

Small States, Innovation and Administrative Capacity

Rainer Kattel, Tiina Randma-Liiv and Tarmo Kalvet¹

1 Introduction

“What distinguishes the small nations from the large,” writes Milan Kundera (2007: 28), “is not the quantitative criterion of the number of their inhabitants; it is something deeper. For small nations, existence is not self-evident certainty but always a question, a wager, a risk; they are on the defensive against History, that force which is bigger than they, which does not take them into account, which does not even notice them.” Kundera expresses the rational/reasonable fear felt by small nations and states of ‘going under’ and succumbing to history; that fear also explains why there is a specific research interest in small states and their unique challenges.

However, the concept of small states, as well as that of innovation and administrative capacity, is subject to a relatively wide range of definitions and usage. Before describing the aim of the chapter, we will briefly discuss how small states, innovation, and administrative capacity can be defined and how these terms are used here.

1.1 Definitions

The most widespread definition of innovation originates with Joseph Schumpeter and with slight modification is used by international organisations like the Organisation for Economic Co-operation and Development (OECD) and the European Union (EU). Perhaps the best-known formulation of this definition is as follows:

An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations (OECD and Eurostat 2005: 46).

Innovation is the means by which entrepreneurs seek to overcome competition to earn profits. Innovations are usually based on some type or form of skills and knowledge (not necessarily in a codified form; for instance, experience, networks, etc., often involve uncoded knowledge) that are used to gain a competitive advantage. Innovations are often associated with a steep learning curve and fast growth in productivity that, in turn, often lead to strong and sustained economic growth (Reinert 2007). Innovation-based productivity explosions create enormous competitive advantages through agglomeration, clustering, positive externalities, and economies of scale and scope that, as cumulative dynamics, engender virtuous cycles of growth and rapidly rising living standards. At the root of such complex interactions is deeply embedded policy making of increasing coordination, dialogue, and cooperation managed by a highly capable public administration. (Evans and Rauch 1999; Wade 2004) By ‘policy making’ and ‘administrative capacity’ we mean “a model of capacity as a set of relationships that determine governance rather as a set of attributes attached to instruments of government” (Jayasuriya 2005: 21). This understanding allows administrative capacity, policy design, analysis, implementation, coordination,

¹Institute of Public Administration, Tallinn University of Technology, Estonia. Corresponding author: Rainer Kattel, email: kattel@staff.ttu.ee. The research for this article is funded by the Estonian Ministry of Education and Research (targeted financing grant no. SF0140094s08) and by the Estonian Science Foundation (grants ETF7577, ETF7441, and ETF8097).

and evaluation to play key roles instead being limited to a formal set of rules and chain of command.

This chapter is based on the relational understanding of small states that has been used widely in recent small-states literature. According to this definition, “being a small state is tied to a specific spatio-temporal context, not a general characteristic of the state. A small state is not defined by indicators such as its absolute population size or size of GDP relative to other states. Instead, a small state is defined by being the weak part in an asymmetric relationship”² (Steinmetz et al. 2009; also Thorallsson and Wivel 2006). Smallness indicates a power deficit. In addition, smallness or size is a dynamic characteristic of a country; its impact changes in time. It is best understood as a relatively important determinant in the welfare of that particular country.³

1.2 Aim of chapter

Innovation, and economic development for that matter, was born in small states and, even by today’s standards, microstates like Renaissance city-states. Cities like Venice, Florence, Delft, and others were extraordinarily successful at innovation—using knowledge to create economic gains—and in outcompeting nations much larger in geographic, demographic, or other measures of size (Hall 1999; Landes 1999: 45–59; Reinert 2007). It can be argued that in these cities ‘smallness’ was one of the key factors that contributed to an institutionally embedded and yet diversified economy—both concepts then already seen as pivotal ingredients for sustained growth. Indeed, early key political economists such as Giovanni Botero (1590) and Antonio Serra (1613) juxtaposed small city-states with great economic and often military power to natural resource-rich large areas that were economically backward. Today’s wisdom seems, instead, to regard smallness as a source of multiple constraints on innovation and economic development in general (e.g., Armstrong and Reid 2003; contrast with Easterly and Kraay 2000). These constraints can be summarised as follows:⁴

- 1) Almost by definition, small states (particularly the less-developed ones) have small home markets that limit the possibilities for economies of scale and geographical agglomerations;
- 2) Small home markets and dependence on exports threaten small states with overspecialisation, lock in, and low diversification of the economic structure;

²However, based on small states literature (e.g. Sutton 1987, Bray and Packer 1993), administrative capacity is considered more size-sensitive than other areas because it depends directly on factors such as interrelatedness and particularity of small societies. Distinguishing between small states and small societies is particularly valuable for small administration studies. Benedict (1966) noted that the main criteria of size for ‘territories’ (‘states’) are area and population; whereas the criteria of size for ‘societies’ are the number and quality of role-relationships. The study of public administration has more implications from the notion of small societies where ‘everyone knows everybody else’, and where the cut-off line between small and large states is usually set at 1 to 2 million inhabitants.

³As a note of caution, the specific characteristics of small states can be easily confused with the problems of development. For example, Benedict (1966: 32) claims that less-developed countries, even large ones, are socially characterized by personal role relationships—a finding that has been claimed to be a specific feature of small societies. Montgomery (1986) argues that a paradox of administration in developing countries is the great reluctance to make decisions and to take action. This finding is similar to what others have claimed about small states, including Lowenthal (1987: 35) and Sutton (1987: 19). Consequently, issues of development should not be underestimated when studying small states (also Montgomery 1986; Warrington 1997).

⁴Classic summary of the first three arguments are Walsh 1988 and Freeman and Lundvall 1988; also earlier, Robinson 1963.

- 3) Small states do not have the financial capabilities or human resources to invest into cutting-edge science, research, and development, which makes prioritization, selectivity, and adaptability key to policy design;
- 4) The latter presupposes high administrative capacity and a professional public administration that, again, many small states with a lower level of development seem to lack almost by definition;
- 5) Rent seeking and vested interests make the development of Weberian civil service and professional policy design, often seen as key for sustained economic development, difficult if not impossible for small states.

However, the last significant attempt to deal with small states and innovation is already 20 years old. *Small Countries Facing the Technological Revolution*, edited by Freeman and Lundvall, appeared in 1988. Still, despite the title, the authors do not in reality deal so much with the issue of smallness as with the issue of innovation systems in general, as this concept was in its infancy at that time and was mainly developed by the same authors. Edquist and Hommen's (2008) work, while entitled *Small Economy Innovation Systems*, suffers from the exact same problems: it actually only deals with innovation-systems issues relevant for highly developed countries from Finland to South Korea. The book does not in fact discuss almost any size-specific issues as far as innovation and innovation policy are concerned. In essence, innovation literature is seemingly aware of the issue of size, while in reality it tends to gloss over size. Small states literature, on the other hand, tends to assume that size is a constraint on economic development and innovation.

