



Paths, Punctuations and Policy Learning—Comparing Patterns of European use of Scientific Expertise during the Covid-19 Crisis

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Abstract

The article examines changes in the role and position of experts in policy making in the EU member states and four additional West European mature democracies during the Covid-19 pandemic. Unique survey data is employed to establish fit with competing theoretical understandings of policy learning from three distinct approaches of historical institutionalism: path dependency, punctuated equilibrium and ideational change. Despite the gravity of the crisis and institutional variation in sample countries, surprisingly strong support for path dependency is observed.

Keywords Historical Institutionalism · Path Dependency · Punctuated Equilibrium · Ideational Change · Covid-19 Politics

Introduction

The role of expertise and experts in policymaking during crisis politics is a major area of research in political science. Expertise has a role to play in most policymaking processes, but the authority and type of experts involved tends to vary according to degrees of uncertainty and public salience associated with a policy issue. Day-to-day politics characterised by low political salience typically assign a key role to in-house experts and, when combined with high uncertainty, also tend to enhance

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the influence of such expert on politics. However, especially situations characterized by both high uncertainty and political salience are seen often to pave the way for epistemic learning allowing an elevated level of discretion to expertise (Dunlop, 2014; Dunlop & Radaelli, 2013). In this situation, political actors struggle to define their positions in the face of uncertainty, while experts are allowed to interpret ideas and policy solutions only available to political actors at high costs and with great difficulty (Radaelli, 1999). Both high uncertainty and political salience apply to the Covid-19 pandemic. At the same time, while expertise has clearly been key to national Covid-19 responses, the degree, role and type of experts involved varies across states (Cairney and Wellstead, 2021; Czypionka & Reiss, 2021; Nagata et al., 2021; Rozenblum, 2021).

Based on a unique dataset from a comprehensive expert survey among scholars engaged in an international research project covering government responses to the Covid-19 pandemic in 31 European countries, the article examines changes in the role and position of experts in policy making. Developments in the role of scientific expertise in the sample countries are tracked throughout the sequences of lockdowns and reopening's. It is appraised how national patterns of learning and use of experts fit with three distinct approaches of Historical Institutionalism namely: Path Dependency, Punctuated Equilibrium and Ideational Change. Distinctions are made between different fields of scientific expertise (e.g. Containment and closure, Economic response policies and Health related policies) and the institutional affiliation of scientific experts (government agencies, universities, private sector etc.). Patterns in national abilities to learn, negatively and positively, from previous crises, other countries and international organizations, are examined.

Historical institutionalism is a rich research platform which have thrived on detailing variations including in West European welfare states (e.g. Pierson, 2000), economic governance (e.g. Hall, 1993) and industrial policy and finance (e.g. Zysman, 1983). Numerous typologies have been offered grouping European countries in distinct and sometimes overlapping categories. This study makes no effort of discerning patterns within these categories. Accordingly, we disregard the possible impact institutional features of universal Scandinavian Welfare States may have on the role and position of experts in policy making compared to e.g. corporatist Central European Welfare States. Focus is on how the pandemic has changed the role and position of experts regardless of the wider institutional configuration of individual states. Hence, while acknowledging that institutional configurations vary significantly among the sample countries, the study aims to establish if path dependency prevails despite dissimilar trajectories or if equilibriums are disrupted whether moderately and temporarily or more radically by ideational change.

In sum the research question is: have the role and position of experts in policy making adhered to established pre-pandemic patterns, undergone moderate change, or been substantially enhanced during the pandemic in terms of involvement, influence and composition? We find strongest support for the axioms derived from path dependency, suggesting adherence to pre-pandemic patterns, followed by punctuated equilibrium implying moderate change. By contrast, ideational change entailing substantial expansion of involvement, influence and expert communities, finds limited support. The article is structured as follows. In the next section we present the

theoretical framework of the article. Then we outline the method and data applied. In the subsequent section the analysis is presented. The closing section presents the conclusions.

Theory

Learning involves ‘an accomplishment in terms of improved knowledge, skills, performance, and preparedness for the future’ and takes place ‘when observations and inferences from experience create fairly enduring changes in organizational structures and standard operating procedures’ (Olsen & Peters, 1996: 6). Learning may be instigated from previous national crisis management or occur during the handling of the pandemic based on internal feedback (Sabatier & Jenkins-Smiths, 1993), with a view across countries during the pandemic (Dunlop & Radaelli, 2020) or from international organizations (Dunlop & Radaelli, 2013).

Learning as a mechanism of institutional change has both been theorised within the historical and sociological institutional line of thinking (Lynggaard, 2006: 43–47). Whereas learning understood as a socialisation process is a basic feature of sociological institutional approaches, the importance attached to learning varies in historical institutionalism. Approaches within historical institutionalism range from those placing little confidence in learning processes to appear in politics (Pierson, 2000), over those characterising politics in terms of continuity and minor adjustments but which also leaves room for shorter periods of radical change through learning (Baumgartner & Jones, 1993), to those stressing learning as a key dynamic of change (Jenkins-Smith and Sabatier, 1993). Those who place little confidence in learning in politics also tend to be those who put the strongest emphasis on the concept of path dependency.

Pierson (2000) suggests that the reason why path dependency is a central feature of politics follows from the dynamic of increasing returns. The claim is that ‘[i]n an increasing returns process, the probability of further steps along the same path increases with each move down that path. This is because the *relative* benefits of the current activity compared with other possible options increases over time’ (Pierson, 2000, p.252; original emphasis). Asymmetrical power relations among political agents are embedded in institutional arrangements during their creation, but political authority and asymmetrical power relations are also reproduced and reinforced as time passes (Pierson, 2000, p.259). Path dependency makes changes unlikely through learning since such processes are rare in politics due to the complex nature of political goals and the weak link between political action and outcomes (Pierson, 2000, p.260). Divergence from a chosen path is rare when political goals and courses of actions have been institutionalised in formal rules and procedures and internalised in political culture.

Following historical institutionalism emphasizing *path dependency*, countries where experts play an important role and are highly influential in policy making under normal circumstances should exhibit consistent levels of expert involvement and influence throughout the pandemic. In countries where scientific expertise has only a little role in policymaking, experts are likely to remain marginal. In addition,

the theory's emphasis on collective institutionalized pursuit of increasing returns suggests that consensus between experts and governments across relevant policy fields is high. Given the limited scope for policy learning, this will stem modestly from previous crises within the country managed by the incumbent constellation of actors and experts and at the latter stage of the pandemic, from feedback on domestic regulatory instruments. Finally, experts involved in policy making during the pandemic are primarily drawn from Government Agencies, domestic Universities and Research Institutes where funding and confidentiality provisions can be institutionalized under public law.

