UNDERSTANDING POLICY FORMULATION: A TOOLS PERSPECTIVE [1]

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ABSTRACT

Policy formulation is a key element of policy-making, but in spite of increasing interest it is still

greatly under-explored. This paper develops a research agenda for policy formulation by

studying its associated *tools,* such as cost-benefit analysis, scenarios and computerized

models. It explores how far questions around who formulates policy, where and how, can be

clarified through using the lens of policy formulation tools. It then offers new definitions of

policy formulation, policy formulation tools, and a preliminary typology linking these. It then

takes stock of the diverse literatures around policy formulation and tools, suggesting a need

for further definitional-organisational work in framing future research. To this end, it proposes

a four-fold framing, examining policy formulation tool actors, capacities, venues and effects, as

a fruitful way to advance the sub-field of policy analysis.

KEY WORDS: Public policy; Policy formulation; Policy tools; Policy analysis; Policy

science

POLICY FORMULATION: DIFFERENT PERSPECTIVES

The literature on policy formulation has expanded significantly in recent decades (Howlett [2011]; Thomas [2001]; Wolman [1981]; Wu et al. [2010]). But if policy formulation is 'a process of identifying and addressing possible solutions to policy problems or, to put it another way, exploring the various options or alternatives available for addressing a problem' (Howlett [2011: 30]), we know surprisingly little about it. Often complex, fluid and less accessible to public scrutiny than other policy-making 'stages' (e.g. Wu et al. [2010]), policy formulation is sometimes assumed to occur in a space dominated by those with specialist knowledge, preferred access to decision-makers or jobs in a particular government institution (Howlett and Geist [2012: 19]). This suggests it is inherently difficult to research.

This paper explores the scope for shedding new light on policy formulation by studying its associated *tools*. It is generally accepted that policy tools and instruments exist at all stages of the policy process (Howlett [2011: 22]), from formulation to evaluation (Dunn [2004]). But the policy instruments literature (e.g. Hood [1983]; Hood and Margetts [2007]; Salamon [2002]) is focused on *implementation* instruments, such as regulations, subsidies and taxes; there is relatively little in this literature on the tools which are commonly used in policy *formulation*, such as cost-benefit analysis, scenarios or forecasting models. Conversely, within a range of quite separate literatures, there is much discussion of 'analytical tools' (Radin [2013: viii]) or 'policy-analytic methods' (Dunn [2004: 6]). But while much is written there to describe, promote and inform the use of specific tools, there is relatively little on how,

why, when, by whom, in what settings, and with what effects the various tools are used in practice.

How far can questions around who formulates policy, where policies are formulated and how, the potential and ability of actors to formulate policy, policy design (Howlett et al. [2014]), and the impact of different forms of analysis on policy formulation be illuminated by examining policy formulation tools? We might expect that tools used, and their effects, involve questions of political power and the distribution of social values. There is much literature on how implementation instruments impart a specific 'spin' (Salamon [2002]) on policy dynamics. But do (and why or how do) tools used in policy *formulation* impart analogous 'spins'?

This might seem an odd question, because the tools were originally conceived as a means to 'politically deodorize' (Heclo [1972: 101]) policy formulation. Dahl and Lindblom (1953: 16–18) were never so convinced. They argued that rather than debating politics in terms of grand ideologies such as capitalism and socialism, policy actors normally communicate in the more technical language of tools. So do we find tools performing a similar role in policy formulation, one that is different to well-known organising devices such as formal rules, administrative systems and constitutions? Additionally, what might we discover about the tools themselves? Having invested heavily in tools in the past, tool promoters and policy practitioners are eager to understand how – and indeed if – they perform in practice, for example through exploring how policy formulation tools interact with other tools and instruments (Howlett [2011: 27]). At present there are no maxims (Howlett et al.

[2014]) of the type found in the policy instruments literature (e.g. escalate slowly up the pyramid of intervention) or meta-tools to inform the design of tool packages.

