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The dependent variable problem in comparing and evaluating climate change adaptation policies in European countries

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Introduction

- The integration of adaptation in the policy framework of European countries raise a central research question which is:
 - How can successful adaptation be measured and compare across countries?
- Dependant variable problem in adaptation policy evaluation and comparison
 - indistinctness of the phenomenon that is being measured and disagreement on its scope and boundaries, what lead to contradictory results plus validity and comparability issues
 - Major problem for the research in evaluation and policy comparison and consequently for decision makers

Introduction

Plan of the presentation

- (1) Problem sketching: Why is adaptation policy problematic as dependant variable
- (2) and how we can deal with this problem through:
 - An operationalisation of the concept that reduces fuzziness and indistinctness (2.1)
 - Distinct research strategies : progress and outcomes (2.2)
 - Better indicators (2.3)
- (3) Added-value of the framework

1. The dependant variable problem

- Current comparative studies (Massey, 2008; Keskitalo, 2010 Swart, 2009; Gagnon-lebrun, Agrawal, 2006) do not really deal with the dependant variable problem
 - Operationalisation of the concept according to what State members and public administration designate as adaptation
- This is problematic because understanding of adaptation vary between actors for 3 reasons:
 1. Various theoretical views on the scope and boundaries of adaptation
 - Climate change adaptation (CCA) perspective
 - Vulnerability- centred adaptation (VCA) perspective
 2. Different definition of adaptation at the policy level
 - Role of private adaptation
 - Goal of the process

	Formal definition of the objective
European Commission	Adaptation actions are taken to cope with a changing climate, e.g. increased rainfall, higher temperatures, scarcer water resources or more frequent storms, at present or anticipating such changes in future. Adaptation aims at reducing the risk and damage from current and future harmful impacts cost-effectively or exploiting potential benefits” (European Commission, 2007)
Germany	Initiatives and measures to reduce the vulnerability of natural and human systems to actual or expected climate change effects. Various types of adaptation exist, e.g. anticipatory and reactive, private and public, and autonomous and planned. Examples are raising river or coastal dikes, or substituting more temperature-shock resistant plants for sensitive ones, etc. (Federal Ministry for the Environment Nature Conservation and Nuclear Safety, 2008)
Austria	The elaboration of a national adaptation strategy pursues the objective of increasing the adaptive capacity of the Austrian society and of the natural habitats to the consequences of climate change and accordingly to reduce the negative effects of climate change. (Umweltbundesamt, 2011)
UK (UKCIP)	The process or outcome of a process that leads to a reduction in harm or risk of harm, or realisation of benefits associated with climate variability and climate change.” (UKCIP, 2003)
UK (DEFRA)	Adaptation means learning to live with some climate change. It means protecting ourselves against negative impacts, and taking advantage of more positive aspects of climate change for some sectors – for example, agriculture (DEFRA, 2010)
Finland	Adaptation to climate change refers to the capacity of nature and humans to adjust to the climate changes, either through minimizing the adverse impacts or by taking advantage of the benefits”.(Finland’s Ministry of Agriculture and Forestry, 2005)
Switzerland	Switzerland exploit the possibilities that offer climate changes; minimizes the risks of climate changes, protect the population, goods and the material basis of life; increases the adaptive capacity of all systems (Conseil Fédéral, 2012)
Norway	Climate adaptation is assessments and initiatives to adapt nature and society to the effects of the current or future climate, to prevent undesirable effects or take advantage of benefits (Ministry of the environment, 2011)
Netherland	The aim of the strategy is to prevent social disruption, limit undesirable effects and exploit the opportunities afforded by climate change. (National Programme on Climate Adaptation and Spatial Planning, 2007)
USA	Adapting to climate change involves actions by individuals, businesses, governments, and others to build resilience and reduce vulnerability of human and natural systems to unavoidable climate impacts. Adaptation also reduces the long-term costs of responding to these impacts. Adaptation measures should focus on helping the most vulnerable people and places reduce their exposure and sensitivity to climate change and improve their capacity to predict, prepare for, and avoid adverse impacts (The White House Council On Environmental Quality, 2010)

