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# The One and the Many: Elaborating a taxonomy of Impact Assessment practices in Europe

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## 1. Introduction

An epiphenomenon of the culture of evaluation of public policies and normative production, among various alternatives (e.g. indicators), the tool of impact assessment (IAs) has emerged as a major policy innovation, which was diffused to almost all Member States of the EU during the last decade. Although the existence of various practices and understanding of the concept makes an effort of a precise definition particularly challenging, the "core" concept of impact assessment is understood as referring to a "method of i) systematically and consistently examining selected potential impacts arising from government action and of ii) communicating the information to decision-maker" (OECD 1997, p. 14), by a "systemic approach of critically assessing the positive and negative effects of proposed and existing regulations and non-regulatory alternatives" (OECD 2009b). The recourse to techniques of impact assessment may take different forms: *ex ante* (prior to adoption) or *ex post* (post adoption) and may rely on different methodologies: from fully fledged quantitative cost benefit analysis and a comprehensive risk analysis to a more limited cost effectiveness analysis. More generally, the tool of impact assessment may be defined as a "policy strategy" of influencing the decision and action of public authorities "by prior analysis of predictable impacts" (Bartlett, 1989).

The conduct of a systematic *ex ante* evaluation of the impacts of projected legal norms, that is, generally binding rules of conduct issued by the state authority and intended for the regulation of social relations by proceeding to the determination of the rights and duties of the subjects of legal relations, enriches the traditional conception of legislative drafting and regulatory management. The process of rule making and drafting gets thus gradually transformed from a purely juridico-technical exercise of transposing "*la volonté générale*" expressed by the Parliament and/or the executive to a process aiming to achieve "good law-making" (OECD, SIGMA, 1994). Economic, legal and managerial techniques are thus put into effect with the aim to achieve regulatory quality (legal norms of high quality). Impact assessment constitutes an economic and analytical standard among others (e.g. measurement of impacts on business, competitiveness and trade) with the design to achieve regulatory quality (OECD, SIGMA, 1997). From this perspective, it provides an illustration of the increasing intersection of law with social sciences in the process of law-making and the implementation of legal norms, as well as of the opening of this process to non-legal forms of expertise, thus incorporating in the legal sub-system the knowledge, values and aspirations of other social sub-systems (Luhmann, 1997). Yet, this inter-disciplinary dimension of the

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impact assessment tool should not conceal the fact that ultimately the benefits and costs of different regulatory options are ultimately related to legal rights and duties.

The origins of the tool did not however predispose for such an incursion to the policy and law-making domains. The tool was initially developed for infrastructure project management in 19th century France (Dupuit, 1844, 1853 attempting to measure the net benefits of construction by the sum of the consumer's surplus) and was later systematized in the United States by the US Army Corps of Engineers, which by the 1920s required its recommended projects to achieve benefits in excess of costs. This practice culminated with the US 1936 Flood Control Act, advancing that the control of flood waters was "in the interests of the general welfare" and declaring that the role of the Federal Government was to improve or participate in the improvement of navigable waters…for flood control purposes if the benefits to whomever they accrue are in excess of the estimated costs", thus hinting to the development of the practice of cost benefit analysis and its linkage with welfare economics (Pearse, Atkinson, Mourato, 2006, p. 33). Although the decision-makers placed considerable trust to the expertise of the US Army Corps of Engineers, with the result that their opinion was systematically followed, its decisions were soon challenged by powerful electric and railroad utilities. Expert disagreements and bureaucratic conflict led to the increasing development of quantification as a way to resolve disputes. The development of the field of welfare economics from the 1930s (Hicks, 1939, 1943; Kaldor, 1939) led to a "re-definition of CBA according to economic standards" in the mid-1950s (Zerbe, 2007), following the effort of codification of CBA rules and the expansion of the use of the tool in other areas of state intervention than infrastructure projects, such as military spending, taxation etc (Pearse, Atkinson, Mourato, 2006 noting the considerable attention devoted at the time to the general theme of "efficiency in government").

The tool of cost benefit analysis slowly made its way in the regulatory process in the late 1960s and 1970s with a number of manuals being developed by international organizations involved in technical assistance to developing countries (the OECD's Development Centre: Little and Mirlees, 1974; UNIDO's Dasgupta & Pearce, 1972; World Bank's Squire and van der Tak, 1975). These manuals and the procedures put forward later inspired the development of CBA in developed countries, in particular the US since 1971 (when the Nixon administration introduced the Quality of Life review process requiring agencies to consider various regulatory alternatives and costs when developing significant regulations: Hahn & Litan, 2005). The greater respectability offered to the CBA practices by the involvement of welfare economists not only led to an expansion of their use in other forms of government activity, but also expanded the scope of the costs and benefits considered, even for infrastructure projects, the costs not referring any more to construction costs but also including the broader economic and social costs of the project, e.g. externalities, opportunity costs etc (Zerbe 1998).

The Executive Order 12291 of President Reagan on Cost Benefit Analysis in 1981 further institutionalized this procedure in the US policy-making process for all major regulatory initiatives (DeMuth & Ginsburg, 1986). After considerable reactions and criticisms to the use of the tool for policy-making and its philosophical foundations in the US political and legal contexts (see for instance, Kelman, 1981; Porter, 1995; Nussbaum, 2000; Sen, 2000; Sunstein, 2003; Hahn and Litan, 2005; Adler and Posner, 2001, 2006; Zerbe, 2007; Revesz and Livermore, 2008; Susan Rose-Ackerman, 2011), cost benefit analysis became mainstream, the tool receiving bipartisan support with the publication of Executive Order

12866 by President Clinton in 1993 (Revezs & Livermore, 2008) and of Executive Order 13563 by President Barak Obama in 2011.

The systematic evaluation of public policies was progressively introduced in Europe, initially with the aim to avoid regulatory burdens to be imposed on business (e.g. the 1985 UK government White Paper "Lifting of Burdens" or the UK EU presidency inspired Business Impact Assessment instituted for European Commission's proposals in 1986) (Renda, 2006). By the late 1990s, the emphasis shifted to "Better Regulation". The UK Better Regulation Task Force published its first principles for Better Regulation in 1998, and the ex ante impact assessment of new regulations was strengthened. The choice of the terminology of "impact assessment" provides the symbolic assurance that the main role of the tool is to furnish information and predictions on the impacts of regulation with the aim to enlighten decision-makers and certainly not to substitute them with experts. At the EU level, the Protocol on the application of the principles of subsidiarity and proportionality introduced by the Treaty of Amsterdam, required from the Commission, when exercising its right of legislative initiative, to "take duly into account the need for any burden, whether financial or administrative, falling upon the Community, national governments, local authorities, economic operators and citizens, to be minimized and proportionate to the objective to be achieved", thus providing some legal basis to the evaluation of the impact of the proposed legislation. Shortly after, the EU launched its "better regulation" initiative (Lisbon European Council 23 and 24 May 2000, Presidency Conclusions; Laeken European Council, 14 and 15 December 2001, Presidency Conclusions; Mandelkern Group on Better Regulation, Final Report of 13 December 2001) leading to the development and institutionalization of the regulatory impact assessment tool at the EU decision-making process (European Commission, Communication on Regulatory Impact Assessment 2002; European Commission, Impact Assessment Guidelines, 2002; European Commission, Impact Assessment Guidelines, 2009). Soon after, "Smart Regulation" becomes the leitmotiv of the process of evaluating regulation (European Commission, Communication on Smart Regulation in the European Union, 2010) with the subsequent proposals of the Commission on "EU Regulatory Fitness" (European Commission, Communication on EU Regulatory Fitness, 2012). A number of Member States followed the lead of the European Commission and adopted evaluation tools, such as impact assessments (European Parliament, 2011). "Evaluation Institutions" reinforce this "quality assurance culture" by involving either oversight units at arm's length from the executive, independent auditors reporting to Parliaments, or broader "evaluation networks" including international organizations (e.g. OECD) and independent watchdogs (e.g. ACTAL in the Netherlands for administrative burdens; Institute of Market Economics in Bulgaria), some of which are intrinsically linked to civil society.

In practice, the most prevalent forms of IA are cost benefit analysis and cost effectiveness analysis (Lawrence, 2013). Cost benefit analysis (CBA) constitutes a policy assessment method that systematically catalogues the impacts of regulation or legislation to society as a whole (or to those having "standing") as benefits and costs, eventually assigning weight to these impacts by valuing them in units or money terms and then determining its net benefits to the status quo, by subtracting costs from benefits. Cost benefit analysis may be exercised *ex ante*, when a specific regulation/legislation is under consideration and before being adopted and implemented or *ex post*, after a specified deadline during implementation (i.e. *media res* CBA), or at the end of the implementation of the regulatory provision in order to provide information on the results of its application. The most common form of CBA is the

one conducted *ex ante*, which explains the focus of this paper on this type of impact assessment.

Cost effectiveness analysis (CEA) is a widely used alternative to CBA, in particular in areas where the quantification or monetization of policy impacts (in particular benefits) presents difficulties, either because of moral/ethical concerns or because it is technically difficult to monetize benefits that are uncertain or for which contingent valuation might engage with second-guessing non-observed preferences, which it might not be appropriate to leave to experts' discretion. Cost effectiveness analysis compares (mutually exclusive) alternatives in terms of the ratio of their costs and a single quantified, although not necessarily monetized, effectiveness measure (Boardman *et al*, 2014, p. 450). Contrary to CBA, which focuses on allocative efficiency, CEA measures technical efficiency: it ranks alternative policies in terms of technical efficiency but cannot indicate whether something is worth doing, although there are instances in which CEA may look close to CBA, in particular when the effectiveness measure captures all social benefits and the alternative policies are of similar scale. However, even in this case, the CEA will not be able to answer the question if this initiative is worth doing.

IAs can be horizontal and apply generally to all forms of state action, including regulatory texts (Regulatory Impact Assessments – RIA) or legislative proposals and amendments to legislation brought (Legislative Impact Assessments - LIA). This constitutes one of the major differences between the European and the US models of impact assessment, as in the US the legislative power is exempted from any systematic effort of evaluation of its action, which is reserved for the action of independent regulatory agencies and more generally the executive power, under the assumption that its main role is to guarantee the political control of bureaucracy/technocracy by the political principal, the US President. Ironically, the tool of CBA, essentially a means of knowledge utilization, may thus constitute a way for politics (e.g. the Presidential administration) to unravel its regulatory (or de-regulatory) agenda and re-affirm its pre-eminence by centralising decision-making and disciplining the autonomous technocracies of independent administrative agencies (IAA). The "direct connection between delegation (of executive power to independent administrative agencies) and the role of scientific knowledge (acquired through the systematic operation of CBA) as a tool to control the agency […] and for the agency as a means to respond to oversight and monitoring from the principal" has long been recognized by political science scholarship (Schrefler, 2010, p.312).

The emergence of the regulatory state in Europe led nevertheless to the development of legitimacy and accountability standards that differ from the conventional democratic standards applied to traditional decision-making (Majone, 1996). This evolution hints to a different operation of the IA tool: from a means of subjecting the delegated power of expert IAAs to political power, to a mechanism ensuring the pre-eminence of expertise in the decision-making process. After all, the declared aim of this tool was to ensure policy learning on ways to regulate "better" and "smarter" (the instrumental-rational use of IAs). Yet, concealing the potential political (strategic) use of the IA tool would be naïve, the main beneficiary of the extensive use of this method of evaluation of public policies being almost systematically a centralised government department (e.g. prime minister's office, treasury, the European Commission at the EU level), which through the use of the IA tool, becomes capable of controlling the regulatory initiatives of different ministerial departments, the Parliament, or member States (at the EU level). The reinforcement of the evaluation

capabilities of the legislative power, in addition to the more traditional tool of public inquiries and hearings by select parliamentary committees, whose impact is relatively weak (Benton & Russell, 2013), becomes essential if Parliament is to maintain its political relevance as a mechanism of accountability and control of the executive (e.g. the constitution of impact assessment units or technical evaluation committees constitutes an essential ingredient of this strategy: see e.g. the European Parliament's impact assessment unit, the Comité d'évaluation et de contrôle at the French National Assembly).

