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Urban Sustainability Transitions in a Context of Multi-level Governance: A Comparison of Four European States

Abstract: Urban sustainability transitions have attracted increasing academic interest. However, the political-institutional contexts, in which these urban sustainability transitions unfold and by which they are incited, shaped, or inhibited, have received much less attention. This is why we aim at extending previous studies of sustainability transitions by incorporating a multi-level governance perspective. While multi-level governance has been a long-standing theme in political science research, it has remained under-explored in the study of sustainability transitions. This claim is the starting point of our comparative analysis of urban sustainability transitions in Brighton (UK), Dresden (Germany), Genk (Belgium) and Stockholm (Sweden). Our approach “brings the politics back in” by elucidating the dynamics of power concentration and power dispersion generated by different national governance contexts. In our analysis, we explore which opportunities and obstacles these diverse governance contexts provide for urban sustainability transitions.

Keywords: urban sustainability transitions; multi-level governance; institutions; power; federal political system; unitary political system

1 Introduction

One of the key frameworks in the field of sustainability transitions is the multi-level perspective (MLP)¹. Originating from science and technology studies and evolutionary economics, it adopts a systems perspective. As such “the MLP is an abstract analytical framework that identifies relations between general theoretical principles and mechanisms” (Geels and Schot, 2010, p. 19). Therefore, the MLP has been criticised for lacking a conception of agency (Geels, 2011, 29-31; Markard et al., 2012; Smith et al., 2005). Or, as Geels and Schot put it, agency remains “backgrounded” in the MLP (Geels and Schot, 2010, p. 28). The same criticism has been made of the technological innovation systems approach (e.g. Kern, 2015; Markard and Truffer, 2008), another key framework within the field of sustainability transitions, which has increasingly been used to focus the analysis on how well particular functions are fulfilled by the system (Bergek et al., 2008; Hekkert et al., 2007; Hekkert and Negro, 2009).

A number of recent studies have therefore attempted to address this gap and to bring agency to the fore (e.g. Avelino and Wittmayer, 2015; Bergek et al., 2015; Hess, 2014; Raven et al., 2016). For example, a special section on “Actors, Strategies and Resources in Sustainability Transitions” was published in the journal *Technological Forecasting and Social Change*. It “aims to provide a closer look at how strategies, resources and capabilities of individuals, firms and other organizations impact the overall system and trigger transformation processes, and how these changes at the system level feed-back into the observed strategies at the actor level” (Farla et al., 2012, p. 992). Similarly, a stream of papers on the politics of “protective spaces” explores how actors try to achieve institutional change which is favourable to “their” desired niche technologies (Raven et al., 2016; Smith and Raven, 2012). Others have explored the role of agency in transition processes by studying civil society actors and social movements, that is so-called “grassroots innovations” (Frantzeskaki et al. 2016, Seyfang and Smith, 2007). They illustrate how societal change can be promoted by non-state actors from the bottom-up (e.g. Boyer, 2015; Dóci et al., 2015; Feola and Nunes, 2014; Seyfang and Haxeltine, 2012; Seyfang and Longhurst, 2013). This literature on the agency of actors within transition processes was also partly a response to early criticisms that studies of sustainability transitions did not pay enough attention to the politics of such processes (e.g. Meadowcroft, 2009; Meadowcroft, 2011; Scrase and Smith, 2009; Shove and Walker, 2007; Smith et al., 2005). In the meantime, the politics of transitions has become a core research strand within the literature (e.g. see Avelino et al., 2016; Geels, 2014; Markard et al., 2016; Normann, 2015).

The agency of actors is of course partly shaped by existing dominant socio-technical configurations (which is what transitions research has paid much attention to) as well as wider institutional contexts. Institutions are widely acknowledged to shape transition processes and institutional change is considered key for transitions to unfold (e.g. Brown et al., 2013;

¹ For an introduction to the MLP see Geels, 2002; Geels, 2004; Geels, 2005; Geels, 2011; Geels and Schot, 2010; Kemp et al., 1998.

Fuenfschilling and Truffer, 2014; Fuenfschilling and Truffer, 2016). However, our argument is that wider institutional contexts (which are not normally conceptualised to be part of the regime, such as the nature of the political system in a country) are key in shaping agency and stretch over various governance levels (e.g. national, regional, local). These need to be systematically analysed, rather than simply distinguishing between the “system level” and the “actor level” as Farla et al. (2012) propose. We argue that existing research on transitions focuses on one level of governance, only. In the early literature, research predominantly focused on the national level (most of the research referred to above), while more recently there has been a lot of work on urban sustainability transitions (see for example Bulkeley et al., 2011; Ernst et al., 2016; Hodson and Marvin, 2010; Moloney and Horne, 2015; Truffer and Coenen, 2012; Wittmayer et al., 2015; Wolfram, 2016; Wolfram and Frantzeskaki, 2016). Bulkeley et al. (2011) for example focus on urban responses to climate change and how such efforts are shaped by the dynamic tension between processes of experimentation and efforts to promote systemic change towards low carbon futures. Hodson and Marvin (2010) point out that many cities have aspirations to manage transitions towards more sustainable cities and develop a framework to better understand city scale transition processes. Many of these studies, however, focus mainly on the agency of local actors but do not cover their wider multi-level governance contexts, or do not do so explicitly, or not in a well conceptualised manner.

The novelty of our proposed analytical approach is to focus on the local level while specifically conceptualising how wider multi-level governance structures shape the agency of local actors. We argue that the concept of multi-level governance is useful in the context of studying sustainability transitions because it (1) allows analysis to explore the influence of institutional structures at different governance levels and (2) captures the agency of state as well as non-state actors. Moving beyond traditional forms of governing by the state, it includes the agency of societal actors such as the private sector, academia, or civil society. The concept of multi-level governance expresses a dispersion of political authority across multiple territorial levels (rather than the MLP levels of niches, regimes and landscapes). State and societal actors interact in both vertical and horizontal directions across international, transnational, European, national, regional and local levels. While multi-level governance has been a long-standing theme in political science research, it has remained under-explored in the study of sustainability transitions. It has already been suggested that the study of transitions within cities should account for the multi-level institutional contexts, in which these evolve (Hodson and Marvin, 2012).

We address this research gap through our comparative analysis of urban sustainability transitions in Brighton (UK), Dresden (Germany), Genk (Belgium) and Stockholm (Sweden). In our study, we elucidate the embeddedness of local agency in multi-level governance contexts by distinguishing between four different types of political systems. By doing so, we contribute to the emerging research on the politics of transitions by elucidating the dynamics of power concentration and power dispersion which characterise different governance contexts. Our

approach, therefore, replies to the sustained call for extending analysis beyond detailed micro studies of urban initiatives to take into consideration the wider institutional contexts of local agency (Hodson and Marvin, 2012; Markard et al., 2012). It also replies to the sustained call for comparative studies of sustainability transitions (Markard et al., 2012). We argue that a comparative perspective is especially important in analysing the role of institutional structures in shaping agency: Without such systematically designed comparative research that distinguishes between different political-institutional contexts, any finding can be attributed to a specific institutional context.

In order to hedge calls for putting agency central in the study of (urban) sustainability transitions, we focus on the collective agency of local transition initiatives (TIs), operating within the four city-regions studied. We define TIs as collective agents who aim to drive transformative change towards environmental sustainability (so an urban sustainability transition in their city-region) with their locally-based activities, i.e. the enactment of sustainable ways of organising (structures), thinking (culture), and doing (practice) (Frantzeskaki and de Haan, 2009). We emphasise the notion of city-regions, since TIs do not follow a logic of political-administrative borders. Local TIs rather operate in “soft spaces” (Haughton et al., 2010; Illsley et al., 2010). Depending on their field of action (mobility, energy, food, etc.), they act within completely different spatial geographies, often including urban, sub-urban and rural areas at the same time. Such an agency oriented perspective is deliberate and implies a “flat” ontology compared to the hierarchical niche-regime distinction used in the MLP to investigate multi-level relations between niche-innovations, regimes and landscapes (Geels, 2010). Instead we study urban transitions as they unfold through the agency of local transition initiatives pushing for change in ways of organising, thinking and doing.

