

Learning in post-recession framing contests

Changing UK road policy

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Introduction

During the Great Depression in the 1930s, Franklin D. Roosevelt claimed that “the country needs and, unless I mistake its temper, the country demands bold, persistent experimentation. It is common sense to take a method and try it. If it fails, admit it frankly and try another. But above all, try something” (Roosevelt, 1932). Roosevelt responded to the crisis with various public work programs, such as road building, to boost the economy. The US Interstate road system is a legacy of this era. Road building, at that time, was one of the methods that Roosevelt tested to mitigate the effects of a major economic recession and sustain economic growth as well as productivity. Nowadays, however, there is less support for road building programs. In Western countries, particularly, that had an opportunity to observe the effectiveness of such programs, we witnessed gradual changes of “policy paradigm” in the road sector.

Like other policy analysts, we recognize the role of cognition in policy change. The notion of “policy paradigm” describes a set of political beliefs and preferences that dominate policy-making in a given policy subsystem (Fischer, 2003; Grin and Loeber, 2007; Hall, 1993; Schneider *et al.*, 2014). A “policy subsystem” is a group of people willing to influence policies in a given sector, in a given area (e.g., a country) and at a given time (e.g., a decade). Policy paradigms are collective sets of beliefs commonly shared by dominant policymakers who effectively influence policy decisions thanks to their resources and position. Conversely, the set of beliefs and preferences held by individual policymakers constitutes their “belief

system” – a cognitive map that enables them to quickly make sense of the (political) world and find the best way to respond to new challenges. Thus, belief systems are at the heart of their individual attitudes and behaviors regarding policies. Individuals with similar belief systems often pool their resources to dominate the discourse and influence policy decisions (Jenkins-Smith *et al.*, 2014; Sabatier, 1988; Sabatier and Jenkins-Smith, 1993).

Changes in policymakers’ beliefs and preferences are described as “policy learning” (Dunlop and Radaelli, 2013; Hecló, 1974; Heikkilä and Gerlak, 2013; Sabatier, 1988). Policy learning can happen on an individual level or a collective level. Individual learning and collective learning are two interconnected but different processes. Individual learning is an individual process of belief change (Dunlop and Radaelli, 2013). Collective learning refers to a process of information acquisition, translation and dissemination among policymakers. Scholars in the field of policy analysis recognize that individual learning, assuming the right circumstances, can transfer to the collective level. Individual learning is required – but is not sufficient – for collective learning to occur. Individual learning and collective learning constitute two foundations (among others) of changes in dominant policy paradigms in a given subsystem.

Individual learning and collective learning are influenced by collective structures as well as different types of “shocks.” Collective structures determine who participates in collective processes, their function, tasks or responsibilities and how these are structured and interact. Collective structures can be common organizations, policies or rules but also informal norms. Much like beliefs and paradigms, collective structures are the products of prior learning processes on both the individual level and collective level. Policy learning can also be the result of “shocks” resulting from the social, economic, and technological context. There is a “crisis” if policymakers deduce that those shocks involve policy changes (e.g., for safety reasons) or limit policy opportunities (e.g., budget cuts) with a certain degree of urgency, in their sector. If this interpretation is shared by a number of influential policymakers as a result of individual learning and/or collective learning, there can be paradigm change which can, in turn, trigger policy change (Heikkilä and Gerlak, 2013; Jenkins-Smith *et al.*, 2014; Mettler and SoRelle, 2014; Ostrom *et al.*, 2014).

Post-recession road building plans in the United Kingdom are a particularly illuminating example to demonstrate the complex interdependencies between crisis, individual learning, collective learning, and policy change within a particular collective setting. Indeed, since 1980, each economic recession in this country led road sector policymakers to revise their beliefs and preferences concerning road building programs. For example, in response to the economic recession in the early 1980s, policymakers successfully lobbied Whitehall to radically

increase building programs, despite heavy opposition from the Treasury. At that time, the “predict & provide” paradigm was dominating the road subsystem. This paradigm is grounded on the belief that the expansion of the road network will facilitate traffic-flow and improve economic productivity. Advocates thus lobbied to increase investments and expand the road network. This paradigm had dominated the policy debate since the 1960s. After the recession in the early 1990s, however, the “new realism” paradigm gained the upper-hand. Its supporters believed that economic productivity and traffic facilitation is best achieved through traffic regulation within the bounds of the existing road network and the promotion of sustainable, socially more inclusive modes of transport. The most significant outcome of this paradigm shift was the decision to curtail the road building program in favor of an integrated transport policy, including investments in alternative modes of transport, higher fuel taxes and urban congestion charges. Today, the United Kingdom suffers from the effects of the 2008-09 recession. Rather than opting for either “predict & provide” or “new realism”, road sector policymakers settle for a compromise – a “diplomatic middle” paradigm: they dominantly make policy decisions based on the belief that some new roads may be necessary while a better regulation of the existing network is strictly required.