Other historical institutionalists allow more room for institutional change through learning or feed-back processes by the notion of *punctuated equilibrium*. Along the lines of path-dependency, institutions will for long periods of time exhibit a high degree of stability and ensure stable power relations and policy outcomes. During an equilibrium minor, reversible and incremental change may occur by means of adjustments caused by e.g. the mobilisation of otherwise more politically marginal groupings or as a respond to unforeseen consequences of the original institutional design. However, on a rare occasion the equilibrium may be punctuated allowing for radical change. Major events drawing attention to previously ignored problems or issues may trigger positive feedback processes allowing new practices and solutions to travel across policy sectors, political levels of politics and political systems (Baumgartner & Jones, 1993).

In a national context assigning a medium or important role to experts, the punctuated equilibrium line of thinking leads us to expect that, following a punctuation, a new equilibrium established during the pandemic will allow for more involvement of experts. The reason being that the nature of the punctuation calls for increased search for expertise to handle the crisis, and the new equilibrium tend to be radicalized compared to institutional arrangements prior to a punctuation (Princen, 2013, p. 857–58). In other words, we expect the involvement of experts to be institutionalized during the crisis, at least in the medium term. The time horizon of our study, however, does not allow us to assess if the new equilibrium following the impact of the pandemic is a lasting one or if domestic politics, including the role of experts, will return to normal policy-making. However, our data do allow us to assess if a new equilibrium has occurred in the medium-term of the pandemic, that is, roughly over a two-year stretch.

In countries where experts are marginal in policy making processes under normal circumstances, likely remain so. Experts and expertise are often key drivers of punctuations. However, when expertise is marginal to decision-making, punctuations are less likely to be instigated by experts and their prospects of enhancing their importance at the new equilibrium is accordingly dim (Weible, 2008, p. 618). The marginal involvement of experts during the equilibrium also suggest that learning instigated by a punctuation will draw on already institutionalised domestic sources of expertise including domestic NGO's, Think Tanks, private sector entities and

possibly positive and negative experiences from other countries, rather than enlist international expert entities.

Those assigning the most attention to learning processes among historical institutionalists are also those giving the highest degree of attention to the ideational. Policy-oriented learning is a key mechanism of change in beliefs systems in turn forming the basis for change in policy outputs (Jenkins-Smith and Sabatier, 1993). Policy-oriented learning include individual learning causing a change in attitude and the diffusion of ideas and attitudes across groupings (Jenkins-Smith and Sabatier, 1993, p.42). Technical information about the performance of policies potentially illuminates gaps between policy goals and policy outcome or even challenge causal assumptions informing policy programmes and, in turn, cause belief systems to be adjusted. Finally, supporters of a deprived belief system, including experts, may engage in an analytical debate, and challenge the validity of a policy objective, the causal assumptions informing a policy programme and the efficiency of the institutional arrangement associated with a given policy (Jenkins-Smith and Sabatier, 1993, p.45).

In a national context assigning a medium or important role to experts, the ideational change line of thinking leads us to expect that change favouring expert advice will lead to increased influence of experts during the crisis. The reason for this is that the sedimentation of new ideas following from the crisis will, not only favour expert advice, but also enhance the legitimacy of experts and the appropriateness of making decisions based on expert advice (Jovanovic & Lynggaard, 2014: p. 48–50; Torfing, 2009: 78). As crisis spark ideational clashes, expert dissent may be prominent. Learning can draw on positive and negative experiences from other countries and expertise from international venues are likely to be enlisted.

Operationalisation, Method and Data

In the previous section we have used, Historical institutionalism as the conceptual backcloth for establishing a series of theoretical categorisation and expectation about the role of expertise during the pandemic. On the basis of the three approaches to historical institutionalism a set of expectations on the type, level of involvement and influence of expertise have been derived which will be examined in the following section using a comprehensive unique data set created in connection with a book edited by the authors of this article on European governments' management of the pandemic [anonymized, forthcoming, 2022]. The book contains country chapters written by national politics experts who have also completed a survey of their respective countries. The politics experts are all academics employed at research institutions such as universities. The country experts were selected on the basis of their expertise in their country's political system and policy-making. Given that these people have written a chapter on the pandemic management in their country, the survey can be

classified as an expert survey. We have received one answer per country. The strengths of such expert survey is partly the respondents' in-depth knowledge of the topic and the generation of standardized data, while the disadvantages are that they are still perceptual data. Also, the fact that we have only received one answer per country does not allow testing for interrespondent reliability.

For this article, we utilize items from this survey regarding the role of experts and learning, which is used to examine the explanatory value of the theoretical expectations. The survey has been conducted in Qualtrics. The answers to many of the questions were randomized. Prior to the release of the survey to the national experts, it has been tested on a group of people with expertise in survey designs and adjustments were made based on their feedback. After collecting responses, data have been cleaned and processed. Data are used descriptively to examine our theoretical expectations. This have both advantages and disadvantages. The advantages are that it examines both the breadth and depth of the research, while the disadvantages are that it cannot uncover latent or causal relationships.

The survey covers government policy responses to the Covid-19 crisis for the period February 2020 to May 2021, where responses have been divided into different phases including first lockdown, first reopening, second lockdown and second reopening which is compared to policy-making under normal circumstances prior to the pandemic. It should be noted that not all countries have applied lockdowns and hence have had reopenings.

The role of experts is measured through their involvement and influence in policy making before and during the pandemic. The position of experts in policy making is established on the basis of respondent's assessment of the extent to which experts and policy makers exhibited consensus on Covid-19 measures across three broad policy domains. The composition of experts addresses whether there was a change in what kind of expertise the government consulted respectively prior and during the crises. This is also reflected in the type of policy learning observed during the pandemic. Hence the influence of e.g. international expertise is assumed to be high if policy learning from abroad is prominent whereas domestic expertise takes centre stage if learning mainly draws on past domestic crises. Respondents likewise assess this across the three broad policy domains of: containment and closure, health policies and economic policies.

Following the Oxford Tracker on Government Responses to Covid-19 (Pincombe et al., 2021 p. 530), containment and closure include restrictions on e.g. gathering sizes, mobility and stay at home requirements. Health policies include ensuring the availability of intensive care units, testing and vaccination policies, information campaigns and use of personal protection equipment. Economic policies encompass public income support for workers and businesses, debt and contract relief and general fiscal measures.

