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The Quest of a New Boundary in Public Goods Provision: The Case of Defence

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1. Public economics and efficiency in resources allocation

The question of efficiency in the defence sector is regularly dealt with industrial firms in the sense of finding the best mechanism of producing military goods. Such an issue emerged in the 1960s and has concentrated almost all the debates since then. The large movement of restructuring and production rationalising in the US and Europe has been mainly seen as a way to converge to a more efficient process in order to provide defence equipment.

As result acquisition strategies have evolved towards a stirred competition, implying international firms for domestic markets¹. Today most NATO States try to go beyond; they want not only place firms in a competitive environment, but also to redefine the boundary between public activities and market solutions.

In another hand, from the demand side, States meet budgetary shortfalls and political debates that constrained them to search new means of ensuring efficiently collective security. This paper aims at exploring the new economic mechanisms that States have experienced to provide a more efficient defence policy.

We especially analyse the role of the British government as a pioneer in this kind of strategies, because different public sectors have been concerned with alternative public procurement in the UK. By 2002, about 530 public-private partnerships (PPPs) have been signed in a large number of public bodies. Among these contractual arrangements, the Ministry of Defence (MoD) accounts for 12 % of all the signed PFI (Private Finance Initiative) contracts at the national level.

Contrary to Savas' thesis (2000) concerning alternative economic arrangements to provide collective defence, this article aims at discussing and assessing the results and limits of PFI a decade after the launching of PPPs in defence.

1.1. The natural boundaries of Defence: provision vs. production

From a theoretical point of view, defence belongs to the category of public goods and often provides the perfect example of public provision. As admitted by Samuelson (1954), defence is a public, or social, good "which all enjoy in common in the sense that each individual's consumption of such a good leads to no subtraction from any other individual's consumption of that good". This definition implies that a pure public good must exhibit two characteristics: non-excludability and non-rivalry.

In reality most of public goods are not pure public goods – that is, it might exist at least one technical means of preventing someone within a given community from benefiting public good(s) once it is provided if that economic agent does not contribute to the financing of this public good. In defence we can consider an imperfect geographic covering as a source of impurity of a public good, since not all the economic agents benefit from this public service.

¹ Nevertheless the causality between privatising defence production, or introducing more market mechanisms in arms procurement, and an improved efficiency remains ill demonstrated.

The national missile defence (NMD) program represents a good illustration of such a case, for it does not expect to provide an equal protection in whatever place within the American territory even though this system is funded by the federal State.

Beyond this criticism against impure public goods, it appears that we must consider defence not as the sum of specific systems or services, but as a global function resulting from a systemic interaction between – and beyond – all these latter. National defence occurs as the last rampart of public missions in any democratic State. From an economic perspective defence, as a whole, is not excludable and thus can not interest a private entrepreneur. That is the reason why it is useful to consider defence as a pure public policy.

An impressive literature has discussed different problems linked to public goods. First, the provision of public goods raises one problem: identifying what is the optimal quantity of good to offer. In the case of national security, we observe the impossibility for the State (under the condition that the size of State is large) to know exactly how much each citizen is willing to pay to have the good supplied as it maximises their utility function.

Second, what are the institutions (and policies) able to supply this public good at the level of efficiency? As an entire community shares the benefit of defence, it does exist an opportunity to free ride. A response to this problem is formulated by the theory of club goods (Cornes and Sandler, 1996) that defines the optimal number of public goods according to consumers and the price each consumer pays. Nevertheless, policymakers have to select—through legislature—the best mechanism of providing defence, which is the closest to a Pareto-optimal choice¹.

Finally, the provision of public good causes as many problems in the aggregation technologies of public supply as in the principles of financing. This academic presentation leads to some mistakes concerning what is the role of State in terms of (external) security.

It must be distinguished two main functions inherent to the defence: production and provision. The latter (provision) is the core function of the government: warranting the security of all the people throughout a given territory. It justifies the reference to the concept of public good *per se*. On the opposite, the former (production) does not imply that the State can be the only relevant economic agent. Here, there is no relevant theoretical argument supporting the idea that production of defence must belong to the public sector.

