From strategy to implementation – what is desirable and what realistic?

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1   Introduction

In recent years, the debate on "policy mixes" (Howlett 2005; Borrás 2009; Flanagan et al. 2011) has (re)gained momentum. Increasingly it has moved beyond a development of instrument typologies and 'toolbox approaches' (Howlett 2011; Kroll 2016) to considerations of measures' roles in strategic frameworks and constellations of governance (Howlett and Rayner 2007; Lanzalaco 2011; Navarro et al. 2014; Magro and Wilson 2015). Furthermore, many recent contributions place additional emphasis on path dependencies and counteracting factors (Magro und Wilson 2013; Peters et al. 2018). In doing so, they align with existing literature on the reflexive emergence of political decisions (Edler et al. 2003; Smits et al. 2010; Edler and James 2015; Colebatch 2017; Kingdon 1984) as well as long-established findings on the complexity of policy learning and implementation (Lindblom 1959; Bennett and Howlett 1992; Howlett et al. 2015; Howlett et al. 2017).

For the inevitable assessment of policies, this situation creates new challenges. Over the years, many limits to coordinated policy design have convincingly been discussed and demonstrated (Arnold 2004; Molas-Gallart and Davies 2006; Lascoumes and Le Galès 2007; Howlett 2009) but at times of challenge-driven and transformation oriented policy ambitions (Kuhlmann and Rip 2018; Schot and Kanger 2018) the incidence of strategically coordinated attempts at policy implementation is undoubtedly increasing. Despite a persistent and continuous flow of individual implementation decisions, more and more political strategies have become more than passive reflections of a debate's status quo at a certain point in time, making it problematic that a generally agreed on approach to assess them has yet to be established (Peters et al. 2018).

So far, many evaluations of political strategies remain to some extent outcome or impact oriented, based on the (more than uncertain) premise that certain intervention logics were consciously chosen at the outset and that agreed-upon strategies can thus, in principle, be executed accordingly and evaluated on that basis (Kleibrink et al. 2018). As a result, few existing evaluation studies enable us to reliably distinguish between strategies that fail at the level of measures and those that already went astray in clarifying narratives or during instrumentation.

So far, there are few truly process-oriented analyses that acknowledge the inner workings of policy *implementation* which - as has long been established - follow specific logics and dynamics of their own (Hjern and Porter 1981; Howlett 2005, 2011; Howlett et al. 2006). Quite elaborately, prior research in political science has demonstrated that

decisions on political strategies are not taken ad hoc, but result from a variety of discursive streams (Edler 2003; Kingdon 1984).

Less commonly, in contrast, has it been shown that this interactive, non-deterministic nature of the "policy-dance" (Kuhlmann et al. 2010) persists once it leaves the domain of "high-level abstraction" (Peters et al. 2018) to substantiate intentions by effective support efforts in practice (Peters 2014). Instead of becoming mechanistic, negotiations continue in arenas populated by different players and as games played by different rules. Contrary to prevalent assumptions, moreover, many intervention logics are initially not clearly defined, understood or shared (Considine et al. 2009; Considine et al. 2014) and many subsequent discourses and negotiations occur in an environment where essential cognitive and managerial capacities are lacking (Wu et al. 2010; 2015; Rotberg 2014).

In particular, this subsequent process is relevant in the case of complex ambitions that not only concern one decision on a specific target (i.e. to put 1 million electric cars on the roads) but aim at broader, more generic objectives ("respond to a societal challenge", "transform a socio-technical system"). In these cases, implementation, even the final building of narratives will in many cases evolve gradually after first strategic decisions, in a subsequent process of interpretation and negotiation, seeking to resolve and reconcile complex challenges of policy packaging and patching (Howlett and Rayner 2013; Gunningham et al. 1998; Briassoulis 2005; Yi and Feiock 2012).

As mentioned above, such attempts at concerted policy implementation have become more and more visible and relevant alongside the persistent stream of idiosyncratic decisions as a results of challenge- and transformation oriented policy ambitions at both the national and the regional level (Foray et al. 2012; Capello and Kroll 2016; Kuhlmann and Rip 2018; Schot and Kanger 2018). Evidently, they elude a simple 'Tinbergen Rule' approach of matching problems with measures (del Rio and Howlett 2013; Briassoulis 2005) - as they require a long process of interpretation and negotiation *after* the first strategic decision.

Consequently, project or programme oriented evaluation approaches, even those based on purported intervention logics, are as such unfit to capture the causes of their effectiveness and impact. While agreeing with Aranguren et al. (2017) or Bovens et al. (2006) that - in light of rising complexity - policy assessments should be tools of discursively guided strategic transformation rather than controlling, the authors call to mind that, in parallel, public requests for direct accountability and documentation are rising. Hence, future policy assessments will nonetheless need a clear reference framework to orientate the analysis. Even more, being framed within a convincing analytical refer-

ence system could add rigour and clout to any discursive evaluation approach in the first place and thus help prevent its being dismissed as non-robust.

Against this background, this paper seeks to contribute to the policy design debate by proposing a clarifying framework of analysis which enables analysing pathways of policy design from the level of general strategy down to the level of instrumentation, building and expanding on the recent path-breaking contribution of Peters et al. (2018). Moreover, it will identify key factors that intervene into the process of "implementation" by shaping this multi-actor, multi-motive process of translation (expanding on early notions of (expanding on early notions of Lindblom 1959; Bennett and Howlett 1992; Howlett et al. 2017).

Subsequently, the instrumentality of the approach will be demonstrated using examples from the arguably most comprehensive field study in bringing ill-defined political strategies from concept to practice, the European Commission's smart specialisation policy agenda. By doing so, the paper will demonstrate how the proposed heuristic increases our ability to trace coherence and consistency in implementation. On that basis, it will put future research in a position not only to assess implementation processes but also to identify bottlenecks and options to remove them.

2   Background and Key Proposition

Fundamentally, this paper starts from the assumption that it is not only the initial political decision, but its translation into administrative acts and support measures the give political strategies relevance and matter for their effectiveness (Peters et al. 2018). It suggests that it is both possible and analytically productive to interface two well developed, yet insufficiently connected strands of literature, that on the evaluation and assessment of policies (Arnold 2004; Borrás and Edquist 2013) and that on the analysis of the politics on which they are founded (Smits et al. 2010; Edler and James 2015; Peters et al. 2018). In general terms, it puts forward the proposition that such a connection can be established by extending the analysis of processual complexity beyond the point of initial decision making well into the political-administrative process.

In general terms, political science has often acknowledged that complications may ensue in the process of decisions becoming effective, even elaborated in details (Hjern and Porter 1981; Howlett 2005; Peters et al. 2018; Howlett et al. 2006). However, translation of policies into administrative action is not commonly acknowledged as full-fledged subject of analysis in itself.

In contrast to the impact of societal problem articulation on policy making (Seymour-Ure 1987; Barker and Peters 1993; Kingdon 1984) policy implementation it not often specified and analysed as a specific subsystem or 'stream' of its own. Instead, it tends to be considered as continuous and fluid rather than orchestrated, a reflection of the shaping and reshaping of policy streams and of fragmented decisions taken in various windows of opportunity (Kuhlmann et al. 2010). In that sense, few studies have focused their analysis specifically on the internal logics and rationales *following* the point of initial decision making when consensus is reached and a "window" is taken advantage of (Edler 2003; Edler and James 2015; Kingdon 1984).

In consequence, political science tends to cede relevant questions of evaluation and assessment to administrative science, business studies or economics, disciplines which, in turn, do not commonly place much emphasis on the neither initial decision's nor its administrative articulation's emergence. Hence, many evaluation approaches proposed in that context take implementation decisions as given and - implicitly - coherent when seeking to 'measure' effectiveness based on outcomes (Foray et al. 2012; Magro and Wilson 2015; Kleibrink et al. 2018). Thus, a processual policy implementation remains an analytically somewhat neglected child, a boundary object visible to and mentioned in passing by many, but hardly considered in-depth by either discipline.

Against this background, this paper takes an interdisciplinary approach to reconcile established findings from political science with insights on the concrete nature of implementation processes established in other fields. As it argues, this becomes more crucial, the more often we witness strategic attempts at coordinated implementation rather than the continuous stream of fragmented, idiosyncratic reflections of the policy stream that may indeed have characterised the 1990s and 200s.

2.1   Concept

Necessarily, any policy implementation is a function of *two-way* dynamics and frictions at the boundaries between the spheres of politics, administration and the actual socio-economic contexts in which it becomes effective. Regardless of its original, and deep anchoring in the political sphere, policy implementation can therefore not be sufficiently explained by the consideration of political 'rules of the game' alone.

In principle, two fundamental points can be made to corroborate that initial policy decisions cannot and should not be equated with effective policies, but that a processual analysis of implementation processes is needed to arrive at meaningful conclusions.

