RESEARCH REPORT - ACADEMIC EXPERT SURVEY

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Executive summary

- The TROPICO Academic Expert Survey invited more than 2,000 academic experts in ten European countries (Belgium, Denmark, Estonia, France, Germany, Hungary, Netherlands, Norway, Spain, and the United Kingdom) from various fields, including political science, public administration and management, law and economics. The final sample included 515 respondents, resulting in a response rate of 21%.

- The survey focused on the experts' perceptions and assessments of internal policy design, i.e. the structures and processes to formulate government policies within government organisations, with a special emphasis on perceptions of the role of novel and innovative ICT tools as means for executive collaboration.

- The expert perceptions on policy analytical capacity of ministerial bureaucracies across Europe, which is both a key determinant for and a crucial expression of internal policy design processes, varies across countries. For those countries following the Nordic, Germanic and Anglo-American administrative tradition, the country experts rated this capacity higher than country experts assessing countries following the Napoleonic or Central and Eastern European tradition.

- Among three meta-trends often discussed to shape internal policy design (that is multi-level dynamics, digitalisation and mediatisation), multi-level dynamics are regarded as slightly more influential than digitalisation, which however is assessed as more influential than mediatisation. Given the strong involvement of all ten countries in the EU (also current and future non-members Norway and the United Kingdom), this result is to be expected. At the same time, it sheds light on the growing importance of digitalisation.

- The impact of a greater use of ICT tools in internal policy design is perceived differently by the experts regarding the formality and innovativeness of these processes. Moreover, the strongest impact is seen for more participation of external actors and for the processing of more information by ministerial bureaucracies.

- The experts' assessments of governmental actor capabilities at the level of ministerial departments vary across and within countries. Focusing on portfolio salience, defined as policy relevance to voters, media attention, and the portfolio's role in internal policy design, the most salient portfolio across countries is the Ministry of Finance, followed by the Prime Minister's Office and the Ministry of Interior. These governmental actors are therefore particularly suitable to proliferate novel and innovative tools for executive collaboration.

- Delegated agencies play an important role in providing expertise but also engage in internal policy design. The comparative assessment shows that digitalisation agencies – as key promoters of greater ICT-use to enhance open and innovative collaboration within governments – are in many countries regarded by the experts as relevant providers of expertise (similar to other agencies), but are not seen to be as strongly involved in policy-making as other delegated authorities in their countries.
1 Introduction

The TROPICO project investigates how public administrations are transformed to enhance collaboration in policy design and service delivery, advancing the participation of public, private and societal actors, with a special focus on the use of information and communication technology (ICT). In work package 4, we study innovative practices of internal collaboration for policy design and examine the emergence and nature of such practices in governments across Europe (Belgium, Denmark, Estonia, France, Germany, Hungary, Netherlands, Norway, Spain, and United Kingdom). A special emphasis is given to the role of governments and the relevance of ICT in intra- and intergovernmental collaboration. Here, we assess governmental actors' capabilities, preferences and constellations as well as a variety of collaboration means such as ICT-tools that are increasingly deployed within governmental organisations. To that end, we conducted an inter-disciplinary academic expert survey in the ten European countries noted above, involving social scientists, legal scholars, historians, and economists with a special competence to assess such questions.

The academic expert survey seeks to examine novel collaboration and their impact on governmental actors and means of internal collaboration practices across different administrative traditions in Europe and across policy sectors. The survey was designed to measure the variation in the assessment/perception of (1) governmental actor constellations and governmental actors' capabilities (such as their salience) and (2) the collaboration means for policy design, including the relevance of ICT tools therein. It thus aims at complementing existing 'governance indicators' (from the World Bank, Bertelsmann SGI; Quality of Government (QoG), Varieties of Democracy (V-Dem)) and shedding light on collaboration and digitalisation dynamics from a comparative perspective.

The aim of this report is to present the findings of the survey and analyse the impact of ICT on collaboration and analytical capacities in the ministerial bureaucracy, as well as the role and capability of ministerial portfolios and agencies in policy formulation processes. In doing so, we will take into account the importance of administrative traditions and the institutional context for shaping the effect of ICT on policy design, and the perceived relevance of ministerial portfolios and agencies with digitalisation responsibilities.
The report is structured as follows: In chapter 2, we present the methods of the survey, including the survey sample and the anchoring vignettes and sorting orders used in the survey. In chapter 3, we present the empirical results on the experts' assessments about the relevance of ICT-tools for internal policy design. We first conduct an overall assessment of the policy analytical capacity of each of the ten ministerial bureaucracies under scrutiny. Afterwards, we compare the impact of digitalisation and ICT tools with other meta trends that are commonly discussed to affect internal policy design, i.e. multi-level policy settings and mediatisation. Whereas the former is defined as the increasing interdependency of different levels, especially within the European Union, the latter refers to the increasing relevance of media and media coverage of political and bureaucratic actors and processes. Subsequently, we investigate the impact of the use of ICT tools on the formality and innovativeness in internal policy design. In chapter 4, we show the results on the experts' assessments of the capacity and constellations of governmental actors involved in internal policy design by focussing on the relative importance of distinct ministerial portfolios, which are the key actors in transforming governments to become more open, innovative, and collaborative in internal policy design. In chapter 5, we present and discuss our findings regarding the expertise and policy involvement of delegated agencies, with a special emphasis on agencies with a formal mandate and competencies in digitalisation and the proliferation of ICT tools for internal policy design in government. The final chapter concludes the report with a brief summary of the main results of our academic expert survey and further implications for transforming the public sectors in Europe to become more open, innovative, and collaborative in internal policy design.
2 Methods

2.1 Survey sample

We invited 2,461 academic experts to take part in our survey across the ten countries. The experts were identified by conducting a multi-step procedure involving an article search in the most important national academic/professional journals, drawing from member lists of national science associations as well as information from online research among the higher education institutions. In doing so, we included academic scholars who can be regarded as experts for at least one of the following key issues covered in the survey:

1. Collaboration in and by governments
2. Coordination in and by governments
3. Portfolio allocation and salience
4. Cabinet (rules, mechanisms, workings)
5. Executive politics
6. Ministerial bureaucracies
7. Policy analysis (policy fields)
8. Public expenditure
9. Digitalisation, digital governance etc.
10. ICT tools

Overall, 515 academic experts took part in the survey, reflecting an overall response rate of 21% (see figure 1).

Figure 1: TROPICO Academic Expert Survey: Response rate per country
The highest response rate was achieved in Estonia, where 30% of the invited experts took part in the survey. In Norway (29%) and Denmark (27%), the response rates were similarly high, while in Belgium, Germany, and Hungary 23% to 24% of the invited experts participated in the survey. In France, Spain, United Kingdom and the Netherlands, the response rate ranged between 15% and 18%.

The largest number of participants that answered the survey are from Germany (27%) and the Netherlands (20%), while respondents from the United Kingdom, Belgium and Norway each make up 8% of the final sample (see table 1). The share of experts giving an assessment for the other countries lies between 4% and 7%. The number of participants differs across countries, mainly because the country lists (pools) included a different amount/number of potential participants to be invited, ranging from 601 (from Germany) and 576 (in the Netherlands) to 95 (from Hungary). These variations are partly caused by our identification strategy of experts, but also reflect the different academic communities across the TROPICO countries working on the themes included in the survey. Thus, the share of experts per country in the final sample generally reflects the share of experts who were invited to take part at our survey.

**Table 1: TROPICO Academic Expert Survey: Final sample size**

<table>
<thead>
<tr>
<th>TROPICO country</th>
<th>No. of invited experts</th>
<th>Share of total no. of invited experts (%)</th>
<th>No. of experts in the final sample</th>
<th>Share of total no. of experts in the final sample (%)</th>
<th>Response rate per country (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>175</td>
<td>7.1</td>
<td>42</td>
<td>8.2</td>
<td>24.0</td>
</tr>
<tr>
<td>Denmark</td>
<td>131</td>
<td>5.3</td>
<td>35</td>
<td>6.8</td>
<td>26.7</td>
</tr>
<tr>
<td>Estonia</td>
<td>120</td>
<td>4.9</td>
<td>36</td>
<td>7.0</td>
<td>30.0</td>
</tr>
<tr>
<td>France</td>
<td>137</td>
<td>5.6</td>
<td>23</td>
<td>4.5</td>
<td>16.8</td>
</tr>
<tr>
<td>Germany</td>
<td>601</td>
<td>24.4</td>
<td>137</td>
<td>26.6</td>
<td>22.8</td>
</tr>
<tr>
<td>Hungary</td>
<td>95</td>
<td>3.9</td>
<td>22</td>
<td>4.3</td>
<td>23.2</td>
</tr>
<tr>
<td>Netherlands</td>
<td>576</td>
<td>23.4</td>
<td>105</td>
<td>20.4</td>
<td>18.2</td>
</tr>
<tr>
<td>Norway</td>
<td>135</td>
<td>5.5</td>
<td>39</td>
<td>7.6</td>
<td>28.9</td>
</tr>
<tr>
<td>Spain</td>
<td>203</td>
<td>8.3</td>
<td>33</td>
<td>6.4</td>
<td>16.3</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>288</td>
<td>11.7</td>
<td>43</td>
<td>8.4</td>
<td>14.9</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>2,461</strong></td>
<td><strong>100.0</strong></td>
<td><strong>515</strong></td>
<td><strong>100.0</strong></td>
<td><strong>20.9</strong></td>
</tr>
</tbody>
</table>
When further investigating the respondents to the survey, most of them are male (70%), whereas 30% are female (see figure 2). These numbers generally reflect the gender distribution of academics working in the social sciences, legal studies, history sciences, and economics. Thus, of all the experts we identified and invited to take part in the survey, 67% were male and 33% were female.

