

# **Public-private partnerships, public service delivery and innovation: a market-centered approach**

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## **Abstract**

Recently, innovation as a distinguishable rationale for engaging in PPP to deliver public services has been gaining considerable importance. Although in contemporary public administration and policy literature innovation is perceived almost as an inherent and undisputable feature of PPP, the direct linkages between public service delivery, PPP and innovation have remained a far less studied area. Moreover, the current debate is flawed in many ways. The paper argues that market-centered perspective should be given more proper attention when analyzing the relationship between innovation, public services and PPP. In order to do so, the paper looks at innovation from a demand perspective and more specifically at the role of public sector demand.

## **Introduction<sup>1</sup>**

Government-business collaboration is a stretched concept that is constantly changing and regularly re-conceptualized (Hodge and Greve 2005). In its widest sense the government-business collaboration or public-private partnership (PPP) refers to combination of the resources of public and private sectors to address specific social needs. PPP can take several different forms such as public leverage programs, contracting-out, vouchers, franchising, joint-ventures and strategic partnering (Skelcher 2005), and they can be driven by adversarial principal-agent type of relationships or more collaborative and trust-based interdependent relationships.

Recently, innovation as a distinguishable rationale for engaging in PPP to deliver public services has been gaining considerable importance. Although, there have always been, for example, economic development programs that explicitly target to induce innovation and competitiveness in the private sector, and there is also an extensive literature studying the related concepts and policies, the direct linkages between public service delivery, PPP and innovation have remained a far less studied area. This is so in spite of the fact that in contemporary public administration literature innovation is perceived almost as an inherent and undisputable feature of PPP and, indeed, one of the main reasons to engage with PPPs in the first place. Moreover, innovation is often expected to arise from various PPP schemes almost automatically – as PPP involves private parties, it is then possible to exploit the “natural” innovation potential of private, but also voluntary sectors.

The current debate is, however, flawed in many ways. First of all, the innovation potential of PPP in delivering public services is almost never questioned in today’s PPP literature, and this is so regardless to the fact that the concept of innovation is all but clearly

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<sup>1</sup> This is a first draft, please do not quote without permission. Comments highly welcome.

defined in the PPP debates. In addition, there exist a very limited number of conceptual and empirical studies that have actually addressed the relationship between public services, innovation and PPP, and the existing empirical studies tend to be rather critical about the effect of PPP in terms of innovation (see e.g. Leiringer 2006 on infrastructure PPPs). Secondly, and related to the previous point, the usage of the term innovation in the PPP literature – as well in the Public Administration literature in general – has stretched the concept to a point where too often the notions of “change” and “reform” is more or less used as synonyms to innovation. This makes the viability of the entire concept of innovation questionable: while symbolizing any kinds of change, innovation within the context of public sector faces a risk of becoming a meaningless concept (see also Lynn 1997; Drechsler 2009; Pollitt 2011). Today, innovation is used in the Public Administration and PPP literatures rather un-systemically, and contrary to the industrial or service innovation literature, where innovation is used to explain the behavior and success/failure of businesses in the market environment, innovation in the context of public sector is mostly used as a normative concept. Thirdly, innovation in the PPP literature is typically addressed through changes in public services and public organizations, whereas the current debate has almost neglected the role and potential of PPP in wider process of technological and economic change. In today’s PPP debates innovation is seen as an important vehicle to enhance public services or entire public service delivery systems where the existing quality and effectiveness of services is perceived to be poor or where the costs of service delivery are allegedly grown above affordable levels. By doing so the debate borrows heavily from the market-based approaches on innovation, but tends to downplay the original focus of these approaches, which treat innovation as a market phenomenon that through the process of creative destruction drives economic and ultimately also social change, and where the role of

government is crucial in supporting as well as limiting that process. The market-centered approach, where the influence of PPPs is considered on market development, has remained outside of today's PPP research agenda.

Therefore, the current debate on innovation, PPPs and public service delivery builds too often on normative assumptions rather than empirically or theoretically grounded concepts, uses the innovation concept in ambiguous ways and neglects the influence on the market as an important aspect in understanding the significance of innovation in PPPs.