As importantly, while the role of public administration in development is increasingly drawing attention in development studies (Evans and Rauch 1999; Wade 2004), this fundamental relationship between public administration and development has received only incidental attention in small states literature (e.g., Ó Riain 2004).

A number of new challenges and risks have emerged in the international economy during recent decades that re-emphasise the issue of size and that re-emphasize the need to address administrative capacity. Prevailing theoretical solutions to these challenges, both in innovation and administrative sciences (the innovation systems approach and [neo-] Weberian state, respectively), have clear flaws when applied to small states, i.e., these concepts actually do not help overcome the constraints created by new challenges.

Unlike much of the 20th century, we argue that today state size is again one of the key determinants of how and why companies innovate (state size impacts company-level innovation, although the impact changes somewhat with the level of development). Successful small economies have learned to overcome issues arising from size. New challenges in the global economy transform size into one of the key tempo-spatial dynamic characteristics of a polity. Administrative capacity is among the most crucial factors needed for overcoming these challenges.

2 New Challenges and Risks

While innovations and technological change are often seen as the key drivers of economic growth and development, it is seldom recognized that many innovations can bring significant adverse side effects as well for two key reasons:

- 1) Innovations and technological change often work through a process that Schumpeter (1912, 1942) described as creative destruction, where new products, activities, jobs, and industries are created and old ones evaporate;
- 2) Many innovations create dynamics, such as economies of scale, that become, as Arthur (1994) and others have shown, powerful enforcers of learning mechanisms and of various feedback linkages among value-chain actors that all lead up to strong path dependencies and barriers of entry for competitors (companies, regions, countries) (also Nelson and Winter 1982).

These aspects of innovation necessitate a public-sector-led process that can be called creative destruction management (following the original Schumpeterian idea), where public policies support creation of new knowledge, companies, and jobs and alleviate the destructive effects (Drechsler et al. 2006; Kregel and Burlamaqui 2006). During much of the 20th century, successful instances of creative destruction management were greatly helped by the particular nature of the then prevailing techno-economic paradigm (detailed in the next subsection).

Mass production or the Fordist system of production used huge hierarchical organizations and long-term planning that were directed at creating stability in production and reaping economies of scale and scope (Chandler 1990). Increasing real wages and living standards that guaranteed stable consumption patterns became effectively part of that production and planning system. While first realised probably by Henry Ford when he more than doubled his workers' salaries, this system, was perfected by the small Nordic welfare states during the 1960s and the 1970s (Katzenstein 1985; Mjoset 2000). The rise of the East Asian economies can also be understood as an exemplary case of using the mass-production paradigm. The then small economies of Asia developed via strong state-led industrialisation efforts that were based on creating strong government-owned enterprises and networks of enterprises in order to create economies of scale (e.g., Amsden 1989; Wade 2004). Essentially, the Nordic welfare states and the Asian tigers showed that size does not matter as long as one was able to capture the logic of the paradigm: mass production assumes mass consumption that in turn feeds on mass employment that is not interrupted by sickness, old age, or any other similar circumstance (i.e., welfare-state regulations, other forms of regulation, or customs such as long-term employment that socializes unemployment risks).

The Fordist paradigm was thus 'naturally' prone to agglomeration effects (as integration into large hierarchies was its fundamental principle) that in turn created middle-income jobs (significantly helped by the welfare-state-type regulations), not only in developed countries but also increasingly in the developing world (for instance, Mexico's real wages were continuously increasing precisely until the end of the Fordist paradigm in the mid-1970s; see Palma 2005). The Fordist paradigm worked similarly for regions as economic agglomerations, and the welfare state also carried the fruits of innovation to geographically remote areas.

The breakdown of this system has been mitigated by three developments: (1) a change in the techno-economic paradigm following the new ICT-based technological revolution coming to full force during the 1990s; (2) the adoption of the Washington

Consensus economic policies; and (3) the administrative reforms of the last 30 years. The question that is posed for European small states is the following: how does membership in the EU influence the above-mentioned challenges and the states' abilities to deal with them? Indeed, the EU's impact on small states offers a glimpse into how administrative capacity in small states is changing or even needs to change in order to benefit innovation in these states. Each development and how it influences innovation in small states will be briefly discussed.

2.1. Techno-economic paradigm shift

The term techno-economic paradigm was coined by Carlota Perez (1983, 2002, 2006) and goes back to the theory of long waves of economic development originally described in 1924 and 1926 by Nikolai Kondratiev (1998a, 1998b). According to Perez, the paradigms last somewhere around a half century and consist of a 'common sense' about how the capitalism of that particular period works and develops. The paradigm also describes how technological change and innovation in a given period are most likely to take place: what organisational forms and finance are conducive to innovations; what technological capabilities, skills, and infrastructure are needed; what policy changes potentially enhance innovation; and what kind of best practices of business development emerge and thrive. Note that paradigms always form around a set of key innovations and technologies that then encompass and transform the whole economy.

The current ICT-based techno-economic paradigm goes back to key innovations in the 1970s and has engendered fundamental changes in production processes in almost all industries (including many services and agriculture). Perhaps the most profound feature of the ICT-paradigm is the growing use of outsourcing and the breaking up of various production functions that have, in turn, created strong de-agglomeration pressures, both in highly industrialised as well in developing countries (for discussion, Samuelson 2004; Krugman 2008). Gains from technological change and innovation no longer 'travel' easily within regional or national geographic boundaries. Large production units and mass employment are substituted by highly specialised networks that operate and source production and knowledge, often supra-regionally or even globally—creating a vicious cycle of increasing competition, increasing pressure to cut costs and lower wages, and, with extensive concessions (in taxes, etc.), luring foreign investors who often bring few fruits to the specific location. As a result, enclave economies and de-linkaging effects emerge (Gallagher and Zarsky 2007). At the same time, the ICT-led paradigm also enables the creation of niche production with the potential to become supra-regional or even global (for instance, hospitals specialising in a specific type of heart surgery) (Prahalad 2006).

The ICT-led paradigm increases pressures for de-agglomeration, de-linkaging, and de-diversifying. This has become the key challenge for many smaller or peripheral nations/areas where such pressures are already quite strong. It is not so much the issue of size as such (e.g., scarcity in human capital) that has become important but, rather, a combination of geographic location and economic specialisation patterns—summarised as the position a nation holds in international value chains. For instance, while Finland is both geographically peripheral and demographically relatively small (ca. 5 million inhabitants), its place in the international, mobile electronics-production value chain is very high. Finland is also seeing a growing outflow of R&D activities into regions with lower costs and larger agglomeration effects such as India.