The impact assessment may evaluate the impact of the proposed regulation on all sectors of the economy (e.g. the integrated impact assessment model of the European Commission: European Commission, Communication on Regulatory Impact Assessment, 2002), or it can be more sector-specific and take into account specific variables (e.g. environmental impact assessment, health impact assessment, competition assessment). The values to be integrated in the impact assessment analysis have also evolved to include not purely economic values (values that can be evaluated by economic methodologies of market or contingent valuation), such as in Europe, gender equality and fundamental rights, territorial cohesion, thus offering a more holistic perspective on evaluation than the strictly economic emphasis of the US cost-benefit analysis approach.[2] Hence, they finish by including other disciplinary communities than economists in the operationalization of the tool.

The diffusion of the use of various forms of the tool in different political settings and legal traditions illustrates its great malleability and the undeniable success it has so far achieved as one of the most prominent policy innovations of "regulatory reform" movement. The adoption and effective implementation of the Impact Assessment tool in Europe is nevertheless characterized by a great degree of variety among jurisdictions, despite the considerable influence exercised by the OECD and the EU as agents of diffusion for the use of the IA tool in the overwhelming majority of jurisdictions in the European Continent (e.g. Radaelli, 2005; Turnpenny, Nilsson, Russel, Jordan, Hertin, Nykvist, 2008; De Fransesco, 2012). The Gutenberg project, based at the Ecole Nationale d'Administration and at the Centre for Law, Economics and Society at UCL laws, proceeded to an extensive quantitative and qualitative empirical analysis of the IA practices in 26 jurisdictions in Europe with the aim to identify the different species of IA performed in Europe and ultimately the causes of this diversity. Elaborating a taxonomy of IA practices constituted the first step in our effort to establish cross-jurisdictional comparisons.

This study first identifies the challenges of elaborating taxonomy of IAs in Europe by examining the functional typologies that have been so far proposed by the literature. In our view, these do not provide a solid ground for the comparative effort we want to undertake. We suggest instead, in the second part, a contextual typology that relies on the important literature on expertise and its interaction with politics. The principal dimensions of this typology and the ideal types of IA put forward are then examined. Section 3 introduces the dataset and the different variables. Section 4 implements the typology suggested to the data collected for each jurisdiction examined. Section 5 concludes.

[2] See, for instance, European Commission, Compliance with the Charter of Fundamental Rights in Commission Legislative Proposals – Methodology for Systematic and Rigorous Monitoring, COM(2005) 172 final; European Commission, Staff Working Paper, Operational Guidance on taking account of fundamental rights in Commission Impact Assessments, SEC(2011) 567 final; European Commission, Guidance for assessing Social Impacts within the Commission Impact Assessment System, Ref. Ares(2009)326974; European Commission, Assessing territorial impacts, SWD(2013) 3 final.

## 2. Elaborating a taxonomy of Impact Assessments in Europe

### 2.1. The multiple and uncertain functions of the Impact Assessment tool: an obstacle to any attempt of functional typology

The plurality of approaches followed across jurisdictions has led us to opt for a narrower technical definition of the tool, while also remaining open on the different conceptions that have emerged in the various jurisdictions examined. Following the standard definition of the IA tool by the OECD (OECD, 1997), we have focused on IA systems aiming to examine the positive and negative effects of norms of general application produced by national (as opposed to regional or local) public authorities. In order to establish some degree of comparison between the different national experiences, a possible strategy for any effort of taxonomy at a cross-jurisdictional level would be to focus on the specific function exercised by the impact assessment tool in each jurisdiction. Beyond the technical definition of the tool by the OECD as a "method of (i) systematically and consistently examining selected potential impacts arising from government action and of (ii) communicating the information to a decision-maker", local perceptions of the impact assessment tool heavily depend on the specific usage that is reserved to the it in each jurisdiction.

The usage of the IA tool varies of course within each jurisdiction through time and often depends on the specific policy area in which it is intervening (e.g. environment, health, social policy, competition) (Boardman et al, 2014). There might also be some dissonance between the intended use of the IA tool, as this is proclaimed in the foundational texts, guidelines, legislation, constitutional provisions that have put it in place in each jurisdiction, and its day-to-day use in the policy-making process. Finally, one should not exclude variation within a single country (Dunlop, Maggetti, Radaelli, Russel, 2012).

Literature taking a functional perspective on the typology of IAs pursues different avenues of research, which we summarize below. A common characteristic of this literature is that they focus on the possible usages of the IA tool, exploring the possibility of a typology based on the function(s) of the tool in policy-making.

(A) Some studies have focused on the linkages between the IA tool and the institutions of the policy making process. For instance, taking a case study approach Meuwese (2008) explored the EU IA system highlighting five possible uses of the IA tool: (i) speak the truth to power; (ii) use RIA to highlight trade-offs in law-making; (iii) to provide a forum to stakeholders to provide input and participate to law-making; (iv) to provide reasons for legislative action and (v) to "structuring the discourse" and deliberation with the participation of stakeholders in the process. One might conclude from this research that the aims pursued by adopting an IA process are broader than that of improving regulatory quality and do not always relate to the aims of the better regulation movement or administrative simplification, as it was initially thought (see also, Larouche, 2008, adopting a more interpretive approach focusing on the textual analysis of the European Commission's guidelines).

Other authors (Radaelli, 2010 a & b; Dunlop CA, Maggetti M, Radaelli CM & Russel, 2012) have explicitly linked the different uses of the tool with the nature of the political process and the development of political institutions, finding four main uses of IA, without these being mutually exclusive: (i) rational policy making; (ii) political control of the bureaucracy; (iii) public management reform, and (iv) symbolic action or perfunctory usage, highlighting that

some jurisdictions may take a multi-purpose approach to IA, while others may emphasize one type of use. Institutional variables, such as the position of the executive, or the existence of a "market for ideas and advice in government" may predict the type of use each jurisdiction will make of the IA tool (see also, Hertin et al, 2009a, criticizing the "narrow" view of the IA tool of the OECD for focusing too much on the rational-instrumental model of problem solving and for ignoring the "far messier" reality of everyday policy making).

Those who emphasize institutions should inevitably consider politics. Politics play a significant role in the preparation of impact assessments and influence their content (Shapiro & Morrall 2012). The rational-instrumental conception of the policy-making process is not an empirically robust model, political decision-making process being by nature messy, characterized by discontinuities and the absence of a single unitary decision maker, as most decisions are the outcome of complex processes involving multiple actors with divergent interests. While bringing forward political usage as one of the possible functions of the IA tool, this literature does not examine the possibility of variation within a single country. It assumes that "there is a median RIA with certain characteristics in a given country" (Dunlop, Maggetti, Radaelli, Russel, 2012, p. 27). It does not also adequately take into account the variety of social factors that shape the different usages of the tool in various jurisdictions, with the exception of course of institutional variables. These may of course be interpreted broadly, as this is shown by the literature on the "diffusion" of the IA tool.

(B) Studies on the "diffusion" of the IA tool in Europe have emphasized the impact of the political and institutional factors on the function played by IAs in each jurisdiction. Radaelli (2005) explored how diffusion of the EU IA model may not have led to convergence towards the dominant type of IA used, arguing that the broader institutional context in each jurisdiction shapes the adoption of IA. Drawing on neo-institutional theory, the same author examined different dimensions of the institutional context that may affect the development of the IA tool in a specific jurisdiction: type of bureaucracy, government's capacity to process distributional conflict, characteristics of the policy process and IA actors. Staronova (2010) explored the process of institutionalization of IAs in Central and Eastern European countries focusing on the duration of the IA regime, the capacity to perform analysis at the ministerial level, the presence of a coordinating and oversight body, the existence of extensive guidelines. Rissi and Sager (2011) noted the different usages of the IA tool in direct as opposed to representative democracies. Differences in the institutional context, in particular with regard to the establishment of oversight boards for the quality of IAs, have also been studied (Wiener and Alemanno, 2010).

(C) Other authors have examined the multi-purpose use of evaluation knowledge in the policy making process (see, for instance, Hertin et al. 2009), relying on the more general models on research utilization in policy making (see Weiss, 1979; Weible, 2008). Exploring the implementation of IA in Switzerland, Rissi and Sager (2012) found that their usage depends on the policy domain and the broader institutional environment: they may be used strategically by the political realm, yet the results of the same appraisals can also be used to adapt policy design (an instrumental objective), or to change attitudes and increase knowledge concerning a policy problem (conceptual use) or to enhance relations between relevant actors (policy process use). Some uses are more prevalent than others, in view of the broader institutional environment and the presence of functional equivalents for the same use.

The multi-dimensional concept of "policy learning" (Dunlop & Radaelli, 2013) exemplifies the difficulties of distinguishing between the rational-instrumental and other (i.e. political) usages of the IA tool. Radaelli (2009) has distinguished three forms of policy learning deriving out of the IA tool: instrumental (in which case evidence about the effects of a policy updates "subjective probability assessments when the information set available to actors changes"), cross-national emulation (when the tool is transplanted via *fora* for facilitated co-ordination and/or bilateral exchange and/or informal networking) and political (via interaction in the specific political environment, either through the strategic use of knowledge to improve political control over the regulators, or through a symbolic use in the context of a better regulation agenda or finally with the aim to substantiate existing knowledge and provide arguments for political struggles). The IA tool may also be adopted without any process of learning occurring (the "perfunctory" usage of the IA, Radaelli, 2010b).

One should also have in mind that the contribution of the IA tool to policy learning may evolve according to the structuration of the different interests (ideological, economic) and the advocacy coalitions (Sabatier, 1988), the epistemic communities in cases of cross-national emulation and vertical diffusion (Haas, 1992) or more broadly the "constellation of actors" in charge of their introduction and implementation (Dunlop, Maggetti, Radaelli, Russel, 2012). For instance, Livermore and Revesz (2012) explored the three stages of the use of cost benefit analysis (CBA, the US functional equivalent of IA) as a tool for evaluating US regulatory policy. They argued that at its initial stages in the 1980s, CBA was promoted by the Republican Party as a way to constrain regulation, which led to some backlash from progressive groups rejecting CBA for its underlining deregulatory purpose. In the second period, some progressive groups started to use the rhetoric of CBA to their advantage by advancing a quantification and monetization of health and environmental benefits of regulation, explicitly adopting an instrumental/rational use of this instrument as an aide to good quality policy-making. The third stage followed the economic crisis of 2008 and the gradual opposition of conservatives to CBA perceived as being pro-regulatory biased. This example shows that political usage and rational-instrumental rhetoric may be intrinsically linked in ways that it is difficult to distinguish between them. The distinction often made between the "communicative" usage of the IA tool, as a way to promote participation and deliberation with stakeholders, and political usage, referring to the "political meddling" of elected politicians, was also criticized for being fuzzy, the two usages being closer than what was initially thought (Dunlop, Maggetti, Radaelli, Russel, 2012).

It follows from the above that any effort of taxonomy of IAs based on their various usages will fail, in view of the fuzzy boundaries between the different usages identified and the interaction of different variables (among others, the political system, institutions, the constellation of actors in charge of their implementation) influencing the function of the median IA in a specific jurisdiction. Any exercise of typology based on a functional definition of IAs may also bute to methodological difficulties in view of the multi-purpose usages that individual IAs may have and the evolution of usage and consequently their function, through time.