Such a distinction helps to introduce market mechanisms in fields, which were previously considered intrinsically public. Whereas major defence firms are privately-owned, it always exists a permeable (and moving) boundary between the supplier and the buyer. Once the fundamental distinction between production and provision admitted, we have to analyse the different ways the Ministry of Defence can implement to produce and provide defence as a public good. This kind of goods requires a collective action. A government or voluntary group has to take decisions at many levels about the service to be provided, the chosen level of service, and how to pay for it.

¹ An economically efficient solution is expected to reduce the well-being distortion resulting from public expenditures.

1.2 Towards an enhanced allocative efficiency

We assume that the production of defence consists of determining the most efficient means of delivering equipment and services that contribute to the defence policy. Two main methods are traditionally suggested: public production or contracting-out (through a competitive process in public markets). Apart from criticisms against traditional means of attributing defence contracts, the growing use of market mechanisms to satisfy defence needs results mainly from tighter and tighter budgetary constraints—the need to optimise the utilisation of taxpayers' money whatever field concerned (Domberger *et al.*, 1997: 67).

On the "supply side", many organisational and industrial improvements have been operated for the last ten years. A real wave of transformations throughout the defence supply chain has shaped a new model in the production of defence as a global function. The end of the "arsenal model" (arms production) and the privatisation of then national enterprises lead to transfer partially the ownership of production means and the initiative of new activities to the private sector. In France for instance, the decline of GIAT Industries or the ongoing transformation of DCN¹ (State shipyards) illustrate such a trend.

This movement is not limited to a disengagement of States from industrial or technological activities. It must be considered in a precise framework where governments expect to reduce the cost or increase the quality of public services. Here is raised an interrogation about the boundary between *faire* (do) and *faire faire* (delegate). The solution of *faire faire* is largely admitted in arms procurement as the most efficient means of allocating resources. Moreover many experiences in the UK, Germany and the United States have validated the idea of outsourcing a large share of military activities. One may nevertheless wonder what is the limit of market acquisition in defence needs.

One limit appears where the provision of defence implies a crucial link to national security—that is, only the State is able to formulate the requirements or must control the corresponding activities. Here, the mechanisms used to fulfil efficiently defence objectives may imply a private-public involvement, which in return can help to increase the financial flexibility in the defence budget. In many domains the MoD still keeps the monitoring and the exclusive production of these functions (as installation services, health services, training centres, depot maintenance, infrastructures, data processing, research support...) but the provision is fully or partially delegated to private firms.

The theoretical literature outlines three approaches to reduce the cost of government provision in goods and services. We can apply them to the defence provision:

- implementation of incentive systems (Rose-Ackerman, 1986; Tirole, 1994) as mechanism to improve performance;
- privatisation of some agency's functions (Hart, Shleifer and Vishny, 1997; Schmidt, 1996) to obtain some organisational advantages as much as possible from private ownership; it may include executive agencies, Resource Accounting and Budgeting (RAB), and the implementation of recommendations generated by the Strategic Defence Review and Modernising Government;
- privatisation competition within the MoD (Snyder, Trost and Trunkey, 2001).

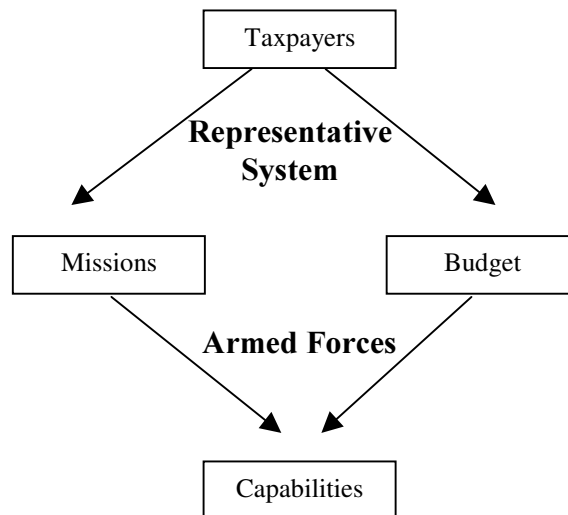
¹ DCN is an administrative division within the French Ministry of Defence. Since the early 2000s it was decided to transform these shipyards into a real enterprise, a process beginning in 2003 by the transfer of public assets to a newly created, publicly-owned enterprise.

