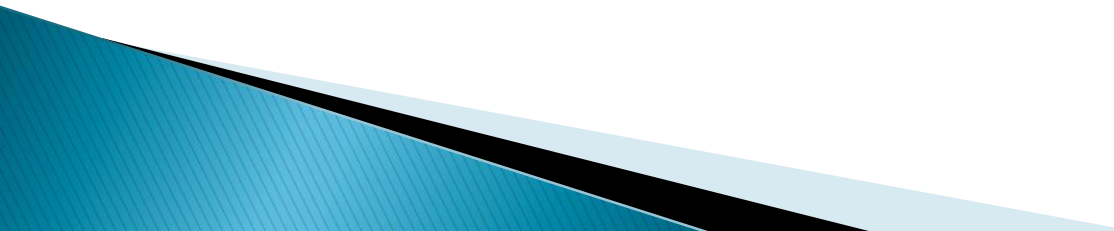


Innovation for Productive Capacity–building and Sustainable Development: Policy Frameworks, Instruments and Key Capabilities


Demand Side Innovation Policies:

General remarks and the issue of
“unintentional” public procurement of innovation

Outline

- ▶ An overview
 - ▶ Demand – side policies
 - ▶ Demand–side mapping in the EU
 - ▶ What is / why focus on PPfI
 - ▶ The Greek situation
 - ▶ Lessons learned: the unintentional PPfI
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Demand-side policies

- ▶ Demand side : market creation
 - ▶ Demand - side instruments: Measures influencing the creation of public (e.g. public procurement) or the stimulation of private markets (e.g. subsidise users to demand innovative products) which improve business expectations; they constitute incentives to innovate and market innovative products or services
 - ▶ Demand-side debate in two waves ('70s and then early 2000 revival through global, societal challenges)
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Demand-side policies (cont.)

- ▶ Critics of the demand-pull argument attacked it on three grounds in the past: inconsistency of concept, demand explains incremental technological change far better than it does discontinuous change, assumptions concerning firm capabilities may be misleading.
- ▶ Demand side policies are more difficult to handle than supply-side. Policy risks are higher because, in addition to the technological risk, policy makers need to anticipate the response of actors (risk of substituting market failure with government failure)

Types of demand side instruments

Public procurement

- ▶ Public procurement of innovation
- ▶ Pre-commercial public procurement (although there are doubts expressed to the extent to which this type is really a demand-side instrument)

Regulation

- ▶ Use of regulations
- ▶ Standardisation

Supporting private demand

- ▶ Tax incentives
- ▶ Catalytic procurement
- ▶ Awareness raising campaigns

Systemic policies

- ▶ Lead market initiatives
- ▶ Support to open innovation and user-centred innovation

EU demand-side mapping

Type of demand-side policy tool																																
Fostering public procurement of innovation	■	■		■			■	■			■	■	■	■			■	■	■					■	■	■	■		■			■
Pre-commercial public procurement						■				■	■														■	■			■		■	
Regulation as a tool for innovation policy							■	■			■	■																			■	
Tax incentives to foster innovation demand							■																									
Awareness raising campaigns, labels	■	■		■			■	■	■	■	■																■		■			
Lead market type of initiatives		■					■				■															■	■		■			
User-driven innovation							■	■			■	■														■	■			■		■
Countries	AT	BE	BG	CH	CY	CZ	DE	DK	EE	ES	FI	FR	GR	HU	IS	IT	IR	LT	LV	LU	LI	MT	NO	NL	PL	PT	RO	SE	SK	SI	UK	

Source: Izsak, K. and Edler J. (2011) Trends and Challenges in Demand-Side Innovation Policies in Europe: Thematic Report 2011 under Specific Contract for the Integration of INNO Policy TrendChart with ERAWATCH (2011-2012)

Demand-side mapping in the EU

Most frequently used interventions: Public procurement of innovation, pre-commercial public procurement

Selectively used interventions: Standards and regulation, awareness raising campaigns, catalytic procurement

Rarely used: tax incentives (for market creation), lead market initiatives and open innovation (increasing)