Figure 2: TROPICO Academic Expert Survey: Gender distribution of experts

The overall sample is also representative with regard to the academic experts’ qualification (see figure 3). Thus, 40% of the experts invited to take part in the survey were full professors, compared to 38% that answered the survey in the final sample. Similarly, 42% of the identified experts were associate or assistant professors (including Post-Docs), compared to 40% in the final sample. The share of PhD students in the final sample (11%) also reflects the list of potential experts identified prior to the survey in which 10% were PhD students. Lastly, roughly 3% of the academic experts who received a survey invitation were retired scholars, compared
to 6% in the final sample. Another 5% of respondents indicated to hold a position other than those listed above, such as a dean, project manager or lecturer, or stated to work for a governmental think tank, NGO, or central bank.

Figure 3: TROPICO Academic Expert Survey: Qualification of experts

In addition to their qualification, the respondents were asked to indicate from a defined list the major field of research that they were working in (see figure 4). Most of the respondents (41%) are academics from the field of public administration. Scholars of comparative politics make up approx. 17%, scholars of political communication 12% and those of international relations 6% of the survey respondents. Roughly 23% of the experts indicated to conduct research on other fields than those pre-defined fields mentioned above, such as social law or policy studies. The final sample is thus roughly representative compared to the population sample that was invited to take part at our survey as 34,9% of the invited scholars were from the field of public administration/public management, while 32,7% of the invited experts were political scientists.
As part of the post-survey questionnaire, respondents were also asked whether they had conducted research on the topics of the survey (see figure 5). Overall, roughly one third of the academic experts had done so. Half of the participants from France had conducted research on the survey topics, similar to the Netherlands and Belgium where the share was 46% and 42%, respectively. In Estonia, 39% of the academic experts had conducted research on the topics of the survey, whereas in Denmark, Germany, Hungary, Norway and the United Kingdom, around 30% of the sample had done so. By far the lowest share can be observed in Spain where only 19% of the respondents had covered the survey topics in their research.
The respondents were also asked whether they had given advice to legislative and/or executive actors (see figure 6). With approximately 54%, the majority of experts had been involved in such consultation. The highest number of respondents providing advice (on the topics of the survey) can be found in Germany with 68%, followed by France (67%) and the United Kingdom (61%). In the Netherlands (44%), Norway (48%) and Spain (33%), the number of advisors were smaller than those having no experience with consulting legislative/executive actors.
Furthermore, the survey was conducted across ten countries representing five different administrative traditions in Europe in order to assess the relevance of institutional conditions shaping the governmental actors and means for internal collaboration and their inter-linkages. The scholarly debate often implies that administrative traditions are rather stationary (except Peters, 2008: 119-20; Meyer-Sahling/Yesilkagit, 2011), referring to legal scholarship and distinguishing between 1) a Common Law, 2) a Roman-French, 3) a Roman-Germanic, and 4) a Roman-Scandinavian tradition (Reynolds/Flores, 1989; La Porta et al., 1999, 2008). Recently a (fifth) Central and Eastern European tradition was added, combining elements of the aforementioned four traditions (Meyer-Sahling/Yesilkagit, 2011). In general, administrative traditions can be seen as formal rules, identified by Max Weber as essential for the emergence of a rational-legal bureaucracy (Page, 1992: 19-24). They are also seen to incorporate norms and values on the appropriate (role of) public administration within society (Peters, 2008: 118; March/Olsen, 1989). Likewise, these administrative traditions are seen to inherit and incorporate major administrative reform trends, shaping structures and processes of governments (Pollitt/Bouckaert, 2017). Administrative traditions influence collaboration by
shaping governmental actor constellations and power distributions therein, governmental actors’ motives and their patterns of interaction (Dyson, 1980; Peters, 1997; Painter/Peters, 2010; Yesilkagit, 2010). In sum, administrative traditions express the key institutional context features for executives and thus provide an excellent set-up for comparative analysis.

2.2 Anchoring vignettes and sorting orders

The TROPICO academic expert survey consisted of six parts that were shown to participants on ten screens. Apart from the introductory section and the post-survey questionnaire on demographics, the survey contained four themes with varying sub-questions and items:

1) Relevance of digitalisation and other meta trends for internal policy design
2) Effects of ICT as means of collaboration on internal policy design
3) Actor constellations and capabilities in collaboration for internal policy design
4) Expertise and policy involvement of delegated agencies for internal policy design

For the first three themes, the academic experts were randomly assigned to one of several "anchoring vignettes" in order to enhance the comparability of the survey measures (see table 2). The use of vignettes relies on two measurement assumptions, namely response consistency and vignette equivalence. Vignette equivalence assumes that the rankings of the vignettes will be consistent across respondents, i.e. "that the level of the variable represented in the vignette is understood by all respondents in the same way apart from random measurement error" (King et al., 2004: 4). Response consistency refers to the assumptions that respondents will use the same standards when answering the vignette and assessing the corresponding concept later in the survey.

In addition, we created different cohorts of respondents to eliminate bias on the third theme, thus assigning the participants randomly to one out of four ordering principles for assessing portfolio salience, namely: (a) alphabetical, (b) most to least salient, (c) least to most salient (both according to Druckman/Warwick, 2005), and (d) random.\(^1\)

\(^1\) Due to missing data on Spain and the United Kingdom (no assessment by Druckman/Warwick 2005), academic experts from these countries were assigned to the alphabetical and random order only.
Table 2: TROPICO Academic Expert Survey vignettes, cohorts, and corresponding measures

<table>
<thead>
<tr>
<th>Survey vignette and cohort</th>
<th>Corresponding survey measure</th>
</tr>
</thead>
</table>
| Vignette A: Policy analytical capacity; random assignment, varying on three conceptual dimensions, each with three levels | • Impact of three external dynamics, including digitalisation, on policy analytical capacity (in general)  
• Impact of ICT on internal policy design in [country], distinguishing three distinct effects on ministerial bureaucracy (responsibilities, professional exchange, informality)  
• Policy analytical capacity in [country]  
• Impact of ICT on policy analytical capacity in [country], distinguishing three dimensions (participation, information, innovativeness) |
| Vignette B: Portfolio salience; random assignment, varying on three conceptual dimensions, each with three levels | • Portfolio salience in [country]  
• Impact of ICT on portfolio salience in [country] |
| Cohort: Portfolio salience; random assignment, varying on four sorting orders | |

The subsequent sections will explain the background and implementation of these vignettes as well as the cohort sorting in more detail.

2.2.1 Equivalence and response consistency of the policy analytical capacity vignette

The first survey question consisted of a short vignette aimed at enhancing interpersonal and cross-country comparability of assessments on the policy analytical capacity given later in the survey. “Anchoring vignettes” are an increasingly applied methodology in survey research aimed at enhancing interpersonal and cross-country comparability of responses. This survey design technique was introduced by King et al. (2004) to tackle problems resulting from the different use of the same response category. For example, respondents assessing a ministry's policy analytical capacity on a scale from one to eleven may have a different understanding of what constitutes an analytical capacity of eleven. In other words: If one group of respondents has comparatively high standards on when to classify a ministry into a higher category, such as a ten or eleven, they will report systematically different capacity levels than another group, leading to the so-called "differential item functioning" (DIF) and biasing the validity of subsequent analyses.
The idea behind anchoring vignettes is to compare respondents' assessments of a particular concept such as policy analytical capacity to their answer on a hypothetical case (in this case a hypothetical portfolio) whose characteristics are described in a short vignette. To that end, respondents are provided with different vignettes representing various levels of the concept. For example, the concept of policy analytical capacity as discussed in the literature describes ministry officials' awareness of medium- and long-term departmental priorities, the mobilisation of external resources and access to policy-related data as well as the identification and appraisal of various policy options. For each of the three dimensions, we formulated three vignettes describing different levels of the concept (e.g. officials appraise one alternative, several alternatives, or a wide range of alternatives). The vignette dimensions and levels of the policy analytical capacity can be found in Table 3.