We consider that the first approach is devoted to improve employees' productivity. The second one is not really adapted to defence. The last approach includes different tools promoting competition and relationships between the private and public sectors.

The empirical study of Snyder *et al.* (2001) states that the DoD saved \$1.46 billion from the privatisation competitions that it conducted from 1978 to 1994¹. Savings from competition range from 24% to 64% of the total expected costs. The privatisation competition can exhibit many economic designs that reflect the level of public-private involvement. The more generic designs for directly enhancing private-sector involvement in providing assets and services to MoD can be gathered under the concept of Public-Private Partnerships (PPPs).

One may argue that if defence as a social function represents an example of pure public good, the components of the defence architecture do not share the same features. Indeed a defence system (a fighter, a capital ship...) have a limited area of action; and it is affordable to exclude some people from the service it provides (see *supra*). Nevertheless, at second thoughts, such an approach cannot be relevant since defence must be considered as *global function*. The social function of defence results from an integrated service provided through the whole activity of armed forces, not by an isolated part/component of them. In other words we must distinguish a social function (defence) and the means of accomplishing it (armaments, systems and services).

Indeed we might understand defence as a set of *capabilities*, not a catalogue of armaments. As the following graph underlines, such a specific service results from the conjunction between the missions that taxpayers give to armed forces (through the electoral and legislative system) and the fiscal burden they accept to pay to reach a given level of security. Both parameters help armed forces to identify the capacities they need to fulfil their missions in the best conditions².



¹ The period corresponds to an economic assessment of the implementation of the OMB Circular A-76 for the US Department of Defense, DoD.

² The revelation of taxpayers' preferences or the search for an optimal fiscal burden related to defence does not constitute the essential point in this paper. Therefore these aspects are not analysed. We can consider here that armed forces' missions are more or less coherent with taxpayers' demand and budgetary resources are coherent to these missions. In other words such parameters may be considered as given.

What is important is to understand how armed forces can accomplish their missions in the best conditions while minimising their expenditures. Our approach is relevant when considering the new defence budget strategy (especially within NATO). Armed forces have changed their approach, since they try to focus on capabilities and diminish the role played by enemy identification. It is particularly clear when reading the *Quadrennial Defense Review 2001*, which shows a perceptible evolution in the United States from a threat-based strategy to a capabilities-based one¹. Similar changes can be perceived in other countries (*Cf.* the French Five-Year Defence Acquisition Bill 2003-2008).

The distinction between a social function and the means of fulfilling it has a strong consequence: it is not longer compulsory that the State produces all it needs. Its "core competency" consists of providing defence, but it can rely on private partners to reach this aim. Then it seems interesting to underline that distinction does not exclude any co-operation between the State and its industrial partner. The true question is to find where the frontier might be when considering a specific need.

The following table draws three forms of relations between demand and supply, which can be considered as ideal-types. If it appears that internal production in defence is quite limited (real State arsenals do no longer exist), there is a visible evolution from an organised production to market relations. Indeed National Defence Agencies had very close connections with their industrial partners – either public or private – in the Cold War industrial model. The current changes aim at catching market advantages without leaving the benefits of an interactive process, essentially due to the specific features of defence needs.