Firstly, setting them equal means assuming that the locus of initial strategic decision making is either identical or close to that of taking corresponding legal or bureaucratic

action. In consequence, no further processes of social and political negotiation, dilution and reframing are opened up, once the decision is agreed upon. In specific cases such as high-level consultation groups that speak directly to executive power within a clearly defined remit (Edler 2003), that may be so. In today's multi-level governance systems (Hooghe and Marks 2001), however, most decisions have to enter inter-agency consultation before they become final and be cascaded down administrative or even governmental hierarchies before they acquire legal and economic substance vis-a-vis the 'real world' by being cast into budgets and regulations (Howlett et al. 2015; Howlett et al. 2017).

Secondly, setting them equal means assuming that once a decision is taken, it can in principle be executed directly without further interpretation. When the discussion is about specific issues, such as the ban of single substances for a defined purpose, this may indeed be so. More commonly, however, it is not only administratively, but also cognitively impossible to directly cast a generic decision into legislation or action or to 'objectively' identify suitable target groups (Schneider and Ingram 1993). Much more commonly, strategic headline decisions need to be further interpreted in a continuous exchange with real-world stakeholders (Dunlop 2009; Foray et al. 2009) before they become convincing narrative and before, eventually, an array of piecemeal policy actions will be taken, to develop a transformative impact on the existing policy mix (Howlett and Rayner 2013; Foray 2014a; Kroll 2017).

To assess the increasingly prevalent attempts at coordinated policy implementation that we are witnessing, it can therefore not be sufficient to review their premise. To the contrary, it will necessarily be required to review the extent to which their implementation still gives evidence of that premise - before any output or impact oriented evaluation is launched and interpreted.

2.2   Critique of Existing Approaches

With a view to the conception of the implementation process, much of the recent literature (cf. Magro et al. 2014; Howlett et al. 2015; Flanagan and Uyarra 2016) agrees that, where they exist, concerted processes of implementation are "complex" and involve recursive discussions among multiple stakeholder groups. It acknowledges that policy mixes may indeed have a life and traditions of their own (Magro and Wilson 2015; Howlett et al. 2017).

In light of the above said, processes of policy implementation must be conceived as processes of ideation, negotiation and decision-making that are driven and governed by multiple actors. They occur at the boundaries of politics, administration, economy

and society, producing cross-fertilisation and friction. As each of these spheres contributes own motivations, incentive systems and motivations, all actors involved become entangled in a constant process of recursive translation that gives rise to conflicts, contestation and, eventually, new arrangements. Eventually, all changes to the prevalent practices of implementation substantiate through their translation into action by administrative, business and societal stakeholders.

Hence, the actor level is the most suitable level to analyse and frame the process of translating political strategies into practice. So far, however, a conceptual heuristic or approach grounded in this acknowledgement remains missing from the literature, despite significant contributions with respect to its composite elements (Peters et al. 2018). Instead, many guidelines for strategy implementation (Foray et al. 2012) continue to take recourse to the notion of a sequential "policy cycle" that is at odds with current debates on policy design from various perspectives (Peters et al. 2018).

First, it inappropriately conflates different attempts at coordinated policy implementation at various echelons of policy making into the common denominator of "political strategy". However, strategies can differ substantially not only in terms of thematic and geographical scope but also with a view to the degree of concertedness of their ambition (Laranja et al. 2008; Borrás 2009).

Second, it attempts to describe a continuous multi-level, multi-actor process of negotiation between political actors and 'real world' interest groups (Ansell and Gash 2008; Howlett et al. 2015; Kuhlmann 2001; Rogge and Reichardt 2016) in terms of simple, functional steps. It does not say anything about the substantial deviations and disruptions that can result from the intrinsically dynamic nature of not only the initial agreement on objectives (Edler and James 2015) but also the ensuing steps of implementation that depend on further necessary conditions such as the availability of concrete ideas on "how to" achieve the desired objectives (Peters et al. 2018).

Third, it does not sufficiently acknowledge that policy implementation does in reality not occur independently in a "cycle", logically building one novel consideration on another. Even if consistent in themselves, strategy efforts meet with diverse path dependencies, dominant narratives and internal dynamics at different levels in an existing system that cannot easily be modified or broken by single actors' strategic thought (Flanagan et al. 2011; Landabaso et al. 2014; Valdaliso Gago et al. 2014; Peters et al. 2018).

Fourth, the idea of a policy cycle remains largely indifferent to the internal dynamics of administration including fights for remit and and principal-agent issues (Jensen and Meckling 1976; Bergman and Lane 2016; Braun and Guston 2003) that are a constitutive element of all administrative processes. While the executive arm of governments

may be the central mediator between political decisions and implementation, moreover, it does not always dispose of the required capacities (Considine et al. 2014; Wu et al. 2015; Capello and Kroll 2016). Disregarding this aspect implies missing out on a, if not the, central element in the process of translating policy decisions into effective practice (Hjern and Porter 1981; Christensen and Lægreid 2002; Howlett 2005; Howlett et al. 2006).

Instead of trying to conceive of concerted attempts at policy design in a "policy cycle" framework, therefore, the authors maintain that it can be instructive to frame them as an attempt to couple the known streams of politics and policy with an independent, *loosely coupled* line of practices in implementation. In effect, these practices determine which changes policy decision can actually effect in the socioeconomic world but - for the reasons outlined above - are not automatically responsive to new political impulses, even if cast in a strategic framework.

As earlier studies emphasised, some change in implementation practice is indeed continuously effected by a perpetual stream of idiosyncratic impulses that emerge from the political discourse that are in a largely uncoordinated manner absorbed into practice. More recently, however, challenge- and transformation-driven innovation strategies have increased the incidence of concerted efforts to change implementation practices in a coordinated manner and to create structures and processes to organise and coordinate the otherwise sometimes overly loose coupling between acclamation and action. In the following, this paper will focus on those incidents of strategic attempts at coordinated policy implementation - and the challenges that arise in this process.

Figure 1:   Connecting Streams of Policy Debate and Practices of Implementation
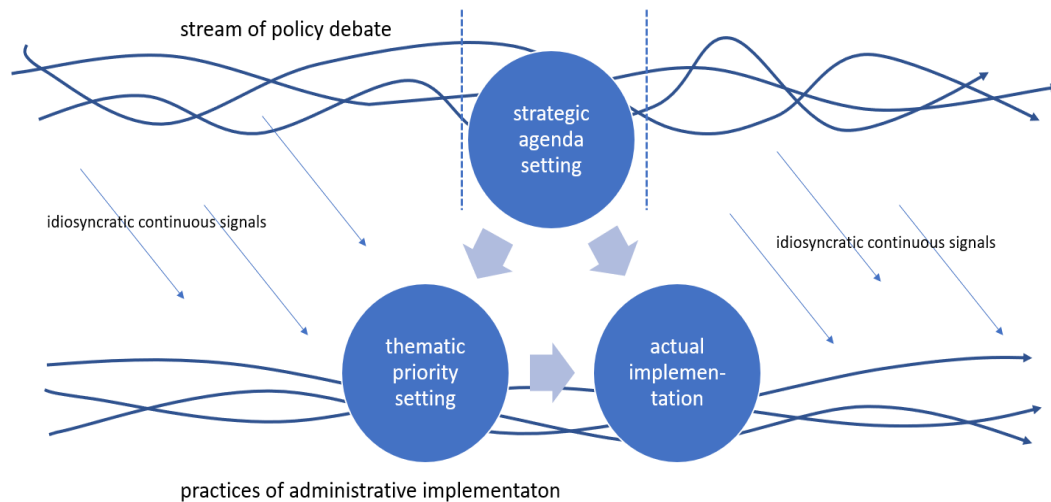
Source: Own figure

With a view to concept, it will put forward the proposition that a structured analysis and neutral assessment of implementation processes is possible if the criteria of analysis are adequately specified at a sufficient level of generality and in keeping with the abovementioned notion of implementation as a reflexive, actor-driven process (Howlett et al. 2017; Rogge and Reichardt 2016). With a view to practice, it suggests that abandoning and foregoing the attempt to develop new heuristics may increase the influence of inaccurate or unfit approaches to evaluation and policy development – which has detrimental effects on the due acknowledgement of potential and actual results of challenge-driven and transformation-oriented strategies in innovation policy and beyond.

3   Towards a Heuristic for Policy Implementation

3.1   Central Proposition

In essence, this paper suggests that the process of the translation of political strategies into policy implementation can be conceptualised as the introduction of *a new, high-level impulse into an existing path-dependent system of narratives and policy practice.* An impulse, that will to different degrees result in gradual adaptations, depending on the situation - quite in line with established notions of policy patching and packing (Howlett and Rayner 2013; Rayner et al. 2013).

