Capital city dynamics: Linking regional innovation systems, locational policies and policy regimes

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Abstract

We propose a tentative theory linking economic and innovation dynamics with the ways capital cities try to develop and position themselves through the formulation of locational policies. Global and world city theories challenge the traditional role and centrality of capital cities. Capital cities that are not the economic centers of their nations – so-called secondary capital cities – tend to be overlooked in the fields of economic geography and political science. Consequently, there is a lack of research and resulting theory analyzing their political economy. We put forward an interdisciplinary perspective that is informed by theories of economic geography and political science, as processes of economic development and political positioning are interrelated and need to be examined together. By linking three different theoretical strands – the regional innovation system approach, the concept of locational policies, and the policy regime perspective – this paper proposes a framework to study the economic and political dynamics in secondary capital cities. [Examples of secondary capital cities such as Bern, Canberra, Ottawa, The Hague and Washington D.C. illustrate our theoretical arguments throughout the paper.](#)

Keywords: Capital cities, regional innovation system, locational policies, policy regime

1. Introduction

With this paper, we propose an analytical framework for so-called secondary capital cities (SCCs) understood as those capitals that are not the primary economic centers of their nation. Capital cities play an important role in shaping the political, social and cultural identity of a nation. With the decline of the nation state, the rise of transnational institutions, the ascendance of global cities, and the increasing concentration of the knowledge economy in a few dominant metropolitan centers, the traditional role and centrality of capital cities has been challenged, particularly regarding those capital cities that are not the primary economic center of their respective nation.

Yet capital cities continue to play an important role, as places where government and the private sector interact and form a distinctive economic geography; political and non-profit actors shape international and national relations; new modes of governance develop, based on networks of public and private actors at various spatial scales; the nation's politicians and policymakers strategically coordinate political, economic and financial decisions; and conceptions of national identity are materially and symbolically created, displayed and embodied.

Understanding how capital cities function and what role they play in a global era – particularly as national economies struggle during this time of global crisis – has become a challenge for scholars interested in urban dynamics. In this vein, we argue that capital cities play their role as capitals not only through their symbolic architecture but also through the ways in which these capitals develop a unique regional innovation system (RIS) and through the ways in which they position themselves in the national urban hierarchy through a set of locational policies formulated in local policy regimes.

Research on capital cities in general is relatively sparse, leading to a lack of a coherent set of theories about this specific type of city (Campbell, 2000; Mayer *et al.*, 2013). Along those lines, Gordon (2003, p. 3) notes that “as a category ‘capital cities’ clearly lost ground within geographic writing over the last couple of decades – casualty both to fashionable enthusiasm for ‘global cities’ against national centers, and to a shift of interest toward less formal and monolithic kinds of institutions than those which were the staple of political capitals during the last century”.

A large group of scholars has examined issues regarding urban planning and the architecture of capital cities, particularly as they relate to history, urban design and plan-making and as they relate to representations of power (Clark & Lepetit, 1996; Gordon, 2006; Hall, 2010; Sohn & Weber, 2000; Taylor *et al.*, 1993). Another set of authors examines capital cities as places that represent

national identity and where a nation's memory and symbols are staged (Cochrane, 2006; De Frantz, 2006; Till, 2006). In the aforementioned studies, however, each capital is treated as a unique case and there is no attempt to generalize findings. More fundamentally, this kind of research is characterized by fragmented inquiries from specific disciplinary perspectives. A more comprehensive or even comparative perspective of the political economy of capital cities is missing. Studies in economic geography and political science may offer a more useful way to systematically think about the political economy of capital cities, particularly if such approaches are combined in an interdisciplinary way.

The economic geography literature, for example, conceptualizes capital cities as “information cities” (Castells, 1989), “national information brokers” (Abbott, 1999, 2005) or “transactional cities” (Gottmann, 1977) where complex relationships between government, private sector and third sector actors form a distinctive economic system which is spatially manifested through their interactions, which in turn produce information and knowledge that is important to their nation (Abbott, 1999; Feldman, 2001; Gerhard, 2007; Markusen *et al.*, 1991). In this sense, we can consider capital cities as RISs. The political science perspective examines different types of territorial and jurisdictional capital cities models and focuses on the governing and financing of capital cities between the conflicting priorities of local and national responsibilities (Nagel, 2013; Slack & Chattopadhyay, 2009; Wolman *et al.*, 2006). This literature, however, has so far neglected a focus on the types of locational policies that local governments in capital cities develop. In this paper, we apply the RIS and the locational policy perspective to the unique context of a capital city and link them with the policy regime approach. This interdisciplinarity combines to a political economy perspective that allows us to develop an analytical framework to examine the modern capital city.

The aim of this paper is explicitly conceptual. We propose a framework to analyze the political economy of SCCs. Examining this type of capital city gives us the opportunity to focus on the unique capital city functions. We employ three theoretical strands. We first apply the RIS approach to the capital city economy. Even though the RIS approach has a long tradition in economic geography (Autio, 1998; Braczyk *et al.*, 1998; Moulaert & Sekia, 2003), scholars have not employed this particular perspective to the capital city context. Second, we present a categorization of locational policies that a SCC can adopt in order to develop its RIS, and position itself in an intensified interurban competition. And third, we combine the two approaches by taking a regime perspective on policy-making in order to capture the different public and private sector actors involved in the formulation of locational policies in SCCs. We then integrate these three strands, resulting in an analytical framework for the political economy

of SCCs. The various examples given in this paper illustrate the theoretically-outlined mechanisms within SCCs but are not meant as in-depth case studies testing the model, which is yet to be done in future research.

2. What is a secondary capital city and why is it worthy of study?

Why study capital cities and, moreover, secondary capital cities? Globalization scholars argue that capital cities in general, but even more so SCCs, have lost importance and that global cities are much more critical to the functioning of the global economy because as nodal points they coordinate and control capital flows (e.g. Sassen, 1991). Similarly, rescaling theories imply that along with the up-scaling and down-scaling of state functions in global capitalism, capital cities disappeared from their traditional central position and have to arrange themselves in the periphery of the global economy (e.g. Brenner, 2004). And yet, the recent economic crisis revealed that capital cities still play an important role because global capital flows are regulated within the context and institutions of nation states (Rodrik, 2011) that are for the most part located in capital cities. Important decisions about rescuing banks or bailing out industrial firms were not taken in New York City, Detroit or Zürich, but in Washington, D.C. or Bern. In short, SCCs may be economically inferior but politically superior.

Gottman & Harper (1990, p. 63) define capital cities as the

“seat of power and a place of decision-making processes that affect the lives and future of the nation ruled, and that may influence trends and events beyond its borders. Capitals differ from other cities: the capital function secures strong and lasting centrality; it calls for a special hosting environment to provide what is required for the safe and efficient performance of the functions of government and decision-making characteristics of the place”.

While Gottman and Harper establish the unique characteristics of a capital city in comparison to an ordinary city, they do not differentiate between different types of capital cities (Campbell, 2000; Hall, 2006; Zimmermann, 2010). Hall (2006) distinguishes seven types of capital cities and compares, for example, multi-function capitals such as Paris and Moscow and global capitals such as London and Tokyo, with political capitals such as Washington, D.C. and Bern that were established as political centers but lack a more diversified economic base. Campbell (2000) adds additional characteristics that distinguish capitals such as the size of the city, the form of national government or the timing of the capital's establishment. Furthermore, he distinguishes between “the capital as dominant economic city in the nation” (such as Montevideo, Paris, London, Copenhagen) and “the capital as secondary city” (such as Ottawa, Bonn, Canberra, Ankara), pointing to the economic status and relative position of the capital within the respective nation (Campbell, 2000, p.4). This division implies a lack of higher national-level or even international-level economic functions of SCCs (Hall, 2006), compared to cities with a strong economic and internationally important base (such as global information and finance in London or Tokyo).