Finland's position, however, has little if any positive bearing on Finland's neighbouring country Estonia (80 km to the south, ca. 1.4 million inhabitants). In the mass-production paradigm, Estonia could have devised relatively simple strategies to reap benefits from its proximity to highly developed markets by specialising in lower end products/markets and moving up the value ladder. National policy making could have created successful catching-up strategies. Instead, Estonia's electronics industry specialises in simple production and assembly of products, resulting in low wages and substantial de-linkaging effects (Kalvet 2004; Högselius 2005). The ICT-led global-production paradigm makes such strategies highly temporary and largely futile as there is growing evidence that upgrading in such sectors does not happen very often (Giuliani et al. 2005).

While the ICT-led paradigm significantly amplifies de-agglomerations, larger nations/regions are somewhat more hedged against risks imminent in the current paradigm. This means that smaller (and especially developing) countries have a growing dependency on international markets, production networks, and finance. Second, it can be argued that, for smaller nations the policy space needs to be redefined. If local and foreign companies have growing incentives to de-link production, R&D, etc., from a given geographic position, then investing more into education, creating more cultural possibilities, and devising better social programs only seems to delay the inevitable (also Cimoli et al. 2005). Small-state policy making needs to become supra-regional (for instance, within the European Union). Size in terms of political influence and power—of having the human resources needed to negotiate supra-regional policies—is becoming key to the economic success of small states. While it can be argued that this concept is generally known in small states literature (e.g., Ingebritsen et al. 2006 for a collection of useful discussions), the key new understanding here is that this concept also affects innovation. Indeed, when mass-production innovation policy is local (creating local technological capabilities and markets and then moving to exports), the ICT-paradigm innovation policy of small states has to be supra-regional from the start. In fact, hardly any small country in Europe or anywhere else is capable of or is practicing such policies yet.

It has been argued that the logic of dispersion of global production networks that create de-agglomeration and de-linkaging effects is not necessarily inevitable to the ICT-paradigm (Perez 2006). Still, the global macroeconomic environment—namely, Washington Consensus policies—creates significant incentives to instate policies that enable the adverse effects of the ICT-paradigm and innovations. While these policies might seem to be precisely supra-national in nature, in many areas such policies have expanded rather than reduced de-agglomeration effects. While for many small countries economic openness has become the key economic policy mantra, we argue that this situation might in fact increase the global competition challenges these countries face.

2.2 The Washington Consensus

Initially a list of “10 policy instruments about whose proper deployment Washington can muster a reasonable degree of consensus” (Williamson 1990), the Washington Consensus may have failed in light of the mainly negative experience many developing countries had with these policies (World Bank 2006; Rodrik 2007) with some calling it the “Washington Confusion” instead (Rodrik 2007). On the level of

actual policy making, however, the Washington Consensus still seems to be in full force, coming in many new disguises. While the simple battle cry of the 1990s—stabilise, privatise, liberalise—has given way to more intricate phrases and policy advice, they still boil down to the same core ideas.

Two observations are crucial: First, whatever its intellectual roots and its current health, the Washington Consensus essentially became the vehicle delivering the techno-economic paradigm change globally as it enabled a growing geographical dispersion of production in the form of foreign direct investment. Second, the main policy vehicles of the consensus, such as financial globalisation and foreign direct-investments-based growth policies, have failed to deliver growth (Rodrik and Subramanian 2008) and, instead, have magnified the negative effects of the ICT paradigm. In combination, both effects have had a huge impact on the way innovation takes place in many companies, especially in developing countries and poorer regions, and the way most countries see and define the policy space available to them. Indeed, one of the most fundamental characteristics of industrial change in developing countries such as Central and Eastern Europe during 1990s has been that a majority of companies have actually engaged in process innovation (e.g., in the form of acquisition of new machinery) in seeking to become more cost-effective in the new marketplace.

Since the main emphasis of the Washington Consensus policies is on both macroeconomic stability (low inflation, low government deficits, stable exchange and interests rates) and on open markets (low if any trade barriers, common technical standards, etc.), these policies have two main assumptions: (1) increased foreign direct investments (that should thrive in stable economic environments) bring foreign competencies, know-how, linkages, and increased competition for domestic producers that (2) create more pressures to innovate in the form of better and cheaper products and services. If these assumptions are coupled with the real changes taking place in production networks due to the changing paradigm, however, we get highly dynamic forces engendering structural change in more vulnerable areas. Indeed, these changes were largely the reason for the consensus policies in the first place (Kregel 2008a, 2008b). Yet, as economic performance of the 1990s shows, dynamic changes in (developing) countries following Washington Consensus policies have been highly surprising, not to say disappointing (World Bank 2006; Amsden 2007; Chang 2007). The policies were highly effective in destroying admittedly outdated industrial capacities in the developing world, yet they were also similarly spectacularly ineffective in creating new capabilities and opportunities. With increasing dependence on international markets, production networks, and finance, small states also face growing financial fragility (see further, Kregel 2004).

In sum, without counterbalancing by international policy initiatives, the created international policy environment is highly fertile ground for the negative effects of the techno-economic paradigm change. For small states this situation significantly increases the challenges brought on by ICT-led globalisation of production networks. While there are clear gains from trade, economic specialisation and trade patterns become key determinants in the way a small country integrates into the world economy (e.g., the clear difference in the way Finland's and Estonia's electronics sectors are integrated into world markets). Small developing countries have to keep in mind that waving the flag of rather simple liberalisation and openness might just as

easily undermine their own competitiveness in the long run because of de-industrialisation and de-agglomeration. Under these circumstances, smallness becomes a crucial factor in designing innovation policies. How can the combined potentially negative impact of the ICT-paradigm and the global environment, as defined by Washington Consensus policies, be counteracted? Innovation and industrial policy measures that have been accepted during the last 500 years, such as infant industry protection (also included in Williamson's 1990 article but not enforced under the Washington Consensus), are not only discredited and politically hardly acceptable (for instance within the EU), but are also unlikely to work, for instance in the case of Estonia's electronics industry. Existing specialisation patterns and global dynamics are simply too strong for such measures to gain any significant traction. Yet, the global financial meltdown of 2008 and 2009 raises questions about the conventional wisdom of having a very open trading policy. A much more active role for the state seems very likely in the next decade. Small states in particular, both highly developed and developing, should reconsider their innovation, industrial, fiscal, and monetary policies in order to counterbalance the potential negative dynamics. This concept presupposes high levels of policy and administrative capacity and, specifically, capacity that can deal with widening international influences and networks.

