

the previous methods, improved public relations are seen as the main objective of public participation.

Figure 2 shows the intersection of the types and the research matrix (cf. fig. 2). Altogether 7 case studies can be allocated to type A, four case studies to type B and 2 case studies belong to type C.

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Reviewing empirical explanations of policy change: Options for its analysis and future fields of research

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1. THEORETICAL AND METHODOLOGICAL CHOICES AS PREREQUISITE FOR ANALYSING POLICY CHANGE

The analysis of policy change, defined as a substantial rather than semantic difference in either outcomes or outputs of principle-guided government action, by policy sciences aims at understanding processes of change as well as of stability by revealing the main factors influencing it. This applies to academics with a rather analytical as well as those with a more normative endeavour, the latter aiming to change existing policy towards a

more desirable shape. At the core of such analyses lie the factors explaining, supporting or impeding policy change, the independent variables, as well as the dependent variable of policy change itself. It lies in the nature of social sciences that different methodological and theoretical approaches to the analysis and explanation of policy and its change exist. Consequently, methodological and theoretical choices are to be taken by the researcher, both, regarding the independent variables to be analysed and on how to conceptualise the dependent variable of policy change. These choices should be actively made by the researcher, based on a number of selection criteria. Thus, the objectives of this article are to review the recently discussed factors influencing policy change, including conceptions of the dependent variable *and* to assess them regarding their usefulness against a set of criteria, which apply to most researchers and contemporary research projects. The selected independent variables that will be reviewed can be understood as concrete empirical phenomena, which were observed as influential factors leading to policy change.²⁾

Methodologically this article builds on a body of literature derived from a database search using the Scopus software, which embraces all ISI-listed journal articles. In a first step the search has been limited to the field of social and life sciences between 2006 and 2010. It focussed on the appearance of the exact terms “policy change” within the article title in order to include only those contributions, actually dealing with policy change as a main topic. From the resulting population (n=205) a number of articles have been selected based on the following criteria: (i) *concrete* empirical factors derived from social research methods having an impact on policy change are mentioned already in the abstract because this reviewing of the most concrete variables has been the main scope of the study; (ii) a wide range of explanatory factors is covered by the selection of articles. This criterion was chosen in order to cover as many factors currently discussed as possible with the selection of articles; (iii) *substantial* contributions, rather than merely mentioning the term “policy change” are made to the *policy sciences’* research programme on policy change. The term policy change also has been used in other fields of research (e.g. anthropology, management studies), but with extremely little substantial contributions to the policy sciences. This criterion was used in order to focus and narrow down the search results and was applied by the author; and (iv) access to the article could be obtained. Access did not lead to a bias of the sample because especially criteria (i) and (iii) lead to a selection of articles, which has been published in policy research journals accessible to the author. The selection resulted in a sample of n = 58 articles to be reviewed.

²⁾ The term “concrete empirical factors” means single and isolated variables and is used in opposition to linking different factors into more abstract explanatory frameworks such as e.g. the advocacy coalitions framework (SABATIER, 1988) or the multiple streams framework by KINGDON (1984). These frameworks have been demonstrated having explanatory power and have already been reviewed e.g. in ROBERTS (1998) and JOHN (2003). This article highlights individual and empirically demonstrated factors from an empiric-analytical perspective and hence does not discuss these frameworks in detail.

Consequently the study does not cover the full discussions of policy change from the past decades. It also does not cover the important contributions by book publications in this field. This somewhat limited approach has been chosen for two reasons: Firstly, the contribution’s aim was to provide SOTIROV et al. (in this issue) with currently discussed independent variables, which secondly should be empirically concrete factors, rather than comparing larger analytical frameworks. Thirdly, the data processed here had to be limited to an amount manageable and in line with the original objective of commenting on SOTIROV et al. (in this issue).

The main explanatory factors for policy change which were found in empirical studies as well as the conceptualisations of the independent variable have then been distilled from these literatures by the author. The explanatory factors presented by the empirical policy change research have then been clustered according to their main common denominator. Using the categories of policy analysis theories (i.e. families of theories with a similar orientation and basic argumentation, see ARTS, 2011) the independent variables are then positioned in broader political theories by the author. Additional literature cited, e.g. when positioning the explanatory variables in broader theories, has not been retrieved from the specific literature search mentioned above.

The following section of this article addresses policy change as the dependent variable. Subsequently, in section three the current empirical explanations for policy change stemming from the policy sciences are reviewed, clustered and their main analytical strengths and weaknesses are discussed. Then section four develops a set of criteria for assessing the usefulness of variables in the research process. Section five makes explicit reference to the contribution of SOTIROV et al. (in this issue) by assessing their analytical framework against the criteria developed in the previous section.³⁾ The article closes with conclusions for researchers on the theoretical and methodological choices to be made as well as with an outlook on fruitful paths for future analyses of policy change.

2. THE DEPENDENT VARIABLE PROBLEM IN ANALYSING POLICY CHANGE

A variety of factors and theories resulting in an extensive research programme have been employed in systematic ways for *explaining* policy change (see the following sections). But according to KNILL/SCHULZE/TOSUN (2010) this research programme so far did not fully achieve a clear systematic and empirically concrete understanding of the research subject: policy change as such.