### 2.2. Beyond functional typology: IAs as a boundary arrangement between politics and expertise

We explore the hypothesis of a contextual typology, which provides to our view a richer account of the practice of the IA tool in Europe and enables us to embed our taxonomical effort to the quite extensive literature on expertise and its interaction with politics. We start from the assumption that IAs constitute a technology of "governmentality" (Foucault, 1991, 2007), an "ugly word" (Foucault, 2007, p. 115) denoting the rationalisation of governmental practice in the exercise of political sovereignty (Foucault, 2008). The emergence of this concept highlights the "reciprocal constitution" of techniques of political power and forms of knowledge/expertise (Lemke). There are various illustrations of this intermingling of politics and expertise, forming the context of the IA tool. First, the values and governance norms included in IA analysis may be considered as a form of policy advocacy "for the consideration of certain principles (e.g. gender equality or intergenerational equity), for organising relations between government and the governed (e.g. accountability), or for particular visions of society" (Cashmore et al 2010). This contrasts with the view of IAs as "moderated deliberations amongst detached experts", and fully accounts for their political context, the consideration of the interests involved and who benefits or loses from their use. Second, the process of formalization of certain values and principles in IA analysis as "impacts" to be analysed (a process that has been quite explicit in the emergence of the EU "integrated" IA model) should be seen as the outcome of intense negotiations between different political actors and the result of a political compromise, rather than the product of a consensus among experts.

It follows, that the distinction between the realms of politics and expertise may appear naive, although one should not go as far as contest it altogether. Expertise has very different sources of authority and legitimacy than politics. It results from the process of formation of a "professional society dominated by expert disciplines", a society based on "codified knowledge administered by professionals" (Fischer, 2009). Democratic politics draws, on the contrary, its authority from legitimacy coming out of elections, or more broadly citizen participation and deliberation under the slogan of "New Democratic Governance" (Fischer, 2009; Gutmann & Thompson, 2004). One may distinguish stakeholders from experts, in view of the long "experience" the latter have on the technical knowledge relevant to the issue in question, their integration to a specific epistemic community (Haas, 1992) and the different kind of rights of participation to the decision-making process that technical expertise, as opposed to simple interest(s) in the area affected by the projected regulation, entails (Collins & Evans, 2007).

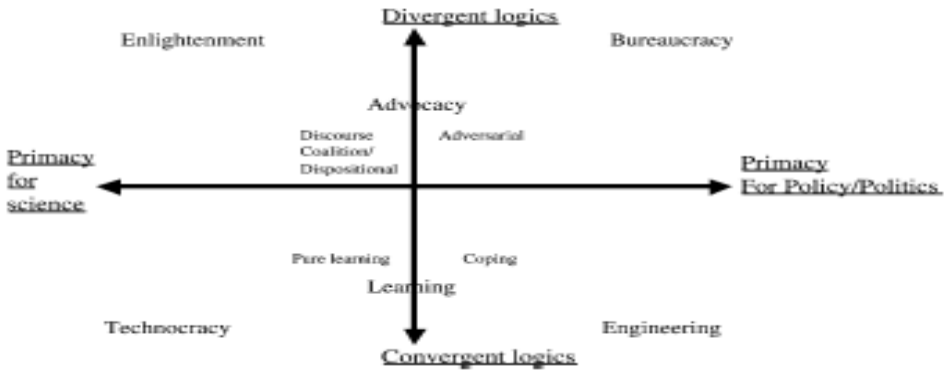
The emergence of the field of policy studies (Lasswel, 1951) has nevertheless led to a dialectical process of scientization of policy and politicization of science (Weingart, 1999). Taking a Science and Technology Studies (STS) approach, Hoppe (2005) noted the "intensification of boundary transactions" between politics and expertise (Hoppe, 2005, p. 204), acknowledging that the demarcation of the scientific from the political domain becomes more difficult as the scope of "boundary work" (Hoppe, 2009a)) increases and "research science" gets transformed to "regulatory science" (Jasanoff, 1990).

This transformation of the interaction between science and policy/politics leads to the development of a different form of policy analysis: what has been called "an argumentative policy analysis" (Fischer & Forester, 1993; Hoppe, 1999) or the "postempiricist alternative" to the science of policy evaluation and policy analysis (Fischer, 2003). This "post-positivist" turn (Fischer, 2007) implies that "even policy analysts […] admit interpretative, hermeneutic and critical approaches to their stock of knowledge and methods", hence leading to the

emergence of different conceptions of policy analysis that break with the idea that the "empirical-analytic scientific procedure alone may lay claim to scientific rationality" (Hoppe, 1999). In "argumentative policy analysis, it is no longer government decisions, but public argument and debate, that claim centre stage" (Hoppe, 1999, p. 209). Participatory democracy is incorporated in the perception of policy analysis in non-technocratic terms (Fischer, 2009; see also, Hertin et al, 2009b, p. 9, noting that RIA is not "a purely scientific process" but a "discursively rational process", p. 17). From "speaking truth to power", policy analysis may transform itself to a tool of consensus-building, combining a "fallibilist-dialogical concept of scientific rationality and a social-constructivist perspective on social reality", the expert analyst detecting those rare opportunities where dialogue can be established. In other words, policy analysis aims to "making sense together" (Hoppe, 1999, p. 209). This evolution of the field of policy analysis from knowledge utilization to a boundary work of "participatory policy analysis" ((Fischer, 2003, p.p. 213-219) exemplifies the collapse of the distinct categories of knowledge producers, stakeholders and policy-makers, also narrated in earlier works (Torgerson, 1986).

Hoppe advances different models of boundary arrangements between science/expertise and politics (Hoppe, 2005) revolving along two axes. The first axis constructs a typology along the *continuum* going from the relative primacy for science/expertise to primacy for politics. The second represents the opposition between models accepting that science/expertise and politics have divergent logics and others relying on the idea that science/expertise and politics represent convergent logics. Along these different axes, there are different models of expertise-politics interaction (see Figure 1).

**FIGURE 1. THE POLITICS/EXPERTISE NEXUS**




*Source: Hoppe (1999), p. 208*

On the one side of the spectrum, there are models presupposing the primacy of science/expertise emphasizing either the separation between expertise and politics (the "enlightenment model") or the existence of a strong convergent logic between the two ("technocracy)". At the other side of the spectrum, there are models presupposing the primacy of politics: either the "bureaucratic" model which is grounded on the dichotomy between politics and science/expertise or the "engineering" model according to which policy-makers "articulate knowledge questions and assign detailed research projects to scientists-as-engineers" (Hoppe, 2005, p. 210), these knowledge engineers applying bodies of knowledge to concrete practical questions with the aim to provide policymakers with situated solutions to the problems identified. Finally, Hoppe refers to models that do not presuppose the

primacy of science or politics but a dialogue between the two. These come in two separate versions: "advocacy models" and ""learning models" (Hoppe, 2005, p. 210). "Advocacy models" include "adversarial models" in which scientists are like lawyers/advocates using scientific knowledge as "ammunition" for political parties or organized groups and "dispositional models" allowing "science advisors and policy actors in their interaction" to "jointly shape political discourse around a central analogy, a story line" (Hoppe, 2005, p. 211). "Learning models" not only presuppose an equal status between the scientific and political realms but also lead to a re-conceptualization of the political domain as a process of social learning through social debate. The participation of stakeholders through a wide consultation mechanism becomes intrinsic part of the knowledge collection and utilization process.

What transpires from this literature on the interaction of knowledge/expertise and politics is the view that the IA tool constitutes one of the forms, certainly privileged, of knowledge sharing between experts, stakeholders and policy-makers (these being elected politicians or the public at large), among other forms of interaction, such as technical communities (MacRae, 1976), public hearings (Kemp, 1985), information markets (Abramowisz, 2004), "science courts" (Mazur, 1977), multiple advocacy (George, 1972). Yet, as it is noted by Torgerson, it is in the tool of IA, "where we find a policy analytic project which dramatically displays a combination between expertise and a forum for participation".

We acknowledge the attraction of the participatory or argumentative policy model (Fischer, 2003) in our attempt to build a contextual typology of IA that would correspond to the different types of boundary arrangements between expertise and politics. The exercise takes a micro-perspective, looking to individual IAs through IA variables (the characteristics of the tool, its scope, sophistication…). This does not deny the value of a macro-perspective, focusing on system variables, such as the institutional/political context the IA is integrated to (e.g. existence of a legally sanctioned obligation to perform IAs, the establishment of a central IA unit or of a review body, the publication of guidelines) or the broader knowledge eco-system prevalent in a jurisdiction (the way all governance institutions – including courts - interact with expertise). Yet, our aim at present is to build a classificatory typology of IAs, under the assumption that the IA tool constitutes, at least a partial, embodiment of these boundary arrangements. This may provide a first approximation (a kind of lower bound estimate) of the nature of the boundary arrangements between expertise and politics in each jurisdiction: e.g. technocracy-oriented systems, participation-oriented systems etc) across the different axes previously identified (Hoppe 2005). The analysis will be completed, at a later stage of the project, with the examination of system variables in order to build an explanatory typology (Elman, 2005). Yet, we consider that adopting first a micro-perspective is fully justified in view of the perfunctory usage of the IA tool, the dissonance identified between adoption and effective implementation (Dunlop, Maggetti, Radaelli, Russel, 2012) and the fact that system variables, such as the constitution of an IA unit or guidelines, are most often a kind of "cheap talk" and do not automatically lead to an in depth adoption of IA practices. This does not deny that both IA variables (the scope, the sophistication of the tool) *and* System variables, showing the engagement of a jurisdiction to implement the IA tool (De Fransesco, Radaelli and Troeger, 2012) may uncover the boundary arrangements prevalent in the specific jurisdiction. Yet, we consider that, in view of the dissonance problem, a sequential approach adopting first a micro-perspective, before completing it with a macro-

perspective, would be more appropriate with regard to our ambition to establish a robust explanatory typology.

## 2.3. The suggested typology and its main dimensions

### *2.3.1. Main dimensions of the typology*

Identifying the prevalent boundary arrangements through the intermediary of IA variables presents important challenges as to the choice of the main dimensions, conducive to capture the various forms these arrangements might take. We identify three dimensions: the analytical complexity of the IAs, the participation of non-experts in the IA process and the existence of accountability mechanisms in the IA process.

With regard to the analytical focus of the IA, the calculation of costs and technical efficiency (cost effectiveness), the quantitative nature of the analysis of both costs and benefits (cost benefit analysis) with the evaluation of alternative policy options (including a zero option) indicate various degrees of formalization/technical sophistication of the policy evaluation process and consequently of the scope of the intervention of experts, as opposed to stakeholders and/or elected politicians in the decision-making process. For instance, cost effectiveness enables the political leadership to set the objectives of the policy, leaving to the experts the task of identifying the most cost effective ways to achieve the specific results aimed. Such approach would be compatible with boundary arrangements of primacy for politics. In contrast, the calculation of both costs and benefits of regulatory action in order to identify the most allocatively efficient option and/or the comparative analysis of different regulatory options (including the zero option) in order to determine whether something is worth doing, involve some difficult compromises between the realms of expertise and politics so as to weight each type of impact or to exclude altogether from consideration impacts that may only be quantified with considerable difficulty and uncertainty. These approaches fit better with boundary arrangements emphasizing the role of expertise in policy-making and eventually the convergent logics of politics/science. For instance, when considering policy alternatives (and in particular the zero non-regulation option) in impact assessments, experts will have to identify the net benefits or costs of different options, or if it is worth regulating at all, thus limiting the decision space of policy-makers. The use of "advanced" scientific techniques with the aim to assess the impact of regulation/legislation also contributes to the formalization/technical sophistication of the tool of the IA (Nillson, Jordan et al, 2008) and hence the need for experts to be involved. In these instances, the epistemic asymmetry between experts and non-experts widens, thus expertise playing the primary role in the choice of regulatory strategy.

The analytical complexity of the IA does not only depend on the dimension of analytical focus and methodological sophistication. It is also intrinsically linked to the scope of the analysis provided by the IAs. The "integrated" IA model, promoted by the European Commission, attempts to aggregate different kinds of impacts in a uniform framework of analysis. This apparent "uniformity" conceals, however, the great variety of "impact" considered and the various guidelines that have been published on the methodology to be used for each type of assessment. Yet, a wider scope, covering various kinds of impacts (e.g. environment, employment, distributive justice, growth), expands the involvement of experts for each particular aspect examined by the impact assessment, by committing the policy makers to specific definitions and measurement techniques for the "impact", and consequently narrows the intervention and thus the decision space of policy-makers.