It is the latter aspect that is in the focus on this paper. The paper argues that market-centered perspective should be given more proper attention when analyzing the relationship between innovation, public services and PPP. This would not only offer a more complete understanding on innovation-related aspects in PPP, but enables to draw a direct link between public service delivery and economic development.

In order to do so, the paper looks at innovation from a demand perspective. Demand can be a facilitator of innovation as well as major constraint (Malerba, 2004). The potential of demand as an innovation facilitator is determined by (market) sectoral features as well as public policy design. More specifically, PPPs will be considered as a special case of public sector demand affecting innovation in private sector. In essence, this is very similar to the ideas that form the core of the innovation-friendly public procurement studies (Edler and Georghiou 2007). By introducing sophisticated demand within the context of PPP, public sector is in a position to motivate service providers (i.e. private businesses) to come up with new solutions in supplying and organizing public services. In so doing, public sector can spur the creation and also diffusion

of new skills across the market, which, in turn, can feed into the broader process of economic change.

The paper develops as follows. The paper begins with defining PPP for the current analysis. It then proceeds by revisiting different approaches that are being used to conceptualize innovation in the context of public service delivery. By identifying three different streams of literatures, it will be argued that there seems to exist two distinguishable concepts of innovation with regard to public service delivery: market-centered and public-sector-centered concepts of innovation. The paper then overviews some of the recent findings on the relationship between public services, PPPs and innovation, and summarizes the key characteristics of market-centered and public-sector-centered approaches to innovation in the context of PPPs. This is followed by a section that outlines the logic of treating PPP as a demand-side factor in innovation process. The concluding section wraps up the main arguments and outlines some of the challenges related to market-centered innovation approach in PPP.

## **What does PPP refer to?<sup>2</sup>**

Cross-sectoral cooperation and partnership ideas have been developed under a variety of different concepts such as privatization, networks and collaborative partnerships, and the answers to these questions have changed accordingly. From the one hand, the last two decades of the twentieth century witnessed a growing reliance on neo-liberal ideas of privatization and market-type contracting (Savas 1987). From the other hand, cross-sectoral cooperation has always made use of a more collaborative mechanisms, which are often labeled as public-private partnerships or networks (Hodge and Greve 2005a; Kickert *et al.* 1997; Linder 1999; Lowndes and Skelcher 1998; Rosenau 2000). Today one can see a mix of contractual as well as

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<sup>2</sup> This section builds partly on Lember (2009)

institutional cooperation mechanisms being implemented (Hodge and Greve 2005a; Hodge and Greve 2010), but overall the ideological milieu in which the governments operate has become more state-oriented (Drechsler and Kattel 2009; Pollitt and Bouckaert 2011), and due to the current global crisis even more so than before (Drechsler 2009).

On the conceptual and ideological level, the meaning of PPP seems to be variable and not well understood (Pollitt 2003; Linder 1999; Hodge and Greve 2007). On the one hand, there is the understanding that PPP is nothing more than just a softer version of the privatization movement, which was introduced to retreat from the radical and often unpopular privatization programs such as load-shedding and asset sales (Greve and Hodge 2007; Linder 1999; Savas 2005). PPP is seen as an ideological tool that seeks to diminish the role of the public sector and make it more market-like (Savas 1987; 2005) or at least sound like it. In other words, under these premises, the government ought to rely more on competition-driven contractual transactions (i.e. on horizontal integration) instead of being organized through hierarchies (i.e. vertical integration). Here the infrastructural design-build-operate types of PPPs (also known as Private Finance Initiatives) are considered another form of privatization together with contracting-out, vouchers and other tools (Greve 2007).