In fact HALL (1993) proposes to differentiate into three orders of policy change: changes of whole policy paradigms, of instruments and of the instruments’ tuning and application. Likewise CAPANO and HOWLETT (2009)

³⁾ This contribution has been developed as a commentary to the analytical framework proposed by SOTIROV et al. (in this issue). Both contributions have been presented to the 43rd meeting of German-speaking forest policy researchers (43. Forstpolitik-treffen) held in Duderstadt/Germany from April 13th to 15th 2011.

distinguish actual as opposed to temporary or transitional policy change. And ROBERTS (1998) offers a conceptualisation of policy change distinguishing between change along the two dimensions of scope (changes in a whole system or only parts of a system) and pace (slow or fast). The two extreme ends of the resulting four possible types of change are referred to as incremental change (slow and affecting only parts) and radical change (fast and affecting the whole system). Taking such different types of change as a starting point one now can address more detailed aspects of operationalizing policy change and making it empirically concrete.

However, based on a literature review KNILL/SCHULZE/TOSUN (2010, 409) find as the main methodological weaknesses of their policy change literature reviewed that (i) “most studies fail to provide clear-cut definitions and measurement of this concept”, (ii) they only used proxies for measuring policy change, (iii) they do not capture the complexity of political decisions, (iv) they do not take into account that policy change can also be dismantling existing policy and (v) the empirical focus of most studies was too narrow for drawing conclusions on causality.

3. REVIEWING RECENT INDEPENDENT VARIABLES EXPLAINING POLICY CHANGE

In this section the main explanatory factors for policy change are presented, which have been discussed in the policy sciences during the past five years. Additionally they are theoretically positioned and their main strengths and weaknesses are discussed.

3.1 Advocacy coalitions, values, beliefs and policy learning

The largest number of the studies that have been reviewed sees shared values and beliefs as influential factors in the context of policy change. A large number of these studies build on the advocacy coalition framework developed by SABATIER in the late 1980s (e.g. 1988). In this conception values and shared beliefs determine the political behaviour of actors and result in advocacy coalitions, which then account for policy as such (ARTS, 2011). Policy change is not likely to occur as long as one advocacy coalition remains dominant (BANDELOW, 2006). Based on experience and additional information (i.e. policy learning, see BANDELOW, 2006), however, these beliefs can partly be changed. Hence, the shared beliefs limit the ability of policy learning leading to policy change of secondary issues only (in the words of SABATIER these are the secondary aspects). Major policy changes may only be expected when external political, economic or social framework conditions change (see also below under punctuated equilibrium, political parties).

This line of argumentation has been applied to the analysis of language policy (SLOBODA et al., 2010), to Swiss foreign policy analysis (HIRSCHI/WIDNER, 2010), to local pesticide policy, land use policy (OLSSON, 2009), environmental and rural policy (BÖCHER, 2007, 2011) and in more conceptual contributions (JONES/JENKINS-SMITH, 2009).

These studies show a rather heterogenous set of theories, ranging from more rationalist to institutional to

network theories. An example for successfully linking different theories is BÖCHER (2007, 2011), who brings together learning approaches with materialistic and interest-based arguments into an analytical framework for explaining the change of policy instruments.

The analytical strength of ascribing at least indirect explanatory power to values and beliefs as negatively correlated pre-conditions in the policy change process lies in the fact that they are widening the researcher’s perspective from material interests to non-material factors. These can be values, beliefs but also immaterial interests. The main weakness of stressing values and beliefs as influential factors is the weak linkage between cause and effect. Assuming values and beliefs as influential factors neglects that still non-material interests, such as reputation for personal utility in a given social or spatial setting, could also account for actors’ behaviour.⁴ This is reflected in Sabatier’s conception of belief systems, where at the lowest tier (the so-called secondary aspects with the possibility for actors to act instrumentally) the categories of interests and beliefs are not separated, but exist side by side. Consequently, the still open question then remains, whether actually values and beliefs or rather non-material utility account for a change in actors’ behaviour. Also these factors may explain policy change only in situations of so to say *material saturation* where basic material needs of the actors involved are covered. Otherwise material interests must be expected to have stronger explanatory power than values and beliefs. And lastly, values and beliefs are conceptualised as a pre-stage of policy change, which still depend on either policy learning or major external factors to happen in order to facilitate policy change.

3.2 Ideas, narratives, frames and discourses

Ideas, narratives, frames and discourses, were shown to also explain policy change. The methodologies used to trace this influence, however, often represent a post-positivist critique which largely rejects positivist methodologies.⁵ Hence, these factors are separated from the aforementioned ones which are directly related to the positivistic advocacy coalitions framework. The basic argument here is that politics are influenced by the existence of new ideas and knowledge, established and new ways of doing and talking about things and established or new ways of putting issues (e.g. FISCHER, 2003). Through their social construction and acceptance these factors then shape actors’ expectations and resulting behaviour.

Similar to values and beliefs these factors have been studied quite extensively in the policy change literature. Few studies, however, have been conducted in the field of environment and natural resources, such as on US agricultural policy (LEHRER/BECKER, 2010) and water

⁴ It must be noted here that this critique is directed towards the general use of values and beliefs as explanatory factors rather than towards their specific use within the advocacy coalitions framework, which in its lowest tier of beliefs still acknowledges material and immaterial interests of rational actors.