The first section of this Chapter connects the literatures on policy learning, organizational learning, and crises to highlight the expected effects of crises and collective structures on policy learning, paradigm change, and policy change. In the second section, we present a case study of policy learning and policy change in the UK road sector in the context of three post-war economic recessions. The context and nature of each recession are examined. Then, individual and collective learning are analyzed for a sample of individuals who participated, between 1988 and 2011, to the sessions of the Commons Transport Select Committee – a crucial collective structure of the policymaking process in this sector. The final section discusses the findings and draws conclusions. Contextual information about economic recessions and the Commons Transport Select Committee was retrieved from primary and secondary sources and studies. The data on individual and collective learning result from a longitudinal analysis of the official transcripts of CTSC meetings.

Post-crisis policy change: the role of individual and collective learning

Scholars interested in the factors, processes, and effects of policy learning commonly pursue one of two lines of inquiry. One body of literature focuses on the processes through which policy decisions are made in one collective setting (e.g., a State) according to decisions

previously made in another setting (e.g., another State). Policy transfer (Dolowitz and Marsh, 2000), policy diffusion (Marsh and Sharman, 2009), lesson-drawing (Rose, 1991), or policy convergence (Knill, 2005) are well-known models in this research tradition. Scholars who work in the other tradition, in contrast, focus on policy learning among actors within one collective setting (e.g., Haas, 1992; Hall, 1993; Hecl, 1974; Sabatier, 1988; Sabatier and Jenkins-Smith, 1993; Heikkilä and Gerlak, 2013).

The latter line of inquiry is most useful to investigate post-recession policy learning in the UK road subsystem. Here, theorists acknowledge that decisions emerge from collective processes that begin with individual learning (Dyck *et al.*, 2005; Nonaka, 1994; Simon, 1991). Paradigms emerge on the collective level because beliefs are deliberately acquired, translated and disseminated by individual policymakers (Argyris and Schön, 1996; Heikkilä and Gerlak, 2013). Hence, paradigm changes and policy changes result from individual learning and collective learning processes.

Nevertheless, as highlighted by organizational sciences, collective learning is more than the simple sum of individual-level learning processes (Hedberg, 1981). It involves collective processes that each individual policymaker, taken separately, cannot control. For example, people in a collective structure cannot control the way their information will be disseminated among other people or the way they will or will not acquire and translate this information. In addition, collective learning is influenced by collective rules and routines (rules-in-use). Research suggests that belief, paradigm and policy changes are more likely to occur when the collective structures facilitate not only the revision of individual policymakers' belief systems but also collective learning itself (Argyris and Schön, 1996; Linsu, 1998; Montpetit *et al.*, 2007; Nohrstedt and Weible, 2010). In sum, individual learning and collective learning are two interconnected, but different processes. Collective learning is a result as well as a factor of individual learning. Conversely, individual learning conditions and is influenced by collective learning at the same time. Collective structures determine the degree of interconnectedness between individual and collective learning.

Many studies show that shocks like crises can trigger policy change (e.g., Nohrstedt, 2005). However, they do not necessarily create the ideal conditions for changes in beliefs and paradigms. Crises require quick decisions in fast changing and thus uncertain circumstances. Urgency and uncertainty increase policymakers' reliance on their existing beliefs (Tversky and Kahneman, 1973; Schwarz and Vaughn, 2002). Individuals do not have time to carefully consider their response but act in accordance

to what they believe and what their contextual circumstances allow. This constitutes a barrier against efforts to arrive at a comprehensive understanding of any given decision situation (Birkland, 2009; Moynihan, 2008). Thus, policymakers must be in the state of mind to realize that an event contradicts their existing beliefs and provide a rationale for their revision (Birkland, 2006; Jones and Baumgartner, 2012). Crises do not easily create those conditions. Hence, they are not expected to create the right context for learning to occur among policymakers.

Paradigm and policy change are most likely to occur after a shock or crisis which highlights the shortcomings of the dominant policy paradigm. On this respect, two types of shocks are distinguished: external shocks and internal shocks. “External shocks” have general consequences on several to many policy sectors and subsystems. Most often, policy analysts consider that economic crises are external shocks. In contrast, “internal shocks” directly question the effectivity or desirability of existing policies, i.e. the policies decided and implemented by dominant policymakers in a given subsystem. Clearly, internal shocks are expected to be stronger drivers of policy change: to dominant policymakers, they provide rationales to revise their beliefs; to non dominant policymakers, they provide argumentative resources to influence policies with their own beliefs (Sabatier and Weible, 2007).

However, there is not necessarily a linear causation between shocks, policy learning and policy change. Although policymakers deliberately try to make sense of observed events and facts (Kolb, 1984; Levitt and March, 1988; Rose, 1991; Weiss, 1977), their search for information relies on heuristics which bias their judgment (Kahneman, 2011). Like other human beings, for example, they give priority to confirmative information. As a result, it has been showed that policymakers tend to reinforce rather than to change their beliefs, over time (e.g., Moyson, 2014). They also overestimate the disagreements, bad intentions and resources of their political opponents (“devil shift”: Leach and Sabatier, 2005). This discourages them to revise their policy preferences and to find compromises. Hence, even when crises and collective structures facilitate policy learning, individual policymakers are not expected to change their beliefs very much.