On the other hand, contrary to the idea of privatization, it is said that PPP is a “different set of conceptual premises altogether” (Linder 1999, 36). Thus, it is the cooperation not competition and adversarial relationships that hallmarks PPP and where the “disciplining mechanism is not customer exit or thin profit margins but a joint venture that spreads financial risks between public and private sectors” (ibid.). Here the notion of partnership refers to the concept of networks, i.e. a separate governance mode that stands in between hierarchy and market (Kickert *et al.* 1997). The idea is not to diminish the role of the government, but rather to

introduce an alternative *modus operandi*, which works under different conditions as opposed to hierarchy or market. Risk-sharing and long-term commitment are the key-words here, thus excluding competition-based short-term contracting from the list of PPPs (Greve and Hodge 2007; Greve 2007). Here, the design-build-operate types of PPPs together with organizational partnerships (i.e. mixed companies) and policy networks are considered as distinctive collaboration forms and not as Linder puts it “derivative of privatization” (1999, 36). However, for some authors, design-build-operate types of PPP do not represent a real partnership, which should occur in a set of integrated projects and not in a form of a single contract (Klijn and Teisman 2005).

Next to the conceptual and ideological considerations, one can also differentiate between organizational (or social) partnerships and economic partnerships (Hodge and Greve 2005b). According to this view, the idea of social partnerships is to share risks and gains, and find new ways to provide public services (often referred to as “innovative services” or “innovative organizational forms”). When it comes to economic partnerships, then it is mostly about getting access to private finance and capital, but also facilitating “innovative solutions”.

All in all, today governments as well as academia use the term PPP in different meanings and the PPP debate has found itself in the middle of “language games” (Hodge and Greve 2007, but see also Linder 1999). This means that different stakeholders of the debate use the term in accordance their own view and not in line with some sort of general conceptual background. Arguably, the reason for that stems from the positive connotation the term “partnership” has, but as a result, it is also very difficult to evaluate the real outcomes and effect of PPPs as such.

This paper understands PPP in its widest sense, but limits its use to contractual PPPs dedicated to public service delivery (e.g. infrastructure development and related services, waste disposal, health care services etc.). Referring “to the ways in which government and private actors work together in pursuit of societal goals” (Skelcher 2005, 348), the initiatives under this definition may include public leverage programs, contracting-out, vouchers, franchising, joint-ventures and strategic partnering (ibid.). From a partnership viewpoint, the difference between these initiatives can be found in contracting strategies, which combine competition as well as collaboration elements. At one extreme, there is competitive contracting, where there is little room for trust and where the contractor’s behavior is ex-ante highly regulated (DeHoog 1990). On the other end, there is relational contracting, where – due to the high level of uncertainties – the liabilities and rights are loosely defined, and where mutual trust and risk-sharing dictates the collaboration (ibid.). The current paper holds that contractual PPPs providing public services could be perceived as special case of contracting, which is affected by competition as well as collaboration elements (see also Greve 2007).

## **Understanding innovation in the context of public services and PPPs**

Today’s debate on innovation and PPPs seems to be influenced by many different streams of literatures. First, the debates on innovation in PPP has many similar tendencies with a literature what can be called as public sector innovation literature, which draws primarily on organizational theory and which treats innovation as a non-market phenomenon (see Osborne and Brown 2013 for a latest overview). In these treatments innovation is more or less equaled with radical or discontinuous change that takes place within public sector. Public sector innovation studies often treat innovation from a normative perspective: innovation in public sector is not used to describe how public sector functions and evolves, but it is assumed that



while discovering how innovation processes take place in public sector, the government could use this knowledge to deliver radically different and better public services.

Second, the issue of innovation and PPP seems to be influenced by industrial or evolutionary innovation theories, which treat innovation as a market phenomenon and which sees the role of government as a systemic player in the environment affecting innovation processes. Heavily influenced by the Schumpeterian tradition, innovation in this stream of literature is usually defined as “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, p. 46). This definition relates the innovation concept with private sector organizations, whose competitiveness and eventually survival depend on their innovation capabilities (see also Schumpeter 1934). The role of public sector can be seen here as a facilitator of innovation processes that take place in the private sector (e.g. by providing R&D subsidies, maintaining innovation-friendly intellectual property regime or organizing innovation-friendly public procurements). In industrial innovation theory, innovation is a fundamental phenomenon that emerges from the very nature of how capitalism works. As put by Lundvall (2010, 8):

In modern capitalism, innovation is a fundamental and inherent phenomenon; the long-term competitiveness of firms, and of national economies, reflect their innovative capability and, moreover, firms must engage in activities, which aim at innovation just in order to hold their ground.