Table 1 Theoretically deduced expectations and operationalisations

Theoretical concepts/Role of experts & learning	Path Dependency	Punctuated Equilibrium	Ideational Change
Experts medium or important from onset (High or Medium score)	Consistent level of influence and involvement throughout pandemic* Q9_8 = Q140_8 = Q147_8, Q9_8 = Q144_8 = Q150_8	Growing involvement throughout pandemic Q140_8 < Q147_8, Q144_8 < Q150_8	Growing influence throughout pandemic Q155_8 < Q158_8, Q156_8 < Q160_8
Experts marginal from onset (Low score)	Q20_8 = Q155_8 = Q158_8, Q20_8 = Q156_8 = Q160_8,	Marginal involvement throughout pandemic Q9_8 = Q140_8 = Q147_8, Q9_8 = Q144_8 = Q150_8	Growing influence throughout pandemic Q155_8 < Q158_8, Q156_8 < Q160_8,
Experts-Government consensus	Strong Q130_1, Q130_2 & Q130_3	Moderate Q130_1, Q130_2 & Q130_3	Low Q130_1, Q130_2 & Q130_3
Learning from other countries and domestic	Incumbent expert constellation (Government agencies, public universities and research institutes) Q126_1-3 > Q126_4-5 Q170_1-3 > Q170_4-5 Q171_1-3 > Q171_4-5 Q172_1-3 > Q172_4-5 Equally Q10_1 = Q10_4 facilitates learning from recent domestic Q10_4 > Q10_2 Q10_4 > Q10_3 and past Q10_1 > Q10_2 Q10_1 > Q10_3 domestic crises experience	NGO's, Think Tanks and Private entities enlisted Q126_1-3 = Q126_4-5 to draw novel lessons from initial pandemic response domestically and other countries Q10_1 < Q10_4 Q10_4 = Q10_2 Q10_4 = Q10_3	Admission of new experts from public and private entities Q170_1-3 < Q170_4-5 Q171_1-3 < Q171_4-5 Q172_1-3 < Q172_4-5 explicitly pointing to lessons from past failures domestically and positive experiences from abroad Q10_1 > Q10_4 Q10_1 = Q10_2 Q10_1 = Q10_3
Learning from international institutions	Unlikely Q126_1-3 > Q126_6-9 Q170_1-3 > Q170_6-9 Q171_1-3 > Q171_6-9 Q172_1-3 > Q172_6-9 Q88—Low Q96—Low Q98—Low	Modest Q126_1-3 > Q126_6-9 Q170_1-3 > Q170_6-9 Q171_1-3 > Q171_6-9 Q172_1-3 > Q172_6-9 Q88—Medium Q96—Medium Q98—Medium	Prominent Q126_1-3 ≤ Q126_6-9 Q170_1-3 ≤ Q170_6-9 Q171_1-3 ≤ Q171_6-9 Q172_1-3 ≤ Q172_6-9 Q88—High Q96—High Q98—High

* by consistent including the equal sign we mean that there is not more than one level change between normal policy-making and covid-19 policymaking including the different phases of the latter

The time horizon means that we are not able to assess any possible long-lasting impact of the pandemic on policy-making. Furthermore, the study of path dependencies typically call for longitudinal data which is not generated by the survey beyond the time period covered. However, the survey has been put together so to cover ‘normal circumstances’, which is assumed to reflect long term politics and path dependencies and then compared to the short-term responses to the pandemic. Table 1 summarize the expectations derived from the three strands of Historical Institutionalism with reference to which survey items are used indicated by Q followed by number. Information about the various questions / items can be found in the appendix, including raw data behind the analysis.

Analysis

Table 2 summarizes the results based on coding of raw data in the appendix’s Tables 3, 4, 5, 6, 7, 8. In the following, we present the content of the table on the basis of the different rows. Before discussing the main findings, we outline broader patterns in the underlying raw data, which can be found in the appendix.

When it comes to the involvement and influence of expertise it is worth to study some patterns which emerge from the raw data shown in the appendix’s Table 3 and 4. As for the involvement of experts, the most frequent answer is that these are mostly involved in policy-making. We can observe a notable increase in the involvement of experts from normal policy making compared to the different phases of the pandemic. Also, expert involvement increases progressively from normal policy-making to first lockdown, and from first lockdown to first reopening after which it decreases from first reopening to second lockdown and from second lockdown to second reopening.

When it comes to influence of experts a similar picture appears, where the most frequent is that experts are very influential followed by somewhat influential. Thus, experts are more involved than influential in policy-making. Still, we can observe that experts are more influential during the different phases of the pandemic as compared to normal policymaking. Experts’ influence increases for time in the first lockdown and reopening compared to normal policymaking, then drops a little during the second lockdown and then increases again during the second reopening, though not to the same extent as in the first lockdown and reopening.

The overall level of consensus between experts and the government in relation to Containment and closure, Economic response policies and Health related policies can be seen in Table 5 in the appendix. From the table we can see that consensus is prominent as “very often” is the most frequent answer followed by “sometimes”, whereas “rarely” and “never” only apply occasionally. We can also see that there is most consensus when it comes to containment and closure policies.

Table 6 in the appendix displays the involvement of diverse types of experts when it comes to containment and closure policies. Not surprisingly, the table indicates that government agency experts are the most involved experts. In a second place, we find university experts and research institute experts. By contrast, experts from NGO's or Think Tanks and Private sector are sometimes, but in most cases, rarely or never involved. When it comes to international organisation, the EU and WHO do play a role in some cases, but no countries always enlist expertise from the EU and WHO. Other international organization's role is limited like experts from NGO's or Think Tanks and private sector experts.

Having discussed general patterns in the data we can now turn to the main findings outlined in Table 2 above.

The Involvement and Influence of Expertise

According to the axioms of *path dependency* we should expect to see no major changes between normal policy-making and covid-19 policymaking. Countries meeting this expectation are painted with the darkest shade of grey in the Table 3 and 4 in the appendix. On the basis hereof and as summarised in Table 2 the following countries experts exhibit consistent involvement in policy-making: Cyprus, Czech Republic, Denmark, Estonia, Finland, Germany, Hungary, Lithuania, Norway and Slovenia. As for a consistent level of expert influence in policy making this applies to: Bulgaria Denmark, Finland, Latvia, Lithuania, Norway, Poland, Slovakia, Slovenia, Switzerland and Unite Kingdom.

From a *punctuated equilibrium* perspective, we expect that countries where experts are medium to highly involved in policy-making under normal circumstances, should exhibit growing levels of involvement throughout the pandemic. The only country as seen in Table 2, Poland, which fulfils this condition have been highlighted with the second darkest shade of grey in Table 3 in the appendix. The concept of punctuated equilibrium also suggests that in countries where experts are marginally involved in the policy making process under normal circumstances, they are likely to remain so since punctuations are less likely to be driven by experts and, thus, enhancing their importance at the new equilibrium established during the pandemic. The empirical manifestation of this predication overlaps with the prediction of path dependency theory and the only country, Bulgaria, fulfilling this condition have been highlighted with the darkest shade of grey in Table 3 in the appendix, though the country have only had one lockdown.