With the notion of local transition initiatives, we build on the concept of urban experimentation as proposed by Bulkeley and Castán Broto (2012). They do not conceive of experiments in a formal scientific sense, but rather defined them as “purposive interventions in which there is a more or less explicit attempt to innovate, learn or gain experience” (Bulkeley & Castán Broto 2012, p. 363). These experiments give rise to new forms of statehood and urban governance as discussed by the literature on governance (see section 2.1). They redraw the boundaries between public, private and civic engagement and establish new partnerships.

However, our understanding of local transition initiatives is distinct from the notion of urban laboratories as outlined by Karvonen and van Heur (2014) and Evans and Karvonen (2014). These urban laboratories are formalised settings, “(1) involving a specific set-up of instruments and people that (2) aims for the controlled inducement of changes and (3) the measurement of these changes” (Karvonen & van Heur 2014, 383). Thus, they are defined by the combination of intervention and observation. While local TIs strive for innovation and societal change, they do not necessarily strive for systematic observation and evaluation. The

ways by which learning and reflection occur vary considerably, often being more unintended and perhaps even unconscious than systematic and formalised.

Building on the idea of a duality of structure and agency (Giddens, 1984), we suggest that local agency is embedded in and shaped by multi-level governance contexts (yet, not determined by them entirely). Consequently, the TIs navigate multi-level governance contexts with elements that are shared across city-regions (the EU and transnational context) and elements which are particular to the city-region (the national and sub-national context). Zooming in into the elements of context which differ between the city-regions, we examine four political systems: a centralised unitary state with low local autonomy in the United Kingdom (UK), a decentralised unitary state with high local autonomy in Sweden, “cooperative federalism” in Germany and “dual federalism” in Belgium.

We propose that these different governance contexts - unitary and federal political systems - affect the dispersion of power between different governance levels, promoting either power sharing or power concentration. They can either support or impede local TIs to initiate, foster, and sustain urban sustainability transitions. Our findings show that the power sharing effects of federal political systems give TIs more room to manoeuvre than unitary political systems do. Our research confirms that attempts to govern sustainability transitions in general and urban sustainability transitions in particular are embedded in wider political-institutional contexts. The contribution of this paper is to propose an agency and governance focused analytical perspective which extends previous research on urban sustainability transitions by incorporating the multi-level governance nature of urban transitions. Empirically and conceptually, with the comparison of unitary and federal political systems, we also add to the literature on the role of institutions in sustainability transitions. Our findings confirm that “institutions do matter” and demonstrate how different political systems enable and/or constrain local agency. Our research illustrates the ambiguity of these wider governance contexts, often entailing both opportunities for and obstacles to urban sustainability transitions.

The next section develops a multi-level governance perspective on urban sustainability transitions. After setting out the methodology in section 3, the empirical findings are presented in section 4 and discussed in section 5. Section 6 concludes.

2 Theory: A multi-level governance perspective on urban sustainability transitions

2.1 Governance: Beyond government, but not instead of

How governments can effectively steer transitions into desired directions has been a key strand within the sustainability transitions literature from the very beginning. A number of scholars have developed a “transition management” approach (e.g. Kemp et al., 2007; Rotmans et al., 2001) which was also adopted for some time by the Dutch government (Kern and Smith, 2008; Smith and Kern, 2009). While sometimes criticised as a top-down approach to manage transitions (Shove and Walker, 2007; Smith et al., 2005), Loorbach (2010) has

characterised the approach as a prescriptive, complexity governance framework which relies on the cooperation of a variety of different stakeholders or even as a new mode of governance itself (2007). While initially the approach was mainly designed with national or regional governments in mind, more recently contributions have also highlighted the usefulness of the approach in the context of urban transitions (Wittmayer and Loorbach, 2016).

Another important contribution to the discussions about the governance of transitions in the transitions literature was the development of the idea of varying transition contexts: Smith et al. (2005, p. 1492) argued that “the particular form and direction of regime transformation, and the associated modes of governance, will depend on the transition context: a function of the availability of resources and how they are coordinated”. By focusing on resources of actors and their coordination, this approach provides greater room for the analysis of agency in the pursuit of transitions. Some of these contributions already explicitly draw on the wider political science literature on governance (e.g. Loorbach, 2007), but we argue that there is value in revisiting this literature. Especially given the increasing interest in urban sustainability transitions, we propose that the multi-level governance literature can add to our understanding of the governance of transitions.

In the political science literature, the traditional understanding of government as the sole source of authority became contested already in the 1970s. This change has been accompanied by “proliferating centres of authority” (Rosenau, 2004, p. 32). For example Kooiman has argued that “[i]n diverse, dynamic and complex areas of societal activity no single governing agency is able to realise legitimate and effective governing by itself.” (Kooiman, 2003, p. 3). Along similar lines, Rhodes argues that governance reveals “the limits to governing by a central actor, claiming there is no longer a single sovereign authority. In its place, there is the multiplicity of actors specific to each policy area [...]” (Rhodes, 1996, p. 658).

Thus, governance implies a crossing and redrawing of boundaries between the state and society (Bevir, 2010; Healey, 2006; Kooiman, 2003; Lynn, 2010; Peters and Pierre, 2004; Rhodes, 1996). However, these changes do not imply that governments do not play an important role any more. While some authors even heralded the era of “governance without government” (Rhodes, 1996; Rosenau and Czempiel, 1992; Peters and Pierre, 1998), others contend that governance has not led to a hollowing out of the state, but rather to a shift in the manner states exercise political authority (Benz, 2004; Lynn, 2010; Pierre and Peters, 2000). The attempt to create a transition governance framework was very much based on this understanding of governance: that governments have to play a key role, but can only be effective in governing transitions with collaboration with actors from science, business and society (Wittmayer and Loorbach, 2016).

Therefore, in our conceptual framework, we adopt a perspective in which different types of actors - public, private and third sector actors – are important governance actors. Kooiman defines governing, aptly for our interest in sustainability transitions, as “the totality of

interactions, in which public as well as private actors participate, aimed at solving societal problems or creating societal opportunities” (Kooiman, 2003, p. 4). Importantly, the “room to manoeuvre” of these actors is defined by hard power as well as soft power (Nye, 1990; Nye, 2004; Stoker, 2011). While hard power is “the power of command and incentives”, soft power is “the power to get other people to share your ideas and vision” (Stoker 2011, p. 27). Hard power is the power of coercion, regulation or economic incentives whereas soft power is expressed through values, ideologies and ethos. Both hard and soft power combined are important for local agency in transitions and are distributed unequally across different actors. While the existing transitions literature often distinguishes between powerful regime incumbents and less powerful niche actors or grassroots coalitions (e.g. Hess, 2014), we argue that how hard and soft power is distributed is partly shaped by the multi-level governance context which includes the institutional structures of the political system within which actors operate. These issues will be explored in more detail in the following two sections.

2.2 Multi-level governance

In political science, it has long been established that governance does not simply take place at any one level but has been argued to often have a multi-level character with jurisdictions ranging from the international to the local level (Benz, 2007; Bevir, 2010; Marks and Hooghe, 2004). These governance levels are interdependent and marked by multiple dynamics of interactions. Therefore, the strategies and activities of actors span across multiple jurisdictions (Peters and Pierre, 2004; cf. Benz, 2007; cf. Kern, 2014; cf. Smith, 2007).

In the context of multi-level governance, these strategies and activities flow in a horizontal as well as a vertical direction (Geys and Konrad, 2011; Kern, 2014; Lee and Koski, 2015; Peters and Pierre, 2004; Rosenau, 2004). In a horizontal direction, the exchanges and knowledge flows between different city-regions are manifold (Derthick, 2010; Geys and Konrad, 2011; Lee and Koski, 2015). They are furthered by transnational municipal networks and environmental movements. While they might not necessarily influence policy decisions, their importance lies in the motivation of local activities (Lee and Koski, 2015). By sharing novel ideas, knowledge and experiences, they motivate and induce local action.

In a vertical direction, the multi-levelness of the strategies and activities of state and non-state actors is captured by the notion of “two-level games” (Putnam, 1988; cf. Zangl, 1995) that has later been extended into “multi-level games” (Mayer, 2011). It captures how actors try to overcome obstacles at their own governance level by making strategic use of negotiation processes at another level. For instance, domestic actors can refer to agreements of international negotiations (e.g. the Sustainable Developments Goals defined by the United Nations) to overcome domestic resistance to sustainability. Thus, actors learn to navigate across the multiple levels of governance. While it is acknowledged that the multiple levels of governance influence one another, the question of “when” and “how” (cf. Putnam, 1988) they do so remains a research gap.

