Chapter 1

CHARTING A COURSE IN PUBLIC PROCUREMENT INNOVATION AND KNOWLEDGE SHARING

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INTRODUCTION

Public procurement is continuing to evolve both conceptually and organizationally. That evolution accelerated since the 1990s as governments at all levels came under increasing pressures to "do more with less." Indeed, all governmental entities of rich and poor countries are struggling in the face of: unrelenting budget constraints; government downsizing; public demand for increased transparency in public procurement; and greater concerns about efficiency, fairness and equity. Additionally, public procurement professionals have faced a constantly changing environment typified by rapidly emerging technologies, increasing product choice, environmental concerns, and the complexities of international and regional trading agreements. Further, policy makers have increasingly used public procurement as a tool to achieve socioeconomic goals (Thai, 2007).

In this environment, public procurement has become much more complex than ever before, and public procurement officials must deal with a broad range of issues. They have been walking on a tight rope in:

- Balancing the dynamic tension between (a) competing socioeconomic objectives, and (b) national economic interests

- and global competition as required by regional and international trade agreements;
- Satisfying the requirements of fairness, equity and transparency;
- Maintaining an overarching focus on maximizing competition; and
- Utilizing new technology to enhance procurement efficiency, including e-procurement and purchase cards (Thai, 2007).

Established in 2004, the International Public Procurement Conference (IPPC) has become a unique forum for exchange of knowledge and information in public procurement among international experts in this field. Through the four previous conferences, many experts from various backgrounds shared their views and experiences on critical issues of public procurement. The fertile mixture of experiences, interests and contributions that emerged in the last four conferences represents an important basis upon which to build the 5th International Public Procurement Conference (IPPC5).

IPPC5, held in Seattle, USA, has the following unique characteristics. It will deepen the interdisciplinary research on public procurement. Public procurement research can be accessed from various academic fields, including law, economics, public administration, business administration, and construction management, to name a few. It is the tradition of IPPC that experts from various academic backgrounds share their views, thus crossing barriers between academic fields. This tradition will be continued and broadened in IPPC5. In addition, IPPC5 will strengthen the link between the practitioners and scholars in finding solutions to harmonize various objectives in public procurement. Public procurement has many objectives: transparency, competition, efficiency, value for money, socioeconomic objectives, among others. Because these objectives sometimes conflict with each other, it is necessary to harmonize these various objectives. To cope with this challenge, it is important for practitioners and scholars to cooperate with each other. Practitioners should give explanations of actual problems in their harmonizing efforts, and scholars should make

every effort to address these problems with sound theory and analysis.

In this chapter, the co-editors will address two major issues that we believe are especially important: public procurement strategies and defense procurement. The last section of this chapter provides brief summaries of 15 papers, which were selected from 171 qualified papers after a careful review by the IPPC5 Scientific Committee.

EVIDENCE-BASED DESIGN OF PUBLIC PROCUREMENT STRATEGIES

Assessing Public Procurement Strategies: A Sisyphean Task?

A renewed interest in general efficiency and effectiveness in public administrations of both developed and developing countries has led in the last couple of decades to a rise in evidence-based decision making. Although it is difficult to trace exactly the roots of this new wave in public management, it would be difficult to underestimate the influence that the New Public Management has exerted in shaping public management reforms in many countries since the 1980s. This has contributed to revamp the interest in the measurement of effectiveness and efficiency of public decision making.

Evidence-based decision making represents a crucial tool by which governments and public administrations evaluate different scenarios by examining and measuring the likely benefits, costs, and effects of their decisions. After undertaking the most appropriate analyses, and ensuring that all possible scenarios have been taken into consideration, governments can use this information to increase both the transparency and the accountability of their decision making processes. This forces (and allows) decision makers to test socially valuable objectives against the cost of realizing them, thus giving governments the tools to rank competing objectives.

Evidence-based decision making hinges basically on the knowledge of the relevant phenomena, which in turn requires both the measurement of the phenomena themselves and the analysis of multiple sets of data. Policy evaluation requires measuring socio-

economic phenomena coupled with an interpretation framework (theory) that both dictates the kind of data to be gathered and delivers the looked-for predictions.

As one of the most relevant governmental activities, public procurement bundles a set of activities that lend themselves almost naturally to the evidence-based decision making approach. There are two main reasons for such an assertion. First, although the (accounting) decision as to what falls into the definition varies according to the specific statistical methodology, public procurement represents a sizeable fraction of any country's GDP. Second, academics and policy makers alike have gradually realized that public procurement may support the adoption of a more sustainable model of development by promoting innovation while stimulating firms to adopt more environmental friendly technologies. The European Commission itself has identified the direct procurement of innovation as "a missing link" in the European production chain of innovation, especially in comparison with the United States.