This paper develops a new research agenda. In attempting to (re-)establish a tools perspective on the study of policy formulation within the mainstream of public policy research, we immediately confront a problem – the relative absence, first of common definitions, and second of typologies. The paper proposes revised and new definitions of policy formulation, policy formulation tools, and a preliminary typology linking these. It then takes stock of current literatures around policy formulation and tools. These are diverse and have rather different aims, suggesting a need for further definitional-organisational work in framing future research. To this end, we propose a four-fold framing (encompassing actors, capacities, venues and effects), as one way to advance the field.

POLICY FORMULATION: A TOOLS PERSPECTIVE

Policy Formulation

One of the most common ways to comprehend the process of policy formulation is to break it down into constituent steps or tasks (e.g. Thomas [2001]; Wolman [1981]; Wu et al. [2010]). The first might be termed *problem characterization*, noting that problems may be contested, subjective or socially constructed and may change through time in response to societal values (Thomas [2001: 216–217]; Wolman [1981: 437]). Second, different dimensions of the problem are then *evaluated* to determine their causes and extent. Political conflict occurs as different actors seek to apportion blame, reduce their perceived complicity or shape subsequent policy responses in line

with their interests. Third, the '*[s]pecification of objectives*' (Wolman [1981: 438]) step can also involve disagreements, but once objectives are established, as a fourth step, specific policy options can be *assessed* and recommendations made on policy design(s) (Howlett [2011: 31]). Prior to the adoption of the final policy, it undergoes a fifth step – *design*. Having determined objectives, various means are available for selection from the tool box, including regulations; market-based instruments; voluntary approaches and informational measures (Jordan et al. [2013]), and this step may similarly become deeply contested between different actors. One means of dissipating distributional conflict throughout the entire formulation process is to engage in what Thomas (2001: 218) terms consensus building or 'consolidation', whereby agreement is sought between the various policy formulators and their client groupings.

Policy Formulation Tools

We propose a working definition which draws upon Jenkins-Smith (1990: 11) by defining a policy formulation tool as:

a technique, scheme, device or operation (including – but not limited to – those developed in the fields of economics, mathematics, statistics, computing, operations research and systems dynamics), which can be used to collect, condense and make sense of different kinds of policy relevant knowledge to perform some or all of the various inter-linked tasks of policy formulation.

This is aimed to be sufficiently broad to capture as many relevant tools as possible, including, crucially, those developed within both positivist and post-positivist traditions. The latter are inspired by extensive critiques of the assumptions of de-politicised technocratic analysis (e.g. Mintrom and Williams [2013: 9]; Self [1985]; Wildavsky [1987: xxvi]) and a concern to address subtle influences that act to condition the content of policy, such as material forces, discourses, and ideologies (Fischer [1995]; Radin [2013: 162]). But what *are* the main tools of policy formulation and which of the interlinked formulation tasks mentioned in this definition do they seek to address? The range of policy formulation tools is wide and 'eclectic' (Radin [2013: 159]), and some kind of workable taxonomy is a crucial step.

Tools can be typologized in a number of different ways, for example: by the resources or capacities they require; by the activity they mainly support (e.g. agenda setting, options appraisal); by the task they perform; by their technical complexity; and by their spatial resolution (see Nilsson et al. [2008]; Radin [2013]). We propose that the five policy formulation tasks outlined above may be used to structure a typology of policy formulation tools, based on what might be termed the 'textbook' characteristics of what they may be capable of. This will help move beyond drawing on 'idealized' policy appraisal steps or the internal specifications of particular tools, both of which assume that the tools are centre-stage. We also draw on Dunn's (2004: 6–7) schema of three types of tasks associated with policy formulation tools (problem structuring, forecasting and recommending), and de Ridder et al.'s (2007) typology of assessment tools (see Table).

A typology of policy formulation tools, linking tools to their potential use in different policy formulation tasks. Source: Turnpenny et al (2015), based on Dunn (2004); de Ridder et al. (2007).

