact with interest groups. Building on data collected through an online survey submitted to approximately 700 high-level public servants in Greece, Italy and Portugal, this paper investigates whether and how organisational and individual policy analytical capacities (dis)incentivise top officials' solicitation and use of information provided by interest groups in policymaking. The emerging evidence is counter-intuitive: those who seek information from interest groups most frequently are the most competent top officials in the least (individually perceived) competent areas of public administration. Thus, focusing on policy analytical capacities could be very useful for understanding administrative behaviour.

### **Keywords**

Southern Europe – Interest groups – Public administration – Public policy – Survey research – Greece – Italy – Portugal

## **1. Introduction**

The interaction between stakeholders and policymakers is one of the most studied aspects of policymaking (Binderkrantz, Pedersen & Beyers 2017). Generally, policymakers involve stakeholders in the policy process and obtain policy information and political support from them in exchange (Bouwen 2002). Policy information is crucial in several respects. First, it helps in the design of evidence-based policies (De Marchi, Lucertini & Tsoukiàs 2016) and thus improves the quality of policy design (Peters 2018). Second, taking information provided by societal groups into account and, more broadly, involving stakeholders in policymaking are beneficial for democratic responsiveness (DeMenno and Mercy 2019) and for the perceived legitimacy of institutions making political decisions (Bunea 2019, p. 7).

Overall, the exchange of information between policymakers and stakeholders is alternatively considered institutional access per se (Gullberg 2011) or a precondition for other

forms of access (Binderkrantz, Pedersen & Beyers 2017). In any case, the vast majority of theorisations have built on exchange theories (Austen-Smith 1996), claiming that interest groups enjoy institutional access because they provide policymakers with the technical and political information they need (the so-called access goods: Bouwen 2002; 2004) and contribute to legitimising approved policies in the eyes of citizens and other political, bureaucratic and socioeconomic actors (Bunea & Nørbech 2023).

Our contributions to this literature are threefold: analytical, theoretical, and empirical.

Analytically, while there are plenty of (theoretical and empirical) works in the literature that focus on the relationship between political decision-makers and interest groups (among others: Chaqués-Bonafont & Muñoz Márquez 2016; Gava *et al.* 2017; Otjes & Rasmussen 2017; Allern *et al.* 2022; Røed 2022), the (European) literature on interactions between interest groups and civil servants is relatively underdeveloped (Reenock & Gerber 2008; Rasmussen & Alexandrova 2012; Beyers & Braun 2014). Moreover, even when that interaction has been scrutinised, it has been analysed mainly from the perspective of interest groups and what they have to offer to public servants in order to be involved in policymaking, whereas the characteristics of top officials have received much less attention. Thus, we aim to shed light on the bureaucratic side of this relationship, focusing on high-level public servants within ministries<sup>1</sup>. This analytical perspective is very fruitful for gaining a better understanding of insufficiently studied characteristics of administrative behaviour.

Theoretically, regardless of the main ultimate motivations (the need for information or for legitimacy/reputation) for high-level civil servants to interact with stakeholders, we are interested in highlighting which organisational and individual factors are the main drivers of this interaction from the bureaucratic side. Drawing on the extensive literature on the characteristics of policy work, we operationalise the bureaucratic side of institutional access in terms of the solicitation of (technical and political) information; thus, it is reasonable to focus on the impact of public administrations' (organisational level) and high-level civil servants' (individual level) policy analytical capacities on nurturing this exchange.

Empirically, we focus on countries – Greece, Italy and Portugal – that have not previously been analysed regarding civil servant-stakeholder relationships, and with systemic policy analytical capacities that have always been considered poor in comparison with those of other European countries. Therefore, we aim to fill a clear empirical gap in the literature.

In summary, our research question (**RQ**) is as follows: *Is there any relationship between (organisational and individual) policy analytical capacities and the likelihood and frequency of Greek, Italian and Portuguese high-level public servants soliciting data and information*

*from interest groups?* To answer this question, this study builds on data from an online survey submitted to approximately 700 top ministerial officials in the abovementioned three Southern European countries, which are considered similar in terms of administrative traditions. This research question can also provide a more fine-grained perspective on the micro-administrative drivers of public consultations, which are considered a powerful instrument for designing better policies on the basis of deeper empirical evidence.

The empirical results show that, in the three analysed countries, the most competent top officials in the least (individually perceived) competent sectors of public administration are those who most frequently solicit information from stakeholders. Furthermore, a more intense interaction with stakeholders is the prerogative of top officials who are higher in the bureaucratic hierarchy, who have less seniority, and who work within ministries dealing with welfare affairs.

The paper proceeds as follows: in the next section, we review the main literature on public servant-stakeholder interactions and on policy analytical capacities; in section three, we present our theoretical framework; in section four, we discuss the research design; in section five, we offer empirical findings; finally, the sixth section concludes and suggests potential directions for future research.

## **2. Literature review**

On both sides of the Atlantic Ocean, the literature on interest groups' institutional access is essentially boundless (Pritoni & Vicentini 2022). Regarding US studies, the many institutional access points characterising the American system led scholars to analyse interest groups' access through the concept of multilevel venue shopping (Holyoke 2004), assessing where groups tend to concentrate their lobbying activities. Other interesting US peculiarities – if we compare American to European studies – are the importance of directly interacting with individual members of Congress (Balla & Wright 2001), the possibility of describing policymaker-stakeholder relationships in terms of legislative subsidies (Hall & Deardorff 2006), and the peculiar dynamics characterising interest groups' access to the US president (Holyoke 2004). However, while we are aware that the abovementioned studies have made crucial contributions to the topic, due to the well-known institutional and political differences between the US and Europe (as well as space constraints), we focus our literature review mainly on works that analyse EU and (Western) European cases.

Most of these studies have examined institutional access from a multi-arena perspective. For instance, the EU is a typical case for conducting multi-arena empirical research due to its complex institutional setting. Following the seminal works of Bouwen (2002; 2004), who theoretically modelled and empirically verified the access of individual firms and national and supranational associations to the European Commission, Parliament and Council, many other scholars have chosen to focus on supranational access, often revealing differences among institutional venues (Beyers & Kerremans 2012; Beyers, Donas, & Fraussen 2015; Arras & Braun 2018; Albareda & Braun 2019; Coen & Katsaitis 2019; Hanegraaff & Berkhout 2019). Similar studies have been conducted at the country level. For example, studies have focused on Denmark (Binderkrantz, Christiansen & Pedersen 2015), the Netherlands (Beyers & Braun 2014), and Switzerland (Weiler *et al.* 2019), and have even compared different polities, such as Denmark and Norway (Rommetvedt *et al.* 2013), Denmark and Switzerland (Christiansen, Mach & Varone 2018), and Denmark, Finland and the UK (Vesa, Kantola & Binderkrantz 2018).

In summary, this broad body of literature has agreed that interest groups' access can ultimately be explained based on exchange theories (Austen-Smith 1996). More precisely, groups are assumed to have detailed knowledge of their policy area (Bouwen 2002) and to be formidable tools for conveying electoral consensus among their members (Beyers 2004). Both detailed knowledge and electoral consensus are crucial resources for policymakers, who are called upon to produce 'quality' legislation and, above all, to be continuously re-elected. Thus, groups assist poorly informed policymakers by providing them with cognitive tools to fully understand the policy consequences of various options at stake; furthermore, they prefigure a number of alternative scenarios regarding the effects, in terms of electoral consensus, of the various choices, supporting certain options and discouraging others. A mutually beneficial exchange therefore takes place between interest groups, on the one hand, and policymakers, on the other: the former provide the latter with resources that the latter consider crucial and receive institutional access in return. It follows that not all interest groups enjoy the same level of access, as it depends on the amount and variety of goods (of interest to policymakers) that each group is able to offer.

These general trends have also been substantially confirmed also with regard to the sole administrative/bureaucratic arena. In particular, when studying open consultations in the EU, Reenock and Gerber (2008, p. 430) confirmed that interest groups' access is indeed conditional on the quality of group information used in policy implementation; similarly, Rasmussen and Alexandrova (2012) found that foreign states representing economically well-connected

markets are more likely to obtain access to EU institutions, and the same held true for interest groups with greater economic resources (Rasmussen & Gross 2015). Moreover, the level of bias among different types of interest groups has been convincingly linked to the specific format of the consultations under analysis (Quittkat 2011; Fraussen, Albareda & Braun 2020; Binderkrantz, Blom-Hansen & Senninger 2021), the characteristics of the policy issue (Rasmussen & Carroll 2013; Van Ballaert 2017; Røed & Vibeke 2018) and the EU agencies involved (Pérez Durán 2018). This EU-level literature has also given rise at the national level to interesting studies on the relationship between interest groups and civil servants in Belgium (Fraussen, Beyers & Donas 2015) and Germany (Fink & Ruffing 2020) (see Table SM1 in the Supplementary Materials for a systematic summary of the literature cited).

However, more recent empirical analyses have highlighted other potential factors encouraging public servants (and, more broadly, public administrations) to involve interest groups in policymaking: in particular, the need to lessen political actors' control over them (Arras & Braun 2018) and to increase their own legitimacy and reputation (Bunea & Norbech 2023). More precisely, civil servants may interact with interest groups not only because they need crucial information but also to consolidate their foundational, long-established core reputation of being evidence-based policymakers and to increase the social legitimacy of the policies approved and implemented.

However, we believe that to shed light on public servant-interest group interactions, we must take into account the civil servants' side as well as the interest groups' side. In particular, to test whether top officials (and civil servants more broadly) solicit information from interest groups, we should take into account their specific capacities. Focusing on this side of the relationship is not entirely new: Gornitzka and Sverdrup (2008), for instance, demonstrated that the density of organised expert groups is highest in the policy areas where administrative and policymaking capacity has been amassed in the EU Commission. Similarly, Braun (2013) showed that civil servant-interest group interactions are likely to be dictated by routine behaviour and anticipating future consequences and not only by short-term exchanges of resources. However, this road has been very little travelled and needs conceptual and analytical clarification. On this subject, another strand of the literature, on policy analytical capacities, can help greatly<sup>2</sup>.

The focus on policy capacities has become highly relevant in the public policy literature (Howlett & Mukherjee 2018; Newman, Cherney & Head 2017; Karo & Kattel 2018; Daugbjerg, Fraussen & Halpin 2018; Bali & Ramesh 2018). Within this stream of research, particular attention has been paid to the concept of policy analytical capacities, which can be defined as

the set of skills and resources, or competences and capabilities, necessary to produce and/or collect policy-relevant knowledge (Howlett 2009; Parrado 2014; Wu, Howlett & Ramesh 2015; 2018) (see, on this, Table SM2 in the Supplementary Materials). More precisely, at the individual level, policy (analytical) capacity is the set of professional techniques in which top officials are skilled. Thus, an individual can be more or less competent or trained in juridical analysis, cost-benefit analysis, or strategic planning, or could have technical professional expertise in multiple areas. Organisational analytical capacity refers to the set of resources and skills through which the information and data necessary to perform policy functions are acquired and processed (Wu, Howlett & Ramesh 2015; 2018). Thus, an organisation can have more or less efficient internal information systems or an organisational architecture more or less capable of collecting and disseminating the information that is necessary for performing the related policy functions. Finally, systemic analytical capacity refers to the extent and quality of systemwide data collection, the availability of access for different stakeholders, and the level of competition and diversity in the process of producing policy knowledge (*ibidem*).

The focus on analytical capacities is very promising for understanding whether and how policymakers (and above all public servants) are equipped to treat information and knowledge appropriately. In particular, evidence has shown that analytical capacities are a fundamental component of bureaucratic policy work (Vesely, Wellstead & Evans 2014; Howlett, Wellstead & Craft 2017). What civil servants do, then, is intrinsically connected with their analytical capacities and with the analytical capacities of the organisation where they work. The seminal empirical studies on this topic (Wellstead, Stedman & Lindquist 2010; Howlett & Wellstead 2011; Howlett, Wellstead & Craft 2017), conducted particularly in Anglo-Saxon countries, have found that interacting with stakeholders is one of the activities in which top officials are involved. This has been confirmed by empirical analysis of countries outside the Anglo-Saxon world, such as the Philippines (Saguin, Ramesh & Howlett 2018), Belgium (Aubin & Brans 2020), the Czech Republic (Vesely, Wellstead & Evans 2014) and Brazil (Filgueiras, Koga & Viana 2020; Koga *et al.* 2022), as well as in Southern European countries (Capano, Cavalieri & Pritoni 2023). Interestingly, while this stream of research is deeply committed to investigating what public servants do in terms of policy activities and what their analytical capacities are, the issues of why civil servants consult interest groups and whether and how bureaucratic analytical capacities interact with consultation with external stakeholders have not previously been addressed.

In summary, we aim to build a bridge between literatures that – although dealing with the same relationship, albeit from different perspectives – have never before directly communicated with each other.