Thus, strategy implementation is as much about building on and changing cognitive frames, established habits and recalibrating interest coalitions (Schneider and Ingram 1993; Christensen and Lægreid 2002; Dunlop 2009; Meuleman 2009) as it is about the identification of technically appropriate instruments to reach out to suitable target groups (Kleibrink et al. 2018).

In the case of political strategies that are broad-based, addressing a range of topics and a number of different target groups it is instrumental to distinguish the following three levels at which a prior equilibrium of practice is changed and will have to be re-negotiated to effect any change.

- first the level of *strategic agenda setting* on the basis of shared frames and narratives.
  This level is anchored in the sphere of politics and political discourses and involves the political administration for the purpose of take-up;

- second the level of *thematic orientation* and the effective constitution of directionality.
  This level its anchored at the level of the political administration and involves purely executive functions for the purpose of take-up;

- third the level of *actual implementation* and instrumentation.
  This level is anchored largely at the purely executive level of the administration that in turn interacts strongly with real-world beneficiaries.

By definition, strategic impulses at the level of challenge driven innovation policy change the established set-up of this system first at the highest level to then be translated down to the level of actual instrumentation step-by-step.

In the simplified world of the policy cycle, this process is displayed as sequential and hierarchical, with design situated purely at the policy level, implementation as a purely executive function and both forming a functional whole of "policy design and implementation". In the real world, however, the described levels are co-existing functional arenas of discussion involving overlapping groups of actors including policy makers and "real world" actors. In reality, some overlaps between exchanges on the different conceptual levels will inevitably result (Howlett 2009; Considine et al. 2014; Howlett 2014; Navarro et al. 2014; Magro et al. 2014). Nonetheless, their distinction is analytically fundamental as it enables the differentiation between distinct internal logics, different path-dependencies und different intervening factors (Howlett et al. 2015; Howlett et al. 2017; Peters et al. 2018). This, in turn, allows us to structure the analysis as a basis for later assessment.

In general terms, the proposed approach can be considered in line with Peters et al. (2018) suggestion of a differentiation between "high-level abstraction", "operationalisation", "on-the-ground specification", with the slight yet important difference that the au-

thors would hesitate to illustrate the "operationalisation" level with the notion of policy programmes - which in our view comes overly close to an "on-the-ground specification" already.

In summary, the central message of conceiving the process of policy implementation is the implication that deviations from an ideal state of consistency can occur both during early stages of the policy process and during the process of theme definition and implementation. Not only can the strategy as such be inconsistent, but also can the resulting support portfolio involve duplications, overlaps and redundancies (Hou and Brewer 2010; Swanson et al. 2010). As Peters et al. (2018) point out, "effectiveness of design and effectiveness of policy are autonomous questions", implying that there is merit in analysing the consistency of measures as such (Howlett and Rayner 2007) rather than to assess their outcome directly against purported premises of the initial strategy.

Figure 2:   Three functional levels of policy implementation
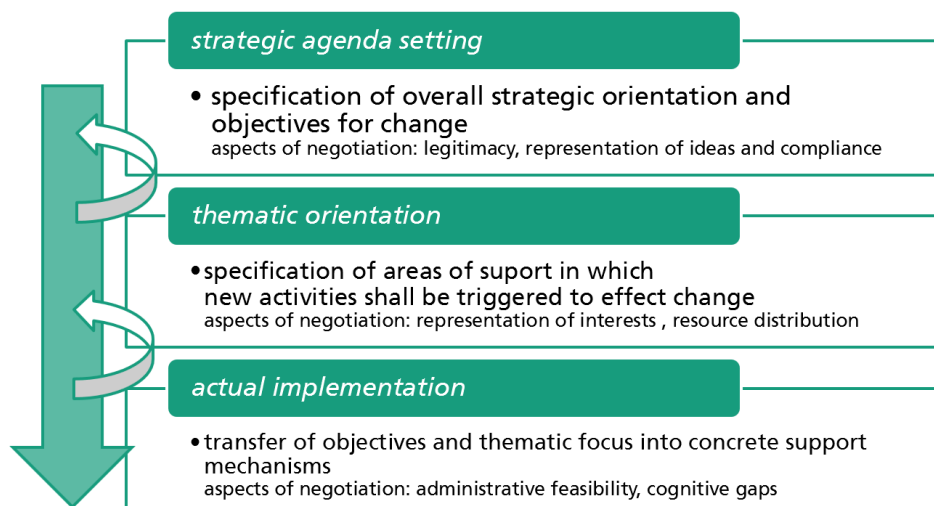
Source: Own figure

As a result of this acknowledgement, the above heuristic allows us to move beyond a generic, outcome-oriented assessment comparing objectives and results directly (Kleibrink et al. 2018) to one of multi-level processual consistency and coherence (Rogge and Reichardt 2016). As it acknowledges the diverse interim steps that, in practice, have to be taken to achieve any result (Peters et al. 2018), the proposed heuristic can to some degree be considered a "design model of decision making" in the sense of Considine (2012).

3.2   Levels and Logics of Negotiation

With a view to internal logics, negotiations and decision making at the level of strategic agenda setting are primarily driven and motivated by issues of legitimacy, the representation of discourses and (within multi-level systems) compliance with higher-level decisions. At this level, policy has to demonstrate that all relevant actor groups are given a voice and that the specific strategy is in line with the overarching national or supranational policy framework (Kuhlmann et al. 2010; Skodvin et al. 2010; Kroll 2017; Kingdon 1984). Often, this will provoke a contestation of existing narratives. At the level of thematic orientation, in contrast, the prevailing logic is one of representation of concrete interests and negotiations for resource distribution. At this level, policy makers have to assign the pursuit of generic objectives to specific stakeholder groups, taking into account established claims (Iacobucci 2014; Boschma 2014; Kroll 2017). Necessarily, this will provoke substantial competition for resources. At the level of instrumentation, finally, discussions are to a strong extent dominated by administrative logics and cognitive challenges as implementation is reaching a level of granularity where policy makers will find it difficult to understand and respond to concrete needs and challenges in specific 'real world' implementation contexts (Braathen 2007; Considine et al. 2014; Kroll 2015).

As mentioned above, the functional levels are conceptual constructs defined with the ambition to constitute a heuristic. In practice, they may overlap substantially, depending on local governance setting and the concrete constellation of actors involved in the process. As the following section will outline, however, they provide a useful framework of thought when it comes to defining cornerstones of desirable outcomes in the process of translating strategies into practice. Moreover, they will be instrumental in qualifying deviations from ideal-typical situations into those that are functionally expectable and inevitable and those that are entirely actor-driven and avoidable.

4   Assessment Criteria & Intervening Factors

4.1   Assessment Criteria

Based on the heuristic outlined above, is it possible to derive two main assessment criteria for the process of implementing political strategies. Overall, this paper maintains that any broad-based strategy process can be assessed as successful or less successful based on these two main criteria which at the same time allow the external observer to identify and specify concrete shortcomings that could in the following be addressed.
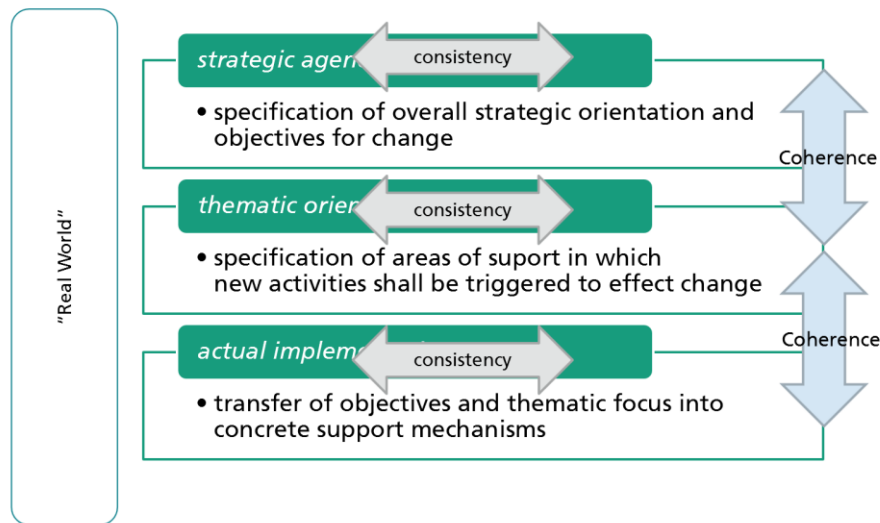
First, the *consistency of statements* at one specific functional level, concerning e.g. the question whether the high-level strategic narrative was consistent in the first place. Such *intra-level consistency* denotes the logical homogeneity and freedom of contradiction of the overall results of target setting, commitments, and decisions within one particular sphere. Second, the *coherence between higher-level impulses or narratives and their translation to lower levels*, e.g. concerning the question of whether the strategy's high-level ambitions are adequately reflected at lower levels. Hence, such *inter-level coherence* indicates whether agreements and propositions at higher-levels have been consequentially translated to lower ones so that strategic ambitions can materialise in practice.