⁵ This does not apply to the whole body of literature grouped here, especially not to large parts of the media discourse analyses.

policy in Hungary and The Netherlands (WERNERS et al., 2010). Policy analyses focusing on policy change in other empirical fields include studies on migration policy in Spain (BALCH, 2010) and Switzerland (AFONSO, 2007), social policy in New Zealand and Australia (Humpage 2010), pension policy in Canada (BABICH/BELAND, 2009), education policy in Hong Kong (CHENG, 2009), and financial policy in the US (ANDERSON, 2008). BELAND (2009) provides for a rather conceptual contribution. Out of this body of literature it is ANDERSON (2008) who proposes a framework to overcome the ideas-interests-divide and who suggests that both factors “are mutually constitutive”.

A particular body of literature, which also focuses on ideas, narratives, frames and especially discourses, is made-up of media analyses. Their basic argument is that mass media are able to shape public opinion which in turn influences policy outcomes.

SHANAHAN et al. (2008 on land use policy in the US) as well as ROULSTON (2006 on educational policy in New Zealand) and JOHN (2006 on UK budget policy) find media discourses being an active contributor to policy change accounting for large parts of the policy changes observed rather than an a-political instrument providing information only. BIRKLAND and LAWRENCE (2009), however, find only limited influence of media framing on public opinion and public school safety policy. HIRSCH et al. (2010) illustrate this using the example of local pesticide policy and find, that it takes skilful leaders who then create and utilise media discourses and narratives for achieving their policy goals. Likewise DAVIS (2006) for the case of wildfire policy in the US finds key bureaucrats responding to media discourses and by this triggering policy change. Also here only indirect explanatory power is ascribed to media discourses and framing.

The broader theoretical assumptions behind this set of explanatory factors are again rather homogenous. According to ARTS and BUIZER (2009) the theories behind factors such as ideas, narratives, frames and discourses share the aim to explain the social world by means of ideational and symbolic systems and orders. Such discourse theories, which pertain to the broader family of critical policy analysis (ARTS, 2011) dismiss both “the rational ‘homo economicus’ and the norm-driven ‘homo sociologicus’ to explain human action [...]. In contrast, they posit the knowledge-driven and meaning-searching ‘homo interpreter’ as their starting-point. So it is neither rational calculations nor social norms that [according to such discourse-oriented theories] drive human behaviour and choice, but collective ideas, interpretations and meanings attached to (parts of) the world” (ARTS and BUIZER, 2009, 341).

The strength of these theories and the explanatory factors derived from them is that they are able to reveal how political influence may be taken at quite abstract levels of discourse as communication, as text, as frame or as everyday social practice (ARTS and BUIZER, 2009; STEFFEK, 2009; HUMPHREYS, 2009). Especially when considering critical discourse theory which is based on the concepts of Foucault, one may find innovative ways of how these new variables may influence literally every

piece of everyday and political life (GIESSEN et al., 2009; BÖCHER et al., 2009; MERT, 2009; OJHA et al., 2009; WEIGELT et al., 2009). The basic weakness of such factors lies in their dismissal and rejection of more rationalist (content-wise) and especially positivist (methodology-wise) arguments. As a consequence they are rather difficult to combine with other factors in a pragmatic research approach. And illustrating clear causality between the explanatory factors and policy change is not always obvious and difficult to achieve, as critical discourse theorists partly reject the validity of linear causalities and often do not aim at revealing them.

3.3 Individuals: Policy entrepreneurs and issue experts

Policy entrepreneurs as actor types are assumed being a major factor initiating and influencing policy change, because they invest above average time, knowledge and their personal skills in order to change policy towards their ideas, values or interests (BÖCHER, 2007; ROBERTS, 1998). Experts possess knowledge and expertise on technical or social aspects of the issue at hand, which, once they actively become involved in politics, becomes a crucial factor for change to occur. Both are individuals who for different reasons may have a stake in the issue and who – that’s the argument here – due to the crucial resources they bring to the process are able to cause policy change.

MINTROM/NORMAN (2009) offer a conceptual paper in which they position and combine the assumption of policy entrepreneurs as factors of policy change in/different other theories. LOVELL (2009) finds that policy entrepreneurs as individual agents of change can reframe housing policy discourses in the UK and may even successfully lobby for new policy alternatives within the policy making process. Likewise environmental activists are reported as agents of change, who successfully challenged infrastructure projects and transformed them into conservation projects (OLSSON, 2009). And HIRSCH et al. (2010) find politically experienced leadership combined with the use of media and coalition narratives being the key resources of change coalitions in local pesticide policy. Using the case of water policy in the US CROW (2010) shows that in general policy entrepreneurs have a role to play in policy change. It is, however, expert entrepreneurs holding critical expertise on water management, who explain policy change the most.

In this vein ANDERSON (2008) sees financial experts in the US as a source of new policy ideas, which are mutually constitutive with interests. A strong influence of economic experts on Swiss immigration policy change is also reported by AFONSO (2007). LOWRY (2006) stresses that focussing events, organised by experts, continue traditional priorities, but may also trigger different levels of change, e.g. in water policy in the US, China, Australia and Canada. MARIER (2009) shows different types of influence expert commissions exerted on French, Swedish and UK pension policy. But the study also shows that suggestions initiated by these experts must fall on fertile grounds regarding the preferences of the government in order to realise change. In contrast the

case of Israeli water policy reported by MILGROM and SCHWARTZ (2008) shows that only very few and also minor changes were triggered by expert reports and audits.