### **3. Theoretical framework**

To build a bridge between the interest group literature and public policy literature on the policy capacities of public servants, the first step is to reverse the point of view usually utilised when studying the bureaucratic access of interest groups: in particular, we must focus more on the characteristics of top officials who grant institutional access than on those of interest groups seeking that access. However, public servants do not work in a *vacuum*; they perform their daily policy tasks within specific organisational units, which in turn are embedded in a comprehensive administrative system. In other words, we might be persuaded to take into account three different analytical and empirical levels of analysis: the overall administrative system, the single organisational unit, and the individual top official.

However, to build an actor-centred theoretical framework based on the point of view of the individual public servant, we must admit that her/his behaviour is only loosely linked with the characteristics of the overall administrative system within which she/he operates. First, each administrative system, although characterised by features common to its various organisational units (Kuhlmann & Wollmann 2014), is generally highly internally heterogeneous, with each organisational unit endowed with its own peculiarities and organisational culture (Chritensen & Lægveid 2011). Second, to deal with policy analytical capacities in more detail, the individual public servant has a much more precise perception of the (in)efficiency of the organisation within which she/he works, carrying out her/his activities on a daily basis, than of the overall administrative system, which he/she often perceives as more abstract and distant<sup>3</sup>. In other words, the interconnection between the individual and organisational levels appears to be much closer. Consequently, it seems more plausible to focus on only two levels of analysis, the organisational and the individual, with the systemic level playing a more subordinate role.

If these analytical foundations sound convincing, let us consider which high-level public servant will most frequently solicit data and information from interest groups. There are different answers to this question, based mainly on considerations that pertain to the organisational and the individual level of analysis.

Let us start with the organisational level. Top officials working in an inefficient organisation (*i.e.*, an organisation that does not adequately provide the collection and

dissemination of information that is functionally needed to achieve the organisational mission) will probably be more inclined to solicit data and information from actors outside the public administration. This depends on the awareness of the civil servant that she/he cannot rely on resources internal to the public administration in which she/he works. In other words, information provided by external actors (particularly interest groups) is a substitute for information and knowledge that are not sufficiently available within the organisational unit where the top official works. Thus, the relationship between organisational analytical capacities and the solicitation of information from outside is inverse: as the former increases, the latter decreases, and vice versa. All this leads to our first theoretical hypothesis:

**H1 (organisational capacity hypothesis):** *Top officials working in public administrations that they perceive as characterised by lower organisational policy analytical capacities are more likely to solicit data and information from interest groups.*

At the organisational level, therefore, public administrations that are perceived as unable to generate all the information they need to operate on their own are forced to request it from the outside, and interest groups are ‘natural’ providers of such information (Bouwen 2002). Thus, at this level, the traditional logic of exchange is expected to prevail: interest groups provide resources that the organisation lacks. If the same logic also works at the individual level, we can further expect that top officials will demand more information from interest groups precisely due to their potential lack of appropriate professional knowledge or expertise in dealing with specific policies. In other words, data and information, on the one hand, and individual analytical capacities, on the other hand, might be considered substitutes: low-skilled civil servants try to counterbalance their limited capacities by soliciting more information from external actors. In contrast, civil servants with more analytical capacities are less inclined to interact with stakeholders to solicit information because they presumably already have all they need to perform their policy tasks.

However, we also suggest a different (and more counter-intuitive) line of reasoning. Whereas administrations with low organisational analytical capacity need external information and data to perform their activities, those that practically solicit the same data and information might be top officials with higher – not lower – individual analytical capacities. The reason is that they are the only actors with the cognitive tools needed to process information and data and to transform them into the actual knowledge they need in order to perform their daily policy work. In other words, highly skilled civil servants are more likely to urgently need to integrate

the inefficiencies of the public administrations where they work; furthermore, they are the only ones who can efficiently use external information to perform policy tasks. The two abovementioned lines of reasoning lead to two contradictory theoretical hypotheses:

**H2a (individual capacity hypothesis: indirect):** *Top officials with lower individual policy analytical capacities are more likely to solicit data and information from interest groups.*

**H2b (individual capacity hypothesis: direct):** *Top officials with higher individual policy analytical capacities are more likely to solicit data and information from interest groups.*

We should clarify that we are not interested in the ultimate individual motivations that encourage civil servants to solicit information from interest groups. They might do so for various reasons, for example, *i*) because they are sincerely worried about the organisational performance of their public administration (Perry & Hondeghem 2008; Meyer *et al.* 2014); *ii*) because they want to consolidate their personal reputation and/or bureaucratic power *vis-à-vis* politicians and/or other civil servants (Arras & Braun 2018); or *iii*) because they want to increase the social legitimacy of their organisational unit (Bunea & Norbech 2023). More narrowly, we want to emphasise that organisational and individual policy analytical capacities should play a role in making the interaction between civil servants and interest groups, conceptualised and operationalised as the solicitation of information, more likely. This focus allows for a finer-grained perspective on an issue that is usually studied at the macro-level (with the aim of assessing systemic performance in public consultation, as, for example, defined by the indicators of the well-known Bertelsmann-Stiftung Index) and thus opens a more precise line of research to better understand the dynamics of information exchange between civil servants and interest groups.

#### **4. Research design**

To test our framework, we rely on data retrieved from an online survey submitted to approximately 700 top ministerial officials in three Southern European countries: Greece, Italy and Portugal. We chose these countries for several reasons. From a theoretical point of view, their administrative systems are considered rather similar. In particular, there is a vast academic consensus that they are all characterised by centralism, political control over bureaucracy, lack of reputable administrative elites, party patronage and clientelism in personnel recruitment, and

legalism rooted in the Napoleonic tradition, complemented by informal shadow governance structures, uneven distribution of resources, institutional fragmentation, and insufficient mechanisms for policy coordination (Barzelay & Gallego 2010; Ongaro 2010a; 2010b). Moreover, even though they have been subject to recent public administration reforms aimed at involving stakeholders in policymaking (Sotiropoulos 2004; Ongaro 2010b; Kickert 2011; Lampropoulou 2017; Capano & Lippi 2021), the level of public consultation (intended as an exchange of views and information in policymaking between the government and societal actors, including interest groups) has been very low in these three countries over the past ten years (European Commission 2018; Bertelsmann-Stiftung 2022).

From an empirical point of view, our analysis concerns countries whose policy analytical capacities have never previously been analysed. More precisely, those analytical capacities are often deduced simply from an aggregate macro-perspective through examinations of national administrative performance. For example, the capacity of the three countries to adopt evidence-based policy is ranked very low (Bertelsmann-Stiftung 2022). Moreover, Greece, Italy and Portugal have seldom been studied with respect to interest group politics (Pritoni 2019a; 2019b; Lisi 2022), particularly in terms of the relationship between civil servants and stakeholders. Therefore, we aim to fill a clear empirical gap in the literature.

The main methodological instrument we used was an online survey, and the final sample of respondents comprised a total of 695 individuals (Greece: 116; Italy: 498; Portugal: 81), with variations in the response rate across the three countries (Greece: 11.6%; Italy: 26.8%; Portugal: 6.3%) (Table 1). Despite the low response rates in Greece and (above all) in Portugal, the application of the Gallagher index of disproportionality (Gallagher 1991) confirmed that although our final sample was rather smaller than the number of individuals we invited, it was nonetheless representative of the whole population that was invited (see also Section B in the Supplementary Materials).

[TABLE 1 AROUND HERE]

Regarding the other side of the coin – *i.e.*, interest groups – there is no universally agreed-upon definition of what an interest group is or should be. In particular, we can differentiate between an organisational and a behavioural definition. In the former case, only representative associations (business groups, labour unions, environmental associations, etc.) are considered interest groups, whereas in the latter case, individual firms, lobbying agencies, institutions and even citizens, when putting pressure on policymakers to transform their

requests into public policies, should also be considered interest groups (Chalmers, Puglisi & van den Broek 2020). Generally, the choice of the definition depends on the research question. Thus, since civil servants interact not only with associations but also with many heterogeneous stakeholders (including firms and lobbying agencies), we opted for the behavioural definition<sup>4</sup>.

Regarding our *dependent variable* (DV), we used the following specific question: ‘*To what extent do you personally or your administration solicit information and data from the following actors?*’ The respondents chose among five potential answers: never (= 1); a few times per year (= 2); at least once a month (= 3); at least once a week (= 4); and daily (= 5). Given that we asked top officials how frequently they solicited information from *i*) entrepreneurial associations and labour unions, *ii*) NGOs, *iii*) citizen groups, *iv*) lobbying agencies, and *v*) individual firms, our final DV was an additive index ranging from 5 to 25<sup>5</sup>.

The impact of organisational and individual analytical capacities on the DV was empirically tested through the operationalisation of two different *independent variables* (IVs) that both originated directly from our survey. In particular, *organisational analytical capacities* (**H1**) were measured on the basis of the following question: ‘*How much do you agree with the following statements concerning the capacities of your administration?*’<sup>6</sup>. All respondents could answer on a scale from 1 (= completely disagree) to 10 (= completely agree) regarding the adequacy of their organisation in terms of *i*) quantity of personnel, *ii*) quality of personnel, *iii*) budget, *iv*) specialistic formation, *v*) coherence of decisions, *vi*) availability of data, *vii*) joint work with other administrations, *viii*) evidence-based policymaking, and *ix*) public trust. Thus, this IV resulted in an additive index ranging from 9 to 90<sup>7</sup>. In addition, *individual analytical capacities* (**H2a** and **H2b**) were measured on the basis of the following question: ‘*Please assess your current level of familiarity with the following activities: i) realising online consultations, ii) legal analyses, iii) statistical analyses, iv) economic (cost-benefit) analyses, v) accounting-financial analyses, vi) organisational analyses, vii) scenario analyses, viii) analyses of the impact of regulation, ix) preparing memos and policy reports, and x) experimental design techniques?*’. Again, the respondents had to assess their level of familiarity with those activities on a scale from 1 (= no familiarity at all) to 10 (= complete familiarity). Thus, this IV resulted in an additive index ranging from 10 to 100<sup>8</sup>.

Finally, we retested earlier hypotheses and included them as control variables. More precisely, at the country level, we controlled for both the degree of neo-corporatism of the country (Jahn *et al.* 2022), on the basis of previous research showing that civil servant-interest group relationships are more frequent in corporatist countries (Rommetvedt *et al.* 2013; Vesa, Kantola & Binderkrantz 2018), and systemic analytical capacities (Bertelmann-Stiftung 2022),

to assess whether the characteristics of the whole administrative system had an impact on top officials' individual behaviour<sup>9</sup>. Then, we controlled for the type of ministry, with a tripartition of welfare ministries (the reference category), economic ministries and core ministries, on the basis of previous studies claiming that civil servant-interest group relationships are more frequent when public administrations have high regulatory powers (Pérez Durán 2018). Finally, we also controlled for various individual peculiarities: *i*) hierarchy (whether the respondent was a first- or second-tier top official); *ii*) the respondent's seniority (*i.e.*, the year she/he started working in the public administration); *iii*) whether she/he had previously worked in the private sector (dummy variable); *iv*) whether the respondent had a PhD (dummy variable); *v*) the respondent's age (year of birth); and *vi*) how frequently she/he solicited information from other institutions (national government, EU institutions and other administrations). This final control variable was necessary to avoid the risk that the empirical findings depended on a general propensity to solicit information not specifically linked to interest groups. All our methodological choices are summarised in Table 2.

[TABLE 2 AROUND HERE]

## 5. Multivariate analyses

To explain patterns of civil servant-stakeholder interactions at the individual level, in this section we present five OLS regressions<sup>10</sup>: the DV is always the same (soliciting data and information from interest groups), while the set of control and IVs varies. More precisely, Model 1 presents only control variables, whereas in Models 2 and 3, we test H1 (organisational capacity hypothesis) and H2a/H2b (individual capacity hypotheses), respectively. Finally, Model 4 presents all the variables considered (see Table 3).

[TABLE 3 AROUND HERE]

First, H1 receives robust empirical support. In Model 2, the relation between our DV and organisational analytical capacities is, as expected, *inverse* and statistically significant (p-value < 0.05); this also holds true in Model 4 (p-value < 0.01). This means that individual civil servants working in administrations that they perceive as poorly equipped with organisational analytical capacities are those who most frequently solicit data and information from interest groups. Regarding individual analytical capacities, we had contradictory expectations: on the

one hand, H2a hypothesised an inverse relation between IV and DV; on the other hand, H2b claimed that the relationship should be direct. The empirical findings clearly support the latter: a *direct* relation with the DV is found at the highest level of statistical significance ( $p$ -value  $< 0.01$ ) in both Models 3 and 4. This probably means that, at least at the individual level, data and information, on the one hand, and analytical capacities, on the other hand, are neither synonymous nor substitutes. This finding implies that it is not possible to counterbalance an individual lack of capacity with more data and information because in that case, there would be no cognitive instruments available to manage the information. In other words, only highly skilled civil servants can efficiently use external information to perform their policy tasks.