While progressively realizing the potential of public procurement as a powerful incentive device for the whole economy, we should expect an increasing pressure for measuring the effectiveness of the procurement strategies coming from the ultimate stakeholders, that is, tax payers. In the remainder of this Section, we will lay down the main difficulties in measuring the performance of public procurement strategies and discuss briefly a potential fruitful method inspired by the composite index for measuring the wealth of nations as proposed by the Stiglitz-Sen-Fitoussi Commission in 2009.

The Quest for the Measure of Value for Money

It is a widely held (wrong) view performance measurement in public procurement turns out to be an almost trivial exercise when a public contract is awarded by using the lowest price criterion. The mistake stems typically from overlooking the role of minimal quality standards. A textbook-like example might be useful in grabbing the difficulties in comparing different procurement outcomes even under seemingly analogous circumstances. Suppose that two buyers,

N(orth) and S(outh), have carried out two competitive procurement processes for acquiring similar, albeit not identical, printers. Bids were solicited after fixing minimal quality standards. For the sake of simplicity let us assume that buyers value three quality dimensions only: printing speed, resolution and memory. The outcomes of the two competitive procurements are shown in Table 1.

TABLE 1
Comparing Value for Money from Two Procurement Processes

	Unit price	Printing speed	Resolution	Memory
Buyer "N"	300€	60 pp /minute	1200 dots per inch	512MB
Buyer "S"	240€	60 pp /minute	600 dots per inch	1GB

The two buyers end up acquiring quite similar pieces of IT equipment, but not exactly the same ones. Which buyer managed to achieve the higher value for money? Comparing the two buyers' performances would inevitably require measuring the trade-off between price and two out of three technical aspects. If this trade-off is buyer-dependent, that is, if each buyer values differently the "exchange rate" between quality and price, comparing buyers' performance might be a meaningless exercise.

One possible solution may consist in comparing performances with respect to an exogenous benchmark. In other words, rather than comparing individual performances against each other one may consider achieved levels of a performance measure such as savings. This approach would shift the difficulty of assessing performances from a direct comparison to an indirect one, by using the common "benchmark measure" of savings. Although frequently employed and quite as frequently misused, the concept of savings in public procurement needs to be handle with care.

Modern theory of competitive bidding (See, for instance, Krishna, 2009) has proved that competition is likely to make the buyer better off with respect the most easily available outside option, consisting

often in negotiating a deal with a local, possibly well known, supplier. By attracting new bidders competition should in principle yield lower purchasing cost than a private deal with the local supplier. Basically, by moving from one-to-one to a one-to-many market interaction, the buyer can exploit a higher bargaining power. The number of new bidders is mostly determined by level of (in)efficiency of the local supplier, that is, how costly is the buyer's outside option: the more inefficient the local supplier (implying a higher purchasing cost for the buyer) the higher the number of potential new bidders.

As a first approximation, (absolute) savings would consist in the (absolute value of the) difference between the outcome of a competitive bidding and the cost of the negotiation with the most easily available supplier. The definition leaves some leeway in defining the outside option. From a practical viewpoint, it might consist in the price charged by any incumbent firm that used to supply non-competitively local buyers or the "average" posted price available on the local market. The choice of the benchmark price is crucial in that it affects the measurement of the "performance" of any given competitive procedure. All else being equal, doubling the cost of the outside option doubles the value of achieved savings!

When knowledgeable about the cost of the outside option, public buyers may decide to commit to a reserve price, that is, a ceiling to any offer they are willing to consider. When commitment is firm, a public buyer rejects any tender higher than the reserve price. By setting a reserve price strictly lower than the outside option a buyer bears the risk of not trading with any firm since it is possible that all potential participants (estimated) costs for carrying out the procurement task(s) are higher that the reserve price. However, under a set of circumstances, such a strategy may yield the buyer higher savings by inducing tougher competition among those firms that turn out to be efficient enough to participate in the competitive tendering.[1] In this case, the relevant measure of (absolute) savings would consist in the (absolute value of the) difference between the outcome of a competitive bidding and the reserve price. When public procurement is (at least partially) centralized though a central procurement agency/body awarding contracts on behalf of other public buyers, the

reserve price can be meaningfully set at the level of the average purchasing price that public buyers can achieve without using the central procurement agency's frame contracts. In other circumstances, the reserve price might be related to, albeit not necessarily coincide with, the maximum budget allocated for carrying out successfully the procurement process.

The discussion above sheds some light on the difficulty of defining precisely the measure of performance even when procurement strategies are inspired by the cost minimization only. In other terms, the adoption of the financial dimension, while restricting the set of solutions available to public buyers, does not make the performance measurement task as simple as one would have thought.