Policy entrepreneurs as well as issue experts as agents of change are justified by very heterogeneous theoretical orientations. They range from rather rationalist conceptions in which entrepreneurs lobby for the interests of a wider interest coalition in rational ways to critical discourse theory according to which these individuals advocate for policy ideas and/or shape the relevant discourses in ways that facilitates change. The concept of “epistemic communities” (HAAS, 1992) can be mentioned here as representing the latter end of this continuum. BÖCHER (2007, 2011) offers a conception that mediates between interest-based and ideas-based analytical perspectives, proposing that policy entrepreneurs advocate for (their) policy ideas even in situations of re-distributive conflict, when according to MAJONE (1993, cf BÖCHER, 2007) the explanatory value of ideas is decreasing.

The strength of these factors is that they explicitly address the role of individuals, which long has been neglected by (more rationalist) political theories. These factors focus the leadership and role-of-individuals discussions away from psychological aspects to more political characteristics of individual leaders/entrepreneurs, such as the resources they bring to the process like time, knowledge and political experience, their position within relevant networks and their self-interests. A weakness is that so far no clear distinction can be drawn between routine (self-interested) actors and policy entrepreneurs or issue experts. One could argue that no defining unique feature exists for policy entrepreneurs and that they are regular stakeholders in the process. This perspective would be especially valid for rationalists, who would assume self-interests as motivations of policy entrepreneurs anyways.

3.4 Policy networks, subsystems and their bureaucracies

Even though the advocacy coalitions framework also partly builds on policy networks and sub-systems, they are mentioned here as individual factors explaining policy change, because competing conceptions of them exist, in which not all of the factors employed by the framework are used. In general policy networks are seen as sets of formal and informal institutional linkages between governmental and other actors structured around shared interests in public policy (MARSH/RHODES, 1992).

PEDERSEN (2010) finds policy network change to be the decisive factor leading to policy change (similar WERNERS et al. 2010). NG (2007) argues, that policy networks and sub-systems have a strong and persistent impact on change and stability in the transition process of Hong Kong and must be seen as major factors in that regard. SCHIFFINO et al. (2009) describe the autonomy of the Italian and Belgium’s sub-system of physicians as major explanatory factors. HIRSCHI/WIDMER (2010) find, that especially the analytical focus on sub-systems and external shocks explains change and stability in Swiss foreign policy. Though not explicitly mentioning sub-sys-

tems, GROSSMAN (2010) explains change in the US educational policy even by relatively small policy sub-systems, who mobilised material resources as well as strategically framed the issues in ways supporting policy change towards their interests. PRINCEN (2010) identifies both, competing sub-systems and punctuated equilibrium (see below) as accounting for changes in the EU fishery policy (similar BRUNNER, 2008). In contrast, WILLIAMS (2009) argues that it is endogenous effects of sub-systems, rather than external shocks, that explain change in Canadian finance policy (similar GRAINGER/MALAYANG, 2006). In their conceptual contribution JONES/JENKINS-SMITH (2009) innovatively conceptualise sub-systems as operating in a permeable fashion, stressing that trans-subsystem dynamics also account for policy change. AFONSO (2007) finds epistemic communities as transnational expert networks having varying degrees of influence depending on the conditions external to a sub-system.

A special role within policy sub-systems is assigned to sectoral bureaucracies. LOWRY (2009) for Canadian water policy highlights that policy change is not a matter of policy diffusion but it is sub-national bureaucrats who drive or resist changes. In this vain ENGESBAK/STUBBE (2008) stress that after change formally occurred in the formulation of policies, bureaucracies had a major impact on the actual implementation in Norwegian education policy.

These factors to a certain extent share basic assumptions from network theory. The broader set of theories behind policy sub-systems and bureaucracies, however, is rather heterogeneous. It is ranging from the rather critical-discursive notion of ideas and values as basis of sub-systems to more rationalist conceptions of sub-systems as interest coalitions. In the latter vain bureaucracies are mostly understood as leading representation of policy sub-systems.

The strength of employing policy sub-systems in explaining change is that such an approach acknowledges that there are diverse networks which are competing for influence on policy change or stability for pursuing their ideas, values or interests. The main weakness lies in the blindness of the approach toward major socio-political or economic factors outside the systems, which is well overcome when using sub-systems in a mixed analytical framework, such as e.g. the one on advocacy coalitions.

3.5 External shocks and crises

External shocks and crises are assumed to have a strong influence on policy change (see e.g. BAUMGARTNER and JONES, 1993) because they can change both, the biophysical conditions of a political issue which then makes former policy goals and instruments inappropriate from an instrumental point of view, and the considerations of actors concerned with the issue on how to position themselves regarding the new conditions. So here both, problem-solving as well as the construction of actors’ interests opens avenues for policy change to occur.

External shocks are reported accounting for foreign policy changes in Switzerland (HIRSCHI/WIDMER, 2010)

and in Belgium's criminal policy (WALGRAVE/VARONE, 2008). Similarly, HOGAN (2010) as well as STOLFI (2010) and WILLIAMS (2009) find economic crises being decisive for fiscal policy change in a number of western countries. PRINCEN (2010) illustrates how the rare political windows of opportunity enabled change in EU fishery policy by punctuating a long period of stability. DAVIS (2006) in particular finds that administrative policy change was caused by bureaucrats' responses to crises and media attention, while legislative change occurred due to electoral behaviour of the president.