Policy Formulation Task	Examples of the policy-relevant information tools may provide	Examples of tools
Problem Characterization	baseline information on policy problems	- environmental, social and economic indicators; - survey data; - statistical reports; - stakeholder evidence
	evidence on problem causation and scale	- geographical information systems; - maps; - expert evidence
	articulation of values through participation	- brainstorming; - boundary analysis; - argumentation mapping
Problem Evaluation	See 'Problem Characterization'	See 'Problem Characterization'

Specification of Objectives	visions on different objectives, futures and pathways	• scenario analysis
Options Assessment	comparison of potential impacts of different options	• cost–benefit and cost-effectiveness analysis; • cost–utility analysis; • multi-criteria analysis; • risk–benefit analysis; • risk assessment
	assessment of past and future trends	extrapolative or forecasting tools, including: • time-series analyses or statistical methods; • informed judgements (e.g. Delphi technique); • computer simulations; • economic forecasting; • multi-agent simulation
Policy Design	evaluation of potential effectiveness of different instruments or policy mixes	See 'Options Assessment'

Following Thomas (2001: 218), the consensus building or 'consolidation' that can occur throughout the formulation process may draw on many of the same sorts of tools presented under 'problem characterization', such as stakeholder meetings, the elicitation of public perceptions and/or expert opinions.

TOWARDS A TOOLS PERSPECTIVE ON POLICY FORMULATION

What are the main areas of literature relevant to a tools perspective on policy formulation, and what are the gaps therein? The first literature describes the internal characteristics and functions of each tool, and/or offers tool kits which seek to assist policy formulators in selecting 'the right tool for the job'. On closer inspection, there are in fact many sub-literatures; texts like Dunn (2004) and Rossi et al. (2004) introduce some of the main ones. Despite being fragmented into the main tool subtypes, and rather rationalistic in its framing, this literature nonetheless remains crucial because it outlines the intrinsic features of each tool. However, this literature does not have a great deal to say about where, how, why and by whom (i.e. by which actors and in which venues) tools are used, and what effects they (do not) produce. Yet this transformation in the tools of policy formulation being used seems to have escaped the attention of most policy scholars.

The second literature adopts a more critical perspective (Self [1985]; Wildavsky [1987]), offering words of caution about expecting too much from tools. Many policy analysts responded to these discomforting analyses by offering ever more strident

recommendations on how policy formulation *should* be conducted (Dunn [2004]; Vining and Weimer [2010]); notably fewer have studied how it is *actually* practiced (Colebatch and Radin [2006]). Questions about precisely where, how, why and by whom tools are used remain.

A third literature is more strongly focused on the main venues and processes of policy formulation rather than the tools. In attempting to better understand and explain how policy is made and what influences it, this literature encompasses studies of crucial factors such as the utilization of knowledge in policymaking (Radaelli [1995]), and the role of power and institutions (for an excellent summary, see Sabatier [2007]). Other aspects focus on the political demand for evidence-based policymaking (see e.g. Shine and Bartley [2011]). Much of this literature adopts a macro- or a meso-level focus and draws on or develops theory. To the extent that it considers policy formulation tools at all, there is a tendency (although by no means universal) to assume that tools are epiphenomenal and hence not warranting detailed analysis. But we argue that without more detailed research, these remain no more than untested assumptions.

TOWARDS A NEW RESEARCH AGENDA

These gaps, we argue, suggest four particular themes around which new research, new research designs, questions and puzzles might be structured. We outline these in general terms in this section, along with some of the challenges.

Actors

A tools perspective may help address the puzzle of precisely who formulates policy more generally. The growth in policy formulation tools is a tangible manifestation of the broadening of policy formulation from domination by specialists, to a multitude of actors within a more open and plural policy advisory system. Instead of 'speaking truth to power', as Wildavsky (1987) would have it, putting policy formulation tools alongside the actors that utilize them may provide a sharper picture of how modern policy analysts seek to 'share the truth with many actors of influence' (Craft and Howlett [2012: 85]). Investigation might be framed around three main types of actor who appear to have actively promoted and/or developed policy formulation tools (Howlett [2011: 31–33]). *Decision-makers* at state and international levels, have been assiduous promoters of policy formulation tools, almost since the dawn of policy analysis (Dunn [2004: 40]; Mintrom and Williams [2013: 5]). Under the category of *knowledge producers and/or providers*, a myriad of actors, in state and non-state settings, who variously invent tools, refine and update them and provide the knowledge that is fed into policy formulation activities (e.g. statisticians, policy specialists and special advisers). *Knowledge (or policy) brokers* are supposed to adopt a more or less neutral role between science and policy.