The use of anchoring vignettes is especially helpful for measuring complex and complicated concepts whose definitions are hard to fully derive from theory, but that can be specified with reference to examples. For example, the term "capacity" is often seen to be rather vague and is often approached in a very fragmented fashion (Christensen/Gazley, 2008). Similarly, the definition of a government’s policy analytical capacity differs widely, ranging from the ability to set strategic directions and articulate medium- and long-term priorities, to evaluate various policy alternatives, make use of knowledge and evidence, or marshal various kinds of resources to inform policy-making (for a brief overview, see Wu et al., 2015).

Table 3: Dimensions and levels of the vignette on policy analytical capacity

<table>
<thead>
<tr>
<th>Vignette dimension</th>
<th>Levels</th>
</tr>
</thead>
</table>
| Officials are aware of medium- and long-term departmental priorities | high = unsure of medium- and long-term priorities  
medium = aware of some (but not all) medium- and long-term priorities  
low = well aware of all medium- and long-term priorities |
| Officials mobilise external resources + have access to policy-related data | high = barely mobilise resources + limited range of policy-related data  
medium = several means to mobilise resources + some policy-related data  
low = various means to mobilise resources + wide range of policy-related data |
| Officials identify and appraise policy options | high = one alternative  
medium = several alternatives  
low = a wide range of alternatives |

Based on the vignette dimensions, we created a total of nine vignettes (3 dimensions x 3 levels), from which respondents were randomly assigned to one. Thus, each participant was only
provided with one of the vignettes listed below (see table 4, in descending order of the mean score, assessments were given on a scale from one to eleven).

| Table 4: Ranking of expert assessments on policy analytical capacity vignette |
|-------------------------------------------------|------------------|------------------|------------------|-------|
| Vignette on Policy Analytical Capacity           | aware of ministry priorities | mobilise external resources | appraise of policy alternatives | Mean (SD) |
| Vignette 5                                       | +                     | +                             | +                             | 7.4 (2.4) |
| Vignette 8                                       | –                     | o                             | +                             | 7.3 (1.9) |
| Vignette 4                                       | O                     | o                             | o                             | 7.2 (2.0) |
| Vignette 1                                       | –                     | +                             | o                             | 7.1 (2.2) |
| Vignette 7                                       | O                     | +                             | –                             | 7.1 (1.9) |
| Vignette 6                                       | +                     | o                             | –                             | 7.0 (2.2) |
| Vignette 2                                       | +                     | –                             | o                             | 5.2 (2.5) |
| Vignette 9                                       | O                     | –                             | +                             | 5.0 (2.1) |
| Vignette 3                                       | –                     | –                             | –                             | 3.8 (2.4) |

As expected, the results depict a clear pattern of higher vignette levels also receiving higher ratings of the hypothetical portfolio with regard to the analytical capacity. Thus, the assessment of analytical capacity for ministry officials presented as being well aware of all medium- and long-term priorities, employing various means to mobilise external resources and accessing a wide range of policy-related data, as well as identifying and appraising a wide range of alternatives received the highest rating, with an average value of 7.4 (vignette 5). Similarly, vignette 3 describing the lowest level of each dimension also received the lowest capacity rating with an average score of 3.8. The strongest pattern of capacity scores in line with the definition of vignette levels can be observed for the mobilisation of external resources and access to policy-related data, suggesting that this dimension is regarded by the experts as crucial for the policy analytical capacity concept.

As can be seen upon visual assessment, the standard deviations show vignette equivalence (see figure 7), i.e. the experts' capacity ratings among experts answering the same vignette range within a narrow scope, indicating that experts mostly agreed on the level of policy analytical capacity as described in their particular vignette. Though the standard deviation of vignette 2 and vignette 3 is comparatively large, assessments of these vignettes do not vary too strongly.
Therefore, we can conclude that the consistency of the concept ‘policy analytical capacity’ is rather strong and the experts use this concept rather similarly across and within countries.

Figure 7: Expert assessments on policy analytical capacity vignette

![Box plot of expert assessments on policy analytical capacity vignette](image)

Legend

Mean value

2.2.2 Equivalence of the portfolio salience vignette

The same approach used for the vignette on policy analytical capacity was also used to develop the second vignette aimed at improving the measurement of the portfolio salience later assessed by the academic experts. The vignette dimensions were derived from the literature on portfolio salience (Druckman/Warwick, 2005; Müller/Strøm, 1999) which first and foremost describes (1) the importance of policy issues handled by a portfolio to the electorate, (2) its coverage in the media, and (3) its role in formulating a cabinet proposal. Again, we formulated three vignettes describing different levels for each of the three dimensions, (e.g. the portfolio is "barely covered in the news at all", "is regularly covered in the news", or "is very often covered in the news"), resulting in a total of nine vignettes. Just as with the vignette on policy analytical capacity, each respondent was provided with one vignette only (see vignette dimensions and levels in table 5).
Table 5: Dimensions and levels of the vignette on portfolio salience

<table>
<thead>
<tr>
<th>Vignette dimension</th>
<th>Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Importance to the electorate</td>
<td>high = less important to any electorate</td>
</tr>
<tr>
<td></td>
<td>medium = important to this party's electorate</td>
</tr>
<tr>
<td></td>
<td>low = very important to the full electorate</td>
</tr>
<tr>
<td>Media coverage</td>
<td>high = barely covered in the news (at all)</td>
</tr>
<tr>
<td></td>
<td>medium = regularly covered in the news</td>
</tr>
<tr>
<td></td>
<td>low = very often covered in the news</td>
</tr>
<tr>
<td>Role in formulating a cabinet proposal</td>
<td>high = mostly co-signing department</td>
</tr>
<tr>
<td></td>
<td>medium = often co-signing, often leading department</td>
</tr>
<tr>
<td></td>
<td>low = mostly leading department</td>
</tr>
</tbody>
</table>

Respondents were asked to assess the salience (the importance) of the ministry as described in the vignette for any political party coming into office. To clarify the term 'portfolio salience', the academic experts were provided with the following specification: “Portfolio salience is defined as the importance of a portfolio and can be assessed differently, oftentimes it is judged from the perspective of distinct political parties. However, also other attributes may contribute to a ministry's salience, disregard specific party preferences.” Each of the nine vignettes as well as their average salience rating are presented in table 6 (in descending order of the mean score). Answers were given on a scale from one to eleven.

Results of the salience vignettes also followed the overall pattern according to which of the higher levels of vignette dimensions were associated with higher salience assessments (see table 6). Thus, a ministry described as handling a policy issue that is very important to most voters, very often covered in the news, and most often proactively involved in the formulation of cabinet proposals received the highest salience rating, with an average assessment of 8.6 (vignette 5). Similarly, vignette 3 (expressing the lowest level of each dimension) scored lowest on the ministry's salience, with an average assessment of 4.4; despite its greater variation in respondents' assessments, the standard deviation is not overly large. As the experts' answers do not deviate much from the mean, the assumption of vignette equivalence is supported by the data (see also figure 8).
Table 6: Ranking of expert assessments on portfolio salience vignette

<table>
<thead>
<tr>
<th>Vignette</th>
<th>Importance to Electorate</th>
<th>Media Coverage</th>
<th>Role in Policy Formulation</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vignette 5</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>8.6 (1.8)</td>
</tr>
<tr>
<td>Vignette 6</td>
<td>+</td>
<td>o</td>
<td>−</td>
<td>7.5 (2.4)</td>
</tr>
<tr>
<td>Vignette 8</td>
<td>−</td>
<td>o</td>
<td>+</td>
<td>7.3 (2.1)</td>
</tr>
<tr>
<td>Vignette 1</td>
<td>−</td>
<td>+</td>
<td>o</td>
<td>7.2 (2.0)</td>
</tr>
<tr>
<td>Vignette 2</td>
<td>+</td>
<td>−</td>
<td>o</td>
<td>6.8 (2.2)</td>
</tr>
<tr>
<td>Vignette 4</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>6.7 (1.8)</td>
</tr>
<tr>
<td>Vignette 7</td>
<td>O</td>
<td>+</td>
<td>−</td>
<td>6.3 (1.9)</td>
</tr>
<tr>
<td>Vignette 9</td>
<td>O</td>
<td>−</td>
<td>+</td>
<td>6.2 (2.0)</td>
</tr>
<tr>
<td>Vignette 3</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>4.4 (2.8)</td>
</tr>
</tbody>
</table>

However, as the further analysis of the expert assessments on the portfolio salience vignette shows, the least salient vignette (Vignette 3) is also the vignette with the highest standard deviation and minimum and maximum values across the full range (see figure 8).