The theoretical accounts of external shocks and crises as explanations for change are oriented rather homogeneously oriented towards punctuated equilibrium theory. Inspired by the correspondent biological theory on evolutionary change, this rationalist theory assumes that social systems are resistant to major changes and generally change only incrementally. Such stability may be punctuated only by sudden shocks, which then open windows of opportunity by challenging institutional cultures, vested interests or the bounded rationality of central actors (GIVEL, 2006).

The strengths of these factors is that major shocks (like e.g. the Fukushima nuclear disaster of 2011) can be seen as facilitating political windows of opportunity for changes in almost all other factors mentioned here: They will change discourses and prevailing framings of issues as they will also change actor network configurations in an issue area and the perception and rational calculations of the concerned actors' interest. Their weakness is that they enable the researcher to only focus on cases where crises or shocks actually occurred in the past. The validity of applying the theory to policy domains without major shocks thus is limited, and researchers are by definition not able to forecast based on the theory.

3.6 Internationalisation, policy diffusion and multi-level governance

The possibility of diffusion of policy ideas among countries (e.g. from US to Canada, see LOWRY, 2009) and subsequent policy convergence illustrate how internationalisation may challenge policy stability (similar HOLZINGER/KNILL/ARTS, 2008).

In fact, in a conceptual contribution BELAND (2009) only assigns a secondary role to international actors and processes. Still, the internationalisation of financial markets is reported to change the configuration of policy sub-systems (WILLIAMS, 2009). According to CORT (2010) the acceptance of the EU as actors in Danish educational policy created a window of opportunity for policy change, which in the national context only happens incrementally. PATEL (2009) reports that multi-level analyses need to be consulted for fully explaining policy change in British bank policy. BRUNNER (2008) for the case of German emission policy even finds that the multiple stream theory lacks a number of relevant factors for explaining policy change, such as multi-level governance structures and relating actor networks.

Theoretically these explanatory factors are grounded in a rather homogeneous set of theories, mostly pertaining to the realm of rationalist policy analysis and a clear

focus on self-interested actors (including the EU) seeking coalition options across levels for increasing their influence. Only policy diffusion concepts are more influenced by critical discourse theory and their focus on ideas.

The strengths is that the studies stressing the importance of multi-level structures and agencies show the importance of also considering the (new) coalition strategies across levels in explaining policy change. They are also fruitful for integrating rationalist with critical discursive arguments. The main weakness is that the factors of internationalisation per se are rather unspecific regarding the political factors which actually have an impact on policy change. That means they leave it open if it is the new actors that are introduced by the internationalisation or the new structures and institutions that account for change. There is, however, a growing body of literature explicitly addressing this issue (see e.g. BERNSTEIN and CASHORE, 2000), who identify specific pathways along which internationalisation takes effect in national settings and accounts for policy change).

3.7 Political parties

Political parties may become a major explanatory factor in policy change if they succeeded over a formerly ruling party or coalition of parties after elections. Their influence has been demonstrated already by HIBB'S (1977, cf. BÖCHER and TÖLLER, 2011, 92) seminal comparative study.

PEREZ-LINAN/RODRIGUEZ-RAGA (2009) find party configuration of coalitions only a secondary factor in US policy making. Similarly, PEDERSEN (2010) finds changes in the ruling parties as strongly supporting one over another policy network in Danish land use policy, which then leads to radical policy change. And also SCHIFFINO et al. (2009) find the division of political parties among two other explanatory factors in health policy in Belgium and Italy. In this vein WALGRAVE/VARONE (2008) as well as WALGRAVE et al. (2006) argue that as an additional factor political parties account for change in Belgium's policy making process. This holds true for legislative changes, but not for changes in the corresponding budgets. In the case of economic policy in post-communist democracies HOROWITZ/BROWNE (2008) find that policy change is facilitated by more competitive party systems, while multi-party coalitions tend to inhibit change.

The orientation of political parties as an explanatory factor is based quite homogeneously on the assumptions of theories from rational policy analysis, their notion of utility-maximising and rational parties.

According to the lay understanding of democracy parties should be expected to account for the overwhelming majority of policy changes. It is remarkable, however, that only a limited amount of literature is concerned with this factor and that these studies view parties a secondary factor at best. Additionally, parties can easily be embedded in the aforementioned argument of networks causing change, again weakening the party argument. So the – empirically proven – low degree of explanatory power is the main weakness. The strength of employing parties in studies on policy change is that they cover the formal framework conditions in which

policy change may happen. According to the fundamental assumptions of democratic theory the coming-into-power of parties through elections is supposed to be the main formal factor deciding on change or stability.

3.8 Institutions

Due to the rather high transaction costs of establishing, maintaining, altering or terminating institutions as commonly agreed set of rules and norms (FRÉCHETTE and LEWIS, 2011) they are ascribed explanatory power with regard to policy change in the course of establishing institutions and especially policy stability once they have been established and cause path dependencies.

HUMPAGE (2010) uses institutions as explanatory variable in Australian social policy among ideas and interests (similar BELAND, 2009; BELAND/SHINKAWA, 2007). Likewise PRINCEN (2010) shows how competing institutions, next to the framing of fishery policy in the EU, trigger policy change.

Institutions as independent variables are deeply rooted in the slightly distinct schools of institutional thought and theory, granting explanatory power to structures and norms, while less to the individual maximisation of utility.

