

Institutional co-operation and regional innovation – the case of PPP

Paper prepared for the 5th International Seminar Regional Innovation, University of Agder, Oct.2010

Walter Scherrer

University of Salzburg, Department of Economics and Social Sciences, Kapitelgasse 5-7, Salzburg, Austria walter.scherrer@sbg.ac.at

Ronald W. McQuaid

Edinburgh Napier University, Employment Research Institute, Craiglockhart Campus, Edinburgh, UK, r.mcquaid@napier.ac.uk

1. INTRODUCTION	2
2. THE MAIN CONCEPTS	2
2.1. Regional innovation system – RIS	2
2.2. Public private partnership –PPP	4
3. PPP AND THE REGIONAL LEVEL OF GOVERNMENT	7
3.1. Regional preferences and PPP	7
3.2. Economies of scale and PPP	8
3.3. Investment demands and budget tensions at the local level	9
4. PPP AND REGIONAL INNOVATION POLICIES	10
4.1. Cooperation and proximity in regional innovation PPPs	10
4.2. PPPs in regional innovation and cluster policies	12
5. CONCLUSIONS	14
REFERENCES	16

ABSTRACT:

Appropriate governance, institutions and institutional networks are significant components for the development and operation of regional innovation systems. Across the European Union the use of different forms of institutional structures, such as Public Private Partnerships (PPPs), have been growing, but in different ways and for different reasons across Member States.

The paper focuses on PPPs related to the field of regional innovation in terms of: spatial externalities – the role of the proximity of economic agents within a PPP framework; the importance of economies of scale for PPPs at various levels of government highlighting the implications of project size, level of experience and financial considerations for PPPs at the local and regional levels of government; and regional variations of preferences and their role in influencing approaches to PPPs.

The paper argues that both spatial externalities and economies of scale for PPPs are important to assist in understanding the development of PPPs in relation to regional innovation. One issue that remains crucial to the future impacts of PPPs is whether they offer genuine and sustainable increases in efficiency and effectiveness compared the alternatives. If they are superior to alternative institutional settings then they should have a positive impact on future public resource availability. Otherwise they may provide short-term financial, political and economic stimulus benefits but at the cost of constraining future decision makers and placing greater pressures on public finances in the longer-term.

1. Introduction

Innovation has been considered a key driver of structural change and economic growth at least since Schumpeter both at the level of national states and of (conglomerates of) sub-national territorial units (Verspagen 2005). Within regional innovation systems appropriate governance, institutions and institutional networks are significant components for their development and operation. For instance, the EU Competitive report (CEC, 2007) notes that organisational change is a factor in improving total factor productivity, which is important for competitiveness and growth. Linked to this, an important success factor of a regional innovation system is its governance, including structures to implement innovation policies. One form of institutional adjustments in response to EU market access and operation liberalization has been Public Private Partnerships (PPP) in many countries.

The following section gives brief overviews of the core concepts of this paper: regional innovation system and public private partnership. Section 3 discusses regional variations of preferences and its impact on the attitude towards PPPs, and deals with PPP at the regional level of government, highlighting the implications of project size, level of experience, and financial considerations for PPPs at the local and regional levels of government. Section 4 integrates RIS and PPP concentrating on two aspects: First, it considers spatial externalities, in particular the role of the proximity of economic agents within a PPP framework. Second, it deals with the potential role of PPP in regional innovation and cluster policies. Conclusions are drawn in the final section.

2. The main concepts

2.1. Regional innovation system – RIS

Territorial innovation models which are closely connected with the systems of innovation literature follow an evolutionist interpretation of the regional learning economy and/or apply principles found in sectoral and national innovation systems to the regional level of development. RIS refer to innovative dynamics based on technological change, organizational learning and path dependence. The regional dimension of innovation systems is characterized by regional variations in endowment with certain types or qualities of agents which are important for the innovation process, by the concentration of industrial clusters, and by different regional innovation policies.

Three groups of agents are important within a RIS (Isaksen 2003): A first group generates, collects and disperses knowledge throughout the economy (including knowledge generated outside the region) thus providing it for potential innovators in the region. Firms in the region are a second group of agents which is important both as producers and users of innovation. A third group of agents are suppliers of innovation support services in fields such as knowledge transfer, consulting (legal, technical, tax, management), and in specialized forms of finance.

It is important to note that not only a region's more or less comprehensive endowment with various types of agents in the three aforementioned groups is conducive for a RIS to function well. A key

systemic element in RIS is that there exist *a dense net of interactions* between agents which allow the exchange of knowledge. Learning made possible by interaction is central because elements of knowledge (particularly non-codified knowledge) are embedded in specific, local milieux. Interactions – which may reflect both market relationships and the wider social and cultural context – are relevant also for the territorial delineation of RIS (Edquist 2005). RIS are characterized by significant knowledge spillovers between agents within the region, intra-regional mobility of skilled labour, and some cooperation between firms and organizations in the region. So there are some similarities to the delineation of functional regions.

Public policy has steering capacity to design the regional innovation system: Some organisations are the product of conscious design while others are the result of past social, cultural and economic development; the same holds for types of interaction among agents (Scherrer 2005). This makes the RIS concept relevant for tackling the topic particularly from a policy and governance perspective. Networking is a key element of governance in a RIS; networks are considered as generic forms of exchange which are based on the four basic features reciprocity, interdependence, loose coupling, and power (see Moulaert and Sekia (2003) and the literature cited there). This approach seems to be particularly promising if governance issues are expected to be complex due to a big variety of interests, agents, regulatory systems, organizational cultures.