In detail, key determinants of intra-level consistence can be outlined as follows: At the level of strategic agenda setting, it refers to the question whether the overall narrative is consistent or whether its composite parts substantially contradict each other. At the level of theme setting, it denotes whether the themes are defined at a conceptually similar level, with similar breadth and scope and whether they positively relate to each other. At the level of instrumentation, it refers to the question whether the selected instruments interfere with each other in technical terms.

With a view to inter-level coherence, key elements of coherence between strategic agenda setting and theme setting include whether the selected thematic areas of action follow from a clear intervention logic to achieve change and whether they correspond to a well-founded understanding of the overall ambition. Between strategic theme setting and instrumentation, they refer to whether the concrete set of instruments suitably corresponds to the selected themes in that they address relevant target groups and that they do so in a way that is likely to prompt actual change.

Importantly, these assessment criteria pertain predominantly to the strategy (process) itself, rather than to its match with the actual socio-economic situation in the constituency that it is meant to affect. As outlined in the introduction, an assessment along the proposed criteria aims to *differentiate* between situations in which a lack of effectiveness results from a simple mismatch between strategy and reality ('poor strategy') and such in which the strategy is well-oriented but disabled by inconsistent and incoherent implementation ('poor policy'). Although the actual socio-economic situation will at times inevitably play a role in the analysis of consistency, this must be seen as distinct from dedicated ambition-reality checks - which would be a separate task at all three levels.

Figure 3: Assessment Criteria based on the Three-Level Heuristic

strategic agen | consistency

• specification of overall strategic orientation and objectives for change

Coherence

thematic orien | consistency

• specification of areas of suport in which new activities shall be triggered to effect change

Coherence

actual implem | consistency

• transfer of objectives and thematic focus into concrete support mechanisms

"Real World"

Source: Own figure

4.2 Intervening Factors

As already highlighted above, two different types of intervening factors should be distinguished in the analysis of information failures, coordination failures and conflicts that cause deviations from the ideal of intra-level consistency and inter-level coherence.

First, frictions and inconsistency can result from processes - such as competition for resources - which are as such perfectly legitimate, but insufficiently contained and moderated. Deficiencies in this regard can in general be resolved and amended through improved mediation and management while maintaining the group of actors involved. As these result from expectable processes in a certain systemic environment, they will be referred to as functional challenges.

Second, frictions and inconsistency can result from actions and character traits immediately pertinent to certain actors or actor groups, such as overt self-display, irrational actions or persistent cognitive barriers. Such deficiencies can typically only be overcome through the reconfiguration of the affected arenas of discussion or - worst case - the removal of certain stakeholders or stakeholder groups from the process. These will be referred to as actor-based challenges.

That said, it remains difficult to categorically assign specific, characteristic challenges to distinct levels in the implementation process. In particular actor-based challenges can occur at any level, be it in the form of disputes between ministers or the refusal of implementation agencies to proactively put in place novel programmes where this appears inconvenient. With a view to functional challenges, however, a certain, tentative

attribution can be attempted - as specific logics of negotiation tend to give rise to specific issues which are less commonly seen in other contexts.

At the level of strategic agenda setting, commonly encountered issues include (overt) concerns for societal acceptance, amenability to trends and policy fashions and, at the same time, hesitation to put in place strategic agendas that may indeed effect transformative change with unknown consequences (Kuhlmann et al. 2010). Moreover, high-level decision-making processes may suffer from a lack of information on existing evidence on actual challenges.

At the level of thematic orientation, discussions on remit on the side of the administration and conflicts between interest groups at the stakeholder side occupy centre stage. Furthermore, a lack of access to field specific knowledge and information about available capacities triggers classical coordination challenges as the position of a neutral yet qualified moderator remains difficult to assume against well-prepared interest groups (Iacobucci 2014; Kroll 2017).

At the level of instrumentation, classic principle-agent situations prevail. Policy makers meet cognitive limits when it comes to assessing the potential efficacy of field specific funding approaches, options to address and involve relevant target groups and possible ways to initiate concrete projects (Considine et al. 2014; Yi and Feiock 2012). This puts the agents in the sphere of applicants and project management authorities in a good position to modify and interpret given frameworks according to their own needs and preferences.

Put more generally, there are substantial interdependencies in the system at multiple levels that will - for different reasons - alter the initial thrust of the new strategic narrative on its way down to implementation (Hood 2007, 2002; Meseguer 2016; Capano and Woo 2017; Peters et al. 2018). At the level of strategic agenda setting, new thoughts become amalgamated with existing discourses and narratives out of political opportunity. At the level of thematic priority setting, questions of established remit and pre-existing budgetary allocations to certain fields determine whether new emphasis can at all be set and how comprehensive a strategy can technically become. This does not only refer to the obvious point that new impulses set by one ministry cannot easily affect the spending of others, but also to the fact new support programmes are not introduced on a political 'greenfield' but interact and interfere with an existing support landscape. Finally, there are a number of long established practices at the level of instrumentation that are - for one or the other reason - considered 'good practice' and concrete 'success stories' (Howlett and Rayner 2013). As these are governed by expert personnel at the level of project management agencies with close 'real world' connec-

tions, it can at times be rather difficult to effectively change them on the basis of an abstract strategy that does not directly relate to real world needs. Moreover, legal and technical limitations can prevent the translation of well meant ambitions into effective support practice.

As can be seen from the above, the proposed heuristic thus emphasises the 'human component' in the translation of political strategies into practice which must be considered a reflexive, actor-based process in which, following an 'external shock' diverse aspects of change are negotiated and renegotiated until a new equilibrium is established (cf. Peters et al. 2018). Typically, such a process of reconfiguration will take several months or years and several of the abovementioned intervening factors will in one or the other way come to play. Accordingly, the implementation of many broad-based, transformation oriented political strategies will in practice be both inconsistent and incoherent to a certain degree. As such, this is in their nature. For relevant future analysis, however, it remains necessary to understand where the main deficits lie and why. Moreover, possible remedies can only be proposed if the origin of the perceived failure is known.

5   Method

The authors of this study work in policy analysis and evaluation for more than a decade. Many of the above assumptions are thus not only derived from scientific literature but also based on manifold impressions from formal and informal interviews with policy makers and funding agencies affected by various strategy processes. Unfortunately, many of these processes are not easily accessible to rigorous empirical study as they are, by their very nature, internal and confidential.

In recent years, however, the European Commission's regional policy agenda for smart specialisation (Foray et al. 2009; Capello and Kroll 2016) provided a large scale real world experiment in which the implementation of strategies that were only fully developed in the course of their translation into practice could be studied in various contexts. Moreover, the European Commission's stipulations required not only a documentation of the process per se but also the set-up of formal governance mechanisms (Foray et al. 2012; European Union 2013) - thus creating an unusually broad basis of study material and various opportunities for interviews at different stages during the course of the conception, interpretation and translation of the strategies.

By definition the ambition of "smart specialisation strategies for regional economic transformation" is very broad, leaving substantial room for further interpretation. Moreover, no specific guidance on how to do so was provided at the outset, so that the rele-

vant policy makers had a great degree of liberty to design and enact programmes for action as they saw fit (Kroll 2015). Moreover, the usual distance between the circles of decision makers (initially often the units responsible for European structural funding) and executing actors is both rather large and not necessarily characterised by clear, hierarchical relations (Kroll 2017). Finally, the European Commission's stipulations explicitly barred swift, top-down decision processes to ascertain the involvement of 'real-world' beneficiaries who would be eventually concerned (Foray et al. 2009; European Union 2013; Foray 2014b, 2015).

In the following, a concrete case study will be developed to corroborate and illustrate the pertinence of the assumptions and the proposed heuristic against this particular background. It will compile evidence of both the process of translating strategic ambitions into concrete support measures as such and the negotiation logics and intervening factors which could be observed at different levels. Thus, it will underline that our understanding of policy implementation can indeed be furthered by the proposed approach and heuristic – and what the concrete benefits of the approach may be.

More precisely, the object of study is the 2014 "Innovation Strategy of the German Free State of Thuringia" that was developed in response to European Commission's robust, conditional call for the development of innovation strategies for smart specialisation in 2012-2013. Beyond document analysis, several semi-structured interviews were conducted with officials in the administration and relevant agencies in the course of the conception and implementation of the strategy. Thus, the analysis below is based not only on desk research but also on repeated formal and informal discussions in the course of the past three to four years. Necessarily, the interpretation of what the authors believe to have heard is subject to the author's own perception and cognitive biases and may thus deviate from individual governmental actors' own or official assessment.