In the following we define a SCC as the capital city of a nation, where there is at least one city within the respective nation or state which is economically more important to the country than the capital city is. SCCs are usually found in federal states because the locational choice of capital cities was often a compromise, to balance power relationships but also to separate economic and political power or to serve as independent, alternative sites to the traditional commercial centers (Nagel, 2013; Slack & Chattopadhyay, 2009; Gottmann 1977). For these reasons SCCs are not infant capitals. They were deliberately chosen to exert a regulative role with the original idea that they should refrain from aspirations to become an economic powerhouse.

We specifically focus this paper on the development of a coherent framework for this type of city because we [are in a much better position to separate](#) capital city functions from those that would exist should the urban economy of the capital city incorporate functions that go beyond those associated with the capital city. The category of SCCs enables us to study a remarkable and understudied type of political economies i.e. regional economies that are characterized by a strong public presence which influences local economic interactions, its governance regime as well as its economic development strategies in distinct ways.

The traditional view of the capital city as the domesticated host city of the nation state, which was mired in a comfortable dependency of the very state it was hosting, may not hold up anymore. Compared to urban centers that are the primary economic motors of their nations, SCCs may not play an important role in international and national urban economic networks. Yet, these economies have specialized and policymakers and politicians in these capital cities have started to proactively work towards positioning the city in national and international urban networks. Therefore, we argue, SCCs economies may function as RISs which will be highlighted in the following.

3. Conceptualizing secondary capital cities as regional innovation systems

The RIS approach (Cooke, 2001; Doloreux & Parto, 2005; Asheim *et al.*, 2011) offers a useful framework to conceptualize the SCC economy even though it has not been utilized much in this context: most studies of RIS have focused on economically successful regions that are home to clusters of medium to high-technology industries. According to Doloreux & Parto (2005, p. 134), a RIS is “typically understood to be a set of interacting private and public interests, formal institutions, and other organizations that function according to organizational and institutional arrangements and relationships conducive to the generation, use, and dissemination of knowledge”. A RIS typically consists of two subsystems that are embedded in a regional socioeconomic and cultural setting (Tödtling & Trippl, 2005). The first subsystem, the so-called

knowledge application and exploitation subsystem, encompasses companies, their customers and suppliers but also their competitors and collaborators. The second subsystem consists of the knowledge-generation and diffusion subsystem that includes public research organizations such as universities or research institutes, technology mediating organizations such as technology transfer offices, workforce and educational organizations.

3.1. Knowledge dynamics in secondary capital city regional innovation systems

The application of the RIS approach to the context of SCCs requires some adjustments. National government organizations such as ministries, departments or agencies have a strong presence in the knowledge application and exploitation subsystem of a SCC. Whereas in a regular RIS the various interactions between customers, suppliers and competitors are constituted by inter-firm relationships, in SCCs it is usually the national government that constitute the biggest demand for goods and services. Markusen (1999), for example, argues that national government organizations operate as anchors for private sector firms. The dominance of the national government as the main buyer of goods and services creates its own distinctive way in which customers, suppliers and collaborators interact. Companies learn to adopt their innovation activities to the specific needs of public sector clients, which differ fundamentally from private sector clients. They establish themselves in close proximity to national government organizations in order to take advantage of the specific capital city agglomeration economies (Feldman et al., 2005).

While firms that produce standardized goods and services have less incentive to be located in the capital city, especially knowledge-intensive business services (KIBS) firms benefit from spatial proximity to national government clients (Doloreux, et al., 2010). KIBS are defined as “services that involve economic activities which are intended to result in the creation, accumulation or dissemination of knowledge” (Miles, 2005). Muller and Doloreux (2009, p. 65) add that KIBS firms “are mainly concerned with providing knowledge-intensive inputs to the business processes of organizations, including private and public sector clients”. As a consequence the SCC’s private sector is largely composed of KIBS firms (Wood, 2006; Aslesen & Jakobsen, 2007; Vence Deza & González López, 2014). Therefore, the knowledge application subsystem is dominated by the national government who demands specialized services from KIBS firms.

The knowledge generation subsystem in a SCC is typically dominated by a strong presence of national and academic research laboratories. For example, Ottawa has 44 national research laboratories focusing on government-related topics such as military, security, or telecom (Government of Canada, 2015). The national research laboratories that mainly focus on technology-based research are complemented by numerous research organizations such as think

tanks, non-profit firms, and non-governmental organizations that provide strategic knowledge to public and private sector actors. Moreover, the RIS concept considers technology-mediating organizations as important diffusers of knowledge (Tödtling & Trippl, 2005). In the case of SCCs, those are predominantly associations focused on nationally important industry sectors such as ICT councils, which engage in public relations to advocate nationally on behalf of their member firms. As frequent hosts of business network events in the capital city, they also facilitate informal knowledge linkages within the capital city economy.

Knowledge interactions within and between the two subsystems typically characterize a well-functioning RIS (Tödtling & Trippl, 2005). In the case of capital cities, knowledge interactions between the public and private sector are determined by the needs of the public sector. National government organizations require specialized products and services and one of the main drivers of knowledge interactions in a SCC RIS is the public procurement process. In particular, public procurement for innovation (PPI) as a specific type of procurement spurs innovation activities in a capital city economy. PPI occurs when national government organizations "place orders for a product, service, good or system- that does not yet exist, but which could (probably) be developed within a reasonable period of time" (Edquist & Hommen, 2000, p. 5). PPI is by no means limited to SCCs. However, given that national government organizations and private firms are co-located and their interactions produce knowledge spillovers that are spatially sensitive, we consider PPI as an important driver for the knowledge dynamics within a SCC RIS.

The ways in which PPI contributes to the economic dynamics of a SCC RIS are twofold: first, PPI provides opportunities for entrepreneurship. Linking PPI with a knowledge-intensive entrepreneurship, Edquist et al. (2012) emphasize that national government organizations play an important role by providing market and technical opportunities. Market opportunities arise from public demand for new products and services. On the supply side, this requires that firms not only tap their internal R&D functions, but also take advantage of external knowledge. Doloreux (2002, p. 249) notes "the ability to innovate is thought to be linked to the extent to which an actor learns through diffusing knowledge". Thus, the fulfilment of public procurement requires the firm to get involved in inter-organizational innovation processes, a key function of a RIS. PPI in this sense can function as a very specific driver of a RIS and these processes need to be considered when examining capital city economies.

Second, PPI reduces risk in the innovation process (Rolfstam, 2008; Edler *et al.*, 2005). As pointed out by Storper and Scott (1995, p. 514), risks lead to a delay of transforming technology development into production, since "consumers, like producers, tend to be risk-averse". National government organizations help to bridge this gap by taking the risk of being the first users – a

role which is usually connected with high transaction costs since the product or service is not yet optimized (Edler & Georghiou, 2007). Moreover, national government organizations reduce risks by demanding a critical mass of the products or services and as a result, suppliers can take advantage of economies of scale (Edler *et al.*, 2005). The strength of the concept lies in focusing on demand and requirements as a crucial source of innovation – an approach whose empirical and theoretical significance is highly emphasized (Edquist & Hommen, 2000; Henkel & von Hippel, 2005; Rolfstam, 2008), while being largely ignored by innovation policy for many years (Edler & Georghiou, 2007). Moreover, the RIS literature does not consider the ways in which public procurement influences innovation dynamics.