The strength of most institutional theories and factors is that they are compatible with a wide range of theories and other factors and that most other theories in a way or another are deeply influenced by institutional thought. Also institutional explanations contribute to the big question of social sciences whether or not or under which circumstances norms in general and sets of norms in particular matter. The main weakness of employing institutions as main explanatory factor is that one tends to neglect or at least underestimate the motivations of individuals, be they of material or ideational nature.

3.9 Veto-power

Based on the thoughts of TSEBELIS' (2002) veto player theory the right or ability of individual or corporate actors to block the policy process is seen as an explanatory factor for policy change because it can either block change and support stability or it can support change by blocking decisions in other issue areas and claiming change in a given issue in exchange for dropping the veto. Because only few actors or institutions have factual veto power (either by law or factual by huge power asymmetries) these factors are not reported frequently.

In a narrow sense PEREZ-LINAN/RODRIGUEZ-RAGA (2009) find presidents with veto power as facilitating stability. WALSH (2006), in a wider sense of veto power, identifies powerful actors and their coalitions, who do have factual veto power, as crucial allies that need to be convinced by change-oriented coalitions in order to achieve changes in British security policy. In an even wider sense, judges do have veto power. LAYZER (2006) reports lawsuits by environmentalists leading to change in British fishery policy. Based on similar arguments, SWEDLOW (2009) develops a theory of judicial policy making and policy change in the case of forest protection in the US, illustrating how judges may either veto pro-

posed policy changes or stability by commanding effective implementation of changed policies.

The strength of this argument, which to some extent is rooted in rationalist, to some more extent in institutional policy analysis as well as in the stringent logics of legal theory, lies in the factual power courts have in countries which follow the rule of law in detail. Its explanatory power decreases, once the political culture or the polity do not strongly reflect this democratic principle anymore.

3.10 Other explanatory factors

In this last section on independent variables explaining change the factors *knowledge and science, gender, class and capital as well as shifts in existing technologies* are briefly reviewed and discussed. Quite some literature exists in the field of policy change research on each of these but also other factors. The reason why they do not stand more central in this article is that the methods applied only resulted in a limited number of articles representing these factors.

Knowledge plays a central role in both, the advocacy coalitions framework and in HALL's (1993) conceptions of policy paradigms, because they serve as a source of new ideas. But knowledge may also be strategically utilised by rational actors in the perusal of their interests, granting them strategic advantages over competing actors (GRUNDMANN, 2009; LÖVBRAND, 2009; KLINKE, 2009; WERLAND, 2009). In all these conceptions different kinds of knowledge may be referred to; scientific knowledge is one source among others (e.g. PETERSEN et al., 2006; opposing LAYZER, 2006). Different strands of theory, ranging from critical theory and its focus on ideas to rationalist policy analysis stressing the strategic self-interested and biased use of knowledge, can explain this influence. Still, the former more heavily relies on knowledge as a factor than the latter set of theories.

Class and capital may be expected to have an impact on policy change on a more abstract and societal level by setting the broader discursive and institutional limits for any policy to be put in place or changed once it has been in place. The structural power of transnational capital and inter-class struggles in the developing world are reported to account for pharmaceutical policy change in Turkey and India (EREN-VURAL, 2007). These factors clearly pertain to Marxist theory⁶⁾, which, despite of its strong explanatory power at a more general level in terms of the wider politics, not distinct and small policy changes, has been rarely applied.

Due to differences in the thinking and differences in the relative positions of men and women in social networks *gender* may also be an explanatory factor for policy change (ANNESLEY, 2010). This factor is mostly backed by critical theory, but conceptualising its contribution is difficult to achieve due to a lack in comparative designs and large-n-studies.

⁶⁾ ARTS (2010) subsumes Marxism under the cluster of critical policy analysis. This suggestion is not followed here because of its much more overall rationalist argumentation. Hence, Marxism will be mentioned as an individual theory here and not be subsumed under either of the theory families.

Policies directly regulating commodities such as forest and agricultural products were observed to be influenced also by *markets* and the level of *prices* (BORGES et al., 2010). This argument is in line with more rationalist theories.

Lastly, shifts in the *technologies available* e.g. for housing materials or the use of chain saws in forest management were observed having an impact on policy change (LOVELL, 2007). Advancements in technology bring about new options for social interactions, e.g. by changing the basis of production. This leads to a re-distribution of costs and benefits among actors, who in turn revise their strategies in the perusal of their interests and which then bears options for new coalitions in support of change. This factor is largely based in rationalist argumentation, but would also qualify to be linked to other theories and their argumentations.

4. THE USEFULNESS OF VARIABLES AS BASIS FOR THE RESEARCHERS' CHOICE

The explanatory factors presented above as well as the different conceptions of policy change now offer the researcher a variety of options for combining them into an analytical framework, where a set of independent variables aims at explaining the dependent variable, including the possibility of falsification of each of the assumed causalities.⁷⁾ The selection of the independent variables is up to the researcher. Yet, the choice of the dependent variable (i.e. the case to be used and the corresponding type of policy change) partly have already been pre-determined earlier in the research process or will be subject to empirical study.