From internal production to market acquisition

	Conception / Formulation	Design / Development	Funding	Production
Internal Production				
Organised Production				
Market Acquisition				

 Activity entirely realised in-house

 Activity shared or co-developed by customers and suppliers

Organised production corresponds to vertical integration, which can be found in many industries like automobile or aerospace². Market acquisition refers to commercial, on-the-shelf procurement (or a very like process), leaving the supply side define most of the features in systems. One may wonder where public-private partnerships lay.

¹ Such an approach focuses less on who might attack (or where) and more on how we might be threatened as well as what is needed to deter and reply against aggressions or risks.

² *Cf.* Klein, Crawford and Alchian (1978) or Masten (1984).

1.3. PPPs as a response to public failure or a financing strategy?

Unlike privatisation, contracting-out and outsourcing are often used as a mechanism to reform the provision of public-sector services. More than a semantic distinction, the contracting-out or outsourcing mean opening up to competition a set of economic activities which were previously immune from it (either realised by the Ministry itself or granted to sheltered firms). Such a transformation does not entail a transfer in the ownership of physical assets from public to private entities. In fact, in a pure public provision, the State buys a (public) good while in a Private Finance Initiative (PFI) perspective, the State buys services provided through an asset, which is privately owned and managed.

The idea of involving the private sector in defence is not recent. For instance, the United Kingdom had yet experienced such partnerships during the eighteenth century when private entrepreneurs had ensured logistics tasks for the military campaigns of the Duke of Marlborough. More recently, aeronautics industry has been narrowly associated to the maintenance for the Royal Air Force. This British example illustrates the (new) strong relationships between MoD and private firms.

A public-private partnership (PPP) is defined as a collaborative arrangement between the government and one – or more – private parties. This kind of collaboration takes the form of a contract, which specifies joint rights (and responsibilities) and implies some sharing of risks, costs, and/or assets. From the above theoretical framework, PPPs entail a modification of the relationship between public finance and public provision.

Indeed, we can observe some privately-provided public goods, some private goods or services bought by the MoD. PPPs are used to exit from some activities previously provided by public services, even though this trend is denied. As Allen (2001: 20) notes, "in reality it is difficult to demonstrate that something is additional to what would have happened anyway". This raises some questions about what must be provided directly by the State. Financial constraints should not induce the withdrawal from crucial functions or capacities related to the essence of State. The missions of the latter cannot be managed in a short-term approach, which is bound to jeopardise the fulfilment of its essential functions.

What are the main reasons for a shift towards more private financing and private provision? Chang *et al.* (1997: 2) underline that by combining government expertise, assets, and resources with complementary contributions from the private sector, PPPs can offer a wide spectrum of benefits:

- leverage assets, reduce capital investments, reduce costs, decrease outlays to achieve infrastructures or financial arrangements goals;
- increase the value of property or other assets;
- create new capabilities and new financial opportunities that help armed forces to accomplish their core missions;
- influence technology early and thereby get equipment fielded earlier and/or possibly at lower cost;
- reveal the true costs of defence inputs through market mechanisms.

Among these PPPs, the Private Finance Initiative has played a precursor role since the early 1990s. It was the main financial tool used by the American DoD and the British MoD to

facilitate the financing of military infrastructures. In this kind of PPP, the private sector funds and develops the asset, which is made available for the public sector. It looks like a leasing form since the government has to purchase a flow of services over time rather than invest in a capital asset that provides the required services.

Beyond education, health, culture, the defence sector has retained PFI contracts for funding some services. In the UK by June 2002, the MoD has financed 44 projects for a total amount of £2.3 billion, notably the 20-year contract involving the Services Defence Helicopter Flying School. PPPs are expected to represent an increasing part of public investment in forthcoming years; the British government made clear that by 2005, 20 % of all the capital projects must be funded through PPP contracts.

While the reduction of defence budgets provides a strong incentive to enforce PFI projects, one may wonder whether this strategy is truly able to provide public needs in an efficient manner. The defence sector does not permit to assess without biases the efficiency of security provision as given, since no private actor will be able to provide the same bids. A market provision is bound to be limited to some aspects of defence activities.