In RIS the *proximity of agents* is an important feature. Boschma (2005) distinguishes five types of proximity and he shows that proximity up to some degree has a positive impact on the innovativeness of a region. But there exist various forms of “lock-in” if the degree of proximity is becoming too high so that an optimum of proximity of agents ought to be achieved from a RIS perspective. *Cognitive proximity* refers to the closeness of knowledge bases of partners. This is important for communicating and processing new knowledge successfully because people sharing the same knowledge base can easily learn from each other; but too high a degree of cognitive proximity will restrict the scope for learning. *Organizational proximity* refers to similar organisational practices used in the organisations involved in cooperation. A high degree of organisational proximity facilitates interactive learning but if it becomes too high it may become a source of uncertainty and opportunism in the process of creating new knowledge. *Social proximity* refers to the social “embeddedness“ of agents. A high degree of social proximity (i.e. trust based on friendship, kinship, experience) facilitates interactive learning and the exchange of tacit knowledge in particular, but opportunism might occur when relations are based on emotional bonds exclusively. *Institutional proximity* refers similarity of formal institutions (such as laws) and informal institutions (such as cultural norms). While a high degree of institutional proximity provides stable conditions for effective interactive learning, a too high degree of institutional proximity may be detrimental because institutional rigidity leaves no room for experiments with new institutions that are required for the successful implementation of new ideas and innovations. *Geographical proximity* finally refers to the spatial or physical distance of agents involved in the innovation process (which is particularly important from a *regional* perspective).

Geographical proximity facilitates exchange of (tacit) knowledge, but as it may also lead to geographical lock-in because a too high degree of geographical proximity becomes an obstacle to taking up knowledge created outside the region. Furthermore, there are close relations (substitutability and complementarity) to other forms of proximity.

Although it might be difficult to operationalize the various types of proximity and to measure it these concepts of proximity could form an important component for analysing the role of agents which ought to be involved in the process of regional development. It is very likely that the degree of proximity varies across individual types of proximity and that it varies across regions. The concept of proximity of agents could be important for the process of institutionalising new types of regions as it would help to define minimum requirements in terms of proximity that some cooperation will emerge at all, the optimal degree of proximity, and when such a new type of region will be confronted with a regional „lock-in“.

2.2. Public private partnership –PPP

Governance in the EU is characterized by a variety of different approaches with a variety of dynamic processes of national institutional change in response to EU legal or other developments (CEC, 2006). Member States also shape these developments as well as adapting to them, with different Member States pursuing different strategies in response to their policy preferences capacities (Börzel, 2002). One major area where this two-way relationship is developing is in Public Private Partnerships (PPPs) as Member States have been shaping and responding to the development of policy.

The types of PPPs have varied over time, across sectors and between countries (see for example: the European Community's Green Paper on PPPs, CEC 2004; OECD, 2008). **With regard to innovation policy** they include four main types of PPP: First, the provision of and/or the operation of infrastructure and services (such as roads, schools and hospitals). Second, the part transfer of ownership where private ownership is introduced, this includes the part sale of major generators of innovative products, such as the government's defence research organisation in the UK. Third, the selling of public sector services to others (such as in innovation and utilisation of patents developed by publicly funded bodies); and finally the provision of enabling organisations to provide common ground between public, private and third sectors to promote economic and social development policies. Hence PPPs are seen as one of a number of options to assist national and regional innovation for different circumstances (particularly where there is likely to be little commercial provision due to, for instance, low population density as in rural areas).

In this paper the term PPP will be restricted to those projects involving the private provision, but continued public funding, of services formally provided by the public sector, although it is recognised that PPPs may include other forms of partnership.

In the United Kingdom from the first Private Finance Initiatives in 1987 to March 2008 government had signed PPPs (or PFIs), worth nearly £58 billion (€73 billion) (Treasury, 2008) (excluding those PFIs which had stopped). Germany and Austria have been latecomers within the recent PPP-movement (compare: Bastin, 2003 and Beirat, 1998, for Austria; and Friedrich Ebert Stiftung, 2002 and Sack, 2003, for Germany). In Germany, PPPs have reached a significant level only very recently. A survey of PPPs in infrastructure (DIFU, 2005) shows that the number of contracts doubled in 2004 and 2005 compared to the years before. The stock of investment in PPPs in which German municipalities were involved amounts to approximately €3 billion; this is between two and three per cent of communities' gross fixed investment. The survey also captures planned projects by municipalities, federal states, and the central state which are together estimated to comprise an additional €2 billion. In Austria the volume of PPPs has not been systematically captured. IN a survey Schaffhauser-Linzatti (2004) identified 185 existing PPP projects and found that in 58% of projects municipalities were involved, while the central state and the federal states were the public partners in 21% of all PPP projects, each.

There is a range of economic, social and political reasons and motives for the growth of PPPs in the three countries over the last two decades. These revolved around: firstly budget or macro-economic factors (the availability of public investment resources); and secondly around more micro-economic arguments concerning the efficiency and effectiveness of public spending.