Post-recession policy learning and change in the UK road sector (1988-2011)

In this section, the policymaking process regarding road building programs and other policies in the UK road sector (1988-2011) will be analyzed according to the theoretical lenses presented in the previous section. The first part presents the Commons Transport Select Committee,

a crucial collective structure in this policy process. Our case study focuses on the policymakers having participated to the meetings of this structure. The second part will describe the nature of the economic recessions that occurred between 1980 and 2011. It also outlines several other exogenous factors that had the potential to directly or indirectly influence policy learning within our unit of analysis. The third and fourth parts present an analysis of individual learning and collective learning among policymakers. Four periods of time – 1988-1992, 1993-1997, 1998-2004 and 2005-2011 – were distinguished according to the paradigm that dominantly influenced policies. Our analysis examines the effect of post-war economic recessions and the Commons Transport Select Committee on policy learning, as well as the connections between individual learning, collective learning, paradigm changes, and policy changes.

A crucial collective structure in the UK road policy process: the Commons Transport Select Committee

Politics is by its very nature competitive and not necessarily a stage for dialogue and reflection. In the UK, select committees hold the mandate to facilitate collective learning within and across governmental department, agencies and policy specialists who support different policy preferences. British road policy is negotiated within the Commons Transport Select Committee (CTSC). Thus, our analysis focuses on this particular collective structure. Who can participate to CTSC meetings? Who actually participated to CTSC meetings? How are the CTSC and its sessions organized? In order to answer these questions, we consulted the CTSC website (CTSC, 2012) and drew on the qualitative and quantitative analysis of data that captures who attended CTSC sessions between 1988 and 2011 and their functions (for details: Witting, 2013).

We found that the CTSC is composed of about eleven members appointed by the House of Commons among its members to monitor the effects of transport policy and to provide advice in relation to public spending, administration and policy of the Department for Transport and associated public agencies. CTSC members (or “inquirers”) are appointed for the duration of the House term. Some staff prepares and follows up CTSC sessions with relevant documents and reports. During sessions, CTSC members collect information from various witnesses. CTSC meetings are led by a Chairman who is elected by his or her fellow committee members.

Committee members freely choose the topics of their inquiries and issue calls for evidence (press releases). Potential witnesses respond to these calls and submit written evidence like memorandums. On this basis, the witnesses can be selected to be questioned by Committee members.

All the questions and answers in an evidence session are streamed to a live audience (TV and Radio) and taken down under arrangements managed by the Official Report (Hansard). The Committee's conclusions are finally reported to the Commons, printed, and published on the Parliament website.

The CTSC records show that, in the 1980s and early 1990s, the majority of inquiries addressed road-related policies and plans¹. This changed in the mid-1990s, when inquiries primarily focused on road traffic regulation. The attendance records for each CTSC session (Witting, 2013) suggest that, at the individual level, there is a considerable turnover in the participation to CTSC sessions. Indeed, members of the House may change according to the results of each General Election. In turn, CTSC members may change according to the appointment by their peers. The membership of the CTSC most significantly changed after the 1997 General Election. Committee members may also choose to call on various witnesses and advisors.

Witnesses come from official organizations like the Department for Transport, the Highways Agency and the Local Government Association. They also represent one of the three well-established organizations that the Friends of the Earth – an environmental organization – had linked to the “road lobby” (Hamer, 1974): the Automobile Association, the Royal Automobile Club/ Foundation for Motoring, and the Freight Transport Association. Often, those witnesses are supporters of the “predict & provide” policy paradigm. Finally, witnesses can represent an environmental organization, e.g. Friends of the Earth, Greenpeace, Council for the Protection of Rural England. Most often, those witnesses have a belief system inspired by the “new realism” policy paradigm. In the CTSC, all those people interact and struggle for their belief system to become a policy paradigm and influence concrete policy decisions. Only 21 per cent of witnesses appeared in front of CTSC members at more than one session, however.

On the organizational level, the attendance records suggest that organizations represented fifteen or more times over the years were either governmental organizations (Department for Transport) or organizations that strongly and consistently advocate the “predict & provide” paradigm. At first glance, it may seem that supporters of the “predict & provide” paradigm have the most resources to dominate

¹ Meetings that addressed at least one of the following issues: national road finance and expenditure, national road review and program appraisal techniques (i.e. traffic forecast, economic impact assessment, environmental impact assessment), traffic management in general (i.e. modal integration, taxation, planning), technological advances (i.e. low carbon cars, road user charge), public opinion (i.e. road protests).

CTSC debates, whereas organizations that advocate “new realism” have generally less resources to participate to the inquiry processes (submit written memoranda and give oral evidence). In Fact, CTSC inquires focus on transport issues and our analysis only focuses on road-related issues. Organizations such as the Freight Transport Association employ experts who specifically specialize in road transport. In contrast, environmental organizations are more numerous but have fewer experts. Hence, various experts from a few organizations attend CTSC sessions to advocate the “predict & provide” paradigm whereas various experts from various environmental organizations come to advocate the “new realism” paradigm. Some of them, however, such as Stephen Joseph from Friends of the Earth, lobby CTSC sessions for many years in a row.