New research might ask which decision-makers are involved in shaping policy formulation generally in particular countries, and how (e.g. the role of finance ministries in promoting particular tools through rules and best practice guides)? Another approach might focus on particular policy formulation cases and examine the interplay between different types of actors as revealed in the role of tools (e.g. relations between different ministries, consultants, academics and industry actors; the

influence of international organisations on national government actors. A focus on

particular tools in particular contexts - who created them (industry, academics,

consultants) and why – could help reveal the social, political and ideological values

embodied therein. A related approach might ask: how do motives for using particular

tools differ between different actors?   If we consider policy formulation tools as

institutions in themselves that over time generate enduring policy feedback effects

(e.g. Lascoumes and Le Galés [2007]; Voss and Simons [2014]), technical effectiveness

considerations may not be the dominant criterion in tool choice; sometimes

instruments determine preferences. For example, it would be revealing to examine

the influence of 'tool constituencies' (Voss and Simons [2014]) which have a stake in

the development of a particular policy formulation approach, having invested time and

resources in furthering tool use over long periods. In all cases, research could examine

a particular tool, a particular policy formulation case, or a particular country, or take a

more explicitly comparative approach, for example comparing who develops and

promotes the same type of tool across different countries.

Venues

Policy formulation – like policymaking more generally – occurs in particular venues, or

'institutional locations where authoritative decisions are made concerning a given issue'

(Baumgartner and Jones [1993: 32]). More specifically, Timmermans and Scholten (2006:

1105) suggest that the venues 'are locations where policies originate, obtain support, and

are adopted as binding decisions'. Policy formulation venues can in principle exist at

different levels of governance (nation state versus supra/sub-national); and within or

outside the structures of the state. Venues can include 'formal political arenas such as legislatures, executives and the judiciary, but also the media and the stock market' and so-called 'scientific venues such as research institutes, think-tanks and expert committees' (Timmermans and Scholten [2006: 1105]).

A tools perspective could reveal much about the venues of policy formulation and the politics of how they operate. But relatively little is known about how the various tools and venues intersect, both in theory and, as importantly, in practice. Future research might first examine the purposes and the form of tool use in policy formulation venues. What different types of tools are used, and how, in different countries, venues or policy contexts? Such mapping of use patterns can open up many subsequent questions. For example, how are different tools used in relation to different policy formulation tasks? Are tools deployed mainly to help implement an existing policy regime or to stretch the existing design space? What are the stated aims of different types of actors (decision-makers, knowledge producers, knowledge brokers) for engaging with particular policy formulation venues by using certain tools? And more broadly, how does tool use vary between the 'textbook' specification and the use in practice – and how is 'use' actually defined? All these questions can challenge received wisdom about policy formulation – for example testing the links between tools and policy formulation tasks in the Table above – but more importantly yield extensive insights into policy priorities, the structuring and design of venues (and the potential – or not - for changes in design), and wider political goals.

A second broad area for future research might ask: what are the factors that shape selection and deployment of particular tools? These factors might be divided

into the characteristics of the tools themselves (whether they open up or close down debate; whether they match the steps in formulation – see above) and various external factors (ideology; electoral politics; policy type; actor constellation; situational/contextual conditions such as prevailing institutions; and international factors like supra-national agreements or best practice) (Bähr [2010: 3]; Peters [2002]). Research could select different tool-venue relationships, either starting with a particular tool and looking across venues, or examining different combination of tools in one venue. Both would explore the roles of different explanatory factors from different theoretical standpoints, and test these systematically. This may reveal reasons why certain tools are 'favoured' in particular contexts, and also reveal in more detail the relative influence of different factors on tool selection and deployment. This in turn could reveal much about how policy formulation actually happens, and the agency of actors to shape both the venues and the process of formulation.