In contrast, much of the existing literature on how institutional structures influence transition governance exclusively focuses on one level of governance (often national or local). However,

more recently, it has already been argued that “cities are enmeshed more or less strongly in multi-level governance relationships where, for example, cultures of centralisation (UK) or federalism (Germany) condition the nature of multi-level relationships” (Hodson and Marvin, 2010, p. 481). Similarly, Bulkeley and Betsill (2005, p. 43) have contended that “multilevel governance perspectives can start to open up these divisions, and provide insight into the opportunities and contradictions which emerge in the interpretation and implementation of urban sustainability across a range of scales and spheres of governance”. However, studies of the effects of different institutional contexts on the agency of urban actors in the context of sustainability transitions from a systematic comparative perspective are scarce, despite Hodson and Marvin’s call for the need to better understand similarities and differences between urban contexts.

In order to fill this gap in the literature, we argue that the extent and form of the dispersion of authority and governing across different governance levels is partly influenced by the political systems of nation states. These national political systems are the element of the multi-level governance context that differs between the city-regions. Given the interest in the transition literature on how institutions shape transitions, but also the lack of comparative studies of how exactly political systems shape the agency of actors to effect transitions, the focus of our proposed multi-level governance framework is to shed light on how the different national political structures shape the ability of urban actors to promote transitions in their respective city-regions.

2.3 Federal versus unitary political systems

One way to distinguish different national political systems and capture their dispersion of political authority across governance levels is through the notions of federal and unitary political systems (Anderson, 2008).

A federal political system combines a union of constituent units with the autonomy and self-governance of these units (Anderson, 2008; Watts, 1998). As they do so, all federal political systems combine elements of centralisation with elements of decentralisation. They have a minimum of two independent levels of governance (e.g. state and federal government like in the US). Two types of federal systems can be discerned: cooperative and dual ones. “Cooperative federalism” is characterised by shared competencies between the constituent units² (e.g. in Germany). “Dual federalism” is characterised exactly by the separation of these competencies, avoiding any overlap of political authority between these constituent units (e.g. Belgium).

In a unitary political system, the constituent units (e.g. local municipalities) can only exercise those powers that the central government has delegated to them and the national government can re-configure the dispersion of authority unilaterally. Unitary political systems can also be distinguished into two types: a centralised and a decentralised one. In

² Here, we follow a descriptive understanding of federalism, not a normative, philosophical one as proposed by King 1982 and Watts 1998.

decentralised unitary states, political authority is delegated to the constituent units through devolution. They can hold manifold competencies, sometimes also encompassing territorial and/or financial autonomy (e.g. Sweden). In centralised unitary states, only one political centre exists - the national government -, assigning merely administrative functions to the constituent units (e.g. the UK). These features of unitary and federal political systems are depicted in Figure 1.

[FIGURE 1 about here]

The notion of hard power and soft power also pertains to these political institutions. Hard power as “the power of command and incentives” entails the power to change the rules of the game and the power over the distribution of financial resources. Soft power as “the power to get other people to share your ideas and vision” includes the power to provide political support and create legitimacy for sustainability activities.

Hard power resources are allocated differently in federal and unitary systems. Federal and unitary systems are defined by the difference in who holds the authority to change the rules of the game. The difference between the two lies in the constitutional guarantee of the autonomy of the constituent units (Anderson, 2008; Watts, 1998). In federal political systems, the configuration of authority can only be changed in cooperation of the constituent units. By contrast, in unitary political systems, the central government can re-configure authority without the consent of the constituent units. Consequently, federal systems disperse power and give local TIs (both state and non-state actors) more opportunities to shape the rules of the game. By contrast, unitary systems concentrate this power in the central government, making local TIs more dependent on central governance.

The power over the distribution of financial resources differs not between federal and unitary systems per se, but rather between different types of federal and unitary political systems:

- For federal political systems, financial relations are structured differently in “cooperative federalism” and “dual federalism”. In the “cooperative federalism” of Germany, sources of revenue are shared and redistributed across levels of governance by a complex system of vertical and horizontal exchanges (the so-called *Länderfinanzausgleich*). This gives local TIs more room to manoeuvre to utilise diverse sources of funding for local sustainability activities. By contrast, in the “dual federalism” of Belgium, the federal government retains the control over taxation (Swenden and Jans, 2006). Thus, local TIs are more dependent on the federal government for the provision of funding.
- For unitary political systems, the difference between centralised and decentralised unitary states matters. In centralised unitary states such as the UK, the central government retains control over taxation and spending, while the municipalities have hardly any revenue sources of their own. This makes local TIs highly dependent on the central government for gaining financial support for sustainable action. Conversely, in the decentralized unitary state of Sweden, local autonomy is secured through fiscal politics and local sources of

revenue. Therefore, local TIs dependent more on the municipalities for the provision of funding.

While hard power is closely linked to the configuration of the political system – i.e. federal or unitary states – soft power is much less so. The soft power of providing political support and creating legitimacy for sustainability can be applied by state and non-state actors at all levels of governance, be it national, subnational or local. Here, we argue that the political system does not make a difference for fostering urban sustainability transitions.

Sustainability is cross-cutting in nature, relating to different policy domains such as mobility, housing and urban development, energy or agriculture. Therefore, one also has to note that the extent of local autonomy may vary between policy domains (Pratchett 2004, 363). Thus, research on environmental policy shows that the nature of vertical, top-down influences also depends on the policy orientation of national governments (Lee and Koski 2015, 1505). If they disregard or even oppose the environmental policy agenda, they can be counterproductive for very innovative local communities. If they are supportive of environmental protection, they can foster local activities. This is most problematic for centralised unitary states, while, for the other political systems, it is as well, but to a lesser degree.

Therefore, scholars highlight that vertical interaction should be understood not only in a top-down, but also in a bottom-up fashion. This gave rise to the conception of “compensatory federalism” (Derthick, 2010). It suggests that “federalism works when governments at one level of the system are able to compensate for weaknesses or defects at another level” (ibid. p. 59). Thus, lower levels of governance are assigned the role of controlling the power of the national governments. This gives local TIs in federal states more leeway to initiative, sustain and defend local sustainability transitions than they do have in unitary states.

This question of how tasks, rights and responsibilities should be allocated among different levels of governance has received ample attention in the literature (Geys and Konrad, 2011). Oates’ Decentralization Theorem suggests that the responsibility for public services should be assigned to the lowest level where both the benefits and the costs of these services are generated (Oates, 1999). This argument is the reasoning behind the principle of subsidiarity. It assumes that the sub-national and local governments are closer and, thus, more responsive to the needs of local communities than national governments are (Geys and Konrad, 2011; Oates, 1999). This argument has also been used to justify the increasing attention of transition scholars to the urban sustainability transitions (e.g. McCormick et al., 2013).

Seeking to integrate the literature on multi-level governance with the literature on (urban) sustainability transitions, our analysis across four European city-regions, examines the following proposition:

- As hard power is shared across multiple governance levels in federal political systems, they grant more autonomy to local actors to change the rules of the game and access diverse sources of funding. Therefore, federal systems give local actors more room to

manoeuvre to navigate across the multiple levels of governance and to initiate, foster and sustain urban sustainability transitions.

- Conversely, unitary political systems concentrate hard power either in the central government (centralised unitary state) or the municipalities (decentralised unitary state). By making local actors more dependent on either national politics or local politics for redefining the rules of the game and accessing funding schemes, they curtail their room to manoeuvre to navigate across the multiple levels of governance.
- The soft power of raising political legitimacy by invoking values, ideologies and ethos can be applied by TIs to initiative, foster and sustain urban sustainability transitions. They can do so by referring to multiple levels of governance and both state and non-state actors. Hence we argue that TIs can create and use soft power in all four political systems.

We will now turn to describing the methodology through which we are testing these propositions.