Economic recessions and other factors exogenous to learning

In the early 1990s, Geoffrey Dudley and Jeremy Richardson conducted a longitudinal study into major roads and highway policy in the UK. Their research broadly covered five decades and described the complex conditions under which new policies had emerged. The policymakers involved in delivering the required policies were uncertain about how to judge the likelihood of various outcomes in the context of successive economic recessions; furthermore they did not know how society and markets would respond to new policy measures (Dudley and Richardson, 1996, 2000). What were the exogenous factors with potential impact on individual and collective learning among CTSC members? Did those factors change or remain stable? What was, specifically, the role of economic recessions? In order to address these questions, the analysis utilizes the data of a historical analysis of the UK road policy subsystem (Dudley and Richardson 1996, 2000), in combination with country-level economic data as well as secondary sources.

The available literature suggests that UK suffered from three major economic recessions in the post-war period: the 1980-81, 1990-91, and 2008-09 recession. These crises affected all policy sectors of the UK indistinguishably. They have not specifically questioned specific policies in specific sectors. Rather, they have put constraints and pressure on public budgets in all policy subsystems. Hence, recessions are external shocks affecting UK policy subsystems. This holds in the road sector too.

The 1980-81 and 1990-91 recessions commonly resulted in a rise of unemployment (Office for National Statistics – ONS, 2014). Similarly, the 2008-09 recession is currently producing negative effects on the UK rate of employment. A closer look, however, highlights differences. It has been widely recognized that the largest rise in unemployment occurred

during the early 1980s recession – when unemployment more than doubled from 5.8 per cent in 1979 to 13.1 per cent in 1984 (Vaitilingam, 2009). The unemployment rate also remained high a longer time after the recession itself than after the 1990-91 and 2008-09 recessions. It also primarily affected blue color workers at a time when the market for white color skills expanded. Public work programmes were seen to be one quick and efficient way to absorb these “blue” skills in the construction sector, which can explain the promotion of road building programs in the 1980s. Such programs fit with the “predict & provide” policy paradigm which, as will be shown later in this Chapter, attained its peak in the 1980s as well. The 1990-91 and 2008-09 recessions, in contrast, resulted in a sharper fall in employment since it affected primarily white color employees with a more flexible set of skills (Hills and Thomas, 2010).

Economic fluctuations affected Britons travel patterns. Despite the growing number of cars per household since the 1980s, car trips fell for a short period in the early 1990s and then again since 1995/97. Almost 15 years of sustainable economic growth followed in which GDP grew annually between 2 and 3 per cent. Despite this growth, the travel statistics showed a decline in trips and miles per annum. These developments were the central themes in two influential expert reports published outside the CTSC and independently of each other, one by the Royal Commission on Environmental Pollution (1994) and the other by the Standing Advisory Committee on Trunk Road Assessment (1994). Both reports contradicted the assumptions at the heart of the “predict & provide” paradigm and supported the “new realism” paradigm. In addition, the Treasury lobbied governmental departments to cut public expenditures, while the European Union legislation encouraged Member States to introduce environmental taxes and environmental impact assessments for new road schemes (Dudley and Richardson, 2000).

At the political level, the “predict & provide” paradigm was mainly supported by the Conservatives. However, in the 1990s, several Conservative backbenchers withdrew their support for the 1980s road building plans. In addition, the Conservatives lost seats in the 1992 General Election and subsequent By-Elections. Hence, the Conservative Government could no longer rely on a majority of votes in parliament. The Labor and Liberal Democrats had already joined the alliance against the “predict & provide” paradigm (Dudley and Richardson, 2000). This gradually created a political context, in the 1990s and 2000s, which was probably more favorable to the “new realism” paradigm than it was in the 1980s.

To conclude, the nature of the crisis and the slowly responding context can explain why there was more room for arguments associated with the “new realism” paradigm, after the 1990-91 recession than there was in the 1980s. These exogenous factors alone do not explain, however, why this paradigm was actually incorporated into concrete public policies, nor the return to favor of the “predict & provide” paradigm, since 2004.

Individual learning

In the first section we learned that policies may change as a result of crises, but also that this change depends on policymakers’ interpretation of the crisis. Policy change can occur as a result of collective learning leading to a change of the dominant policy paradigm. If collective learning occurs, it is necessarily based on some individual learning. Hence, this section analyses individual learning. Who expressed some support for a given policy paradigm during CTSC sessions? Did this support change over time? Is there any evidence that links individual learning to crises (economic recessions)? These questions are addressed with a quantitative content analysis of the official transcripts of CTSC meetings between 1988 and 2011. Only the statements expressing a belief that is clearly related to one of the three policy paradigms distinguished in this study were integrated in the analysis. For example, statements like – “I agree with Sir X suggesting that we should build a new road between Y and Z” – and – “economic growth depends on traffic flow (...) new road capacity is needed” – were labeled “predict & provide.” 804 out of the 1,585 statements observed can be associated to one of the three policy paradigms distinguished in this analysis: the “predict & provide”, “new realism” and “diplomatic middle” paradigms (for details: Witting, 2013).