It is argued that in Germany and Austria the main drivers of PPPs have so far appeared to focus predominantly, but not exclusively, upon macro-economic budget factors, such as the gap between public expenditure requirements and desires and potential revenues. In the UK, while these may be important, increasing the efficiency of public expenditure has been a significant driver in the introduction of PPPs (McQuaid and Scherrer, 2008 and 2010) bringing in greater innovation and efficient management, as well as, especially in the 1980s and 1990s, being linked to a transfer of ownership and control from the public to private sector. Hence the comparison of the countries is of some interest.

Compared to the UK, 'Value for Money' considerations are less prominent in the debate about advantages and disadvantages of PPP in Germany and Austria. Due to the historically large share of state owned enterprises in sectors like mining, energy, heavy industries, and banking (particularly in Austria) a process of privatisation has aimed at reducing government interference in management decisions, partly as government pursued goals other than micro-economic or efficiency-oriented ones. While formally, in many cases, more or less private sector-type corporate governance mechanisms existed in most of these firms, actual interference by governments at the federal, state, and sometimes even local levels, was common. The formal corporate governance structures are likely to converge towards private sector governance structures as most formerly government owned enterprises have become at least partly privatised. In the public, and also in the scientific, debate this process was labelled "privatisation" both in Germany and Austria, even in those cases when only a minority

ownership stake was sold to private investors. The public to (partly-) private-enterprises in most cases have not been considered as being PPPs, and PFI-type PPPs have been less important both in Germany and Austria.

Many of the drivers for introducing the greater use of PPPs are important at national, regional and local levels. In each of the three countries there has been a large requirement for public investment in services and infrastructure. This was due to a variety of factors, some of them being specific to, or at least significant in, Germany and Austria compared to other countries (Budäus, 2003). Transport and innovation have long been seen as important to regional development. The enlargement of the European Union has shifted both countries from the border into the centre of the Union, with a strong need to improve transport infrastructure to the new Member States.

In the UK there had been under-investment in public infrastructure during the 1980s and 1990s, but a desire to limit public borrowing meant that new ways had to be found to fund investment, that did not appear as debt. However, the scope of economic policy to help shape national economic policy autonomy in particular have been restricted for a number of reasons (Scherrer, 2005).

The growth of knowledge industries is important as part of regional innovation systems (Cooke, 2002) and their location needs are related more to quality of environment, labour markets, plus personnel movement including air travel, and also commuting at a local level (McQuaid, 2002). Many of these are developed and/or funded through PPPs. Further, Kokko (2000), comments on the necessity for competing countries to provide access to information technologies infrastructure, which in turn reduces the reliance on market size as a determinant of investment location.

In some traditional utility sectors, like water supply and wastewater disposal, urbanisation trends and re-investment requirements have increased the current investment need. In all three countries demographic change and technological advances require heavy investment in the health sector. As a large share of these services is provided by local and regional governments the need for investment in these public infrastructures is particularly strong.

It has been demonstrated (McQuaid and Scherrer 2010) that there is a broad scope of potential outcomes regarding the impact of PPP on overall efficiency. Of importance is the EU's attitude to the financial treatment of PPPs. If their financial costs are forced to move 'on balance sheet' and the future liabilities be counted as a component of national debt, then this is likely to have a profound impact on the participation in PPPs by Member States as it will help remove the current 'fiscal illusion' motivating their development. This may also influence the potential role of PPPs in enhancing regional innovation systems.

3. PPP and the regional level of government

3.1. Regional preferences and PPP

Partnerships – particularly those allowing participation in decision making by members of the civil society – are likely to increase the legitimacy of actions. Different regional preferences and different regional structural characteristics are a key argument for decentralisation of administration and – beyond that – also for the devolution of power in a federalist system. There are more significant multi-tiered levels of government in the Federal systems of Germany and Austria, with many autonomous players including federal government, states and municipalities. Investment by the latter two exceeds investment expenditure of the federal government. In the more centralised UK system, there has been the devolved government in Scotland, Wales and Northern Ireland since the late 1990s. However, the level of public expenditure and infrastructure investment in these devolved territories is still highly controlled by central UK government, who fund the vast majority of their income. Hence policies towards PPPs have been relatively rapid and similar, although not identical, across the UK. In Germany the search for a comprehensive approach (“Gesamtkonzept”) has slowed the dissemination of PPP; Austria seems to handle the issue more pragmatically.

PPP then can be an expression of regional preferences and a manifestation of the political will of government authorities. For each service, local and regional governments need to make pragmatic decisions based on their own circumstances. The principle of local and regional self-government enables local and regional authorities to decide democratically the best means of delivering local public services, including decisions to use companies they own or control. In such an environment regional innovation policy to a considerable degree means moderation and stimulation of processes and brokerage of ideas to give incentives for cooperation to the most important and competent agents in a region.

To avoid competition-law issues which might be particularly severe at the local level a proper balance between, on the one hand, local self-government and subsidiarity, and on the other, the rules of competition that need to apply in the European interest has to be found. A more decentralised approach to PPPs is expected to increase the focus and accountability and to involve agencies with a more narrow range of objectives (McQuaid, 2000). PPPs which are established at the regional level will favour interventions designed for specific needs of regions (or sectors) and will allow more targeted interventions (Silva and Rodriguez, 2004). In addition to catering different regional preferences, decentralisation may also increase effectiveness and efficiency; accordingly, growth of PPP might occur mainly at the local and regional, rather than national levels (Carroll and Steane, 2000).