Empirical results are robust even if we change the statistical model, the operationalisation of systemic analytical capacities, as well as the operationalisation of the DV and IVs<sup>11</sup>. Furthermore, results are robust even if we use country dummies to verify (eventual) country-specific differences (see Table SM17 in the Supplementary Materials), which also valuably means that countries are very similar to one another on this. Moreover, the facilitating role of the *coterminous presence* of low organisational analytical capacities *and* high individual analytical capacities is further confirmed if we recur to a composite and interactive variable taking into account both values, opportunely log-transformed, at the same time (see Table SM15 in the Supplementary Materials). On the contrary, the statistical significance of organisational analytical capacities (H1) disappears if we change the definition of interest groups, passing from the behavioural definition to the organisational definition (see Table SM13 in the Supplementary Materials). However, given that civil servants interact with both representative associations, on the one hand, and firms, lobbying agencies, institutions and other individual actors, on the other hand, we are confident that the most theoretically useful definition of interest group is the behavioural one rather than the organisational one.

Regarding the control variables, we found a few very interesting statistically significant relations. The strongest (and most expected) relates to the frequency with which high-level civil servants interact with other institutional actors (namely, the national government, EU institutions and other national and regional public administrations): a top official tends to solicit data and information from a great variety of different sources. However, it is worth mentioning that this control variable does not impact the explanatory power of our IVs, confirming that policy analytical capacities are inextricably linked with our DV. The type of ministry, hierarchy, seniority and, to a lesser extent, education are also associated with the DV. More precisely, high-level civil servants working in welfare ministries are more likely to interact with interest groups than their colleagues in economic ministries and core function ministries<sup>12</sup>. This result

is interesting because it shows how the characteristics of the policy issues at stake directly influence civil servants in searching for information and data from interest groups. Welfare policies are the most politically salient due to their target and their direct effect on the interests of well-structured and powerful interest groups.

Hierarchy also plays a role; in particular, civil servants in the highest positions interact with interest groups the most. These findings show how interaction with interest groups is considered a highly politically sensitive issue. Therefore, it is developed through those who are at the top of the bureaucratic hierarchy and thus are politically responsible for administrative behaviour.

Regarding seniority, given that we operationalise this variable based on the year in which the respondent started working in public administration, the positive coefficient means that top officials with less seniority are more likely to solicit data and information from interest groups. This result is surprising and difficult to explain without further and deeper data. However, it opens the door to the hypothesis that younger top officials have different analytical capacities than more senior officials and/or that they have been trained or socialised to the job in a different way. This could be a signal of the positive effects of the administrative reforms introduced in the three Southern European countries over the last several decades. It is well known, in fact, that in all three countries, the reforms introduced in the last two decades have focused on modernising the training and skills of newly recruited civil servants (Madureira 2015; Lampropoulou 2017; Capano & Lippi 2021). We also see an unexpected inverse relation between education (*i.e.*, whether the respondent held a PhD) and interactions with interest groups: top officials without a PhD solicit data and information from groups more frequently than their colleagues with a PhD. Perhaps more educated top officials are less likely to believe that they need external information.

Finally, the test of systemic analytical capacities yields contradictory results: while in Model 1, where only control variables are empirically tested, the coefficient is negative and statistically significant, albeit at the minimum level ( $p\text{-value} < 0.10$ ), in Model 4, where all variables are jointly considered, the coefficient is still negative but no longer statistically significant. Our suspicion that systemic characteristics are poorly correlated with individual behaviour is thus substantially confirmed: the fact that Greece, Italy and Portugal are equipped with different systemic analytical capacities (Capano, Cavalieri & Pritoni 2023) barely impacts the varying propensity of Greek, Italian and Portuguese civil servants to solicit data and information from interest groups.

## 6. Concluding remarks and future research

This work challenges the literature in several respects. Analytically, we changed the perspective used by scholars to study civil servant-stakeholder interactions, focusing on the characteristics not of the latter but of the former. In this way, we made an original contribution to a field characterised by many theoretical and empirical studies. Theoretically, we demonstrated that policy analytical capacities, at both the organisational and individual levels, influence the likelihood of high-level civil servants soliciting data and information from interest groups. Empirically, we presented fresh and novel data on top officials in three countries – Greece, Italy and Portugal – that have not been previously studied with regard to policy analytical capacities or interest groups’ access to the bureaucratic arena. In addition to what we already emphasised on policy analytical capacities, empirical results are also interesting because while they show that hierarchy still matters in these ‘legalistic’ administrations, at the same time, reveal that consultation is more probable for welfare policies and that younger public servants are more accustomed to consulting interest groups. In particular, this latter empirical finding is very interesting, suggesting that the reforms introduced in the last two decades (Madureira 2015; Lampropoulou 2017; Capano & Lippi 2021) pushed newly recruited civil servants to interact with stakeholders more frequently than in the past. Moreover, it should be emphasised that Greece, Italy and Portugal do not show any particular differences to one another in the likelihood that their respective high civil servants solicit data and information from interest groups. In any case, the fact that the likelihood of high-level civil servants soliciting information is greater when they hold high policy capacities provides a finer-grained perspective on the administrative dynamics of the analysed countries.

With this work, we have only begun to scratch the surface of a research effort that should be deepened soon. In this regard, we imagine (at least) six potential directions for future research.

First, it would be interesting to analyse whether the evidence of our empirical analysis also extends to the fourth largest country in Southern Europe, Spain, and potentially characterises other types of administrative systems (the Nordic model or Anglo-Saxon model), as well as whether and how different historical legacies and traditions impact the individual bureaucratic demand for information from interest groups. As for Spain, the similarity among countries that we showed in this work leads to suspect that there is a sort of ‘Southern European way’ of consulting interest groups: thus, it would be extremely useful to test whether or not this is actually the case. But do organisational and individual policy analytical capacities have the

same impact even in administrative systems belonging to different traditions, such as the Dutch, Danish, or Finnish system, which are characterised by much higher performance in public consultations and evidence-based policymaking (European Commission 2018; Bertelsmann-Stiftung 2022)? From this perspective, this paper opens the door to a broader (and potentially very fruitful) comparison in which the focus should be on the degree of alignment among the three levels of policy analytical capacities: systemic, organisational and individual.

Second, it would be interesting to analyse bureaucratic access among different categories of interest groups (e.g., economic actors, cause groups, and lobbying agencies) from the perspective of top officials. What are the main explanatory factors encouraging civil servants to interact more frequently with, for instance, NGOs? Why do they keep economic actors in a privileged position? Answering these questions would contribute extensively to the literature, shedding light on the other side of a relationship that has almost always been studied in relation to the interest group side.

Third, our theoretical model prefigured a conceptualisation of institutional access concerning the exchange of information, but this is not the only possible conceptualisation (Binderkrantz, Pedersen & Beyers 2017). Thus, it is necessary to check whether our empirical findings hold even if we change the conceptualisation (and, in turn, the operationalisation) of the DV. Would we find the same relationships if we investigated institutional access as the frequency of formal or informal meetings between top officials and interest groups?

Fourth, while our statistical models accounted for a fairly satisfactory 30 percent of the total variance in the DV, a much more substantive 70 percent remains to be explained. Other potential explanatory variables are the stage of the policy cycle where civil servants concentrate most of their policy tasks and/or the specific policy work they perform within the public administration. For example, framing a new problem or a new solution or monitoring the effects on the targets could push top officials to search for more interactions with interest groups and could affect the level of politicisation of the issue.

Fifth, in this paper we focused on top officials, while most research on policymaking has investigated middle managers and street-level civil servants (Page & Jenkins 2005). Thus, it could be interesting to analyse whether policy capacities matter even at lower organisational levels and whether there are other drivers of the bureaucratic solicitation of information (such as the functional position in policymaking).

Finally, this work opens up interesting perspectives for going beyond the interaction between civil servants and interest groups, reflecting in more general terms on the dynamics governing public servants' demand for information from outside the public administration.

Certainly, interest groups are valuable sources of such information, but they are not the only ones. In fact, we know from the literature on the policy work of top officials that they also interact with independent authorities; national, supranational and international institutions; universities; think tanks; etc. (Vesely, Wellstead & Evans 2014; Howlett, Wellstead & Craft 2017; Aubin & Brans 2020). What factors influence these interactions?

Focusing on the bureaucratic side of the relationship between public administrations and other political, institutional and societal actors could allow us to gain a deeper and more precise comprehension not only of those same relationships, but also of the role of those actors in policymaking.

## Notes

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<sup>1</sup> We know that the focus on high-level civil servants could be disputed because some of them are managers or simply higher-level advisors of ministries. However, there is an established stream of research that has provided empirical evidence that the main role of these civil servants is supporting politicians in designing, monitoring and assessing policies as well as implementing specific policy programmes according to the organisational characteristics of the related state (Hammerschmid *et al.* 2016; Kuperus & Rode 2016; Steen & Weske 2016).

<sup>2</sup> Albareda and colleagues (Albareda, Braun & Fraussen 2023) take into account policy capacities to explain interest groups' influence, but they refer to interest groups' policy capacities rather than civil servants' policy capacities.

<sup>3</sup> On this subject, we can add a pragmatic consideration: since it makes little sense to ask civil servants for their perception of the whole national administrative system's analytical capacities, we did not insert this kind of question into the survey on which this study is based. This would have meant that treating systemic analytical capacities as an independent variable would also mean using incoherent empirical indicators (organisational and individual capacities on the basis of the respondents' perceptions, whereas systemic capacities were considered on the basis of external sources).

<sup>4</sup> In this way, we can also treat 'interest groups' and 'stakeholders' as synonymous. However, to check the robustness of our results, in the Supplementary Materials, we also test multivariate regressions with representative associations only: see, in particular, Table SM13.

<sup>5</sup> We opted for an additive index because single responses are highly correlated (Pearson correlations between 0.28 and 0.49, always at the highest level of statistical significance). However, to further confirm the methodological correctness of our choice, we also ran a principal component analysis among the various items. See, for more details, both Table SM5 (bivariate correlations) and Table SM6 (principal component analysis) in the Supplementary Materials.

<sup>6</sup> We cannot exclude the possibility that the wording of this question may (also) refer to considerations at the systemic rather than the organisational level. However, we are fairly confident that in the vast majority of cases, high-level civil servants who responded did so on the basis of their perceptions of the specific administration in which they worked rather than the overall national administrative system.

<sup>7</sup> Single responses are highly correlated (Pearson correlations between 0.25 and 0.67, always at the highest level of statistical significance) and are all associated with an underlying factor/component that explains more than 51% of the total variance. See, for more details, both Table SM7 (bivariate correlations) and Table SM8 (principal component analysis) in the Supplementary Materials.

<sup>8</sup> Single responses are highly correlated (Pearson correlations between 0.08 and 0.73 and statistical significance at the 0.027 and 0.000 level, respectively). Furthermore, all specific items but one (that about the familiarity with online consultations) are associated with an underlying component that explains approximately 43% of total variance. Thus, we use the simple additive index in the main text, whereas we run a robustness test with a different independent variable, built on the basis of the results of the principal component analysis among various items, in the Supplementary Materials. See, for more details, Table SM9 (bivariate correlations), Table SM10 (principal component analysis) and Table SM16 (robustness test) in the Supplementary Materials.

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<sup>9</sup> For detailed country data on systemic analytical capacities, see Supplementary Materials, Table SM11. However, there are many potential indicators of systemic analytical capacities. Thus, in the Supplementary Materials, we checked our results also recurring to the World Bank indicators of governance effectiveness; the empirical findings did not change (see Table SM14). Furthermore, to verify whether the empirical results are driven largely by the Italian case, by far the most represented in our sample, we run a further robustness check (see Table SM17) with country dummies; again, our findings are confirmed.

<sup>10</sup> Since our dependent variable is an additive index ranging from 5 to 25, we are quite confident that it can be treated as a continuous variable: this is why we opted for OLS as the preferred statistical method. However, to check our results, in the Supplementary Materials, we also run an ordinal regression on the dependent variable. The empirical results do not vary much (see, in particular, Table SM12).

<sup>11</sup> In the Supplementary Materials, we recur to an ordinal regression instead of OLS regressions (Table SM12), we use World Bank indicators instead of the Bertelmann-Stiftung index (Table SM14), and we utilise variables that originate from principal component analyses run on all items taken into account (Table SM16).

<sup>12</sup> Regarding the details of how we grouped ministries in the three categories, see Table SM3 in the Supplementary Materials.