3 Methodology

In our study, we explore how local transition initiatives that shape urban sustainability transitions are supported or hindered by the multi-level governance context in which they are embedded. We are doing that in a uni-directional manner, being primarily interested in how these multi-level governance contexts influence urban transitions. We do *not* investigate how urban sustainability transitions in general or local agency in particular might affect the wider multi-level governance context. Especially we are interested in the differences that can be observed, when we study the same phenomenon (local transition initiatives) in different national states with their specific political systems as described in the theory section. In order to explore such national differences, we decided to implement a case selection strategy of maximum diversity in national contexts, namely Belgium (Genk), Germany (Dresden), Sweden (Stockholm) and UK (Brighton). We conducted a comparative analysis following an “embedded multiple-case design” with the city-regions as the cases and the local TIs as the embedded unit of analysis (Yin, 2009, p. 46). Both cases (city-regions) and embedded units of analysis (local TIs) are embedded in a multi-level governance context. Figure 2 depicts this case study design.

[FIGURE 2 about here]

The multi-level governance context can be differentiated into a context that is common to all city-regions – constituted by EU and transnational politics – and a context that is specific to each city-region – constituted by national and sub-national politics. Based on the typology of federal and unitary political systems introduced above, the city-regions selected represent important variations in the national context they are embedded in. They range from the United Kingdom (UK) as a centralised unitary state with low local autonomy to Sweden as a

decentralized unitary state with high local autonomy³. The former concentrates power in the national government and the latter in the single municipalities. While both are federalist, the federalisms of Germany and Belgium display very distinct characteristics. German “cooperative federalism” is founded on the entanglement of political authority whereas Belgian “dual federalism” is based on the exclusiveness of the same. Thus, in German “cooperative federalism”, cooperation and consensus between various governance levels are prescribed by formal-legal statute. Conversely, in Belgian “dual federalism”, each governance level can – at least in legal terms – operate (semi)autonomously. Here, the need for cooperation and consensus arises rather from the cross-cutting nature of policy issues, requiring the combined action of several governance levels. Both federalisms afford high autonomy to the municipalities.

The common phenomenon we studied in these four different city-regions / states are local transition initiatives, which we defined as a group of people that strive for environmental sustainability in their city-region and that are physically located in this city-region. Based on that definition we mapped about 100⁴ initiatives (community gardens, energy cooperatives, repair-cafes etc.) in each city-region.

Empirical data on how these initiatives manoeuvre within their multi-level governance contexts have been gathered through a systematic literature review and extensive documentary analysis to cover the multi-level governance context dynamics as well as desk research, the attendance of local events, and as semi-structured interviews in all city-regions to research the urban dynamics. Following the idea of triangulation, interviews were conducted with so-called helicopter viewers, insiders and outsiders of selected TIs. Helicopter viewers are key informants with extensive knowledge of the city-regions and the status of sustainability therein. While they are knowledgeable about local governance and TIs, they do not belong to any specific initiative. They are usually politicians or public officials, journalists, academics or members of local businesses. Insiders and outsiders of TIs were interviewed to gain a more balanced understanding of TIs’ activities. While insiders belong to the core of an initiative (e.g. founding member), outsiders know about the initiative (e.g. as consumer of organic food from a food cooperative) but do not belong to the inner circle. Thus, 33 interviews were conducted in Brighton, 27 interviews in Dresden, 23 interviews in Genk and 18 interviews in Stockholm. In all city-regions we interviewed persons acting in different sectors, namely public, business and civic (see Figure 3). Most of them were face-to-face interviews and only few were conducted via phone or Skype.

[FIGURE 3 about here]

³ In Sweden, the relationship between the municipalities and the regional authorities varies. While some city-regions have a tradition of strong regional coordination (e.g. Malmö and Gothenburg), others have a history of strong autonomy of the municipalities (e.g. Stockholm).

⁴ For a full list of initiatives identified in each city-region please visit: www.acceleratingtransitions.eu

For our analyses, we recorded, transliterated and coded the interviews⁵. Our coding scheme included codes for the EU, transnational governance, the national political systems, sub-national governance (for example the Länder in Germany or regional authorities in Sweden) and the local governance within the city-regions. Examining the empirical data, we highlighted the opportunities and obstacles that arise from the varying governance arrangements.

A limit of our study is that within the same national context the local conditions can differ considerably. Neither Dresden, nor Genk, Brighton or Stockholm can be perceived as typical city-regions for their countries, if something like this exist at all. We addressed that partly when we conducted a governance mapping for every of the four city-regions in order to identify aspects that are specific for these city-region. Brighton for example is the only city in the UK that is represented by a Green member of parliament, which is surely a relevant factor for the interplay of local initiatives and the national context in which they are embedded. These specifics are mentioned in the beginning of every empirical chapter. This, however, does not replace a comparative study of different city-regions within the same national context, which needs to be done by other studies.

4 Urban sustainability transitions and their multi-level governance contexts

4.1 Brighton - UK: A “hollowing out” of local governance by increasing centralisation and reducing local funding provides a difficult context for local agency

As set out above, being a centralised unitary state, political power in the United Kingdom (UK) is concentrated in the central government and relatively little independent authority afforded to the municipalities (Bulkeley and Kern, 2006; Kern, 2014). Being a centralised unitary state with its concentration of hard power in the central government, the Brighton case can be seen as a “most difficult” case in terms of the possibilities for the urban governance of transitions. While locally a green-led city council (2010-2015) was keen on the sustainability agenda and Brighton is the only city in the UK that is represented by a Green member of parliament, the wider institutional context is a challenging environment for bottom-up actions.

In the UK, the national government has significant control over the sustainability activities of municipalities. For example, planning policy has been significantly hollowed out, removing most of the sustainability guidance and taking powers away from local authorities. National Planning Inspectors have significant powers over local plans and for example have recently requested changes to the Brighton and Hove City Plan One. In addition, the national Planning Inspectorate has recently threatened to take away all planning controls from Brighton and

⁵ The following three reports have been prepared by the ARTS Consortium to document the empirical findings of the data collection and data analysis: ‘D 2.3 - Governance Context Analysis of All Transition Regions’; ‘D 2.4 - Synthesis Report I: Comparative Analysis of the Acceleration Dynamics in Regions and Potential Acceleration Opportunities’; ‘D 3.2 - Case Study Reports: Background Reports and Reports on Transition Initiatives’. The ARTS Project (Accelerating and Rescaling Transitions to Sustainability). Grant agreement number 603654. <http://acceleratingtransitions.eu/publications/>.

Hove City Council as a consequence of failing to hit central targets for new housing development (BT 4).

The power position of the central government is further enhanced by the centralisation of fiscal politics. The Treasury has enormous influence over local governments through controlling income (local administrations depend to a large extent on budget allocations from central government) and expenditure (where the Treasury can limit expenditures in local councils). Municipalities in England have few tax-raising powers, apart from the council tax. In the wake of austerity following the financial crisis in 2008, the funding allocated to municipalities from central government has significantly reduced. As a consequence, since 2012/13, Brighton and Hove Council has delivered around £75m of cuts to its spending (BHCC 2016). Both trends – fiscal austerity and the recasting of planning authority – caused a retrenchment and “hollowing out” of local government in the UK, which has had knock-on effects on other local actors. Austerity put the Brighton and Hove City Council under acute financial pressure. It now struggles to finance statutory duties, let alone develop sustainability-related activities. Therefore, grants of the City Council to support local TIs such as the City Sustainability Partnership have been dropped and the staff capacity of the sustainability team of the City Council itself has been reduced. This raises concern because the sustainability team has been instrumental to the development of many local TIs, including the Hanover Action for Sustainable Living or the Brighton and Hove Food Partnership. Environmental and educational campaigns have particularly suffered since 2010 with certain TIs finding themselves “in a crisis, financially” because of the reduction in available project funding (BT 14). So in an institutional context where hard power was already concentrated in the national government, these recent trends have made the situation even more difficult for local councils and local actors more generally. This difficult political and financial context amounts to only limited opportunities for the local government to develop and implement policies that could foster a transition towards sustainability (BT 1; BT 2; BT 23). Activities such as the roll-out of solar PV pursued by the Brighton Energy Co-op, or changes to the local cycling infrastructure, are therefore very dependent on national policy incentives (such as feed-in tariffs). As a consequence, we observe that some local TIs are choosing to be much involved in national policy discussions than in engaging for example with the local council that has little to offer in terms of funding. Others (like the Brighton bike hub) are playing two-level games in that they engage locally with the council to promote cycling while also applying for national funding for such infrastructure investments. Several TIs very much depend on the vagaries of national politics because a shift in government can cause extensive changes to institutions and funding streams.