3.2. Economies of scale and PPP

The average investment of PPP projects in Germany at the central state and federal states level is €70 million compared to €13 million at the municipal level (DIFU 2005). Currently communities use PPPs mostly in providing infrastructure for educational and sports/tourism/leisure purposes (which comprise approximately 30 per cent of all projects, each), while the federal states and the central state engage in PPPs predominantly for building traffic infrastructure, prisons and administrative buildings. Austrian Communities are mostly involved in the energy, health, sewage and wastewater disposal, and urban development industries; this structure largely reflects the municipalities' constitutional competencies. PPP projects at the municipality level on average are small, and as far as energy projects are concerned "contracting" models are dominating. The central state is predominantly involved in education and technology projects, while most projects of the federal states are in the traffic sector.

Economies of scale in the field of PPP may be organisational (e.g. the organisation has breadth and depth of experience) or they may relate to the physical project (e.g. it may be technically more efficient to construct and/or maintain a series of buildings rather than doing one). Transaction costs of establishing a PPP are high and thus there is a strong fixed cost element given which raises the efficient minimum project size (particularly of contractual PPPs for building large infrastructures). Such PPPs (e.g. highways or big railway connections) have a regional economic impact which is different between those regions which are directly affected by such projects and regions which are not directly affected by such an infrastructure build-up even if they are implemented by central government.

PPPs involve significant transaction costs (contractual PPPs in particular) which entails a relatively high minimum efficient project size. The average size of German municipalities' PPPs is €13 million (DIFU 2005), others consider PPP construction projects to make sense only if the project cost is between 12 and 15 million Euro (Budäus 2006, 24). Thus the size of government authority and the project size usually are correlated, and it is more difficult to define projects of sufficient size at the local and regional levels than at the level of central governments given the assumption that the latter have larger projects.

All this has implications for the potential of local small and medium sized enterprises to participate in PPPs. As PPP projects – particularly of the contract type and in infrastructure development – tend to be large due to high transaction costs large firms will be favoured and smaller firms tend to be crowded out. As it is more difficult for small firms to spread their activity across a large number of regions than it is for large firms it follows that (small) local firms tend to be crowded out by an increased use of PPP as a substitute for other types of public procurement. This could re-enforce oligopolistic tendencies, although there is a chance for small local firms to benefit from PPPs as subcontractors (DIFU 2008). Interestingly in Scotland, the Scottish Government is setting up a Scottish Futures Trust which seeks to be more efficient than normal PPPs partly through being able to aggregate together projects into packages and so reap economies of scale (Scottish Parliament, 2008).

The size of government authority and experience with PPPs are likely to be correlated. Learning effects are likely to occur in central governments due to repeated implementation of PPPs, and smaller entities will depend more strongly on external consulting than the central state which has enough resources to build up PPP-related know-how on its own.

For accomplishing PPPs successfully both private and public partners need to have considerable expertise concerning the use of this instrument. While in the private sector agents have specialized in setting up and implementing PPPs and on the public sector side central authorities have acquired such knowledge, too, at the local level individual public bodies may be inexperienced. Consequently, for any individual project the private sector will often have considerably more experience than the local public body, and may be better able to influence the long run terms and returns on projects to their advantage. Poor contractual design and arrangements and inappropriate risk at least partly results from limited expertise, experience and capacity, especially at a local level. Therefore, the theoretical and empirical benefits of economies of scale may be outweighed by the disadvantages of lack of local knowledge.

3.3. Investment demands and budget tensions at the local level

In the late 1990s in the UK there was a legacy of under-investment in public infrastructure (schools, hospitals, transport etc.) from the previous two or three decades. This was worsened as during the 1980s and 1990s local government, in particular, had often reacted to budget constraints through reducing maintenance, resulting in a long-term repair and rebuilding backlogs, together with requirements to bring in new technology infrastructure. As state and municipal governments cover the bulk of public investment expenditure PPPs have become particularly attractive for them as a measure to relieve their budgets. Similarly, German municipal governments felt severe financial problems (to a lesser extent in Austria). In Germany the cost of re-unification turned out to be much higher than expected, especially in terms of improving the infrastructure of the former GDR regions (“Neue Bundesländer”) in the East. PPPs have been increasingly considered as a means to relieve public budgets. In Austria, the central government’s budget was hit by the impacts of the increases in public consumption and transfer spending programmes in the early 1990s. Tapping new sources of finance for public infrastructure was one of the major motives for PPP (Beirat, 1998).

Considering relations between investment needs, budget strains, and the pressure to finance the required infrastructure at various levels of government it is likely that the size of government authority and the scope to incur debt are correlated. Smaller authorities have little, or at least more expensive, access to financial markets than larger authorities and depending on the degree of local and regional autonomy there might be more legal constraints to borrowing at the lower levels of government. It follows that *ceteris paribus* (assuming the same degree of budget strain across public authorities in

particular) smaller authorities should have a stronger incentive for PPP than larger ones if PPP is considered from a “new method of finance” perspective.

The impact of EU and European Monetary Union rules on Member State budget deficits and debt has been felt at all levels of government. In Germany and Austria, which are members of the European Monetary Union (EMU), public finances are constrained by the requirements of the EMU and the stability and growth pact, particularly in times of weak economic conditions. The impact of the restrictions has been felt at all levels of government due to intra-national “stability pacts” which require state and municipal governments to keep in line with the national requirements to meet the targets stipulated in the national stability programmes as part of the EU’s stability and growth pact procedure. As state and municipal governments cover the bulk of public investment expenditure PPPs have become particularly attractive for them as a measure to relieve their budgets. In the UK policy has been to maintain state finances somewhat similar to the requirements of the EMU and other politically set restrictions on borrowings.