3.2 The evolution of a secondary capital city regional innovation system

The focus on public procurement in the SCC RIS becomes more relevant when we take the increased trends towards outsourcing and tertiarization of public sector activities into account (Feldman, 2001; Markusen *et al.*, 1991; Mayer & Cowell, 2014). While facing an immense pressure to cut down fiscal expenditures, governments have tried to provide services more cost-efficiently through private firms (Markusen, 2003). As a result, KIBS firms get more and more involved in national services. Conceptualizing PPI as a driver for economic diversification, we can distinguish three stages of development of the SCC economy:

In stage I, the SCC RIS is barely linked to national government organizations. The region may have some initiatives to stimulate and develop local clusters. However, the formation of local clusters and the SCC functions can better be described as running parallel rather than interacting and complementing each other. As a result, the presence of national government organizations is not seen as a major opportunity for cluster development. From the perspective of the national government, the solution of specific problems requires external knowledge. Interactive learning processes between the public and private sector permit the development of goal-oriented solutions. However, this type of interaction does not go beyond the mere satisfaction of administrative demands. Thus, public procurement barely contributes to regional economic diversification at this stage.

In stage II, the ability to exploit the capital city functions for the benefit of economic growth increased. Spatial proximity between firms and national government organizations is actively used to strengthen strategic advantages by connecting the private sector's technological competences to national government organizations. The advantages are twofold. First, by focusing entrepreneurial activities on government needs, KIBS firms increase their ability to attract government contracts. Second, firms gain knowledge generated from the procurement process,

which is then used for servicing other types of customers. A case in point is presented by Feldman for the case of Washington, D.C. During the 1970s Washington D.C. based firms “began working for the government but then realized that they could adapt their products for dual-use commercial markets” (Feldman, 2001, p. 885). Thus, public procurement encouraged entrepreneurial activities in many sectors and as a result the Washington D.C. economy started to evolve from stage I to II.

In stage III, public procurement contributes to knowledge-based economic diversification. On the one hand, the knowledge economy specializes insofar as the SCC functions are used to generate competitive advantages in the region. Interactions between the public and the private sector constitute the drivers for innovation activities within certain fields of competences. On the other hand, the promoted areas of technological competences become more diversified through entrepreneurship. New technological ideas realized via start-ups or existing firms, are added to the existing knowledge base of SCC RIS. Even though national government demand is distributed across all sectors, one or two sectors that have the potential to dominate the SCC RIS have emerged. The example of Washington, D.C. illustrates this dynamic: Washington D.C.’s RIS shows a concentration of innovation activities focusing on the Internet and biotechnology (Ceruzzi, 2008; Feldman, 2003). Thanks to the activities of the region regarding the strengthening of these sectors, they have expanded through endogenous new firm creation and the attraction of companies from outside the region.

The evolution of a SCC economy as illustrated through the three stages may not take place in a linear fashion. Spigel (2011) uses Ottawa as an example to demonstrate how capital city economies are affected by external shocks. Until the 1970s, Ottawa was a federal government town. With the development of the Internet into a global technology, information technology companies were given a significant development thrust in Ottawa, which resulted in the establishment of reputable research organizations (Doloreux, 2004). The growth of such semi-governmental organizations drew well-trained workers from other regions to the capital. The success of these start-ups led to an environment favoring start-ups, and was eventually followed by further generations of start-ups. For the Ottawa capital region, this boom entailed an initial diversification of its economy and as a result the interactions between public and private played only a minor role. However, this first changed when the Internet bubble burst and again a few years later, when another economic shock resulting from the financial crisis took its toll. These shocks severely affected the business environment and slowed diversification. Companies went bankrupt, and venture capitalists and business angels withdrew from the regional market. As a consequence, KIBS firms refocused on the national state. Getting direct contracts from national

government organizations or subcontracts from the leading procurement firms became increasingly important again. The case of Ottawa illustrates how a SCC economy can evolve in different stages that influence the nature of public-private interactions.

While the RIS perspective thus helps us understand the development of SCC economies, we lack a full explanation for how local development strategies evolve in the first place. As we argue in the following, the RIS approach remains very functionalist in this regards, only expecting policy making in case of system failure. However, SCCs do not follow this logic due to their basic reliance on the capital city function and its remuneration. In order to capture the multifaceted logic of SCC strategies, we propose an SCC concept of locational policies in the following.

4. Locational policies

The suggested stages of a SCC RIS raise the question of how, and with what kind of strategies, a RIS can be developed. The RIS approach remains vague about potential local development strategies. Moreover, the literature on policymaking in the context of RIS emphasizes the fact that public policies should only be adopted to overcome market and system failures (Asheim *et al.*, 2011; Cooke, 2001). As a result private actors must fail first in order to legitimate state interventions. In this regard, Tödtling & Trippel (2005) argue that systemic failure ought to be the foundation for policy instruments. However, such a conservative view on policy interventions does not cover the whole range of possible policy choices to increase the competitiveness of locations. As an alternative, we suggest turning towards the concept of locational policies that provides us with a broader and more proactive perspective on local development.

Locational policies as a concept have been developed in the discussions on interurban competition. According to Brenner (2000, p. 319) they refer “to a location for capital investment, and implicitly, to the structural competitiveness of that location relative to other possible locations within and beyond the national territory”. Locational policies should aim at enhancing the economic competitiveness of the targeted locality by identifying, developing and exploiting its place-specific assets in order to bring economic gains in a specific spatial area (van der Heiden 2010). Place-specific advantages are essential in interurban competition, because they allow escaping from a fully competitive, and therefore level, global market. “The lower the locational substitutability of these place-bound assets, the harder they can be imitated by others and the stronger the region's position is in the (...) global economy (van der Heiden & Terhorst 2007, p. 242). Thus, the singularity of capital cities in a national urban system is an attribute that can be exploited by locational policies. However, locational policies aim at developing and presenting its most competitive attributes. Therefore are SCCs balancing two goals: Developing their RISs in

order to increase their competitiveness in interurban competition and emphasizing their special role as the capital city. As locational policies are relying on the identification, the development and the promotion of place-specific assets, they are the result of place-bound and path-dependent interplay of a region's specific economic sector-mix and its political-institutional setting (Hall & Soskice, 2001). The development of such “strategies to build regional attractiveness and foster regional competitiveness are currently high on the political agenda” (Andrew & Doloreux 2012, p. 1289).

Locational policies are not easy to identify, distinguish and categorize. They appear in complex bundles, do not occupy a narrow policy domain and are often mutually dependent. Thus, we need a catalogue that helps us analyzing and disentangling locational policies. In the following, locational policies will be ordered and divided into four distinctive categories namely, *innovation policies*, *coordination*, *attracting money* and *asking for money*. These policy categories are distinguished by their orientation (inward vs. outward) and their domain (economic vs. political) as depicted in Table 1. We intend to bring some order to the fuzzy concept of locational policies with this framework. The mentioned policies within the four categories are not covering the whole range of possible locational policies but serve as representative examples. The following paragraphs discuss locational policies by referring to SCCs.

Table 1: Categorization of locational policies

	Policy orientation	
Policy domain	Inward	Outward
Economic	Innovation policies Recipient: Regional Innovation System (RIS) Tools: Cluster-based economic development, start-up promotion, investing in knowledge infrastructure, venture capital Aim: Developing and diversification of the RIS by fostering interaction of all actors	Attracting money Recipient: Firms, residents and guests Tools: Acquisition of firms, residents and guests; city branding/marketing Aim: Attracting mobile capital, jobs and taxes
Political	Coordination Recipient: City-region/metropolitan region Tools: Regional coordination bodies, regional interaction platforms Aim: Coherent locational policies in the region, avoiding competition within region.	Asking for money Recipient: Upper level political entities Tools: Compensation, applying for funds Aim: Justifying and increasing funds and money transfers

4.1. Innovation policies

Innovation policies aim to influence the economic performance of SCCs by fostering the transfer of ideas and knowledge between different actors of the RIS. As argued above, interactions between national government organizations and KIBS firms and the ensuing learning process are the drivers for innovation in a SCC RIS. Consequentially, innovation policies aim to foster such kind of knowledge spillovers in a RIS. According to Doloreux (2002, p. 248) those policies “are intended to improve interactions between the knowledge infrastructures, firms, and institutions”.