In order to arrive at a theoretically sound, yet empirically relevant analytical framework it is proposed here that the researcher should not follow a purely *paradigmatic* approach in selecting the variables. Rather, the researcher should make the selection in a *pragmatic* way, so that it benefits all major elements of a given research, i.e. the major research question, the research project and the researcher. For these three elements of a research the selection of the independent variables to be investigated can be useful in different ways: (i) useful for the generation of new knowledge by effectively solving the research problem at hand. This includes both, useful in theoretical terms for addressing research questions and hypotheses and useful regarding their relevance in empirical practice. But (ii) also useful for the research project from a research economical perspective. The framework might have to be compatible with other project partners and their methodologies, such as in joint and/or cross-disciplinary research projects. And the selection of variables should (iii) also be useful for the researcher by being compatible with his or her previous work and experiences. It should, however, also be com-

patible with the expectations of the researcher's peers and hence be positive for the future career development.

5. EXCURSUS: ASSESSING SOTIROV ET AL.'S CHOICES

The contribution of SOTIROV et al. to this special issue of the journal employs a combination of explanatory factors and theories behind them for explaining policy change and policy stability in the EU's Natura2000 policy. It largely builds on the advocacy coalitions framework with its focus on ideas, beliefs, sub-systems and external events. The framework proposed further includes ideas, goals and instruments as part of HALL's (1993) mixed-theory policy paradigms, multi-level governance as a more institutionalist⁸⁾ element as well as veto player strategies as a rather rationalist element (SOTIROV et al., in this issue). This selection of variables and theories puts major emphasis on ideas and beliefs, but also on structures and less on individual and material factors.

The framework has a clear strength: By combining variables from different strands of theory it promises to have much greater explanatory power than an isolated factor or theory. This is achieved especially by complementing the advocacy coalitions framework with aspects of the multi-level governance-research, which is strongly influenced by institutional thought, and by adding rationalist arguments on veto players. In doing so it may well contribute to the integration among these families of theories.

Its shortcomings include, and parallel to the findings by KNILL/SCHULZE/TOSUN (2010), a relatively abstract operationalization of the dependent variable. In fact the authors employ one of the most advanced concepts of policy change proposed by CASHORE/HOWLETT (2007). Still, these conceptual tools provided by the research programme on policy change remain abstract and little concrete from an empiric-analytical perspective (compare KNILL/SCHULZE/TOSUN, 2010). This shortcoming, however, is beyond the direct influence of SOTIROV et al. and could be taken up productively by the authors' future work. Another critical point can be seen in the quite narrow focus on a particular policy (the EU's Natura2000) and not on a wider domain of EU policy making. Also the multi-theory approach, spanning over several and partly contradictory families of theories, might be seen as overambitious and difficult to manage from a research-pragmatic point of view. Content-wise this approach can however, as stated above, also lead to major theoretical advancements, which should be left open to future work of the authors. Still, the different epistemologies behind the different theories and their methodological implications should always be made explicit.

Against the criteria for usefulness developed above, SOTIROV et al.'s framework can be characterised as being an appropriate selection of variables for the analysis of

⁷⁾ This general approach is a central building block in positivist methodologies and conforms with the empirical-analytical paradigm in social sciences (von BEYME, 2000) which also forms the base of central arguments of this article. A number of post-positivist critiques to this approach exist (e.g. FISCHER, 2003), for whom this general approach to science may not seem appropriate to follow.

⁸⁾ In the aforementioned review of existing studies this factor was assigned to rationalist theory. However, the more theoretical discussions on multi-level governance, which are not reviewed here, are of a more institutional character.

policy change. It is useful for generating new insights into the interdependence of ideational, structural/institutional and material factors especially in the relatively young field of EU environmental policy making with its rather dynamic polity, where either of these factors can be expected to play a prominent role. The framework also seems to be useful for the researcher⁹⁾, who has extensive previous experiences with the main theories and variables used here, i.e. the advocacy coalition framework (e.g. SOTIROV, 2009; SOTIROV and MEMMLER, 2011). Also the chosen variables and theories illustrate that the researcher is able to fruitfully add new aspects to his work and that he aims to develop a comprehensive and theoretically ambitious research approach, building on well-established, yet distinct political theories. Only the usefulness of the framework from a research-economics perspective might be questioned in two ways: Firstly, the framework developed accommodates a large number of factors and corresponding theories, which in a way contradicts the positivist principle of narrowing-down explanatory factors. Secondly, the usefulness with regard to the overall joint research project (“European Beech Forests for the Future”, BeFoFu)¹⁰⁾ can be questioned. Because it employs a number of quite thorough theories of the policy process, which is a challenge on its own to integrate with each other (see above), it will be an even greater challenge to make the methodological approach as well as its findings compatible with other project partners coming from an array of disciplines such as genetics, forest ecology and yield sciences, nature conservation, economics and other strands of policy analysis.

6. CONCLUSION: OPTIONS FOR CHOICES AND FUTURE FIELDS OF RESEARCH

From the reviewing exercise of recently discussed *independent variables* of policy change one can conclude that a diversity of influential factors is discussed and hence it also is a fruitful area for future inquiry. In order not to let the number of factors grow extensively however, it could be worthwhile considering to establish and test hierarchies among factors (e.g. primary and secondary factors, factors that closely relate to others or even cause them) and to look for (the most) important factors, that are valid in most or even all contexts. Also the explicit study of *policy stability* in the future could help support already existing factors' influence on policy change or even reveal new ones, to then be tested in policy change cases. However, rather than engaging in paradigmatic fights over which factors (or rather theories) explain more, future studies should, similar to SOTIROV et al. (in this issue), combine these factors into frameworks in innovative ways, especially for revealing their linkages and under which conditions which of the factors specifically accounts for change. Here lies the strength of frameworks, such as the advocacy coalitions (SABATIER, 1988), the policy paradigms (HALL, 1993) and the multiple streams model developed by KINGDON (1984), which,

⁹⁾ Here only the first author will be considered because a full account for practical reasons is not feasible.