As mentioned above, CTSC membership has changed quite a lot over time. Hence, at the individual level, belief change may only be captured among the 32 individuals who participated to CTSC debates during more than one period of time. In Table 1, cells are red when the individuals expressed statements which suggest that, as a result of their belief system, they advocate “predict & provide” approaches regarding road building programs. The cells of the table are green when the expressed believes indicate support for “new realism” paradigm and yellow when the person advocates support for the “diplomatic middle” paradigm. Within each cell, the number represents the number of sessions that the person attended during this period. Policymakers’ function during the inquiry – chair, inquirer or witness – is also mentioned.

Among those individuals, only two radically changed their beliefs from “new realism” to “predict & provide.” One was a witness while the other one was an inquirer. The half of the individuals did not change their belief at all, over time. This also means that the other half did change their beliefs. More inquirers changed their views on road policy (5/7) than witnesses (11/25). This seems coherent when considering that inquirers are exposed to various points of view, during their inquiries, whereas witnesses come to CTSC meetings to defend a given point of view – often the point of view of an interest group. Among the inquirers who were observed in the last period, 5 out of 6 expressed statements suggesting that their belief system is mostly supporting the “diplomatic middle” ideas whereas 4 of those 5 were supporting a more extreme view in previous periods. There are not enough longitudinal observations about individual learning among inquirers in previous periods to draw any valid conclusion.

The data does not show any pattern suggesting a strong connection with recessions. On the one hand, there is no trend suggesting that one or another recession prompted a large set of policymakers to support a given policy paradigm more than another. Hence, if there is collective learning, it results from collective processes of belief dissemination, exchange, and aggregation at least as much as from the sum of individual belief changes toward a common direction. On the other hand, recession did not seem to stabilize policymakers’ beliefs at some points more than at some other points. Rather, individual policymakers who revised their beliefs did so progressively, over time.

Overall, the opinion of individual policymakers about policies did not radically change over time. It did change, however, though not in strong connection with recessions. Rather, policy learning may be described as an incremental but tangible process.

Table 1. Individual learning – Statements expressed by individuals who participated to CTSC session at more than one period (n=32)

Code	Name	Role	1988 - 1992	1993 - 1997	1998 - 2004	2005 - 2011
BER121X1	Lord Berkeley	Witness			1	1
BIR100R1	Bird, R.	Inquirer			1	1
CHI103H1	Chipping, H.	Witness			1	1
COA115J1	Coates, J.	Witness			1	1
DAR103A1	Darling, A.	Witness			1	1
DAV115A1	Davis, A.	Witness			1	1
DAW110J1	Dawson, J.	Witness	1	1		
DEL121K2	Delaney, K.	Witness			1	1
DIM116R1	Diment, R.	Witness	1	1		
DON101B1	Donohoe, B.	Inquirer		1	1	1
DON110J1	Donaldson, J.	Inquirer				1
DUN121G1	Dunwoody, G.	Inquirer/ Chair	4	5	4	1
EFF100C1	Efford, C.	Inquirer			6	1
ELL110L1	Ellman, L.	Inquirer/ Chair			8	2
ELL116J1	Elliott, J.	Witness	1			1
FER110M1	Fergusson, M.	Witness				1
GIF100R1	Gifford, R.	Witness		1	1	
HAM110P1	Hamblin, P.	Witness			1	1
HOL115D1	Holmes, D.	Witness	1	1		1
JOS104S1	Joseph, S.	Witness	1		2	4
KIN103E1	King, E.	Witness			3	1
LES114N1	Lester, N.	Witness	1		1	1
MAC101P1	Mackie, P.	Witness	1			2
MAT119D1	Mathew, D.	Witness	1		2	
MIT108P1	Mitchell, P.	Witness			1	1
MOR115B1	Morris, B.	Witness	1	1		
PAL114D1	Palmer, D.	Witness	1	1		
STE110G1	Stevenson, G.	Witness			1	1
STR114G1	Stringer, G.	Inquirer			4	2
SWA110P1	Swann, P.	Witness	1	1		
TUR114D1	Turner, D.	Witness	1	1	1	1
TUR114R1	Turner, R.	Witness	1			1

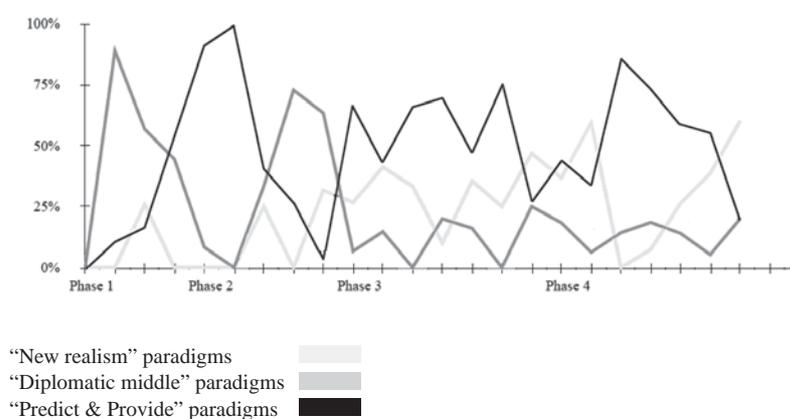
“New realism” paradigms 
 “Diplomatic middle” paradigms 
 “Predict & Provide” paradigms 

Collective learning

To a variable extent, individual learning is connected to collective learning. Collective learning refers to a process of information acquisition, translation, and dissemination among policymakers. This section analyses collective learning within the CTSC. Which paradigm dominated the discussion during CTSC sessions? Did individuals engage in processes of collective learning that could have facilitated individual learning and changes of policies? The data resulting from the examination of the official transcripts of CTSC session are used again to analyze collective learning.