In spite of non-competitive defence markets (or not-contestable markets), the defence policy is characterised by a strong public regulation and a costly procurement policy. Firstly, for strategic and independence reasons, the government uses political criteria before adopting economic arguments to pursue its defence objectives. Secondly, the State adopts a procurement policy that yields relatively inefficient outcomes, but maintains its industrial choices that are consistent with the actions of an industry-captured regulator (Hartley and Sandler, 1995).

One may underline that public choice analysts explain the public failure in defence decisions by two manners. The government, as elected representatives, does not consider the allocative efficiency and prefers to favour producers. Moreover, the defence sector is characterised by a budget-maximising bureaucracy that disturbs the efficient process. But the main reason of an inefficient public provision rests on the nature of contracts, the behaviour of contractors, the incompleteness of contracts and information asymmetries:

- drift of costs in traditional defence acquisition ("cost-plus" contracts);
- contracts without competition, source of asymmetries (i.e. excessive profits for the supplier, non-economic contracts);
- transaction costs for "over-regulated" contracts vs. transaction costs for uncertain contracts (entailing costs of renegotiating, re-enforcing...).

By learning the inefficiencies tied to procurement contracts, PPPs provide an answer to improve the public provision of non-industrial services. The probabilistic success of these PPPs rests on the nature of the exchanged service. In other words, does it exist a competitive market for car maintenance, health services, property, support services or training centre when they are provided in a defence sector perspective or not?

According to Williamson (1985), in some circumstances, transaction costs in the market place can be large enough to bypass the benefits. In this case, in-house or internal production is optimal. In the case of defence, PPPs present a substantial advantage because the private contractor includes transaction costs in the contract, what implies a shift in costs payment and leads to (un)sunk costs for the State. Nevertheless it must be admitted that the amount of

transaction costs varies according to the degree of contractual incompleteness and the ownership of physical assets required for service delivery (Domberger and Jensen, 1997).

Moreover PPPs imply that defence provision evolves from an equipment definition to an output one, redesigning the tasks of both the State and the private sector. This latter designs, builds, finances and operates facilities based on "output" specifications decided by public decision-makers. Such projects need to achieve a genuine transfer of risk to the private contractor to secure value for money in the use of public resources before they will be agreed.

Providing Defence is not a common activity. This is not due to all armed forces' inputs and outputs, but the imperative requirement of providing a permanent and high-quality mission that cannot fail. Then military customers must ensure that the contractor has the capability to perform the desired services. Failure is not an option.

Middleton (1998: 89) notes that contracting becomes much more complicated when a free market does not exist for certain services. He gives as example, the case of prison cells: the social benefits lies in having a facility available *for* use, not necessarily *in* use. This is also the case for defence. Such a point of view can help to draw the boundary of "PFIable" defence activities. There is a civilian market for housing, training, aerospace simulators... but not for the "core activities" which truly characterised armed forces.

That is the reason why the success of PPPs requires defining what kind of defence missions the government cannot (fully or partially) fulfil efficiently without a private-sector involvement. The classical taxonomy of pure/impure public goods can surely help to precise the modalities of financing and the associated limits to reorganise defence around its "core business".

Finally, the economic issue has to ask this paradigm: before wondering in a normative perspective what should the government contract-out, outsource or "PFIlise", one must rather examine in a positive perspective how PPPs meet defence needs (François, 2001). Moreover, it is useful to know whether the development of PPPs in defence sector does integrate the fiscal climate as an incentive to contract out in "peace time" rather in "conflict time".

2. No Silver bullet: limits of PPPS in defence issues

For few years the PFI has been appearing as a "silver bullet" to resolve the contradictions of public budgets, torn between limited resources and unfulfilled social needs. While privately-financed publicly-provided services remained the exception¹ for ages, public institutions are increasingly required to examine potential private initiatives before engaging public funds. Defence issues do not escape from these caudine forks. One may wonder if such a strategy truly corresponds to the best available option. This question is especially crucial when we analyse defence needs, since these latter differ from civilian public services. Then it appears necessary to redefine the concept of public-private partnership.