Most frequently used technologies: Environment and energy saving; ICT

Most active countries: Originally USA, Nordic; increasingly UK, NL and Germanic; nearly no demand-side policies in the South

A radical proposal: UK House of Lords

What is / why focus on PPfI

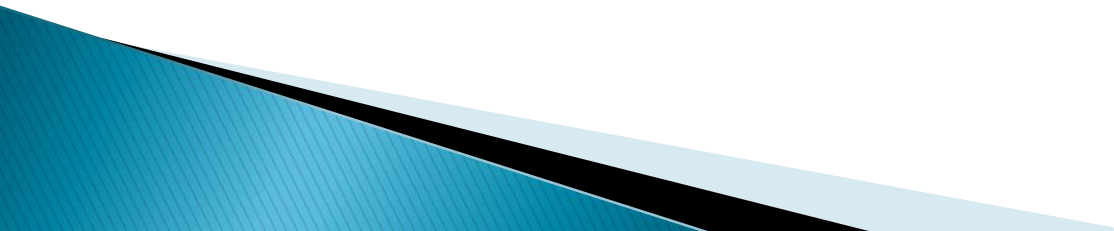
- ▶ The procurement of innovation includes technology but goes beyond it and addresses non-technological innovation and complex systems, where the technology may be known and proven but not at that scale or level of complexity.
- ▶ Public procurement for innovation (PPfI) occurs when a public agency places an order for a product or system, which does not exist at the time the order is placed but which could (probably) be developed within a reasonable period.

What is / why focus on PPfI

Public Procurement for innovation

- ▶ *The character of the procurer.* The procuring organisation may be the end-user of the product resulting from the procurement (direct procurement), or the procuring agency may serve as a catalyst, coordinator and technical resource for the benefit of other end-users, not itself.
- ▶ *The novelty of the product and its position in the innovation cycle:* The type of innovation required from the supplier may, at any point of the innovation cycle, be associated with risks. The earlier the procurement takes place in the technology life cycle, the higher are the risks. The early phases, when radical innovations are needed and procurers buy completely new-to-the-world products, are referred to as *developmental or creation-oriented PPfI*. Conversely, ***adaptive or diffusion-oriented PPfI*** occurs when the innovation needed for product or system procurement is incremental due to specific requirements or adaptations to local conditions. Technology transfer for larger systems is often associated with PPfI. This may also refer to business process and non-technological innovation.

Barriers to PPfI

- ▶ The lack of sophisticated demand tradition or incumbent 'national' industries dominating the domestic market
 - ▶ The reluctance or hesitation of policy makers to intervene
 - ▶ The limited capacity to impose regulations autonomously
 - ▶ The lack of practical concepts and reliable tools regarding innovation procurement
 - ▶ The lack of support to lead market suggestions by industry, in case there are no adequate policy responses offering the necessary public funding to help such initiatives off the ground
 - ▶ Legal frameworks not adapted to the needs of these policies.
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The Greek case: use, abuse and abandoning of PPFi

- ▶ The manufacturing sector relying mainly on low labour cost (transformation process failed and triggered the current crisis)
- ▶ Manufacturing less than 10% of GDP
- ▶ The limited competitiveness of domestic electrical and mechanical equipment Big, competitive companies limited their activities thereafter to construction, processing of primary raw materials and, to a limited extent, to software development.
- ▶ The most recent growth period was based on a small number of exporting companies, with exports accounting only for 24% of GDP (in comparison to an EU average of 43.5%).
- ▶ The gradual integration into the European market formally ended any protectionism; public procurement had to comply with EU Directives. Yet, the risk-averse and low-skilled public procurers tended to apply the general rules instead of employing new instruments, such as competitive dialogue opportunities, as these presuppose market maturity.

The Greek case

- ▶ Based on the latest available statistics (2010), public procurement of goods and services amounts to 11% of GDP and has decreased in the last few years. Only 22% of such procurement is actually tendered internationally and published in the Official Journal of the European Communities.
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The Greek case: *The idea of programmatic agreements before the adoption of the EU Directives*

- ▶ In the early 1980s, after the accession to the EU but during the transition period when infant industry protection was still permissible, the **share of local value added was one important criterion for the selection of tenderers**. During this period national industrial policy attempted to use public procurement to stimulate engineering and transport means, in particular through the procurement of the telecommunications and power utilities. Programmatic agreements for a limited period of time were signed between the major utilities and local providers.