There is also the service innovation literature that stems from the market-based, often neo-Schumpeterian, discussions on economic and social change, but which, contrary to the

industrial innovation literature , which draws on manufacturing, explicitly places services at the center of the innovation studies (see e.g. Windrum and Koch, 2008; Gallouj et al., 2013). This perspective remains quite vague in differentiating between market/non-market characteristics of innovation, as it often uses (semi-) public goods as its empirical basis (e.g. health care). But it increasingly influences how innovation is approached in the context of public services delivery. Also, it is worth of mentioning that the service innovation literature treats PPPs as a form of systemic innovation (Windrum 2008).

Although the existing PPP literature takes innovation almost as an inherent quality of PPP and has made it a central rationale for engaging with private sector in public service delivery, innovation has remained under-conceptualized and under-studied empirically. With some notable exceptions, the current PPP literature, when dealing with innovation, implicitly follows the premises similar to public sector innovation literature: innovation is mostly associated with improved public services that result from private partner involvement in PPP. In essence, the main line of inquiry is about how public service delivery could be improved by using the potential of the existing innovation capabilities of private sector. In more concrete terms, service quality and cost-savings are among the main aspects reflecting innovation, as well as design innovation (physical adaptability of infrastructure), facility improvement, and better IT (e.g. Hurst and Reeves 2004; Pollitt 2005; Barlow and Köberle-Gaiser 2008).

The debate is very much focused on the user side: innovation is understood as a change from the user perspective rather than from the producer (provider) one. Still, there also authors, who do define in their studies innovation by following the producer perspective (e.g. Leiringer 2006). That means that in these treatments innovation is approached as a new or significantly improved product or process that is introduced by the provider on the marketplace. These are

mostly project-level studies that analyze the role of market competition, contract set-up, risk transfer, design freedom and long-term cooperation in triggering and determining the innovation potential of private providers (Leiringer 2006, Rangel and Galende 2010).

Infrastructure PPPs has been one of the fields in public-private cooperation, where innovation is seen as key in launching the cooperation projects. However, as stated by Gil and Beckman (2009) “Few management studies have yet explored how the delicate balance between profit-seeking and public interests plays out in the actual execution of [transport] infrastructure design and innovation.”. In addition, the existing evidence is quite controversial and point to the fact that PPPs only seldom lead to commercialization of innovations on the (public sector) market (see e.g. Leiringer, 2006). Hurst and Reeves (2004) claim that, contrary to expectations, greater innovation is not occurring under PFI schemes in the school sector. Barlow and Köberle-Gaiser (2008) find this to the similar case in the UK hospital sector. Aspects like lack of coordination between service provider and facility provider, but also construction contracts that are usually about minimizing risks that squeezes out innovation possibilities are found to be central here (ibid.). Leiringer (2006) is quite critical on the traditional assumptions with regard to the innovation potential of PPP: the empirical evidence demonstrates that contrary to popular hypotheses the risk transfer, long time horizon, cooperation and contract set-up actually do not lead to innovation, and there is no evidence to expect this to be the case in the first place. Although there are some authors who argue that the role of government in PPP is as almost by definition restrictive towards innovation (Djellal and Gallouj 2013), most of the critical authors do not dismiss the innovation potential of PPPs and argue foremost that little is known about the mechanisms how to improve the situation.

To summarize, innovation with regard to PPPs from the public-sector-centered approach stems from the user perspective, is considered as a non-market phenomenon, is defined as a discontinuous change in public service delivery, assumes a radical rather than incremental departure from “old” solutions, occurs as a response to social, political and administrative needs, and is more often treated as normative rather than constitutive characteristic of public sector.