In contrast, wider participation to the co-production and implementation of IAs by non-experts, either in their capacity as stakeholders affected by the contemplated measure, or more broadly the general public, indicates that the IA instrument may be perceived as a tool for deliberative and participatory democracy. The investment required for ensuring participation of the stakeholders and citizens in the process of preparing the impact assessment shows a credible commitment of the specific polity to the IA tool and its significance in the decision-making process. The absence of any investment in ensuring participation may be interpreted as either reflecting the choice of a system of primacy of expertise (if the impact assessment showcases some form of analytical complexity) or that of a system in which the IA tool does not play any significant role in the policy-making process.

It is possible that the emphasis on consultation may be combined with an equal focus on the quantification of the costs and benefits of regulation and of alternative regulatory options, the latter operation relying on the preferences of stakeholders or citizens as to the weight in the analysis of each specific type of impact (e.g. distributive justice, cost to business) and the definition of regulatory alternatives. In this case, the IA tool may correspond to the boundary arrangements in the middle of the expertise-politics axis (Hoppe, 2005), either those accepting the convergent logics of expertise and politics or those making the choice of divergent logics, depending on the specific circumstances. The degree of consultation performed in the context of the preparation of specific IAs provides a proxy for participation. We acknowledge that consultation may take different forms and be performed independently from the IA tool. We have not examined these initiatives as we followed a micro-perspective focusing on IA variables, rather than a macro-perspective integrating the analysis of system variables, because of the narrow scope of our taxonomical exercise at this stage of the project.

Finally, accountability constitutes the third dimension taken into account in our analysis. In spite of the complexity of the term and disagreements on its exact meaning, accountability implies that officials should provide an account of their action and performance and that their actions should be evaluated by some external constituency and eventually positively or negatively sanctioned. The existence of accountability mechanisms in the impact assessment indicates some form of monitoring and control either by the stakeholders and/or the general public (political accountability) or by peer experts (technical accountability). From this perspective, accountability mechanisms provide incentives to those in charge of preparing the impact assessments (the agents) to take into account the views of the public (or of their political principal), thus indicating that strong political accountability mechanisms favour practices of deliberation and participation and hence would be compatible, in the absence of technical accountability mechanisms, with boundary arrangements of primacy to politics, or, in the presence also of technical accountability mechanisms, boundary arrangements in the middle of the expertise/politics axis. In the absence of political accountability mechanisms, a high degree of technical accountability indicates the primacy of expertise.

### *2.3.2. Main types of IA expected*

On the basis of these three dimensions, we hypothesized the existence of six ideal types of IA, representing different approaches as to the "boundary" interactions between expertise and politics (see Hoppe, 2005).

The **"ticking box" or rudimentary model of IA** represents polities where expertise and politics do not interact or where politics pre-empt expertise, for example in cases where both

are considered as having divergent logics (e.g. the bureaucracy model). This ideal type of IA is characterized by low analytical complexity, a low investment in stakeholders' or citizens' participation and a low degree of accountability. This type of IA corresponds to what some authors have referred to as the "perfunctory" usage of the tool (Radaelli, 2010b). *Indicators.* (i) *Low Analytical Complexity*: These IA are quite short, they have relatively low sophistication scores (no costs and benefits are specifically identified and there is no systematic comparison made of the costs and benefits of alternative options) , they cover very little ground (they have a low scope score), they do not evaluate alternatives, their methodological sophistication being limited; (ii) *Low Participation Score*: the process does not include any extensive consultation (they have a low consultation score); (iii) *Low Accountability Score:* compliance/implementation issues are not considered, among other factors they do not indicate explicitly the aims of the law or their operational objectives.

The **rational-instrumental model** of IA **– Cost Benefit Analysis style** corresponds to a technocratic perception of the relation between expertise and politics (the primacy for science model). These ideal types of IAs denote a high degree of analytical complexity, but a low degree of participation by stakeholders and accountability. *Indicators.* (i) *High or Intermediate Analytical Complexity:* These IAs are relatively long. They have relatively high scope and sophistication scores. They present a high degree of methodological sophistication and they generally evaluate alternative options by comparing costs and benefits. The relatively equal weight given to costs as well as to benefits distinguishes this category from the cost oriented IA ideal type. The rational-instrumental model of IA includes two sub-categories: some are more **sophisticated** (including quantification of costs and benefits, monetization but also high methodological sophistication scores – *high analytical complexity*) while others are **shallow** (merely qualitative analysis of costs and benefits – *intermediate/low analytical complexity*). Other factors are also considered: the high proportion of prepared regulation/legislation for which (high proportion means a rational-instrumental model of IA), the existence of various institutions in charge of IAs (extension of the process to all areas and all types of institutions – legislative, regulatory, independent regulators); (ii) *Low Participation Score:* a low degree of consultation and involvement of the stakeholders and the public; (iii) *Intermediate Accountability Score:* the existence of a central peer-reviewing unit indicates a high degree of institutionalization of the IA process and that emphasis is put on the quality of the analysis, hence indicating some degree of accountability to peer experts (technical accountability). However, there are no political accountability mechanisms linking the experts to stakeholders or to the general public.

The **rational-instrumental model** of IA **–cost effectiveness style** is closer to an engineering model, in which politics prime expertise, yet the logics of both science and politics converge. The idea behind this model of IA is that policymakers choose the objectives of the policies and the IA's role is to inform them on the more cost effective way to achieve their pre-defined aim. *Indicators. (i) Intermediate/Low Analytical Complexity:* these IAs are relatively long. They focus only on costs and do not address or discuss benefits. They do not examine extensively other alternative options; (ii) *Low Participation Score:* a low degree of consultation and involvement of the stakeholders and the public; (iii) *Intermediate Accountability Score:* the existence of a central peer-reviewing unit indicates a high degree of institutionalization of the IA process and emphasis put on the quality of the analysis, hence indicating a high degree of technical accountability. However, there are no political accountability mechanisms linking the experts to stakeholders or the general public.

The **participatory model** of IA addresses IAs as primarily a tool of deliberative and participatory democracy, and only secondary as a tool to engage policy-makers with expertise. This ideal type mostly corresponds to the adversarial model of boundary arrangement between expertise and politics (primacy for politics and perception of a divergent logic between expertise and politics). This model emphasizes consultation and the integration of stakeholders as the main added value of IAs. *Indicators. (i) Intermediate/Low Analytical Complexity:* Although this type of IA might examine both costs and benefits and might quantify or occasionally monetize costs, there is no extensive comparison between costs and benefits (low sophistication costs). (ii) *High Participation Score*: These IAs are characterized by relatively high consultation scores. (iii) *Intermediate*/*High Accountability Score:* Although these IAs do not put in place a high degree of technical accountability, there is particular emphasis on the institution of political accountability mechanisms.

The **symbiotic model** of IA corresponds to the learning model of the interaction of expertise and politics, with a dialogic relation between expertise and politics and the perception that they both have convergent logics. *Indicators.* (i) *High Analytical Complexity*: These IAs are relatively long, they quantify costs and benefits and explore extensively alternative regulatory options; (ii) *High Participation Score*: These IAs are characterized by relatively high consultation scores; (iii) *High Accountability:* These IAs present a high degree of technical and political accountability.

To briefly reiterate the hypothesised IA types and the various indicia considered see 1.

**TABLE 1. HYPOTHESIZED IA CLUSTERS AND THEIR KEY CHARACTERISTICS**

| | **scope** | **sophistic** | **consultation** | **account** | **alt. policy options** | **cost figures** | **benefit figures** |
|---|---|---|---|---|---|---|---|
| **rudimentary IA** | low | low | low | low | no | some | some |
| **rat.-instr. IA: CBA style (sophistic.)** | high | high | low | low | yes | many | many |
| **rat.-instr. IA: CBA style (shallow)** | high | low | low | low | yes | many | many |
| **rat.-instr. IA: cost effectiveness style** | low | high | low | low | no | many | no |
| **participatory model of IA** | high | low | high | high | yes | some | some |
| **symbiotic model** | high | high | high | high | yes | many | many |

## 3. Data and variables

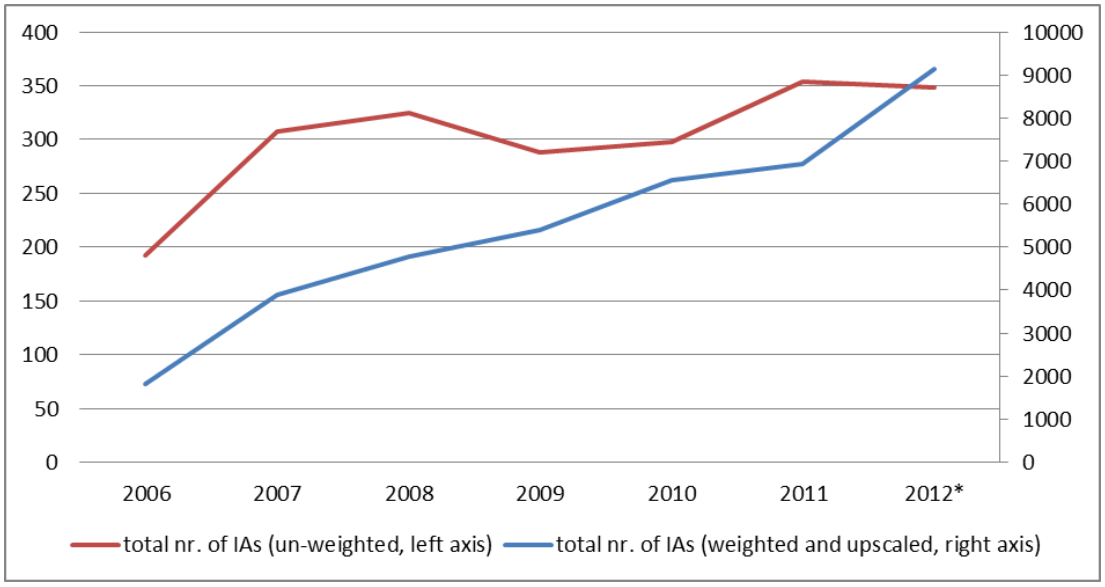
### 3.1. Data collection

IA texts were collected in a wide range of European countries and a large sample of the collected texts were coded (the authors also collected data on IA institutions and surveyed IA actors which are not discussed in this article) (Lianos & Fazekas, 2013). The primary goal of this data collection exercise was to generate quantitative data capturing the most relevant characteristics of individual IA texts.

The research team aimed at identifying and collecting *every* IA text publicly available across the whole of Europe. Our IA collection procedures involved standard keyword search, visiting relevant government bodies' websites, contacting government officials and experts dealing with IA, and submitting formal requests for obtaining the documents. In every country, the national language was used for communication and search to maximize result. While, the responsiveness and openness of national governments would be worth a separate study, it must be emphasized that only published IAs could be obtained, hence analysed. This implies that the subsequent data analysis does *not* cover the full IA activity of European countries. Unfortunately, some countries don't publish a large portion of their IAs, keeping secret even those IAs which belong to high impact and hotly debated laws and regulations.

At the end of the IA collection exercise, a large number of IAs were either collected or identified. Our best estimate of the total number of IAs produced between 2006 Q1 and 2012 Q2 in 22 European countries is 33 959 IAs or 250 IAs per year per country (Figure 2). This high average figure is due to a few highly active countries such as Lithuania (10 423 IA), Estonia (4 681 IA), or the UK (2 410 IA). In some countries, no relevant IA activities could be identified during the examined period: Belgium (federal level); while in others data collection and coding could not be carried out at this stage of the project: Austria, Portugal, Finland and Latvia.

**FIGURE 2. TOTAL IA SAMPLE SIZE AND ESTIMATED IA POPULATION SIZE PER YEAR, 21 COUNTRIES PLUS EU, 2006-2012**




*Source: Gutenberg project database*

**our data only refer to the first half of 2012, so the figures are multiplied by two to arrive at a comparable estimate*

Due to the large number of IAs collected and identified, we had to sample IAs[3]. We applied a stratified random sampling with each year-country combination as a stratum which served our goal of analysing both variation across countries and within countries over time. In practice, a random sample was drawn from the identified full list of IAs per country per year. We aimed at sampling and coding at least 15 IAs per country per year[4] (if there were fewer IAs produced by a given country in the given year our sample was smaller, of course) (Table 1).