Capacities

The term 'policy capacity' has been in good currency in public administration and institutional analysis for many decades (for a summary, see Weaver and Rockman [1993]), but is now enjoying renewed interest in the context of the re-discovery of the state as a powerful agent of governing and a site of policy formulation (Howlett et al. [2014: 4]; Matthews [2012]). Policy capacity is one of a number of sub-dimensions of state capacity, which together include the ability to create and maintain social order and exercise democratic authority (Matthews [2012]). Broadly, it is the ability that governments have to 'marshal the necessary resources to make intelligent collective choices about and set

strategic directions for the allocation of scarce resources to public ends' (Painter and Pierre [2005: 2]). It is known to vary between policy systems and even between governance levels in the same policy system. Does a tools perspective provide detailed insights into how availability of capacity can affect, and be affected by, availability and use of certain policy formulation tools?

First, policy instruments and tools have long been assumed to have an important influence on policy capacity. In principle the presence and availability of policy formulation tools helps to expand policy capacities across all types of policy formulation activity - analysing problems, recommending responses, clarifying value choices and underlying assumptions, democratizing and legitimizing (Mayer et al. [2004]). The fact that tools are unevenly used over time, for example, could explain why the policy capacity to get things done also varies across space and time (Bähr [2010]). But we should not automatically assume that the relationship is immediate or unidirectional. Mapping the use of different tools in different contexts can reveal exactly *how* these build policy formulation capacity. For example, in theory, scenarios and foresight exercises provide policymakers with the capacity to address the problem characterization and problem evaluation tasks, particularly in situations of high scientific uncertainty. By contrast, tools such as CBA and multi-criteria analysis (MCA) aim to provide a means to complete the policy assessment of option and policy design stages of the policy formulation process. To what extent do these expectations appear in practice? It would be interesting to examine how tools-capacity relationships appear in developing countries, and in complex, multi-level governance situations such as the EU, where capacities are inchoate and/or in a particularly strong state of flux (Jordan and Schout [2006]).

Second, the counterpart question: what policy capacities are required by policymakers to employ certain policy formulation tools? For example, relatively heavily procedural tools such as MCA and CBA arguably require specialist staff and specific oversight systems. When these are weak or absent, the use made of tools may tend towards the symbolic. Thus, in particular countries, policy cases, or venues, what *capacities* do actors have – or need – to employ specific policy formulation tools? A third line of research might explore the factors enabling or constraining the availability of capacities associated with particular policy formulation tasks. These could be revealed by, for example, comparing availability of capacities across different venues (e.g. non-governmental and governmental) in a particular country, or comparing a similar venue across countries.

Effects

As argued above, there is relatively little literature on whether, why or how policy formulation tools might impart 'spins' on policy dynamics. What epistemic and political effects do tools have on policy formulation, and, conversely, what can we learn about formulation through examining the effects of the tools? We suggest examining first the distinction between 'substantive' effects (the extent to which tools generate change or work to ensure continuity in a given policy field) and 'process-based' effects (effects arising from the use of particular tools, such as channelling political attention, opening up new opportunities for outsiders to exert influence and uncovering political power relationships). Case study research could ask: what are the substantive effects of particular tools, including the degree of learning around new

means to achieve policy goals, restructuring actor preferences, and effects on understanding of problems? Such case studies could also explore the procedural effects of particular tools, or types of tool, in specific policy fields.

Exploring a second distinction, between *intended* and *unintended* effects, could reveal the multiple rationalities that motivate policy formulation actors to use particular tools, and the meanings given to tools by the actors that use / are affected by them. For particular cases, what are different actors' expectations both before and after tool deployment, why were these expectations formed, and how they might have changed? Research could trace the use of a single tool across different policy venues, and examine opportunities for both (conceptual) learning and evidence of more political uses of knowledge. How far, for example, can the adoption of tools that 'open up' debate and challenge the status quo be explained using theories of political control (e.g. Radaelli and de Francesco [2010]), and the role of softer channels of influence, such as guidelines, best practice examples and academic networks (Benson and Jordan [2011])?