The *ideational change* perspective lead us to expect that we should exhibit growing levels of influence of scientific expertise from normal policy-making and when we compare the different phases of the pandemic given new 'dogma' requires time to be institutionalized and incorporated into the policy system. No countries surveyed meet this condition.

Table 2 Summary of findings

	Path Dependency	Punctuated Equilibrium	Ideational Change
Experts medium or important from onset Q9_8, Q20_8 (High or Medium score)	Consistent level of involvement Cyprus, Czech Republic, Denmark, Estonia, Finland, Germany, Hungary, Lithuania, Norway & Slovenia And or influence throughout pandemic Denmark, Finland, Latvia, Lithuania, Norway, Poland, Slovakia, Slovenia, Switzerland & United Kingdom	Growing involvement throughout pandemic Poland	Growing influence throughout pandemic
Experts marginal from onset Q9_8, Q20_8 (Low score)	Consistent level of involvement Bulgaria And or influence throughout pandemic: -	Remain marginal Bulgaria	Growing throughout pandemic
Consensus Experts-Government	Strong Belgium, Czech Republic, Estonia, France, Latvia, Malta, Poland and Slovenia	Moderate Austria, Croatia, Denmark, Hungary, Bulgaria, Cyprus, Finland, Germany, Iceland, Italy, Luxembourg, Netherlands, Norway, Portugal, Romania, Slovakia, Spain, Switzerland & UK	Low Ireland & Lithuania
Learning from other countries and domestic	Incumbent expert constellation (Government agencies, public universities and research institutes) are highly involved Austria, Belgium, Denmark, Germany, Greece, Iceland, Lithuania, Luxembourg, Portugal, Slovakia, Spain, Sweden & UK and influential Germany, Sweden and Switzerland facilitates learning from current and past crisis Cyprus, Estonia, Finland, Iceland, Ireland, Italy, Latvia, Lithuania, Slovenia, Spain, Sweden & Switzerland And learning from internal policy feedback—Romania- and past crisis—Bulgaria & Romania—is more pronounced than learning from other countries positive and negative experiences	NGO's, Think Tanks and Private entities enlisted to the same extent as government agencies; public universities and research institutes: Sweden internal feedback plays a more important role as compared to learning from previous crises: Austria, Czech Republic, Denmark, France, Germany, Greece, Luxembourg, Malta, Poland, Romania and Slovenia Countries draw novel lessons from initial pandemic response domestically and other countries: Bulgaria, Germany, Iceland, Ireland, Malta, Netherlands, Norway, Romania, Slovenia, Sweden, Switzerland	New experts from public and private entities will be more important when crafting policies: - more learning from previous crisis compared to internal feedback from the current crisis: Bulgaria Learning from previous crisis will be equal to learning from the positive and negative experience of other countries: Hungary, Latvia, Lithuania & Switzerland, Sweden

Table 2 (continued)

	Path Dependency	Punctuated Equilibrium	Ideational Change
Learning from international institutions	<p>involvement and learning from international institutions will be small compared to key domestic institutions:</p> <p>Austria, Belgium, Bulgaria, Denmark, Estonia, Finland, Latvia, Lithuania, Luxembourg, Norway, Poland, Portugal, Romania, Slovakia, Sweden, Switzerland & UK</p> <p>influence of experts from the EU, WHO and other foreign or international experts is small: Belgium, Luxembourg, Poland, Sweden and Switzerland</p> <p>policy learning to a smaller extent is taking place from the EU, WTO and/or other international institution: Bulgaria, Czech Republic, Finland, Hungary, Latvia, Netherlands, Norway, Poland, Portugal & UK</p>	<p>involvement and learning from international institutions will be small compared to key domestic institutions:</p> <p>Austria, Belgium, Bulgaria, Denmark, Estonia, Finland, Latvia, Lithuania, Luxembourg, Norway, Poland, Portugal, Romania, Slovakia & Switzerland</p> <p>influence of experts from the EU, WHO and other foreign or international experts is small: Belgium, Luxembourg, Poland and Switzerland</p> <p>policy learning from the EU, WHO and other international institutions to be moderate: Cyprus, Denmark, Finland, Germany, Ireland, Italy, Lithuania, Luxembourg, Slovakia, Slovenia & Switzerland</p>	<p>influence of EU, WHO experts and other foreign or international experts will be high compared to Government Agency experts, University experts and Research Institute experts and when it comes to different policies and higher and equal -</p> <p>policy learning will to a high degree take place from international institution: Belgium, Greece, Malta & Spain</p>

Consensus Between Experts and the Government

The concept of *path dependency* suggests consensus among experts and governments across relevant policy fields is strong during the pandemic. Table 2 presents the empirical evidence from which it can be observed that in eight countries highlighted by the darkest shade of grey table in 4 in the appendix—Belgium, Czech Republic, Estonia, France Latvia, Malta, Poland and Slovenia—there are a consistent very high level of consensus. As for *punctuated equilibriums*, we expected that expert consensus with the government would be moderate which is the case in nineteen countries highlighted by the second darkest shade of grey in Table 4. The group counts: Austria, Denmark, Hungary, Bulgaria, Croatia, Cyprus, Estonia, Finland, Germany, Iceland, Italy, Luxembourg, Netherlands, Norway, Portugal, Romania, Slovakia, Spain and Switzerland. Finally, there is more limited support for the prediction derived from *ideational change* which assumes that as crisis spark ideational clashes, expert consensus with the government will be low – at least in the short term. This is only the case in Ireland and Lithuania highlighted by the lightest shade of grey.

Composition of Expertise: Learning Patterns and Expert Affiliation

According to *path dependency* we should expect that experts involved in policy making during the pandemic are primarily drawn from government agencies, domestic universities and research institutes where funding and confidentiality provisions can be institutionalization under public law. We have marked the countries in the appendix where this is the case in Table 6 with the darkest shade of grey: Austria, Belgium, Denmark, Germany, Greece, Iceland, Lithuania, Luxembourg, Portugal, Slovakia, Spain, Sweden and the UK.

Not only should we expect that that government agency experts, university experts, research institute experts to be more involved in policy-making compared to other types of experts, they are also expected to be more influential with regard to goal achievement in the policy-processes concerning Containment and Closure policies, Economic responses and Health system policies. In Table 7 in the appendix, we have again used the darkest shade of grey in the appendix to highlight countries where the predication derived from the concept of path dependency is true. As can be seen from Table 2 the predication is correct in many cases for one or two of the three policy areas, but only correct across all three for Germany, Sweden and Switzerland.