Budget constraints are felt particularly hard at the local and partly at the regional levels because the capacity for loading debt usually increases with the size of a public entity. Budget reasons were the major motives for PPPs in a variety of fields, particularly in the construction and operation of waste water treatment plants by Austrian municipalities (Föllner and Freitag, 1999), and in the transport sector where a few roads have already been realised in Austria (see a critical report by Oberösterreichischer Landesrechnungshof/court of audit of the province Upper Austria, 2002), and major highway links in the Vienna area are to be realised using PPP. The incentive to use PPPs to relieve pressure on government budgets has been stronger in Germany, compared to Austria, as public finances have been strained more severely there. In addition, small authorities have only a limited ability of spreading risk across sectors and investment projects compared to larger authorities. E.g. if due to demographic change a decrease in demand for public services like primary schooling in one municipality might be compensated by a reverse development in a neighbouring community, balancing is difficult at the municipality level, but much easier at a regional level which contains both municipalities.

4. PPP and regional innovation policies

4.1. Cooperation and proximity in regional innovation PPPs

The pursuit of functional efficiency and the formation of regional networks are key ingredients of regional development strategies which are based on endogenous regional development. PPPs make it possible – as the Treasury (2000) formulates – to tap into the disciplines, incentives, skills and expertise that private sector firms have developed in the course of their normal everyday business, while releasing the full potential of the people, knowledge and assets in the public sector. Further, the European Union’s Green Paper on PPPs (CEC, 2004) and other development policies at the local,

national and European Union levels sought to develop private-public networks to promote regional development.

From an historical perspective one of the origins of modern PPPs is in urban development and urban renewal and thus in a field with a clear local and regional focus. In Germany already in the 1980s a significant number of mostly large PPP projects existed which were based on an “entrepreneurial” approach towards urban development which aims at individual communities achieve recognition and attention in interregional competition (Heinz, 1993). During the past decades in Germany and Austria urban renewal in the context of supporting disadvantaged city quarters became important and (to a lesser degree) village renewal in peripheral areas (Scherrer, 1998). Urban development as a field in which PPP is applied deserves to be mentioned here in particular because it frequently goes hand in hand with some kind of regional innovation.

This tendency has been re-enforced when the utilization of endogenous regional potentials through improving infrastructure and developing regional networks have become a pillar of EU regional policies. Major elements of this approach to regional policies strengthen the tendency towards PPP at the local and regional levels: the requirement to create and foster partnerships and networks, bottom-up project design, and involvement of regional actors in the process of project development, selection, and implementation. In the field of urban development PPPs were considered not as permanent institutions but as an organisational form which allows flexible and variable delivery of services in a multi-agent environment. This ought to improve the efficiency of resource use and the efficiency of transactions between key suppliers, service providers, and funders of services through coordination at the local and regional levels (Considine 2005, 90).

Hence the application of the partnership idea may be considered as an instrument of delivering a particular public programme both considering functional efficiency (which means economic aspects defined in a rather narrow sense) and reflecting “a willingness to share some forms of public authority with citizens and communities” (Considine 2005, p. 90). The latter element of partnership means more than merely re-structuring and economizing the contracting relations between government and private suppliers. It aims at building and fostering regional networks, the formation of social capital, and facilitating cross-sectoral local and regional governance.

Co-operation between partners in a region, such as universities, innovative firms, the public sector and other actors, is aided by proximity (Simmie, 2005). This can greatly increase exchange of knowledge and expertise and the development of productive relationships. Therefore the aspect of proximity is of key interest for analysing the potential of PPPs for fostering regional innovation. While the crucial role of network building and proximity between agents in order to stimulate regional innovation processes and implementing policies seems to be obvious, Boschma (2005) shows that agents should seek an optimum, rather than a maximum, of proximity between them. Concerning *cognitive proximity* among partners the required closeness of knowledge bases of partners within a region could be difficult to achieve, on the one hand, and thus specialized partners for PPPs would have to be hired outside the

region. But on the other hand some cognitive distance between partners might be beneficial because knowledge building requires also some dissimilarity of bodies of knowledge. Finally, the risk of cognitive lock-in seems to be particularly high for PPPs in regional innovation like cluster organizations and technology centres if they are not well connected to and absorptive of knowledge from outside.

Organizational proximity among partners is a fundamental issue for PPPs because organizational practices differ between public and private partners (e.g. concerning the rate of autonomy, the degree of control that can be exerted). „Loosely coupled systems“ would allow for organizational autonomy and flexibility, but it is questionable if this concept is applicable to PPP in the field of regional innovation. Further, there might emerge problems from asymmetric relations between partners particularly at the regional and municipal levels if small public units and big private firms are partners in a PPP.

A high degree of *social proximity* among partners in regional innovation PPP projects is not necessary because market relations (expressing themselves in complex contracts) usually are predominant in PPP. Nevertheless it could be important as it facilitates establishing PPPs. Long-term partnerships based on social proximity may lock in members of PPPs in established ways of doing things

Institutional proximity is associated with formal institutions (e.g. laws) and informal institutions (e.g. cultural norms) at the macro level. Concerning *formal* institutions in regional innovation partners in PPPs are governed by different laws (private / public) and frequently the problem of defining the legal status of PPPs arises. Concerning informal institutions there are potentially huge differences of cultures between partners from the public and from the private sectors.