What can be seen from above is that there are two general streams of thinking how innovation can be approached in the context of PPPs: from the public-sector-centered perspective and market-centered perspective. This distinction is not always explicitly made in the PPP treatments, which has caused a considerable confusion in what innovation is in PPPs and whether and how PPPs are capable of leading to innovation. However, these differences are not of trivial significance if we wanted to deepen our understanding on the relationship between PPPs, public services and innovation. Moreover, these perspectives may assume from the government rather different policy prescriptions and capacities.

The current PPP debate has predominantly followed the public-sector-centered approach. The focus has been on how to exploit private sector to induce innovation within the context of public service delivery. In doing so the debate has focused away from the question of how PPP can induce innovation within the context of private sector. The latter will be addressed in the next section.

### **Public services, PPPs and innovation: a market-centered approach**

The starting point for both the public-sector-centered as well market-centered approach to innovation is user needs. No matter the explicit or implicit innovation-related considerations, the introduction of PPPs is usually founded on some specific, currently unmet social or public need.

In the case of PPPs it is expected that the need will be satisfied through the involvement of private parties, or to put it into more general terms, the need is expected to be satisfied by the market. In the PPP process, a particular need is defined and articulated by the government (with or without consulting with external partners), and this need is eventually formulated as a demand for a specific solution. In principle, it does not matter for the government if the need is satisfied by the market by existing solutions with proofed track-record, or if it assumes some innovation efforts to meet this need. However, in addition to solving a social need, the government can, either deliberately or by accident, also influence the innovative capabilities of the private provider that is part of a PPP. And not only that. By leading to the creation of new skills in a private partner organization and causing changes in firm-level routines, the government creates a possibility that these new skills will diffuse across a market sector or even entire economy. This, in turn, can be expected as imitating and copying from other businesses is how the majority of businesses innovate.

Consequently, PPPs can be understood as a special environment where new market capabilities and routines can potentially be created. This argument follows the conceptual premises of demand-side innovation policy thinking and especially what has been termed as public procurement of innovation (PPI) (see also Rothwell and Zegveld, 1981; Geroski, 1990; Edquist et al 2000; Edler and Georghiou 2007; Hommen and Rolfstam 2009; Kattel and Lember 2010). Contractual PPPs are in essence a special case of public procurement, i.e. it is a process where government contracts for public service delivery by specifying expected results, controlling for outcomes, and either paying for the service itself or designing alternative payment mechanisms (e.g. user fees).

Two interlinked dimensions should be distinguished when talking about PPI. First, there is the dimension of new products, systems and services that are put in the center of PPI right from the beginning. In this case PPPs come close to what the innovation studies literature refers to as Public Technology Procurement, where the government places an order occurs when a public agency acts to purchase, or place an order for, a product—service, good or system—that does not yet exist, but which could probably be developed within a reasonable period of time, based on additional or new innovative work by the organisation(s) undertaking to produce, supply and sell the product being purchased (Edquist and Hommen, 2000, p. 5). Public Technology Procurement together with standard setting and support of private demand can be seen as the main instruments of demand-side innovation policy-making (see Edler and Georghiou 2007 for an overview) that have two main aims: a) to address some specific social need that is currently unmet; b) to address demand-side systemic hindrances.

Second dimension is related to the fact that innovation-oriented PPPs can contribute to innovation not only through fostering the creation of new products, but also via creating innovation conducive learning environments that stimulate the emergence and/or diffusion of both product as well as organizational innovations, and the creation and uptake of new technological capabilities (process innovation). In both cases innovation is affected if public procurement “influence either or both the direction and rate of technological change” (Hommen and Rolfstam 2009).