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## Tables and Figures

**Table 1. The online survey: Greece, Italy and Portugal in a comparative perspective**

| <i>Country</i> | <i>Period</i>            | <i>Target population</i>  | <i>Invitations sent</i> | <i>Complete questionnaires</i> | <i>Response rate</i> |
|----------------|--------------------------|---|-------------------------|--------------------------------|----------------------|
| Greece         | Dec '21 – Feb '22        | Civil service secretary; General director; Director   | 998                     | 116                            | 11.6%                |
| Italy          | Nov '21 – Jan '22        | 1 <sup>st</sup> and 2 <sup>nd</sup> tier high-level servants  | 1,858                   | 498                            | 26.8%                |
| Portugal       | Feb – Apr '22            | 1 <sup>st</sup> and 2 <sup>nd</sup> level top civil servants; 1 <sup>st</sup> and 2 <sup>nd</sup> level middle managers | 1,292                   | 81                             | 6.3%                 |
| <i>Total</i>   | <i>Nov '21 – Apr '22</i> |   | <i>4,148</i>            | <i>695</i>                     | <i>16.8%</i>         |

**Table 2. Descriptive statistics for variables used in multivariate analyses**

| <i>Dependent variable</i>  | <i>Operationalisation</i>   | <i>Mean</i> | <i>Min</i> | <i>Max</i> | <i>S.D.</i> |
|--|---|-------------|------------|------------|-------------|
| Bureaucrats' solicitation of data and information from interest groups           | Additive index (5-25) summing up how much respondents solicit data and information from: entrepreneurial associations and labour unions (1-5); NGOs (1-5); citizen groups (1-5); lobbying agencies (1-5); individual firms (1-5)  | 7.61        | 5          | 25         | 2.86        |
| <i>Independent variables</i>   | <i>Operationalisation</i>   | <i>Mean</i> | <i>Min</i> | <i>Max</i> | <i>S.D.</i> |
| H1: Organisational analytical capacities   | Additive index (9-90) summing up how much respondents believe their organisation is adequate for: quantity of personnel (1-10) + quality of personnel (1-10) + budget (1-10) + specialistic formation (1-10) + coherence of decisions (1-10) + availability of data (1-10) + joint work with other administrations (1-10) + evidence-based policymaking (1-10) + public opinion trust (1-10)                                | 50.13       | 10         | 90         | 16.14       |
| H2a and H2b: Individual analytical capacities (indirect vs. direct relationship) | Additive index (10-100) summing up how much respondents perceive themselves as familiar with: online consultations (1-10) + legal analyses (1-10) + statistical analyses (1-10) + economic analyses (1-10) + accounting-financial analyses (1-10) + organisational analyses (1-10) + scenario analyses (1-10) + analyses of the impact of regulation (1-10) + policy reports (1-10) + experimental design techniques (1-10) | 58.88       | 10         | 100        | 17.10       |
| <i>Control variables</i>   | <i>Operationalisation</i>   | <i>Mean</i> | <i>Min</i> | <i>Max</i> | <i>S.D.</i> |
| Corporatism scale  | Country classification according to level of corporatism (source: Jahn 2022)  | 0.41        | -0.48      | 0.65       | 0.42        |

|   |   |         |      |      |       |
|---|---|---------|------|------|-------|
| Systemic analytical capacities                                    | Sustainable Governance Indicators 2022: strategic planning + RIA application + Government office expertise + quality of RIA process + quality of ex-post evaluation (source: Bertelsmann Stiftung 2022) | 28.90   | 22   | 30   | 2.53  |
| Type of ministry  | Tripartition in welfare (N = 81), which is the reference category, economic (N = 294) and core (N = 320) ministries   | N.A.    | 0    | 1    | N.A.  |
| Hierarchy   | Bureaucratic level within the public administration (first- or second-tier top official)  | 1.78    | 1    | 2    | 0.42  |
| Experience/seniority  | Year of starting working in the public administration   | 2004.96 | 1975 | 2021 | 10.48 |
| Previous work in the private sector                               | Dummy variable: Yes = 206; No = 489   | 0.30    | 0    | 1    | 0.48  |
| Age   | Year of birth   | 1966.50 | 1948 | 1991 | 7.17  |
| Likelihood to solicit information from other institutional actors | Additive index (3-15) summing up how frequently respondents solicit information from governmental agencies (1-5) + EU institutions (1-5) + other administrations (1-5)                                  | 6.55    | 3    | 15   | 2.70  |

**Table 3. Multivariate analyses**

|   | <i>Model 1</i>                     | <i>Model 2</i>                     | <i>Model 3</i>                     | <i>Model 4</i>                     |
|---|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
|   | <i>Control var.</i>                | <i>Org. capacity</i>               | <i>Indiv. capacity</i>             | <i>Complete</i>                    |
| <i>Control variables</i>  |                                    |                                    |                                    |                                    |
| Corporatism (Jahn 2022)   | 0.206<br>(0.294)                   | 0.253<br>(0.294)                   | 0.137<br>(0.292)                   | 0.187<br>(0.291)                   |
| Systemic analytical capacities (Bertelmann-Stiftung Index 2022) | <b>-0.093*</b><br><b>(0.055)</b>   | -0.091<br>(0.055)                  | -0.066<br>(0.056)                  | -0.057<br>(0.056)                  |
| Ministry of affiliation: social welfare                         | <i>Ref. cat.</i>                   | <i>Ref. cat.</i>                   | <i>Ref. cat.</i>                   | <i>Ref. cat.</i>                   |
| Ministry of affiliation: economic issues                        | <b>-1.002***</b><br><b>(0.380)</b> | <b>-0.967**</b><br><b>(0.380)</b>  | <b>-1.095***</b><br><b>(0.379)</b> | <b>-1.066***</b><br><b>(0.377)</b> |
| Ministry of affiliation: core functions                         | <b>-1.137***</b><br><b>(0.388)</b> | <b>-1.066***</b><br><b>(0.388)</b> | <b>-1.222***</b><br><b>(0.386)</b> | <b>-1.143***</b><br><b>(0.384)</b> |
| Hierarchy   | <b>-0.642**</b><br><b>(0.266)</b>  | <b>-0.694***</b><br><b>(0.266)</b> | <b>-0.537**</b><br><b>(0.266)</b>  | <b>-0.587**</b><br><b>(0.265)</b>  |
| Seniority   | <b>0.025*</b><br><b>(0.014)</b>    | <b>0.026*</b><br><b>(0.014)</b>    | <b>0.030**</b><br><b>(0.014)</b>   | <b>0.033**</b><br><b>(0.014)</b>   |
| Previous work: private sector                                   | 0.074<br>(0.221)                   | 0.091<br>(0.220)                   | 0.035<br>(0.219)                   | 0.050<br>(0.218)                   |
| Education: PhD  | -0.366<br>(0.279)                  | -0.421<br>(0.279)                  | -0.408<br>(0.277)                  | <b>-0.495*</b><br><b>(0.277)</b>   |
| Soliciting information: institutional actors                    | <b>0.557***</b><br><b>(0.042)</b>  | <b>0.570***</b><br><b>(0.042)</b>  | <b>0.529***</b><br><b>(0.043)</b>  | <b>0.541***</b><br><b>(0.043)</b>  |

|                                      |                  |                                   |                                   |                                    |
|--------------------------------------|------------------|-----------------------------------|-----------------------------------|------------------------------------|
| Year of birth                        | 0.013<br>(0.019) | 0.014<br>(0.019)                  | 0.009<br>(0.019)                  | 0.009<br>(0.018)                   |
| <i>Independent variables</i>         |                  |                                   |                                   |                                    |
| Organisational analytical capacities |                  | <b>-0.013**</b><br><b>(0.007)</b> |                                   | <b>-0.019***</b><br><b>(0.007)</b> |
| Individual analytical capacities     |                  |                                   | <b>0.019***</b><br><b>(0.007)</b> | <b>0.023***</b><br><b>(0.007)</b>  |
| <i>Diagnostics</i>                   |                  |                                   |                                   |                                    |
| N                                    | 513              | 513                               | 513                               | 513                                |
| Adjusted R <sup>2</sup>              | 0.297            | 0.302                             | 0.307                             | 0.317                              |

Notes: p-value < 0.10 = \* / p-value < 0.05 = \*\* / p-value < 0.01 = \*\*\*. In bold, statistically significant coefficients (standard deviations in parentheses).

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## Supplementary Materials

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|---|-------|
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## Section A – Literature review

**Table SM1. Interest groups' access to institutional venues: main contributions**

|                        |                           | <i>Institutional arena(s) taken into account</i>   |  |
|------------------------|---------------------------|--|--|
|                        |                           | <i>Only bureaucratic arena</i>   | <i>Multiple arenas</i>   |
| <i>Polity analysis</i> | <i>under EU</i>           | Gornitzka and Sverdrup 2008; Reenock and Gerber 2008; Quittkat 2011; Rasmussen and Alexandrova 2012; Rasmussen and Carroll 2013; Rasmussen and Gross 2015; Bunea 2017; Van Ballaert 2017; Pérez Durán 2018; Roed and Vibeke 2018; Fraussen <i>et al.</i> 2020; Binderkrantz <i>et al.</i> 2021; Busuioac and Jevnaker 2022 | Bouwen 2004; Eising 2007; Beyers and Kerremans 2012; Chalmers 2013; Beyers <i>et al.</i> 2015; Arras and Braun 2018; Albareda and Braun 2019; Coen and Katsaitis 2019; Hanegraaff and Berkhout 2019  |
|                        | <i>Western EU country</i> | Belgium (Fraussen <i>et al.</i> 2015); Germany (Fink and Ruffing 2020)   | Denmark and Norway (Rommetvedt <i>et al.</i> 2013); Netherlands (Beyers and Braun 2014); Denmark (Binderkrantz <i>et al.</i> 2015); Denmark, Netherlands and UK (Pedersen <i>et al.</i> 2015); Denmark and Switzerland (Christiansen <i>et al.</i> 2018); Denmark, Finland and UK (Vesa <i>et al.</i> 2018); Switzerland (Weiler <i>et al.</i> 2019) |

**Table SM2. Types of analytical capacities**

| <i>Level</i>               | <i>Individual level</i>  | <i>Organisational level</i>   | <i>Systemic level</i>  |
|----------------------------|--|---|--|
| <i>Dimension</i>           |  |   |  |
| <i>Analytical capacity</i> | <ul style="list-style-type: none"> <li>• Skills and experience in policy analysis</li> <li>• Skills and experience in policy evaluation;</li> <li>• Knowledge and expertise in the use of various analytical tools</li> <li>• Issue expertise</li> </ul> | <ul style="list-style-type: none"> <li>• Availability (accessibility) to policy professionals with adequate analytical capacity</li> <li>• Practices and organizational machinery data collection and analysis</li> </ul> | <ul style="list-style-type: none"> <li>• The extent and quality of system-wide data collection and data sharing</li> <li>• Accessibility of data or information to non –government organizations and private sectors</li> <li>• Availability and competition of policy advisory services</li> <li>• Institutional requirements and standards for policy analysis and evaluation</li> </ul> |

- 
- 
- Organizational cultural embracing evidence-based policy-making
- 

*Source:* inspired by Wu, Howlett, and Ramesh (2018).

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## **Section B – Details about the survey**

There are both advantages and disadvantages to conducting survey research online. The advantages generally include access to people in remote locations and the convenience of automated data collection, which saves researchers time and effort; the disadvantages include uncertainty about the validity of the data and sampling issues, as well as concerns about the design, implementation and evaluation of the online survey (Wright 2005). More specifically, the main challenges relate to sampling procedures, response rates, and characteristics of non-respondents, as well as the way in which the survey is actually constructed (particularly in terms of question wording and possible responses)<sup>12</sup>.

### **Sampling**

As far as sampling procedures are concerned, despite the (limited) differences in the administrative systems of the four countries analysed, we focused on those in the highest positions in order to ensure the comparability of our data. More specifically, in Greece, we invited all officials holding one of the following positions to participate in the survey: Head of Department ("Υπηρεσιακός Γραμματέας"); General Manager ("Γενικός Διευθυντής"); Manager ("Διευθυντής"). In Italy, we invited first and second level officials. Finally, in Portugal we contacted first and second level top officials and first and second level middle managers.

In the Italian and Greek cases, the survey was conducted via the institutional email address of each senior official; the first email described the object and purpose of the research. After one week, a second email was sent to the same people. A total of three weekly reminders were sent in Italy and four in Greece to those who did not complete the interview or who answered only some of the questions. The total number of Italian and Greek respondents was 4,059 and 998 respectively. However, given the particular structure of the Italian public administration, which is divided into central and peripheral units, we limited our sample to central units only in order to ensure comparability between countries. The sample was reduced to 1,858 invited persons.

In Portugal, the survey was carried out in a different way due to the impossibility of obtaining the e-mail addresses of Portuguese high-level civil servants. Thus, a generic link was sent to all senior civil servants giving access to the questionnaire. Although there was no unique link for each respondent, the IdSurvey software automatically generated a unique identifier for the interview each time the link was opened. As in the other countries where a unique link was used, each respondent could stop the interview and resume it later after receiving a new unique link linked to the current questionnaire. In Portugal, the total invitation sample comprised 1,292 individuals.

In each of the three countries, a local academic expert (or a group of them) was responsible for collecting the e-mail addresses (mostly through the official website of each ministry in the country) that made up the sample of potential respondents. The survey was conducted between November 2021 and April 2022 (November 2021-January 2022 in Italy; December 2021-January 2022 in Greece; and February-April 2022 in Portugal) using the Computer-Assisted Web Interviewing (CAWI) method, administered through the IdSurvey platform.