Figure 8: Expert assessments on portfolio salience vignette
2.2.3 Sorting orders and expert assessments of portfolio salience

In addition to anchoring vignettes, we also included the random ordering of items as an innovative survey method. Previous research on survey design and the order of questions has shown that participants do not consider items in isolation from neighbouring ones (e.g. Schuman et al., 1981). Rather, the position of one item may affect the answers given on another survey item, thus biasing responses and leading to the so-called "question order effect". Even small changes and seemingly trivial differences in the design of a questionnaire can have a large effect on participants' answers (Schwarz, 1999; Tourangeau et al., 2000). For example, the salience assessment of ministry A may turn out differently if it is presented before a ministry B, compared to a situation in which the order of the two ministries is reversed. Similar effects are also known from psychology where decision behaviour was found to be affected by cognitive biases and heuristics, such as the availability heuristic or framing and anchoring effects (Kahneman, 2011). Akin to these biases, presenting the prime minister's office – the portfolio generally rated to be the most salient (Druckmann/Warwick, 2005) – before other ministries may for example affect the assessment of subsequent portfolios, e.g. in that it is used as an anchor against which other ministries are being evaluated. This is especially likely if respondents have trouble in finding an appropriate answer. In order to decrease these effects and control for the sequence in which the response options are presented (Strack, 1992), we decided to change the order of the listed portfolios across participants following four different logics.

More precisely, each respondent was randomly assigned to one of four sorting orders presenting the country's ministerial portfolios at the central level either (1) in alphabetic order, (2) from most to least salient ministries, (3) from least to most salient ministries, or (4) in a random order. Exceptions were made for respondents from Spain and the United Kingdom who were provided with one of only two sorting orders, i.e. the alphabetic or the random order because these countries have not been covered by studies investigating portfolio salience so far. Information on the salience of ministries in the other countries was drawn from Druckmann/Warwick (2005), and in the case of Estonia and Hungary from Druckmann/Roberts (2008). With eight of the ten TROPICO countries having four sorting orders and Spain and the United Kingdom having two sorting orders, the academic expert survey contained a total 36 sorting orders. The sorting order had no significant effect on the expert’s assessments of the
survey measures (see figure 9) and therefore we can conclude that the span of attention for this particular survey measure was sufficient.

**Figure 9: Sorting orders and expert assessments on portfolio salience vignette**

Note: The figure shows the mean values of all portfolio saliences per country, normalised to the same scale as the portfolio salience vignette assessment (from 1 to 11). The blue line marks their correlation and shows no significant effects for any of the four sorting orders. Because Spain and United Kingdom have no salience ranking a priori (and thus no sorting order from highest to lowest salience or from lowest to highest salience), these two figures do not show as many assessments as the other two (alphabetical and random order).
3 Digitalisation and internal policy design

To study the emergence of innovative collaboration in policy design inside governments, we asked for the experts assessment of the nature and effects of ICT on internal policy design within the ministerial bureaucracy. The ministerial bureaucracy is deeply involved in the process of formulating and shaping public policies. Ministry officials do not only inform and analyse governmental programmes and regulations, they also identify problems and influence the agenda setting.

To assess the relevance of digitalisation and ICT tools within governments on internal policy design, we first asked the respondents to assess the policy analytical capacity of the ministerial bureaucracy in each country. Policy analytical capacity was defined as the ability to acquire and utilize policy-relevant knowledge (Howlett, 2009) and is regarded as a crucial determinant of a government's ability to design effective and successful policies, especially considering the growing complexity of today's policy problems (Wu et al., 2015). Afterwards, we contrasted the perceived relevance of the use of ICT as a mean of enhancing executive collaboration with other meta trends, namely the role of supranational actors like the EU and the mediatisation of politics. More precisely, the three meta trends cover:

- the digitalisation, i.e. use of information and communication technology (ICT)
- the interdependency of different levels (local, regional, national, supranational)
- the media coverage of governmental actors and processes of policy formulation

Furthermore, we studied the effects of ICT on collaboration in internal policy design and explored how the use of ICT-tools may affect these processes with regard to:

- Increasing the participation of external actors (NGOs, interest groups)
- Increasing the proceeding of information
- Increasing the innovativeness of procedures
- Changing the importance/salience of ministries for political parties
- Blurring formal lines of responsibility in the ministerial bureaucracy
- Reducing the intensity of professional exchange in the ministerial bureaucracy
- Reducing the intensity of informal exchange in the ministerial bureaucracy
When developing these items, we included both positively and negatively worded phrases to reduce potential response biases. The indicators listed above served to identify the perceived application and suitability of ICT in collaboration within governments but also shed light on the perception of how ICT affects governmental capabilities in policy formulation.

The subsequent sections present our findings on the effects of the three meta trends, including the perceived impact of digitalisation and ICT on the policy analytical capacity of ministry officials across Europe, and the perceived relevance and consequences of ICT-tools for these capabilities on internal policy design.

3.1 Relevance of digitalisation and other meta trends for internal policy design

To study the relevance of the meta trend digitalisation for internal policy design, we compared its potential effects with two other meta trends, namely multi-level dynamics, that is the interdependency of different levels (such as the local, regional, national, and supranational level) and the media coverage of governmental actors and of the policy formulation processes.

As a first analytical step, we collected the experts' assessment of the policy analytical capacity of the ministerial bureaucracy in their country in general. In the second step, we then assessed the effects of the aforementioned three meta-trends – including digitalisation – on the policy analytical capacity of the ministerial bureaucracies.

3.1.1 Policy analytical capacity of ministerial bureaucracies across administrative traditions

To investigate variation in perceptions of governmental actor's capabilities across administrative traditions in Europe, we asked the academic experts to assess the policy analytical capacity of the ministerial bureaucracy in their country. Following the scholarly literature, we defined policy analytical capacity as ministry officials' individual skills (competencies) and resources (capabilities) that are needed for a systematic evaluation of policy alternatives and practices and provided this definition to all survey respondents prior the survey assessment. The assessment itself was given on an open scale (with ends labelled as 'low analytical capacity' and 'high policy analytical capacity'), the scale has been configured for this report to range from 0 (low) to 100 (high).
In general, differences can be identified for the experts' assessment of their own country's ministerial bureaucracy's policy analytical capacity (see figure 10), which more spread (Spain, Germany, France, United Kingdom) or less spread (Hungary, Norway, Belgium) between the experts from the same country.

**Figure 10: Policy analytical capacity by country**

Overall, the academic experts from the countries of the Nordic administrative tradition (Denmark and Norway) were rated the policy analytical capacity of their countries the highest. Thus, Norway, received the highest ratings with an average assessment of 74.8 and a median of 77.1. The academic experts from Norway all gave relatively high scores, with seventy-five percent of the scores above 68.6, and twenty-five percent above a rating of 86.0. Right after Norway, the academic experts from Denmark gave the second-highest assessment with the policy analytical capacity being rated 72.1 on average. A reason for the high scores might be the consensus-based democratic tradition, where the administrative culture in the Scandinavian countries is generally characterized as a very collaborative one. The administrative structure is best described as unitary-decentralized with a strong local-government and self-organisation. Ministerial officials in this tradition are recruited according to a position-based or 'open' system that allows for open access routes to public service and
greater exchange between the public and private employment sector (Pollitt/Bouckaert, 2017). Thus, the ministerial workforce in the Scandinavian countries is often rather diverse regarding the educational background, e.g. having a higher share of social scientists in relation to jurists. For example, the number of social scientists who typically process more general tasks and are expected to apply a holistic perspective to problem-solving has increased steadily in Norwegian ministries in the last decades (Christensen/Lægreid, 2009). It may be these dynamics that contribute to the perceived high analytical capacities in the Nordic administrative tradition as perceived by the academic experts.

Comparing administrative traditions, the second-highest ratings were given for the Germanic administrative tradition. The Dutch experts gave the policy analytical capacity an average value of 69.0 by the Dutch. Here, seventy-five percent of the ratings fell above 59.5 and twenty-five percent fell above 80.9. The German experts rated analytical capacity in their country a little lower with an average value of 63.8, while the Belgian experts on average gave an assessment of 55.4. Just as the Nordic administrative tradition, the respondents from this country group in general valued the legality of administrative action and its 'rule-of-law culture' highly. However, it is also to a much greater extent characterized by a legalistic administrative culture. Administrative structures and processes are typically very formalized with recruitment policies being less flexible than in the Scandinavian countries. These countries rely on a career-based or 'closed system' with a comparatively high share of jurists. Regarding the administrative structure, this country group is mostly federal-decentralized (except for the Netherlands who is unitary-decentralized) and just like the Scandinavian tradition has strong local governments. Multi-level systems of federal states and the subsidiarity principle aim at solving problems at the lowest administrative level, which in the best case pools the articulation of interests and may increase analytical capacities in ministerial bureaucracies at higher levels (Kropp, 2010).

In following the Anglo-American administrative tradition, the experts from the United Kingdom gave an average value of 58.5 and a median value of 66.2. The Anglo-Saxon administrative culture is typically classified into the public interest or civic culture tradition that values pragmatism, flexibility, and ad hoc solutions, and has a low level of formalized processes (Pollitt/Bouckaert, 2017). The UK is unitary-centralized and relies on position-based recruitment policies ('open system') which, similar to the Scandinavian country group may
contribute to a relatively high policy analytical capacity as indicated by the academic experts. It should however be noted that the experts hold quite different opinions about the policy analytical capacity in this country as assessments ranged from 14.7 to 100.0, with twenty-five percent of scores falling below 38.48 and another twenty-five percent falling above 77.8.