¹ It is important to give a precision: some utilities are provided through private firms, like water services, for decades. Nevertheless most essential public services have been considered as State monopolies provided by public administrations since they were qualified as public goods.

2.1. Budgetary constraint and alternative financing

If there are conditions for which the State finances certain services (like public utilities), they do not constitute reasons for a public monopoly in designing, building and operating assets to deliver those services. State only needs to make sure that these services are provided to taxpayers at the best "value for money". Pollitt (2000: 16) summarises this philosophy when he explains: "The government should always investigate the possibility that the private sector may be able to provide it with cheaper and/or better quality services by increased private sector involvement in the assets which produce those services".

The creation and development of PPPs results from the fact that the State alone can no longer support the level of public services considered as socially desirable¹. Through PFI contracts and other PPPs the British government and eventually other governments expect to cease to be the driving force behind many public service initiatives, and both use and learn from the expertise of private sector².

Indeed, since the 1980s, many States want to take advantage of funds available to the private sector and its management practices. Even though private firms cannot get the best interest rate (like State bonds), they can introduce innovations that generate productivity gains. Extra financing cost needs to be offset by savings in other aspects of the privately-managed project. Moreover firms can create innovative financial schemes, which are not allowed to public entities.

The British posture was quite extreme about such a change of strategy as early as government launched the PFI. In November 1994 Kenneth Clarke, then Chancellor, made clear that "he wanted to maximise the scope and use of private finance, reserving public capital provision for those areas where private finance was considered inappropriate or could not be expected to provide value for money" (Allen, 2001: 15).

Many observers feared a substitution effect between private funding and public resources, following a deep disengagement from former public utilities and services. Nevertheless successive British governments claimed that PFI projects must not substitute to classical projects, but follow the *additionality principle*—that is, PFI projects would not displace public sector funding for the "PFIed" activities but represent additional funding that complements public one.

Actually PFI and other contractual arrangements aim at overcoming a lack of public resources and providing the functions related to State missions. When it was initiated by the British MoD the PFI was an answer for challenges in paying for the modernisation of armed forces. Indeed most of NATO armed forces have seen their budgets reduced by a third in real terms since the 1980s peaks. The past decade might be considered as a "procurement holiday" and existing equipment must be replaced while budget resources are scarce.

¹ "In securing new financing for public investment the PFI appears to allow government to reconcile the desire for higher capital spending with the commitment to maintaining a tight fiscal stance." (Robinson *et al.*, 2000: 5)

² PPPs form long-term contracts based on service availability, encouraging firms to minimise lifetime costs in balancing capital costs with maintenance costs. Introducing a market-oriented approach can help public sector improve its current practices, since lifecycle management is hardly known within public institutions.

This is the reason why PPPs appeared as a solution to solve this budget dilemma, accentuated in the 1980s by the Maastricht criteria¹ within the Euroland and by the golden and sustainable investment rules in the UK². PPPs mean that more capital projects are undertaken for a given level of public expenditures, and the required investment is brought on stream earlier than public finance would have allowed. According to Tim Stone of KPMG, the accountancy firm, "Britain is 'ten years ahead of everyone else' in the delicate art of matching private money to public needs"³. Its experience shows however that there is many a slip 'twixt cup and lip. The much-vaunted qualities of PPPs as they have been developed may lead to major drawbacks.

Some PPP capital expenditures are clearly substitutional when some public capital spending is replaced. Investment through PPPs may be additional when any second round effects are taken into account. For instance it is additional when PPP projects create new capacities or fulfil an equipment gap which would not have been in absence of PPPs. Moreover when PPPs generate efficiency savings, the global budget can be used in more projects than initially expected. The real question is how PPPs are going to be implemented, and if these latter do not constitute an underlying means of privatising public activities.