1. The dependant variable problem

3. A large and indefinite scope of policy activities are labelled “adaptation”
 - Indistinctness of adaptation as policy sector (see Massey & al. 2012, forthcoming)
 - Mainstreaming rather than per se implementation
 - Numerous policy sectors concerned (transsectorality)
 - Cross-sectorial boundaries are fuzzy
 - Indistinctness of adaptation activities from traditional environmental or sustainability policies
 - Climate impacts are to a certain extent already dealt within previous policy framework
 - Difficult to pinpoint the added-value of policy activities dealing with adaptation

1. The dependant variable problem

One of the overall challenges in trying to assess adaptation activities is pinpointing precisely and exactly actions that can be labelled as adaptation. The problem with this task however revolves around what the definition of adaptation is and the multiplicity of actions that can potentially be labelled adaptation [...], should an action to protect against floods that was implemented 20 years ago now be regarded as an adaptation measure? Especially if its original intent was not climate impacts driven. Moreover is a program that studies endangered species to be considered an adaptation action? “ (E. E. Massey, 2009, p. 22)

“What should be included in the dependant variable?”

- Necessity to reduce the size of the dependant variable
- Necessity to fix valid and robust scope and boundaries to allow for policy comparison and evaluation

2.1 Operationalising “adaptation policy”

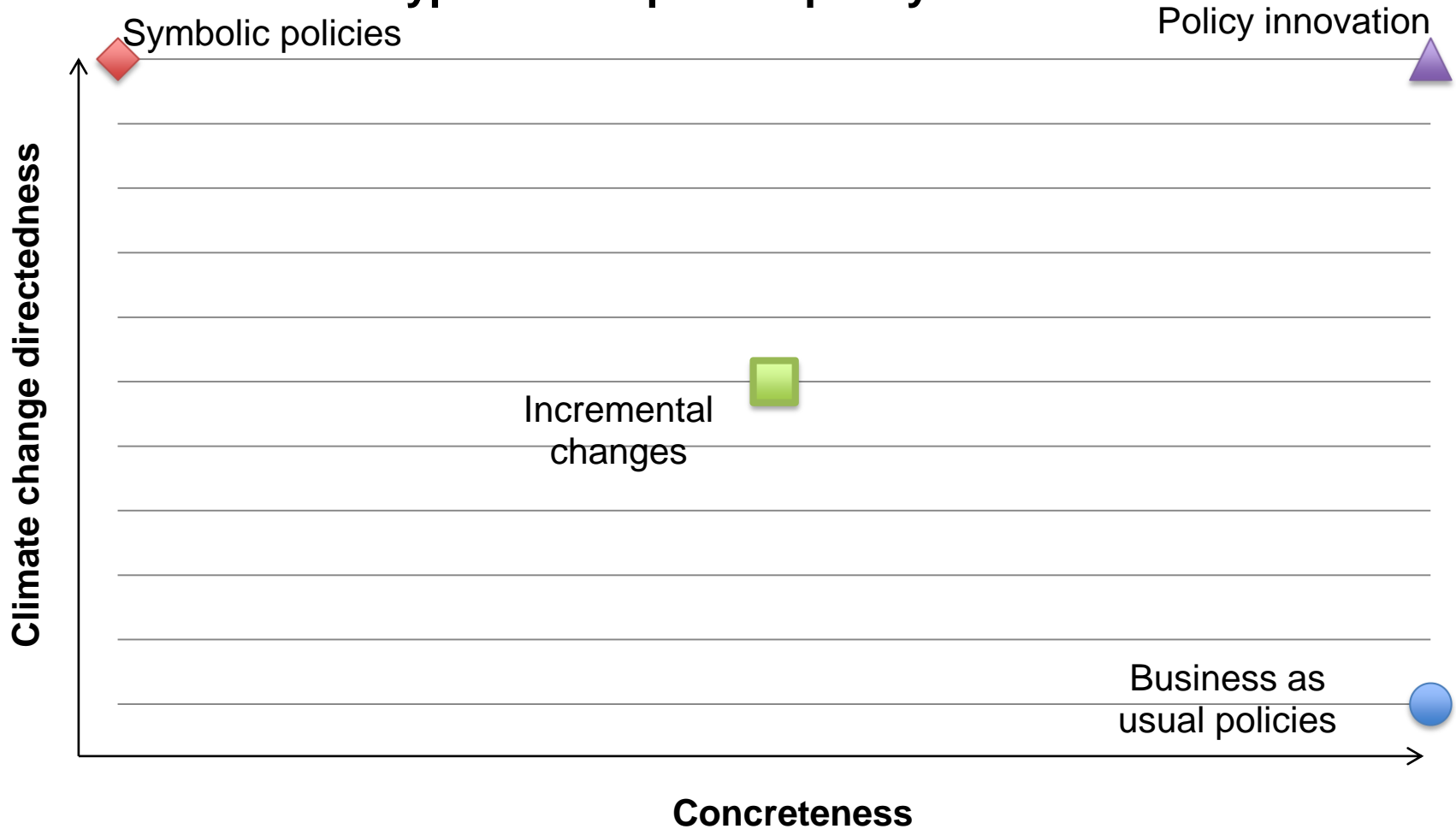
- We propose a definition of adaptation:
 - *Climate change adaptation policy is: the group of decisions and activities, taken by purposeful public and private actors at different administrative levels, that either deals **intentionally** with climate change impacts or that **concretely** impact vulnerable actor groups, economic sectors or geographical areas.*