On average, the experts from Spain rated the analytical capacity of their ministerial bureaucracy 54.9, followed by the experts from France who on average assessed the analytical capacity of their governments as 51.1. Spain and France belong to the Napoleonic tradition whose administrative structure is described as unitary-centralized with weak local governments (Pollitt/Bouckaert, 2017), though Spain with its quasi-federal structure represents an exception. The Napoleonic tradition is marked by the Roman-French family of legal system and has a legalistic and 'rule-of law' administrative culture. Both Spain and France rely on a career-based or 'closed' recruitment system, whereby the recruitment to civil service in countries following the Napoleonic tradition like Spain is strongly politicized and built upon clientelist relations and political party patronage. Although personnel recruitment policies in principle are guided by qualification requirements, these are often ignored in practice (Pollitt/Bouckaert, 2017).

The lowest assessments on policy analytical capacities were given by the experts from Estonia and Hungary. Thus, Estonia received an average rating of 50.1 and a median value of 47.7 while the analytical capacity in Hungary was on average rated 31.6, with a median value of 24.2. Estonia and Hungary belong to the countries with a Central and Eastern European tradition whose administrative structure is unitary-decentralized with strong local governments (though in Hungary a recentralisation took place since 2011; Pollitt/Bouckaert, 2017). Just like the Germanic and Napoleonic administrative tradition, these countries follow a career-based recruitment of civil servants ('closed system').

Overall, the expert assessments of the policy analytical capacity show that countries of the Nordic, Germanic and Anglo-American tradition are rated higher on their ministerial bureaucracy’s analytical capacity than countries following the Napoleonic or Central and Eastern European tradition.
3.1.2 Digitalisation and other meta trends for internal policy design

For assessing the impact of digitalisation on internal policy design, we asked respondents to assess it among other trends discussed in the scholarly literature, including multi-level dynamics and mediatisation. Again, the assessment was provided on an open scale (with ends labelled as 'low impact' and 'high impact') and have been configured for this report to range from 0 (low) to 100 (high).

Multi-level dynamics were rated to have the strongest impact on analytical capacities in the ministerial bureaucracy (see figure 11). Across all ten TROPICO countries, the academic experts indicated an average impact of 58.5 (median: 65.3). Looking at the correlation of each country's policy analytical capacity as assessed by the experts and the impact rating of multi-level dynamics on this capacity reveals a positive relationship between the two variables ($r=0.32$, $p<0.001$), thus indicating that the increasing interdependency of different levels is positively associated with analytical capacities within the ministerial bureaucracy (see figure 11). Multi-level dynamics are particularly pronounced in federal states. This may enhance problem solving abilities of governmental actors by acquiring and accumulating policy-relevant knowledge at the administrative level where problems occur, pooling articulated interests and establishing fine-grained and specialized institutions at the local, regional, national, and supranational level. Interestingly, these results indicate that policy analytical capacities are not seen to get trapped in the complexity of various political interrelations, interactions, interdependences as described by Scharpf (1988).

Figure 11: Digitalisation, multi-level dynamics and mediatisation in internal policy design
Digitalisation was seen as having the second-highest impact on policy analytical capacity and was assessed with an average impact of 49.6, indicating a weak but positive relationship between the assessment of use of ICT-tools and analytical capacities in the ministerial bureaucracy ($r=0.26$, $p<0.001$; see figure 11). These results reflect the frequently expressed expectation that innovation and new developments in ICT will increase the information base for decision-making by facilitating access to information, enabling faster analyses of data, taking into account a bigger set of policy alternatives and their consequences, and reduce the time-frame and costs of the decision-making process (Höchtl et al., 2016; Maciejewski, 2017). The impact as estimated by the experts is however weaker compared to the effect of multi-level dynamics. This may be due the fact that digitalisation is a rather new trend or that expert assessments on how the utilization of ICT tools for internal policy design work and affect ministerial bureaucracies is rather difficult at this stage. Accordingly, innovative tools and technologies have to be integrated into existing structures and processes in order to achieve added values, often requiring reaching an agreement on a number of standards.

The media coverage of governmental actors and processes of policy formulation scored lowest with regard to the perceived impact on ministerial bureaucracies' policy analytical capacity. Though the academic experts indicated the media coverage to have an average impact of 56.2, the correlations were weaker but with a positive relationship with the assessment of the country's policy analytical capacity ($r=0.21$, $p<0.001$; see figure 11). The media coverage of governmental actors and processes may increase policy officials access to information and their awareness of governmental actors' medium and long-term priorities, though a great deal of policy information and expertise is held by the actors themselves.

### 3.2 Impact of ICT tools as means of collaboration for internal policy design

For studying the consequences of novel ICT tools for collaboration and internal policy design, we addressed perceived effects on formality, innovativeness, and intensity of collaboration. Regarding formality, we asked for the experts' assessments of how much ICT tools may increase the participation of external actors such as NGOs or interest groups, how much ICT tools may decrease professional exchange within the ministerial bureaucracy, and how much they may blur formal lines of responsibility and decrease the informal exchange in such internal policy design processes. Regarding innovativeness, we asked the experts to assess how much ICT tools
used in internal policy design may increase the innovativeness of procedures and how much they may increase the proceeding of information (see table 7). The answers to these survey questions were given on an open scale (with ends labelled as 'low impact' and 'high impact') and have been configured for this report to range from 0 to 100.

**Table 7: Survey measures on the impact of formality and innovativeness on policy design**

<table>
<thead>
<tr>
<th>Impact on formality</th>
<th>Impact on innovativeness</th>
</tr>
</thead>
<tbody>
<tr>
<td>• more external participation (e.g. NGOs, interest groups)</td>
<td>• Increasing the innovativeness of procedures</td>
</tr>
<tr>
<td>• blurred formal lines of responsibility inside the ministerial bureaucracy</td>
<td>• Increasing the proceeding of information</td>
</tr>
<tr>
<td>• less professional exchange inside the ministerial bureaucracy&quot;</td>
<td>• Reducing the intensity of informal exchange in the ministerial bureaucracy</td>
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</table>

The overview over the expert assessments across all countries shows that the implications are seen as being strongest for the proceeding of information (see figure 12). The majority of experts assigned the impact as being rather high (mean: 58.1). This was followed by the assessed effects of ICT tools on internal policy design for the items on more external participation by e.g. NGOs or interest groups (mean: 46.1) and increasing innovativeness in procedures (mean: 43.0).

The other assessed impacts of ICT tools in internal policy design are considerably less strong but also address all negatively formulated items, namely the blurred formal lines of responsibility (mean: 38.6) as well as the reduced professional exchange (mean: 35.4) and the reduced informal exchange within the ministerial bureaucracy (mean: 35.0). These last three effects have been framed negatively and thus one can expect smaller impact values for these survey measures.
3.2.1 Effects of ICT tools on formality in internal policy design

A closer analysis of the effects of ICT tools on the formality-related aspects of internal policy design shows a considerable variation across the academic experts from the ten countries under scrutiny (see figure 13). First, the effect of ICT to enable more external participation is on average regarded highest in Estonia (mean: 53.2) and lowest in Hungary (mean: 29.06). Other countries with a rather high impact on more external participation include Belgium (mean: 52.5), the Netherlands (mean: 51.8), the countries with comparatively lower impact values include Spain (mean: 45.9), France (mean: 42.6) and Denmark (mean: 41.8).

Second, the perceived effect of ICT tools on formal lines of responsibility are regarded highest by the experts from the United Kingdom (mean: 47.2), followed by respondents from Hungary (mean: 44.8) and Estonia (mean: 44.7). The experts assessing the least impact on formal lines of responsibility are from Germany (mean: 32.6), Denmark (mean: 29.2) and Norway (mean: 29.1).
28.1). These results can to some extent be related to the administrative tradition and the overall relevance of formally distinct lines of responsibility of the ministerial bureaucracy in internal policy design processes. In the UK and in Hungary these formal responsibilities may be regarded as rather ambiguous (for different reasons) and thus be expected to be blurred further by a greater use of ICT tools in executive collaboration. In contrast, the two Scandinavian countries and Germany build on strong formal responsibilities for policy design. The experts may therefore expect that a greater use of ICT tools will not harm or blur the lines of responsibility. This is an important finding with implications for the nature and design of ICT tools in policy formulation processes. It also relates to the question as to how strongly these tools should follow pre-existing analogous procedures safeguarding formal and formalistic responsibilities. This is an important avenue for further research and will be further examined in the comparative case studies conducted in WP4.

Figure 13: Effects of ICT on formality in internal policy design

Note: The figure shows the mean values of all expert assessments per country.