From Value for Money to "Social" Value for Money: Is Any Measure Conceivable?

In spite of the above difficulties in performance measurement, "controlling" purchasing costs is widely considered a "basic" requirement of sound public procurement strategies. This also explains why, particularly in recent times, different regulatory systems have been encouraging, and often have made it compulsory, the recourse to open and competitive awarding mechanisms. While the financial dimension remains crucial, public buyers are usually willing to exchange better (resp., worse) financial conditions with lower (resp., higher) quality levels. This is likely to hold when, say, either the same need can be satisfied by different technical specifications or when quality involves subjective dimensions (e.g. organizational solutions in carrying out a project).

Moreover, since procurement regulations often impose tight constraints on public buyers—grounded on the principles of competition, non-discrimination and equality of treatment—public procurement processes may end up being lengthy and cumbersome or, at least, widely perceived as such. The impact of "transaction/ process" costs is then one of the key explanations of the increasingly massive use of electronic solutions (e-procurement) to manage some,

if not all, of the phases along the acquisition cycle. Price, quality and process costs then constitute the basic measures to assess public procurement processes. Although seldom explicitly defined, the measure of "value for money" in public procurement seems to embed those three dimensions.

While providing a fairly intuitive measure of the basic performance of public procurement strategies, the "traditional" concept of value for money cannot capture a whole new set of dimensions that are increasingly recognized as "socially" valuable. First, public procurement, when appropriately centralized, has the potential to alter market dynamics by fostering the adoption of new technological standards when network effects are relevant, as in the case of telephone services or PC operating systems (Albano & Sparro, 2010). Second, well designed public procurement strategies may provide appropriate incentives to reduce the amount of externalities generated by suppliers' technological choices (e.g., the amount of CO2 emissions related to a PC's energy consumption or the impact on the environment by the packing of the same PC), to affect the choices of producers' supply chain and to embed the welfare of stakeholders even less directly affected by procurement strategies (e.g., safety standards of subcontractors' working environment).

This approach is likely to be smoother than a mere regulatory intervention ("push approach"), thus allowing firms to spread over a longer period of time the necessary investments. Moreover, because it operates mainly by imposing constraints, a simple "push approach" does not draw sufficient attention to the advantages that can be derived from more environmentally and socially responsible behavior. Third, the role of public procurement as a pull-mechanism for innovation is continuously emphasized as well as the importance of having a "large" base of contractors by involving SMEs.

Pursuing socially valuable objectives makes public procurement a new tool for industrial policy and possibly an engine for economic growth. The consequences for developing countries are immediate. If appraised from additional perspectives, public procurement policies may become an increasingly effective tool to provide clear incentives

to both firms and public buyers without having central government take an intrusive stance in the socio-economic environment.

Spurring innovation, reducing externalities, fostering participation by smaller firms have then become almost as valuable objectives as the maximization of the more "traditional" value for money. If public procurement for goods and services (but also non-complex civil works) needs to be assessed by using more dimensions, two main concerns arise almost immediately. The first concern is the choice of the most appropriate measures for each single additional dimension. Consider, for instance, the degree of involvement of SMEs in procurement market: Is it more appropriate to focus on the fraction of the total number of procurement contracts awarded to SMEs rather than to the fraction of the overall value of procurement contracts? Secondly, if a more intense participation of SMEs in the procurement market is accomplished at the expenses of an efficient bundling of public demand (that is, by chopping off high-value contracts) how are we going to evaluate the net effect? Second, after solving the arguably difficult choice of the appropriate measures a sound method for capturing the likely trade-offs that are going to arise among different objectives is to be designed.

Crafting a toolbox of composite indicators will require selecting both objective and subjective measures. In this respect, the problem is reminiscent of the one faced by the Stiglitz-Sen-Fitoussi Commission on the measurement of economic performance and social progress. The Commission's main objective was to "to identify the limits of GDP as an indicator of economic performance and social progress, including the problems with its measurement; to consider what additional information might be required for the production of more relevant indicators of social progress; to assess the feasibility of alternative measurement tools, and to discuss how to present the statistical information in an appropriate way" (Executive Summary; 1st paragraph). In a similar vein, the increasingly multifaceted nature of public procurement will require a novel approach to the measurement "exercise" by first identifying what kinds of *objective* performance measures can be constructed (e.g. savings, degree of participation in public procurement processes by SMEs) and

standardized so as to make international benchmarking feasible; moreover, the method will have to inevitably integrate a series of subjective measures (e.g. stakeholders' customer satisfaction indexes). The last, admittedly challenging, step will consist in building a *composite performance index* that is likely to play a major role in drawing the picture of different system and in guiding policy makers in the design of new waves of reforms.