### Response rates and representativeness of samples

As response rates vary widely between countries, one of the main concerns was to ensure that the characteristics of the respondents reflected those of the actual population and that no particular group was over- or under-represented in the final sample. The Gallagher Index of Disproportionality (Gallagher 1991) confirms that, although our final sample was considerably smaller than the total number of people invited, it was still representative of the entire invited population<sup>4</sup>.

We also measured the disproportionality of our sample in terms of the grouping of government departments. Specifically, we developed three groups of ministries based on the issues they deal with: 'core functions', 'welfare state' and 'economic affairs' (Table SM3 below). Invitees and respondents were grouped into these three basic ministerial activities. The Gallagher and Duncan indices gave similar results, although they showed lower levels of disproportionality in all four countries: Greece 3.3 and 0.03; Italy 7.7 and 0.1; Portugal 14.8 and 0.2.

**Table SM3. Ministries grouped by functions**

| Country | Welfare state   | Economic affairs   | Core functions   |
|---------|---|--|--|
| Greece  | Education and religious affairs (ΠΑΙΔΕΙΑΣ ΚΑΙ ΘΡΗΣΚΕΥΜΑΤΩΝ); Labor and social affairs (ΕΡΓΑΣΙΑΣ ΚΑΙ ΚΟΙΝΩΝΙΚΩΝ ΥΠΟΘΕΣΕΩΝ); Health (ΥΓΕΙΑΣ); Culture and sports (ΠΟΛΙΤΙΣΜΟΥ ΚΑΙ ΑΘΛΗΤΙΣΜΟΥ); Immigration and asylum (ΜΕΤΑΝΑΣΤΕΥΣΗΣ ΚΑΙ ΑΣΥΛΟΥ) | Finance (ΟΙΚΟΝΟΜΙΚΩΝ); Development and investments (ΑΝΑΠΤΥΞΗΣ ΚΑΙ ΕΠΕΝΔΥΣΕΩΝ); Environment and energy (ΠΕΡΙΒΑΛΛΟΝΤΟΣ ΚΑΙ ΕΝΕΡΓΕΙΑΣ); Infrastructure and transport (ΥΠΟΔΟΜΩΝ ΚΑΙ ΜΕΤΑΦΟΡΩΝ); Maritime affairs and insular policy (ΝΑΥΤΙΛΙΑΣ ΚΑΙ ΝΗΣΙΩΤΙΚΗΣ ΠΟΛΙΤΙΚΗΣ); Agricultural development and food (ΑΓΡΟΤΙΚΗΣ ΑΝΑΠΤΥΞΗΣ | Foreign affairs (ΕΞΩΤΕΡΙΚΩΝ); National defence (ΕΘΝΙΚΗΣ ΑΜΥΝΑΣ); Civil protection (ΠΡΟΣΤΑΣΙΑΣ ΤΟΥ ΠΟΛΙΤΗ); Justice (ΔΙΚΑΙΟΣΥΝΗΣ); Interior (ΕΣΩΤΕΡΙΚΩΝ); Digital governance (ΨΗΦΙΑΚΗΣ ΔΙΑΚΥΒΕΡΝΗΣΗΣ) |

|          |   |  |  |
|----------|---|--|--|
|          |   | KAI ΤΡΟΦΙΜΩΝ); Turism (ΤΟΥΡΙΣΜΟΥ)  |  |
| Italy    | Labour and social policies ( <i>Lavoro e politiche sociali</i> ); Education ( <i>Istruzione</i> ); University and research ( <i>Università e ricerca</i> ); Culture ( <i>Cultura</i> ); Health ( <i>Salute</i> )  | Economy and Finance ( <i>Economia e finanze</i> ); Economic development ( <i>Sviluppo economico</i> ); Agricultural, Food and Forestry Policies ( <i>Politiche agricole, alimentari e forestali</i> ); Ecological transition ( <i>Transizione ecologica</i> ); Infrastructure and sustainable transports ( <i>Infrastrutture e mobilità sostenibile</i> ); Turism ( <i>Turismo</i> ); Environment ( <i>Ambiente</i> )  | Presidency of the Council of Ministers ( <i>Presidenza del Consiglio dei Ministri</i> ); Foreign affairs and international cooperation ( <i>Affari esteri e cooperazione internazionale</i> ); Interior ( <i>Interno</i> ); Justice ( <i>Giustizia</i> ); Defence ( <i>Difesa</i> )  |
| Portugal | Culture ( <i>Cultura</i> ); Science, technology and higher education ( <i>Ciência, tecnologia e ensino superior</i> ); Education ( <i>Educação</i> ); Labour, solidarity and social security ( <i>Trabalho, solidariedade e segurança social</i> ); Health ( <i>Saúde</i> )   | Finance ( <i>Estado e das finanças</i> ); Economy and digital transition ( <i>Estado, da economia e da transição digital</i> ); Maritime affairs ( <i>Mar</i> ); Environment and climate action ( <i>Ambiente e da ação climática</i> ); Infrastructure and housing ( <i>Infraestruturas e da habitação</i> ); Territorial cohesion ( <i>Coesão territorial</i> ); Agriculture e alimentazione ( <i>Agricultura período de governação</i> ); Planning ( <i>Planeamento</i> )   | Presidency ( <i>Estado e da presidência</i> ); Foreign affairs ( <i>Negócios estrangeiros</i> ); National defence ( <i>Defesa nacional</i> ); Home affairs ( <i>Administração interna</i> ); Justice ( <i>Justiça</i> ); Modernization of the state and public administration ( <i>Modernização do estado e da administração pública</i> ) |
| Spain    | Culture and sport ( <i>Cultura y deporte</i> ); Social rights and 2030 agenda ( <i>Derechos sociales y agenda 2030</i> ); Science and innovation ( <i>Ciencia e innovación</i> ); Equality ( <i>Igualdad</i> ); Universities ( <i>Universidades</i> ); Inclusion, social security and migration ( <i>Inclusión, seguridad social y migraciones</i> ); Health ( <i>Sanidad</i> ); Education and vocational training ( <i>Educación y formación profesional</i> ); Work and social economy ( <i>Trabajo y economía social</i> ) | Economy and Digital Transformation ( <i>Asuntos económicos y transformación digital</i> ); Finance and public function ( <i>Hacienda y función pública</i> ); Transport, mobility and urban agenda ( <i>Transportes, movilidad y agenda urbana</i> ); Industry, trade and tourism ( <i>Industria, comercio y turismo</i> ); Agriculture, fisheries and food ( <i>Agricultura, pesca y alimentación</i> ); Consumer affairs ( <i>Consumo</i> ); Ecological transition and demographic challenge ( <i>Transición ecológica y el reto demográfico</i> ); Territorial policy ( <i>Política Territorial</i> ) | Presidency, parliamentary relations and democratic memory ( <i>Presidencia, relaciones con las cortes y memoria democrática</i> ); Foreign Affairs, European Union and Cooperation ( <i>Asuntos exteriores, Unión Europea y cooperación</i> ); Justice ( <i>Justicia</i> ); Defence ( <i>Defensa</i> ); Home affairs ( <i>Interior</i> )   |

## Survey questions used in the manuscript

The set of general questions in the survey can be divided into four sections: 1) general information about the respondents and their job; 2) background education and current activities; 3) knowledge and skills; and 4) assessment of some characteristics of the job and the administration. Some questions were slightly different in different countries (e.g. options for respondents on their education), as the survey was designed to obtain information on important characteristics of the public administration structure in each country, taking into account national specificities. For the purposes of this study, we only used responses to the same questions in all countries.

For the analysis, we selected only the complete questionnaires, discarding those respondents who started but did not finish. Note that this is different from dropping observations with missing values, which are actually retained in the final dataset. In contrast, we simply decided not to include in the analysis those respondents who stopped filling in the questionnaires at some point, leaving them only partially completed.

However, not all questions in our online survey contributed to the identification of the relationship between the DV (gathering data and information from different stakeholders) and the independent variables (organisational analytical capacity and individual analytical capacity). More specifically, while the perceptions of organisational analytical capacity are broadly similar to those found in previous literature on the subject, the choice made regarding individual analytical capacity differs slightly. In fact, we decided to deviate from the existing literature. In general, scholars focusing on this topic have tended to operationalise individual analytical capacity in terms of the frequency of use of particular analytical techniques (Howlett et al. 2017; Aubin and Brans 2020; Filgueiras et al. 2020; Koga et al. 2022). In our view, individual analytical capacity is better conceptualised (and empirically captured) if we focus on (auto)perceptions of familiarity with particular techniques, rather than on the frequency with which officials use these techniques. We agree that there is (or should be) some direct proportionality between the use of particular techniques and the familiarity that officials have (or should have) with those techniques, but we also believe that our conceptualisation helps to conceptually 'skip a step' and thus identify a better proxy for studying analytical capacity.

**Table SM4. Questions used to identify independent and dependent variables for multivariate regressions**

| <i>Dimension</i> | <i>Questions</i> | <i>Scale and description of the answers</i> |
|------------------|------------------|---|
|------------------|------------------|---|

|   |   |   |
|---|---|---|
| <p><i>Frequency of soliciting data and information from interest groups</i></p> | <ul style="list-style-type: none"> <li>- Frequency of soliciting data and information from entrepreneurial associations and labour unions</li> <li>- Frequency of soliciting data and information from NGOs</li> <li>- Frequency of soliciting data and information from citizen groups</li> <li>- Frequency of soliciting data and information from lobbying agencies</li> <li>- Frequency of soliciting data and information from individual firms</li> </ul>   | <p>The scale ranges from 1 to 5, where 1 means ‘never’ and 5 means ‘daily’.</p>                           |
| <p><i>Organisational analytical capacity</i></p>                                | <ul style="list-style-type: none"> <li>- Adequacy of their organisation for quantity of personnel</li> <li>- Adequacy of their organisation for quality of personnel</li> <li>- Adequacy of their organisation for budget</li> <li>- Adequacy of their organisation for providing formation</li> <li>- Adequacy of their organisation for coherence of decisions</li> <li>- Adequacy of their organisation for availability of data</li> <li>- Adequacy of their organisation for joint work with other administrations</li> <li>- Adequacy of their organisation for evidence-based policymaking</li> <li>- Adequacy of their organisation for public opinion trust</li> </ul> | <p>The scale ranges from 1 to 10, where 1 means not adequate at all and 10 means completely adequate.</p> |
| <p><i>Individual analytical capacity</i></p>                                    | <ul style="list-style-type: none"> <li>- Familiarity with online consultation</li> <li>- Familiarity with legal analysis</li> <li>- Familiarity with statistical analysis</li> <li>- Familiarity with economic analysis (cost-benefit)</li> <li>- Familiarity with financial analysis</li> <li>- Familiarity with organisational analysis</li> <li>- Familiarity with analysis of scenario</li> <li>- Familiarity with analysis of regulation’s impact</li> <li>- Familiarity with preparation of policy report</li> <li>- Familiarity with experimental design</li> </ul>  | <p>The scale ranges from 1 to 10, where 1 means not familiar at all and 10 means completely familiar.</p> |

## Section C – Construction of indexes used in the multivariate regressions

**Table SM5. Bivariate correlations: soliciting information from different kinds of interest groups**

|                                     |                 | <i>Entrepreneurs<br/>and unions</i> | <i>NGOs</i> | <i>Lobbying<br/>agencies</i> | <i>Citizen<br/>groups</i> | <i>Individual<br/>firms</i> |
|-------------------------------------|-----------------|-------------------------------------|-------------|------------------------------|---------------------------|-----------------------------|
| <i>Entrepreneurs<br/>and unions</i> | Pearson         | 1                                   | 0.462**     | 0.324**                      | 0.383**                   | 0.292**                     |
|                                     | Corr.           |                                     | 0.000       | 0.000                        | 0.000                     | 0.000                       |
|                                     | Sig. (2-tailed) | 683                                 | 679         | 678                          | 679                       | 681                         |
|                                     | N               |                                     |             |                              |                           |                             |
| <i>NGOs</i>                         | Pearson         | 0.462**                             | 1           | 0.295**                      | 0.487**                   | 0.352**                     |
|                                     | Corr.           | 0.000                               |             | 0.000                        | 0.000                     | 0.000                       |
|                                     | Sig. (2-tailed) | 679                                 | 680         | 676                          | 678                       | 679                         |
|                                     | N               |                                     |             |                              |                           |                             |
| <i>Lobbying<br/>agencies</i>        | Pearson         | 0.324**                             | 0.295**     | 1                            | 0.314**                   | 0.397**                     |
|                                     | Corr.           | 0.000                               | 0.000       |                              | 0.000                     | 0.000                       |
|                                     | Sig. (2-tailed) | 678                                 | 676         | 679                          | 677                       | 679                         |
|                                     | N               |                                     |             |                              |                           |                             |
| <i>Citizen<br/>groups</i>           | Pearson         | 0.383**                             | 0.487**     | 0.314**                      | 1                         | 0.277**                     |
|                                     | Corr.           | 0.000                               | 0.000       | 0.000                        |                           | 0.000                       |
|                                     | Sig. (2-tailed) | 679                                 | 678         | 677                          | 680                       | 680                         |
|                                     | N               |                                     |             |                              |                           |                             |
| <i>Individual<br/>firms</i>         | Pearson         | 0.292**                             | 0.352**     | 0.397**                      | 0.277**                   | 1                           |
|                                     | Corr.           | 0.000                               | 0.000       | 0.000                        | 0.000                     |                             |
|                                     | Sig. (2-tailed) | 681                                 | 679         | 679                          | 680                       | 682                         |
|                                     | N               |                                     |             |                              |                           |                             |

Note: \*\* = correlation is significant at the 0.01 level (s-tailed).