Economy-wide innovation and market upgrading can be a deliberate aim of government purchasing and related policies. In this context public procurement is often seen as an instrument of demand-side innovation policy, which aims at overcoming “structural hindrances hampering the market introduction and the market diffusion on the demand side, as well as the

transformation of needs into market signals” (Edler 2010, 276-277). More specifically, these demand-side systemic hindrances can be found in lacking markets for products and technologies of high potential (thus, hinting to the need to tackle high entrance costs, awareness problems, lock in-effects etc.) and insufficient articulation of demand (interaction problems between producers and the demand side) (ibid.). The demand-side innovation-policy goals are often addressed through public procurement aiming at new products and systems (or even emerging industries) that go beyond the state of the art – the public sector can either act as a testing-ground for innovative products or encourage innovation by providing a “lead market” for new technologies (Rothwell 1994). Still, innovation-oriented public procurement can also serve the ends of innovation policy challenges beyond new products, such as by supporting knowledge creation via R&D procurement (Edquist and Zabala-Iturriagoitia 2012) or supporting market diffusion of already existing technologies (Hommen and Rolfstam 2009).

Innovation-friendly public procurement represents one possibility that can be used to affect the technology life cycle, promote clusters and innovation systems, and thereby increase urban, regional and national competitiveness. In addition, the role of the public sector could be seen as facilitators of innovation processes especially in the fluid phase of technology development because both social and economic benefits for the region and/or nation state might follow.

What is especially important in the market-centered approach to innovation is the government’s role in contractual PPPs as a service user and demand articulator. In articulating the demand for a certain need, the government can either ask the market to come up with solutions with proven track-records and specify the inputs in advance in a great detail, or it can articulate the needs in terms of expected results and leave it for the market to decide if to come up with a proven or a new solutions. By leaving the door open for new solutions, or straightforwardly commissioning non-existing solutions, the government gives the market an extra incentive to introduce new or improved product, or process or organizational methods that

would not only serve the public need, but motivates the market to change their routines, upgrade their skills and capabilities via additional research and/or development work. This is what Rothwell (1994) called the creation of demand “pull” by expressing public sector needs to the industry in functional or performance terms.

The public sector can use PPI to act as a demanding first buyer by absorbing risks for socially/ecologically demanded products (where significant financial development risks prevail) as well as by promoting learning (where procurement introduces strong elements of learning and upgrading into public intervention processes). The government can be the demander, bear higher entry costs, create critical mass, signal the market, and link innovation to production—and not just increase internal capacities of producers (Geroski 1990). Several studies indicate that over longer time periods, government procurement triggered greater innovation impulses in more areas than R&D subsidies. Geroski (1990, 189) highlights the direct links between innovation and production, showing that—in contrast to supply-side measures such as R&D subsidies—public procurement for innovations leads not only to technological capacities but also to increased production capacities for innovations. In the context of procurement, it is important to note that governments can become important end users via the procurement process. In addition to direct technological or product innovations, quality and other standards (e.g., ecological) set by public agencies also play a key role.

It may also be the case that government goes for a solution that has been already developed, but that has not made it to the marketplace, thus, eventually making the public sector a lead-user of an innovation (Hommen and Rolfstam 2009; Edler et al 2012). PPPs may serve as useful test-beds for emerging technologies, giving the technology producers a chance to test out their new solutions and providing them with reliable references (e.g. ICT solutions in road safety



or in various services, new business-models in welfare services, new materials and energy-efficient solutions in construction, new technologies in health care etc.).

All in all, be the innovation effect deliberate or accidental, innovation-oriented public procurement, and consequently contractual PPPs, have the potential to enhance providers' skills and innovativeness, to create and protect infant industry, to support innovation diffusion and, thus, to increase diversification of economic activities and support economic development (Rothwell and Zegveld 1981; Geroski 1990; Edquist and Hommen 2000; Edler and Georghiou 2007).