THE PUBLIC PROCUREMENT - DEFENSE ACQUISITION GAP

Scholars have noted and commented on the disciplinary gap between public administration in general and military administration in particular, emanating from the perception that "defense is different" (Jefferies, 1977; Mayer & Khademian, 1996; Stever, 1999). Here we note the potential for a similar sort of gap between public procurement and defense acquisition (i.e., the activities, processes, and structures that procure materiel and services to support military missions). We believe that it is vitally important for the development of public procurement theory and practice that such a gap not be allowed to appear, and if it already exists, to bridge it where possible.

Accordingly, this section discusses some tensions between public procurement and defense acquisition which keep them from being more closely aligned, and it suggests how these tensions may be relieved. While substantive treatment of this issue is not possible in this short space, we can briefly outline several factors that contribute to the belief that, where procurement is concerned, defense is indeed different.

Defense Acquisition's Importance in Public Procurement

By any measure, nations' militaries entail huge public expenditures. In 2011, worldwide spending for defense totalled over $1.7 trillion, roughly 2.5% of world GDP (Stockholm, 2011). With most nations, on average, devoting about 20% of GDP to public procurement (Carter & Grimm, 2001, p. 3), it is obvious that defense spending represents a major portion of this total. Much of this defense spending is related in some way to public procurement at

national levels. In the U.S., for example, well over 50% of the budget for the Department of Defense (DoD) is executed via public procurement, whether by contracts for R&D, for weapons purchases, for construction projects, for fuel and spare parts, or for maintenance, administrative, and health care services (Department of Defense, 2012). Further, the sizes of nations' defense acquisition workforces reflect the magnitude of this spending. Roughly one-fourth of all public procurement professionals in the U.S. work in the DoD (Carter & Grimm, 2001, p. 3).

Public procurement scholars quite naturally claim defense acquisition as an important part of their field when, for example, they include defense acquisition in public procurement statistics (Rendon & Snider, 2010, p. 103; Snider & Rendon, 2012, p. 331), or when they cite military procurement cases to establish public procurement's historical foundations (Thai, 2001, p. 13). Further, it is clear that defense acquisition and public procurement—particularly at the national level—share many features. Both typically use the same essential procurement processes of requirements assessment, solicitations and tenders, evaluations and awards, and procurement administration. Both have much the same institutional goals and desired outcomes, such as transparency, probity, accountability, and value for money. Both also typically are subject to forces that attempt to use them to accomplish certain public policy objectives, for example, preferences for domestic sources of supply or to promote SME (Arrowsmith, 1995).

To what extent, however, do those in defense acquisition claim public procurement as their professional and intellectual home? Do they perceive any affinity with public procurement, or do they perhaps believe that defense acquisition and public procurement are "fundamentally alike in all unimportant respects" (Allison, 1992)? We see several important areas of difference which lead those in defense acquisition to see at best only tenuous connections between their enterprise and public procurement. These include: (1) the unique nature of what is acquired for defense; (2) its foundations in technical and program management; (3) its cultural bias that favors military leadership; and (4) its structural arrangements.

Difference 1: What Is Procured?

Though defense acquisition obtains a wide range of goods and services for military use, attention typically focuses on a particular subset of items, namely, complex, technologically sophisticated, and expensive weapon systems such as aircraft, ships, and tanks. Nations acquire such advanced weaponry, at least in theory, for their perceived military advantage over potential adversaries. Too often, however, acquisition efforts for these systems encounter cost overruns, schedule delays, and quality shortfalls (see, for example, Government Accountability Office, 2011); they also present lucrative opportunities for graft and corruption among procurement officials (see, for example, Rhoads, 2010). Such problems attract—rightfully so—the attention of elected officials, auditors, watchdog groups, and the press.

The high-profile problems that accompany the acquisition of high-tech weapon systems cause public attention to fall primarily on this particular subset of defense acquisition. In response, the main focus of those who accomplish defense acquisition turns to this subset as well. The resulting emphasis on major weapons acquisition is excessive in relation to the acquisition of other commodities. To illustrate, the Defense Acquisition University in the U.S. has dozens of training courses dealing with major weapons development, production, and contracting, but only a handful of courses that deal with contracting for services, even though the DoD spends more on services than on equipment (Erwin, 2007; Defense Acquisition University, 2012).

As a consequence, those in defense acquisition see themselves engaged in procuring fundamentally different types of items than most other public procurement professionals. Differences in the objects of procurement thus distinguish defense acquisition from public procurement.