2.3 Administrative reforms and the changing nature of administrative capacity

Administrative capacity is one of the key preconditions for creating policies and programmes conducive to innovation and sustained economic development. However, the Washington Consensus and its underlying neo-liberal ideology have had great impact on administrative reforms and the way many policymakers and also scholars understand administrative capacity. Since the early 1980s, most countries have been influenced by new public management (NPM) ideas and reform trajectories with its economic rationalism and managerialism. NPM reform ideas have also had an impact on state-building efforts in a number of new democratic countries where the early years of transition coincided with NPM popularity in the West. NPM ideology sat well with countries that were abolishing their one-sector economies, carrying out large-scale privatisation, and contracting out government services. Additionally, a number of international organizations (e.g., the World Bank, OECD) promoted NPM reforms with no critical or context-related assessment in the 1990s. Although NPM reforms already started to draw severe criticism in the second half of the 1990s, some of its core ideas are still alive in public administration reform practices. As documented by many researchers (for an excellent summary, Pollitt and Bouckaert 2004), neo-liberal administrative reforms have hollowed out the state at a time when the state's capacity to steer the economy is critically needed.

In addition, administrative capacity is something that small states have problems with almost by definition. NPM reforms, although partly originated in small states such as New Zealand, have posed particular challenges to small societies. By creating private monopolies instead of public monopolies, especially in microstates, market-driven reforms (privatisation, contracting out public services) have had questionable outcomes due to the limitations of small markets (e.g., lack of competition). Public-private partnerships have been difficult to develop on a merit basis because of the personalism and interrelatedness within small societies (Lowenthal 1987), which, in turn, may easily give way to problems with control and accountability, corruption, and nepotism. Finally, two important mantras of NPM—decentralisation and

deregulation—pose an essential human capital requirement by assuming the presence of a critical mass of professional leaders. This can be questionable even in large countries and is extremely difficult to develop in small states. At a time when small states are increasingly challenged to step up their policy-making efforts on the international level, a wave of NPM-based administrative reforms or reform tendencies may easily undermine these very efforts.

NPM is not suitable medicine for the problems of small states. Moreover, elements of traditional (Weberian) bureaucracies are also not well suited to the context of small societies. Bureaucracy presupposes depersonalisation: the exercise of state functions and roles must be separated from any particular individual in order to exercise rational power (Weber 1978: 959). However, small societies are more inclined towards personalism since individuals can be more influential, and informal networks are densely interwoven (Parsons 1951: 191). In a small society, individuals may be more important than structures, procedures, or institutions. The high personalisation of institutions in small states contributes to the instability of organisations and policies (Randma 2001), whereas stability is seen as a cornerstone of Weberian administration. Organisations, situations, and decisions tend to be more personalized in societies where ‘everyone knows everyone else’. Rationality requires consistency, which may be missing in the structures and decisions in small public administration that can be largely based on the knowledge and skills of particular individuals (Randma-Liiv 2002). The problems of implementing bureaucratic principles in small societies may not stem so much from the design of rational-legal bureaucracy itself as from the inappropriate application and circumvention of its norms and procedures in small administrations. A fundamental issue in small public administration appears to be modification of a Weberian bureaucratic model in which large size is a critical variable. If small states operate with bureaucratic models inherited from larger states and comprehension of desirable adjustments remains limited, small states may face severe problems in matching bureaucratic rules with their predominantly particularistic societies. Where traditional bureaucratic models of civil service do not suit small states, they can discover their own approaches to public administration. Consequently, both in designing administrative systems as well as in managing public organisations, the key is to find an optimal compromise between classical bureaucratic principles and flexibility. Small states may not merely represent, to paraphrase Richards (1982), a hybrid or halfway house between primitive and modern systems of administration. The form of administration in which the personal factor is so important is well recognised. The question remains whether and how different countries accommodate, exploit, and regulate personal relationships in a way that facilitates ‘good government’ and whether common patterns can be identified. First, it is important to note, as Katzenstein (1985) argued, that the post-war success of European small states is at least partially due to prolonged political stability and that, second, Asian tigers also tend to have highly stable political and administrative environments because of their limited liberal democracies. Small and new democracies fall into neither category and, as we have seen above, NPM reforms within the mass-production paradigm have hollowed the administrative stability characteristic of small successful European economies.

The challenges described above (sections 2.1 and 2.2) point towards yet another tendency: the concept of administrative capacity itself is changing and particularly so

for small states. Jayasuriya (2005: 22) offers an excellent summary of the changing nature of administrative capacity:

- Public intervention or regulation is dependent on regulatory and governance structures that are widely dispersed; for example, they might be in civil society or located in global policy networks.
- The location of these regulatory resources falls outside the traditional Weberian and Westphalian boundaries of the state.
- Governance is transformed into a type of meta-governance that consists of the enrolment, legitimation, and monitoring of the various governance and regulatory resources. In essence, meta-governance entails organising a set of relations that delimit a particular field of governance. This relational capacity is central to the effectiveness of public action or regulation in the new regulatory state.

Global challenges make the need for change in the nature of administrative capacity especially necessary for small states. However, it is important to note that characteristics of capacity that lay outside the Weberian boundaries necessitate different skills from policy makers and in particular from civil servants. The Weberian bureaucracy is characterised by legal domination, i.e., having a legal basis for a bureaucrat's actions. Activities that fall outside a strict legal environment and that have to do, for instance, with national or international networking fall under what Weber called charismatic domination, characterised by different personal skills and which often takes place in much-less-regulated legal environments. Networking can be more easily accomplished in small states, and it is actually part of everyday life. Small states are also characterised by more informal communication networks and an interwoven elite (Lowenthal 1987), which may result in an efficient coordination process between government and non-government actors. Consequently, small states may offer a useful glimpse into how such an evolving idea of administrative capacity can be accomplished and, moreover, how smallness itself—if intelligently and systematically used—can become an asset for the broader meaning of governance.

2.4. The role of the European Union in small states innovation and administrative capacity

The European Union has become one of the most important policy factors for small states within the union (Thorallsson and Wivel 2006). However, the influence of the EU on small states and their economic development and innovation differs quite strongly according to each state's level of development. Significantly though, for both 'old' and 'new' European small states, the integration into and membership in the EU has turned out to be an ambivalent affair.