Path dependency also suggest that we should observe similar learning from previous crisis and internal feedback from the current crisis. In Table 8 in the appendix, we have highlighted this in column Q10_4 with the darkest shade of grey, which includes as seen in Table 2 Cyprus, Estonia, Finland, Iceland, Ireland, Italy, Latvia, Lithuania, Slovenia, Spain, Sweden, Switzerland and the United Kingdom. Likewise

learning from internal policy feedback should be more pronounced according to path dependency compared to learning from other countries positive and negative experiences. This has been highlighted by the darkest shade of grey in column Q10_2 & Q10_3, which is only the case in Romania. Similarly, we should expect learning to be more pronounced from past crisis as compared to other countries positive and negative experiences with the handling of Covid-19. In column Q10_1 the two countries where the condition is met, Bulgaria and Romania, have been highlighted by the darkest shade of grey.

Finally, path dependency predicts that involvement and learning from international institutions will be small especially when compared to key domestic institutions. We have highlighted cases where international institutions are less involved in Table 6 in the appendix column Q126_6, Q126_7 & Q126_8 with the darkest shade of grey which comprises Austria, Belgium, Bulgaria, Denmark, Estonia, Finland, Latvia, Lithuania, Luxembourg, Norway, Poland, Portugal, Romania, Slovakia, Sweden, Switzerland and the UK (see Table 2). Similarly, we used the darkest shade of grey in Table 7 to highlight cases where influence of experts from the EU, WHO and other foreign or international experts is smaller than the influence of Government Agency experts, University experts and Research Institute experts when it comes to the diverse types of policies. This is the situation in Belgium, Luxembourg, Poland, Sweden and Switzerland. We have also used the Table 8 column Q88, Q96 & Q98 to highlight cases where policy learning to a smaller extent is taking place from the EU, WHO and/or other international institutions. The cluster of countries comprises Bulgaria, Czech Republic, Hungary, Latvia, Netherlands, Norway, Poland, Portugal and the UK.

Following *punctuated equilibrium* NGO's, Think Tanks and Private entities should be enlisted to the same extent as government agencies, public universities and research institutes. We have highlighted this in Table 6 in the appendix column Q126_4 with the second darkest shade of grey. As can be seen only Sweden meets the condition. Also, we should expect internal feedback to play a more important role compared to learning from previous crises. In many countries this is indeed the case as we have highlighted with the second darkest shade of grey in Table 8 column Q10_1 (except for Romania). The group comprises Austria, Czech Republic, Denmark, France, Germany, Greece, Luxembourg, Malta, Poland, Romania and Slovenia.

Punctuated equilibrium predict that countries will draw novel lessons from initial pandemic response domestically and other countries. We have highlighted this in Table 8 in the appendix column Q10_2 & Q10_3 with the second darkest shade of grey, where we find Bulgaria, France, Germany, Iceland, Ireland, Malta, Netherlands, Norway, Romania, Slovenia, Sweden and Switzerland. Finally, learning from international institutions is expected to be modest according to the perspective. As for the involvement of international institutions, it yields the same predication as path dependency where countries having refrained from substantially involving the EU or WTO have been marked with the darkest shade of grey in Table 6 column

Q126_6, Q126_7 & Q126_8. The group includes Austria, Belgium, Bulgaria, Denmark, Estonia, Finland, Latvia, Lithuania, Luxembourg, Norway, Poland, Portugal, Romania, Sweden, Switzerland and the UK.

Like path dependency, punctuated equilibrium predicts that the influence of experts from the EU, WHO and other foreign or international experts is smaller than the influence of government agency experts, university experts and research institute experts when it comes to the different types of policies. As stated, this is the case for Belgium, Luxembourg, Poland and Switzerland. At the same time, it predicts that policy learning from the EU, WHO and other international institutions to be moderate. This has been highlighted in Table 8 with the second darkest shade of grey in column Q88, Q96 & Q98, where the following countries appear: Cyprus, Denmark, Finland, France, Germany, Ireland, Italy, Lithuania, Luxembourg, Slovakia, Slovenia, Switzerland and the United Kingdom.

Ideational Change expects the admission of new experts from public and private entities when it comes to learning. Yet, only in one country and type of policy do we observe that experts from NGO's or think tanks and private sector experts are equally and more important than government agency, university and research institute experts. Thus, we find no support for this expectation. Moreover, ideational change suggests that there will be more learning from previous crisis compared to internal feedback from the current crisis, which only apply for Bulgaria, and that learning from previous crisis will be equal to learning from the positive and negative experience of other countries. The latter has been highlighted by the lightest shade of grey in Table 7 and encompasses Hungary, Latvia, Lithuania, Sweden and Switzerland.

Ideational change also suggests that the influence of EU, WHO experts and other foreign or international experts will be high compared to Government Agency experts, University experts and Research Institute experts. In none of the cases are international experts consistently more involved than domestic experts as can be seen in Table 5. It moreover anticipates that EU, WHO experts and other foreign or international experts exerts high and equal levels of influence across different policies. However, this also fails to materialize as evident in Table 6. Finally, ideational change predicts that policy learning to a high degree will take place from international institutions. In Table 7 this condition is deemed to be met when at least two of the three columns Q88, Q96 and Q98 display a value of high or very high highlighted by the lightest collar of grey. Belgium, Greece, Malta and Spain qualify. In sum we find limited support for the ideational change approach which may in part be attributed to the compressed time dimension as argued elsewhere.

Conclusion

This study set out to examine changes in the role and position of experts in policy making in terms of involvement, influence and composition. Comparing pre-pandemic patterns with the modus operandi during sequences of lockdowns and reopening's, the findings suggest very little support for the ideational change perspective,

whereas the expectations generated from the path dependency approach offers a reasonable fit with reported expertise usage and policy learning in many countries. However, no country consistently fit the path dependency label as several exhibit patterns consistent with punctuated equilibrium in various respects. This particularly applies to the issue of expert-government consensus and policy learning. Yet, while limited applicability of the ideational change perspective can in part be attributed to the compressed time dimension of the pandemic, it is nonetheless noteworthy that traditional path dependency fares so strongly in a context of grave uncertainty and extraordinary policy intervention across a sample of countries exhibiting considerable variation in terms of institutional design and maturity. Hence while government responses to Covid-19 have challenged established policy paths in most sample countries, the role and position of experts in relation to the formulation of governments policy responses has exhibited a surprising level of continuity.

This speaks in general terms to an ongoing research agenda seeking to explain variation in government responses to the pandemic highlighting independent variables such as affluence, democratic legacy, pre-existing social policies, regime type, formal political institutions and state capacity (Egger et al., 2021; Greer et al., 2021). In line with the idea of path dependency, the present study suggests that pre-crisis institutional configurations framing government-expert interaction on policy learning should be added to the mix of variables explaining national Covid-19 responses. However, establishing causal relationships between policy outcomes and pre-crisis institutional configurations would require a different methodological approach than adopted in the present contribution.

