Innovation procurement schemes

Public procurement can stimulate innovation in the following ways: (1) create a demand for innovative products or services, (2) help innovators bridge the pre-commercialisation gap for their innovative products and services by awarding contracts for pre-commercial innovations (i.e. first sales of technology), (3) help achieve the critical mass needed to bring prices down and be competitive, and (4) contribute to making the access to private third-party funding easier. Many OECD countries have shown a growing interest in public procurement policies in recent years. Thus, public procurement can provide a critical support to investments in innovation and complement other types of finance. Public policy can foster innovation through public procurement by developing expertise and integrating new competencies within the public administration to design and monitor innovation-oriented procurement as well as stimulating innovation-oriented public procurement within public agencies. Public policy should also address the risks associated with innovation-oriented public procurement, and it should balance the multiple goals of public procurement in order to secure the sustainability of public procurement programs supporting innovation.

What are innovation procurement schemes?

Public procurement refers to the conditions involved in the acquisition of products and services by the public sector. Public procurement schemes relate to innovation in the following ways:

- First, regular public procurement, which occurs when public sector organisations buy readymade products for which no R&D is required, can incorporate innovation-related criteria in the tender specifications and in the assessment of tender documents, for instance.
- Second, public procurement can strategically create a demand for technologies or services that do not yet exist. This procurement involves purchasing a not-yet-existing product or systems.
- Third, public procurement can target the purchase of research and development services to support the activities and decisions of government and public authorities. This is the case for pre-commercial procurement of R&D (with no guarantee that the public sector will buy the goods or services developed).

How does public procurement affect innovation?

Innovation-oriented public procurement **stimulates innovation by creating a demand for innovative products or services**. Demand-pull theories suggest that the ability to produce innovations often requires market opportunity (i.e. demand). Demand directs thus resources and capabilities to innovations to meet market needs (Schmookler, 1966; Rosenberg, 1969).

Innovation-oriented public procurement and public procurement oriented towards innovative entrepreneurs can help them **with easier access to private third-party funding**. Indeed, the provision of a market entailed in the awarding of a contract and the signalling effect resulting from the positive evaluation by a public agency contribute to attract additional finance from private sources.

Public procurement can also help innovators **bridge the pre-commercialisation gap** for their innovative products and services by awarding contracts for pre-commercial innovations (i.e. first sales of technology). Pre-commercial contracts allow innovators to **test and get feedback** from public organization on the performance of their products and services. These tests and responses may be essential to improving the products and services, and will provide innovators with the

opportunity **to enter the marketplace with a successful application** of their new products and services. Overall, public procurement **reduces possible concerns** about the perceived risk of adopting a new technology. Customer concerns regarding the viability of the firm or the innovation is a frequent cause of the inability of innovators to sell their product, even if their product, process or service is technically superior to that of its rivals (Georghiou, 2007).

Evidence of the importance of public procurement for innovation

Public procurement has been at the origin of a number of major technological innovations, including internet protocol technology and global positioning systems, and it has played a central role in the emergence of number of high-technology sectors in various countries, such as the United States, Japan and France. However, evaluative evidence of the impacts of public procurement on innovation and entrepreneurship **is scarce,** and the conclusions are **mixed**.

The potential of public procurement has received renewed impetus in recent years. OECD countries— Australia, Finland, Germany, Sweden and the United Kingdom—as well as the European Commission have stressed public procurement as a key means to drive innovation. For instance, Germany has created a new Agreement on Public Procurement of Innovation by which six federal ministries (interior, economics, defence, transport, environment and research) will promote innovative procurement. All six ministries will publish long-run demand forecasts, engage in continuous market analysis to identify potential new solutions, offer professional training on the legal options to promote innovation, and foster a strategic dialogue and exchange of experiences between procuring agencies, end-users, and industry and procurement agencies on all state levels.

The growing interest in public procurement policies reflects a greater awareness of the importance of feedback linkages between supply and demand in the innovation process. It also reflects a frequent perception that traditional supply-side policies have not succeeded in bringing about desired improvements in innovation performance. Furthermore, pressures on governments' budget create incentives to explore how innovation and entrepreneurship might be further fostered without increasing public spending.

What policies relate to public procurement and innovation?

Public policy can help public procurement foster innovation in the following ways:

Moving public administration toward innovation. Developing expertise and integrating new competencies within the public administration to design and monitor innovation-oriented and small businesses-oriented procurement (e.g.: skills to evaluate bids for innovative solutions against qualitative award criteria).

Mitigating risks of innovation-oriented public procurement. Procurement of innovation entails risks beyond those entailed by traditional procurement. A report for the European Commission (Tsipouri et al., 2010) identified major risks associated with the procurement of innovation, which include the following:

- **Technological risks** are the risks of non-completion owing to technical features of the procured good or service. One way to mitigate this risk is through contract design (e.g.: using cost-reimbursement contracts). Vendors might also be asked to analyse risks associated with their proposals and assess how these could best be managed in the bid submission. Additionally, market intelligence capacities can be developed through structured exchanges with industry experts.

- **Organisational risks** are the risks stemming from within the procuring organisation and the

risks related to the adoption of the good and service by users. These might result from inadequate absorptive capacities in procuring institutions or incompatibilities with existing technologies and routines. These risks can be mitigated through early user involvement in the procurement process and user training schemes.

Secure the sustainability of public procurement programs. In order to encourage innovation and entrepreneurship, the multiple goals of public procurement must be balanced. Public procurement programs targeting innovation and entrepreneurship raise important issues of governance and coherence between their primary goal—purchasing quality products and services for the public sector—and their secondary goal of supporting entrepreneurship and innovation.

Stimulate innovation-oriented public procurement. Providing adequate resources, such as clear guidance, tools and support, can help public agencies use innovation-oriented public procurement. This involves providing documented examples of best practice, preparing sample documents, and providing tools for tasks such as calculation of lifecycle costs (OECD, 2011a).

Evaluate the effects of public procurement on innovation in order to improve public procurement programs. Evaluation is essential for learning and for increasing the effectiveness and efficiency of policies. Evaluation metrics and methodologies should be developed and used to explore the outcomes of public procurement policies on innovation. Possible approaches include using data on patent awards to beneficiaries with non-beneficiaries to assess the innovation-related impacts of public procurement. Patterns of debt and equity financing might also be compared to get insight into the impact of public procurement on the credibility for follow-on investors (OECD, 2011c).

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