First, the impact of accession into the EU for the Eastern European small economies has been pivotal for their innovation policies in the 2000s. Since joining the EU in 2004, and already during the accession talks, a strong but almost not publicly discussed change towards a much more active state role occurred in innovation policies in most Eastern European countries. The EU's structural funding played a clear and strong role in this change, particularly during negotiations and the planning that comes with it. These changes come with two specific problems: (1) the overemphasis in emerging Eastern European innovation policies on linear innovation

(from lab to market) that is based on the assumption that there is a growing demand from industry for R&D (Radošević and Reid 2006; also INNO-Policy TrendChart Country Reports 2006–2007), and (2) the increasing use of independent agencies in an already weak administrative-capacity environment lacking policy skills for networking and long-term planning. Such Europeanization of innovation policy in Eastern European small states, while highly positive in directing these countries to reorient economic policies towards more sustainable growth, in its implementation often only deepens and intensifies the existing problems of networking, clustering, and coordination. In other words, Eastern European small states have grave difficulties adjusting their administrative capacity to changing inner-EU and global conditions. These problems have become particularly vivid during the financial troubles that these countries face since late 2008. The countries seem shell-shocked and paralysed by the global crises to such an extent that they are incapable of organising any coherent response to quickly contracting economies.

Second, for ‘old’ small European states, enlargement of the union has brought, on the one hand, clear advantages in terms of significantly larger markets and access to wider pools of human and technological resources. In some cases, foremost for Ireland, European structural funding has also played a crucial role in building up technological capacities and enhancing economic development in general. On the other hand, in particular for those small economies belonging to the common currency area, the euro has also brought unique challenges. Up to 2008, most euro-area countries suffer from real exchange-rate appreciation, as they cannot compete with Germany’s productivity and export growth. They are faced with growing downward pressures on their wages and difficulties with export competitiveness (Finland and Ireland are exceptions here; see further Pisani-Ferry et al. 2008). Loss of independent monetary policy and restrictions on fiscal policy are clearly quite serious challenges for many European small states. These challenges have only intensified in the aftermath of our global financial woes: in the absence of independent monetary policies, countries such as Ireland face strong deflationary pressures and are equally unable to respond to the crises.

New global challenges and risks for small states necessitate regional collaboration in policy making for innovation. While to this day we cannot detect any serious initiatives here, it is clear that because of the policy-making mechanisms in the EU, small states are bound to work more closely together (Thorallsson and Wivel 2006). The EU may involuntarily push small states towards more collaboration in various policy areas, including innovation policy. The EU has certainly enforced strengthening of administrative capacity in European small states, and this influence will only grow in the coming years. In particular, small Eastern European countries need to increase their efforts to upgrade administrative capacity.

3 Theoretical and practical developments

While numerous fundamental changes in the international economy and in technological development pose new challenges to small states, there is no clear theoretical understanding of how to deal with these risks. Perhaps the most developed and influential approach in innovation studies is the one that emerged in the mid-1980s: the concept of national innovation systems (NIS), defined as “the network of institutions in the public and private sectors whose activities and interactions initiate, import, modify and diffuse new technologies” (Freeman 1987: 1). The approach

emerged to meet a growing need to understand competitiveness better at the country level and know how to influence it. The existing theories were felt to be partial. Since then, the NIS approach has strongly influenced national governments and international organizations all over the world (Sharif 2006). Indeed, it can be argued that the NIS approach is the theoretical framework most often used in academic and policy-analysis literature.

NIS literature, however, does not deal with issues specific to small states or with the risks described above. Research on (mainly national) innovation systems has focused on activities related to the production and use of codified scientific and technical knowledge: "... when one turns to policy analysis and prescription, as well as to the quantitative survey-based studies that support and justify policy, we would contend there is a bias to consider innovation processes largely as aspects connected to formal scientific and technical knowledge and to formal processes of R&D" (Jensen et al. 2007: 684). For smaller countries and especially for smaller developing countries, other sources of innovation, especially those related to process and organizational innovations, are more relevant. Innovation policy discussions have also been dominated by discussion of 'high-technology elements' (like emphasis on venture capital funds, support of patenting, technology transfer) that often assume existence of relatively large home markets. Although much research is being done on ICT-sector innovation systems, discussion of the current ICT-led paradigm and its increasing pressures for de-agglomeration, de-linkaging, and de-diversifying effects is only emerging (also Edquist and Hommen 2008). Further, systems-of-innovation literature rarely deals with the effects of macroeconomic policies on innovative activities at a company level (i.e., how liberalisation of markets or exchange-rate fluctuations impact company-level innovation; Cimoli 2000 is a rare exception). The same holds for financial fragility.

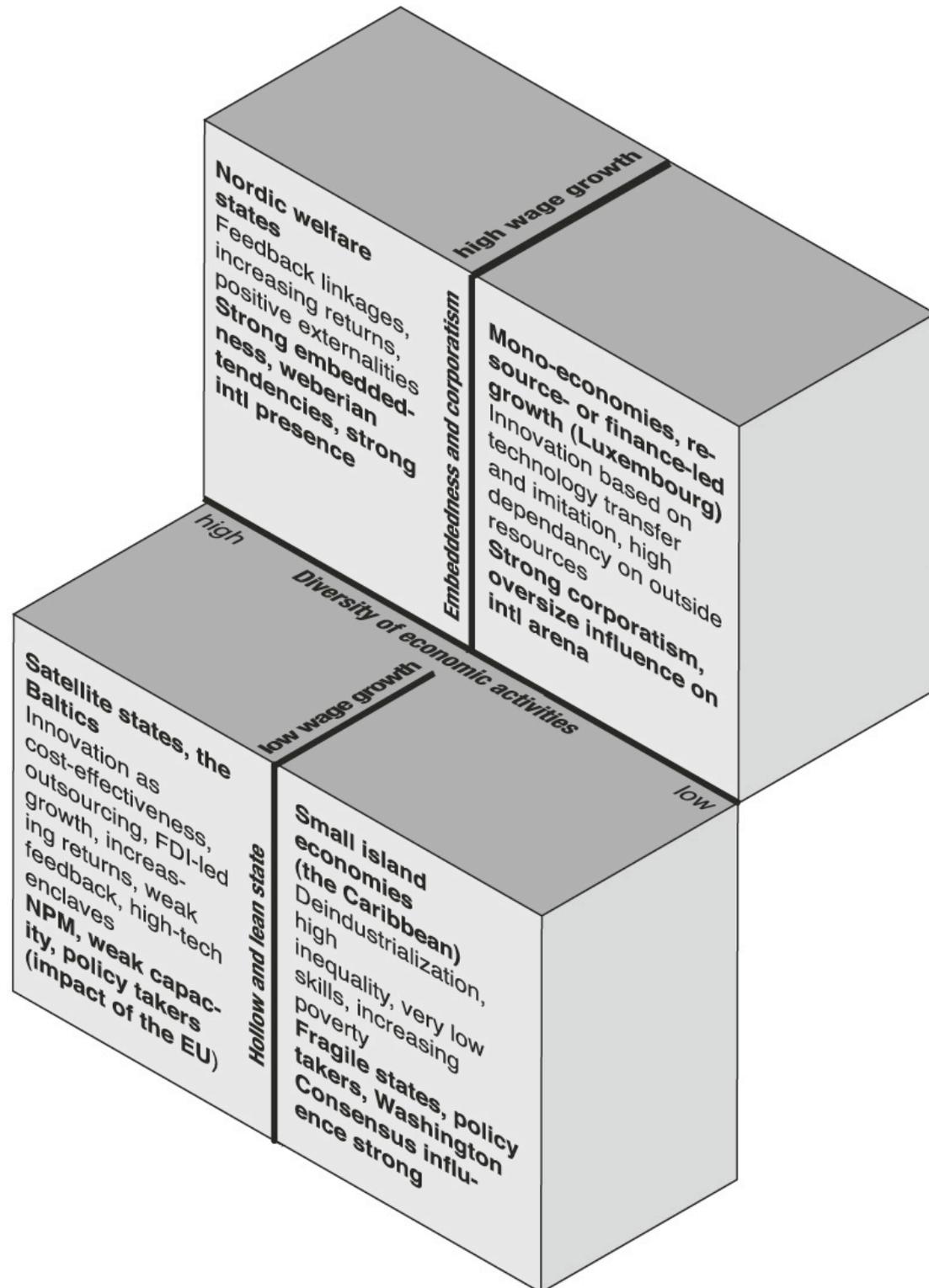
Finally, while the state is generally considered an important factor that influences how concrete innovation systems develop, discussion of policy making itself, administrative capacities, and constraints associated with small size is practically missing in innovation and systems-of-innovation studies.