**TABLE 1. DISTRIBUTION OF IAS ACCORDING TO YEAR OF PUBLICATION AND COUNTRY (NON-WEIGHTED)**

| country/year | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | Total |
|---|---|---|---|---|---|---|---|---|
| Bulgaria | 0 | 0 | 0 | 14 | 0 | 0 | 1 | 15 |
| Czech Republic | 0 | 3 | 22 | 18 | 23 | 17 | 20 | 103 |
| Denmark | 10 | 12 | 24 | 15 | 22 | 20 | 21 | 124 |
| Estonia | 0 | 0 | 9 | 6 | 7 | 4 | 9 | 35 |
| EU Commission | 76 | 88 | 114 | 77 | 51 | 119 | 32 | 557 |
| France | 0 | 0 | 0 | 3 | 14 | 9 | 2 | 28 |
| Germany | 16 | 15 | 18 | 15 | 16 | 15 | 18 | 113 |
| Greece | 0 | 0 | 0 | 0 | 10 | 14 | 46 | 70 |
| Hungary | 0 | 0 | 0 | 0 | 2 | 32 | 68 | 102 |
| Ireland | 5 | 4 | 7 | 5 | 9 | 7 | 12 | 49 |
| Italy | 13 | 44 | 16 | 23 | 20 | 9 | 1 | 126 |
| Lithuania | 0 | 9 | 6 | 10 | 21 | 10 | 11 | 67 |
| Netherlands | 1 | 2 | 5 | 1 | 2 | 5 | 3 | 19 |
| Norway | 11 | 9 | 12 | 7 | 10 | 10 | 10 | 69 |
| Poland | 18 | 20 | 20 | 20 | 24 | 21 | 26 | 149 |
| Romania | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 22 |

[3] In the case of the European Commission, the total collected IA population was coded.
[4] Actual sample sizes may be smaller than this because of removing some IAs due to quality reasons.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Serbia | 0 | 6 | 12 | 11 | 9 | 10 | 11 | 59 |
| Slovakia | 8 | 13 | 11 | 13 | 11 | 13 | 2 | 71 |
| Slovenia | 7 | 10 | 7 | 8 | 8 | 8 | 8 | 56 |
| Spain | 0 | 0 | 14 | 12 | 10 | 10 | 10 | 56 |
| Sweden | 10 | 10 | 11 | 10 | 9 | 10 | 10 | 70 |
| UK | 17 | 41 | 17 | 20 | 20 | 11 | 27 | 153 |
| Total | 192 | 308 | 325 | 288 | 298 | 354 | 348 | 2113 |

*Source: Gutenberg project database*
*Note: *=IAs only from 2021Q1-Q2*

The coding of each IA followed a pre-defined coding template reflecting data needs of the research project. This template delivered data for 125 variables organised around the following variable groups (full template in Lianos & Fazekas, 2013):

- Background variables
- Costs
- Benefits
- Comparison of costs and benefits
- Evaluation of alternatives
- Methodology-general
- Methodology-discount rate and inflation
- Presentation, structure
- Consultation
- Special topics-compliance/implementation
- Specific topics-health impacts
- Special topics-administrative burdens
- Special topics-competition assessment
- Special topics-environmental IA
- Special topics-social impact assessment
- Further specific topics
- Referencing

The coding was done manually by trained coders speaking the given language and having background either in law or political science. In addition, most of them had considerable prior knowledge of the IA system in the country. For each coded record, the reference to the specific part of the IA document on which the coded value is based was also entered in the database. IA codes were checked twice by a quality assurance team consisting of the authors and one more person working on the project for over a year. The first check took part after a few IAs were coded by the given coder, the second check concerned all the fully coded IAs. Once all the manual codes were compiled statistical consistency and validity checks were conducted in order to assure high quality data. While some degree of measurement error certainly remained in our database, these procedures assure the highest possible data quality, given our data collection technology.[5]

As our sampling did not take fully into account the variation in the overall number of IAs published in each year by each country (i.e. variation across strata), we had to apply

[5] We also carried out automated keyword search for EU IAs to further decrease measurement error, a method which can be applied to all other jurisdictions later on.

weighting (weights can be found in Annex A1). We employed weighting and up-scaling at the same time with the total number of IAs per country per year is population weight. Thus, the resulting database's each country-year cell has the same number of IAs as the estimated total population. The total population size had to be estimated as countries not always disclosed the relevant numbers. This is for two main reasons: first, some countries only publish their IA numbers for parliamentary, legislative texts without reliable data on government regulatory IAs: France. Second, in other countries, the total number of IAs was unobtainable: Bulgaria[6], Germany, the Netherlands, Serbia, Slovakia, and Slovenia. In order to adequately estimate the IA output of these countries, we assigned them the average number of IAs per year based on the countries with valid data. In the following we will only report weighted values unless otherwise stated.

### 3.2. Main background characteristics of IAs

There are a number of key characteristics of IAs which bear consequences to the type or category they fall into. Below, these characteristics are reviewed briefly in order to provide the background for the typology developed later. Three variables deserve more attention:

- Type of legal text,
- Area of regulation, and
- Type of preparing institution.

A large majority of IAs assessed legislative texts going through the national or the European parliaments (Table 2). While this is an interesting conclusion on its own, it must also be kept in mind that it is precisely the IAs for regulatory texts which are less readily available. IAs focus on parliamentary legislative activities in Europe stands in stark contract with the US for example, where Congress is not subject to IA requirements, these being performed mainly to the regulatory initiatives of independent regulatory agencies by the Office of Management and Budget, also forming part of the executive power.

**TABLE 2. TYPE OF DOCUMENT, TEXT ASSESSED BY THE IA, 2005-2012 (WEIGHED, UP-SCALED)**

| Type of text assessed | Freq. | Percent |
|---|---|---|
| Law | 22,042 | 64.9 |
| Regulation | 7,971 | 23.5 |
| Policy proposal | 2,706 | 8.0 |
| Other type | 1,240 | 3.7 |
| Total | 33,959 | 100.0 |

*Source: Gutenberg project database*

Most IAs referred to legislative or regulatory texts in the areas: 1) security and civil liberties and the organisation of the state; 2) employment; and 3) energy, communication, and transportation (Table 3). As, different scientific and regulatory fields have different scientific evidence on which IAs can draw upon, this sectoral distribution will have wide ranging ramifications to the types of IAs done in different countries.

[6] Bulgaria is not included in the analysis due to the fact that the recorded IAs were in their overwhelming majority ex-post IAs.

**TABLE 3. DISTRIBUTION OF IAS ACCORDING TO MAIN AREA OF REGULATION, 2005-2012 (WEIGHTED, UP-SCALED)**

| Main area of regulation | Freq. | Percent |
|---|---|---|
| Employment | 4,106 | 12.1 |
| Competition | 219 | 0.7 |
| Consumer | 1,572 | 4.6 |
| Fiscal | 1,672 | 4.9 |
| Environment | 1,768 | 5.2 |
| Health | 1,352 | 4.0 |
| Business | 1,473 | 4.3 |
| Energy, ICT | 3,176 | 9.4 |
| Education | 1,225 | 3.6 |
| Civil liberties | 4,578 | 13.5 |
| Other | 7,307 | 21.5 |
| Multiple areas | 5,510 | 16.2 |
| Total | 33,959 | 100.0 |

*Source: Gutenberg project database*

A large majority of IAs were authored and published by ministries; however, this doesn't mean that ministry officials conducted the bulk of the analysis (Table 4. Organisation authoring, publishing the IA, 2005-2012 (weighted, up-scaled)

| Preparing institution | Freq. | Percent |
|---|---|---|
| Public, ministry | 27,553 | 81.1 |
| Public, independent regulatory authority | 2,521 | 7.4 |
| Public, IA agency | 15 | 0.0 |
| Public, parliament | 35 | 0.1 |
| Public, prime minister's office/chancellery | 338 | 1.0 |
| Public, other | 301 | 0.9 |
| Not available | 3,196 | 9.4 |
| Total | 33,959 | 100.0 |

*Source: Gutenberg project database*

**Error! Reference source not found.**). In spite of our best efforts we couldn't get consistent data on contracting out and authors of the analytical work.

**TABLE 4. ORGANISATION AUTHORING, PUBLISHING THE IA, 2005-2012 (WEIGHTED, UP-SCALED)**

| Preparing institution | Freq. | Percent |
|---|---|---|
| Public, ministry | 27,553 | 81.1 |
| Public, independent regulatory authority | 2,521 | 7.4 |
| Public, IA agency | 15 | 0.0 |
| Public, parliament | 35 | 0.1 |
| Public, prime minister's office/chancellery | 338 | 1.0 |
| Public, other | 301 | 0.9 |
| Not available | 3,196 | 9.4 |
| Total | 33,959 | 100.0 |

*Source: Gutenberg project database*

### 3.3. Composite indicators

In order to facilitate a parsimonious analysis while still capturing the most essential IA characteristics, we developed a small number of intuitive composite indicators representing key dimensions along which we will conduct our later analyses. These composite indicators are the following:

- **Scope** of topics and issues covered by the IA;
- Methodological **sophistication** of the IA;
- Quality of **consultation** as reported by the IA; and
- Degree of **accountability** present in the IA.

#### *3.3.1. Scope*

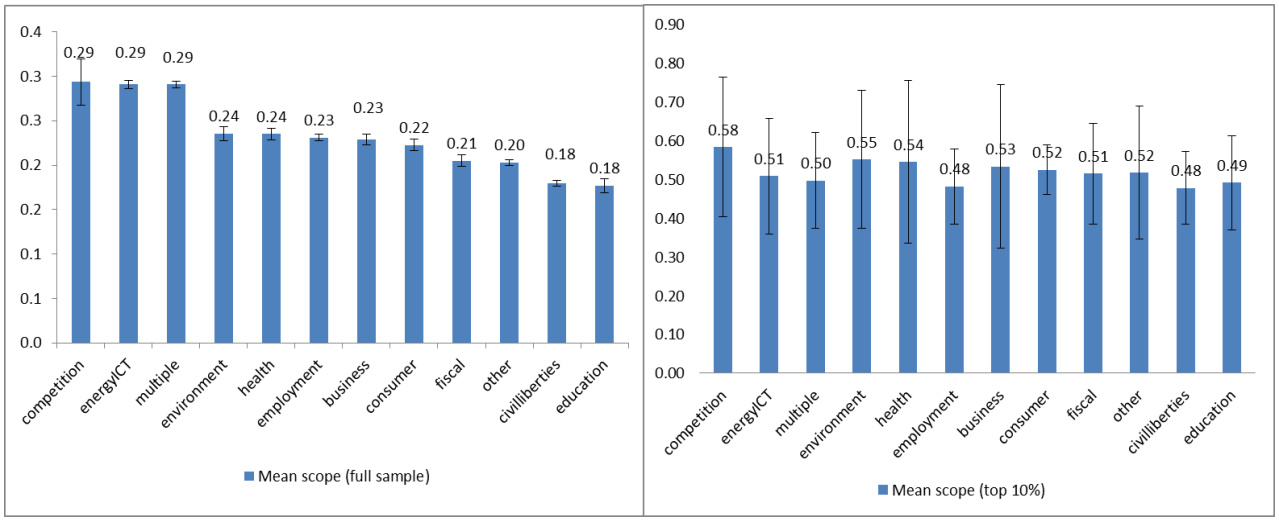
The scope composite indicator captures *to what extent the IA discusses the key topics which would need to be covered by a typical well-developed IA in order to deliver a thorough assessment*. It is defined as the number of topics or impact categories mentioned on a scale of 0 to 1, where 1 means that every measured topic or impact category has been at least mentioned in the IA and 0 means that none. We calculated the following simple arithmetic average to arrive at the composite scope score:

> *Scope score = (budget*[7] *+ business + SMEs + consumers + innovation + employment + health + competition + environment + society + geographic equity + EU institutions + single market + acquis communitaire + corruption + administrative burdens + subsidiarity + proportionality + implementation + transition) / 20.*

The components are considered to be additive, as discussing one topic or impact category is by and large independent of discussing others (of course, in an ideal world, inter-topic links wouldn't be left unexplored). An obvious objection to the formulation of the scope composite indicator is that some laws or regulations may not touch upon particular topics, hence the scope indicator penalises some IAs erroneously. There are two objections to this: first, any topic or impact category is considered to be mentioned already when it is stated as irrelevant for the analysis (e.g. "No considerable environmental impacts were identified."). Second, the resulting scope score does not vary by area of regulation, our best guess at the object of regulation, that much (Figure 3). While there are significant differences among some regulatory areas' mean scope scores, their maximums barely differ (between 0.7 and 0.8) and there are no significant differences between the mean scores of the top 10% of the distributions per regulatory area (Figure 3). These indicate that in every area there are high scope score IAs, that is the score is relevant and appropriately measures relevant variation across every type of IA.