Third, the effects of ICT tools on professional exchange within the ministerial bureaucracy show rather similar patterns as for the aforementioned formal lines of responsibility: The two countries with the highest average expert scores on this effect are the United Kingdom (mean: 44.3) and Hungary (mean: 43.2), followed by Denmark (mean: 41.7). The countries with the lowest scores include Belgium (mean: 29.7), France (mean: 29.2) and Germany (mean: 26.1).
To some extent, formal lines of responsibility and the professional exchange within the ministerial bureaucracy may interact or empirically even overlap (formal exchange is first and foremost professional). However, important differences can be identified across these two formality-related aspects for the countries under scrutiny, especially for Denmark and France: Whereas for Denmark the experts assess the impact of ICT is seen to blur the formal lines of responsibility rather strongly but not to decrease professional exchange, in France the experts assess the opposite and see low blurring of formal lines of responsibility but a considerable decrease of professional exchange.

### 3.2.2 Effects of ICT tools on innovativeness in internal policy design

A closer analysis of the effects of ICT tools on the selected innovativeness-related aspects of internal policy design shows a considerable variation across the ten countries under scrutiny (see figure 14). First, the effects of ICT tools on increasing information proceeding is the greatest effect among all effects studied in our survey. The largest effects are assessed by the experts from Estonia (mean: 72.1) and Norway (mean: 63.1), followed by the United Kingdom (mean: 61.2). The lowest impact is assessed for France (mean: 54.6), Germany (mean: 54.3) and Hungary (mean: 47.2). These findings may indicate the various ways in which ministerial bureaucracies process information today and whether ICT tools are deemed to make a difference or not. According to the surveyed experts, the ICT-potential is more visible in Estonia or Norway than in Germany or Hungary.

Second, the perceived importance of ICT tools for supporting the introduction of novel innovative processes in internal policy design are again perceived as largest in Estonia (mean: 58.0), followed by Spain (mean: 52.8) and the United Kingdom (mean: 47.8). The lowest effects of ICT tools to bring about novel and innovative procedures for internal collaboration were assessed for the Netherlands (mean: 38.7), Germany (mean: 32.5) and Hungary (mean: 30.4). Again, the potential of ICT tools may be related to available procedures, but also additional considerations, such as the perceived openness of the different ministerial bureaucracies to innovate their procedures in the first place (and disregard whether these innovations put forward ICT tools or not) may make a difference. This may be also one reason for the variation (between 58.0 and 30.4), which is largest among the effects studied.
Figure 14: Effects of ICT on innovativeness in internal policy design

Third, the effects of ICT tools on informal exchange within the ministerial bureaucracy as an integral part of internal policy design show less variation. This may also be linked to whether the governments are seen to be coming up with innovative solutions to policy design. The country experts perceiving the largest effects are those from the United Kingdom (mean: 44.2) and Estonia (mean: 43.4), followed by Hungary (mean: 40.5). The countries with the lowest assessed effect of ICT tools on the informal exchange inside the ministerial bureaucracy include the respondents from Norway (mean: 29.2), France (mean: 26.0) and Germany (mean: 25.9).

3.2.3 Comparing effects of ICT tools on formality and innovativeness in internal policy design

Our analysis shows interesting country patterns across the three distinguished formality-related aspects (see figure 15). On the one hand, the assessed effects of ICT tools on the formality of internal policy design appear to be less similar across the ten countries than the perceived effects of ICT tools on innovativeness in internal policy design. For the former, a few outliers can be observed, especially the experts from Hungary and the United Kingdom on the negatively framed effects (blurred lines of formal authority and less professional exchange). All country experts rate the impact of ICT tools enabling and supporting more external participation in internal policy design as highest among the three distinguished elements of formality, except the experts assessing Hungary. This is an aspect of e-participation, which is
further dealt with by TROPICO's WP5 and WP7 on external policy design and service delivery respectively. Apparently the introduction and use of more ICT tools for internal policy design is regarded to have crucial impact on external actors' participation and thus these ICT-tools should take into account not only the internal processes of collaboration but also the facilitation of external interactions.

Figure 15: Comparing effects of ICT on internal policy design

The experts rate the impact of ICT tools on innovativeness of internal policy design more similarly. It is important to note that the experts regard ICT tools to have a stronger impact on the increasing processing of information than on the development of more innovative procedures. However, taking into account the key function of a permanent civil service – which is to gather and process information in order to enable the formulation of government policies – one should not underestimate the crucial importance of this aspect: ICT tools in internal policy design are about to change this part of the internal policy design process fundamentally, and according to our survey, the academic experts acknowledge this dynamic.
4 Governmental actor constellations and capabilities in collaboration for internal policy design

To further investigate governmental actors' capabilities and governmental actor constellations in internal policy design, and also take different policy sectors into account, we studied the salience of ministerial portfolios. More generally, we use the terms 'portfolio', 'ministerial portfolio', and 'ministerial department' interchangeably in this report. We understand this as being a bureaucratic organisation inside central government that is led by a minister with cabinet rank.

Our focus on the salience of these portfolios is drawn from the literatures of comparative politics and comparative public administration that discuss the importance and relevance of different ministerial departments. Whereas comparative politics scholars are mostly concerned with the value of portfolios for political parties coming into office, public administration researchers are more concerned with their role and importance in executive politics, that is their role in setting government policy agendas, shaping government policy proposals and getting them towards cabinet approval in order to formulate government policies but also in policy implementation.

An important part of the current scholarly debate on portfolio salience refers to the coalition bargaining after general elections and thus neglects to some extent other and alternative understandings of portfolio salience once governments have been formed (Müller/Strøm, 1999; Bäck et al., 2011). These studies presume that political parties associate ministerial portfolios with a given value or salience and thus bargain with their potential future governing partners over the allocation of these offices as part of a larger negotiation over policies, offices, and votes (Müller/Strøm, 1999). Druckmann and Warwick (2005: 17) point out that: "portfolios constitute an important payoff (...) because influence over policy decisions tends to go with control over the key government portfolios". This observation has been shared by early comparative politics scholars interested in the allocation of portfolios after general elections. Yet, this literature is strongly focused on partisan determinants and explanations rooted in party competition to explain the salience of portfolios.
However, portfolios are also the key venues for governments and ministers to pursue their policy objectives and engage in executive collaboration. In this project, we are particularly interested in these viewpoints on portfolio salience because they may shape executive collaboration during the tenure of any government in office. Following dominant strands in the comparative public administration and executive politics debate, we focus on three aspects: (a) The importance of the formal policy competencies of a ministerial portfolio for voters, (b) the media attention and coverage of this particular ministerial portfolio, and (c) its role in internal policy design. The latter distinguishes whether a ministerial portfolio is taking the lead on policy issues, thus setting the agenda and being able to frame the problem and its potential solutions (as well as the sources for gathering information and evidence etc.) or whether a ministerial portfolio is co-signing the policy proposals of other portfolios, thus assessing the content and suitability of the policy proposal but mostly when it is addressing its own areas of responsibility in any way (Scharpf, 1977).

Ministerial portfolios are not only relevant to accomplish party pledges and formulate policies of relevance to the electorate but should also be recognized and accomplished for their policy formulation (in the media) and, most importantly, because they have different formal competencies and capabilities to set the policy agenda and formulate policies, being either in a more proactive, leading role to prepare the cabinet proposal or in a more reactive, co-signing role on other ministerial departments' proposals preparing cabinet. A comparative analysis of the associated value or rather salience of ministerial portfolios across the ten European countries under scrutiny is therefore crucial to understand the variations in perceived governmental actor capabilities (which ministerial portfolios are regarded as particularly salient and influential and which are deemed as less relevant?) but also for actor constellations between these ministerial portfolios of varying influence. We asked the academic experts to gauge the salience of ministerial portfolios for any party in office, thus focussing on actor capabilities and actor constellations as crucial determinants for and expressions of internal policy design. We aimed to reduce bias by applying both a vignette and a randomly assigned sorting order (see chapter 2.2).

Our assessment of portfolio salience sheds light on the variation of actors' constellations and capabilities in policy design. On the one hand, one may identify most salient and least salient...
portfolios and thus understand better which ministerial departments are of crucial importance in internal policy design. On the other hand, the distribution of salience assessments across portfolios of a distinct country shows the variance and deviation that is disseminated throughout this particular government organisation. Again, this measure may serve as a proxy to identify how far portfolios can be arrayed from each other and thus inform on actors' constellations but also on actor capabilities. The following sections present the survey results on these salience assessments, starting with actor capabilities as expressed in portfolio salience across countries, followed by actor constellations as visible when studying salience within countries.

4.1 Actor capabilities in internal policy design: Portfolio salience across countries

The relative importance of different portfolios is crucial for internal policy design as it shapes the distribution of formal competencies and capabilities (also: resources) among the key venues for policy formulation but also influences the actor constellations for preparing government policies. As noted above, the perceived salience of portfolios is not only relevant for political parties bargaining over portfolio allocation and portfolio structures after general elections. Instead, also the processes of executive politics unfold within the distinct context of variation in the salience of ministerial portfolios.