CONCLUDING REMARKS

This article has shown that those adopting a tools perspective have already shed new light on the processes and politics of policy formulation that have either lain in shadow or not attracted scholarly attention in the past. It has also shown that while research in this area is in its infancy, there are many established areas of literature which can frame future investigation, from a wide variety of epistemological, methodological, geographical, and theoretical positions. In our view, it would be unwise to develop a

dedicated theory of policy formulation tools, or specify particular methods, as this would perpetuate the isolation of the sub-field. A more productive strategy, as scholars of policy instruments recognize (Jordan et al. [2013]), could be to build upon and enrich more general policy theoretical frameworks. Likewise, comparative studies across less-well-studied countries and venues will reveal a much richer tapestry. Our definitions and typology above start this process, and we invite comments and critique – and further development - of these. The aim is to move beyond single cases towards more conditional explanations of tool choices, actors, venues, capacities and uses. Ultimately, in proposing a new direction for research on policy formulation, we hope to help recombine areas of policy analysis and practice which have diverged significantly in the past few decades.

REFERENCES

Bähr, H. (2010) *The Politics of Means and Ends*, Farnham: Ashgate.

Baumgartner, F.R. and Jones, B.D. (1993) *Agendas and Instability in American Politics*, Chicago, London: The University of Chicago Press.

Benson, D. and Jordan, A.J. (2011) 'What have we learned from policy transfer research? Dolowitz and Marsh revisited', *Political Studies Review* 9(3): 366–78.

Colebatch, H.K. and Radin, B.A. (2006), 'Mapping the work of policy', in H.K. Colebatch (ed.), *The Work of Policy*, New York: Rowman and Littlefield, pp. 217–26.

Craft, J. and Howlett, M. (2012) 'Policy formulation, governance shifts and policy influence', *Journal of Public Policy* 32(2): 79–98.

Dahl, R. and Lindblom, C. (1953) *Politics, Economics and Welfare*, New York: Harpers.

de Ridder, W., Turnpenny, J., Nilsson, M. and von Raggamby, A. (2007) 'A framework for tool selection and use in integrated assessment for sustainable development', *Journal of Environmental Assessment Policy and Management* 9: 423–41.

Dunn, W. (2004) *Public Policy Analysis: An Introduction*, Upper Saddle River, New Jersey: Pearson/Prentice Hall.

Fischer, F. (1995) *Evaluating Public Policy*, Chicago: Nelson Hall.

Heclo, H. (1972) 'Review Article: Policy Analysis', *British Journal of Political Science* 2(1): 83-108.

Hood, C. (1983) *The Tools of Government*, London: Macmillan.

Hood, C. and Margetts, H. (2007) *The Tools of Government in the Digital Age*, Basingstoke: Palgrave.

Howlett, M. (2011) *Designing Public Policies: Principles and instruments*, Abingdon: Routledge.

Howlett, M. and Geist, S. (2012) 'The policy making process', in E. Araral, S. Fritzen, M. Howlett, M. Ramesh, and X. Wu (eds.), *Routledge Handbook of Public Policy*, London: Routledge, pp. 17–28.

Howlett, M., Mukherjee, I. and Woo, J.J. (2014) 'From tools to toolkits in policy design studies: the new design orientation towards policy formulation research', *Policy and Politics*, http://dx.doi.org/10.1332/147084414X13992869118596

Jenkins-Smith, H. (1990) *Democratic Politics and Policy Analysis*, Pacific Grove, CA: Brooks/Cole.

Jordan, A. and Schout, A. (2006) *The Coordination of the European Union*, Oxford: Oxford University Press.

Jordan, A., Wurzel, R. and Zito, A. (2013) 'Still the century of 'new' environmental policy instruments?', *Environmental Politics* 22(1): 155–73.

Lascoumes, P. and Le Galés, P. (2007) 'Introduction: understanding public policy through its instruments', *Governance* 20(1): 1–22.

Matthews, F. (2012) 'Governance and state capacity', in D. Levi-Faur (ed.), *The Oxford Handbook of Governance*, Oxford: Oxford University Press, pp. 281–93.