Consequently, while new challenges and risks in the international economy re-emphasize size-specific issues, we argue that no coherent theoretical framework captures all of these issues. Indeed, few empirical studies detail how small states cope with the challenges and risks.

While we do not have clear theoretical tools for dealing with the above-mentioned challenges, we can try to discern how successful small states have coped with these challenges so far and whether we might be able to draw theoretically relevant conclusions from this. We have developed a taxonomy that shows how small states have in recent years coped with a drastically changed international environment and how successful ones have been able to promote innovation under the challenges. We look, on the one hand, how small states deal with issues of competitiveness, which is understood as a combination of two dynamic trends: the state's competitiveness improves when there is an increasing number of economic activities along with growing productivity and strong spillovers (increasing diversity), while at the same time real incomes and social cohesion grow as well. On the other hand, we look at political-administrative regimes and reforms as a third dimension (with colours) and

as a proxy for administrative capacity in order to connect the changes taking place in these spheres with changes in competitiveness and innovation performance. Figure 1 summarises the tentative and ideal-typical taxonomy.

Figure 1. Taxonomy of small states development



While it is clear that no real-life state fits exactly into such a taxonomy, it is still heuristically useful. Such taxonomies help to highlight the numerous ways small states can enhance or lose their competitiveness; they clarify how the ICT-led paradigm, the macroeconomic environment built around Washington Consensus ideas, and the impact of administrative reforms have created deeply diverging ways that innovation impacts small economies and their competitiveness.

The taxonomy allows us to draw the following conclusions about successful innovation policies in small states in recent years:

First, successful states have been able to gain oversized international policy influence that is combined with their very high position in one or more important global economic value chains (Finland and electronics is a prime example). However, such branding and even marketing have also been important for satellite states such as the Baltics. Seeking an oversized international presence (with clear economic undertones such as being innovative, open, etc.) has become part of a successful small state's economic policy and capacity.

Second, successful capacity building does not have clear NPM or Weberian tendencies but, rather, has neo-mercantilistic characteristics of corporatism and tolerated rent-seeking in fields deemed priority areas (e.g., finance, technology, and other areas with strong innovation and high barriers of entry). As size creates limits and international/national dependency grows under the ICT-led paradigm, building on sectors with strong spillovers is a key feature of successful innovation policies.

Third, all four types of small state development are characterised by rather specific ways that companies innovate in their respective economies. Each type is characterised by a set of prevailing incentives for private-sector innovations; however, it is important to note that for all four types, country size has become a key determinant of innovation incentives, albeit in highly differing ways. While large states accommodate all four types of development (as different regions or cities, for instance), small states tend to get locked into path-dependent development trajectories.

Fourth, successful small states have found a policy mix that enhances their domestic home-market expansion (e.g., using procurement policies) and export orientation via their own brands or distinct international standing (especially in technologically advanced industries and services). Successful small states are not necessarily card-carrying members of economic openness but, rather, of economic uniqueness, both in terms of home markets and exports. Indeed, one can argue that the economies of scale prevalent under the mass-production paradigm have been replaced with highly specialised economies of scope that can be scaled up to global markets.

Such a mix of domestic markets and strong economies of scope in exports enables the creation of agglomeration effects that act as natural barriers of entry, helping domestic producers grow while keeping competition at bay. Such barriers of entry are, in fact, a key to keeping activities and jobs. Losing them is particularly easy under today's form of ICT-led globalisation and Washington Consensus-dominated development thinking.

4 Conclusion: Death of Distance, Rebirth of Size?

The ICT revolution, and the enormous reshaping of industries it enables, has been called the ‘death of distance’. We argue that the same revolution, along with the impact of Washington Consensus policies and NPM administrative reforms, has led to a rebirth of size as a key factor that geopolitical units must take into account while devising innovation and economic policies for growth and development.

Indeed, size matters enormously for innovation. While the logic of the previous mass-production paradigm was in itself highly conducive for the emergence of agglomeration and linking effects—key factors driving innovation and sustained economic growth—under the paradigm amplified by Washington Consensus globalisation, these effects reversed for many countries. The mass-production paradigm thrived under a top-down policy-making framework: welfare-state policies and/or state-led industrialisation policies could carry the positive spillovers of innovation and technological change to remote areas of distinct geopolitical entities. Today this seems to be increasingly difficult.

Country size matters again as it a key determinant for company-level innovations, the kind prevailing in the private sector.

Innovation policies should be built from the bottom up—creating local networks and scaling them up into wider networks—essentially the opposite of the mass-production paradigm where creation of national or supra-regional economies of scale was key.

However, creating administrative capacity needed for such policy development assumes an administrative stability that is difficult to create in small states per se and has become even more difficult during last decades because of NPM reforms and constraints on small administrations.

In the deeply interlinked fields of innovation and administration, we find that size matters for small states facing new challenges that are not satisfactorily answered in the theoretical literature (neither innovation systems nor Weberian state theories, respectively, do justice to small states issues). An urgent need exists for theoretical work that answers to small-state-specific problems. Such research is needed for understanding how small states need to develop innovation policy under the new ICT-led paradigm, which perhaps challenges them the strongest.