A comparative analysis of these portfolio salience assessments across policy sectors reveals some general patterns (see figure 16). First, the most salient portfolios across all ten countries under scrutiny are the Finance Ministry (mean: 81.6), the Prime Minister’s Office (mean: 71.7), the Ministry of Interior (mean: 67.0), and the Ministry for Foreign Affairs (mean: 63.2). This is not surprising as both the comparative politics literature on portfolio allocation and the comparative public administration literature on the relevance of different portfolios regards these portfolios as crucial and most important. The latter coined the understanding of these portfolios as ‘horizontal portfolios’ that interact comparatively more with other ministerial departments inside any central government organisation (Gulick, 1937), as opposed to ‘vertical portfolios’ that interact more strongly with external actors such as interest groups. The least salient portfolios across all countries include the Ministry of Agriculture (mean: 41.6) and the Ministry for Environment (mean: 45.9), yet the latter shows a high standard deviation and thus experts are more dispersed with their assessment for this portfolio in their country.
Figure 16: Portfolio salience across countries, by sector

Note: The figure shows the expert assessments of those ministerial portfolios that can be identified in at least nine out of the ten countries under scrutiny at the time of the survey (fall 2018). For countries with a single ministerial department responsible for two separate portfolios in the analysis (e.g. labour and social affairs), the country values have been assigned to both portfolios. The assessments were given on an open scale (with ends labelled as 'low portfolio salience' and 'high portfolio salience') and have been configured for this report to range from 0 to 100.
Second, the Prime Minister’s Office, and the Foreign Affairs Ministry belong to the portfolios with the widest range of expert assessments (standard deviations: 32.5 and 26.8 respectively). However, other portfolios of highest mean values also show most condensed assessments such as the Ministry of Finance (standard deviation: 22.7), i.e. the associated expert assessments spread least, this comparatively strong ‘agreement’ among experts may indicate also how solid the salience of this portfolio is in practice.

Lastly, no country under scrutiny had a distinct ministerial portfolio for digitalisation when the survey was conducted. All other countries in Europe with such an explicit portfolio for digitalisation or e-government are outside the sample of our survey (incl. Austria, Poland, and Switzerland). However, comparatively more countries (including those under scrutiny here) rely on delegated agencies to promote digitalisation in government but also in the private sector and society at large. Accordingly, we also conducted further analyses on their capabilities and roles in internal policy design (see chapter 6).

4.2 Actor constellations in internal policy design: Portfolio salience within country

The distribution of portfolio salience within a country is crucial to understand actor constellations as it determines the relative strength and importance of portfolios engaged in internal policy design. It is very important to note that ministerial departments have different formal responsibilities and this allocation of competences (and corresponding capabilities and resources) is a relevant precondition for a well-functioning permanent bureaucracy. The formal responsibilities predetermine who is responsible for which policy and in which capacity, i.e. setting the agenda by preparing the initial draft or participating in the internal policy design process in a co-signing responsibility. The budget bill is always prepared by the Ministry of Finance whereas any policy proposal in the field of climate change may have many contributors, the Ministry of Environment will be among them (but today also the Ministries of Energy or of Transport or of other denominations may take a formal role, see Tosun, 2018).

Therefore, the purpose of the following within-country analysis of portfolio salience aims at assessing the deviation of salience assessments. We further investigate the mean values assigned to these portfolios by all experts of the same country (see figure 17). Accordingly, some countries show more variation in the salience of their ministerial departments than
others. A first group of countries entails one key portfolio with highest salience scores and an additional number of portfolios with medium and weaker portfolio salience. This group includes countries such as Netherlands, Norway, and the United Kingdom. A second group of countries is characterised by at least two portfolios with strongest salience values whereby the rest of their ministerial departments are rather widely dispersed, this includes Denmark, France, Germany, and Hungary. The last group of countries has a comparatively more homogenous dispersion of portfolio salience, including Belgium, Estonia, and Spain.

**Figure 17: Portfolio salience within countries**

Note: For countries with a single ministerial department responsible for two separate portfolios in the analysis (e.g. labour and social affairs), the country values have been assigned to both portfolios.

In addition, the most dominant pattern across almost all countries is the importance of the Ministry of Finance, followed by the Prime Minister’s Office. Some countries show lower values on these portfolios, including Belgium, Denmark, Estonia, and France.
5 Expertise and policy involvement of delegated agencies for internal policy design

Finally, we assessed the role and capabilities of agencies that are subordinated to ministerial departments for their capabilities and role in internal policy design. The academic experts were asked to assess (1) the involvement in policy formulation and (2) the policy expertise of agencies from various policy areas, including agencies with responsibilities for digitalisation. The policy expertise of agencies refers to their possession of policy-related data and information that are often related to agencies' missions and operations whereas the involvement in policy formulation refers to agencies participating in processes of transforming problems, proposals, and demands into government programs. When analysing the survey results, special emphasis will be given to the role of digitalisation agencies as potential promoters of novel ICT-based collaboration.

Agencies are defined as delegated authorities 'at arms' length' of ministerial departments that exist in ministerial bureaucracies for two major purposes (Pollitt et al., 2005). On the one hand, such delegated authorities provide credibility and thus express a credible commitment of policy-makers to delegate certain tasks and decisions to more autonomous authorities and thus 'tie their own hands' in order to de-politicise certain decisions. This is of particular relevance in the regulation of economic sectors, most of them being former state monopolies such as electricity, railways, or telecommunications. Here, credible regulatory agencies are necessary regulators and guardians of a functioning competitive market (Gilardi, 2002).

On the other hand, delegated agencies offer opportunities to accumulate policy expertise in a more thorough manner than inside ministerial departments: Agencies can build up and maintain relationships with very many sources of expertise but also develop their own substantial capabilities within the area of their mandate. This was put forward as one of the key arguments for establishing agencies in the areas of social regulation such as environment or food safety (Majone, 1997).

It is relevant to note, though, that European countries differ regarding their agency traditions and some countries under scrutiny regard agencies as part of their 'state-DNA' for centuries while others established agencies rather recently. Moreover, agencies proliferate across EU
member states also as part of the European integration and accomplishment of the Single Market (Rittberger/Wonka, 2013).

The comparative public administration debate on delegated agencies is rather broad and discusses many aspects, ranging from the patterns and characteristics of the delegation interactions between the ministry and the agency, their autonomy in all sorts of aspects, such as budget and human resources, but also in terms of agency decisions (Verhoest et al., 2010). Likewise, their accountability and accountability relations varies for citizens, the media, but also parliament or audit offices are of scholarly interest (Bovens, 2007). Among the more recent themes in agency research is the crucial observation that national agencies network across Europe, not only in order to fulfil their official mandates to set the agenda at EU level and influence EU decisions but also to improve their policy influence at the domestic level (Coen/Thatcher, 2008). Therefore, we included not only an assessment of the expertise of the most relevant agencies in each country but added also their role and influence in policy-making.

We assessed this expertise and policy involvement of agencies by asking the experts to select the delegated authorities in their country that they want to assess. Moreover, the two measures were given by positioning every agency in a coordinate system with two axes, one for expertise and the other for policy influence. These axes had an open scale (with ends labelled as ‘low’ and ‘high’) and have been configured for this report to range from 1 to 10. The subsequent sections present our findings on the role of agencies in internal policy design, both influencing policy formulation and providing expertise. A particular emphasis is put on the assessments of the digitalisation agencies compared to agencies operating in other policy sectors and fulfilling other mandates.

5.1 Agency expertise by country

Our comparative analysis shows a wider variation of expertise values for digitalisation agencies than for agencies responsible for other areas (economic or social regulation; see figure 18). Whereas the digitalisation agencies in Denmark (mean: 7.7), Estonia (mean: 7.5), and Germany (mean: 7.0) score highest, the lowest expertise assessments have been assigned, on average, to Spain (mean: 6.1), France (mean: 5.3), and Norway (mean: 5.0). However, the standard deviation of the assessments especially for France and Norway are particularly high.
Figure 18: Agency expertise across countries

Note: The figure shows the mean values of all expert assessments on the expertise of agencies that were selected by at least 50% of the survey participants in each country. The assessments were given on an open scale (with ends labelled as 'low expertise' and 'high expertise' respectively) and have been configured for this report to range from 1 to 10. For Belgium, no digitalisation agency was assessed.

Moreover, the delegated agencies with highest ratings on expertise are most often in areas of social regulation, i.e. the agencies responsible for the environment and for food safety. Among the agencies in economic regulation, especially the competition authorities and the regulators for pharmaceuticals are assigned with comparatively higher values of expertise than their other economic regulator counterparts.