6   Case Study: Regional Innovation Strategies for Smart Specialisation

Following German reunification, the Free State of Thuringia has developed a strategic approach to innovation policy for more than 20 years. Until 2010, however, strategic policy making was implicit in governmental discourses and seldom formalized. Following the paradigm of the time, moreover, most general support programmes were technologically open and not grounded in any sort of overarching strategic policy framework. By and large, the policy paradigm could be characterised as incrementalist (Peters et al. 2018). If at all, emphasis was placed on specific initiatives and large-scale

projects to strengthen lead industries in the region. For the past two decades, however, Thuringia received substantial amounts of structural funding from the European Union so that regional policy makers commanded in fact quite substantial resources that they could distribute through strategic agenda setting and for which local stakeholders vigorously competed. Against this background, the regional government's factual strategic capacities, interests and inclination towards proactive design of innovation policy were in some respects more developed than formally recognisable.

With a view to the conceptual headings of the proposed heuristics, the findings of the abovementioned interview and desk research-based analysis can be subsumed as follows.

6.1   Consistency of Strategic Agenda Setting

In the abovementioned implicit sense, the Free State of Thuringia pursues broad-based strategies to further economic development and trigger change since the mid-1990s. Based on the combination of European, Federal and Regional funds, the regional government supported the build-up of local clusters of excellence most prominently in the field of optics and lighting, but also in the health sector and other industrially relevant fields such as the area of automation.

Against this background a first formal innovation strategy - the "Trend Atlas 2020" - was commissioned by the regional government in 2010. For that strategy, Roland Berger Strategy Consultants analysed 300 publications and conducted more than 100 interviews to perform a bottom-up analysis of the Thuringian innovation system and translate its findings into a SWOT analysis. In the end, this study resulted in the identification of numerous "fields of action" as well as 16 general and 147 detailed recommendations. In general, however, the process remained external to the regional government, involved a fairly limited number of stakeholders in genuine feedback loops and by and large developed limited ownership in the regional administration.

As the existing efforts thus lacked a truly inclusive character, a permanent governance framework and any type of monitoring system, the European Commission considered them as inadequate under the ex-ante conditionality for structural funding (European Union 2013). Consequently, the regional government had to relaunch the strategy process in 2013, this time based on a more broad-based and intensive involvement of actual stakeholders, orchestrated from *within* the administration at "Thuringia Cluster-Management" a management authority subordinate to the responsible ministry.

Still, its overarching objective remains as such not very compelling being limited to the statement that based on *"the new Thuringian Innovation Strategy, [the region will bun-*

dle its] strengths while focusing on [its] biggest competence: close, networked collabo-ration among [.] scientific institutions, [.] business community, and [.] policymakers [...] to quickly turn promising ideas into the reality of innovative products and services" – accompanied by piecemeal ambitions such as to *"by 2020 further improve the region's position within the group of European leaders"* (of which it is arguably not really a part) and to take different measures to *"strengthen the involvement of SMEs into the innova-tion process* at large*"*. On the downside, this overall objective quite obviously lacks a clear statement or narrative of intended transformation while, on the upside, it cannot really be considered as contradictory either.

With a view to the reference system established in this paper, this lack of consistency and clear narrative can be attributed of the initial absence of a triggering or precedent discourse at the local level and in consequence a lack of ownership on the side of the regional government. Initially, the drafting of a "regional innovation strategy for smart specialisation" was an act of compliance vis-a-vis the European Commission. At the same time, it would govern a quite substantive budget under ERDF, so that it raised real issues of legitimacy and representation in the constituency. While, in principle, the regional government would have had the option of focusing on a specific narrative of e.g. industrial modernization, agricultural transformation or other, sector specific issues it was in practical terms obvious that, from a political perspective, such an approach was out of the question on the highest level. As a result, the strategy's formally stated high-level ambition refers to a smallest common denominator to which everyone could agree without becoming overly specific.

6.2   Consistency of Thematic Orientation

Despite that initial decision taken, the European Commission's stipulations still required a definition of certain priority domains for support which had to become part of the sub-stance of the eventual strategy (Foray et al. 2012; European Union 2013). During summer 2013, therefore, several working groups were set up to develop first proposals starting from seven initial themes which were in the following consolidated into four vertical fields of action:

- Industrial production and systems
- Sustainable and smart mobility & logistics
- Healthy living and the healthcare sector
- Sustainable energy supply and resource management

as well as "ICT, innovative and production-related services" as a cross cutting activity with relevance for all economic sectors. An overview of these fields is illustrated in Figure 4 below.

Figure 4:   The five Thuringian Fields of Innovation

| Industrial production and systems | Sustainable and smart mobility & logistics | Healthy living and the healthcare sector | Sustainable energy supply and resource management | ICT, innovative and production-related services |

Source: Thuringian State Government

Overall, the process of strategy consolidation took about one year including different methodologies like expert consultations, round tables, public communication, inter-ministry coordination and a number of larger-scale communication meetings. Overall, the consultation involved more than 500 stakeholders and lasted from mid-2013 until mid-2014. Next to everyone with a specific interest or claim, be it administrative or funding related was given the opportunity to contribute to the process and voice his or her preferences and concerns.

Evidently, the outcome is very encompassing on the one hand and less than optimally structured on the other. With a view to the criteria for intra-level consistency mentioned above, it is obvious that fields are not defined at the same level (cross-cutting versus vertical) and of very different breath and scope (industrial production at large versus the rather specific area of healthcare).

With a view to the reference system established in this paper, document analysis and impressions from various interviews clearly underline that, indeed, discussions on remit and competition between interest groups have caused both the broad coverage and a semantic of focus areas that, from a pure conceptual point of view might have been chosen otherwise. Other than at the level of high-level strategy, taking some sort of position could at this level no longer be avoided, in particular as the European Commission put this as a basic condition for approval. Different from the high-level decision, moreover, the process had to be opened up to a larger circle of stakeholders. In consequence, it is not difficult to see how the 'fields of innovation' reflect the articulation and negotiation of interests of local associations, key stakeholders and other interest groups.

Moreover, our field research confirms that not only rent seeking as such, but also coordination and information challenges made it discursively difficult to take "tough" and exclusive choices guided by a strict intervention logic for the next seven years (as the European Commission encouraged and pushed region's to do). This supports earlier findings that if no consistent and compulsory high-level guidance is given initially, conflicts of remit and competition for resources are very likely to negatively affect the logical consistency of the thematic portfolio.

6.3   Consistency of Actual Implementation

As in many other regions, the implementation of the Thuringian Innovation Strategy is focused on the funds allocated under the ERDF Priority Axis 1 (see also below) for which a total of 416.25 m €[1] are foreseen of which about half will be allocated under the *Directive for the support of Research, Technology and Innovation* (161,7 m € ERDF funding, i.e. more than 200 m € in total)[2], much of which under competitive procedures in line with the selected fields. Overall, the strategy's effect is thus largely one of patching, while substantial other areas remained technologically open or only formally subject to checks whether they are "in line with the innovation strategy". Even though some competitive support procedures were launched under the different innovation fields' headlines and these are clearly delimited, there are substantial remaining overlaps between beneficiaries of traditional funding measures and such developed based on the innovation strategy.

Furthermore, there are a number of offers under the remit of other ministries and from the federal level that cannot at all be traced back to a common source of strategic considerations. Hence, there are broad-based options for potential beneficiaries to source funding for different aspects of any planned initiative from multiple providers without that being intended or coordinated at a higher political level. In this regard, Thuringia profits from the fact that while there may be various principals, there are by and large two central agents of implementation, the State Development Corporation of Thuringia (LEG) that helps to develop and prepare initiatives that are later supported and the public Thüringer Aufbaubank (Thuringia Bank for Reconstruction, TAB) that formally administers the majority of all funding.

With a view to the reference system established in this paper, there is thus indeed evidence of principle-agent issues that prevent consistent alignment. Also, we find specific

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1   https://cohesiondata.ec.europa.eu/programmes/2014DE16RFOP015

2   https://www.thueringen.de/th6/tmwwdg/technologie/technologiefoerderung/index.aspx

administrative logics at work of substantial impact on how strategic ambitions materialise without being part of the strategy itself. On the upside, most interviews neither suggested substantial resistance to change at the technical implementation level nor were the implementation agents known to develop an undue 'life of their own'. Instead, officials considered them as benevolent, capable and much needed translators and intermediaries between policy and practice. In their view, they had mitigated possible inconsistencies by embedding and interfacing new funding approaches into the diversity of already existing ones through processes of consultation with potential beneficiaries.

6.4 Coherence between Strategy and Thematic Orientation

For all its breadth and partial inconsistency, the selection of themes is credibly built on the ambition to concentrate future support in those areas where relevant change can be found to develop the Thuringian economy and boost SME performance in the manner intended. While conflicts about remit and competition for resources may have affected consistency, they have not broken the overall logic of translation in a sense that a purportedly change-oriented strategy had defined fields of intervention markedly unfit for this purpose. Evidently, the articulation of claims and personal interest has been contained in a process that was effective in establishing consensus on joint areas of action. Indeed, it reflects the ambition to support specific areas of strength while at the same time aiming to involve SME in the innovation process in a broader manner than today (through the broad industrial and the cross-cutting ICT field).