In a SCC RIS, innovation policies are not only derived from system failures. National government organizations take an active role in innovation processes as they demand products and services from private sector actors through the public procurement process. Lazonick & Mazzucato (2013) assert that the classic image of the state and businesses is reversed by PPI: in this case, the state is occupying the leading role in radical innovations, and bears hefty risks. In that way SCCs can profit from a strong public presence. Innovation policies that aim at economic diversification are high on the agenda of SCCs, as they may help to decrease their dependency on the public sector. At the moment are innovation policies formulated in activities around cyber security in SCCs. The two broad sectors of security and ICT are traditionally present in capital cities. The increasing concern about cyber security led to activities of SCCs to cluster and connect KIBS firms in this particular area. [An example is the Australian Centre for Cyber Security \(ACCS\), which was launched by the federal government in Canberra in 2014. As Canberra hosts the major government organizations in defense and security \(including the Department of Defence, Australian Security Intelligence Organization and Australian Federal Police\), there are also large defense companies such as Lockheed Martin, Thales and CEA Technologies. The new center, which is placed at the Australian National University, aims to stimulate knowledge interactions between industry, government and research.](#)

4.2 Coordination

Coordination tries to ensure cooperation of decision-makers and policy coherence within a region. Economic functions and regional linkages go far beyond the territorial boundaries of cities. According to Frederickson (1999), the interdependency of jurisdiction, organizations and institutions is the densest in metropolitan areas and this makes coordination necessary and meaningful. Effective coordination is not only achieved through institutional consolidation but rather through cooperative arrangements that stabilize networks of policy-relevant actors (Kübler & Heinel, 2005; Kaufmann & Sager 2006; Sager 2006).

Kübler & Piliutytė (2007) argue that a metropolitan-wide commonality of interest regarding ‘outside’ promotion exists what should ascribe locational policies to a rare numbers of policies in which conflicts between core cities and suburban municipalities are mostly absent. However, the two step logic of firm-location – a first step consisting of a regional choice and the second consisting of selecting a specific location within the chosen region (Cohen 2000) – aggravates regional coordination. As a worst case, regional competition could lead to beggar-my neighbor strategies by different jurisdictions (Keating 1995). Coordination is essential in SCCs because they are prone to regional fragmentation for two reasons. First, cities have often been chosen as capitals with the aim to unite a country, because they are situated at places of national tensions. A good example is the choice of Ottawa to bridge Anglophone and Francophone Canada. Second, specific governing structures (e.g. a federal district) have been created for capitals that are only covering the core city. In the US, the metropolitan area of Washington, D.C. is highly fragmented as it incorporates the District of Columbia and parts of three states (Virginia, Maryland and West Virginia) with various local jurisdictions.

Outward-oriented locational policies can be conceptualized as positioning strategies. In the context of SCCs, these strategies have typically two types of recipients: KIBS firms/residents and the upper-level political entities. This implies two poles of money accumulation strategies: taxes and transfer payments to which corresponds the proposed dualism of attracting money and asking for money. Towards KIBS firms and/ or residents SCCs should have mostly economic arguments in hand whereas towards higher political entities, SCCs should play the political card. It is important to grasp these two strategies are not mutually exclusive. On the contrary, most promising is a combination of these two strategies, since SCCs should position themselves towards both of the main sources of capital.

4.3 Attracting money

Money positioning strategies are targeting mobile capital. The basic idea is using the singularity of capital cities in the national urban system by highlighting the entrepreneurial potential of linking the regional economy to the capital city function. The complex interaction of KIBS firms in political consulting, lobbying, IT and national government organizations defines the capital city RIS. Attracting money strategies aim to enlarge the local tax revenue pool by inducing KIBS firms and taxpayers. They play the economic card and accept that a SCC has to enter, at least on the national scale, into interurban competition by using its comparative advantage.

An example is the RIS of the metropolitan Washington, D.C. to a large extent characterized by the national government and dominated by government employment (Feldman, 2001; Mayer,

2013). The sectorial cluster building of biotechnology, Internet, aerospace and security creates a pull effect for KIBS firms active in these sectors. Such KIBS firms need spatial proximity to national government organizations that are the anchors of these clusters, because the cooperation with national government organizations is decisive in the process of further developing and streamlining products. National government organizations for their part need private expertise to develop and implement high-technological projects and services (Mayer, 2013; Mayer & Cowell, 2014). This mutual pull effect is the decisive argument in the strategies of attracting KIBS firms to the Washington, D.C. region. The example suggests attracting money strategies are only promising when an already developed and therefore credible RIS exists, thus the RIS ideally is at least in stage II of its evolution.

4.4 *Asking for money*

Asking for money positioning strategies stress the singularity of SCCs in the national urban system and their functional role as the political center. Their main intention is the justification or possible increase of vertical money transfers and compensation payments for capital city-related costs. This asking for money strategy guarantees the SCCs a protected status in the national urban competition what makes them less vulnerable to economic pressure. Asking for money strategies argue that the capital city should not be measured by economic success only, but by its function as the place where political decisions are being made and implemented, which in turn help other metropolitan areas to prosper. Asking for money strategies have a preservative rather than a developing focus which in turn leaves a SCC extremely dependent on the nation state, its administration and its employees. Thus, such positioning is state-dependent and rather static, and should therefore be accompanied by attracting money strategies.

An illustrative example is that until today Bern has had to maintain a strong focus on asking for money strategies because its RIS is only sparsely developed, which makes attracting money strategies unpersuasive. In 2008, the national government presented its national land use strategy, in which Bern and the surrounding region were considered of secondary importance when compared to the larger, economically powerful centers such as Zurich, Geneva or Basel. *As a reaction to this disadvantageous national policy shift, politicians and senior public servants from the City of Bern and the Canton of Bern (member state) have been active in recruiting partners with the aim to position the region as the political center of the nation and as such differentiating it from the economically strong metropolitan areas.* By the end of 2010 and within just one year of planning, the region adopted the label Capital City Region Switzerland (*Hauptstadtregion Schweiz*). This kind of strategy was a political success, for in the revised national land-use strategy Bern has been placed back in the top tier of metropolitan areas, albeit with an addendum

regarding its function as the political center. However, it does not seem to be a sustainable strategy for regional economic development as the different political jurisdictions within the Capital City Region Switzerland are still seeing each other predominantly as competitors once promising contacts with business actors have fizzled out.

While the RIS approach allows us to capture economic development in SCCs, the locational policy approach helps us to link this development to specific policy choices. However, the two approaches are lacking so far the conceptual linkage that helps us understand how RISs and locational policies interact. We argue that this connection between the two is a political one. In the following, we propose a regime perspective on urban governance in order to theoretically approach policy-making in SCCs. This enables us to link the RIS approach with locational policies within an interdisciplinary framework.

5. The missing link: policy regimes

In SCCs, the nation state has direct interest in local policy-making what adds to the complexity of the decision-making process. The RIS approach remains vague about local decision-making and narrow about developing strategies for local economies. Locational policies offer a framework that helps us classify different types of local development strategies. Yet, they do not tell us anything about the ways in which they are formulated. It remains so far unclear by whom and how locational policies are formulated and how the RIS configuration is enabling or restricting locational policy choices. We argue that a regime perspective is able to establish the link between the ways in which a capital city economies can be conceptualized as a RIS and the types of locational policy a capital city is choosing for two reasons.