Mayer, I.S., van Daalen, C.E. and Bots, P.W.G. (2004) 'Perspectives on policy analyses', *International Journal of Policy and Management* 4(2): 169–91.

Mintrom, M. and Williams, C. (2013) 'Public policy debate and the rise of policy analysis', in E. Araral, S. Fritzen, M. Howlett, M. Ramesh, and X. Wu (eds), *Routledge Handbook of Public Policy*, London: Routledge, pp. 3–16.

Nilsson, M., Jordan, A., Turnpenny, J., Hertin, J., Nykvist, B. and Russel, D. (2008) 'The use and non-use of policy appraisal tools in public policy making', *Policy Sciences* 41(4): 335–55.

Painter, M. and Pierre, J. (2005) 'Unpacking policy capacity: issues and themes', in M. Painter and J. Pierre (eds), *Challenges to State Policy Capacity*, Basingstoke: Palgrave, pp. 1–18.

Peters, B.G. (2002) 'The politics of choice', in L. Salamon (ed.), *Tools of Government*, Oxford: Oxford University Press, pp. 552–64.

Radaelli, C. (1995) 'The role of knowledge in the policy process', *Journal of European Public Policy* 2(2): 159–83.

Radaelli, C. and de Francesco, F. (2010) 'Regulatory impact assessment', in R. Baldwin, M. Cave and M. Lodge (eds), *Oxford Handbook of Regulation*, Oxford: OUP, pp. 279–301

Radin, B. (2013) *Beyond Machiavelli*, Washington, DC: Georgetown University Press.

Rossi, P.H., Lipsey, M.W., and Freeman, H. (2004) *Evaluation*, London: Sage.

Sabatier, P. (ed.) (2007) *Theories of the Policy Process*, 2nd edition, Boulder: Westview Press.

Salamon, L. (2002) 'The new governance and the tools of public action: an introduction', in L. Salamon (ed.), *Tools of Government*, Oxford: Oxford University Press, pp. 1–47.

Self, P. (1985) *Econocrats and the Policy Process*, Basingstoke: Macmillan.

Shine, K.T. and Bartley, B. (2011), 'Whose evidence base? The dynamic effects of ownership, receptivity and values on collaborative evidence-informed policy making', *Evidence and Policy* 7(4): 511–30.

Thomas, H.G. (2001) 'Towards a new higher education law in Lithuania: reflections on the process of policy formulation', *Higher Education Policy* 14(3): 213–23.

Timmermans, A. and Scholten, P. (2006) 'The political flow of wisdom: science institutions as policy venues in the Netherlands', *Journal of European Public Policy* 13(7): 1104–18.

Turnpenny, J.R., A.J. Jordan, D. Benson and T.Rayner (2015), 'The tools of policy formulation: an introduction', in A.J. Jordan and J.R. Turnpenny [eds], *The Tools of Policy Formulation: Actors, Capacities, Venues and Effects*, Cheltenham: Edward Elgar . Chapter 1, pp. 3 – 29

Vining, A.R. and Weimer, D.L. (2010) 'Foundations of public administration: policy analysis', *Public Administration Review, Foundations of Public Administration Series*, available at http://www.aspanet.org/public/ASPADocs/PAR/FPA/FPA-Policy-Article.pdf (accessed 24 February 2015).

Voss, J-P and Simons, A. (2014) 'Instrument constituencies and the supply side of policy innovation', *Environmental Politics* 23(5): 735–54.

Weaver, R.K. and Rockman, B. (1993) *Do Institutions Matter?,* Washington: The Brooking Institute.

Wildavsky, A. (1987) *Speaking Truth to Power: The Art and Craft of Policy Analysis*, 2nd edition, New Brunswick: Transaction Books

Wolman, H. (1981) 'The determinants of program success and failure', *Journal of Public Policy* 1(4): 433–64.

Wu, X., Ramesh, M., Howlett, M. and Fritzen, S.A. (2010) *The Public Policy Primer: Managing the Policy Process*, London: Routledge.