**Table SM6. Principal component analysis: soliciting information from different kinds of interest groups**

| <i>Specific item</i>  | <i>Component 1</i> |
|---|--------------------|
| Soliciting data and information from entrepreneurial associations and labour unions | <b>0.71</b>        |
| Soliciting data and information from NGOs   | <b>0.76</b>        |
| Soliciting data and information from lobbying agencies                              | <b>0.65</b>        |
| Soliciting data and information from citizen groups                                 | <b>0.71</b>        |
| Soliciting data and information from individual firms                               | <b>0.65</b>        |

Notes:

- Extraction method: Principal Component Analysis
- 1 component extracted
- Eigenvalues: 2.43
- Total variance explained: 47.7%

- Salient loadings in bold (> 0.40)

**Table SM7. Bivariate correlations: organisational analytical capacities**

|       |                 | Q20.1  | Q20.2  | Q20.3  | Q20.4  | Q20.5  | Q20.6  | Q20.7  | Q20.8  | Q20.9  |
|-------|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Q20.1 | Pearson Corr.   | 1      | .443** | .518** | .392** | .291** | .276** | .258** | .250** | .295** |
|       | Sig. (2-tailed) |        | .000   | .000   | .000   | .000   | .000   | .000   | .000   | .000   |
|       | N               | 693    | 693    | 689    | 693    | 690    | 692    | 690    | 687    | 690    |
| Q20.2 | Pearson Corr.   | .443** | 1      | .380** | .469** | .509** | .401** | .417** | .407** | .421** |
|       | Sig. (2-tailed) | .000   |        | .000   | .000   | .000   | .000   | .000   | .000   | .000   |
|       | N               | 693    | 694    | 690    | 694    | 691    | 693    | 691    | 688    | 691    |
| Q20.3 | Pearson Corr.   | .518** | .380** | 1      | .508** | .417** | .352** | .325** | .279** | .286** |
|       | Sig. (2-tailed) | .000   | .000   |        | .000   | .000   | .000   | .000   | .000   | .000   |
|       | N               | 689    | 690    | 690    | 690    | 688    | 689    | 689    | 686    | 687    |
| Q20.4 | Pearson Corr.   | .392** | .469** | .508** | 1      | .608** | .540** | .450** | .422** | .410** |
|       | Sig. (2-tailed) | .000   | .000   | .000   |        | .000   | .000   | .000   | .000   | .000   |
|       | N               | 689    | 694    | 690    | 694    | 691    | 693    | 691    | 688    | 691    |
| Q20.5 | Pearson Corr.   | .291** | .509** | .417** | .608** | 1      | .669** | .605** | .623** | .558** |
|       | Sig. (2-tailed) | .000   | .000   | .000   | .000   |        | .000   | .000   | .000   | .000   |
|       | N               | 690    | 691    | 688    | 691    | 691    | 690    | 689    | 686    | 689    |
| Q20.6 | Pearson Corr.   | .276** | .401** | .352** | .540** | .669** | 1      | .645** | .541** | .491** |
|       | Sig. (2-tailed) | .000   | .000   | .000   | .000   | .000   |        | .000   | .000   | .000   |
|       | N               | 692    | 693    | 689    | 693    | 690    | 693    | 690    | 687    | 690    |
| Q20.7 | Pearson Corr.   | .258** | .417** | .325** | .450** | .605** | .645** | 1      | .589** | .516** |
|       | Sig. (2-tailed) | .000   | .000   | .000   | .000   | .000   | .000   |        | .000   | .000   |
|       | N               | 690    | 691    | 689    | 691    | 689    | 690    | 691    | 687    | 689    |
| Q20.8 | Pearson Corr.   | .250** | .407** | .279** | .422** | .623** | .541** | .589** | 1      | .599** |
|       | Sig. (2-tailed) | .000   | .000   | .000   | .000   | .000   | .000   | .000   |        | .000   |
|       | N               | 687    | 688    | 686    | 688    | 686    | 687    | 687    | 688    | 686    |
| Q20.9 | Pearson Corr.   | .295** | .421** | .286** | .410** | .558** | .491** | .516** | .599** | 1      |
|       | Sig. (2-tailed) | .000   | .000   | .000   | .000   | .000   | .000   | .000   | .000   |        |
|       | N               | 690    | 691    | 687    | 691    | 689    | 690    | 689    | 686    | 691    |

Notes: \*\* = correlation is significant at the 0.01 level (s-tailed).

- Q20.1 = Quantity of personnel; Q20.2 = Competence of personnel; Q20.3 = Budget; Q20.4 = Specific formation; Q20.5 = Coherence of decision-making; Q20.6 = Usability of data; Q20.7 = Coordination with other administrations; Q20.8 = Evidence-based policymaking; Q20.9 = Public trust

**Table SM8. Principal component analysis: organisational analytical capacities**

| Specific item  | Component 1 | Component 2 |
|--|-------------|-------------|
| Organisational analytical capacity: quantity of personnel        | <b>0.54</b> | <b>0.65</b> |
| Organisational analytical capacity: competence of personnel      | <b>0.68</b> | 0.24        |
| Organisational analytical capacity: budget                       | <b>0.61</b> | <b>0.56</b> |
| Organisational analytical capacity: specific formation           | <b>0.75</b> | 0.19        |
| Organisational analytical capacity: coherence of decision-making | <b>0.84</b> | -0.18       |

|   |             |       |
|---|-------------|-------|
| Organisational analytical capacity: usability of data                       | <b>0.78</b> | -0.24 |
| Organisational analytical capacity: coordination with other administrations | <b>0.76</b> | -0.30 |
| Organisational analytical capacity: evidence-based policymaking             | <b>0.75</b> | -0.34 |
| Organisational analytical capacity: public trust                            | <b>0.72</b> | -0.24 |

Notes:

- Extraction method: Principal Component Analysis
- 2 components extracted
- Eigenvalues: 4.63 (component 1); 1.18 (component 2)
- Total variance explained: 64.6% (component 1: 51.4%; component 2: 13.1%)
- Salient loadings in bold (> 0.40)

**Table SM9. Bivariate correlations: individual analytical capacities**

|       |       | Q18.1 | Q18.2 | Q18.3 | Q18.4 | Q18.5 | Q18.6 | Q18.7 | Q18.8 | Q18.9 | Q18.10 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| Q18.1 | Pears | 1     | .160* | .264* | .252* | .084* | .227* | .224* | .251* | .114* | .250** |
|       | .     |       | *     | *     | *     | .028  | *     | *     | *     | *     | .000   |
|       | Sig.  | 694   | .000  | .000  | .000  | 694   | .000  | .000  | .000  | .003  | 694    |
|       | N     |       | 694   | 694   | 694   |       | 694   | 694   | 694   | 694   |        |
| Q18.2 | Pears | .160* | 1     | .101* | .209* | .340* | .419* | .185* | .359* | .285* | .085*  |
|       | .     | *     |       | *     | *     | *     | *     | *     | *     | *     | .027   |
|       | Sig.  | .000  | 695   | .008  | .000  | .000  | .000  | .000  | .000  | .000  | 695    |
|       | N     | 694   |       | 695   | 695   | 695   | 695   | 695   | 695   | 695   |        |
| Q18.3 | Pears | .264* | .101* | 1     | .702* | .524* | .413* | .521* | .362* | .253* | .363** |
|       | .     | *     | *     |       | *     | *     | *     | *     | *     | *     | .000   |
|       | Sig.  | .000  | .008  | 695   | .000  | .000  | .000  | .000  | .000  | .000  | 695    |
|       | N     | 694   | 695   |       | 695   | 695   | 695   | 695   | 695   | 695   |        |
| Q18.4 | Pears | .252* | .209* | .702* | 1     | .730* | .528* | .578* | .422* | .290* | .326** |
|       | .     | *     | *     | *     |       | *     | *     | *     | *     | *     | .000   |
|       | Sig.  | .000  | .000  | .000  | 695   | .000  | .000  | .000  | .000  | .000  | 695    |
|       | N     | 694   | 695   | 695   |       | 695   | 695   | 695   | 695   | 695   |        |
| Q18.5 | Pears | .084* | .340* | .524* | .730* | 1     | .531* | .395* | .279* | .211* | .142** |
|       | .     | .028  | *     | *     | *     |       | *     | *     | *     | *     | .000   |
|       | Sig.  | 694   | .000  | .000  | .000  | 695   | .000  | .000  | .000  | .000  | 695    |
|       | N     |       | 695   | 695   | 695   |       | 695   | 695   | 695   | 695   |        |
| Q18.6 | Pears | .227* | .419* | .413* | .528* | .531* | 1     | .614* | .477* | .385* | .273** |
|       | .     | *     | *     | *     | *     | *     |       | *     | *     | *     | .000   |
|       | Sig.  | .000  | .000  | .000  | .000  | .000  | 695   | .000  | .000  | .000  | 695    |
|       | N     | 694   | 695   | 695   | 695   | 695   |       | 695   | 695   | 695   |        |
| Q18.7 | Pears | .224* | .185* | .521* | .578* | .395* | .614* | 1     | .530* | .516* | .374** |
|       | .     | *     | *     | *     | *     | *     | *     |       | *     | *     | .000   |
|       | Sig.  | .000  | .000  | .000  | .000  | .000  | .000  | 695   | .000  | .000  | 695    |
|       | N     | 694   | 695   | 695   | 695   | 695   | 695   |       | 695   | 695   |        |
| Q18.8 | Pears | .251* | .359* | .362* | .422* | .279* | .477* | .530* | 1     | .485* | .357** |
|       | .     | *     | *     | *     | *     | *     | *     | *     |       | *     | .000   |

|       |       |       |       |       |       |       |       |       |       |       |      |        |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|--------|
|       | Sig.  | .000  | .000  | .000  | .000  | .000  | .000  | .000  | .000  | 695   | .000 | 695    |
|       | N     | 694   | 695   | 695   | 695   | 695   | 695   | 695   | 695   |       | 695  |        |
| Q18.9 | Pears | .114* | .285* | .253* | .290* | .211* | .385* | .516* | .485* | 1     |      | .195** |
|       | .     | *     | *     | *     | *     | *     | *     | *     | *     |       |      | .000   |
|       | Sig.  | .003  | .000  | .000  | .000  | .000  | .000  | .000  | .000  | 695   |      | 695    |
|       | N     | 694   | 695   | 695   | 695   | 695   | 695   | 695   | 695   |       |      |        |
| Q18.1 | Pears | .250* | .085* | .363* | .326* | .142* | .273* | .374* | .357* | .195* | 1    |        |
| 0     | .     | *     | .027  | *     | *     | *     | *     | *     | *     | *     |      |        |
|       | Sig.  | .000  | 695   | .000  | .000  | .000  | .000  | .000  | .000  | .000  |      | 695    |
|       | N     | 694   |       | 695   | 695   | 695   | 695   | 695   | 695   | 695   |      |        |

Notes: \*\* = correlation is significant at the 0.01 level (s-tailed).

- Q18.1 = Online consultations; Q18.2 = Legal analyses; Q18.3 = Statistical analyses; Q18.4 = Economic (cost-benefit) analyses; Q18.5 = Accounting-financial analyses; Q18.6 = Organisational analyses; Q18.7 = Scenario analyses; Q18.8 = Analyses of the impact of regulation; Q18.9 = Memos and policy reports; Q18.10 = Experimental design techniques

**Table SM10. Principal component analysis: individual analytical capacities**

| <i>Specific item</i>   | <i>Component 1</i> | <i>Component 2</i> | <i>Component 3</i> |
|--|--------------------|--------------------|--------------------|
| Individual analytical capacity: online consultations                 | 0.38               | -0.17              | 0.39               |
| Individual analytical capacity: legal analysis                       | <b>0.43</b>        | <b>0.69</b>        | -0.15              |
| Individual analytical capacity: statistical analysis                 | <b>0.73</b>        | <b>-0.42</b>       | -0.17              |
| Individual analytical capacity: economic (cost-benefit) analysis     | <b>0.82</b>        | -0.27              | -0.32              |
| Individual analytical capacity: accounting-financial analysis        | <b>0.69</b>        | -0.05              | <b>-0.60</b>       |
| Individual analytical capacity: organisational analysis              | <b>0.77</b>        | 0.21               | -0.09              |
| Individual analytical capacity: scenario analysis                    | <b>0.80</b>        | -0.03              | 0.16               |
| Individual analytical capacity: analyses of the impact of regulation | <b>0.70</b>        | 0.24               | 0.34               |
| Individual analytical capacity: memos and policy reports             | <b>0.57</b>        | 0.39               | 0.33               |
| Individual analytical capacity: experimental design techniques       | <b>0.48</b>        | <b>-0.43</b>       | <b>0.47</b>        |

Notes:

- Extraction method: Principal Component Analysis
- 3 components extracted
- Eigenvalues: 4.28 (component 1); 1.20 (component 2); 1.15 (component 3)
- Total variance explained: 66.3% (component 1: 42.8%; component 2: 12.0%; component 3: 11.5%)
- Salient loadings in bold (> 0.40)

## Systemic analytical capacities

**Table SM11. Grades obtained by Southern European countries on some dimensions relevant to policy analytical capacities**

|                               | <i>Greece</i> | <i>Italy</i> | <i>Portugal</i> |
|-------------------------------|---------------|--------------|-----------------|
| Strategic Planning            | 6             | 7            | 5               |
| RIA Application               | 7             | 6            | 5               |
| GO expertise *                | 7             | 7            | 6               |
| Quality of RIA process        | 5             | 5            | 3               |
| Quality of ex-post Evaluation | 4             | 5            | 3               |
| <i>Total</i>                  | <i>29</i>     | <i>30</i>    | <i>22</i>       |

\* The government office (referred to in some countries as the prime minister's office, chancellery, etc.) capacity to evaluate the policy content of line ministry proposals according to the government's priorities.