References

- Amsden, A., 1989. *Asia's Next Giant: South Korea and Late Industrialization*. Oxford, England: Oxford University Press.
- — 2007. *Escape from Empire: The Developing World's Journey through Heaven and Hell*. Cambridge, MA: MIT Press.
- Armstrong, H. W., and R. Read, 2003. “The Determinants of Economic Growth in Small States”, *The Round Table* 92 (368): 99–124.
- Arthur, B. W., 1994. *Increasing Returns and Path Dependence in the Economy*. Ann Arbor: University of Michigan Press.
- Benedict, B., 1996. “Problems of Smaller Territories”. In M. Banton (ed.), *The Social Anthropology of Complex Societies*. London: Tavistock Publications, 23–36.
- Botero, G., 1590. *Delle cause della grandezza delle città*. Rome.[What version do you have? Who printed it and when?]

- Bray, M., and S. Packer, 1993. *Education in Small States: Concepts, Challenges, and Strategies*. Oxford, NY: Pergamon Press.
- Chandler, A. D., 1990. *Scale and Scope: The Dynamics of Industrial Capitalism*. Cambridge, MA: Harvard University Press.
- Chang, H. -J., 2007. *Bad Samaritans: Rich Nations, Poor Policies, and the Threat to the Developing World*. London: Random House.
- Cimoli, M. (ed.), 2000. *Developing Innovation Systems: Mexico in the Global Context*. New York: Continuum-Pinter Publishers.
- Cimoli, M., J. C. Ferraz, and A. Primi, 2005. *Science and Technology Policies in Open Economies: The Case of Latin America and the Caribbean*. Santiago: ECLAC. <www.cepal.org> Accessed 16 June 2008.
- Drechsler, W., J. G. Backhaus, L. Burlamaqui, H.-J. Chang, T. Kalvet, R. Kattel, J. Kregal, and E. S. Reinert, 2006. "Creative Destruction Management in Central and Eastern Europe: Meeting the Challenges of the Techno-Economic Paradigm Shift", in T. Kalvet and R. Kattel (eds.), *Creative Destruction Management: Meeting the Challenges of the Techno-Economic Paradigm Shift*. Tallinn: PRAXIS Centre for Policy Studies, 15–30.
- Easterly, W., and A. Kraay, 2000. "Small States, Small Problems? Income, Growth, and Volatility in Small States". *World Development* 28 (11): 2013–2027.
- Edquist, C., and L. Hommen, 2008. *Small Economy Innovation Systems: Comparing Globalisation, Change, and Policy in Asia and Europe*. Cheltenham: Edward Elgar.
- Evans, P. B., and J. Rauch, 1999. "Bureaucracy and Growth: A Cross-National Analysis of the Effects of Weberian State Structures on Economic Growth". *American Sociological Review* 64 (5): 748–765.
- Freeman, C., 1987. *National Systems of Innovation: The Case of Japan Technology Policy and Economics Performance: Lessons from Japan*. London: Pinter.
- Freeman, C., and B. -Å. Lundvall (eds.), 1988. *Small Countries Facing Technological Revolution*. London: Pinter.
- Gallagher, K. P., and L. Zarsky, 2007. *The Enclave Economy: Foreign Investment and Sustainable Development in Mexico's Silicon Valley*. Cambridge, MA: MIT Press.
- Giuliani, E., C. Pietrobelli, and R. Rabellotti, 2005. "Upgrading in Global Value Chains: Lessons from Latin American Clusters". *World Development* 33 (4): 549–573.
- Hall, P., 1999. *Cities in Civilisation: Culture, Innovation, and Urban Order*. London: Phoenix.
- Högselius, P., 2005. *The Dynamics of Innovation in Eastern Europe: Lessons from Estonia*. Cheltenham: Edward Elgar.
- Ingebritsen, C., I. Neumann, S. Gstöhl, and J. Beyer (eds.), 2006. *Small States in International Relations*. Seattle: University of Washington Press.
- INNO-Policy TrendChart, 2006–2007. Policy Trends and Appraisal Report. European Commission. Annual Country Reports for Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovak Republic, Slovenia, Bulgaria, and Romania. <<http://www.proinno-europe.eu/trendchart/>>.
- Jayasuriya, K., 2005. "Capacity Beyond the Boundary: New Regulatory State, Fragmentation, and Relational Capacity". In M. Pinter and J. Pierre (eds.), *Challenges to State Policy Capacity: Global Trends and Comparative Perspectives*. Basingstoke: Palgrave Macmillan, 19–37.

- Jensen, M. B., B. Johnson, E. Lorenz, and B. -Å. Lundvall, 2007. "Forms of Knowledge and Modes of Innovation". *Research Policy* 36 (5): 680–693.
- Kalvet, T., 2004. *The Estonian ICT Manufacturing and Software Industry: Current State and Future Outlook*. Seville: Institute for Prospective Technological Studies-Directorate General Joint Research Centre, European Commission.
- Katzenstein, P. J., 1985. *Small States in World Markets: Industrial Policy in Europe*. Ithaca, NY: Cornell University Press.
- Kregel, J. A., 2004. "External Financing for Development and International Financial Instability." G-24 Discussion Paper Series, No. 32. United Nations Conference on Trade and Development. New York: United Nations.
<http://www.unctad.org/en/docs/gdsmdpbg2420048_en.pdf>.
- — 2008a. *The Discrete Charm of the Washington Consensus*. The Levy Economics Institute of Bard College Working Paper, No. 533.
<http://www.levy.org/pubs/wp_533.pdf> Accessed 16 June 2008.
- — 2008b. *Financial Flows and International Imbalances: The Role of Catching Up by Late-Industrializing Developing Countries*. The Levy Economics Institute of Bard College Working Paper, No. 528.
<http://www.levy.org/pubs/wp_528.pdf> Accessed 16 June 2008.
- Kregel, J., and L. Burlamaqui, 2006. *Finance, Competition, Instability, and Development Microfoundations and Financial Scaffolding of the Economy*. The Other Canon Foundation and Tallinn University of Technology Working Papers in Technology Governance and Economic Dynamics, No. 4. Tallinn: TTU Institute of Humanities and Social Sciences.
- Kondratiev, N., 1998a. "The Concepts of Economic Statics, Dynamics, and Conjuncture (1924)". In N. Makasheva, W. J. Samuels, and V. Barnett (eds.), S. Wilson (trans.), *The Works of Nikolai D. Kondratiev*, 4 vols. London: Pickering and Chatto, 1: 1–23.
- — 1998b. "Long Cycles of Economic Conjuncture (1926)". In N. Makasheva, W. J. Samuels, and V. Barnett (eds.), S. Wilson (trans.), *The Works of Nikolai D. Kondratiev*, 4 vols. London: Pickering and Chatto, 1: 25–63.
- Krugman, P., 2008. "Trade and Wage, Reconsidered". Woodrow Wilson School of Public and International Affairs, Princeton University.
<<http://www.princeton.edu/~pkrugman/pk-bpea-draft.pdf>> Accessed 16 June 2008.
- Kundera, M., 2007. "Die Weltliteratur". *New Yorker*, 8 January 2007: 28–35.
- Landes, D. S., 1999. *The Wealth and Poverty of Nations: Why Some Are So Rich and Some So Poor*. New York: Norton.
- Lowenthal, D., 1987. "Social Features". In C. Clarke and T. Payne (eds.), *Politics, Security, and Development in Small States*. London: Allen & Unwin, 26–49.
- Mjoset, L., 2000. "The Nordic Economies 1945–1980". ARENA Working Paper Series, No. 6. <http://www.arena.uio.no/publications/wp00_6.htm> Accessed 16 June 2008.
- Montgomery, J. D., 1986. "Bureaucratic Politics in South Africa". *Public Administration Review* 46 (5): 407–413.
- Nelson, R., and S. Winter, 1982. *An Evolutionary Theory of Economic Change*. Cambridge, MA: Harvard University Press.
- OECD and Eurostat, 2005. *Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data*, 3rd ed. Paris: OECD Publishing.
- Ó Riain, S., 2004. *The Politics of High-Tech Growth: Developmental Network States in Global Economy*. Cambridge: Cambridge University Press.