2.1 Operationalising “adaptation policy”

- We use two criteria to delimitate the scope of activities that should be included in the dependant variable
 - Concreteness
 - Considering that the essence of public policies are to produce outcomes that contribute to the resolution of social problems (Lemieux, 1995, p. 7; Knoepfel, et al., 2011, p. 21), *Concreteness*, designate the likeliness that any policy decision or activity will impact substantively vulnerable areas or actors
 - Climate-directedness
 - Inspired from the 2nd peer report (Mickwitz & al., 2009), designates the degree to which the policy activity has been taken for purposely dealing with climate impacts

2.1 Operationalising “adaptation policy”

Types of adaptation policy activities

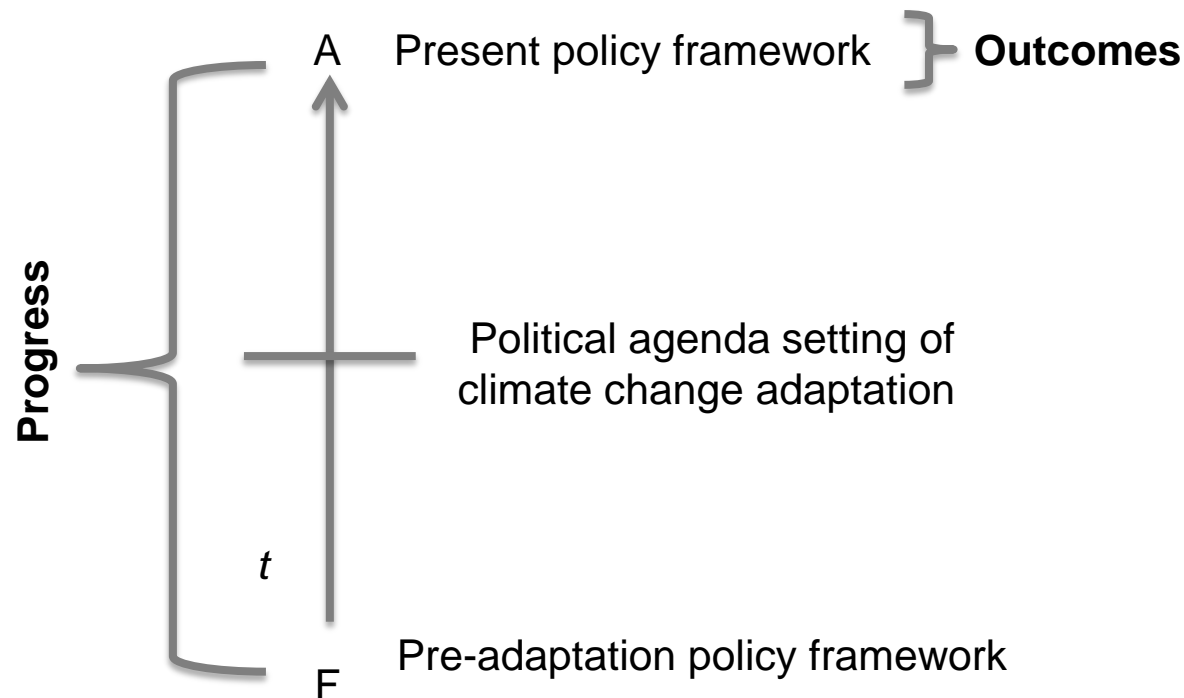


2.2 Research strategies for adaptation policy: Progress and outcomes

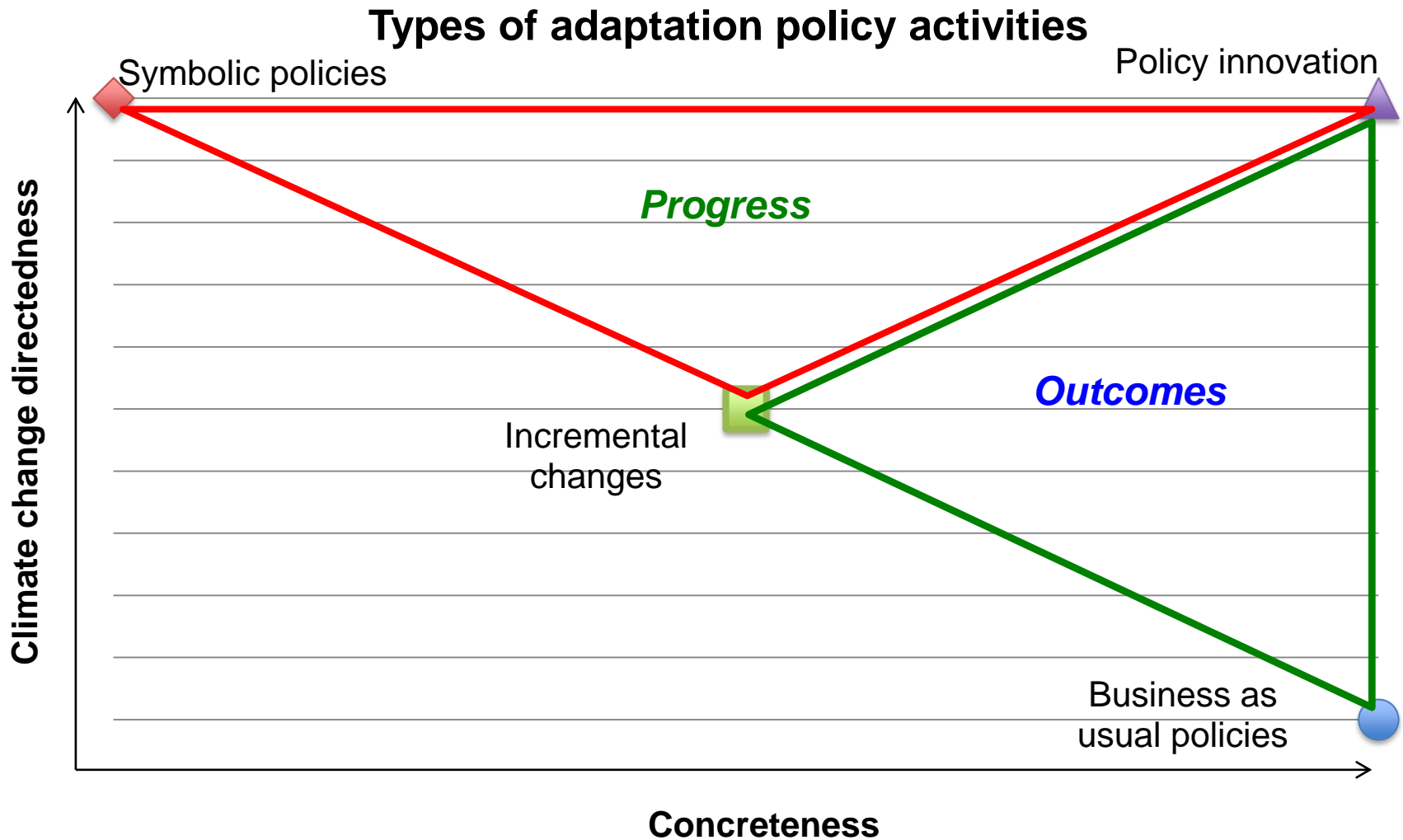
- How do we treat business as usual policies and labelling practices in evaluation / comparison?
 - Depends on the aim of the analysis and the definition of success
- Following recent discussions within the political sciences (see: Marsh & McConnell, 2010a, 2010b; Bovens, 2010)
 - We distinguish the success of the *process* (progress)
 - What has been produced by the political system in order to tackle climate change impacts?
 - From the outcomes
 - Was the policy able to reach its initial goals? Namely reducing the vulnerability of target groups?