Difference 2: Disciplinary Foundations

Defense acquisition's emphasis on high-tech weapon systems shapes its members' perspectives on the relative importance of

various skills needed for effective acquisition management. This perspective is evident in some commonly accepted definitions. First, regarding "acquisition":

> *Acquisition:* the conceptualization, initiation, design, development, test, contracting, production, deployment, and logistic support, modification, and disposal of weapons and other systems, supplies, or services (including construction) to satisfy DoD needs, intended for use in or in support of military missions (Department of Defense, 1995).

Several words (e.g., design, development, test, production) in this definition emphasize technical (i.e., scientific or engineering) functions rather than administrative activities. This definition also suggests the need for and importance of a discipline that integrates technical and administrative functions in a sensible and coherent way to achieve successful acquisition outcomes. In defense acquisition, most nations use program (or project) management for this purpose:

> *Program Management*: The process by which a single leader exercises centralized authority and responsibility for planning, organizing, staffing, controlling, and leading the combined efforts of participating/assigned civilian and military personnel and organizations, for the management of a specific defense acquisition program or programs, through development, production, deployment, operations, support and disposal (Schmoll, 1996, p. 61).

Many writers locate program management's modern roots in the acquisition of large, highly complex weapons projects, such as the Manhattan project and aerospace projects, during and following World War II (Acker, 1993, pp. 4-5; Przemieniecki, 1993, p. 13). Project management concepts, methods, and organizations became the means by which the militaries of developed countries attempted to exploit technological advances in increasingly sophisticated weapon systems that often took many years to design and produce.

Defense acquisition efforts are thus typically managed as programs under the leadership of a program manager (PM), who integrates the efforts of technical and administrative staff. This emphasis and reliance on program management as the central discipline of defense acquisition sets it apart from public procurement in general.

Difference 3: Bias for Military Leadership

In many countries, defense acquisition is configured as a distinctly military rather than an administrative function due to the prevalence of and preference for uniformed members in key acquisition positions.[2] In the U.S., for example, military members hold more than 85% of the PM positions for major weapons programs, though they make up only 15% of the total defense acquisition workforce (Garcia et al., 1997, p. 303). The most common explanation for this seems to be that the operational experiences of uniformed members enable them, unlike civilians, to understand and respond to the needs of the operational user (Lockwood, 1985, pp. 16-17). Thus, in defense acquisition, the "warrior perspective" is valued along with managerial skills or experience.

To the extent that such military cultural factors dominate in defense acquisition, they serve to distinguish it from the non-military culture of public procurement in general.

Difference 4: Structural Arrangements

In recognition of its unique aspects, defense acquisition in many nations is implemented according to unique laws, regulations, and other structural features.[3] In the U.S., for example, the Defense Federal Acquisition Regulation Supplement provides defense-specific regulatory structure in addition to the Federal Acquisition Regulation, which guides public procurement for the entire U.S. central government.

The European Union (EU) provides probably the most notable illustration of unique structural arrangements for defense acquisition. In principle, defense acquisition is subject to the Public Sector

Directive (Directive 2004/18/EC of the European Parliament and of the Council of 31 March 2004), which governs public procurement in general and seeks, among other goals, to broaden trading opportunities among member states. EU members often, however, invoke Article 346 of the Treaty on the Functioning of the European Union which exempts much of their defense acquisition from EU rules. This article allows for exemptions when acquiring equipment and services that are intended for military purposes and are necessary for the protection of the member states' "essential interests." As a consequence, the usual EU public procurement regime is rarely applied in the defense acquisition context for member states[4] (Graber-Soudry & Labbet-Ainsworth, 2012)

The existence of such unique structural arrangements for defense acquisition conveys the view that it is a different sort of enterprise than public procurement.

Consequences of the Gap

The four differences sketched out above indicate the cause and extent of the gap that may appear between public procurement and defense acquisition. While some distinctions between the two are natural and appropriate both for scholarly and professional purposes, this gap would certainly inhibit opportunities for fruitful discourse between members of the two fields in areas of mutual interest.

A brief survey of some organizational web sites illustrates the point. A review of web pages for the National Institute of Governmental Purchasing, the premier professional association for public procurement in the U.S., and the Defense Acquisition University (DAU), the main acquisition training arm of the DoD, yields no evidence of a relationship between the two. In contrast, a similar review reveals several apparently substantive connections between DAU and the Project Management Institute (PMI), as well as between DAU and the National Contract Management Association (NCMA).

We interpret this as the defense acquisition community (at least in the U.S., though we suspect more broadly) perceiving disciplinary affinities with both project management and contract management,

but not with public procurement. We also assume that the fields of project and contract management are each enriched by defense acquisition's engagement in their professional and scholarly activities and that, reflexively, they also each enrich defense acquisition. Should not public procurement similarly enrich and be enriched?