**FIGURE 3. MEAN SCOPE SCORES PER AREA OF REGULATION, FULL SAMPLE (LEFT PANEL) AND TOP 10% OF THE SAMPLE (RIGHT PANEL), 2006-2012(WEIGHTED, UP-SCALED)**

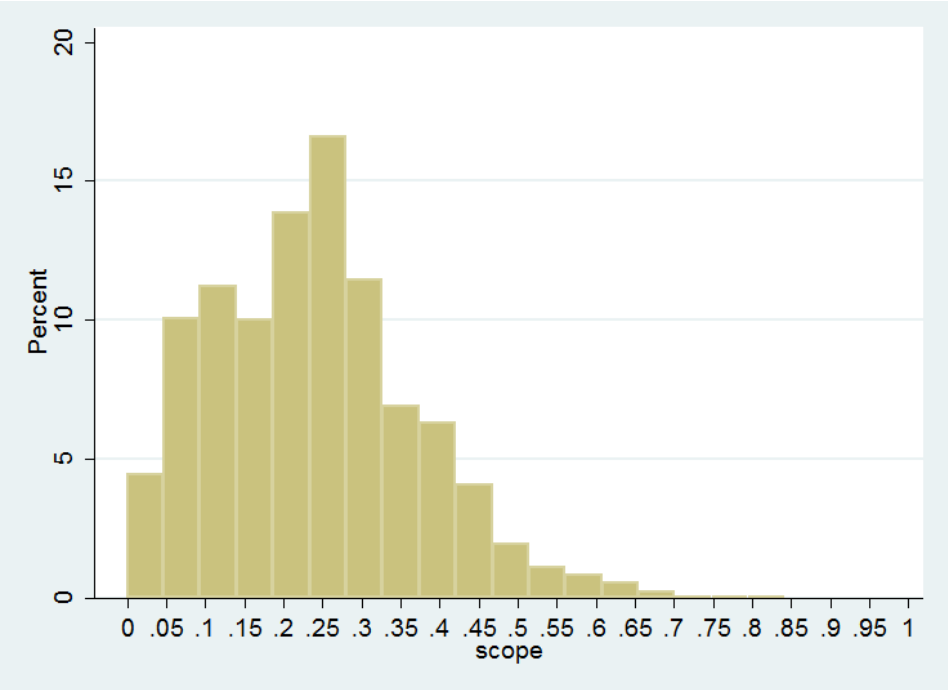
[7] For EU IAs, costs to Budget and EU institutions were covering essentially the same, hence they were counted only once.




*Source: Gutenberg project database*

The resulting scope score's distribution is skewed to the right meaning that there are relatively few IAs covering all 20 topics/impacts while very many IAs cover only a few of them (Figure 4).

**FIGURE 4. DISTRIBUTION OF SCOPE OF IAS, 2006-2012 (WEIGHTED, UP-SCALED)**




*Source: Gutenberg project database*

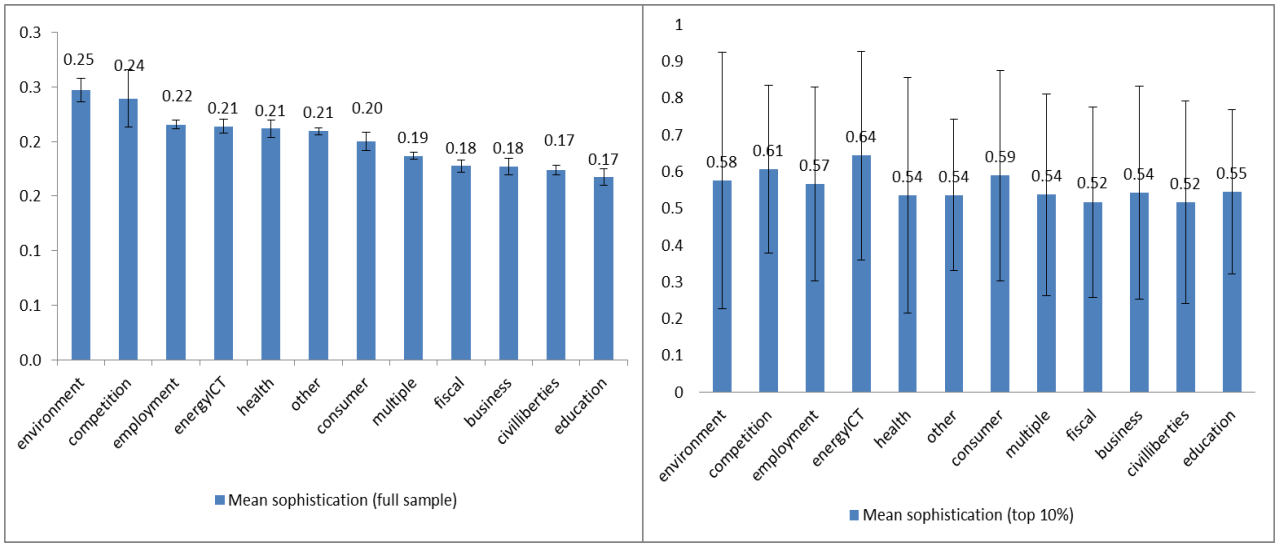
### *3.3.2. Sophistication*

In order to gauge the *analytical depth with which IAs analyse the topics* listed above we created a composite indicator spanning from 0 to 1 where 1 represents the most sophisticated analysis and 0 represents an only qualitative, loose discussion of issues. Each of the 18 components of the composite score runs between 0 and 1 with a few exceptions highlighted below. We calculated the following simple arithmetic average to arrive at the composite scope score:

*Sophistication score = (cost/benefit categories explicitly stated*[8] *+ total costs/benefits calculated*[9] *+ scoring of options + use of net benefit calculations*[10] *+ use of cost effectiveness calculations*[11] *+ at least one alternative policy option + do nothing option included + comparison of alternatives*[12] *+ taking account of uncertainty + doing robustness checks + use of simple/complex calculations*[13] *+ comparison with other countries + explicit reference to non-monetisable factors/methodological limitations*[14] *+ explicitly stating a discount rate + using consistent figures)/18*

Once again, individual components are considered to be additive in the composite score as the use of one analytical technique typically does not depend on the use of another. For example, alternatives can be compared qualitatively or quantitatively. In this case, the obvious objection arises too: the indicator is biased against certain regulatory areas which lend themselves less readily for complex analysis. While it is certainly true that some areas are less readily amenable to the analytical work necessary for a highly sophisticated IA, this doesn't mean that it is not *possible* or sensible to conduct complex analysis in some areas. The same relationships between sophistication and area of regulation can be observed as in the case of scope (Figure 5).

**FIGURE 5. MEAN SOPHISTICATION SCORES PER AREA OF REGULATION, FULL SAMPLE (LEFT PANEL) AND TOP 10% OF THE SAMPLE (RIGHT PANEL), 2006-2012 (WEIGHTED, UP-SCALED)**

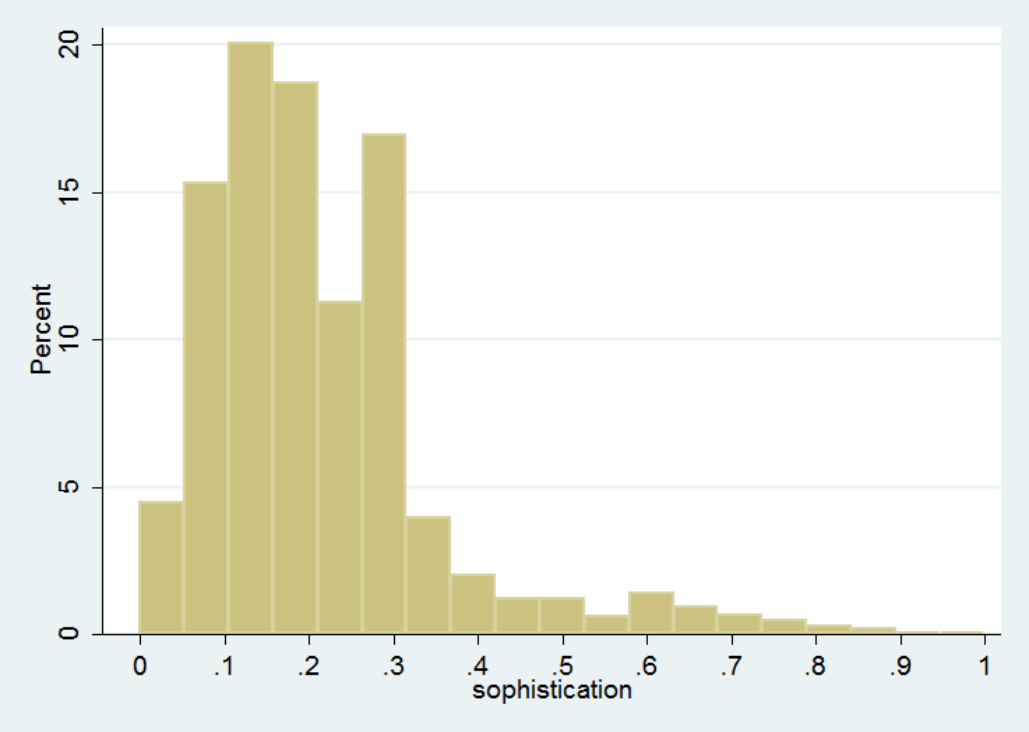



*Source: Gutenberg project database*

The resulting sophistication score follows a distribution somewhat similar to that of scope suggesting that only a small proportion of IAs actually reach up to the maximum of measured methodological sophistication (Figure 6).

**FIGURE 6. DISTRIBUTION OF THE SOPHISTICATION INDEX, 2006-2012 (WEIGHTED, UP-SCALED)**

[8] Runs between 0 and 2
[9] Runs between 0 and 2
[10] Runs between 0 and 2
[11] Runs between 0 and 2
[12] Runs between 0 and 2
[13] Runs between 0 and 2
[14] Runs between 0 and 2




*Source: Gutenberg project database*

In light of our theoretical frame, there are three key aspects of the sophistication composite indicator which deserve more attention:

- Evaluation of alternative policy options,
- Discussing at least one cost item, and
- Discussing at least one benefit item.

While IAs primary goal is to support public decisions (OECD, 2009), there are surprisingly many IAs which evaluate only one policy proposal without the consideration of alternatives (Table 5). While in most cases both cost and benefit figures are discussed, still cost orientation appears to be stronger in most countries. However, it must be borne in mind that these two indicators do not capture whether a cost or benefit category was quantified. Taken together, these three indicators of particular interest to the typology, differentiate European IAs quite a bit.