Finally, *geographical proximity* reflecting the spatial distance of partners is particularly important for a *regional* perspective of PPPs. It is not quite clear how much geographical proximity is actually needed for forming PPPs in regional innovation policy as in reality there is a close connection of geographical proximity with other forms of proximity. There are both complementarities and potentials for substitution between various forms of proximity: Geographical proximity can be at least partly substituted through cognitive and social proximity. In order to avoid lock-in the broadening of the regional knowledge base opens a potential for including partners from outside the region into PPPs at the regional levels.

4.2. PPPs in regional innovation and cluster policies

From a narrower perspective the concept “regional innovation PPPs” can play a significant role in research and development policies and in cluster policies. Particularly in innovation policy after the linear model of innovation had declined the rise of the systems approach in innovation research and policy the need for systemic instruments has increased. By implication, actors involved in innovation now need not only instruments that focus on individual organisations or on the relation between two

organisations, but also instruments that focus on the system level (Smits and Kuhlmann 2004, 11). Thus a shift in innovation policy from project and individual firm oriented support of R&D based innovation towards a more systemic understanding of the innovation process the creation and fostering of interrelations between agents involved in the innovation process gained importance. Such an approach to innovation is conducive to the application of the partnership approach and thus of public private partnerships where agents both of the public and of the private sector are involved. Systemic instruments of innovation policy ought to accomplish several functions, and at least for two major functions – the building and organising of (innovation) systems and the management of interfaces – PPPs could act as an appropriate vehicle to set up such instruments. PPPs can address in particular the build-up and strengthening of industry-science relationships in societies (OECD 2005) particularly if there are only weak linkages between the science sector which in many countries is dominated by universities and public research institutions on the one hand and research and development oriented firms of the private sector on the other hand. Thus PPPs can be a means to increase proximity or to establish proximity relations.

Technology centres, business incubators, and clusters have been launched mostly since the 1980s in European countries, many of these organisations being organised as PPPs. The sectoral composition in terms of involvement of the public and private sectors usually varies here with the closeness/distance of such organisations to the market: There is a continuum of such organisations (see Almeida, 2008) between science parks – in which usually the public sector dominates – at one end and business parks – which are dominated by the private sector – on the other end. The involvement of the sectors may also vary according to the phases of the PPP's life cycle, reflecting the discussion if support for such organisations ought to be phased out after an initial phase of strong government support, if the state should retreat from “functioning” clusters, or if the state should maintain its funding of such organisations in any case in exchange for maintaining some steering capacity in the organisation. A similar argument applies to cluster organisations which are a widely used vehicle in regional innovation strategies and usually have many characteristics of a PPP. These types of organisation deliberately focus on the crucial role of proximity – in many cases geographical proximity is *the* key argument – in the innovation process.

Collaborative research programmes involving firms, universities and private research organisations are a long-established mechanism for supporting long-term commercially relevant research (OECD 2005, 21). An example of a PPP based strategy of science and technology policy to stimulate innovation is the effort of the Austrian government to foster science-industry relations by means of PPPs in its “competence centre” programmes. Two major programmes were launched in the second half of the 1990s by federal government in order to improve science-industry relations, one aimed at building long-term-co-operative research initiatives between public institutions and private companies, the other one aimed at developing and strengthening internationally competitive technology clusters by supporting competence centres and networks jointly run by business enterprises and

universities/public science and research enterprises on a long-term basis. Further, an already having existed programme which aims at fostering co-operation between business enterprises and small public research groups in a more direct manner was extended (for details of the programmes see OECD 2004, p. 13ff). The underlying model of innovation on which one of the programmes is based is clearly geared towards science-driven innovation (the “STI type of innovation: Science, Technology, Innovation; Asheim, 2008), while the other programme also allows more for the market-driven type of innovation (“DUI” – Doing, Using, Innovating) as advanced customers are potential participants in these competence centres. The programme requires both private and public agents to bring in both capital and expertise in the competence centres: up to 40 % of the budget of the competence centres is covered by grants of the federal ministry, while a minimum of 40 % has to be borne by the private business partners. The rest of approximately 20 % is covered by other public authorities, mostly those regional and local governments in which the competence centre is located.

Although these programmes have been launched at the level of the central state in order to improve the national innovation system (science-industry relations were considered a weakness of the Austrian NIS; OECD, 2004) they have also a considerable regional impact. One of the programmes in particular aims at providing a framework for cooperation and the formation of trust among private enterprise partners and public research partners with the goal of developing a shared knowledge base. Being part of a strategy of endogenous regional innovation and development the programme aims at creating and fostering industrial or technological clusters based on the regional potentials. Agglomerations with universities and research centres are favoured by all three kinds of programmes, but benefits spread out to peripheral areas, too. The competence centre programmes show that not only PPPs which are initiated at the regional and local levels have a regional impact, but also PPPs stemming from national and supra-national authorities.