¹⁰⁾ See URL <http://www.befofu.org/> for project details.

however, should be further developed and new combinations of factors should be tested empirically. This necessitates future studies of policy change and stability to employ mixed-theory and mixed-factor frameworks for analysis. The responsibility to choose and combine these factors, however, lies with the researcher, who should make such evaluations based on explicit criteria, such as the ones proposed in this paper. A question that has been rarely addressed explicitly, but which has strong implications for each of the competing sets of theories, is whether basic material needs of actors involved in a policy domain are covered or not and how that relates to the effect immaterial factors such as values and beliefs might have. This calls for studies using a more systematic and comparative design rather than isolated case studies on individual policy changes. Likewise, more analyses on new materials and technologies as factors triggering policy change are called for, because they could enable inter-disciplinary integration among most theories reviewed here. Regarding policy change as the *dependent variable* there is an urgent need to explicitly further work on conceptualising policy change and its measurement.

7. SUMMARY

This article aims at reviewing recently reported concrete empirical factors influencing policy change, including conceptions of policy change as the dependent variable. It further aims at developing a set of criteria for assessing the usefulness of selecting these explanatory factors in any given research project. Based on a literature review a body of articles is identified which provides concrete empirical factors as independent variables explaining policy change. These explanatory factors are clustered and positioned in broader theories of the policy sciences. Subsequently a set of criteria is developed for assessing the usefulness of selecting independent variables in a given research process. These criteria then are applied to the analytical framework developed by SOTIROV et al. (in this issue) in order to briefly illustrate its usefulness in their research project environment. The article closes with conclusions for researchers on the theoretical and methodological choices to be made when developing their own analytical frameworks as well as with an outlook on fruitful paths for future research on policy change.

8. ZUSAMMENFASSUNG

Titel des Beitrages: *Zusammenschau empirischer Erklärungen für Politikwandel: Optionen zur Analyse und Felder künftiger Forschung.*

Der Beitrag hat zum Ziel, einen Überblick über konkrete empirische Faktoren zu geben, die derzeit in den Policy-Wissenschaften im Zusammenhang mit Politikwandel diskutiert werden. Zudem werden Kriterien entwickelt, anhand derer die Nützlichkeit der Auswahl von solchen Variablen in Forschungsvorhaben bewertet werden kann. Basierend auf einer Literaturstudie werden Journalartikel identifiziert, die konkrete empirische Faktoren benennen und damit versuchen, Politikwandel zu erklären. Diese unabhängigen Variablen werden

gruppiert und in bestehenden Theorien der Policy-Wissenschaften verortet. Danach werden Kriterien zur Bewertung der Nützlichkeit der Auswahl der unabhängigen Variablen in Forschungsvorhaben entwickelt. Diese Kriterien werden dann auf den Beitrag von **SOTIROV et al. (in diesem Heft)** angewendet, um kurz die Nützlichkeit ihrer Selektion von Faktoren zu diskutieren. Der Artikel schließt mit Schlussfolgerungen für die Selektion von Variablen zur Erklärung von Politikwandel durch die Forscher und mit Empfehlungen für künftige Forschungsfelder im Hinblick auf Politikwandel.

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Nachruf

Dr. FRITZ-HELMUT EVERS



Am 26. Oktober 2011 ist der langjährige Leiter der Abteilung Botanik und Standortkunde der FVA Baden-Württemberg, Herr Ltd. Forstdirektor a.D., Dr. FRITZ-HELMUT EVERS, in seinem 85. Lebensjahr in Stuttgart verstorben.

FRITZ-HELMUT EVERS wurde 1927 in Stuttgart geboren. Nach Schulzeit und kurzzeitiger Verpflichtung als Flakhelfer am Ende des Zweiten Weltkrieges studierte er

zunächst Naturwissenschaften, wandte sich dann aber den Forstwissenschaften zu. 1954 schloss er das forst-

wissenschaftliche Studium mit dem Diplomexamen an der Universität Freiburg ab. Nach der Referendarzeit in der baden-württembergischen Landesforstverwaltung legte er 1957 die Große Forstliche Staatsprüfung ab. Entsprechend seinem vorwiegend naturwissenschaftlichen Interesse an der Forstwissenschaft kam er danach zur damaligen Abteilung Bodenkunde der FVA in Stuttgart-Weilimdorf („Fasanengarten“). 1962 folgte die Promotion an der Universität Freiburg mit der Dissertation „Die Wirkung von Ammonium- und Nitrat-Stickstoff auf Wachstum und Mineralstoffhaushalt von *Picea* und *Populus*“, – ein nach wie vor aktuelles Thema. 1964 wurde EVERS zum Leiter der Sektion Pflanzenernährung und Düngung in der Abteilung Botanik und Standortkunde ernannt; 1974 wurde ihm nach der Pensionierung von Prof. Dr. SCHLENKER die Abteilungsleitung übertragen.

EVERS war ein „Forstökologe“ im besten Sinne und er hat wesentlich zur überregional anerkannten wissen-