Multi-level governance processes also impact on the distribution of soft power. For instance, the political shift towards a Conservative-led coalition government in 2010 undermined the local sustainability agenda and the common concern of all local political parties for sustainable development. According to interview evidence, it was exactly this shared concern

for sustainability that had previously contributed to a local “fertile breeding ground” for TIs and provided legitimacy for sustainability activities (soft power).

In summary, one of the key lessons learned from the Brighton case study is that even in a supportive political environment locally (soft power), progress has been limited and unevenly distributed across various empirical domains. This shows just how difficult the situation is for local actors to promote change. While the national context has become increasingly hostile to the environmental and low carbon agenda under the Conservative government since 2015, and is the locus of much of the hard power in this case, it also continues to provide some (but much reduced) opportunities for TIs. This case therefore confirms our proposition that centralised unitary political systems concentrate hard power in the central government, which reduces the room to manoeuvre for local actors, which in some instances are very much dependent on national politics and policies for support of their activities. This is particularly problematic at times when the national government agenda is not supportive of sustainability issues. However, the soft power of having an active “green scene” of sustainability-minded actors (in the local council, businesses and civil society) nevertheless stimulated much activity locally and led to some progress.

4.2 Stockholm - Sweden: Decentralisation as disintegration

Quite the opposite of the UK, the Swedish decentralized unitary state provides for high local autonomy, including many environmental issues such as land use planning and environmental protection. This political decentralisation originated from the idea to safeguard democracy by limiting the distance between citizens and political decision-makers established by the strong labour unions that formed the social democrat party in the mid-1900s. The city-region of Stockholm consists of 26 municipalities and the autonomy of these municipalities is secured through fiscal politics and the authority over spatial planning among other things. Therefore, the regional authorities – the Stockholm County Administrative Board (SCAB, Länsstyrelsen i Stockholms län) which is the regional branch of the state and the Stockholm County Council (SCC, Stockholms Läns Landsting) which is a regional political entity with responsibility for health care, commuter transport and regional land use planning (the latter is not mandatory) - have more of a guiding position towards the municipalities. Yet, local autonomy limits the ability of regional authorities to steer by intervention and if they do so, then only with strong support from national legislation. However, the interplay between local and regional authorities differs across different parts of Sweden, with Stockholm region being one of those with very limited regional power. Stockholm is also the city with most municipalities within the city-region. The emphasis on local autonomy creates a very pronounced form of multi-levelness in the city-region of Stockholm with the municipalities forming the core element.

These fragmented governance structures impede the coordination and alignment of sustainability activities across the municipalities in the city-region. Against this backdrop, differences in the politics of sustainability between the municipalities within the city-region of Stockholm matter considerably. While some municipalities openly and actively promote sustainability and even are national frontrunners, others rather neglect it. One example is

Södertälje municipality that in partnership with local TIs has become a role model and frontrunner regarding sustainable development in the food sector from production to consumption and waste management. One of the key factors for progress and expansion has been the local political support (ST 3, ST 7, ST 9). In other municipalities in the Stockholm city-region, sustainable development is not on the political agenda and hence local sustainability TIs have difficulties in finding understanding for their activities, which is a prerequisite for gaining support (ST 5, ST 11, ST 13). This has resulted in a “localisation” of the perspectives of TIs, focusing on the local government as their immediate political setting and with very limited connections to the regional level. This situation very effectively curtails the potential role and impact local initiatives have on a transition of the city-region. It also means that the strategies for navigating this local political setting vary greatly, depending on what municipality the TI is working in. Is the main challenge to become acknowledged by decision makers in order to start a communication and get visibility, or is it to seek partnership for getting a more solid support? Given the changing politics at municipal level, the relations with local TIs also change. This is exemplified by some long-term civil society TIs that has been pending between being conflictual or participatory in their approach towards the municipality (Mietala, 2012).

The disconnect between governance levels influences the allocation of hard power resources. National or regional funding programmes are not tuned to local circumstances or easily adapted to changed local conditions (WS 1-3, FG 3). This has considerably constrained TIs in their efforts to find financial support, because they would not fit into these pre-defined schemes. The funding support that exists is commonly temporary, following specific political directions, and tends to promote innovative start up initiatives during a shorter time (e.g. 2-3 years). After this time, there are very limited possibilities for continued financial support and there is a belief that the initiatives will be economically self-sustaining. This so-called “projectification of funding” (Borgström et al., 2016) is a major barrier expressed by many TIs in the Stockholm city-region (WS 1-3, FG 1-3).

The access to funding also illustrates the link between hard power and soft power resources. Governmental funding often requires the partnership of TIs with local authorities – either the municipality or city-districts. This makes funding dependent on how well the TIs are recognized by these local authorities and the existing relations between them. More importantly, it creates a divide between the traditional civic associations with a long-standing reputation and networks with public organisations and more recently emerged TIs that have not established their position within the city-region, yet or do not want to (ST 5, ST 9). This evidently impacts the strategies in terms of navigating the governance context, where many traditional associations have the trust capital, but where newer initiatives struggles to get acknowledged, trusted and hence supported.

Nonetheless, the long-term tradition of local public associations and civic participation has been an important engine for sustainability activities in Stockholm. It is a source of soft power that has enabled well-established and trusted NGOs to participate in debates about the future development and strategic decision-making in the city-region (ST 7). This tradition is closely

linked to the ideology of decentralised decision-making in Sweden. Interaction with these associations has been a well-known way of securing citizens participation in urban development for a long time. However, the authorities have large difficulties in finding ways to set up dialogues with the new forms of engagement.

In an effort to overcome the obstacles posed by the governance context and increase their room to manoeuvre, TIs engage in multi-level games and seek cooperation to gain recognition and political voice vis-à-vis local and regional authorities (soft power). In so doing, horizontal networks such as the network of urban gardeners within Stadsodling Stockholm, which connects the various urban farming groups and actors in Stockholm, help TIs to have a stronger voice in the city-region. This is an attempt to move in the same direction as the cities of Gothenburg and Malmö, where urban farming is much more recognised by the authorities (ST 14). In a similar vein, the cooperation with transnational networks has enabled TIs to raise their legitimacy and to justify their commitment to sustainability vis-à-vis local sceptics and opponents. For example, the Transition Movement Värmdö questions existing societal structures like the objective of economic growth, and believes that the current crisis can only be solved by replacing these very structures. As this puts it into conflict with many incumbents, the collaboration with a network of like-minded initiatives like the Transition Town Movement or with more established institutions like the church, is crucial to back its arguments (ST 11).

TIs (especially those working locally, but in many places in the city-region) also play games across the multiple levels of this decentralised system by using the different situations in different municipalities to showcase and hence inspire sustainable ways of organising, thinking and doing, for example the Green wedge TI (*Kilsamverkan Storstockholms gröna kilar*). The regional actors also use this strategy to foster progress in all the municipalities in the region.

In Stockholm, the governance context is characterised by a disconnect between levels and types of actors, which slows down the implementation of the national and regional level sustainable development ambitions. Even if disconnected, the main source of funding is from the national government (hard power), which has very limited knowledge about the local level due to this fragmentation. On the other hand, the decentralisation supports a high diversity of alternative solutions in the city-region and a strong local contextualisation of these. This provides the opportunity for TIs to invoke the exemplary role of other initiatives in other city-regions or horizontal networks to raise the legitimacy of their engagement. Consequently, the Stockholm case study illustrates how TIs depend upon one level of governance for the allocation of hard power in a unitary political system. At the same time, it shows how the TIs navigate across the levels of the decentralised Swedish state to gain soft power and compensate for the limits imposed on them by this concentration of hard power.

4.3 Dresden - Germany: “Cooperative federalism” as multi-levelness

German “cooperative federalism” is constituted by the entanglement of the federal government, the sixteen semi-autonomous states (henceforth the Länder), and the autonomy

of the municipalities. As the implementation of federal legislation belongs mainly to the jurisdiction of the Länder, German “cooperative federalism” provides for joint decision-making of the federal government and the Länder on federal legislation in the Second Chamber (Bundesrat). In this context, consensual modes of conflict resolution – such as unanimous consensus and supermajorities – prevail over majoritarian decisions and hierarchical steering (Schmidt, 2003).