5.1 From urban regimes to policy regimes

First, regime analysis focuses on how urban decision-makers mediate structural pressures. Stone & Whelan (2011, pp. 859–860) emphasize that by stressing the mediating role of regimes “the point is not that cities somehow function independently of external factors, but that translocal forces are mediated through local actors in ways that are far from trivial”. Regimes are thereby operating at the crucial point of inquiry between independent variables and policy outcomes (Mossberger & Stoker, 2001; Stone, 1989). As an example, Andrew & Doloreux (2014) stress in their analysis of innovation in Ottawa that local decision makers are tailoring policies to the local context but are simultaneously enabled or constrained by macro dynamics outside their control.

Second, local decision-making in the area of economic development is most likely not following the formal line of authority. Business influence within locational policies is undoubted

(Swyngedouw *et al.*, 2002). If city-officials strive for more than just routine service delivery, the incorporation of private actors is crucial (Stone, 1989). In SCCs, business actors do not play such a crucial role in cities with an industrial legacy—where regime theories have been developed (e.g. Atlanta, Pittsburgh). National government organizations such as the National Capital Planning Commission in Washington, D.C. or the National Capital Commission in Ottawa, are unique features of capital cities and important players in governance regimes of SCCs. The regime approach particularly allows for such a diversity of actors in the decision-making process doing justice to the specific mix of local and national political actors and their economic counterparts in SCCs.

However, we do not apply the classical urban regime approach to capital cities economies. We follow Pierre (2005, 2014) who criticizes classic urban regime theory as idiographic and, in a time of post-industrial globalization—as anachronistic. May & Jochim (2013, Jochim & May 2010) offer a contemporary and alternative lens to study policy entrepreneurship and governing coalitions. They conceptualize regimes as the governing arrangements that span multiple subsystems for formulating and carrying out policies which are addressing a specific set of problems. The authors suggest that “rather starting with a policy, one starts with the particular set of problems (...) and seek to depict the ideas, institutional arrangements, and interest that constitute the governing arrangements for dealing with the problem” (May & Jochim, 2013, p. 5). Since SCCs mainly focus on improving their marginalized economic position, locational policies are prone to be formulated from a problem-oriented perspective.

5.2 Ideas, institutional arrangements and interests

In contrast to Stone (1993) who offers a typology of urban regimes, the policy regime approach of May & Jochim (2013) suggests a constellation of “three forces that comprise a regime: ideas, institutional arrangements, and interests” (May & Jochim, 2013, p. 434). First, ideas matter because they create a common understanding of a policy purpose and serve as an integrative force (May & Jochim, 2013, p. 435). Ideas constitute the agenda that is pursued by a regime and this agenda defines the frame in which the formation of locational policies happens. Second, “institutional arrangements structure authority, attention, information flows, and relationships in addressing policy problems” (May & Jochim, 2013, p. 435). It is thereby interesting through what modes of interaction and through what kind of bodies the cooperation of a regime is ensured. SCCs are operating in a multi-level governance setting in which national government organizations have an unusually large influence over local decision-making. Thus, the cooperation between city hall, national government organizations and private actors needs governance structures beyond command and control. Third, interests help to explain the governing capacity

of a regime. "The bases of support are in principle derived from the affected beneficiaries. But relevant stakeholders may or may not have the same sense of urgency and the same degree of 'buy in' to the purpose of a policy regime" (May & Jochim, 2013, p. 436). Stone (1993) stresses that actors can display dynamic policy preferences because actors are purposive in the sense of wanting to be involved in achievable goals. Actors in a regime are drawn by small opportunities which "encompass the opportunity to be purposeful (even when the purpose is a small one) and the opportunity to accomplish a task (even when the task is a narrow one)" (Stone, 1989, p. 232). This implies that besides the mere safeguarding of interests, the motivation to be part of a regime can be to avoid non-governance, since non-governance is a form of powerlessness (Stone, 1989, p. 231).

For illustrative purposes, we discuss the policy regime in The Hague with the main idea to maintain and develop The Hague as a top location for international organizations. Under the slogan 'International City of Peace and Justice' several locational policies are being pursued by the city of The Hague in collaboration with the national government (Meijers et al., 2014, p. 97). The institutional arrangements between the national and the local level contain a two-step logic. In the first step the Ministry of Foreign Affairs takes the lead in attracting and bidding for international organizations. In the second step of the bidding process, the City of Hague becomes active in searching and providing the necessary infrastructure for international organizations. Independent of the bids, the City of The Hague is concerned with clustering and connecting relevant actors such as research institutes, foundations, existing international organizations, embassies and international firms with the aim to create a distinctive environment attractive for international organizations. The city hall and the national government participate in this policy regime out of different interests. Local government wants to position The Hague as a strong international brand that attracts international organizations because they create jobs, also in low-qualified sectors, they employ high-qualified staff and they attract visitors. The national government, on the other hand, has an interest to promote itself as a champion of international law.

6. Putting it all together: a dynamic analytical framework

In this last section, the three theoretical parts – RIS, locational policies, policy regime – are merged into an analytical framework which allows us to approach the political economy of SCCs theoretically. We present a dynamic framework in order to allow for case-specific variance and to avoid deterministic predictions. The analytical framework incorporates several aspects that Ward et al. (2011) outlined as fruitful and relevant for contemporary urban studies: The

interdisciplinary research characteristic, the incorporation of a variety of actors into the analysis and the simultaneity of structure and agency.

Campbell (2000, p. 10) argues that

“though all cities experience the interaction – both cooperative and conflicting – of government and private interests, nowhere do these interests intersect with such power as in a capital: the government-market interactions are more complicated in a capital, and the national government has greater influence over the local economy, labor markets, and land markets. This creates a distinctive political economy of capital cities”.

Zimmermann (2010) highlights the relevance of empirical research about SCCs because it should be possible to distinguish the effects of the capital city function from other factors which make up the political economy of primary capital cities. With the analytical framework developed in this paper, we hope to trigger research that can be expected to find considerable demand among policymakers and politicians. SCCs seek to find their place within a changing global context and policymakers need to understand the political economy for their strategic decision-making.

6.1 Linking regional innovation systems, locational policies and policy regimes

In order to approach this distinctive political economy, we start with the development of the SCC RIS. The different stages of the SCC RIS restrict or enable the adoption of attracting money strategies. SCCs cannot compete with the top-tier cities by referring only to a potential entrepreneurial environment within a RIS that has not yet developed. It would simply not be persuasive and as a consequence the SCCs would be outplayed by the mere economic power of other cities in the nation. Thus for a less developed SCC RIS in stage I, the only outward oriented locational policy left is to play the political card i.e. to insist on its functional role as the one and only capital city. This strategy moves the focus away from its economic inferiority towards its political superiority. The asking for money positioning strategy can always be applied towards upper level political entities. It leaves, however, a SCC dependent upon the nation state with hardly any room for independent local value creation.

Vice versa, a stage III RIS offers the potential to enter interurban competition by referring to its entrepreneurial environment (attracting money). If the public-private interaction has led to an entrepreneurial environment for KIBS firms and other firms that explicitly seek contract with national government organizations, SCCs can persuasively occupy this niche. That leaves us with two static assumptions of how RIS stages are influencing positioning strategies of SCCs: First, the more a SCC RIS is developed, the more persuasive the positioning strategy is able to emphasize its specific entrepreneurial environment (attracting money) alongside its capital city

function (asking for money). Second, in a weakly developed SCC RIS, the positioning strategy can only emphasize the capital city function (asking for money).