Closing the Gap

Those in public procurement cannot expect to close the gap simply by saying to those in defense acquisition, "Here we are; come join us." Rather, they must show to defense acquisition the benefits of associating with public procurement. Areas of mutual interest, cooperation, and collaboration must be highlighted, while legitimate differences of identity must be acknowledged and respected. Mutual affinities must be established and nurtured.

Responsibility for leading this outreach effort to defense acquisition should rightly fall to those senior public procurement professionals and scholars who can influence various engagement means; these include public procurement associations, publications, conferences, and academic programs. Examples of actions that public procurement leaders can take include: negotiating strategic partnerships with acquisition organizations; establishing special interest groups for defense acquisition (such as that of the United Kingdom's Ministry of Defense in the Chartered Institute of Purchasing and Supply); featuring defense acquisition prominently in conferences (e.g., inviting a senior acquisition official as a keynote speaker); including acquisition officials on journal and association boards; and targeting acquisition journals as publication outlets and for special issues.

We do not anticipate rapid developments on this issue. Progress may entail overcoming many years of professional and intellectual biases. As a relatively young and evolving field, however, public procurement may be sufficiently flexible to reach out and bring defense acquisition into its fold. If successful, public procurement will have taken a major step toward establishing itself as a mature field of public administration.

CONTENTS OF THE BOOK

Twenty-one studies or papers (hereafter called "chapters") were selected, via a rigorous peer review process, on the basis of scholarship. Thus, it is expected that they cover a variety of research issues. However, three major procurement issues have been the focuses of fifteen chapters: defense procurement (two chapters), public procurement as a policy tool (five chapters), suppliers (two chapters). The remaining six chapters address other public procurement issues.

By no means do the above identified themes reflect scientifically the current trends of research interests. Actually, there are a good number of papers presented at the conference which focus on many critical procurement concerns, including procurement reforms, transparency concerns, e-procurement, and procurement approaches or techniques.

Defense Procurement

Critical success factors have a direct impact on an organization's procurement processes and resulting outcomes. In "Defense Procurement: An Empirical Analysis of Critical Success Factors," Rene G. Rendon presents the results of a survey-based research on defense procurement critical success factors. He shows similarities in the identified critical success factor categories within the DoD, and between the DoD and industry. Although the DoD procurement policy primarily emphasizes the workforce-related critical success factors, the research findings suggest that the DoD should apply more emphasis on process-related critical success factors as an approach to correcting procurement process deficiencies and reducing the high risk of DoD not getting maximum value for its procurement dollars.

The concept of performance-based logistics (PBL) has become increasingly popular in the U.S. and U.K. complex defense procurement systems. In contrast, Germany has not yet broadly adopted the concept. However, with a major reform of the armed forces underway, this reluctance towards PBL is fading. In "Performance-Based Logistics in Germany: Case Studies from

Defense Procurement," Florian C. Kleemann, Andreas Glas and Michael Essig examine the circumstances and key success factors that facilitated PBL contracts and lessons that can be learned for a broader introduction of PBL in Germany (e.g. partnership, trust). They use a deductive methodology to describe the status-quo and case studies to develop a set of success factors for implementing PBL. However, it has become apparent that the marketing efforts by the defense industry are fruitful only if the customer also sees a specific need for using PBL instead of traditional contracting approaches.

Suppliers

How suppliers perform their expected duties and responsibilities in production, sales, and service delivery is essential to the quality of public procurement programs. In an explorative study, "Suppliers' Integrity Management in Chinese Public Procurement: An Explorative Study," Conghu Wang and Yuhua Qiao propose an analytical framework to study suppliers' integrity management in Chinese public procurement. The proposed analytical framework will also allow scholars to compare public procurement suppliers' integrity management systems in different countries. The findings and the policy recommendations presented in this research are insightful for Chinese policy makers to understand and improve the system.

The main goal of public procurement reform in 2005-2008 in Russia was to limit corruption. Government prohibited most qualification criteria in the selection process and used open auctions as a main tool for contract placement. However, simplification of procurement procedures led to opportunistic behavior of suppliers. In "Empirical Analysis of Suppliers' Non-Performance Risks in Execution of Public Procurement Contracts in Russia," Andrei Yakovlev, Olga Demidova and Olga Balaeva define the factors explaining the risk of suppliers' non-performance. Econometric analysis showed that under current procurement regulation in Russia the risks of suppliers' non-performance are higher for large contracts, contracts executed at the end of year and contracts placed at open auctions. However contrary to anecdotal evidence, initial price decrease does not influence the performance of contractors.