5.2 Agency policy influence by country

Our analysis of the policy influence of different agencies shows slightly different patterns than the analysis of agency expertise (see figure 19). Digitalisation agencies are seen to vary considerably in their proactive role in internal policy design. Except the outlier of Denmark (mean: 7.6, which is also the highest score for any Danish agency on policy influence), all other digitalisation agencies are seen to have much less policy involvement. Within the group of digitalisation agencies, Norway (mean: 6.3) Estonia (mean: 6.2) are regarded as rather influential in policy whereas the Netherlands (mean: 3.4) and France (mean: 3.3) are assessed as least influential.
Figure 19: Agency policy influence across countries

Note: The figure shows the mean values of all expert assessments on the policy involvement of agencies. The assessments were given on an open scale (with ends labelled as 'low policy involvement' and 'high policy involvement' respectively) and have been configured for this report to range from 1 to 10. For Belgium, no digitalisation agency was assessed.

Among the other agencies under scrutiny, especially agencies engaged in economic regulation are regarded as particularly influential in policy-making, including again the competition authorities and the agencies regulating financial markets. To some extent, these results on policy influence may also be shaped by the distinct agency tradition and setting of the ten countries under scrutiny. Previous research has shown the importance of institutional contexts and the similarities but also variations within similar administrative traditions (Verhoest et al., 2010, 2012).
5.3 Agency expertise and policy influence across policy sectors

Finally, we compare the assessments of expertise and policy influence across the various agencies. Although the smaller number of agencies per category (especially the digitalisation agencies and the agencies engaged in social regulation) permit any statistical statements on significance, the visual display of the agency assessments reveals relevant findings (see figure 20).

Figure 20: Agency expertise and agency policy influence across countries

Note: The figure shows the mean values of all expert assessments on the expertise and the policy involvement of agencies in their country. The blue line marks the correlation of these assessments, we do not report on the significance due to the small number of cases. The digitalisation agencies of Hungary and the United Kingdom have identical mean values (expertise: 6.6 and policy involvement: 5.2), the digitalisation agencies of France and Netherlands have almost identical mean values (expertise: 5.3 and policy involvement: 3.3/3.4), to improve the readability of the chart, these values have been jittered by 0.3.

First, the assessments of digitalisation agencies show that four out of the nine agencies are scoring much higher on expertise dimension than on the policy influence dimension (Germany) or they score much higher on the policy influence dimension than the expert dimension (Norway) or much lower on the policy influence dimension than the expert dimension (France, Netherlands). To some extent, these assessment patterns may show a 'liability of newness' in the sense that many of these authorities are rather new entities and thus the expert assessment is based on fewer years of expertise and research on these agencies. More importantly, it also shows the flexibility of these agencies within their respective national context: Whereas some may be regarded as particularly skilful and knowledgeable, displaying their higher level of expertise, others are more regarded as influential actors in policy-making.
Given the cross-cuttingness of digitalisation, not only within government and for internal policy design but also across all other policy sectors, these agencies with higher policy influence are therefore particularly suited to push forward an agenda for more open and innovative collaboration within governments.

For the other agencies under scrutiny, the group of authorities engaged in economic regulation shows variation but a rather clear linear association between the assessment of expertise and of policy influence. It appears that for those agencies, one does not come without the other: Agencies with low expertise are also assessed as less influential in policy formulation and vice versa. In contrast, agencies engaged in social regulation do not show this linear trend of associating expertise with policy involvement. Although these findings have to be taken by caution (because we show only mean values and the number of agencies in this group is smaller), the figure echoes well-known research results from the scholarly debate on agencies: Social regulation agencies are first and foremost providers of crucial expertise and information and thus it is not surprising that all entities in this category show higher scores for this dimension whereas the policy involvement is rather medium and also rather similar across all agencies in all countries under scrutiny.

Lastly, if one focuses on patterns across and within administrative traditions, it becomes apparent that agencies in countries following the Anglo-American, the Eastern-European, and the Germanic do not vary considerably. In contrast, agencies in countries following the Nordic and the Napoleonic tradition show interesting variation: For the former, Norwegian agencies are assessed with lower expertise and lower policy influence rating than Danish agencies that have among the highest expertise and policy influence ratings across all countries. For the latter, French agencies are assessed with lower expertise and lower policy influence rating than Spanish agencies. Given these patterns, one cannot therefore conclude that institutional context in the form of administrative traditions determine very strongly the capabilities and proactive role of agencies in internal policy design, including digitalisation agencies. Further analyses are crucial to identify the success factors of these actors in more detail.
6 Conclusion

This report presents the results of an academic expert survey conducted as part of the TROPICO project with an invited number of over 2,000 experts from various disciplines across ten European countries and an overall response rate of 21%. The survey collected experts' assessments of internal policy design, i.e. the structures and processes to formulate government policies within government organisations, with a special emphasis on assessing the role of novel and innovative ICT tools as means for executive collaboration.

As a first analytical interest, we studied the overall relevance of digitalisation, also in light of two other meta trends (multi-level policy settings and mediatisation) discussed in the scholarly debate and in academic practice, for internal policy design. We focused on policy analytical capacity of ministerial bureaucracies as a key determinant for and crucial expression of internal policy design processes. Policy analytical capacity refers to ministry officials' individual skills (competencies) and resources (capabilities) that are needed for a systematic evaluation of policy alternatives and practices. A comparative analysis shows that experts from countries following the Nordic, Germanic and Anglo-American administrative tradition, rated this policy analytical capacity in their country higher than experts from countries following the Napoleonic or Central and Eastern European tradition. This finding suggests that internal policy design as such is shaped by the variation in institutional and governmental settings as inscribed into the different administrative traditions across Europe. From this, one may formulate two further conclusions: Any ICT-tool introduced to shape internal policy design towards innovative and open collaboration will face these different contexts and starting conditions for policy analytical capacity.

Furthermore, we investigated further the distinct impact of digitalisation and ICT-tools for internal policy design. In line with TROPICO’s overall research agenda, we focused on their impact for the formality and innovativeness of internal policy design processes. Our assessment for the impact on formality includes blurred formal lines of responsibility and the internal professional exchange within the ministerial bureaucracy. We also assessed the openness or rather participation of external actors in such processes. According to the experts' assessment, it is exactly this latter dimension of external participation that is witnessing the strongest impact from introducing ICT tools inside governments. Our assessment for the impact on
innovativeness includes the innovativeness of procedures, but also the proceeding of information and the reduction of informal exchanges within the ministerial bureaucracy. Here, the experts assess the information proceeding as the aspect of internal policy design that is experiencing the strongest impact from using ICT-tools.

In addition, we collected expert assessments on governmental actor capabilities at the level of ministerial departments, measured as portfolio salience – that is the policy relevance of ministerial departments to voters, media attention, and the portfolio's role in internal policy design, preparing government policies. Across countries, the most salient portfolio across countries is the Ministry of Finance, followed by the Prime Minister’s Office and the Ministry of Interior. These governmental actors are therefore particularly suitable to proliferate novel and innovative tools for executive collaboration. These patterns also provide insights on actor constellations, revealing that several countries are characterised by one key portfolio with highest salience scores and several other portfolios with medium and weaker portfolio salience (incl. Netherlands, Norway, and the United Kingdom). A second group of countries shows at least two portfolios with highest salience values and the rest of portfolios rather widely dispersed in terms of salience (incl. Denmark, France, Germany, and Hungary). The final group of countries reveals a more homogenous dispersion of portfolio salience (incl. Belgium, Estonia, and Spain). It follows that the five dominant administrative traditions do not correspond with this pattern of salience constellations across countries and instead countries from various traditions can be identified in all three groups. This indicates that other determinants are also important to understand the causes of portfolio salience such as party competition.

Furthermore, we examined the role of delegated agencies in providing expertise and in direct involvement and influence in internal policy design processes. The comparative assessment shows that digitalisation agencies – as key promoters of greater ICT-use to enhance open and innovative collaboration within governments – are in many countries regarded by the experts as relevant providers of expertise (similar to other agencies). In contrast, these digitalisation agencies are not seen to be as strongly involved in policy-making as other delegated authorities in their countries. A closer analysis distinguishing the agency assessment by the administrative tradition in which they operate in shows that agencies acting in an Anglo-American, an Eastern-European, or Germanic administrative tradition show only little variation in expert assessments.
about their provision of expertise and their proactive role in policy formulation. However, the agencies operating in a Nordic and a Napoleonic tradition do show severe differences. This leads to the preliminary conclusion that administrative contexts as such may have less relevance for understanding the set-up and role of delegated agencies – including digitalisation agencies as key actors in promoting digitalisation and ICT-tools also for internal policy design.

Lastly, this academic expert survey on ICT and internal policy design provides first insights that will be further explored in future academic papers. More importantly, the corresponding WP4 of the TROPICO project also conducts comparative case studies to understand the emergence and nature of innovative collaboration practices in policy design within governments. Hence, the survey findings provide key insights on governmental actor constellations and governmental actors' capabilities (e.g. formal authority, salience, expertise), but also on ICT-based means of collaboration, especially for their impact on formality and innovativeness of internal policy design, across the ten countries under scrutiny. These findings have been discussed for their variation across institutional and governmental contexts as embodied in administrative traditions. The following case studies will contrast and build on these results and discuss further the practices of internal collaboration for policy design across the different public sectors in Europe.
References