Source: Bertelsmann-Stiftung 2022.

## Section D – Robustness tests

### Robustness test 1: Ordinal regression instead of OLS regression

Table SM12. *Ordinal regression. Dependent variable: soliciting information from interest groups*

|  | <i>Model SM1</i>                   | <i>Model SM2</i>                   |
|--|------------------------------------|------------------------------------|
|  | <i>Behavioural def.</i>            | <i>Organisational def.</i>         |
| <i>Control variables</i>   |                                    |                                    |
| Corporatism (Jahn 2022)  | 0.247<br>(0.227)                   | 0.137<br>(0.239)                   |
| Systemic analytical capacities (Bertelmann<br>Stiftung Index 2022) | <b>-0.073*</b><br><b>(0.043)</b>   | -0.056<br>(0.044)                  |
| Ministry of affiliation: social welfare                            | <i>Ref. cat.</i>                   | <i>Ref. cat.</i>                   |
| Ministry of affiliation: economic issues                           | <b>-0.853***</b><br><b>(0.291)</b> | <b>-1.260***</b><br><b>(0.298)</b> |
| Ministry of affiliation: core functions                            | <b>-0.954***</b><br><b>(0.298)</b> | <b>-1.150***</b><br><b>(0.305)</b> |
| Hierarchy  | <b>-0.405**</b><br><b>(0.204)</b>  | <b>-0.620***</b><br><b>(0.210)</b> |
| Seniority  | <b>0.020*</b><br><b>(0.011)</b>    | <b>0.024**</b><br><b>(0.011)</b>   |
| Previous work: private sector                                      | 0.124<br>(0.168)                   | 0.005<br>(0.175)                   |
| Education: PhD   | -0.288<br>(0.214)                  | -0.341<br>(0.223)                  |
| Soliciting information: institutional actors                       | <b>0.390***</b><br><b>(0.036)</b>  | <b>0.378***</b><br><b>(0.037)</b>  |
| Year of birth  | 0.004<br>(0.014)                   | -0.008<br>(0.015)                  |
| <i>Independent variables</i>                                       |                                    |                                    |
| Organisational analytical capacities                               | <b>-0.015***</b><br><b>(0.005)</b> | <b>-0.009*</b><br><b>(0.005)</b>   |
| Individual analytical capacities                                   | <b>0.021***</b><br><b>(0.005)</b>  | <b>0.020***</b><br><b>(0.005)</b>  |
| <i>Diagnostics</i>   |                                    |                                    |
| N  | 514                                | 517                                |
| Pseudo R <sup>2</sup> : Cox and Snell                              | 0.298                              | 0.285                              |
| Pseudo R <sup>2</sup> : Nagelkerke                                 | 0.303                              | 0.296                              |
| Pseudo R <sup>2</sup> : McFadden                                   | 0.085                              | 0.102                              |
| Pearson Chi-Square   | 5743.00                            | 3755.62                            |
| Deviance Chi-Square  | 1963.86                            | 1535.10                            |

Notes: p-value < 0.10 = \* / p-value < 0.05 = \*\* / p-value < 0.01 = \*\*\* In bold, statistically significant coefficients (standard deviations in parentheses).

(Organisational) definition of interest groups: economic groups (entrepreneurial associations and labour unions) + NGOs + Citizen groups.

## Robustness test 2: Organisational definition instead of behavioural definition of interest group

Table SM13. *Dependent variable: soliciting information from (organisational) interest groups*

|   | <i>Model SM3</i>                   |
|---|------------------------------------|
| <i>Control variables</i>  |                                    |
| Corporatism (Jahn 2022)   | 0.124<br>(0.191)                   |
| Systemic analytical capacities (Bertelmann Stiftung Index 2022) | -0.045<br>(0.036)                  |
| Ministry of affiliation: social welfare                         | <i>Ref. cat.</i>                   |
| Ministry of affiliation: economic issues                        | <b>-1.062***</b><br><b>(0.245)</b> |
| Ministry of affiliation: core functions                         | <b>-0.830***</b><br><b>(0.251)</b> |
| Hierarchy   | <b>-0.489***</b><br><b>(0.174)</b> |
| Seniority   | <b>0.020**</b><br><b>(0.009)</b>   |
| Previous work: private sector                                   | -0.046<br>(0.143)                  |
| Education: PhD  | -0.260<br>(0.181)                  |
| Soliciting information: institutional actors                    | <b>0.335***</b><br><b>(0.028)</b>  |
| Year of birth   | -0.003<br>(0.012)                  |
| <i>Independent variables</i>                                    |                                    |
| Organisational analytical capacities                            | -0.007<br>(0.004)                  |
| Individual analytical capacities                                | <b>0.015***</b><br><b>(0.004)</b>  |
| <i>Diagnostics</i>  |                                    |
| N   | 516                                |
| Adjusted R <sup>2</sup>   | 0.306                              |

Notes: p-value < 0.10 = \* / p-value < 0.05 = \*\* / p-value < 0.01 = \*\*\* In bold, statistically significant coefficients (standard deviations in parentheses).

(Organisational) definition of interest groups: economic groups (entrepreneurial associations and labour unions) + NGOs + Citizen groups.

## Robustness test 3: World Bank indicators instead of Bertelmann-Stiftung indicators

**Table SM14. Systemic analytical capacities: World Bank indicators**

|  | <i>Model SM4</i><br><i>Behavioural def.</i> | <i>Model SM5</i><br><i>Organisational def.</i> |
|--|---|--|
| <i>Control variables</i>                         |   |  |
| Corporatism (Jahn 2022)                          | -0.045<br>(0.294)                           | -0.059<br>(0.193)                              |
| Systemic analytical capacities (World Bank 2022) | 1.866<br>(1.816)                            | 1.471<br>(1.193)                               |
| Ministry of affiliation: social welfare          | <i>Ref. cat.</i>                            | <i>Ref. cat.</i>                               |
| Ministry of affiliation: economic issues         | <b>-1.066***</b><br><b>(0.377)</b>          | <b>-1.062**</b><br><b>(0.245)</b>              |
| Ministry of affiliation: core functions          | <b>-1.143***</b><br><b>(0.384)</b>          | <b>-0.830***</b><br><b>(0.251)</b>             |
| Hierarchy  | <b>-0.587**</b><br><b>(0.265)</b>           | <b>-0.489***</b><br><b>(0.174)</b>             |
| Seniority  | <b>0.033**</b><br><b>(0.014)</b>            | <b>0.020**</b><br><b>(0.009)</b>               |
| Previous work: private sector                    | 0.050<br>(0.218)                            | -0.046<br>(0.143)                              |
| Education: PhD                                   | <b>-0.495*</b><br><b>(0.277)</b>            | -0.260<br>(0.181)                              |
| Soliciting information: institutional actors     | <b>0.541***</b><br><b>(0.043)</b>           | <b>0.335***</b><br><b>(0.028)</b>              |
| Year of birth                                    | 0.009<br>(0.018)                            | -0.003<br>(0.012)                              |
| <i>Independent variables</i>                     |   |  |
| Organisational analytical capacities             | <b>-0.019***</b><br><b>(0.007)</b>          | -0.007<br>(0.004)                              |
| Individual analytical capacities                 | <b>0.023***</b><br><b>(0.007)</b>           | <b>0.015***</b><br><b>(0.004)</b>              |
| <i>Diagnostics</i>                               |   |  |
| N  | 513   | 516  |
| Adjusted R <sup>2</sup>                          | 0.317                                       | 0.306  |

Notes: p-value < 0.10 = \* / p-value < 0.05 = \*\* / p-value < 0.01 = \*\*\* In bold, statistically significant coefficients (standard deviations in parentheses).

World Bank indicators (governance effectiveness): Greece: 0.44; Italy: 0.55; Portugal: 0.74.

#### **Robustness test 4: Composite independent variable instead of separate independent variables**

**Table SM15. Composite independent variable: organisational capacities (reverted) \* individual capacities**

|  | <i>Model SM4</i><br><i>Behavioural def.</i> | <i>Model SM5</i><br><i>Organisational def.</i> |
|--|---|--|
|--|---|--|

| <i>Control variables</i>  |                                    |                                    |
|---|------------------------------------|------------------------------------|
| Corporatism (Jahn 2022)   | 0.229<br>(0.289)                   | 0.166<br>(0.190)                   |
| Systemic analytical capacities (Bertelmann<br>Stiftung Index 2022)                                      | -0.070<br>(0.055)                  | -0.056<br>(0.036)                  |
| Ministry of affiliation: social welfare   | <i>Ref. cat.</i>                   | <i>Ref. cat.</i>                   |
| Ministry of affiliation: economic issues  | <b>-1.045***</b><br><b>(0.375)</b> | <b>-1.022***</b><br><b>(0.245)</b> |
| Ministry of affiliation: core functions   | <b>-1.094***</b><br><b>(0.382)</b> | <b>-0.768***</b><br><b>(0.250)</b> |
| Hierarchy   | <b>-0.627**</b><br><b>(0.262)</b>  | <b>-0.540***</b><br><b>(0.173)</b> |
| Seniority   | <b>0.030**</b><br><b>(0.014)</b>   | <b>0.018*</b><br><b>(0.009)</b>    |
| Previous work: private sector   | 0.058<br>(0.217)                   | -0.031<br>(0.143)                  |
| Education: PhD  | <b>-0.476*</b><br><b>(0.276)</b>   | -0.253<br>(0.181)                  |
| Soliciting information: institutional actors  | <b>0.550***</b><br><b>(0.041)</b>  | <b>0.347***</b><br><b>(0.027)</b>  |
| Year of birth   | 0.010<br>(0.018)                   | -0.001<br>(0.012)                  |
| <i>Independent variable</i>   |                                    |                                    |
| Organisational analytical capacities (reverted) *<br>individual analytical capacities (log-transformed) | <b>3.170***</b><br><b>(0.801)</b>  | <b>1.583***</b><br><b>(0.526)</b>  |
| <i>Diagnostics</i>  |                                    |                                    |
| N   | 513                                | 516                                |
| Adjusted R <sup>2</sup>   | 0.317                              | 0.303                              |

Notes: p-value < 0.10 = \* / p-value < 0.05 = \*\* / p-value < 0.01 = \*\*\* In bold, statistically significant coefficients (standard deviations in parentheses).