The total of relevant statements that all individual expressed during the CTSC sessions between 1988 and 2011 were examined. They are chronologically represented in Figure 1. We assume that a majority of statements being related to one given paradigm is the expression that this paradigm is dominant in the collective structure. Similarly, a significant increase of statements supporting a given policy paradigm means that this paradigm is becoming more important among CTSC participants and indicates some form of collective learning.

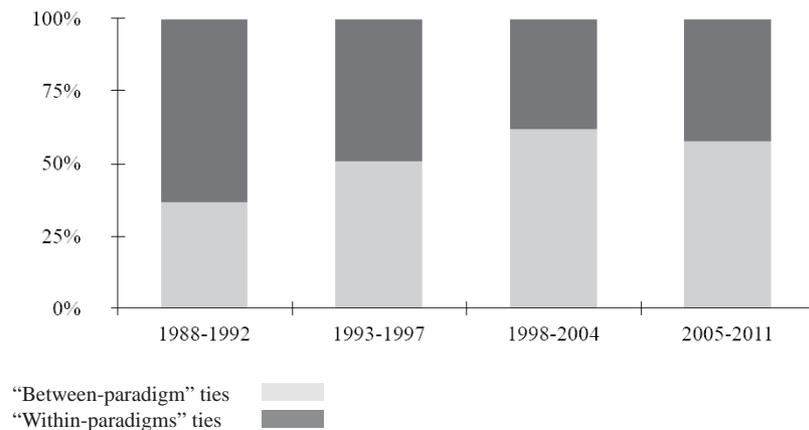
Figure 1. *Collective learning – Number of statements associated with each policy paradigm during CTSC sessions over time (n=804)*



The relations among CTSC participants were also analyzed. “Ties” or “pairs” describe two policymakers who attended the same inquiry sessions and thus had the opportunity to observe, evaluate, and confront their own beliefs with the other policymaker’s statements. In other words, ties are an indication that individuals had the opportunity to acquire, translate and disseminate information during CTSC sessions (collective learning). In particular, we distinguish “within-paradigm” and “between-paradigms” ties. “Within-paradigm” ties involved two policymakers who had expressed

convergent statements supporting the same policy paradigm, during – or shortly prior to – a common CTSC meeting. In contrast, “between-paradigms” ties involved policymakers who had expressed divergent statements supporting different policy paradigms (“between-paradigms” ties). We assume that people involved in “between-paradigms” knowledge exchanges were most likely to encounter information that motivates them to revise pre-established beliefs. In contrast, there are two ways to interpret “within-paradigm” ties. On the one hand, they may indicate that some power dynamic occurs around the paradigm, as people participating to CTSC sessions are citing subsystem members of whom they share the beliefs about UK road policy, to strengthen their arguments. However, this interpretation does not exclude some reinforcement of existing policy beliefs and preferences, i.e. some form of individual learning (Sabatier & Weible, 2007). On the other hand, “within-paradigm” ties may also result from participants “mimicking” other subsystem members to respond to external pressure – like crises – without their policy beliefs having actually changed (Birkland, 2006). The proportion of “within-paradigm” and “between-paradigms” ties per analytical period appears in Figure 2.

Figure 2. *Ties among CTSC members over time*



A visual analysis of Figure 1 confirms the finding (Dudley and Richardson, 1998, 2000) that statements related to the “predict & provide” paradigm dominated the discussion in the 1980s with a shift toward the “new realism” paradigm in the early 1990s. The decline of the “predict & provide” paradigm occurred in four phases. In the following, we will discuss these developments as well as the collective processes that could explain the observed changes.

Phase 1 (1988-1992) – The period between 1988 and 1992 is often described as the peak of the “predict & provide” paradigm in British road policy. This development followed, after the 1980-81 recession, a spell of economic recovery that enabled ministers to drastically increase spending on roads from 1985 onwards. However, in 1989, the plans to double road-building expenditure were confronted to much hard criticism, at a time when the governing party braced itself for the 1992 General Election. Opposition came from the Treasury, which was hard pressed to cut public spending in response to a new economic downturn that hit a low peak in the early 1990s and resulted in Black Wednesday in September 1992 – the year when the European single market was opened.

CTSC members, concerned about the quality of the road network and the lack of strategy, initiated the “Roads White Paper” inquiry in 1980, the “Road Maintenance” inquiry in 1982-83. In addition, the “Roads for the Future” inquiry included a total of 16 sessions between 1988 and 1989 – the longest inquiry in this case study. In 1990 and 1991, inquiries related to this case study primarily addressed the Department’s expenditure plans for transport.