However, the demand-based and market-centered perspective necessitates that some of the basic assumptions with regard to effective public procurement were revised. There have always been competing conceptual and ideological understandings on the proper role of public procurement in innovation and economic development in general (see Edquist and Hommen 2000). The conventional understanding dominating in public procurement-related thinking and policy-making is rather different from the basic ideas of innovation-oriented procurement. It is a widely held argument that economic, social and other side-goals should not be explicit part of the government purchasing decisions or policy as it distorts competition and free trade (Arrowsmith 2003; Evenett and Hoekman 2005). The dominant conceptual wisdom, stemming from neoclassical economic theory and also characterizing the existing World Trade Organization's (WTO) Government Procurement Agreement (GPA) framework, underlines a "level playing field" as the main principle which public procurement and its institutions should stem from. In other words, public procurement should foremost be organized so that it would not prevent in any way open competition and access to government contracting opportunities. It is held that transparency, non-discrimination and maximum competition are the main, if not the only key

principles to follow. Moreover, it is often maintained that even if one can make a theoretical case for using public procurement for some sort of side-policies (see, e.g., Trionfetti 2000), public authorities are still better-off without designing these policies, as governments are inherently prone to failing in implementing these policies (Arrowsmith 2003).

In principle, conventional economic as well as legal thinking associates public procurement side-policies with discriminatory practices, which generally lead to inefficient allocation of resources, limit access to foreign markets, hamper the liberalization of domestic markets, increase budgetary costs and consequently diminish the competitiveness of national economy (Evenett 2002; Arrowsmith 2003; Evenett and Hoekman 2005). However, the “level playing field” perspective falls short in differentiating between discriminatory public procurement implemented on the political, self-interested, nationalist or protectionist grounds on the one hand and public procurement for developmental and innovation goals on the other.

The currently dominant (neoclassical) economic thinking does not provide us a set of tools to understand innovation, as it focuses on trade and competition as the main drivers of innovation and growth. According to this tradition, free trade on the basis of Ricardian “comparative advantage of nations” brings higher efficiency and thus more, better and cheaper goods to the consumer. In this view, competition forces companies to incessantly innovate and overcome competitors, which eventually results in lower prices for consumers through higher efficiency. For heterodox economists, this is a much too simplified representation of reality and abstraction away from the core issues that make competitiveness of nations, regions or firms an important problem for policy makers or the society in general. One of the best known examples of these simplifications is the idea of “perfect competition”, which is based on the assumption that knowledge is freely and instantly available to all agents, that all agents have access to the

same technology and produce goods of the same quality, and that the goods are sold on the price-clearing markets where the only issue for government is to see that nobody distorts the prices, i.e. to “get the prices right”. As a result, the main body of economic analysis of competitiveness was based on the only factor – price (Fagerberg et al. 2007). In the heterodox and in particular evolutionary economic tradition, however, Schumpeter argued that the true basis of capitalist competition is not price. Competition, in his view, resulted “from the new commodity, the new technology, the new source of supply, the new type of organization ... – competition which commands a decisive cost or quality advantage and which strikes not at the margins of the profits and the outputs of the existing firms but at their foundations and their very lives” (Schumpeter 1943/2008, 84).

The focus in the Schumpeterian understanding of competition comes from his original definition of innovation, with an emphasis on novelty in products, processes, technologies and organizational practices. As the competitive race stimulates innovation in firms, it lowers the cost of production and can also improve product quality, thus resulting in increasing demand. As a result, those firms that were successful in the competitive game will not only benefit from increasing demand but will also develop capabilities through learning and interacting with others in the process of competition. In evolutionary understanding, competition is often imperfect, yet this imperfection leads to further learning and innovation. (Arthur 1994)

The roots of the heterodox arguments for innovation-oriented public procurement can be found in infant industry protection ideas and similar policies that have accompanied capitalism for half a millennium (Kattel and Lember 2010). Interestingly, such policy measures have a longstanding history, reaching back to the Renaissance (Reinert 2007), and that has been shared by economists of almost any school or affiliation (Evans and Alizadeh 1984). Indeed, such

arguments for industrialization and diversification are easily justifiable also within neoclassical economics, based on a market-failure approach, as shown by Rodrik (2007) or also by previous chief economists of the World Bank, Justin Lin (2009). However, most neoclassical economists do not follow such arguments.