This intergovernmental entanglement is based upon the principles of subsidiarity and solidarity. These are enshrined in the constitutional principle of “uniform” or at least “equivalent living conditions” among the Länder (Art. 106 and Art. 72 German Basic Law). This is a unique feature of German federalism that distinguishes it from other federal systems around the world (von Beyme, 2004; Rudzio, 2003; Scharpf, 2005). It gave rise to a system of both vertical and horizontal fiscal redistribution between the national government, the Länder, and the municipalities. Vertical redistribution from the federal government to the Länder is complemented by horizontal fiscal redistribution between the Länder to balance economic disparities and unequal tax revenues between the poorer and the richer Länder (Scharpf, 2005).

In the myriad of vertical and horizontal linkages created by German “cooperative federalism”, the responsibilities for defining the rules of the game and providing public funding (hard power) are allocated differently for each policy domain. Therefore, “cooperative federalism” led to a “multi-levelisation” of the perspectives and activities of the TIs, addressing the federal government, the Saxon government or transnational organizations and networks depending upon the domain they engage in.

This is illustrated by the domains of urban development and energy production. In urban planning and building, the local public administration could shield the local green space Hufewiesen against building plans of the owner by invoking the “National Act on the Protection Against Aircraft Noise” and the “Saxon Law on Flood Protection”, even though support by local politics was lacking (DD 25).

In the energy domain, the development of the Citizens’ Power Plants, promoting decentralized renewable energy installations in the city-region, highly depended on national renewable energy policy. With the introduction of a feed-in tariff by the German Renewable Energy Act of 2000, renewable energy installations turned profitable and the Citizens’ Power Plants expanded (DD 20). However, when the act was amended and the feed-in tariff reduced in 2011, their development slowed down significantly. Moreover, the political priorities of the Saxon government in energy policy, which seek an expansion of conventional energy, impede the activities of the Citizens’ Power Plants. This holds especially for wind energy, where regional planning processes have stalled.

The TIs struggled especially with the so-called “projectification of funding” (Borgström et al., 2016), because short-term, project-based funding schemes created high uncertainty for them. In some instances, this even caused some key activists to withdraw from the TIs (DD

18). To overcome this problem, some TIs engaged in political lobbying, reaching across governance levels, to change the governance context itself. For example, in the domain of education, a TI cooperated with the Saxon-wide Network for Development Policy (*Entwicklungspolitisches Netzwerk Sachsen*) to convince the Saxon government to institutionalise a co-financing scheme for education for sustainable development, which already exists in other German Länder. This change in the provision of funding was intended to create more stability for the activities of the TI.

TIs navigated across the levels of governance not only in a vertical, but also in a horizontal direction. Thus, civil society initiatives – that form an element of transnational politics – opened more flexible and at times more experimental ways of support to TIs. For example, various foundations helped TIs by providing funding in a much more “unbureaucratic” manner than the public funding of state institutions (DD 4; DD 5; DD 6; DD 9; DD 10; DD 25). This enabled smaller TIs with fewer resources to receive support that otherwise would not have been able to handle complex funding applications.

Apart from these hard power resources, TIs used the multi-levelness of governance to invoke the soft power of values and knowledge and create legitimacy for urban sustainability transitions. They deliberately referred to sustainability initiatives at other governance levels or in other city-regions to create political pressure locally. In so doing, they emphasized the need of “keeping up with the trend” (DD 13). One such trend are local currencies. Although they were neglected by local authorities in Dresden, they have been endorsed by German National Urban Development Policy (DD 29). With reference to this national policy, the local currency Elbtaler could raise its own legitimacy.

In a similar vein, TIs benefited from the exchange of knowledge and experience in transnational networks. For example, for the urban gardening network, the national foundation “anstiftung & ertomis”, which published an Urban Gardening Manifest, and the Academy of Permaculture have been important sources of inspiration and reflection (DD 4; DD 5; DD 10). By sharing positive and negative lessons between urban gardeners, the foundation helped the network to avoid some of the mistakes of earlier initiatives and evolve in a more effective manner.

The entanglement created by German “cooperative federalism” caused a “multi-levelisation” of the perspectives of the TIs. They learned to navigate across the levels of governance in both a vertical and a horizontal direction. In German “cooperative federalism”, the responsibilities to define the rules of the game and the access to funding sources vary between the different domains. Therefore, the dynamics of supporting or hindering urban sustainability transitions are domain-specific. Yet, in line with the notion of “compensatory federalism” (cf. Derthick, 2010), TIs could invoke the soft power of creating legitimacy and exchanging knowledge by referring to exemplary action at other levels of governance, where hard power resources were not accessible to them.

4.4 Genk- Belgium: “Dual federalism”, both enabling and hindering a pioneering local government

While also federalist, Belgian “dual federalism” is quite distinct from German “cooperative federalism”. Where German federalism is characterised by entanglement, Belgian federalism features separation. It can be described by three main characteristics: the exclusive division of competences, the principle of no hierarchy and the Europeanization of inter-governmental relations within Belgium (Happaerts, 2015).

In line with “dual federalism”, the competences are divided in an exclusive manner between the federal government, the three Regions (Flanders, Wallonia and Brussels) and the three Communities (Flemish, French and German-speaking) (Beyers and Bursens, 2006a). The principle of no hierarchy prescribes that “the federal government cannot impose something on sub-national governments and those cannot be bound by federal legislation” (Happaerts, 2015, p. 288; cf. Jans and Tombeur, 2000; cf. Swenden, 2006). Therefore, policy-making is never hierarchical, but always based on a consensus among equal partners. Yet, the federal government has the control over taxation, the part and parcel of all policy-making (Swenden and Jans 2006). In this context, external pressure by EU or international policy commitments is essential to forge agreement between different levels of governance within Belgium (Beyers and Bursens, 2006b; GK 20-23). This has resulted in the Europeanisation of intergovernmental relations (Happaerts, 2015).

In addition, Belgium has been going through several processes of political state reform, adding complexity and incoherence of responsibilities across all levels (Swenden and Jans, 2006; GK 20-23). In this context, the federal government retained considerable authority to define regulation and the policy orientation in single policy domains (hard power). This multi-level architecture has so far reproduced a status quo in environmental and climate policy (Happaerts, 2013; Maesschalck and Van De Walle, 2006) which is reinforced by a lack of ambitious visions for energy, transport and food policy for example. The current approach is thus more an approach of “managing unsustainability” (focussing on the symptoms instead of the causes) in the way that current market-driven, growth-oriented economic development can continue (Blühdorn, 2007). In energy policy for example, the federal government took the controversial decision to extend the operation of nuclear power plants. This sustains the energy monopoly of the main energy producer, Electrabel, and impedes a transition towards renewable energy. Even though pioneering local governments such as Genk seek to curb carbon emissions by expanding renewable energy, this political decision of the federal government significantly hinders local action.

The current “management of unsustainability” approach is further reinforced by austerity discourses, which dominate current Belgian political discourses, by cuts in investments and activities in environmental policy (GK 2; GK 6; GK 9; GK 20-23). Therefore, in contrast to the innovative potential that is often associated with the dispersion of power, Belgian federalism provides rather a case for policy failure (Happaerts, 2015).

Only in the domain of resource use, the governance context is actually supportive of local sustainability transitions (GK 1; GK 8; GK 9; GK 18; GK 21-23). The dominant focus on waste reduction and the transformative transition approach of OVAM, the Public Flemish Waste Company, induced a shift from waste to materials legislation. This supported the initiation, replication and growth of re-use centers and compost masters. It paved the way for community initiatives, such as pass-on shops, pass-on markets or repair cafés, to sprout and replicate. It also encouraged circular gardening as promoted by Velt. In addition, the current Flemish government included the notion of a circular economy in its new policy plan. This supports TIs promoting sustainable resource use.

At the same time, “dual federalism” with the division of hard power resources across the federal government, the intermediate level of Regions and Communities, as well as the municipalities created room to manoeuvre for a pro-active local government in Genk. The current government of Genk has sought to renew and recast the city-region (GK 13; GK 14; GK 16). The coalition of the CD & V and PROgenk (a collective of the Socialist Progressive Party, Greens and Independents) gained power with the elections of 2012. Under the new coalition government, the city administration acted as a mediator and facilitator for TIs (GK 3-5; GK 7; GK 10-14; GK 16). It helped them to navigate across the levels of governance to find cooperation partners and funding opportunities, where political support by the federal government was lacking. Thus, similarly to German federalism, Belgian federalism led to a “multi-levelisation” of the perspectives and activities of local TIs (GK 6; GK 8-11; GK 13; GK 14; GK 16; GK 18).