5. Conclusions

The paper analyses the role of Public Private Partnerships (PPP) at the regional (i.e. sub-national) level of economic policy and in regional innovation policy in particular. Across the European Union the use of different forms of PPP have been growing, but in a variety of ways and for different reasons across different Member States. While the political context of governments differs between the UK, Germany and Austria, each government currently has had a largely positive view of PPPs. In Germany, and even more so in Austria, there is a strong preference for a consensus society, and the call for reduction of government intervention is, arguably, not as strongly motivated by ideological concerns as in Anglo-Saxon countries. In the UK the current government has argued for PPPs on resource availability, efficiency and quality of delivery grounds while accepting continued government control and financing of most services and infrastructure. In all three countries there appears to be a reluctance to increase the level of direct privatisation in most cases, although this might change after the

2008/2009 financial crisis and recession. PPPs can in some cases be seen as a middle way between privatisation and public delivery.

At the regional level of government three major aspects of PPP are highlighted. First, different *regional preferences* and different regional structural characteristics are a key argument for decentralisation of administration and – beyond that – also for the devolution of power in a federalist system. PPP then can be an expression of regional preferences and a manifestation of the political will of different government authorities. Second, *economies of scale* affect different levels of government in terms of the implications of project size, level of experience, and financial considerations for PPPs. Third, there are specific investment demands and *budget tensions* at the regional and local levels. If it is true that the trend towards PPPs at the local level is at least partly due to financial constraints then PPP could be a highly questionable “solution” to this problem because those principles which caused the tensions of municipalities’ budgets will be prolonged. However, if the motivations, and crucially the results, are the more efficient and higher quality delivery of infrastructure and services, then PPPs might help ease budgetary and other pressures.

For regional innovation policies, in particular, PPPs are a potential means to exploit spatial externalities stemming from the proximity of economic agents. The pursuit of functional efficiency and the formation of regional networks are key ingredients of regional development strategies which are based on endogenous regional development. PPPs make it possible to tap into the disciplines, incentives, skills and expertise that private sector firms have developed in the course of their normal everyday business, while releasing the full potential of the people, knowledge and assets in the public sector. Within a PPP framework there are additional challenges concerning the various types of proximity of agents. Finally, PPP provide some interesting features for the creation of an institutional frame for regional innovation policy. A particular strength of PPP from a systemic perspective is its ability to bring together agents from different sectors.

In summary, being confronted with enormous investment needs, with tax income increasing only slowly and overall tax burdens being high, and with restrictions being placed on government’s ability to draw on borrowed money, new forms of investment finance received the attention of policy makers. PPPs are therefore primarily considered as a possible means to raise private funds and thus to close infrastructure gaps faster, and to improve the efficiency of the provision of infrastructure. They also increase the interaction of public and private sectors in how infrastructure, and some services, might be provided. However, PPPs restrict the choices of future decision makers (McQuaid and Scherrer 2010). One issue that remains crucial to the future impacts of PPPs is whether they offer genuine and sustainable increases in efficiency and effectiveness compared the alternatives. If they do then they should have a positive impact on future public resource availability, but if they do not then they may provide short-term financial and political benefits but at the cost of constraining future decision makers and placing greater pressures on public finances in the longer-term.

References

- Almeida, A. (2008) Bridging science to economy: The role of science and technologic parks in innovation strategies in “follower” regions, 3rd international seminar regional innovation policies, Santander
- Asheim, B. T. et al. (2008) The changing and diverse roles of RIS in a globalising knowledge economy: A theoretical re-examination, 3rd international seminar regional innovation policies, Santander
- Bastin, J. (2003) Public-Private Partnerships: A Review of International and Austrian Experience, Studiengesellschaft für Wirtschaft und Recht (ed) *Public Private Partnership*, Vienna
- BEIRAT (1998) *Innovative Kooperationen für eine leistungsfähige Infrastruktur. Eine Bewertung des Potentials von Public Private Partnership*, Beirat für Wirtschafts- und Sozialfragen, Vienna
- Börzel, T. A. (2002) Member State Responses to Europeanization, *Journal of Common Market Studies* 40, 2, 193-214
- Boschma, R. (2005) Proximity and Innovation: A Critical Assessment, *Regional Studies* 39, 1, 61-74
- Budäus, D. (2003) Neue Kooperationsformen zur Erfüllung öffentlicher Aufgaben, in: J. Harms and Ch. Reichard (eds) *Die Ökonomisierung des öffentlichen Sektors*, Baden-Baden: Nomos
- Budäus, D. (2006) Public Private Partnership – Kooperationsbedarfe, Grundkategorien und Entwicklungsperspektiven, in: D. Budäus (ed) *Kooperationsformen zwischen Staat und Markt*, 11-28, Baden Baden: Nomos
- Carrol, P. and P. Steane (2000) Public-Private Partnerships: Sectoral Perspectives, in: S. Osborne (ed) *Public-Private Partnerships: Theory and Practice in International Perspective*, 36-56, London: Routledge
- CEC (2004) *Green Paper on public-private partnerships and Community law on public contracts and concessions*, COM (2004) 327, Brussels: CEC
- CEC (2006) *Economic reforms and competitiveness: key messages from the European Competitiveness Report 2006*, COM(2006) 697 final, Brussels: CEC
- CEC (2007) *Raising productivity growth: key messages from the European Competitiveness Report 2007*, COM(2007) 666 final, Brussels: CEC
- Considine, M. (2005) Partnerships, Relationships and Networks: Understanding Local Collaboration Strategies in Different Countries, in: OECD (ed) *Local Governance and the Drivers of Growth*, 89-109, Paris: OECD
- Cooke, P. (2002) *Knowledge economies: clusters, learning and co-operative advantage*, London: Routledge
- DIFU (2005) (Deutsches Institut für Urbanistik): *Public Private Partnership Projekte. Eine aktuelle Bestandsaufnahme in Bund, Ländern und Kommunen*. Im Auftrag der PPP Task Force im BM für Verkehr, Bau- und Wohnungswesen, Berlin
- DIFU (2008) (Deutsches Institut für Urbanistik): *PPP und Mittelstand. Untersuchung von 30 ausgewählten PPP-Hochbauprojekten in Deutschland*. Im Auftrag der PPP Task Force im BM für Verkehr, Bau- und Wohnungswesen, Berlin
- Edquist, Ch. (2005) Systems of Innovation. Perspectives and Challenges, in: J. Fagerberg, D. Mowery, and R. R. Nelson (eds) *The Oxford Handbook of Innovation*, 181-208, Oxford: Oxford University Press
- Föllner, P. and M. Freitag (1999) 1. Betreibermodell Österreichs, *Kommunales Management*
- Friedrich Ebert Stiftung (2002) *Public Private Partnership – Mehr Qualität und Effizienz im öffentlichen Güter- und Dienstleistungsangebot*, FES: Bonn
- Heinz, W. (ed.) (1993) *Public Private Partnership – ein neuer Weg zur Stadtentwicklung?* Stuttgart: Poeschel