- Palma, H. G., 2005. "The Seven Main 'Stylized Facts' of the Mexican Economy Since Trade Liberalization and NAFTA". *Industrial and Corporate Change* 14 (6): 941–991.
- Parsons, T., 1951. *The Social System*. London: Tavistock-Routledge.
- Perez, C., 1983. "Structural Change and the Assimilation of New Technologies in the Economic and Social System". *Futures* 15: 357–375.
- — 2002. *Technological Revolutions and Financial Capital: The Dynamics of Bubbles and Golden Ages*. Cheltenham: Elgar.
- — 2006. "Respecialisation and the Deployment of the ICT Paradigm: An Essay on the Present Challenges of Globalization". In R. Compañó, C. Pascu, A. Bianchi, J-C. Burgelman, S. Barrios, M. Ulbrich, I. Maghiros (eds.), *The Future of the Information Society in Europe: Contributions to the Debate*. Seville, Spain: European Commission, Directorate General Joint Research Centre.
- Pisani-Ferry, J., P. Aghion, M. Belka, J. von Hagen, L. Heikensten, and A. Sapir, 2008. *Coming of Age: Report on the Euro Area*. Bruegel Blueprint Series, vol. 4. Brussels: Bruegel. <<http://www.bruegel.org/6062>>.
- Pollitt, C. and G. Bouckaert, 2004. *Public Management Reform: A Comparative Analysis*, 2nd ed. Oxford: Oxford University Press.
- Prahalad, C. K., 2006. "The Innovation Sandbox", *strategy+business* (Autumn). Booz & Co. <<http://www.strategy-business.com/press/freearticle/06306>> Accessed 16 June 2008.
- Randma, T., 2001. "A Small Civil Service in Transition: The Case of Estonia". *Public Administration and Development* 21: 41–51.
- Randma-Liiv, T., 2002. "Small States and Bureaucracy: Challenges for Public Administration", *Trames* 6 (4): 374–389.
- Radošević, S., and A. Reid, 2006. "Innovation Policy for a Knowledge-based Economy in Central and Eastern Europe: Driver of Growth or New Layer of Bureaucracy?" In K. Piech and S. Radošević (eds.), *Knowledge-Based Economy in Central and East European Countries: Countries and Industries in a Process of Change*. Basingstoke: Palgrave Macmillan, 295–311.
- Reinert, E. S., 2007. *How Rich Countries Got Rich and Why Poor Countries Stay Poor*. London: Constable & Robinson.
- Richards, J., 1982. "Politics in Small Independent Communities: Conflict or Consensus?" *Journal of Commonwealth and Comparative Politics* 20 (2): 155–171.
- Robinson, E. A. G. (ed.), 1963. *Economic Consequences of the Size of Nations*. London: Macmillan.
- Rodrik, D., 2007. *One Economics, Many Recipes: Globalization, Institutions, and Economic Growth*. Princeton: Princeton University Press.
- Rodrik, D., and A. Subramanian, 2008. "Why Did Financial Globalization Disappoint?" John F. Kennedy School of Government, Harvard University <http://ksghome.harvard.edu/~drodrik/Why_Did_FG_Disappoint_March_24_2008.pdf> Accessed 16 June 2008.
- Samuelson, P. A., 2004. "Where Ricardo and Mill Rebut and Confirm Arguments of Mainstream Economists Supporting Globalization". *Journal of Economic Perspectives* 18 (3): 135–146.
- Serra, A., 1613. *Breve trattato delle cause che possono far abbondare l'oro e l'argento dove non sono miniere*. Naples: Lazzaro Scorriggio.

- Schumpeter, J. A., 1912. *Theorie der wirtschaftlichen Entwicklung*. München und Leipzig: Duncker & Humblot.
- — 1942. *Capitalism, Socialism, and Democracy*. New York: Harper.
- Sharif, N., 2006. “Emergence and Development of the National Innovation Systems Approach”. *Research Policy* 35 (5): 745–766.
- Steinmetz, R., B. Thorhallsson, and A. Wivel, eds., 2009. *Small States inside and outside the European Union: The Lisbon Treaty and Beyond*. Ashgate, forthcoming.
- Sutton, P., 1987. “Political Aspects”. In C. Clarke and T. Payne (eds.), *Politics, Security, and Development in Small States*. London: Allen & Unwin, 3–25.
- Thorallsson, B., and A. Wivel, 2006. “Small States in the European Union: What Do We Know and What Would We Like to Know?” *Cambridge Review of International Affairs* 19 (4): 651–668.
- Wade, R., 2004. *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization*, 2nd ed. Princeton: Princeton University Press.
- Walsh, V., 1988. “Technology and Competitiveness of Small Countries: A Review”. In C. Freeman, and B. -Å. Lundvall (eds.), *Small Countries Facing Technological Revolution*. London: Pinter, 37–66.
- Warrington, E., 1997. “Introduction”. *Public Administration and Development* (special issue) 17 (1): 3–12.
- Weber, M., 1978. *Economy and Society*. G. Roth and C. Wittich (eds.). Berkeley, CA: University of California Press.
- Williamson, J., 1990. “What Washington Means by Policy Reform”. In J. Williamson (ed.), *Latin American Adjustment: How Much Has Happened?* Washington, DC: Institute for International Economics, 5–20.
<<http://www.iie.com/publications/papers/paper.cfm?ResearchID=486>>.
- World Bank, 2006. *Economic Growth in the 1990s: Learning from a Decade of Reform*. Washington, DC: World Bank.