2.2 Research strategies for adaptation policy: Progress and outcomes

- 2 different research designs:



2.2 Research strategies for adaptation policy: Progress and outcomes



3. Added-value of our framework

- What's the added-value of our suggestion to distinguish between 4 types of policy activities and 2 dimensions of success in comparison and evaluation?

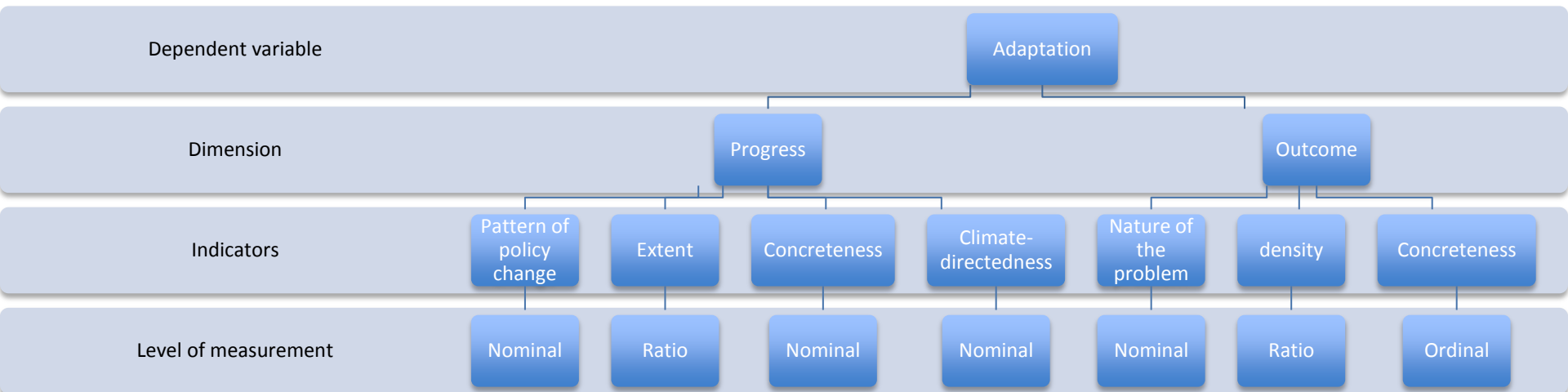
3. Added-value of our framework

Country	Number of Adaptation measures (<u>Massey & Bergsma, 2008</u>)	Stage of progress of adaptation action (<u>Gagnon-Lebrun & Agrawala, 2006</u>) ordinal (1-3)	Adaptation policy development (<u>Keskitalo, 2010</u>) recoded Ordinal (1-5)	Level of development of adaptation strategies Swart et al. 2009 recoded (ordinal 1-6)	Country ranking by regulatory strictness and scope of environmental policy 2005 (<u>Holzinger, Knill, & Sommerer, 2011</u>)
United Kingdom	28	3	5	5	9
Switzerland	13	2	?	?	12
Italy	12	2	1	?	8
Netherland	10	3	3	4	1
Germany	10	1	3	5	2
Austria	5	2	2	?	6
Sweden	4	2	4	?	3
Norway	1	2	4	?	15
Spain	0	2	3	4	16
France	0	2	3	3	5
Finland	0	2	4	5	4

3. Added-value of our framework

- 3 potential flaws of existing studies
 - adaptation actions have only been measure through quantity
 - progress dimension of success has been given more emphasise than outcomes in current policy comparisons
 - Focus on policy innovation
 - No attempts to differentiate between activities that do have substantial effects and those that are merely labelling

3. Added-value of our framework



Conclusion: thanks for your attention

- As a next step, we hope to apply this framework in empirical studies.
- Please consult our paper on the website, any comments are welcome