These two preliminary assumptions are static and imply a deterministic explanation of positioning strategies. In such a setting, policy-makers would not be equipped with agency—nor with capacity—to gauge locational policy options. As outlined, policy regimes in their role as decision-makers have more locational policy options at hand than only positioning strategies. SCCs can try to develop their RIS and ensure regional coordination by inward oriented locational policies. These locational policy options are gauged and analyzed in a policy regime that is influenced by its ideas, its institutional arrangements and the underlying interests of its actors. Thus, functioning regimes are equipped with agency as they are able to choose between different locational policy options and thereby mediating and operating at the crucial point of inquiry between structural pressures and policy outcomes. If a regime, on the other hand, is unable to gather relevant actors and resources, its capability of formulating and implementing locational policies is limited.

Innovation policies are a sustainable locational policy option as they are directly addressing the failures, needs and problems arising from the SCC RIS. Different innovation policies can launch, initiate and stimulate the development process of a RIS. Especially through facilitating links between the public and the private sector, innovation policies can make use of the public sector as a driver for diversifying and developing the RISs in SCCs. Innovation policies should be tailored at the RIS-stages. Whereas in stage I the stimulation of interactive learning is fruitful, stage III innovation policies should try to spur new clusters and to tap into external knowledge. In that way, innovation policies overcome structural restraints of less developed RISs and enable policy regimes to adopt both categories of positioning strategies. Thus, innovation policies have the potential to lay the foundation to move a SCC from nation state dependency towards more local autonomy.

Coordination is aiming to increase the effects of the other locational policies and preventing regional within competition. It ensures coherent policy making and policy implementation within a region, because regional fragmentation has the potential to sabotage possible positive effects for the prosperity of the whole region. The higher the stage of a RIS, the more complex the interaction within the political economy of a region what makes coordination more essential.

In a nutshell, the availability of different locational policy choices and the agency of the regime (possibility to choose between different locational policies instead of structure-induced policy-making) guarantee for a dynamic and analytical framework of policy-making in SCC. We are

aware that unfortunate events, system failures, incoherent policies, governance problems and ‘real politics’ all could have a negative influence on economic development. The three parts of the framework are able to individually account for such negative influences. On the meta-level, however, we present an analytical, dynamic and interdisciplinary framework as it is most productive in coherently linking these different theoretical strands that enables us to theorize the political economy of SCCs. Table 2 sums up possible interdependencies between the stages of a SCC RIS and the different locational policies.

Table 2: Interdependencies between SCC RIS and locational policies

		Locational policies			
		Innovation policies	Coordination	Asking for money	Attracting money
Stages of RIS	Stage I	Stimulating interactive learning	Favorable	Possible	Not persuasive
	Stage II	Increasing knowledge diffusion	Important	Possible	Partly persuasive
	Stage III	Tapping into external knowledge, stimulating new clusters	Essential	Possible	Persuasive

6.2 Washington D.C. and Bern as two empirical examples

For illustrative purposes, the analytical framework is applied to Washington D.C. and Bern, two very different cases of secondary capital cities. The RIS of the greater Washington D.C. region is well developed and can be described as a stage III RIS. Policy-makers in the different jurisdictions are therefore active in drafting innovation policies to spur new industry cluster. They try to establish related clusters that are operating in highly-regulated sectors because KIBS firms in these clusters can profit from spatial proximity to national government organizations. Competition within the region trumps cooperation and this seems to be a danger for the whole region. To increase the economic competitiveness of the region, it would be essential to coordinate the different and often unrelated economic development efforts in the region (Versel et al., 2014, p. 65). Washington D.C. is asking for money by highlighting the infrastructure needs of the federal district and thereby stressing the important role of capital city functions for the whole nation. At the same time, policy makers are trying to lure KIBS firms into the region by referring to its innovative economy. In line with the expectations in our framework, Washington D.C. is

positioning itself both as an innovative business town and as a government town. However, there exists only a very loose policy regime that coordinates locational policies in the region. The main organization of economic development, the Greater Washington Initiative, was dissolving slowly in 2010 because of the diverging interest of its members.

Bern, on the other hand, has a weakly developed stage I RIS. Its innovation policies are focusing on linking public and private actors, stimulating knowledge and technology transfers and creating clusters in important economic sectors such as medical technology. Coordination functions well between the cantons (federal states) in the wider region, but individual municipalities within the greater agglomeration show no interest in coordinating economic development policies with the City of Bern (Kübler et al. 2005). To position itself, Bern successfully relies on asking for money strategies that are stressing their capital city status. However, Bern seems to not be able to compete with the other economic powerhouses in Switzerland because its RIS is too weak and therefore attracting money strategies are not very persuasive. Bern has to invest in innovation policies and wait until they lead to increased interactions and knowledge flows between crucial economic actors within the RIS. To position itself as the political hub of the nation is the main idea of Bern's policy regime. This orientation has galvanized political actors whereas private actors are missing. As a result, the case of Bern is illustrative of a politically dominated policy regime.

6.3 Looking beyond secondary capital cities

Our results illustrate that our analytical framework is especially suitable for secondary capital cities. We believe, however, that the insights we presented can be applied to primary capital cities but also in other urban contexts, in which one type of actor such as the public sector dominates. While the discussed concepts have been adjusted in detail to SCCs in this paper, which are clearly a very specific type of city, there are also other types of cities which are characterized by a strong governmental influence. For example, university towns face some similar challenges. As their knowledge infrastructure is most often heavily funded by the public sector, decision-makers try to develop an innovation economy that makes them less dependent upon public funding. However, while many studies related to the role of universities merely focus on locational policies that aim at overcoming technology and knowledge transfer barriers, it is crucial to also focus on questions how university towns also position themselves in an interurban competition. This becomes particularly important as national governments (such as France and The Netherlands) increasingly concentrate public funding on a few high-profile knowledge regions (van Winden et al., 2007). Such efforts highlight the importance of positioning strategies by formulating locational policies, which are interdependent with the development of the RIS.

In order to apply the framework to other urban contexts such as university towns, some adjustments need to be made, since the framework in its current form is fine-tuned to the specific nature of secondary capital cities. For example, the knowledge dynamics of RISs are very different between SCC and other urban contexts. As PPI is one of the main drivers for knowledge dynamics in SCC RIS, innovation policies primarily stimulate interactive learning through demand-side instruments. In university towns, however, knowledge dynamics are driven by public research organizations, which results in knowledge transfer from research to industry. As such, innovation policies focus on supply-side instruments, which support the public knowledge infrastructure and commercialization of research findings. However, if the specific knowledge dynamics of the respective type of city are taken into account, the framework developed in this paper has the potential to deepen the understanding of interdependencies between the development of RIS, locational policies and policy regimes in cities with strong governmental influence.

Bibliography

Andrew, C. & Doloreux, D. (2012) Economic Development, Social Inclusion and Urban Governance: The case of the City-Region of Ottawa in Canada, *International Journal of Urban and Regional Research*, 36(6), pp. 1288–1305.

Andrew, C. & Doloreux, D. (2014) Linking Innovation and Inclusion : The Governance Question in Ottawa, in: N. Bradford and A. Bramwell (Eds) *Governing Urban Economies: Innovation and Inclusion in Canadian City-Regions*, pp.137–160 (Toronto: University of Toronto Press).

Abbott, C. (1999) *Political terrain: Washington, D.C., from Tidewater town to global metropolis* (The University of North Carolina Press, Chapel Hill).

Abbott, C. (2005) Washington and Berlin: National capitals in a networked world, in: A. Daum & C. Mauch (Eds) *Berlin-Washington, 1800-2000: Capital Cities, Cultural Representation, and National Identities*, pp. 101–124 (Cambridge University Press, New York).

Asheim, B.T., Smith, H.L. & Oughton, C. (2011) Regional innovation systems: theory, empirics and policy, *Regional Studies*, 45(7), pp. 875–891.