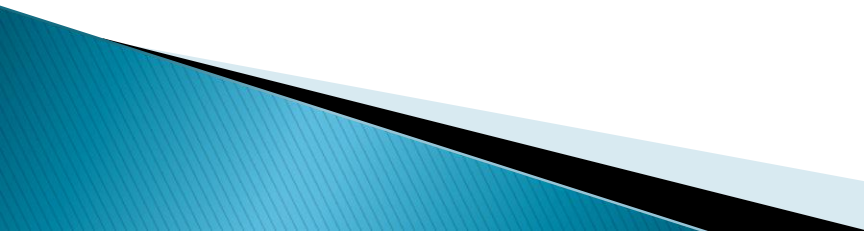
The notion of unintentional PPfI: success stories

- ▶ **Customs software.** The Greek company Intrasoft International gained an international competitive advantage due to the low-budget procurement of the Greek Customs Authority. The procurer wanted to resolve a specific problem linked to the coordination of national customs. As the small scope of the contract was hardly of interest to large international players, the Greek company won the bid in a competitive call and, in the period 1995–98, developed an integrated customs information system which allowed the supplier to gain insight into EU customs regulation and practices.
- ▶ In reality the procurement was a co-development of client and supplier, since the original Terms of Reference were rather imprecise, as the customer had no experience in the field. With their acquired knowledge about the specific business procedures and the reference of the first small national project, the company was in a position to bid and win a large European contract to monitor transit trade in the EU in 1998, followed by a more complex upgrade contract in 2003. These contracts were much larger, and fierce international competition had to be faced. After that, the Greek company became a globally recognised leader in the field and installed similar systems in different countries. As the demand exceeded its capacity, the company had to join forces with IBM to serve the markets of SA Asia: IBM was the tier-1 vendor, whereas the system was always a joint project between Intrasoft and IBM. Meanwhile, the system is used in 40–50 countries worldwide.

The notion of unintentional PPfI: success stories

- ▶ **Tax systems.** As the capabilities of Intrasoft International grew, it gained another national procurement contract for the national tax system. The procurer this time was the Ministry of Finance, which had a good understanding of its needs and launched a call with precise specifications and functional requirements. Intrasoft entered the market at a rather late stage (as did the Greek government which was slow in modernising its tax collection procedures). Yet, this offered an unexpected advantage, namely that the company was able to develop technologically more modern and efficient systems than those in pioneer countries (such as the UK, for instance). This enabled the supplier to bid for similar, small contracts beyond the national border.

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The notion of unintentional PPfl: success stories

- ▶ **Social security.** Intrasoft International won a major procurement contract from the National Social Security organisation for the development of a national pensions system. The large size of the project, addressing the needs of 7 million insured people (primary and dependent), and the state-of-the-art software tools provided Intrasoft with a deep knowledge of the social security market. Although lack of training, resistance to change and in some instances the influence of anti-modernisation lobbies (driven by corruption or nepotism) resulted in a poor performance of the system, the supplier received the necessary reference and could replicate a similar system in Moldova and more recently won a bid for the automation of the Kenyan Social Security System.

The notion of unintentional PPfI: success stories

- ▶ **Intralot**, a company that specialises in the running of lotteries, has also largely benefitted from a national tender in software development. The company has become one of the world leaders in its niche. While often doubt was cast on the initial tenders it had won, Intralot has developed into a leading supplier of integrated gaming and transaction processing systems, innovative game content, sports-betting management and interactive gaming services to state-licensed gaming organisations on the global market. Established in 1992, with 5500 employees today, Intralot is one of the very few Greek companies that are growing and profitable in an increasing worldwide market. Its advanced know-how in the development of cutting-edge products was built on its initial success in winning the national tendering for the lottery sector.