The majority of the beliefs recorded expressed support for “predict & provide” (see Figure 1). The data suggests that the proportion of statements supporting “predict & provide” dominated each session throughout the “Roads White Paper” inquiry, “Road Maintenance” inquiry and “Roads for the Future” inquiry (except on 30th July and 22nd October 1980, when experts from Transport 2000 and the Council for the Protection of Rural England were witnesses) but not during inquiries about departmental spending.

1706 ties connect individuals who attended CTSC meetings between 1980 and 1992 and expressed a relevant statement (see Figure 2). A total of 688 (40 per cent) ties were “within-paradigm”: 466 pairs shared “predict & provide” beliefs, 172 pairs supported “new realism” and 50 expressed ambivalent beliefs.

Phase 2 (1993-1997) – The period between 1993 and 1997 is one in which the “predict & provide” approach had to confront a number of realities. In 1990-91, the UK experienced an economic recession. The Conservative party lost many seats during the 1992 General Election. Then, the Conservatives continued to lose parliamentary seats to opposition parties during By-Elections. Car drivers and passenger trips fell and two renowned advisory bodies (RCEP, SACTRA) published reports criticizing the existing road building plans. In addition, the Secretary of State started to downscale plans for national roads. The end of this period may be situated at the 1997 General Election.

In 1992, European Union united into the Single Market. As a result, CTSC started in 1996 an inquiry about the ability of the UK road network to cope with an increase in road freight. Furthermore, in 1994 and 1997, the CTSC held two short inquiries into road transport casualty reduction following concerns raised about road surface quality. On the budget side, CTSC members closely monitored their fellow members' attempts to finance and deliver the 1989 "Roads for Prosperity" schemes with private support.

The official transcripts of CTSC meetings show that the individuals who made statements during this period tended to advocate either the "new realism" paradigm or the "predict & provide" paradigm (see Figure 1). Globally, considering the nature of the inquiry topics (on network capacity), a moderate tendency towards "predict & provide" was observed among witnesses as well as inquirers. Specifically, the number of assertions supporting "new realism" outnumbered "predict & provide" in 1994 and 1997, when CTSC inquired into finance and road safety. The order was reversed in the first session of the 1996 "Road Bridge Maintenance" inquiry, when the CTSC addressed the necessity to prepare UK roads for EU freight.

722 ties connect individuals who attended CTSC meetings between 1993 and 1997 and expressed a relevant statement (see Figure 2): 49.3 per cent of "within-paradigm" ties and 50.7 per cent "between-paradigms" ties. 79.8 per cent of "between-paradigms" ties (n= 284) resulted from individuals making statements supporting the "predict & provide" paradigm. Compared to other periods, a considerable number of between-paradigms ties (46.6 per cent) connected committee members to witnesses and vice versa.

Phase 3 (1998-2004) – The period between 1998 and 2004 marks the point when "new realism" paradigm gained the upper-hand. The New Labor government expressed a more critical view of road building in its 1998 "New Deal for Transport" White Paper, which focused on road widening and not construction. Despite real growth in GDP and a secure majority in the House of Parliament for radical policy decisions, the level of resources identified in the "10-Year Plan" (2000) was deemed sufficient to maintain a level of road building similar to when the Conservatives departed office (Shaw & Walton 2001). Following the 2000 fuel tax riots government's majority in the House of Commons started to decline, but economic growth continued.

Between early 1998 and the middle of 2004, CTSC members inquired into Governmental plans to deliver an integrated transport system and to increase safety on the roads. Later in the same phase, the practicalities of

the new policy were addressed in inquiries related to the “10-Year Plan for Transport” (2000/2002) and Multi Modal Studies (2002).

The official transcripts of CTSC meetings suggest that “new realism” was the dominant paradigm throughout the period (see Figure 1). However, the number of “predict & provide” statements was temporarily higher on two occasions: first, when CTSC members inquired into Multi Modal Studies during the end of November 2002 in an attempt to establish how the “New Deal for Transport” principles can be delivered in practice; second, when the Committee discussed Cars for the Future in February 2004. This latter inquiry investigated technological advances in the automobile sector, in particular fuel efficiency, safety and air pollution.

2,322 ties connect individuals who attended CTSC meetings between 1998 and 2004 and expressed a relevant statement (see Figure 2): 38.3 per cent of are “within-paradigm” ties and 61.7 per cent of between-paradigms ties. Only 12.6 per cent of the within-paradigm ties were between individuals who supported the “predict & provide” paradigm (n=112).

Phase 4 (2005-2011) – Real growth in GDP enabled the government to moderately increase capital spending on national roads between 2004 and 2007. In 2010, the newly elected coalition committed to invest in road space but also to cut public spending in response to the recent economic recession, as well as to decarbonize Britain’s infrastructure by 2020.

Following the 2004 White Paper (CTSC, 2004), CTSC members turned their attention to road surface transport, in particular how to finance the network and how to make it user friendly. After road user charging pilots had been successfully launched in Europe and London, the CTSC began to gather information about road pricing and mechanisms that could be used to enforce penalties. This was followed by inquiries into the state of the national road network and the link between transport and the economy. New committee members joined after the General Election in 2010. In 2011, the committee started to gather evidence on effective road and traffic management mechanisms.