Aslesen, H. & Jakobsen, S. (2007) The role of proximity and knowledge interaction between head offices and KIBS, *Tijdschrift voor economische en sociale geografie*, 98(2), pp. 188–201.

Autio, E., (1998) Evaluation of RTD in Regional Systems of Innovation, *European Planning Studies*, 6(2), pp. 131–140.

Braczyk, H., Cooke, P. & Heidenreich, M. (Eds) (1998) *Regional Innovation Systems: the role of governance in a globalized world* (UCL Press, London).

Brenner, N. (2000) Building ‘Euro-Regions’ Locational Politics and the Political Geography of Neoliberalism in Post-Unification Germany, *European Urban and Regional Studies*, 7(4), pp. 319–345.

Brenner, N. (2004) *New State Space: Urban Governance and the Rescaling of Statehood* (Oxford University Press, Oxford).

Campbell, S. (2000) *The changing role and identity of capital cities in the global era*, Paper presented at the Annual Meeting of American Geographers, Pittsburgh, PA.

Castells, M. (1989) *The informational city: information technology, economic restructuring, and the urban-regional process* (Blackwell Publishers, Oxford).

- Ceruzzi, P.E. (2008) *Internet Alley: High Technology in Tysons Corner, 1945-2005* (The MIT Press).
- Clark, P. & Lepetit, B. (1996) *Capital cities and their hinterlands in early modern Europe* (Scolar Press, Aldershot).
- Cochrane, A. (2006) Making Up Meanings in a Capital City Power, Memory and Monuments in Berlin, *European Urban and Regional Studies*, 13(1), pp. 5–24.
- Cohen, N. (2000) *Business Location Decision-Making and the Cities: Bringing Companies Back* (Brookings Institution working paper, Washington D.C.).
- Cooke, P. (2001) Regional innovation systems, clusters, and the knowledge economy, *Industrial and Corporate Change*, 10(4), pp. 945–974.
- De Frantz, M. (2006) KulturPolitik im Wandel: Hauptstadtssymbolik in Wien und Berlin, *Österreichische Zeitschrift für Politikwissenschaft*, 3, pp. 237–53.
- Doloreux, D. (2002) What we should know about regional systems of innovation, *Technology in Society*, 24(3), pp. 243–263.
- Doloreux, D. (2004) Regional Innovation Systems in Canada: A Comparative Study, *Regional Studies*, 38(5), pp. 479–492.
- Doloreux, D. & Parto, S. (2005) Regional innovation systems: Current discourse and unresolved issues, *Technology in Society*, 27(2), pp. 133–153.
- Doloreux, D., Freel, M. & Shearmur, R. (2010) Knowledge-Intensive Business Services (KIBS): Geography and Innovation. Surrey, UK: Ashgate Economic Geography Series.
- Edler, J., Papadakou, M., Ruhland, S., Hafner, S., Rigby, J., Georghiou, L., Hommen, L., Edquist, C., Rolfstam, M. & Tsiouri, L. (2005) *Innovation and Public Procurement. Review of Issues at Stake*, Study for the European Commission, Fraunhofer ISI, Karlsruhe.
- Edler, J. & Georghiou, L. (2007) Public procurement and innovation - Resurrecting the demand side, *Research Policy*, 36(7), pp. 949–963.
- Edquist, C., & Hommen, L. (2000) Public Technology Procurement and Innovation Theory, in: C. Edquist, L. Hommen, & L. Tsiouri (Eds) *Public Technology Procurement and Innovation*, pp. 5–19 (Kluwer Academic Publishers, Boston/Dordrecht/London).

- Edquist, C., Zabala, J.M. & Timmermans, B. (2012) *A Conceptual Framework for Analyzing the Relations between Demand and Public Innovative Procurement and between Knowledge Intensive Entrepreneurship and Innovation*, CIRCLE Report 2012/01.
- Feldman, M. (2001) The entrepreneurial event revisited: firm formation in a regional context, *Industrial and Corporate Change*, 10(4), pp. 861–891.
- Feldman, M. (2003) The locational dynamics of the US biotech industry: knowledge externalities and the anchor hypothesis, *Industry and Innovation*, 10(3), pp. 311–328.
- Feldman, M., Francis, J. & Bercovitz, J. (2005) Creating a cluster while building a firm: entrepreneurs and the formation of industrial clusters, *Regional Studies* 39(1), pp. 129–141.
- Frederickson, H.G. (1999) The repositioning of American public administration, *Political Science and Politics*, 32(4), pp. 701–711.
- Gerhard, U. (2007) *Global City Washington, D.C.: Eine politische Stadtgeographie* (transcript Verlag, Bielefeld).
- Gordon, D. (2006) *Planning twentieth century capital cities* (Routledge, London and New York).
- Gordon, I. (2003) *Capital needs, capital growth and global city rhetoric in Mayor Livingstone's London plan*. Paper presented at the Association of American Geographers Annual Meeting, New Orleans.
- Gottmann, J. (1977) The role of capital cities, *Ekistics* 264, pp. 240–243.
- Gottmann, J. & Harper, R. (1990) *Since Megalopolis: The urban writings of Jean Gottmann* (The Johns Hopkins University Press, Baltimore and London).
- Government of Canada (2015) Ottawa: Where talent comes to work, play and grow, Accessed April 20, 2015. <http://www.international.gc.ca/investors-investisseurs/cities-villes/ottawa.aspx?lang=eng>.
- Hall, P. (2006) Seven types of capital city, in: D.L.A. Gordon (ed.) *Planning Twentieth Century Capital Cities*, pp. 8–14 (Routledge, New York).
- Hall, P.A. & Soskice, D.W. (2001) *Varieties of capitalism: The institutional foundations of comparative advantage* (Oxford University Press, Oxford).
- Hall, T. (2010) *Planning Europe's capital cities: Aspects of nineteenth century urban development* (Routledge, New York).

- Henkel, J. & von Hippel, E. (2005) Welfare Implications of User Innovation, *Journal of Technology Transfer*, 30(2), pp. 73–87.
- Jochim, A. & May P. (2010) Beyond subsystems: Policy regimes and governance, *Policy Studies Journal*, 38(2), pp. 303–327.
- Kaufmann, V. & Sager, F. (2006). The Coordination of Local Policies for Urban Development and Public Transportation in Four Swiss Cities, *Journal of Urban Affairs* 28(4), pp. 353-374.
- Keating, M. (1995) Size, efficiency and democracy: Consolidation, fragmentation and public choice. In D. Judge, G. Stoker, & H. Wolman (Eds) *Theories of urban politics*, pp. 117 – 134. (SAGE Publications Limited).
- Kübler, D. & Heinelt, H. (2005) Metropolitan Governance, Democracy and the Dynamics of Place, in: H. Heinelt & D. Kübler (Eds) *Metropolitan Governance. Capacity, Democracy and the Dynamics of Place*, pp 8–29 (Routledge, London and New York).
- Kübler, D., Sager, F. & Schwab, B. (2005). Governing without Government: Metropolitan Governance in Switzerland, in: H. Heinelt & D. Kübler (Eds) *Metropolitan Governance. Capacity, Democracy and the Dynamics of Place*, pp 169-187 (Routledge, London and New York).
- Kübler, D. & Piliutyte, J. (2007) Intergovernmental relations and international urban strategies: constraints and opportunities in multilevel politics, *Environment and Planning C: Government and Policy*, 25(3), pp. 357–373.
- Lazonick, W. & Mazzucato, M. (2013) The risk-reward nexus in the innovation-inequality relationship: who takes the risks? Who gets the rewards?, *Industrial and Corporate Change*, 22(4), pp. 1093–1128.
- Markusen, A., Hall, P., Campbell, S. & Deitrick, S. (1991) *The Rise of the Gunbelt: The Military Remapping of Industrial America* (Oxford University Press, Oxford).
- Markusen, A. R. (1999) Four Structures for Second Tier Cities, in: A. R. Markusen, S. DiGiovanna & Y.-S. Lee (Eds), *Second Tier Cities: Rapid Growth beyond the Metropolis*, pp. 21–42 (University of Minnesota Press).
- Markusen, A. R. (2003) The Case against Privatizing National Security, *Governance: An International Journal of Policy, Administration, and Institutions*, 16 (4), pp. 471-501.
- May, P. & Jochim, A. (2013) Policy Regime Perspectives: Policies, Politics, and Governing, *Policy Studies Journal*, 41(3), pp. 426–452.