Accordingly, district managers guided TIs in acquiring public funding from Flemish, Belgian or EU funding programmes. As a result, many TIs were established, developed and sustained through external funding. It is also remarkable that many TIs succeeded in applying for EU funding. For example, the organic allotment gardens acquired INTERREG funding through the SUN project to establish a second initiative in 2008 (GK 10-11; GK 16). In a similar vein, the community currency Zetjes was supported by a community builder of Stebo and evolved from the multi-level cooperation between the initiative “Genk beloont” of the City of Genk and the e-wallet project of Limburg.net (CCIA; GK 1; GK 3; GK 12). This enabled it to participate in the EU INTERREG programme “Community Currencies in Action”.

The empirical findings in Genk illustrate that Belgian “dual federalism” both promotes and hinders an urban sustainability transition. Given the division of responsibilities, the federal government retained hard power in defining the policy orientation and the allocation of funding in single policy domains. Where higher levels of governance were ambitious such as in the resource domain, they supported sustainable alternatives such as re-use and home composting. In most other domains, however, sustainability was mostly side-lined by the prevailing logic of market-driven, growth-oriented development. This “management of unsustainability” was reinforced by austerity discourses. This heavily impeded an urban sustainability transition. At the same time, “dual federalism” provided room to manoeuvre for the policy entrepreneurship of the local government. It used the multi-levelness of

federalism to foster the empowerment and access of bottom-up initiatives to funding sources.

5 Discussion

5.1 Common obstacles for urban sustainability transitions

Despite the differences in national governance contexts, TIs in the four city-regions have been confronted with common obstacles. Most importantly, this has been the current trend of a “projectification of funding” (Borgström et al., 2016). This trend has been reinforced by governments’ focus on cost-optimisation and effectiveness. Especially TIs whose new ways of organising, thinking and doing provide a common good are often unable to turn them into profitable and self-sustaining activities. Therefore, they often rely on external support. This dependence is exacerbated by the “projectification of funding”. It created institutional conditions in which it is much easier to obtain short-term, project-based funding than long-term funding that would help to sustain TIs. The design of these funding schemes appears to follow business models with an expectation that initiatives would become self-sufficient after an initial start-up phase (Sjöblom and Godenhjelm, 2009). However, the idea of self-sufficiency as expressed by the “projectification of funding” fundamentally contradicts the voluntary, non-for-profit character of many civil society TIs.

In contrast to this short-term, project-based funding, governmental support beyond “seeding” is often lacking even though it is crucial to ensure the continuity of TIs. TIs, therefore, face a situation of high uncertainty and instability. This puts a severe strain on their efforts to promote sustainability.

The trend of a “projectification of funding” demonstrates that governance settings are not only shaped by constitutional choices such as unitary or federal political systems. On the contrary, it shows that the trends and practices of providing public funding can be quite similar and, thus, independent of these constitutional choices.

5.2 Common opportunities for urban sustainability transitions

Promoting sustainability transitions within the city-regions has been an opportunity for strengthening the ties between the TIs and for building capacity for governing local sustainability. TIs have benefited from devising new ways of collaboration to be recognised by local authorities. Thus, they benefited from partnering and unifying their voice for promoting and negotiating sustainable solutions and practices vis-à-vis the local governments. In a similar vein, navigating multi-level governance contexts asks TIs to develop new skills and competences. These newly-established practices can be seen as an opportunity for the governance of urban sustainability transitions in the future.

Moreover, all of the countries studied here are EU member states characterised by democracy and the rule of law. This democratic setting provides the opportunity of openness to criticism, enabling TIs to voice opposing views about sustainability within the city-regions. The existing multiple governance contexts - even when not actively promoting sustainability

- do not impede or penalize public criticism (as authoritarian political systems do). This allows local non-state actors to compensate for inaction by the state and fill a perceived void of sustainability institutions (see also Derthick, 2010). This is an opportunity for developing institutions of reflexive governance that allow for critical reflection and learning.

5.3 The duality of structure and agency

The notion of a duality of structure (Giddens, 1984) suggests that the relationship between structure and agency is a reciprocal one. Structures not only define agency, but agents also adapt to and redefine structural contexts. This is evinced by the comparison of the four city-regions. As the empirical examples of agency illustrate, the governance settings leave room to manoeuvre for entrepreneurship by TIs and individuals.

TIs across the city-regions have learnt to navigate the specific governance arrangements within which they operate. This has induced dynamics of “nationalisation” in Brighton within a centralised unitary state where some TIs were actively engaging in national policy-making to produce more favourable contexts for their activities. It has led to a “localisation” in Stockholm within a decentralised unitary state where TIs directed their activities towards the municipalities as their immediate political setting. It has caused a “multi-levelisation” in Dresden and Genk with “cooperative” and “dual federalism” where TIs directed their activities towards multiple governance levels to mobilise support for local action.

Yet, our empirical findings reveal that TIs are not only “passively” shaped by their governance contexts, but also “actively” reshape these contexts. This is exemplified by combined strategies of drawing resources from the governance context and of reshaping this governance context. Thus, TIs across the city-regions have engaged in political activism to challenge, redefine, and recast governance settings, including EU, transnational, national or subnational policies and institutions. They have done so in one of the following ways: by lobbying for new funding schemes, advisory bodies or legal frameworks that would support and protect new ways of organising, thinking, and doing. For instance, the pioneering initiative of organic allotment gardens in Genk has paved the way for the creation of new funding schemes by the Flemish government, resulting in replication all over Flanders. In Stockholm, TIs used the frontrunner municipalities to convince other municipalities to follow.

TIs in Stockholm show that a strong voice is needed to appeal and be recognised by the local authorities and employ collaboration as a way to overcome the fragmented and disconnected governance structures of the city-region. Similarly community energy groups in Brighton seek to influence national policies on community energy either by cooperating with organisations such as Community Energy England in order to lobby the national energy regulator and by contacting their local Members of Parliament.

While the governance context can be constraining to local sustainability actions in the ways discussed in the empirical analysis and while our framework has been focused on uni-directional linkages from higher governance levels to the urban level, our empirical analysis suggests that such linkages are better conceptualised as two way relationships. TIs are also

increasingly active in shaping their multi-level governance context through individual or collective action.

5.4 Unitary versus federal political systems: revisiting the proposition

The comparison of the four diverse governance contexts and their effects on urban sustainability governance indicates that unitary political systems with hard power concentration on one specific level create a much higher dependence of TIs on that single level of governance. By contrast, federal political systems with a dispersion of hard power give TIs more leeway in responding to the opportunities and obstacles provided by governance settings.

The centralised unitary state of the UK concentrates hard power in the national government whereas the decentralised unitary state of Sweden concentrates it in local governments. Therefore, TIs depend much more on the vagaries of national or local politics. If supportive of sustainability, they can accelerate urban sustainability transitions. Yet, the opposite often means a deceleration, stagnation, or even reversal of progress as seems currently the case in the UK.

The comparison of the centralised unitary state of the UK with the decentralised unitary state of Sweden further shows the ambiguity of governance settings, entailing both opportunities and obstacles for local agency. It particularly reveals the tension between coordination and integration on the one hand and diversity and creativity on the other. The centralisation of the UK potentially allows for more effective coordination and integration of action on sustainability. However, this comes with a pressure for uniformity that undermines creativity and diversity between different local settings. As there is no “one best way” towards sustainability, this reliance on a uniform pattern might create new lock-ins and dead ends.

On the other hand, the decentralisation in Sweden can foster innovativeness and diversity between municipalities. It is exactly this room for experimentation and this combination of multiple approaches that is essential to sustainability transitions (Biggs et al. 2012). It allows for exploring diverse ways of organising, thinking, and doing that can speak to diverse local audiences. Based upon these diverse approaches, weaknesses of one approach can be counter-balanced by the strengths of another one. This implies that one political system – centralised or decentralised unitary states - is not necessarily better at fostering sustainability transitions than the other one. Each system rather has its own strengths and weaknesses.

Federalism with a combination of both centralisation and decentralisation disperses political hard power across multiple governance levels. This gives TIs more opportunities to confront scepticism and resistance towards sustainability at one level by referring to support at other levels. It enables them to exploit “windows of opportunity” that arise from the interaction between these levels and play “multi-level games” (cf. Putnam, 1988). In some instances, these “multi-level games” are used not only to exploit existing opportunities, but also to create new ones by reshaping the governance context itself (as outlined above).