The Greek case: The notion of unintentional PPfI

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The notion of unintentional PPfl: not everything succeeds

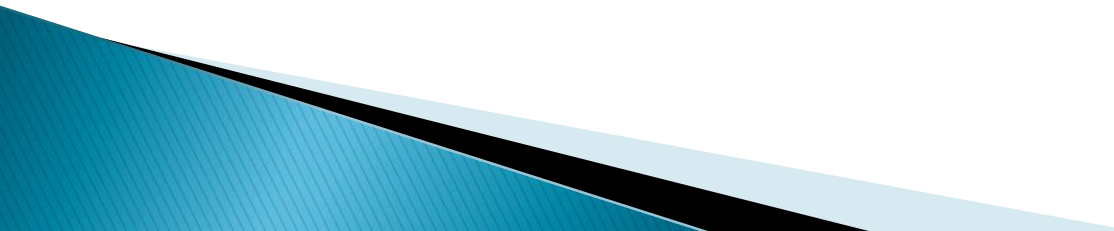
- ▶ Conversely, it proved practically impossible to go beyond the MEAT procedure for the **Public Power Corporation (PPC)**, one of the major procurers in high technology equipment in the country that is willing to adopt PPfl. PPC, a public company with a majority public shareholding, has every interest in having a pool of innovative suppliers at its disposal, which are able to rapidly provide new solutions. In many cases SMEs were in a position to offer such solutions, partly by incorporating radical innovations in cooperation with HEIs. Several attempts were made at using technical specifications and new tendering techniques, but they encountered significant resistance, ending up with court appeals against the process every time new paths were tried. The only uncontested clause beyond MEAT has been the time of delivery.

The Greek case: Lessons learned transferable to developing countries

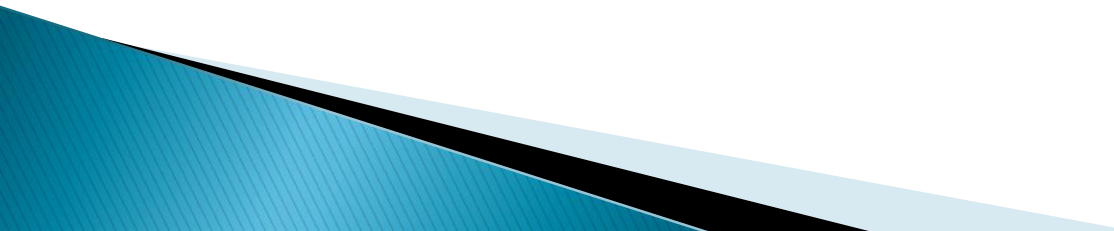
Two main lessons can be drawn from the Greek case:

- ▶ Relatively small markets, where there is no interest from either the local manufacturing sector or a modern and sophisticated administration are unlikely to produce developmental PPfI. Moreover, attempts to artificially impose such policy tools bring with them the risk to end up with resistance to change.
- ▶ However, even in countries where the conditions are not favourable to exercise explicit PPfI, there are cases in which procurement may generate, even if not envisaged, significant innovations, technological and non-technological, due to a deep knowledge of the business model. If this procurement and the knowledge derived occur at an appropriate stage of the innovation cycle of larger systems, the benefit for the supplier may be significant. This unintentional, diffusion-oriented PPfI can be elaborated into an explicit tool in such markets and play a crucial role in their economic development. **It is adaptive and the main merit of PPfI is training suppliers to understand the business mechanics.**

Policy options

- ▶ Lead market initiatives (target the global market)
 - ▶ Pre-commercial procurement (SBIR-type)
 - ▶ Specialised procurement agencies: functional requirements (NL)
 - ▶ Appropriate moment for adaptation (end of early stages of the product development cycle): make the unintentional intentional
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Three important questions

- ▶ Is political support for combined supply and demand policies strong enough to allow policy makers to take the risk of experimenting?
 - ▶ Are the means and tools available to do so?
 - ▶ What are the main barriers that might inhibit policy adaptation? Can care be taken to minimise them?
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Thank you for your attention

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