The official transcripts of CTSC meetings shows a drastic rise of support for the “diplomatic middle” paradigm among the individuals who made statements (see Figure 1). In contrast, the support for “predict & provide” remained low and the support for “new realism” decreased very much. This suggests that many CTSC participants – CTSC members but also witnesses from various organizations – expressed a more balanced view about road building.

2,240 ties connect individuals who attended CTSC meetings between 2005 and 2011 and expressed a relevant statement (see Figure 2): 42.6 per cent of “within-paradigm” ties and 57.4 per cent of “between-paradigms”

ties. Most “within-paradigm” ties in this set connect policymakers supporting the “diplomatic middle” paradigm.

Conclusion

The literature that was introduced in the first section of this chapter suggests that, among policymakers within a particular collective structure (e.g., an organization), there are individual and collective learning processes leading to complex connections between crises, paradigm changes and finally policy changes. This proposition was the central theme of this chapter. In the second section, a case study (1988-2011) of post-recession policy learning and policy change in the UK road sector was presented. We focused on policymakers having participated to the meetings of the Commons Transport Committee (CTSC) – a crucial collective structure in the policymaking process of this sector.

The case study showed that changes of the dominant paradigms did occur over time, within the CTSC: there was a peak of “predict & provide” during the first phase, a rise of “new realism” during the second phase, a return in favor of “predict & provide” before a frank success of “new realism” during the third phase, and finally a rise of “diplomatic middle” during the last phase. In addition, paradigm change is clearly connected to policy change: during each period of time, policy decisions were undoubtedly inspired by the dominant paradigm among the members of the CTSC.

This being said, did paradigm changes result from individual and collective learning, i.e. some individual belief changes and some collective processes of information acquisition, translation and dissemination among CTSC participants (Heikkila and Gerlak, 2013)? Our analysis suggests that the answer to this question is positive. Of course, CTSC participants could express statements that not necessarily corresponded to their beliefs, in an attempt to “mimick” socially desirable policy paradigms (Birkland, 2006). For example, recent developments in car industry to absorb the notion of “green mobility”, fitting new cars with catalytic converters or investing in the building and promotion of hybrid and electric cars, do not necessarily imply that the road lobby has supported the “diplomatic middle” paradigm. Nevertheless, the case study gives strong indications that policy learning did occur at the collective level and at the individual level.

At the collective level, during each period of time, there was a fair amount of “between-paradigms” ties, among policymakers, which suggests that they had many opportunities to challenge their pre-existing beliefs (Heikkila and Gerlak, 2013). The number of pairs engaged in “between-paradigms” knowledge exchange constantly dominated the

network from 1997 onwards. The high number of “within-paradigm” ties also suggests some form of learning through the possible reinforcement of existing beliefs among like-minded policymakers (Sabatier and Weible, 2007). Overall, the intensity of debates (“within-paradigm” and “between-paradigms” ties) was high, within the CTSC, especially during the two phases when the most drastic paradigm changes occurred – phase 2 and phase 4. As suggested by theory (Argyris and Schön, 1996; Linsu, 1998; Montpetit *et al.*, 2007; Nohrstedt and Weible, 2010), collective structures enhancing the quantity and quality of policy debates are conducive to policy learning.

At the individual level, the analysis of policymakers who participated to CTSC sessions during more than one period of time suggests that some learning also occurred. About the half of them did change their beliefs, over time, to support different policy paradigms. That the other half did not change their beliefs also illustrates that collective and individual learning are connected but different processes: there is a dynamic resulting from rules, routines and other collective aspects that makes one paradigm becoming more dominant whereas, at the same time, many individual policymakers do not change their beliefs and preferences. Hence, in accordance with theory (e.g., Argyris and Schön, 1996; Hedberg, 1981), collective learning was found to be more than the simple sum of individual learning processes in the CTSC. Existing research in psychology (e.g., Kahneman, 2011) and policy studies (e.g., Moyson, 2014) suggests that policymakers do not tend to revise their beliefs very much over time. The case study did not contradict this suggestion. However, considering individual learning and collective learning separately offered a more nuanced view on the significance and role of policy learning in the UK road policy process.

Existing studies suggest that crises do not create the ideal conditions for policy learning to occur (Birkland, 2006; 2009; Jones and Baumgartner; Moynihan, 2008). In addition, internal shocks provide stronger rationales to policymakers for revising their beliefs because those shocks directly question the dominant paradigm sustaining policies in a given sector (Sabatier and Weible, 2007). In the case study, there was no direct connection in time and nature found between economic recessions and policy learning, among CTSC participants. Rather, policy learning was incremental. A reason of this is that economic recessions are external factors with general consequences on all policy subsystems. However, learning was a tangible process: in addition to political factors (e.g., successes to elections), the study showed that policymakers made decisions according to their interpretation of crises as well as a number of other contextual reasons identified in a series of inquiries and reports. For example, some 1980s inquiries showed the necessity to give work

to blue collars with road building programs whereas some later reports demonstrated the economic ineffectiveness of those programs or their negative consequences on environment. Actually, what this study shows is that external factors like economic crises may be conducive to much learning: like internal shocks, external shocks require adaptation; contrary to internal shocks, the policy solutions to external shocks are not straightforward. Hence, external shocks require much interpretation... and much learning.

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