**TABLE 5. PROPORTION OF IAS EVALUATING ALTERNATIVE POLICY OPTIONS, CALCULATING AT LEAST ON COST OR BENEFIT FIGURE BY COUNTRY, 2006-2012 (WEIGHTED, UP-SCALED)**

| Country/indicator | Evaluation of alternative policy options | Discussing at least one cost item | Discussing at least one benefit item |
|---|---|---|---|
| Czech Republic | 0.60 | 0.69 | 0.72 |
| Denmark | 0.00 | 0.94 | 0.97 |
| Estonia | 0.06 | 0.29 | 0.51 |
| EU Commission | 0.96 | 1.00 | 1.00 |
| France | 0.56 | 0.74 | 0.73 |
| Germany | 0.14 | 0.63 | 0.15 |
| Greece | 0.17 | 0.39 | 0.85 |
| Hungary | 0.01 | 1.00 | 1.00 |
| Ireland | 0.83 | 0.47 | 0.62 |
| Italy | 0.11 | 0.57 | 0.04 |
| Lithuania | 0.51 | 0.88 | 0.96 |
| Netherlands | 0.81 | 0.84 | 0.75 |
| Norway | 0.52 | 0.90 | 0.04 |
| Poland | 0.02 | 1.00 | 1.00 |
| Romania | 0.00 | 0.14 | 0.41 |
| Serbia | 0.08 | 0.65 | 0.95 |
| Slovakia | 0.00 | 0.79 | 0.60 |
| Slovenia | 0.00 | 0.28 | 0.21 |
| Spain | 0.19 | 0.53 | 0.26 |
| Sweden | 0.45 | 0.88 | 0.24 |
| UK | 0.93 | 0.91 | 0.84 |
| Total | 0.35 | 0.76 | 0.69 |

*Source: Gutenberg project database*

### *3.3.3. Consultation*

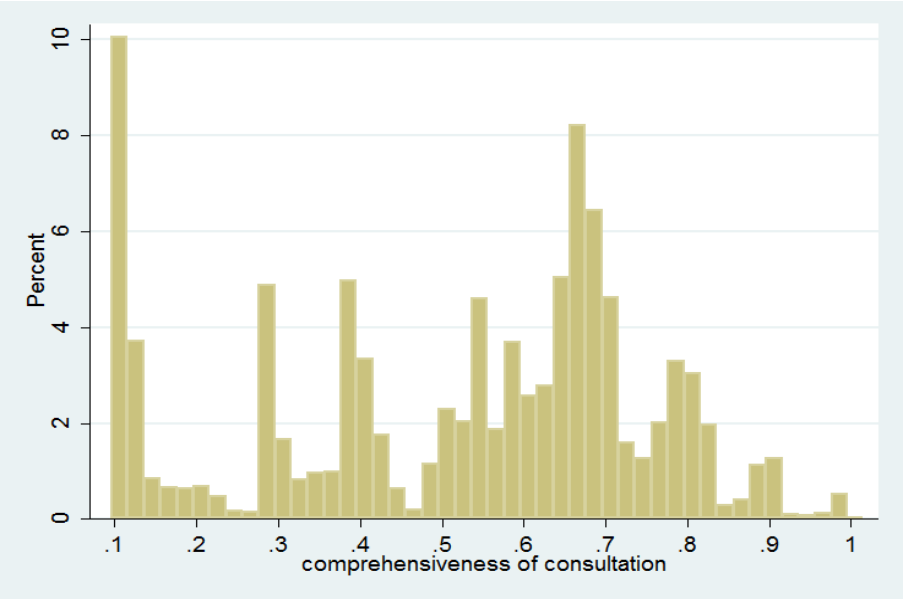
We created a composite indicator capturing *the extensiveness of consultation as part of the RIA process* running between 0 and 1, where 0 is no consultation reported in the IA and 1 means maximum possible extent of consultation. We calculated the simple arithmetic average of the below 10 indicators each running between 0 and 1:

> *Extensiveness of consultation = (any mention of consultation + evidence submitted through consultation + opinions submitted through consultation + whether consultation took place after the IA completion or not*[15] *+ comprehensiveness of consultation*[16] *+ openness of consultation*[17] *+ consultation shorter than 60 days + number of public parties consulted + number of societal parties consulted + number of external experts consulted)/13*

The formula is additive as one aspect of the consultation does not depend on the other aspects of the consultation. For example, it is possible to consult parties after the completion of the IA while consulting more or less different types of actors. The downside of our measurement approach is that the composite score can only capture consultation as reported in the IA text. By implication, the IA received a 0 consultation score if the consultation of the legal document or the IA itself took place as part of the legislative process, but not part of the IA process and hence it was not reported in the IA. Qualitative evidence suggests that most countries incorporated their existing consultation procedures into their IA process making this measurement bias of lesser importance.

The resulting composite indicator follows a less characteristic distribution than the previous indices (Figure 7) which is largely due to the particular country composition of our sample (i.e. distributions on the country level are often normally distributed). There are a large number of IAs (more than 30% of IAs) which report about no consultation at all.

**FIGURE 7. DISTRIBUTION OF COMPOSITE CONSULTATION INDEX, IAS WITH CONSULTATION INDEX>0, 2006-2012 (WEIGHTED, UP-SCALED)**




*Source: Gutenberg project database*

[15] Runs between 0 and 2
[16] Runs between 0 and 2
[17] Runs between 0 and 2

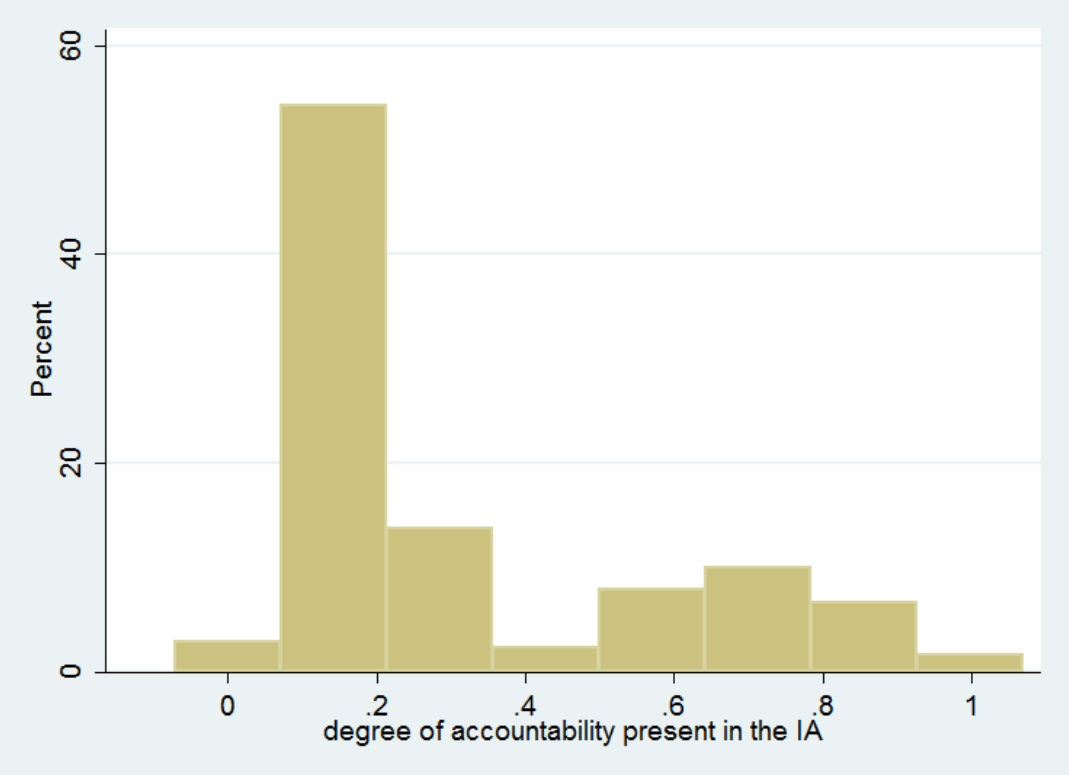
### *3.3.4. Accountability*

In order to capture to what *degree the IA establishes accountability relationships between the law maker/regulator and the regulated* we created a composite indicator ranging between 0 and 1, where 0 represents the complete absence of any accountability relationship and 1 indicates the maximal measured amount of accountability relationships. This indicator was created as a simple average of the below variables using the following formula:

> *Degree of accountability = (overarching goals + operational objectives + implementation plan + indicators of monitoring progress + ex-post evaluation[18]) / 7.*

Once again, this formula is additive indicating the independence of each accountability component from the others. Due to the small number of constitutive variables, this composite indicator can be treated as a continuous variable only to a limited degree (Figure 8). Nevertheless, this simple distribution already reveals that there maybe two dominant approaches to accountability in IAs, one simply concentrating on overarching goals and operational objectives, the other one being more extensive by also including references to almost all the accountability measures we considered.

**FIGURE 8. DISTRIBUTION OF COMPOSITE ACCOUNTABILITY SCORE, 2006-2012 (WEIGHTED, UP-SCALED)**




*Source: Gutenberg project database*

[18] Ranging between 0 and 3 where 3 represents the mandatory ex-post evaluation of the whole regulation/law.

## 4. Towards a typology of IAs across Europe

In order to capture the wide diversity of IAs across the whole of Europe between 2006 Q1 and 2012 Q2 we grouped IAs into characteristic groups or clusters. We adopted two different strategies for doing so:

1) a simple strategy which follows many authors of the literature on IA who focused on methodological complexity as the main variable defining groups (e.g. Hahn et al, 2000; Hahn and Dudley, 2007; Renda, 2006; Cecot, Hahn and Renda , 2007); and
2) a more complex strategy which acknowledges the multi dimensionality of IAs across Europe by setting key dimensions of clustering as a starting point and hypothesizes a typology a priori.

The first group of approaches ('simple clusters') are characterised by predominantly theoretical, deductive logic whereby categories are postulated a priori and then IAs are classified into these categories. Our complex approach, however, combines a deductive and inductive logic recognising that we know too little about actual IA practice for defining strict categories only based on theories. Instead, what seems to be a more fruitful research strategy is to derive the dimension of classification from theory, but then use statistical methods to identify types based on the empirical patterns.

### 4.1. Simple typology: methodological complexity

If we regard IA as a decision making tool primarily taking the form of a cost-benefit analysis the methodological complexity of the analysis plays a key role. Following this or similar logics, there are many widely quoted publications in the literature which use a simple 3- or 4-way categorization based on methodological complexity. For example, Nillson et al (2008) identify three forms of tools usually employed: simple, formal tools or advanced tools used across different areas of regulation.

In order to create a dialogue between prior categorisations and our new data covering the whole of Europe, our categorisation differentiates 6 'types' of IA (Figure 9):

1) total c-b factors quantified, complex calculations,
2) total c-b factors quantified, simple calculations,
3) some c-b factors quantified, complex calculations,
4) some c-b factors quantified, simple calculations,
5) qualitative discussion, and
6) no structured discussion.