A recent article by Thomas Plümper and Eric Neumayer (2022) suggests that the first European countries encountering infections generally fared worse than latecomers and that early adoption of measures had a more significant effect than their stringency with regards to reducing infection rates and excess mortality. The article furthermore reveals that Austria, Spain, Switzerland, France, Germany and the UK were only one to two weeks ahead of Italy in pandemic terms during the first wave (ibid. p. 324). This could fuel the expectation that the disruptive potential in terms of punctuating the equilibrium or being susceptible to profound ideational change for these states would be greater than among countries affected later. But findings in this study does not suggest countries affected first by the crises were more likely to abandon their path than the remaining countries in the sample. Moreover, as states affected early fared poorly compared to latecomers, it seems reasonable to assume that the latter learned from the adverse experience of the former. Yet the survey data does not reveal any significant differences in the degree of learning from abroad across the group of countries affected early and the remaining states in the sample.

A note of caution is in place. The strength of the employed expert survey is the respondents' in-depth knowledge of the topic and the generation of standardized data. But the disadvantages are that they remain perceptual data. Crucially, the fact that we have only received one answer per country does not allow testing for interrespondent reliability. More comprehensive research is consequently required to determine if path dependency truly dwarfs equilibrium punctuation and ideational change mechanisms in countries like e.g. Italy, Spain and the UK which were hit very early and exceptionally hard by Covid-19.

Appendix

Table 3 Survey Question: To what extent are experts involved during...?

Q114	Q9_8	Q140_8	Q144_8	Q147_8	Q150_8
Country	Normal	First lockdown	First reopening	Second lockdown	Second reopening
Austria	Rarely	Mostly	Mostly	Mostly	Mostly
Belgium	Rarely	Always	Always	Always	Always
Bulgaria	Rarely	Rarely			
Cyprus	Sometimes	Sometimes	Mostly	Mostly	Mostly
Croatia	Rarely				
Czech Republic	Sometimes	Rarely	Rarely	Rarely	Sometimes
Denmark	Mostly	Always	Mostly	Mostly	Mostly
Estonia	Sometimes	Mostly	Mostly	Mostly	Mostly
Finland	Mostly	Mostly	Mostly	Mostly	Mostly
France	Sometimes	Always	Always	Always	Always
Germany	Mostly	Always	Always	Always	Always
Greece	Sometimes	Always	Mostly	Mostly	Mostly
Hungary	Rarely	Sometimes	Sometimes	Sometimes	Sometimes
Iceland	Always	Sometimes	Always	Always	Always
Ireland	Rarely	Sometimes	Mostly	Mostly	Mostly
Italy	Sometimes	Mostly	Always	Always	Always
Latvia	Rarely	Mostly	Sometimes	Mostly	Mostly
Lithuania	Sometimes	Mostly	Mostly	Mostly	Mostly
Luxembourg	Rarely	Mostly	Mostly	Sometimes	Sometimes
Malta	Rarely				
Netherlands	Sometimes				
Norway	Mostly	Mostly	Mostly	Always	Always
Poland	Rarely	Sometimes	Sometimes	Mostly	Mostly
Portugal	Always				
Romania	Rarely	Mostly	Mostly	Mostly	Sometimes
Slovakia	Rarely	Mostly	Sometimes	Sometimes	Sometimes
Slovenia	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Spain	Rarely	Mostly	Mostly	Sometimes	Sometimes
Sweden	Always				
Switzerland	Mostly	Mostly	Mostly		
United Kingdom	Rarely	Sometimes	Mostly	Sometimes	

Table 4 Survey Question: Please classify the influence of experts in the policy process during...

Q114	Q20_8	Q155_8	Q156_8	Q158_8	Q160_8
Country	Normal	First lockdown	First reopening	Second lockdown	Second reopening
Austria	slightly	very	somewhat	somewhat	slightly
Belgium	slightly	extremely	very	extremely	very
Bulgaria	somewhat				
Croatia	slightly	somewhat	somewhat	somewhat	somewhat
Cyprus	slightly	somewhat	very	very	somewhat
Czech Republic	slightly	somewhat	slightly	slightly	slightly
Denmark	somewhat	very	very	very	very
Estonia	slightly	very	very	very	very
Finland	somewhat	very	very	very	very
France	somewhat	extremely	very	extremely	very
Germany	very	extremely	extremely	extremely	extremely
Greece	somewhat	extremely	very	very	very
Hungary	slightly	somewhat	somewhat	somewhat	somewhat
Iceland	somewhat	extremely	very	extremely	extremely
Ireland	slightly	extremely	extremely	very	very
Italy	slightly	very	very	extremely	very
Latvia	somewhat	somewhat	somewhat	somewhat	somewhat
Lithuania	somewhat	very	very	very	very
Luxembourg	slightly	very	very	somewhat	somewhat
Malta	slightly	very	very	very	very
Netherlands	very				
Netherlands	very	very	very	very	very
Poland	somewhat	somewhat	somewhat	somewhat	somewhat
Portugal	not at all	extremely	extremely	extremely	extremely
Romania	not at all	somewhat	slightly	somewhat	slightly
Slovakia	somewhat	somewhat	somewhat	somewhat	somewhat
Slovenia	somewhat	somewhat	somewhat	very	very
Spain	slightly	very	extremely	somewhat	slightly
Sweden	extremely				
Switzerland	somewhat	somewhat			
Unite Kingdom	somewhat	somewhat			

Table 5 Survey Question: Overall level of consensus between experts and the government in relation to...

Q114	Q130_1	Q130_2	Q130_3
Country	Containment and closure	Economic response policies	Health related policies
Austria	sometimes	sometimes	sometimes
Belgium	very often	very often	
Bulgaria	sometimes	sometimes	sometimes
Croatia	sometimes	sometimes	sometimes
Cyprus	very often	very often	sometimes
Czech Republic	very often	very often	very often
Denmark	sometimes	very often	sometimes
Estonia	very often	very often	very often
Finland	very often	sometimes	very often
France	very often	very often	very often
Germany	very often	sometimes	very often
Greece	sometimes		sometimes
Hungary	very often	rarely	rarely
Iceland	very often	sometimes	very often
Ireland	never	never	never
Italy	sometimes	very often	sometimes
Latvia	very often	very often	very often
Lithuania	very often	rarely	sometimes
Luxembourg	sometimes	sometimes	sometimes
Malta	very often	very often	very often
Netherlands	sometimes	sometimes	very often
Norway	sometimes	very often	sometimes
Poland	very often	very often	very often
Portugal	sometimes	very often	very often
Romania	very often	sometimes	very often
Slovakia	very often	very often	sometimes
Slovenia	very often	very often	very often
Spain	sometimes	sometimes	very often
Sweden			
Switzerland	sometimes	very often	sometimes
United Kingdom	sometimes	often	sometimes