Public Procurement as a Policy Tool

Public procurement is thus increasingly seen as a policy tool for solving socio-economic problems, such as reducing unemployment, and supporting small and medium enterprises. Thus, in "The Uses and Abuses of Public Procurement in Hungary," Tünde Tátrai and Györgyi Nyikos are concerned with a growing risk of public procurement being used by national legislators for various divergent objectives through "creative" solutions, and with a neglect in public procurement efficiency. Based on Hungarian case studies and research, the authors point out that public procurement should be better oriented and should focus on primary issues, such as efficiency and transparency.

Procurement officers have traditionally sought the best value for goods and services based on criteria such as price and quality. However, procurement trends and literature indicate that evaluation criteria have expanded to include environmental life-cycle costs, recyclability of products post-use, and health hazards during decomposition. In "Green Procurement in the Public Sector: Purchasing Departments as Procurement Entrepreneurs," Christy DeFriest Smith reviews green procurement and entrepreneurship literature to develop the concept of a procurement entrepreneur in the context of green procurement in public organizations. Using this concept of a procurement entrepreneur, the study then evaluates the procurement practices of five public organizations against four criteria used to describe entrepreneurs. Through small case studies and interviews, the author suggests that the institutionalization of green procurement practices in public organizations can be the result of entrepreneurial purchasing departments.

Areas of legal uncertainty are found to exist regarding the specification of production processes and methods, the requirement for a "link to the subject-matter of the contract" and the proper role of contract performance clauses. In "Reform of the EU Procurement Directives and WTO GPA: Forward Steps for Sustainability?" Abby Semple examines the scope for social and environmental objectives to be included in public procurement procedures. The concept of

sustainable public procurement (SPP) is analyzed, and the extent of its implementation by European public authorities. The paper then turns to the legal characterization of SPP measures and the competence of the European Union (EU) to regulate in this area. Conclusions are drawn regarding the likely impact of the reforms proposed by the European Commission on these areas, which are also relevant for the implementation of SPP under the revised WTO Government Procurement Agreement. The author intends to lay the groundwork for assessing the legality and effectiveness of different approaches to SPP.

In "Public Sector Tendering Challenges For SMEs, Procurer Feedback Provision and Tendering Support Mechanisms: Insights from the Welsh Tender Review Service," Ceri Evans presents findings from the Tender Review Service (TRS) delivered in Wales, UK, as part of the £3.2m "Winning in Tendering" Ireland Wales INTERREG-funded project. The TRS impartially analyses public sector tenders that SMEs have submitted, and identifies their strengths and weaknesses via a bespoke report. He highlights the major reasons why suppliers fail, identifies issues that could help provide a competitive edge in tendering, provides insights into tendering support mechanisms, and furthers the debate on SME friendly procurement. The study demonstrates the complex web of factors at work in public sector tendering and the interplay between them that can help explain why SMEs are sometimes unsuccessful in tendering.

Sustainable public procurement is an emerging concept in organizational and policy research. Using longitudinal case study data from an Irish local government authority, "Sustainable Public Procurement in Practice: Case Study Evidence from Ireland," Anthony Flynn, Paul Davis, David McKevitt and Emma McEvoy investigate sustainable public procurement in practice and describe its economic, social and environmental impacts. The implementation of an innovative multi-party framework agreement for water services maintenance, which was undertaken in the context of a more strategic organizational approach to procurement, is shown not only to yield significant financial savings but also to support local authority goals. The findings lend support to the contention that "win-win"

outcomes for public procurement stakeholders are attainable and that maximizing value for money and regulatory compliance need not come at the expense of facilitating small indigenous suppliers, supporting local supply chains, improving environmental outcomes and delivering better public services.

Other Public Procurement Issues

In "The Science of Public Procurement Management aand Administration," Benon C. Basheka explores the hallmarks of a "science" as an important template for judging the scientific potential of public procurement. If a science of public procurement is to be agreed upon, it ought to be (a) interdisciplinary, and (b) should adopt a comparative approach in analyzing public procurement systems of developed and developing economies. While research in the practice area is generally now advanced, the theoretical foundations of this "maiden discipline" are disappointingly weak or non-existent save for the impressive works done on purchasing and supply chain management which is private sector–oriented. The author makes proposals on the key procurement policies, structures and institutions that ought to inform the comparative research.

Departing from a simple normative theory for the choice between lowest price, highest quality (beauty contest) and more complex scoring rules, Mats A. Bergman and Sofia Lundberg empirically investigate the behavior of cities and authorities in "Sourcing for Government Goods and Services: Theory and Evidence from Swedish Cities and Authorities." They survey a gross sample of 40 procuring entities about perceived key characteristics of products bought in 650 public procurements and collect data on award methods for these procurements. They compare actual scoring rules against the theoretical norms and analyze what product characteristics make deviation from the norm more or less likely. According to their findings, more complex scoring rules are used more often when framework agreements are procured and less so when the procuring authority reports that they experience significant uncertainty about the delivered quality. Low weight given to price in the bid award

process is associated with low perceived uncertainty concerning delivered quality.