Second savings resulting from the PFI may be illusory. Indeed, the short-term cost is dramatically reduced, since the MoD does not have to buy equipment. Each PFI contract implies a small amount of money every year, since its costs is divided over decades while classical, patrimonial acquisition consists of a one-shot, big acquisition expenditure. But what are its long-term impacts on armed services' ability to achieve their missions? Actually PPPs as they are currently implemented may reduce the budgetary margin of the State and especially services which largely turn to it.

Each payment cumulates with others and the total amount dedicated to PFI contracts will eventually represent a large share of the MoD budget. PFI engagements might mortgage future budgets... PPP projects commit the State to a continuously growing stream of revenue payments to private contractors: "One result of undertaking long-term commitments may be a lack of flexibility in the longer-term provision of services" (Robinson *et al.*, 2000: 43). This can become very perilous when public administrations have to face new missions or/and realise that yesterday's choices no longer correspond to today's needs. In the case of defence mortgaging future budgets represents a true concern.

One of the biggest challenges in PPPs concerning defence results from the high level of (strategic) uncertainty armed forces have to deal with. They must guarantee the country's external security and prepare themselves to unexpected threats. As experienced in recent years, geopolitical context may change quite rapidly and the defence architecture may eventually be reconceived to reply to new or evolving threats. It is therefore important that the MoD has the capacity to adapt its missions and reorganise its procurement choices.

¹ Under the European Monetary Union, five criteria must be respected by member States: under-control inflation, low interest rate, budgetary deficit below 3% of GDP, public debt below 60% of GDP, stability of exchange rates before the creation of the Euro. Directly or indirectly linked to public expenditures these criteria limit the ability of States to engage in large investment projects.

² The 2001 FSBR highlights two fiscal rules, against which the performance of fiscal policy must be judged. Following the *golden rule*, the government will borrow only to invest and not to fund current spending. Under the *sustainable investment rule*, public sector net debt as a proportion of GDP will be held over the economic cycle at a stable and prudent level, maintaining it below 40% of GDP over the economic cycle (Allen, 2001: 23).

³ *The Economist*, "PFI financial services", 14 September 2002, p.40.

PFI-like contracts might reduce the flexibility in investment choices because of their own features by mortgaging tomorrow's revenues. Such a situation might be worrying since the short-term savings squeeze the long-term commitment to security. Signing long-term contracts with strict contractual terms may reduce armed services' margin to reorganise themselves with existing infrastructures. Even though contracts are not fully irreversible, the government "will find it expensive to break PFI contracts if they subsequently prove to not be meeting social needs" (Pollitt, 2000: 19).

Third a fundamental reason why governments prefer PPPs, and especially the PFI, is that in privately-financed projects capital expenditures do not normally score as public expenditures and eventually appear as "off-balance sheet" financing. This is an interesting position, since it helps governments to reduce their financial commitments when being able to provide some crucial needs. It seems to promote capital investment while ensuring the sustainability of public finance in the longer term.

However off-balance sheet represents an "accounting illusion", as taxpayers still have to meet the bill in the end. An honest treatment of PPPs requires taking account of such contracts to evaluate public debt. This is the reason why the British Accounting Standards Board stated in September 1998 that the capital value of PFI schemes should appear on the Government's balance sheet. Nevertheless the British Treasury negotiated in June 1999 with the ASB and issued a note that allows most PFI transactions to be excluded from State borrowing figures on the grounds that they are "operating leases", not "finance leases". One may wonder if it is not exactly how Enron, the infamously famous American firm, used to manage its creative bookkeeping!

When a project is publicly funded, its costs are counted as public spending as they occur. If it is privately financed, they are added to public spending years later. Such a different treatment engenders an obvious temptation... There are some (obvious) clues that governments use the PFI and PPPs to disguise the underlying position of public finances and flatter their success in managing public expenditures. As *The Economist* commented: "To 'prove' that the government is not using the PFI as an accounting scam, the Treasury constantly stresses that PFI projects involve genuine transfers of risk to private investors [...] This seems hard to swallow. Moreover, it is impossible to assess the financial impact of any risk transfer because contracts between the government and its suppliers are usually kept secret to protect commercial confidentiality"¹.