- Isaksen, A. (2003) National and regional contexts for innovation, in: B. T. Asheim, A. Isaksen, Ch. Nauwelaers, and F. Tödtling (eds) *Regional Innovation Policy for Small-Medium Enterprises*, 49-77, Cheltenham: Edward Elgar
- Kokko, A (2000) *Globalisation and FDI Incentives*, Stockholm School of Economics, report to the World Bank
- McQuaid, R.W. (2000) The Theory of Partnerships – Why have Partnerships, in: S.P. Osborne (ed) *Managing public-private partnerships for public services: an international perspective*, 9-35, London: Routledge
- McQuaid, R.W. (2002) Entrepreneurship and ICT Industries: Support from Regional and Local Policies, *Regional Studies* 36, 8, 909-919
- McQuaid, R.W., and W. Scherrer (2008) Public and private sector partnership in the European Union: Experiences in the UK, Germany, and Austria, *uprava* 6, 2, 7-34
- McQuaid, R.W., and W. Scherrer (2010) Changing reasons for public private partnerships, *Public Money and Management* 30, 1, 27-39
- Moulaert, F., and F. Sekia (2003) Territorial Innovation Models: A Critical Survey, *Regional Studies* 37, 3, 289–302
- Oberösterreichischer Landesrechnungshof (Court of Audits of the Province of Upper Austria) (2002) *Initiativprüfung Umfahrung Ebelsberg*, Linz
- OECD (Organisation for Economic Development and Co-operation) (2004) *Public-Private Partnerships for Research and Innovation: An Evaluation of the Austrian Experience*, Paris: OECD
- OECD (Organisation for Economic Development and Co-operation) (2005) *Innovation Policy and Performance. A Cross-Country Comparison*, Paris: OECD
- OECD (Organisation for Economic Development and Co-operation) (2008) *Public-Private Partnerships*, Paris: OECD
- Sack, D. (2003) *Gratwanderung zwischen Partizipation und Finanzengpässen. Ein Überblick über die deutsche Public Private Partnership Entwicklung*, *Zeitschrift für öffentliche und gemeinwirtschaftliche Unternehmen* 26
- Schaffhauser-Linzatti, M. (2004) *The Presence of Public Private Partnership Models in the Internet: An Austrian Survey*, paper delivered at the 10th International Conference on Public and Private Partnerships, Faro
- Scherrer, W. (1998), *Fostering Enterprise and Regional Policy. A Case Study*, in: L. Montanheiro et al. (eds) *Public and Private Partnerships: Fostering Enterprise*, 527-536, Sheffield: Sheffield Hallam University Press
- Scherrer, W. (2005) *Tackling core issues of regional economic policy: Some considerations and recent experience from Salzburg*, *SIR-Mitteilungen und Berichte* 31/32, 201-205
- Scottish Parliament (2008) Transcript of Local Government and Communities Committee, 5 November 2008, Col 1359, Edinburgh www.scottish.parliament.uk/s3/committees/lgc/or-08/lg08-2702.htm
- Silva, M.R., and H. Rodriguez (2004) Competitiveness and Public-Private Partnerships: Towards a More Decentralised Policy. <http://www.ersa.org/ersaconfs/ersa04/PDF/299.pdf> *ERSA Conference Papers*
- Simmie, J. (2005) Innovation and space: A critical review of the literature, *Regional Studies* 39, 789-804
- Smits, R., and St. Kuhlmann (2004) The rise of systemic instruments in innovation policy, *International Journal of Foresight and Innovation Policy* 1, 4-32
- Treasury, The (2008) [PFI Signed Projects List – March 2008](#), The Treasury, London, available on-line at: http://www.hm-treasury.gov.uk/d/pfi_signeddeals_230408.xls, accessed 17/01/08
- Treasury, The (2000) *Public Private Partnerships: the Government's Approach*, GSO, London
- Verspagen, B. (2005) Innovation and economic growth, in: J. Fagerberg, D. Mowery, and R. R. Nelson (eds) *The Oxford Handbook of Innovation*, 487-513, Oxford, Oxford University Press