Overall, this productive spirit of first to second level translation was enabled and furthered by support from the highest political level, constructive participation of stakeholders that limited individual, actor-level conflicts and a well-defined and coordinated process for which a specific governance framework was created. Building on existing capacities, the main office for the coordination of the translation process was set up at the State Development Corporation of Thuringia, the abovementioned versatile intermediary and match-making agency with a broad basis of professional competence in the organization and moderation of consultation processes. Moreover, the specific working groups are governed at the ministerial level, which is not usual and – as mentioned above – allows for decisive final decision making in case of conflict.

Figure 5:   Sequence of Steps in the Process of Strategy Definition

Source: Thuringian State Government

Consequently, the process of theme selection was conducted in a deliberate sequence of steps that logically build upon each other, allowing for recursive steps, that promoted a coordinated and subject-driven, rather than chaotic and interest-driven articulation of interests that could in the following more easily be managed. While the figure below gives vivid testimony of the interactive nature of the process, it at the same time demonstrates that such flexibility does not necessarily imply an absence of structure, coordination and guided discourse.

With a view to the reference system established in this paper, these findings suggest that even during the early stages of strategy definition and translation into concrete fields of activity, coherence cannot be established easily - as it meets with the above-mentioned counter-consistency forces at the next lower level. However, it equally underlines that inter-ministerial disputes as well as potential or manifest conflict between stakeholders can be accommodated by structured discourses with hierarchical backing. What is needed to contain centrifugal forces is robust governance to frame those, anchored in high-level politics and at the same time grounded in the work of experienced and capable intermediary organisations.

6.5 Coherence between Thematic Orientation and Implementation

Once the different thematic fields were approved by cabinet, the State Development Corporation moved the process further into the direction of elaborating concrete ideas for funding. To that end, working groups were established within each thematic area to

refine "key objectives" (Leitziele). Guided by these key objectives, the discussion was branched out further into thematically already very specific "open fora" (Offene Foren) of experts. These fora were given the task of formulating concrete "proposals for action" (Maßnahmenvorschläge) to be submitted back up to the working groups. Importantly, these proposals could be of a general nature, proposing ideas in substance rather than already responding to a call for funding. In the end, the working groups decide at their regular meetings which of the proposals go ahead for funding, which are rejected and which are placed on hold for later consideration.

While the groups were expressly encouraged to think broad, unhampered by concrete funding programmes, the regional Ministry for the Economy did launch a specific, competitive funding programme with notable resources (currently about € 40 m p.a., more than € 200 m in total) to which proposals pertaining to the more general "proposals for action" could be submitted. Not surprisingly, this provided a substantial incentive to trigger productive considerations in the first place, although, as mentioned above large segments of the Free State's budget for research and technology policy remain allocated under other headings. These include funding for technology transfer infrastructures and projects closer to research (covering a similar budget like the above programme). Based on the convening function of the fora, however, some of these formally non-directed funding opportunities are effectively inbuilt as composite parts of funding proposals.

With a view to the reference system established in this paper, these findings suggest that the chosen structure has quite successfully accommodated potential issues resulting from cognitive barriers and principle agent problems. Due to their high degree of specificity, the fora enabled discussions among experts, avoiding the need of any 'principle' to understand them in detail, before concrete proposals can take shape. In fact, the fora were set up for the precise purpose of bringing experts together to jointly translate their ideas into plans understandable by non-expert principals. At the same time, the need to refer proposals back up to the working groups and eventually the cluster board limits and contains the risk of 'capture by experts' by differentiating the position of the principle, making it more difficult for the agent to steer the process in a coherence-damaging direction.

Figure 6:   Open Fora to Discuss Proposals for Action

Source: Thuringian State Government

What this concrete process displayed less, in contrast, was administrative resistance to a take up of new funding programmes in particular fields. If at all, certain fields displayed less activities with regard to the constitution of ideas so that the desired effects could not be achieved. This, however, was already due to frictions with reality. In a final implementation step, the Thuringian Reconstruction Bank launched adequate competitive calls to which organized stakeholders could respond, so that the strategy's translation can be considered completed. Moreover, the abovementioned process of discussion in the working groups informed the process of designing new competitive calls. Without this expert input, coordinated by the State Development Corporation and aggregated by the regional Ministry for the Economy, the autonomous design for this new type of support programme might indeed have been a challenge for a purely executive-oriented agency like the Thuringian Reconstruction Bank, and hence met resistance. As it was, clear specifications were given to those capable of executing them legally and very limited friction was encountered.

7   Summary

In summary, the case study provides concrete evidence in what sense the process of policy implementation is indeed a continuous multi-level, multi-actor process of negotiation between political actors, political administration and 'real world' interest groups.

The case of the Thuringian innovation strategy demonstrates that pre-existing governance discourses of practice play a central role for the process of strategy implementa-

tion. In a negative sense, this refers to the fact that while a compelling new storyline remained missing, existing claims were defended and large sections of the support landscape remained formally unaffected in the end. In a positive sense, it refers to the fact that well-developed capacities to moderate processes of negotiation, high interpretative capabilities and limited cognitive distances between different instances of governance (Ministry, State Development Corporation, Reconstruction Bank) enabled an improvement of the initially weak narrative swift and effective interpretation of decisions and their translation into administrative action. Moreover, all key intervening factors that the heuristic suggests could be identified at the corresponding levels: issues of framing and legitimacy in high-level strategy definition, conflicts about resources and remit at the level of theme setting as well as principal-agent and cognitive barrier issues at the implementation level. However, some of them have in the Thuringian case been contained from the outset.

By and large, the consistency of agreements and actions at each individual level leaves room for improvement. At the same time, the degree of coherence between the different levels is rather high and supported by robust processes that moderate possible tensions. While the strategy as such may not be astonishing, the process of building it and governing its implementation deserves substantial credit. By drawing on the existing experience of established intermediaries, processes and instruments have been developed that allow for the translation of strategic impulses into concrete and well-crafted policy measures. Not least by identifying this crucial difference between formal consistency and processual coherence, the case study illustrates how the proposed heuristic can be instrumental for future analyses. In particular, this is true in the following three respects.

First, it differentiates between intra-level consistency and level coherence. As the example demonstrates, consistency will close to inevitably be compromised while coherence may remain high – a marked distinction that is relevant to acknowledge. As the case study illustrates, this distinction can prevent the dismissal of a strategy due to deficits in consistency while it has substantial merits with a view to coherence.

Second, it structures the analysis of identified deficits, by attributing them to certain levels of the process and the intervening factors like issues of legitimacy, conflicts or principle agent issues that originally caused them. If a support action turns out ineffective, this attribution helps to understand if the issue is really at the level of instrumentation or finds its roots already in a weak overall narrative or an ill-designed focus at the level of theme setting.

Third, it identifies those elements that have in the Thuringian case prevented the occurrence of expectable deficits in the implementation process by accommodating and containing those frictions that could, in principle, have occurred at a certain stage. If it is known where and how frictions can be contained or prevented, the role of different actors in the implementation process can be understood better and, if necessary, improved.

8   Conclusion

Concluding, this paper has illustrated to what extent the process of translating political decisions into effective measures and actions is – more often than not – a complex, multi-actor process of negotiation and interpretation on its own that deserves to be analysed with the conceptual tools of governance and policy analysis.

However, political sciences' classical perspectives of analysis (legitimacy, power and representation) do not suffice to understand this process in its entirety. In practice, it is equally determined by administrative logics (remit, principle agent constellations, cognitive barriers) as well as 'real world' interests of potential beneficiaries (resources, political attention, eligibility).

The presented case study has illustrated that, in practice, many intuitive solutions are found or have grown over time that help to moderate and contain the substantial centrifugal forces that occur during the reflexive process of translating political decisions into support measures and actions.

Analytically, however, our understanding of why and how they work and where others fail needs to be improved. Against this background, it cannot convince to intentionally forfeit our capacity to do so with reference to complexity and overlaps. Necessarily, there is a lot of complexity in multi-level, multi-actor policy making. As with all complex problems, however, the key to pertinent analysis and meaningful findings lies in the reduction of this complexity.

As the simplest possible finding, therefore, the authors would like to highlight this papers core message that a mere lack in consistency should not be mistaken for a lack of effectiveness. Inevitably, there are a lot of legitimate, counteracting forces to 'rational' consistency while it is the presence of accommodating processes and a resulting coherence in policy translation that makes strategy processes truly effective.

That said, the proposed heuristic is a first step into so far relatively uncharted analytical territory. Very likely, subsequent research will prove it defective in one or several of its premises or, in itself, based on assumptions that do not equally hold for all types of

strategy processes. Nonetheless, the authors believe that it could provide a robust, first foundation for future research that helps us to understand better what happens to policies once they are, in a first formal act, agreed upon.