Table 6 Survey Question: Involvement of different types of experts

Q114	Q126_1	Q126_2	Q126_3	Q126_4	Q126_5	Q126_6	Q126_7	Q126_8
Country	Government Agency experts	University experts	Research Institute experts	Experts from NGO's or Think Tanks	Private sector experts	EU experts	WHO experts	Other foreign or international experts
Austria	mostly	mostly	mostly	rarely	rarely	rarely	rarely	sometime
Belgium	always	always	always	rarely	sometime	rarely	sometime	rarely
Bulgaria	always	rarely	rarely	never	never	never	never	never
Croatia	mostly	sometime	mostly	sometime	sometime	sometime	sometime	sometime
Cyprus	always	sometime	never	never	never	sometime	sometime	sometime
Czech Republic	mostly	sometime	sometime	never	sometime	never	never	s
Denmark	always	mostly	s	rarely	rarely	rarely	sometime	rarely
Estonia	mostly	mostly	sometime	rarely	sometime	sometime	rarely	rarely
Finland	sometime	sometime	mostly	rarely	rarely	rarely	sometime	rarely
France	always	sometime	sometime	never	never	rarely	sometime	rarely
Germany	always	mostly	mostly	sometime	mostly	sometime	sometime	sometime
Greece	always	mostly	mostly	never	rarely	sometime	sometime	s
Hungary	rarely	rarely	rarely	never	never	rarely	rarely	never
Iceland	always	mostly	mostly	sometime	sometime	sometime	sometime	
Ireland	always	always	sometime	never	sometime	sometime	sometime	
Italy	always	always	always	sometime	sometime	sometime	mostly	sometime
Latvia	always	sometime	sometime	sometime	rarely	rarely	rarely	rarely
Lithuania	mostly	mostly	mostly	sometime	sometime	rarely	rarely	rarely
Luxembourg	always	mostly	mostly	sometime	sometime	never	never	never
Malta	mostly	sometime	sometime	rarely	rarely	mostly	mostly	
Netherlands	rarely	rarely	mostly	rarely	rarely	rarely	rarely	rarely
Norway	always	sometime	sometime	rarely	rarely	rarely	rarely	rarely
Poland	always	mostly	sometime	rarely	rarely	rarely	rarely	sometime
Portugal	always	always	always	never	never	never	never	never
Romania	sometime	rarely	rarely	never	rarely	never	rarely	rarely
Slovakia	mostly	mostly	mostly	rarely	rarely	sometime	rarely	rarely
Slovenia	sometime	rarely	rarely	rarely	sometime	sometime	sometime	sometime
Spain	always	mostly	mostly	mostly	sometime	sometime	sometime	rarely
Sweden	always	always	always	always	s	s	s	
Switzerland	sometime	sometime	sometime	rarely	rarely	rarely	rarely	rarely
UK	always	always	mostly	mostly	rarely	never	rarely	rarely

Table 7 Survey Question: Please classify the influence of different type of experts on...?

Q114	Q170_1	Q170_2	Q170_3	Q170_4	Q170_5	Q170_6	Q170_7	Q170_8
Country	Containment and closure policies: Agency experts	Containment and closure policies: University experts	Containment and closure policies: Research Institute experts	Containment and closure policies: Experts from NGO's or Think Tanks	Containment and closure policies: Private sector experts	containment and closure policies: EU experts	Containment and closure policies: WHO experts	containment and closure policies: Other foreign or international experts
Austria	very	some	some	some	slightly	slightly	slightly	some
Belgium	extremely	very	very	slightly	some	slightly	some	not at all
Bulgaria	extremely	slightly	not at all	not at all	not at all	not at all	not at all	not at all
Croatia	Extremely	Some	Some	Some	Some	Some	Some	some
Cyprus	extremely	some	not at all	not at all	not at all	some	some	slightly
Czech Republic	very	some	some	not at all	some	not at all	not at all	not at all
Denmark	very	some	not at all	slightly	slightly	slightly	some	slightly
Estonia	very	extremely	some	slightly	slightly	slightly	slightly	slightly
Finland	some	some	very	slightly	slightly	slightly	some	slightly
France	extremely	some	some	not	some	some	some	extremely
Germany	extremely	very	very	slightly	very	some	some	some
Greece	extremely	very	very	not at all	slightly	some	slightly	not at all
Hungary	slightly	slightly	some	not at all	not at all	slightly	some	not at all
Iceland	extremely	extremely	very	slightly	very	not at all	slightly	some
Ireland	extremely	very	some	not at all	some	some	some	some
Italy	extremely	extremely	extremely	slightly	slightly	slightly	very	slightly
Latvia	extremely	some	some	some	some	slightly	slightly	slightly
Lithuania	very	very	very	some	slightly	some	some	slightly
Luxembourg	very	very	very	slightly	some	some	some	some
Malta	very	some	some	slightly	some	very	very	extremely
Netherlands	not at all	not at all	slightly	not at all	not at all	not at all	slightly	not at all
Norway	extremely	slightly	slightly	slightly	slightly	slightly	slightly	slightly
Poland	extremely	very	some	some	some	not at all	slightly	slightly
Portugal	extremely	extremely	extremely	not at all	not at all	not at all	not at all	not at all
Romania	very	some	slightly	not at all	slightly	not at all	slightly	not at all
Slovakia	some	some	some	slightly	slightly	some	not at all	not at all
Slovenia	some	slightly	slightly	slightly	some	some	some	some
Spain	extremely	very	very	very	some	very	very	slightly
Sweden	extremely	extremely	extremely	very	very	very	very	very
Switzerland	very	very	very	some	some	some	some	some
United Kingdom	very	some	some	some	slightly	not	slightly	slightly
	Q171_1	Q171_2	Q171_3	Q171_4	Q171_5	Q171_6	Q171_7	Q171_8
	Economic responses :	Economic responses :	Experts on economic responses	Economic responses : Experts	Economic responses : Private	Economic responses	Economic responses	Economic responses

Table 7 (continued)