In *General Dynamics Corp. v. United States*, the Supreme Court of the United States for the first time delineated the consequences of the government's invocation of its state secrets privilege in a contract dispute involving highly classified information. The 2011 decision treats invocation of this privilege as a bar against recoveries either by a contractor or by the government. In "Litigating State Secrets in Government Contract Performance Disputes," Joshua I. Schwartz questions the Court's assertions (i) that it has established a default framework that will prove fair in future similar cases and (ii) that parties to future government contracts will be able to effectively "contract around" the default regime that *General Dynamics* establishes. Because the state secrets privilege has been invoked by the U.S. government in recent years in disputes arising out of challenges to interrogation practices and alleged "extraordinary renditions" in the "war on terror," this doctrine presents complex and difficult legal issues that also are both politically freighted and morally consequential. The author explores the mixed signals the case sends as to how the Supreme Court will respond to a wide range of future cases.

In its communication on the Europe 2020 strategy, the European Commission pointed out the importance of public-private partnerships (PPPs), as an instrument to achieve growth. Support measures for PPPs nevertheless need to be in compliance with the EU State aid rules. In "The Influence of EU State Aid Rules on PPP Infrastructure Projects," Alessandra Romanelli and Kathrin Hornbanger analyze the implications of EU State aid rules for the development of infrastructure in key sectors, on the basis of the most recent decisions of the European Commission and the European Community Courts. Whether the use of a competitive procedure for selections of private partners prevents the risk of violation of State aid rules is still under discussion.

Framework agreements (FAs) are a common procurement mechanism, used intensively in Chilean Public Procurement. It is the

purpose of ChileCompra (the Chilean Public Procurement Authority) to obtain knowledge on the forces driving the behavior of suppliers and buyers participating in this procurement method. In "A Procurement Auction Model for Framework Agreements," Yonatan Gur, Gabriel Weintraub and David Escobar address the effect of the price risk that appears as the price is set at the beginning of the existence of the Framework Agreement, build an economic/mathematical model of a simplified FA setting in which only one supplier is selected, and suggest improvements to the design of the FA. Designing flexible FAs can encourage competition in some cases, when the design of the FA tendering process "ensures" that the bids are really a commitment.

In 2003, supply chain management was adopted in the South African sector to institute international procurement best practices. The procurement process was therefore granted constitutional status and is used as a policy tool to address past inequitable policies and practices. In "A Review of Procurement Practices in the South African Public Sector," Intaher M. Ambe and Johanna A. Badenhorst-Weiss provide a review of procurement practices in the South Africa public sector, divulge some of the key guiding pillars of public procurement, and address the challenges restraining effective and efficient implementation of supply chain management. Then, they suggest that in order to sustain competitive advantage, customized training materials and programs should be developed for public procurement actors in South Africa.

CONCLUSIONS

The chapters in this book confirm the continuing validity of observations made by Thai (2007) when reflecting on papers submitted for the 3rd IPPC contributions. He noted the extent of commonality in public procurement knowledge and practices across developed and developing countries around the world, despite significant variations in their procurement systems. This commonality and the potential it signifies for the sharing and learning of new knowledge and best practices are what make IPPC such a valuable event for public procurement professionals around the world.

NOTES

1. This is a classical, albeit somewhat counterintuitive, result in auction theory that goes under the name of the "exclusion principle." See Krishna (2009).
2. Germany is a notable exception, in that it vests acquisition management responsibility in a civilian organization within its Ministry of Defense. See Kausal (1999) for a comparison of the acquisition systems of several European countries and the U.S.
3. See, for example, Kausal and Markowski (2000) for a discussion and comparison of the defense acquisition systems of Pacific Rim countries.
4. It remains to be seen whether the new "Defence Directive" (Directive 2009/81/EC of the European Parliament and of the Council of 13 July 2009) accomplishes its objective of enabling bespoke EU-wide defense acquisition procedures.
5. However, there are some variations among public procurement systems, caused by the maturity level of the procurement systems and governance (democratic systems with undisputed check and balance of three branches of government—legislative, executive and judiciary—and weak democratic systems, which are normally dominated a the executive branch or a political party—; cultural differences (some cultures tend to tolerate gratuities or gifts given to government officials; some others may have very strict restrictions on gratuities); market conditions where many vendors exist and are willing to bid for government contracts, and some other countries do not have a competitive market; and the level of professionalism of procurement workforces.

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PART I

PUBLIC PROCUREMENT AS A POLICY TOOL