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9   References

Ansell, C./Gash, A. (2008): Collaborative governance in theory and practice, *Journal of Public Administration Research and Theory* 18, 543–571. DOI: 10.1093/jopart/mum032.

Aranguren, M.J./Magro, E./Wilson, J.R. (2017): Regional competitiveness policy evaluation as a transformative process. From theory to practice, *Environment and Planning C: Politics and Space,* 35, 703–720. DOI: 10.1177/0263774X16662469.

Arnold, E. (2004): Evaluating research and innovation policy. A systems world needs systems evaluations, *Research Evaluation* 13, 3–17. DOI: 10.3152/147154404781776509.

Barker, A./Peters, B.G. (1993): *Politics of expert advice. Creating, using and manipulating scientific knowledge for public policy*. Edinburgh: Edinburgh University Press.

Bennett, C. J./Howlett, M. (1992): The lessons of learning. Reconciling theories of policy learning and policy change, *Policy Sciences,* 25, 275-294.

Bergman, M./Lane, J.-E. (2016): Public Policy in a Principal-Agent Framework, *Journal of Theoretical Politics* 2, 339–352. DOI: 10.1177/0951692890002003005.

Borrás, S. (2009): The Widening and Deepening of Innovation Policy. What Conditions Provide for Effective Governance? (CIRCLE Electronic Working Paper Series, No. 2009/02). Lund: Centre for Innovation, CIRCLE Research and Competence in the Learning Economy.

Borrás, S./Edquist, C. (2013): The choice of innovation policy instruments, *Technological forecasting & social change,* 80, 1513–1522.

Boschma, R. (2014): Constructing Regional Advantage and Smart Specialisation. Comparison of Two European Policy Concepts, *Scienze Regionali,* 13, 51–68. DOI: 10.3280/SCRE2014-001004.

Bovens, M./Hart, P. 't/Kuipers, S. (2006): The politics of policy evaluation. In: Moran, M./Rein, M./Goodin, R.E. (2006): The Oxford handbooks of political science. Oxford: Oxford University Press, 319–335.

Braathen, N.A. (2007): Instrument mixes for environmental policy. How many stones should be used to kill a bird?, *International review of environmental and resource economics,* 1, 185–235.

Braun, D./Guston, D.H. (2003): Principal-agent theory and research policy. An introduction, *Science and Public Policy*, 30, 302–308. DOI: 10.3152/147154303781780290.

Capano, G./Woo, J.J. (2017): Resilience and robustness in policy design. A critical appraisal, *Policy Sciences,* 50, 399-426. DOI: 10.1007/s11077-016-9273-x.

Capello, R./Kroll, H. (2016): From theory to practice in smart specialization strategy. Emerging limits and possible future trajectories, *European Planning Studies,* 24, 1393–1406. DOI: 10.1080/09654313.2016.1156058.

Christensen, T./Lægreid, P. (2002): *New public management. The transformation of ideas and practice.* Aldershot: Ashgate Pub.

Colebatch, H. K. (2017): The idea of policy design. Intention, process, outcome, meaning and validity, *Public Policy and Administration,* 43. DOI: 10.1177/0952076717709525.

Considine, M. (2012): Thinking Outside the Box? Applying Design Theory to Public Policy, *Politics & Policy,* 40, 704–724. DOI: 10.1111/j.1747-1346.2012.00372.x.

Considine, M./Alexander, D./Lewis, J.M. (2014): Policy design as craft. Teasing out policy design expertise using a semi-experimental approach, *Policy Sciences,* 47, 209–225. DOI: 10.1007/s11077-013-9191-0.

Considine, M./Lewis, Jenny M./Alexander, D. (2009): *Networks, innovation and public policy. Politicians, bureaucrats and the pathways to change inside government.* Basingstoke/England, New York: Palgrave Macmillan.

del Rio, P./Howlett, M.P. (2013): Beyond the 'Tinbergen Rule' in Policy Design. Matching Tools and Goals in Policy Portfolios, *Annual Review of Policy Design,* 1, 1–25. DOI: 10.2139/ssrn.2247238.

Dunlop, C.A. (2009): Policy transfer as learning. Capturing variation in what decision-makers learn from epistemic communities, *Policy Studies,* 30, 289–311. DOI: 10.1080/01442870902863869.

Edler, J. (2003): Change in European R&D Policy as a Complex Consensus-building Process Experiences from the Past and What They Can Teach Us for the Present. In: Edler, J./Kuhlmann, S./Behrens, M. (eds.) (2003): *Changing Governance of Research and Technology Policy: The European Research Area.* Cheltenham: Edward Elgar.

Edler, J./James, A.D. (2015): Understanding the emergence of new science and technology policies. Policy entrepreneurship, agenda setting and the development of the European Framework Programme, *Research Policy,* 44, 1252–1265. DOI: 10.1016/j.respol.2014.12.008.

Edler, J./Kuhlmann, S./Behrens, M. (eds.) (2003): Changing Governance of Research and Technology Policy: The European Research Area. Cheltenham: Edward Elgar.

European Union (2013): Regulation (EU) No 1303/2013 laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development etc. Luxembourg: European Union.

Flanagan, K./Uyarra, E. (2016): Four dangers in innovation policy studies – and how to avoid them, *Industry and Innovation,* 23, 177–188. DOI: 10.1080/13662716.2016.1146126.

Flanagan, K./Uyarra, E./Laranja, M. (2011): Reconceptualising the 'policy mix' for innovation, *Research Policy,* 40, 702–713. DOI: 10.1016/j.respol.2011.02.005.

Foray, D. (ed.) (2014a): *Smart specialisation. Opportunities and challenges for regional innovation policy.* London: Routledge Taylor & Francis Group.

Foray, D. (2014b): From smart specialisation to smart specialisation policy, *European journal of innovation management,* 17, 492–507.

Foray, D./David, P.A./Hall, B.H. (2009): *Smart Specialisation - The Concept, Knowledge Economists*, (Policy Brief No 9). Brussels: European Commission.

Foray, D./Goddard, J./Goenaga, X./Landabaso, M./McCann, P./Morgan, K./Nauwelaers, C./Ortega-Argilés, R. (2012): *Guide to Research and Innovation Strategies for Smart Specialisations (RIS3).* Brussels: European Commission.

Gunningham, N./Grabosky, P.N./Sinclair, D. (1998): *Smart regulation. Designing environmental policy*. Oxford: Clarendon Press.

Hjern, B./Porter, D.O. (1981): Implementation Structures. A New Unit of Administrative Analysis, *Organization Studies,* 2, 211–227. DOI: 10.1177/017084068100200301.

Hood, C. (2007): Intellectual Obsolescence and Intellectual Makeovers. Reflections on the Tools of Government after Two Decades, *Governance,* 20, 127–144. DOI: 10.1111/j.1468-0491.2007.00347.x.

Hood, C. (2002): The Risk Game and the Blame Game. *Government and opposition,* 37, 15-37. DOI: 10.1111/1477-7053.00085.

Hooghe, L./Marks, G. (2001): Types of Multi-Level Governance, *European Integration online Papers,* 5. DOI: 10.2139/ssrn.302786.

Hou, Y./Brewer, G.A. (2010): Substitution and Supplementation Between Co-Functional Policy Instruments. Evidence from State Budget Stabilization Practices, *Public Administration Review,* 70, 914-924. DOI: 10.1111/j.1540-6210.2010.02223.x.

Howlett, M. (2005): What is a policy instrument? Tools, mixes and implementation styles. In: Eliadis, P./Hill, M.M./Howlett, M. (eds.): *Designing government. From instruments to governance*. Montreal, Ithaca [N.Y.]: McGill-Queen's University Press, 31-50.

Howlett, M. (2009): Governance modes, policy regimes and operational plans. A multi-level nested model of policy instrument choice and policy design, *Policy Sciences,* 42, 73–89. DOI: 10.1007/s11077-009-9079-1.

Howlett, M. (2011): *Designing public policies. Principles and instruments.* Abingdon, Oxon, New York: Routledge.

Howlett, M. (2014): Policy Design: What, Who, How and Why? In: Halpern, C./Lascoumes, P./Le Galès, P. (eds.): *L'instrumentation et Ses Effets.* Paris: Presses de Sciences Po, 281–316.

Howlett, M./How, Y.P./del Rio, P. (2015): The parameters of policy portfolios. Verticality and horizontality in design spaces and their consequences for policy mix formulation. *Environment and Planning C: Government and Policy,* 33, 1233–1245. DOI: 10.1177/0263774X15610059.

Howlett, M./Kim, J./Weaver, P. (2006): Assessing Instrument Mixes through Program- and Agency-Level Data. Methodological Issues in Contemporary Implementation Research, *Review of Policy Research,* 23, 129-151. DOI: 10.1111/j.1541-1338.2006.00189.x.