In sum, when competitiveness is attained not through price-based competition, but through innovation, it is easier to accept it as an objective of national policy, including procurement (Fagerberg et al. 2007). Today's surge of conscious policy-making on innovation-oriented public procurement around the world, which has, however, moved beyond the infant industry argument (see Lember et al. 2013), reflects the very idea of evolutionary competitiveness that rests on innovation. Indeed, governments often do introduce policies where public procurement explicitly serves socially and economically valued goals (McCrudden 2004; Lember et al. 2013). Many governments (e.g. Japan, Sweden, the United States etc.) have in the past successfully used public procurement as part of their industrial policy toolkit to upgrade domestic market capabilities (see, e.g., Rothwell and Zegveld 1981). By today not only specific technology and R&D procurement, but also more generic public procurement of innovation supporting policies have become an increasingly vital innovation policy instrument in many countries around the globe (Lember et al 2013).

Taken from above, it can be claimed that contrary to the public-sector-centered approach on innovation, the market-oriented approach on innovation in PPPs stem from provider perspective, is understood as a market phenomenon, is defined as a introduction of radical as well as incremental change in production, process or organization, occurs because of intrinsic needs of public sector, and is justified by the need to redress systemic failures in innovation systems (see Table 1).

**Table 1:** Innovation and PPP in public-centered vs market-centered approach

	<b>Innovation and PPP in public-sector-centered approach</b>	<b>Innovation and PPP in market-centered approach</b>
<b>Main perspective</b>	User	Producer
<b>Relation to market</b>	Non-market phenomenon	Market phenomenon
<b>Definition</b>	Radical departure from old solutions	Introduction of new or significantly improved products, processes or organizational method into the market; can be radical or incremental
<b>Effect</b>	Better public services (effectiveness, efficiency, economy, equity)	Micro level: Businesses' profit/loss  Macro level: Increased/decreased competitiveness of economy
<b>Conceptual justification</b>	Normative	To redress systemic failures of innovation system
<b>Main driver of innovation</b>	Social, political and administrative needs	Social, political and administrative needs

### **Concluding remarks**

This paper argued that contemporary approaches to innovation in contractual PPPs are biased towards public-sector-centered perspective, where innovation is seen as a non-market phenomenon and more or less equated with improvements in public service delivery. This perspective neglects innovation as a market phenomenon, which focuses on producers and the effects innovation has on market developments. By doing so, the treatment of innovation in PPPs is necessarily partial and leaves PPP as a tool to influence market capabilities outside the PPP research agenda. It was argued in the paper that a market-centered approach to innovation in PPPs deserves much closer attention, and one way to do that is to address PPP as a demand-side element in innovation process. Drawing parallels from the concept of public procurement of innovation, it was argued that PPP has the potential to enhance providers' skills and innovativeness, to create and protect infant industry, to support innovation diffusion and, thus, to increase diversification of economic activities and support economic development.

However, the market-centered approach to PPP and innovation still calls for much more nuanced conceptual and empirical treatments, both on project as well as policy levels. Studies on demand-side innovation policy and especially on public procurement of innovation indicate the presence of many challenges such as public sector's short-termism, risk-aversiveness and lack of capacity to conduct innovation-friendly procurements (see also Uyarra and Flanagan 2010; Lember et al. 2011). There is also the challenge to understand better the institutional environment that drives the innovation process in PPPs. An important determinant is the nature of main activities and technologies involved in PPPs. Market products are produced and related innovations take place in different sectoral eco-systems that are determined by different set of sources, actors and institutions (Malerba, 2004; Pavitt 1985). Furthermore, it is not only introduction of an innovation into the market that matters. Equally important is the diffusion of innovation, so that new knowledge and skills spread across a market sector or entire economy. In some PPPs the diffusion of innovation may be limited by the existence of specialized markets and idiosyncratic demand. This means that companies working as PPP contractors are not often active in other markets (e.g. road concessionaries, emergency medical aid, prison services), while the PPP market as such can be quite limited in size and dependent on the political will of governments. In other PPPs the government demand can be too small to have any influence on innovation trajectories in a specific sector.

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