- Mayer, H. (2013) Was produzieren Hauptstädte? Zur ökonomischen Rolle und Funktion von Hauptstädten, in H. Mayer H, F. Sager, A. Minta, & S. Zwahlen (Eds) *Im Herzen der Macht? Hauptstädte und ihre Funktion*, pp. 125–150 (Haupt Verlag AG, Bern).
- Mayer, H. & Cowell, M. (2014) Capital Cities as knowledge hubs: The economic geography of homeland security contracting, in: S. Conventz, B. Derudder, A. Thierstein, & F. Witlox (Eds) *Hub cities in the knowledge economy*, pp. 223–246 (Ashgate, Surrey UK).
- Mayer, H., Sager, F., Minta, A. & Zwahlen, S. (Eds) (2013) *Im Herzen der Macht?: Hauptstädte und ihre Funktion* (Haupt Verlag AG, Bern).
- Meijers, E., Hoogerbrugge, M., Louw, E., Priemus, H. & Spaans, M. (2014) City profile: The Hague, *Cities* 41, pp. 92 – 100.
- Miles, I. (2005) Knowledge intensive business services: prospects and policies, *Foresight*, 7(6), pp. 39 – 63.
- Mossberger, K. & Stoker, G. (2001) The evolution of urban regime theory the challenge of conceptualization, *Urban Affairs Review*, 36(6), pp. 810–835.
- Moulaert, F., & Sekia, F. (2003). Territorial Innovation Models: A Critical Survey, *Regional Studies*, 37(3), pp. 289–302.
- Muller, E. & Doloreux, D. (2009) What we should know about knowledge-intensive business services, *Technology in Society*, 31(1), pp. 64–72.
- Nagel, K.-J. (ed.) (2013) *The problem of the capital city: New research on federal capitals and their territory* (Generalitat de Catalunya, Institut d'Estudis Autònoms).
- Pierre, J. (2005) Comparative Urban Governance: Uncovering Complex Causalities. *Urban Affairs Review*, 40(4), pp. 446–462.
- Pierre, J. (2014) Can Urban Regimes Travel in Time and Space? Urban Regime Theory, Urban Governance Theory, and Comparative Urban Politics. *Urban Affairs Review*. Early online.
- Rodrik, D. (2011) *The globalization paradox: Democracy and the future of the world economy* (W.W. Norton, New York and London).
- Rolfstam, M. (2008) *Public Procurement of Innovation*. Media-Tryck, Lund.

- Sager, F. (2005). Metropolitan Institutions and Policy Coordination. The Integration of Land Use and Transport Policies in Swiss Urban Areas, *Governance. An International Journal of Policy, Administration, and Institutions* 18(2), pp. 227-256.
- Sager, F. (2006) Policy coordination in the European metropolis: A meta-analysis, *West European Politics*, 29(3), pp. 433–460.
- Sassen, S. (1991) *The global city: New York, London, Tokyo* (Princeton University Press, Princeton).
- Slack, E. & Chattopadhyay, R. (Eds) (2009) *Finance and Governance of Capital Cities in Federal Systems* (McGill-Queen's Press – MQUP).
- Sohn, A. & Weber, H. (2000) *Hauptstädte und Global Cities an der Schwelle zum 21. Jahrhundert* (Winkler, Bochum).
- Spigel, B. (2011) A series of unfortunate events: The growth, decline, and rebirth of Ottawa's entrepreneurial institutions, in: G. D. Libecap & S. Hoskinson (Eds) *Entrepreneurship and Global Competitiveness in Regional Economies: Determinants and Policy Implications*, Volume 22, pp.47–72 (Emerald Group Publishing Limited).
- Stone, C. (1989) *Regime politics: governing Atlanta, 1946-1988* (University Press of Kansas Lawrence, KS).
- Stone, C. (1993) Urban regimes and the capacity to govern: A political economy approach, *Journal of Urban Affairs*, 15(1), pp. 1–28.
- Stone, C. & Whelan R. (2011) Urban Politics: The Case for a Polity Approach, in: K. Ward and D. Imbroscio (Eds) *Urban Politics: An Interdisciplinary Dialogue*, *International Journal of Urban and Regional Research* 35(4), pp. 858–860.
- Storper, M. & Scott A. J. (1995) The wealth of regions: market forces and policy imperatives in local and global context, *Futures: the Journal of Policy, Planning and Futures Studies*, 27(5), pp. 505–526.
- Swyngedouw, E., Moulaert, F. & Rodriguez, A. (2002) Neoliberal urbanization in Europe: Large-Scale Urban Development Projects and the New Urban Policy, in: N. Brenner (ed.) *Spaces of Neoliberalism. Urban Restructuring in North America and Eastern Europe*, pp. 195–229 (Oxford University Press, Oxford).
- Taylor, J., Lengellé, J. & Andrew, C. (Eds) (1993) *Capital cities: International perspectives* (Carlton University Press, Ottawa).

- Till, K. (2006) *The new Berlin: Memory, politics, place* (University of Minnesota Press, Minneapolis).
- Tödtling, F. & Trippel, M. (2005) One size fits all? Towards a differentiated regional innovation policy approach, *Research Policy*, 34(8), pp. 1203–1219.
- van der Heiden, N. & Terhorst, P. (2007) Varieties of glocalisation: the international economic strategies of Amsterdam, Manchester, and Zurich compared, *Environment and Planning C: Government and Policy* 25(3), pp. 341 – 356.
- van der Heiden, N. (2010) *Urban Foreign Policy and Domestic Dilemmas: Insights from Swiss and EU City-regions* (European Consortium for Political Research).
- van Winden, W., Van den Berg, L., Pol, P. (2007). European cities in the knowledge economy: towards a typology. *Urban Studies*, 44(3), 525-549.
- Versel, D., Chapman, J., Lokesh, D., McCarthy, L. (2014). Improving the Washington Region's Global Competitiveness. Report by the Center for Regional Analysis, School of Policy, Government, and International Affairs, George Mason University.
- Deza X. V., López M. G. (2014), "Regional concentration of knowledge-intensive business services in Europe" *Environment and Planning C: Government and Policy* 32(6) pp. 1036 – 1058.
- Ward, K., Imbroscio, D., Martin, D., Stone C. & Whelan R. (2011) Urban politics: an interdisciplinary dialogue, *International Journal of Urban and Regional Research* 35(4), pp. 853–871.
- Wolman, H., Chadwick, J. & Karruz, A. (2006) *Capital cities and their national governments: Washington, D.C. in comparative perspective* (George Washington University, Institute of Public Policy).
- Wood, P. (2006) The regional significance of knowledge-intensive services in Europe, *Innovation: The European Journal of Social Science Research*, 19(1), pp. 51–66.
- Zimmermann, H. (2010) Do different types of capital cities make a difference for economic dynamism?, *Environment and Planning C: Government and Policy*, 28(5), pp. 761–767.