Howlett, M./Rayner, J. (2007): Design Principles for Policy Mixes. Cohesion and Coherence in 'New Governance Arrangements', *Policy and Society,* 26, 1-18. DOI: 10.1016/S1449-4035(07)70118-2.

Howlett, M./Rayner, J. (2013): Patching vs Packaging in Policy Formulation. Assessing Policy Portfolio Design, *Politics and Governance,* 1, 170. DOI: 10.17645/pag.v1i2.95.

Howlett, M./Vince, J./Del Río, P. (2017): Policy Integration and Multi-Level Governance. Dealing with the Vertical Dimension of Policy Mix Designs, *Politics and Governance,* 5, 69. DOI: 10.17645/pag.v5i2.928.

Iacobucci, D. (2014): Designing and Implementing a Smart Specialisation Strategy at Regional Level. Some Open Questions, *Scienze Regionali,* 1, 107-126. DOI: 10.3280/SCRE2014-001006.

Jensen, M.C./Meckling, W.H. (1976): Theory of the firm. Managerial behavior, agency costs and ownership structure, *Journal of Financial Economics,* 3, 305-360. DOI: 10.1016/0304-405X(76)90026-X.

Kingdon, J.W. (1984): *Agendas, alternatives, and public policies*. Boston: Little Brown.

Kleibrink, A./Gianelle, C./Doussineau, M. (2018): Monitoring Innovation and Territorial Development in Europe: Emergent Strategic Management. In: Capello, R./Kroll, H. (eds.) (2018): *Regional innovation strategies (RIS3).* London: Routledge.

Kroll, H. (2017): Smart Specialization Policy in an Economically Well-Developed, Multilevel Governance System. In: Radošević, S./Curaj, A./Gheorghiu, R./Andreescu, L./Wade, I. (eds.): *Advances in the theory and practice of smart specialization*. London, United Kingdom: Academic Press, 99-123.

Kroll, H. (2016): *Understanding the "regional policy mix". A classification and analysis of European regions' support policies* (Working papers firms and regions, no. 2016/R1). Karlsruhe: Fraunhofer ISI. Online: http://hdl.handle.net/10419/126583.

Kroll, H. (2015): Efforts to Implement Smart Specialization in Practice-Leading Unlike Horses to the Water, *European Planning Studies,* 23, 2079-2098. DOI: 10.1080/09654313.2014.1003036.

Kuhlmann, S./Rip, A. (2018): Next-Generation Innovation Policy and Grand Challenges, *Science and Public Policy,* 4. DOI: 10.1093/scipol/scy011.

Kuhlmann, S./Shapira, P./Smits, R. (2010): Introduction. A Systemic Perspective. The Innovation Policy Dance. In: R. Smits, P. Shapira und S. Kuhlmann (Hg.): *The theory and practice of innovation policy. An international research handbook*. Cheltenham, UK, Northampton, MA: Edward Elgar, 1-22.

Landabaso, M./Valdaliso, J.M./Magro, E./Navarro, M./Jose A., Mari/Wilson, J.R. (2014): Path dependence in policies supporting smart specialisation strategies, *European Journal of Innovation Management,* 17, 390-408. DOI: 10.1108/EJIM-12-2013-0136.

Lanzalaco, L. (2011): Bringing the Olympic Rationality Back In? Coherence, Integration and Effectiveness of Public Policies, *World Political Science,* 7. DOI: 10.2202/1935-6226.1098.

Laranja, M./Uyarra, E./Flanagan, K. (2008): Policies for science, technology and innovation. Translating rationales into regional policies in a multi-level setting, *Research Policy,* 37, 823-835. DOI: 10.1016/j.respol.2008.03.006.

Lascoumes, P./Le Galès, P. (2007): Introduction. Understanding Public Policy through Its Instruments? From the Nature of Instruments to the Sociology of Public Policy Instrumentation, *Governance,* 20, 1-21. DOI: 10.1111/j.1468-0491.2007.00342.x.

Lindblom, C.E. (1959): The Science of "Muddling Through", *Public Administration Review,* 19, 79. DOI: 10.2307/973677.

Magro, E./Navarro, M./Zabala-Iturriagagoitia, J.M. (2014): Coordination-Mix: The Hidden Face of STI Policy, *Review of Policy Research,* 31, 367-389. DOI: 10.1111/ropr.12090.

Magro, E./Wilson, J.R. (2013): Complex innovation policy systems. Towards an evaluation mix, *Research Policy,* 42, 1647-1656. DOI: 10.1016/j.respol.2013.06.005.

Magro, E. Wilson, J.R. (2015): Evaluating Territorial Strategies. In: Valdaliso, J.M./Wilson, J.R. (eds.): *Strategies for Shaping Territorial Competitiveness*. Oxon, New York: Routledge, 94-110.

Meseguer, C. (2016): Policy Learning, Policy Diffusion, and the Making of a New Order, *The ANNALS of the American Academy of Political and Social Science,* 598, 67-82. DOI: 10.1177/0002716204272372.

Meuleman, L. (2009): Metagoverning Governance Styles: Increasing the Public Manager's Toolbox. Paper presented at the ECPR general conference. Potsdam, 2009.

Molas-Gallart, J./Davies, A. (2006): Toward Theory-Led Evaluation, *American Journal of Evaluation,* 27, 64-82. DOI: 10.1177/1098214005281701.

Navarro, M./Valdaliso, J.M./Aranguren, M.J./Magro, E. (2014): A holistic approach to regional strategies. The case of the Basque Country, *Science and Public Policy,* 41, 532-547. DOI: 10.1093/scipol/sct080.

Peters, B.G. (2014): Implementation structures as institutions, *Public Policy and Administration,* 29, 131-144. DOI: 10.1177/0952076713517733.

Peters, B.G./Capano, G./Howlett, M./Mukherjee, I./Chou, M.-H./Ravinet, P. (2018): *Designing for Policy Effectiveness.* Cambridge: Cambridge University Press.

Rayner, J./McNutt, K./Wellstead, A. (2013): Dispersed Capacity and Weak Coordination. The Challenge of Climate Change Adaptation in Canada's Forest Policy Sector, *Review of Policy Research,* 30, 66-90. DOI: 10.1111/ropr.12003.

Rogge, K./Reichardt, K. (2016): Policy mixes for sustainability transitions. An extended concept and framework for analysis, *Research Policy,* 45, 132-147. DOI: 10.1016/j.respol.2016.04.004.

Rotberg, R.I. (2014): Good Governance Means Performance and Results, *Governance,* 27, 511-518. DOI: 10.1111/gove.12084.

Schneider, A./Ingram, H. (1993): Social Construction of Target Populations. Implications for Politics and Policy, *American Political Science Review,* 87, 334-347. DOI: 10.2307/2939044.

Schot, J./Kanger, L. (2018): Deep transitions. Emergence, acceleration, stabilization and directionality, *Research Policy,* 47, 1045-1059. DOI: 10.1016/j.respol.2018.03.009.

Seymour-Ure, C. (1987): Institutionalization and informality in advisory systems. In: Plowden, W. (ed.): *Advising the rulers.* Oxford: B. Blackwell Publishing, 175-184.

Skodvin, T./Gullberg, A.T./Aakre, S. (2010): Target-group influence and political feasibility. The case of climate policy design in Europe, *Journal of European Public Policy,* 17, 854-873. DOI: 10.1080/13501763.2010.486991.

Smits, R./Kuhlmann, S./Shapira, P. (2010): *The theory and practice of innovation policy. An international research handbook.* Cheltenham, Northampton: Edward Elgar.

Swanson, D./Barg, S./Tyler, S./Venema, H./Tomar, S./Bhadwal, S./Nair, S./Roy, D./ Drexhage, J. (2010): Seven tools for creating adaptive policies, *Technological Forecasting and Social Change,* 77, 924-939. DOI: 10.1016/j.techfore.2010.04.005.

Valdaliso Gago, J.M./Magro, E./Navarro Arancegui, M./Aranguren Querejeta, M.J./Wilson, J.R. (2014): Path dependence in policies supporting smart specialisation strategies. Insights from the Basque case, *European journal of innovation management,* 17, 390-408.

Wu, X./Howlett, M./Fritzen, S. (2010): *The public policy primer. Managing the policy process.* New York: Routledge.

Wu, X./Ramesh, M./Howlett, M. (2015): Blending skill and resources across multiple levels of activity: competences, capabilities and the policy capacities of government, *Policy & Society*, 34, 165-171.

Yi, H./Feiock, R.C. (2012): Policy Tool Interactions and the Adoption of State Renewable Portfolio Standards, *Review of Policy Research*, 29, 193-206. DOI: 10.1111/j.1541-1338.2012.00548.x.