Thus, compared with Brighton and Stockholm, TIs in Dresden and Genk face a different type of opportunity structure. They find it comparatively easier to uphold sustainability activities also in the face of ignorance or opposition by national, sub-national, or local governments.

Figure 4 gives an overview over the opportunities and obstacles arising from specific governance settings.

[FIGURE 4 about here]

Revisiting our proposition, it can be argued that federalism (as in Germany and Belgium) with a combination of centralisation and decentralisation has power-sharing effects. These give TIs more opportunities to initiate, sustain, and defend urban sustainability transitions. It enables them to play “multi-level games”. As competences are shared, also national and sub-national governments can actively promote urban sustainability transitions by adopting a facilitating role (e.g. changing the rules of the game) to go beyond “symbolic” low-carbon discourses. However, many scholars emphasize that federalism itself is embedded in wider political and societal institutions and, therefore, the impact of federalism is context-specific (Benz, 2002; Watts, 1998).

By contrast, unitary political systems concentrate political power either in the central government or the local municipalities. This makes local actors more dependent on national or local politics. At the same time, the comparison between the two unitary states UK and Sweden – one centralised and the other decentralised – evinces that the governance of sustainability transitions needs to strike a subtle balance between coordination and integration and diversity and creativity. Both integrating the efforts of multiple actors and the critique and innovation that arise from diversity are necessary to foster sustainability transitions.

Moreover, we have overserved, that TIs in all four countries try to use soft power mechanisms of raising political legitimacy by invoking values, ideologies and ethos in order to foster urban sustainability transitions. Soft power mechanisms are used for both to reinforce supportive hard power but also to compensate a lack of supportive hard power. The latter is especially important in unitary states, where hard power is concentrated on one level. However, the effects of soft power mechanisms have clear limits and cannot compensate a lack of hard power in its entirety.

6 Conclusion

Attempts to govern sustainability transitions in general and urban sustainability transitions in particular are embedded in wider political-institutional contexts. Therefore, proposing an agency and a governance focused perspective, we have extended previous research on urban sustainability transitions by incorporating the multi-level governance nature of urban transitions. Our starting point was that in order to understand the dynamics of urban sustainability governance, and in particular the opportunities and obstacles which are influenced by given governance arrangements, research needs to look beyond the local level.

It needs to include other governance levels from the sub-national to the national, EU and transnational level.

With the comparison of unitary and federal political systems, we add to the literature on the role of institutions in sustainability transitions. Our findings confirm that “institutions do matter” and demonstrate how they enable and/or constrain local agency. Our research illustrates the ambiguity of these wider governance contexts, often entailing both opportunities for and obstacles to urban sustainability transitions. Therefore, our empirical findings show how important it is to protect the autonomy of local actors to enable them to react to these varying conditions. The power-sharing effects of federalism help to empower local actors by dispersing political power across multiple levels and, by doing so, enabling local actors to draw on different governance levels. This enables them to counter-balance and compensate for inaction or ignorance by one level by referring to another one.

Future research could explore these multi-level dynamics more in-depth. It could study the relationship between urban sustainability transitions and multi-level governance contexts as a two-way relationship, considering the feedback loops and impacts between them. It could examine if and how urban transitions and local agency can transform the ways of organising, thinking, and doing at other governance levels. It could study if and how city-regions acquire the role of hubs for experimentation and innovation that inspire other governance levels (Bulkeley et al., 2011; Bulkeley and Castán Broto, 2013; Castán Broto and Bulkeley, 2013). In so doing, it could compare how different national governance arrangements influence the ability of city-regions to do so. This calls for more integrative theory-building and more interdisciplinary collaboration between the study of sustainability transitions, urban governance and political science more widely.

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Figures

Figure 1: A typology of unitary and federal political systems

Unitary political system	Federal political system
Centralised unitary state <i>Concentrating competences at the national government</i>	“Cooperative federalism” <i>Shared competences between the constituent units</i>
Decentralised unitary state <i>Concentrating competences at the constituent units</i>	“Dual federalism” <i>Separation of competences between the constituent units</i>

Figure 2: The “embedded multiple-case design”

Multiple-case design

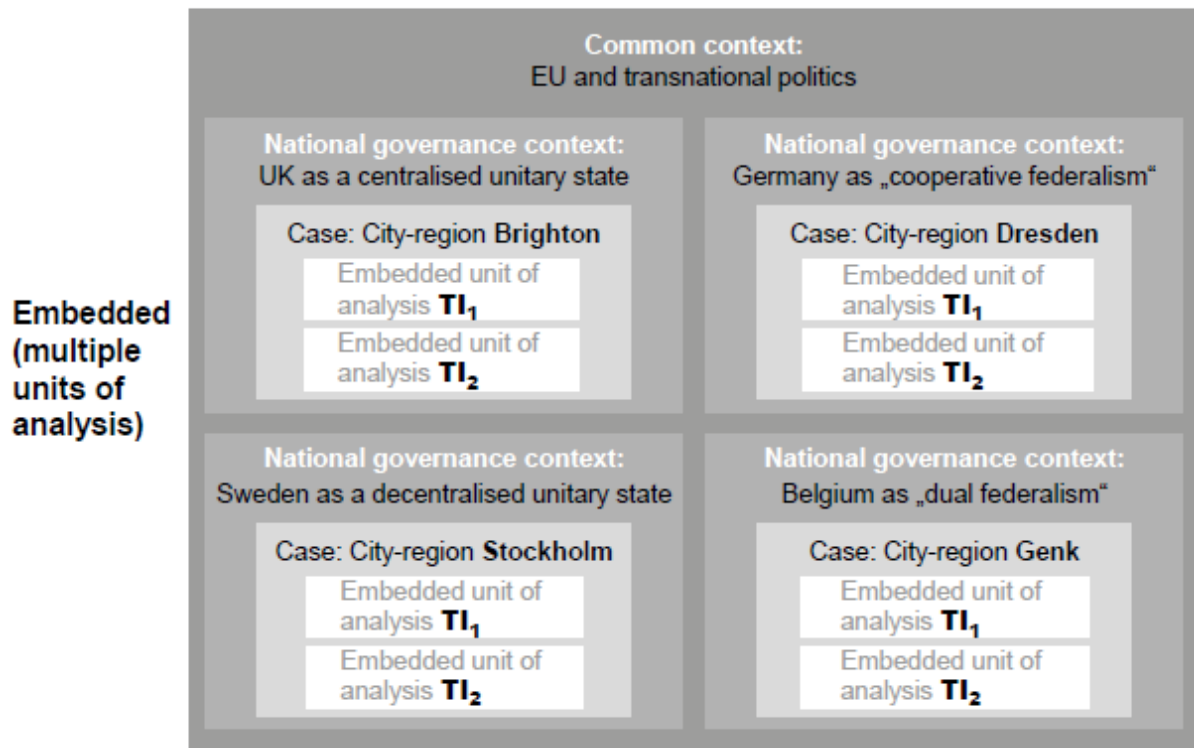


Figure 3: Overview of conducted interviews in the four city-regions

City-Region (total interviews)	Interviews with Transition Initiatives	Interviews with helicopter people	Interviews regarding sector
Brighton (33)	23	10	civic (20) public (10) business (3)
Dresden (27)	19	8	civic (9) public (9) business (9)
Genk (23)	10	13	civil (11) public (9) business (3)
Stockholm (18)	14	4	civil (9) public (5) business (4)

Figure 4: The opportunities and obstacles arising from specific governance settings

Unitary political systems		Federal political systems		
	Centralised unitary state of the UK	Decentralised unitary state of Sweden	“Cooperative federalism” of Germany	“Dual federalism” of Belgium
Opportunities	Potential of effective top-down steering of urban sustainability transition if the central government endorses sustainability	Encouraging the diversity of new ways of organising, thinking, and doing	Protecting local autonomy Enabling TIs to play “multi-level games”	Protecting local autonomy Enabling TIs to play “multi-level games”
Obstacles	High dependence of TIs on the vagaries of national politics	High dependence of TIs on the vagaries of local politics and difficulties in coordinating and aligning the activities across municipalities, especially in addressing horizontal, cross-domain challenges	Challenges of coordinating and consensus-seeking across governance levels	Challenges of coordinating and consensus-seeking across governance levels

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