	Government Agency experts	University experts	: Research Institute experts	from NGO's or Think Tanks	sector experts	: EU experts	WHO experts	: Other foreign or international experts
Austria	slightly	slightly	some	some	not at all	slightly	not at all	not at all
Belgium	slightly	slightly	slightly	slightly	some	not at all	not at all	not at all
Bulgaria	not at all	not at all	not at all	not at all	not at all	not at all	not at all	not at all
Croatia	very	slightly	slightly	slightly	some	some	slightly	some
Cyprus	some							
Czech Republic	very	slightly	slightly	slightly	some	not at all	not at all	not at all
Denmark	very	some	some	slightly	some	slightly	not at all	not at all
Estonia	some	some	slightly	slightly	slightly	slightly	slightly	slightly
Finland	some	some	some	slightly	some	slightly	slightly	slightly
France	very	some	some	slightly	some	some	not	very
Germany	very	very	very	some	extremely	very	some	some
Greece	very	some	some	some	slightly	slightly	slightly	not at all
Hungary	some	slightly	slightly	not at all	not at all	slightly	not at all	not at all
Iceland	extremely	some	some	slightly		not at all	not at all	
Ireland	some	slightly	some	not at all	some	not at all	not at all	not at all
Italy	extremely	slightly	slightly	slightly	some	slightly	slightly	slightly
Latvia	extremely	slightly	slightly	slightly	slightly	slightly	not at all	slightly
Lithuania	very	slightly	slightly	slightly	slightly	slightly	slightly	slightly
Luxembourg	very	some	some	some	some	not at all	not at all	not at all
Malta	very	some	slightly	slightly	some	slightly	slightly	extremely
Netherlands	very	not at all	not at all	slightly	slightly	not at all	not at all	not at all
Norway	extremely	some	slightly	slightly	some	slightly	slightly	slightly
Poland	very	very	very	some	slightly	slightly	slightly	slightly
Portugal	not at all	not at all	not at all	not at all	not at all	not at all	not at all	not at all
Romania	some	not at all	not at all	not at all	slightly	not at all	not at all	not at all
Slovakia	some	not at all	not at all	not at all	not at all	not at all	not at all	not at all
Slovenia		slightly	slightly	slightly	some	some	some	some
Spain	extremely	some	slightly	some	some	slightly	not at all	not at all
Sweden	extremely	extremely	extremely	not	not	some	some	some
Switzerland	very	very	very	some	some	some	slightly	slightly
United Kingdom	some	some	slightly	not	slightly	not	not	slightly
	Q172_1	Q172_2	Q172_3	Q172_4	Q172_5	Q172_6	Q172_7	Q172_8
	Health system policies: Government Agency experts	Health system policies: University experts	Health system policies: Research Institute experts	Health system policies: Experts from NGO's or Think Tanks	Health system policies: Private sector experts	Health system policies: EU experts	Health system policies: WHO experts	health system policies: other foreign or international experts
Austria	slightly	some	some			not at all	slightly	not at all
Belgium	very	very	very	some	not at all	slightly	slightly	not at all

Table 7 (continued)

Bulgaria	not at all	not at all	not at all	not at all	not at all	not at all	not at all	not at all
Croatia	very	slightly	slightly	slightly	slightly	slightly	slightly	slightly
Cyprus								
Czech Republic	very	some	some	not at all	some	not at all	not at all	not at all
Denmark	very	some	not at all	slightly	slightly	some	some	not at all
Estonia	very	some	slightly	slightly	slightly	slightly	slightly	slightly
France	very	some	some	slightly	not	not	some	slightly
Finland	some	some	very	slightly	slightly	slightly	some	slightly
Germany	extremely	extremely	extremely	some	some	very	some	some
Greece	extremely	very	some	slightly	slightly	some	some	not at all
Hungary	slightly	slightly	slightly	not at all	not at all	slightly	slightly	not at all
Iceland	extremely	very	very	some	very	slightly	very	
Ireland	extremely	very	slightly	not at all	slightly	some	some	
Italy	very	very	very	slightly	slightly	slightly	slightly	slightly
Latvia	extremely	very	some	some	some	slightly	slightly	slightly
Lithuania	very	very	very	slightly	slightly	some	some	not at all
Luxembourg	extremely	very	very	some	some	some	some	some
Malta	very	some	slightly	slightly	slightly	some	some	not at all
Netherlands	not at all	not at all	not at all	not at all	not at all	not at all	not at all	not at all
Norway	very	some	some	slightly	slightly	slightly	slightly	slightly
Poland	extremely	very	very	some	some	some	slightly	slightly
Portugal	extremely	extremely	extremely	not at all	not at all	not at all	not at all	not at all
Romania	some	not at all	not at all	not at all	not at all	not at all	not at all	not at all
Slovakia	some	slightly	slightly	slightly	not at all	slightly	not at all	not at all
Slovenia		slightly	slightly	slightly	some	some	some	some
Spain	extremely	some	some	some	slightly	slightly	some	not at all
Sweden	extremely	extremely	extremely	not at all	not at all	some	some	some
Switzerland	some	some	some	slightly	slightly	slightly	slightly	slightly
United Kingdom	very	very	some	slightly	slightly	not	slightly	slightly

Table 8 Survey Question: To what extent are policy learning taking place from the following:

Q114	Q10_1	Q10_2	Q10_3	Q10_4	Q88	Q96	Q98
Country	Previous crisis	Other countries negative experience	Other countries positive experience	Internal feedback	EU	WHO	Other IO
Austria	not at all	high	high	some	some	high	not at all
Belgium					high	high	not at all
Bulgaria	high	small	small	small	small	small	small
Croatia	some						
Cyprus	not at all	high	high	not at all	some	some	not at all
Czech Republic	not at all	not at all	not at all	small	small	not at all	not at all
Denmark	small	high	some	high	some	some	small
Estonia	small	high	some	small	high	small	small
Finland	small	high	some	small	small	some	small
France	some	high	small	high	small	some	small
Germany	some	high		high	some	some	some
Greece	not at all	high	not at all	high	high	high	not at all
Hungary	high	high			small	some	small
Iceland	high	high	high	high	some	high	small
Ireland	some	some	some	some	some	some	small
Italy	some	high	some	some	some	some	small
Latvia	some	some	some	some	small	small	small
Lithuania	some	some	some	some	some	some	small
Luxembourg	not at all	high	small	some	some	some	small
Malta	not at all	some	some	some	high	some	high
Netherlands	not at all	not at all	not at all	not at all	small	small	not at all
Norway	small	some	some	some	small	small	small
Poland	not at all	some	not at all	small	some	small	small
Portugal	not at all	very high	high	some	some	small	not at all
Romania	some	small	not at all	high	high	some	some
Slovakia					some	small	not at all
Slovenia	small	some	some	some	some	some	some
Spain	not at all	some	high	not at all	high	very high	small
Sweden	small	small	small	small	some	some	not
Switzerland	some	some	some	some	some	some	some
United Kingdom	small	some	high	small	small	small	not

Declarations

Ethical approval Yes.

Conflict of Interest None.

Informed consent Yes.

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