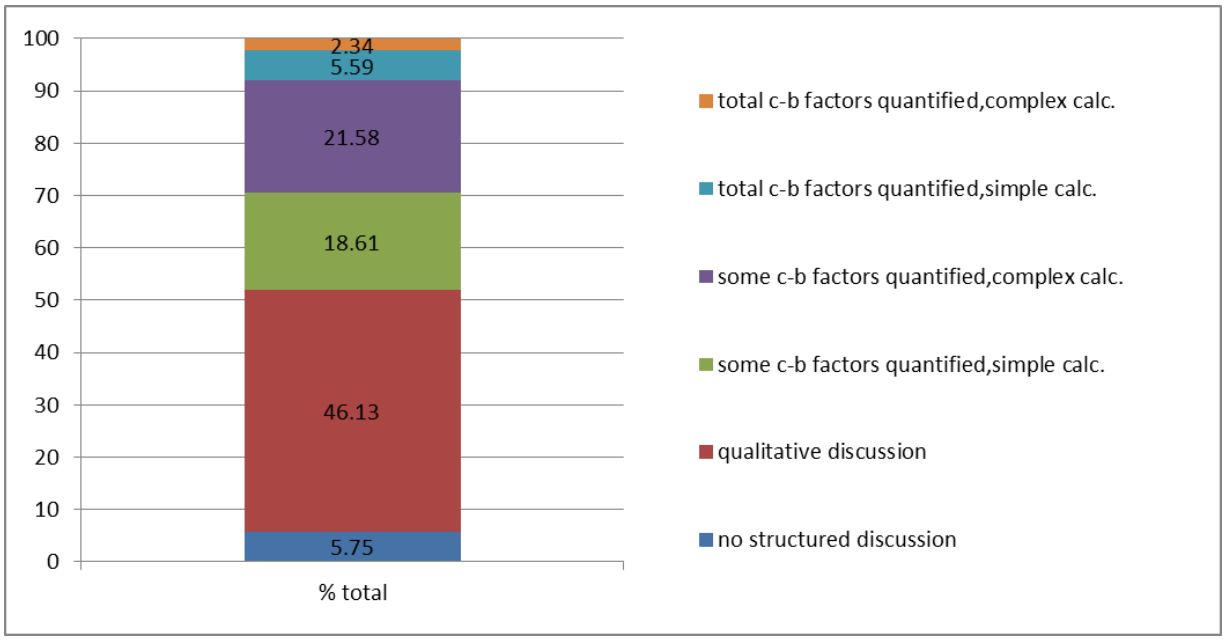
These types are differentiated according to two primary axis: 1) whether cost-benefit factors are quantified[19]; and 2) whether the underlying calculations are simple or complex[20]. In the analysed countries, throughout 2006-2012, almost half of IAs contained only qualitative

[19] Three categories are differentiated: 1) no quantification, 2) some quantification, and 3) complete quantification. Complete quantification means that total or net benefit figures are also calculated in the IA which indicates that the authors were confident in being able to quantify the most relevant costs and benefits to compare them.

[20] Simple calculations refer to elementary operations such as multiplication, addition, subtraction; while complex calculations refer to higher level econometric, statistical modelling, regression, and other advanced techniques.

discussion and slightly more than third of them quantified only some cost/benefit factors without any attempts to provide a total cost-benefit figure. Only slightly less than 8% of all IAs have arrived at a total cost-benefit figure along with some complexity of calculations both of which are necessary to use IA as a cost-benefit type decision making tool.

**FIGURE 9. DISTRIBUTION OF EUROPEAN IAS ACCORDING TO FORMALISATION AND COMPLEXITY OF CALCULATIONS, 2005-2012 (WEIGHTED, UP-SCALED) (%)**




*Source: Gutenberg project database*

### 4.2. Multi-dimensional typology

Recognising the multi-dimensionality and multiple purposes of IAs across Europe we developed a complex typology using statistical techniques which resulted in a genuinely novel contribution to the understanding of IA practices across Europe. The cluster analysis rests on 7 dimensions which derive from the literature (Table 6). These variables capture a great deal of cross-country and inter-temporal variation across IAs, in addition to being essential for understanding the goals of each IA and the role it plays in the evidence-politics interaction. Using these 7 dimensions, we also derived a hypothesized typology (for more details see section 2, Table 1 in particular) which we are expecting to find in the data.

**TABLE 6. SUMMARY OF VARIABLES USED IN CLUSTERING, 2006-2012 (NON-WEIGHTED)**

| Variable | N | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| scope (standardized)* | 2113 | 0.27 | 0.16 | 0 | 1 |
| sophistication | 2113 | 0.20 | 0.15 | 0 | 1 |
| consultation (stand.)* | 2113 | 0.35 | 0.31 | 0 | 1 |
| accountability | 2113 | 0.32 | 0.26 | 0 | 1 |
| alt. policy options | 2113 | 0.35 | 0.48 | 0 | 1 |
| discussing costs | 2113 | 0.76 | 0.43 | 0 | 1 |
| discussing benefits | 2113 | 0.69 | 0.46 | 0 | 1 |

*Source: Gutenberg project database*

*Note: *=variables standardized so that their actual minimum is 0 and maximum is 1.*

In order to identify the hypothesized clusters along the 7 pre-defined dimension we implemented both hierarchical and k-means clustering procedures using stata 12.0 (hierarchical cluster: average linkage, Gower distance; k-means cluster, Gower-distance) (details of the calculations can be found in Annex A2). Both clustering techniques pointed at the same final typology both in a statistical and substantive sense, leading to 6 major clusters and a further other category encompassing a small number of very different IAs (different from each other as well as from the major clusters).

The resulting types partially confirm, partially further refine, and partially refute our hypothesized models (Table 7). Four clusters were identified as expected:

- rudimentary IA,
- rational-instrumental IA: cost effectiveness style,
- rational-instrumental IA: CBA style (shallow), and
- symbiotic model of IA;

while one type could not be identified:

- rational-instrumental IA: CBA style (sophisticated);

and one type has been substantially refined:

- participatory model of IA.

Crucial conclusions follow: 1) while there are some IAs which follow a sophisticated cost-benefit analysis style without considerable consultation and accountability elements, these IAs are relatively rare hence could not be considered as a marked type of IAs in Europe. This may indicate the few instances in which we have a strong technocratic model of interaction of politics and science (which corresponds to rational-instrumental IA: CBA style (sophisticated). The participatory model of IA typically goes hand in hand with accountability measures and can be further divided into two sub-types based on the presence or absence of alternative policy options. In these two cases, the consideration of alternative policy options goes hand in hand with a somewhat more advanced analytical approach.

These characteristic IA types are far from being evenly distributed across countries (Source: *Gutenberg project database*

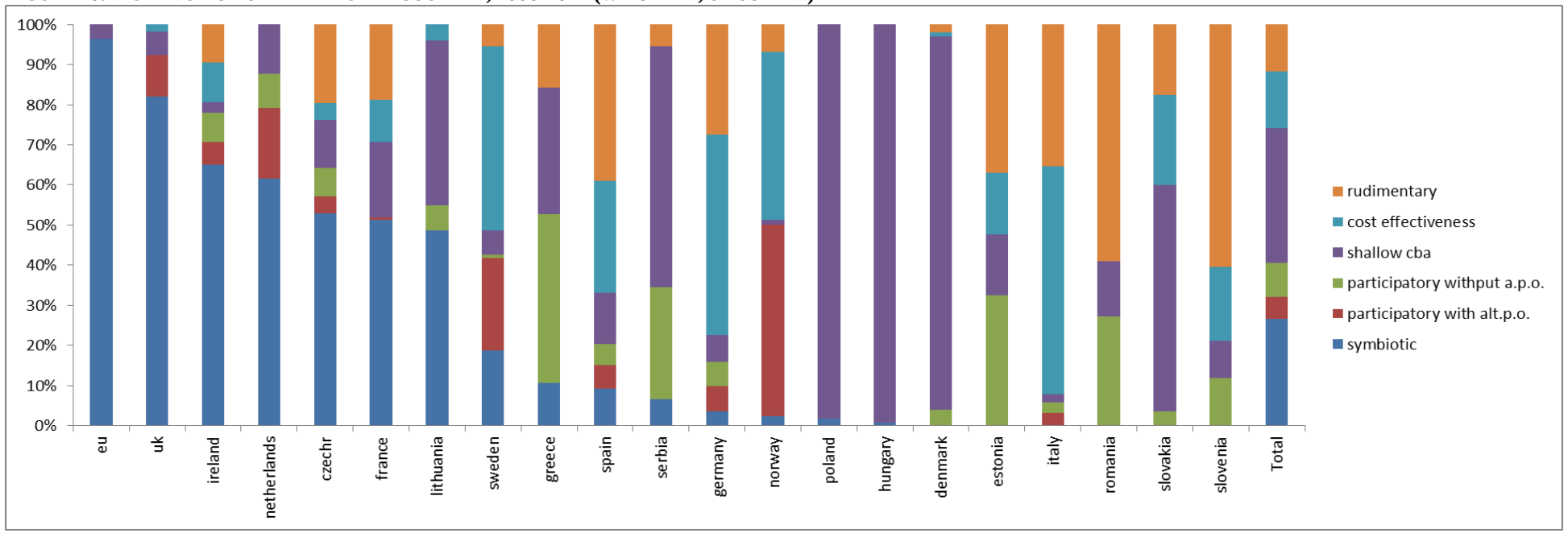
Figure 10).

**TABLE 7. IDENTIFIED IA CLUSTERS AND THEIR KEY CHARACTERISTICS, 2006-0212**

| | scope | sophistic | consultation | account | alt. policy options | cost figures | benefit figures | weighted | | non-weighted | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Freq. | % | Freq. | % |
| **other IAs** | 0.21 | 0.08 | 0.44 | 0.39 | 0 | 0 | 0.42 | 6,613 | 19.47 | 336 | 15.9 |
| **rudimentary IA** | 0.16 | 0.22 | 0.43 | 0.28 | 1 | 0 | 1 | 1,099 | 3.24 | 33 | 1.56 |
| **rat.-instr. IA: cost effectiveness style** | 0.25 | 0.11 | 0.35 | 0.45 | 0 | 1 | 0 | 4,570 | 13.46 | 230 | 10.88 |
| **rat.-instr. IA:CBA style (shallow)** | 0.31 | 0.17 | 0.32 | 0.21 | 0 | 1 | 1 | 10,819 | 31.86 | 567 | 26.83 |
| **participatory IA (without alt. p. o.)** | 0.20 | 0.21 | 0.44 | 0.42 | 1 | 0 | 0 | 514 | 1.51 | 50 | 2.37 |
| **participatory IA (with alt. p. o.)** | 0.21 | 0.24 | 0.55 | 0.59 | 1 | 1 | 0 | 1,744 | 5.14 | 91 | 4.31 |
| **symbiotic model** | 0.32 | 0.37 | 0.25 | 0.28 | 1 | 1 | 1 | 8,599 | 25.32 | 806 | 38.14 |

*Source: Gutenberg project database*

**FIGURE 10. DISTRIBUTION OF IA TYPES PER COUNTRY, 2006-2012 (WEIGHTED, UP-SCALED)**




*Source: Gutenberg project database*

## 5. Conclusions and further work

Taxonomical exercises may fulfil various objectives. A classificatory taxonomy, as this undertaken in this study, aims to make complexity more manageable by offering compound concepts (types) to use as descriptive categories. These compound concepts emanate from a pre-existing theory (hypothesis) originally derived from observations and/or deduced from a more general theoretical proposition. The hypothesis of path dependency explored in this study contends that the great variety of IA practices in Europe and their different functions in their respective political and legal systems, illustrate deep differences in the paths that made this dependency occur, notwithstanding in some cases the common origins of these IA processes. We start from the assumption that the IA tool constitutes a technology of "governmentality" and, as such, its path dependency should relate to the complex interaction (boundary arrangements) between political power and expertise/knowledge. The partly antagonistic, partly synergetic relation between expertise and politics forms the theoretical core of our classificatory typology. We consider that the following three dimensions of the IA tool reflect more accurately the complexity of the boundary arrangements prevailing in each jurisdiction: the analytical complexity of the IAs, the participation of non-experts in their preparation and the presence of accountability mechanisms. On the basis of these three dimensions we construct six ideal models of IA practices, thus enabling the researcher to assign specific cases to types defined across different jurisdictions.

An effort of explanatory taxonomy would have aimed to unravel the deep-rooted characteristics of the different types and their underlying theoretical assumptions, thus allowing for the explanation of causal relations between the different variables and the making of predictions, for example on how the evolution of boundary arrangements in a specific jurisdiction would influence, for instance, the sophistication of the IA analysis performed. This is not the aim pursued by the present study, which has a much less ambitious remit: to build an operational classificatory typology of IA, allowing for the comparison of IA practices across jurisdictions. Yet, this is an essential step if one is to engage in the effort of building an explanatory typology linking various boundary arrangements and the IA practices that emanate from them.

Further work envisages taking into consideration the wider institutional environment of IAs by looking at each jurisdiction's regulatory institutions more broadly and institutions coordinating IA production and use more specifically. Of particular importance will be how certain institutions contribute to certain types of IAs and how regulatory inputs and outputs contribute to the final quality of regulation.

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