## Robustness test 5: Dependent variable and independent variables on the basis of Principal component analyses

Table SM16. *Soliciting data and information from (behavioural) interest groups, organisational and individual analytical capacities: 'new' indexes (based on principal component analyses)*

|  | <i>Model SM6</i><br><i>Behavioural def.</i><br><i>(PCA index)</i> | <i>Model SM7</i><br><i>Organisational def.</i> |
|--|---|--|
| <i>Control variables</i>   |   |  |
| Corporatism (Jahn 2022)  | 0.163<br>(0.208)  | 0.129<br>(0.197)                               |
| Systemic analytical capacities (Bertelmann<br>Stiftung Index 2022) | -0.054<br>(0.038)   | -0.052<br>(0.036)                              |

|  |                                    |                                    |
|--|------------------------------------|------------------------------------|
| Ministry of affiliation: social welfare          | <i>Ref. cat.</i>                   | <i>Ref. cat.</i>                   |
| Ministry of affiliation: economic issues         | <b>-0.778***</b><br><b>(0.263)</b> | <b>-1.081***</b><br><b>(0.248)</b> |
| Ministry of affiliation: core functions          | <b>-0.782***</b><br><b>(0.269)</b> | <b>-0.836***</b><br><b>(0.253)</b> |
| Hierarchy  | <b>-0.413**</b><br><b>(0.187)</b>  | <b>-0.517***</b><br><b>(0.177)</b> |
| Seniority  | <b>0.020**</b><br><b>(0.010)</b>   | <b>0.020**</b><br><b>(0.009)</b>   |
| Previous work: private sector                    | 0.059<br>(0.153)                   | -0.038<br>(0.145)                  |
| Education: PhD                                   | -0.288<br>(0.194)                  | -0.259<br>(0.183)                  |
| Soliciting information: institutional actors     | <b>0.388***</b><br><b>(0.030)</b>  | <b>0.335***</b><br><b>(0.028)</b>  |
| Year of birth                                    | 0.002<br>(0.013)                   | -0.003<br>(0.012)                  |
| <i>Independent variables</i>                     |                                    |                                    |
| Organisational analytical capacities (PCA index) | <b>-0.016**</b><br><b>(0.007)</b>  | -0.009<br>(0.006)                  |
| Individual analytical capacities (PCA index)     | <b>0.029***</b><br><b>(0.008)</b>  | <b>0.026***</b><br><b>(0.008)</b>  |
| <i>Diagnostics</i>                               |                                    |                                    |
| N  | 504                                | 507                                |
| Adjusted R <sup>2</sup>                          | 0.326                              | 0.306                              |

Notes: p-value < 0.10 = \* / p-value < 0.05 = \*\* / p-value < 0.01 = \*\*\* In bold, statistically significant coefficients (standard deviations in parentheses).

- Soliciting data and information from (behavioural) interest groups (PCA index): weighted (on the basis of PCA factor scores related to Factor 1) sum of: Q14.4 (entrepreneurial associations and labour unions); Q14.5 (NGOs); Q14.8 (lobbying agencies); Q14.9 (citizen groups); Q14.10 (individual firms).
- Organisational analytical capacities (PCA index): weighted (on the basis of PCA factor scores related to Factor 1) sum of: Q20.1 (Quantity of personnel); Q20.2 (Competence of personnel); Q20.3 (Budget); Q20.4 (Specific formation); Q20.5 (Coherence of decision-making); Q20.6 (Usability of data); Q20.7 (Coordination with other administrations); Q20.8 (Evidence-based policymaking); Q20.9 (Public trust).
- Individual analytical capacities (PCA index): weighted (on the basis of PCA factor scores related to Factor 1) sum of: Q18.2 (Legal analyses); Q18.3 (Statistical analyses); Q18.4 (Economic [cost-benefit] analyses); Q18.5 (Accounting-financial analyses); Q18.6 (Organisational analyses); Q18.7 (Scenario analyses); Q18.8 (Analyses of the impact of regulation); Q18.9 (Memos and policy reports); Q18.10 (Experimental design techniques).

## Robustness test 6: Country dummies as control variables

Table SM17. *Country dummies as control variables*

|  | <i>Model SM8</i>        | <i>Model SM9</i>           |
|--|-------------------------|----------------------------|
|  | <i>Behavioural def.</i> | <i>Organisational def.</i> |

| <i>Control variables</i>                     |                                    |                                    |
|--|------------------------------------|------------------------------------|
| Country: Italy                               | <i>Ref. cat.</i>                   | <i>Ref. cat.</i>                   |
| Country: Greece                              | -0.154<br>(0.312)                  | -0.095<br>(0.205)                  |
| Country: Portugal                            | 0.375<br>(0.414)                   | 0.305<br>(0.272)                   |
| Ministry of affiliation: social welfare      | <i>Ref. cat.</i>                   | <i>Ref. cat.</i>                   |
| Ministry of affiliation: economic issues     | <b>-1.066***</b><br><b>(0.377)</b> | <b>-1.062**</b><br><b>(0.245)</b>  |
| Ministry of affiliation: core functions      | <b>-1.143***</b><br><b>(0.384)</b> | <b>-0.830***</b><br><b>(0.251)</b> |
| Hierarchy                                    | <b>-0.587**</b><br><b>(0.265)</b>  | <b>-0.489***</b><br><b>(0.174)</b> |
| Seniority                                    | <b>0.033**</b><br><b>(0.014)</b>   | <b>0.020**</b><br><b>(0.009)</b>   |
| Previous work: private sector                | 0.050<br>(0.218)                   | -0.046<br>(0.143)                  |
| Education: PhD                               | <b>-0.495*</b><br><b>(0.277)</b>   | -0.260<br>(0.181)                  |
| Soliciting information: institutional actors | <b>0.541***</b><br><b>(0.043)</b>  | <b>0.335***</b><br><b>(0.028)</b>  |
| Year of birth                                | 0.009<br>(0.018)                   | -0.003<br>(0.012)                  |
| <i>Independent variables</i>                 |                                    |                                    |
| Organisational analytical capacities         | <b>-0.019***</b><br><b>(0.007)</b> | -0.007<br>(0.004)                  |
| Individual analytical capacities             | <b>0.023***</b><br><b>(0.007)</b>  | <b>0.015***</b><br><b>(0.004)</b>  |
| <i>Diagnostics</i>                           |                                    |                                    |
| N  | 513                                | 516                                |
| Adjusted R <sup>2</sup>                      | 0.317                              | 0.306                              |

Notes: p-value < 0.10 = \* / p-value < 0.05 = \*\* / p-value < 0.01 = \*\*\* In bold, statistically significant coefficients (standard deviations in parentheses).

## Section E – Descriptive statistics country by country

**Table SM18. Soliciting data and information from interest groups**

| <i>Specific item</i>  | <i>Total</i> |             |           | <i>Greece</i> |             |           | <i>Italy</i> |             |           | <i>Portugal</i> |             |           |
|---|--------------|-------------|-----------|---------------|-------------|-----------|--------------|-------------|-----------|-----------------|-------------|-----------|
|   | <i>N</i>     | <i>Mean</i> | <i>SD</i> | <i>N</i>      | <i>Mean</i> | <i>SD</i> | <i>N</i>     | <i>Mean</i> | <i>SD</i> | <i>N</i>        | <i>Mean</i> | <i>SD</i> |
| Soliciting data and information from entrepreneurial associations and labour unions | 683          | 1.70        | 0.88      | 115           | 1.53        | 0.70      | 487          | 1.77        | 0.94      | 81              | 1.53        | 0.73      |
| Soliciting data and information from NGOs   | 680          | 1.55        | 0.85      | 114           | 1.32        | 0.54      | 485          | 1.58        | 0.88      | 81              | 1.69        | 0.96      |
| Soliciting data and information from lobbying agencies                              | 679          | 1.50        | 0.81      | 115           | 1.37        | 0.72      | 483          | 1.53        | 0.83      | 81              | 1.51        | 0.82      |
| Soliciting data and information from citizen groups                                 | 680          | 1.26        | 0.57      | 115           | 1.24        | 0.51      | 484          | 1.28        | 0.61      | 81              | 1.20        | 0.43      |
| Soliciting data and information from individual firms                               | 682          | 1.61        | 0.96      | 115           | 1.45        | 0.82      | 486          | 1.62        | 0.96      | 81              | 1.73        | 1.11      |

*Note:* Specific question: ‘To what extent do you personally or your administration solicit information and data from the following actors?’

*Source:* authors’ own elaboration.

**Table SM19. Organisational analytical capacities**

| <i>Specific item</i>  | <i>Total</i> |             |           | <i>Greece</i> |             |           | <i>Italy</i> |             |           | <i>Portugal</i> |             |           |
|---|--------------|-------------|-----------|---------------|-------------|-----------|--------------|-------------|-----------|-----------------|-------------|-----------|
|   | <i>N</i>     | <i>Mean</i> | <i>SD</i> | <i>N</i>      | <i>Mean</i> | <i>SD</i> | <i>N</i>     | <i>Mean</i> | <i>SD</i> | <i>N</i>        | <i>Mean</i> | <i>SD</i> |
| Organisational analytical capacity: quantity of personnel   | 693          | 3.86        | 2.66      | 114           | 3.61        | 2.45      | 498          | 4.01        | 2.71      | 81              | 3.32        | 2.62      |
| Organisational analytical capacity: competence of personnel | 694          | 5.20        | 2.60      | 115           | 4.48        | 2.48      | 498          | 5.28        | 2.55      | 81              | 5.75        | 2.85      |
| Organisational analytical capacity: budget                  | 690          | 5.49        | 2.68      | 111           | 4.15        | 2.40      | 498          | 6.03        | 2.52      | 81              | 4.00        | 2.77      |
| Organisational analytical capacity: specific formation      | 694          | 4.85        | 2.56      | 115           | 4.07        | 2.40      | 498          | 5.10        | 2.55      | 81              | 4.40        | 2.57      |
| Organisational analytical capacity:                         | 691          | 5.66        | 2.43      | 113           | 4.85        | 2.45      | 497          | 5.80        | 2.32      | 81              | 5.90        | 2.84      |

|   |     |      |      |     |      |      |     |      |      |    |      |      |  |
|---|-----|------|------|-----|------|------|-----|------|------|----|------|------|--|
| coherence of decision-making  |     |      |      |     |      |      |     |      |      |    |      |      |  |
| Organisational analytical capacity: usability of data                       | 693 | 5.95 | 2.36 | 115 | 5.18 | 2.44 | 497 | 6.19 | 2.26 | 81 | 5.57 | 2.56 |  |
| Organisational analytical capacity: coordination with other administrations | 691 | 6.37 | 2.48 | 113 | 5.58 | 2.47 | 497 | 6.51 | 2.45 | 81 | 6.59 | 2.44 |  |
| Organisational analytical capacity: evidence-based policymaking             | 688 | 5.96 | 2.58 | 113 | 5.47 | 2.53 | 494 | 5.96 | 2.55 | 81 | 6.60 | 2.68 |  |
| Organisational analytical capacity: public trust                            | 691 | 6.75 | 2.35 | 114 | 6.39 | 2.40 | 496 | 6.72 | 2.33 | 81 | 7.42 | 2.28 |  |

Note: Specific question: ‘How much do you agree with the following statements concerning the capacities of administration? Your administration is adequate for...’

Source: authors’ own elaboration.

**Table SM20. Individual analytical capacities**

| <i>Specific item</i>   | <i>Total</i> |             |           | <i>Greece</i> |             |           | <i>Italy</i> |             |           | <i>Portugal</i> |             |           |
|--|--------------|-------------|-----------|---------------|-------------|-----------|--------------|-------------|-----------|-----------------|-------------|-----------|
|  | <i>N</i>     | <i>Mean</i> | <i>SD</i> | <i>N</i>      | <i>Mean</i> | <i>SD</i> | <i>N</i>     | <i>Mean</i> | <i>SD</i> | <i>N</i>        | <i>Mean</i> | <i>SD</i> |
| Individual analytical capacity: online consultations             | 694          | 6.52        | 3.07      | 115           | 7.04        | 2.15      | 498          | 6.00        | 3.20      | 81              | 8.94        | 1.86      |
| Individual analytical capacity: legal analysis                   | 695          | 7.12        | 2.55      | 116           | 5.77        | 2.64      | 498          | 7.45        | 2.47      | 81              | 7.07        | 2.29      |
| Individual analytical capacity: statistical analysis             | 695          | 5.70        | 2.57      | 116           | 5.47        | 2.60      | 498          | 5.63        | 2.55      | 81              | 6.43        | 2.52      |
| Individual analytical capacity: economic (cost-benefit) analysis | 695          | 5.77        | 2.64      | 116           | 5.32        | 2.56      | 498          | 5.87        | 2.61      | 81              | 5.79        | 2.89      |
| Individual analytical capacity: accounting-financial analysis    | 695          | 5.92        | 2.84      | 116           | 4.58        | 2.69      | 498          | 6.32        | 2.77      | 81              | 5.35        | 2.80      |
| Individual analytical capacity: organisational analysis          | 695          | 6.75        | 2.36      | 116           | 6.19        | 2.40      | 498          | 6.92        | 2.30      | 81              | 6.52        | 2.53      |

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|   |     |      |      |     |      |      |     |      |      |    |      |      |
|---|-----|------|------|-----|------|------|-----|------|------|----|------|------|
| Individual analytical capacity:<br>scenario analysis                    | 695 | 5.98 | 2.76 | 116 | 5.84 | 2.57 | 498 | 6.03 | 2.79 | 81 | 5.89 | 2.88 |
| Individual analytical capacity:<br>analyses of the impact of regulation | 695 | 5.33 | 2.70 | 116 | 5.89 | 2.59 | 498 | 5.16 | 2.70 | 81 | 5.57 | 2.80 |
| Individual analytical capacity:<br>memos and policy reports             | 695 | 6.98 | 2.80 | 116 | 6.41 | 2.62 | 498 | 7.28 | 2.74 | 81 | 5.95 | 3.02 |
| Individual analytical capacity:<br>experimental design techniques       | 695 | 2.82 | 2.51 | 116 | 4.08 | 2.67 | 498 | 2.42 | 2.23 | 81 | 3.51 | 3.07 |

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*Note:* Specific question: ‘Please assess your current level of familiarity with the following activities...’

*Source:* authors’ own elaboration.

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