Fourth one may wonder if PPPs really reduce taxpayers' burden and improve the economic efficiency in the provision of collective goods. On second thoughts such engagements may have the same consequences as deficit-based financing. The Ricardian equivalence theorem assumes that deficit finance has exactly the same economic impact as current taxation². Governments as well as taxpayers might then take into account tomorrow's payments corresponding to today's use of new, privately-funded equipment; we could make such an analogy between State investment and PFI-like contracting.

In the patrimonial approach, public investment is based on the wealth created by our parents while the PPP strategy mortgages our children's future revenues. There is certainly a crowding-out between today's gain and tomorrow's burden induced by PPPs, especially in the PFI approach. Like Blanche DuBois, the MoD is bound to be more and more dependent on

¹ *The Economist*, "Cooking the books", 28 October 1995.

² See R. Barro (1974), "Are Government bonds net wealth?", *Journal of Political Economy*, **82**, 1095-1175.

the kindness of strangers—that is, private investors—since PPP contracts are going to reduce its budgetary margin and induce armed forces to rely increasingly on such contracts... creating then a vicious circle.

Thus simply transferring expenditures between the public and private sector budgets has no effect on the efficiency of resource allocation if identical resources are used. "PPPs can be a mechanism for inter-generational welfare shifting", underline Parker and Hartley (2001: 5). If there is no efficiency improvement through PPPs in the satisfaction of social requirements, these latter appear as an accountant's manipulation to reduce artificially public expenditures. This leads to wonder what are the true motivations of promoting such partnerships.

2.2. Specific features in the provision of defence

Several general ideas emerge from a review of current initiatives and experiences of PFI in the field of defence. Systematically trying to assess projects through PFI can be irrelevant, since not all the needs can be fulfilled through private offers. There is quite a dogmatic approach of the PFI, based on the conviction that such contracting is intrinsically likely to improve financial and operational efficiency in the provision of public services. While such an idea can be partially contradicted in civilian public services¹, this is especially perceptible in defence issues because of the specific nature of the provided services.

Through the concept of value for money competitive forces, it is argued, will exert a downward pressure on contract prices and transfer most of risk to private sector (Shaoul, 2002: 3). However such an evolution cannot take place for all the activities characterising public services, particularly when the logic of their implementation does not fit—partially or completely—market mechanisms. Armed forces must consider which activities are truly appropriate for private-sector market forces and profit motives, and which might be "inherently governmental". This raises three questions. Can armed forces always specify their requirements? Do market conditions in defence issues lead to a balanced relation between States and their providers? Can PFI-like contracts manage the defence-specific imperatives?

Under the partnership approach, project management becomes the responsibility of a private contractor charged with delivering an asset or, more and more, a global output (including systems and related services) at a fixed price. This feature does not differ from defence procurement in recent years. Cost-plus contracts have been decreasing for two decades and replaced by fixed-price contracts. Moreover there is less and less production realised in-house or by arsenals.

The true innovation of PFI in defence is the transition from product-based to a service-orientated acquisition. Many activities are transformed in a "black box" and armed forces are no longer interested in knowing or supervising their internal mechanisms. Such a change fits quite well the current shift in procurement strategies, which have been evolving from a system designing to a capacity-building approach. This latter aims at adapting armed forces to unanticipated threats or strategic disruptions².

¹ Shaoul (2002) studies several examples of PFI contracts and shows that projects are poor value for money, very expensive, poorly appraised, and would result in service reduction without further government investment. This point of view is shared by many observers of PFI contracting in health or education services.

² Cf. R. Bellais and G. Le Blanc, *Beyond Terrorism: Asymmetrical Threats and Defence Procurement*, "Notes pour la Réflexion Stratégique" series (Paris: CHEAr), September 2002.

How can PPP provide an answer to such a requirement? There is a crucial issue in defining precisely the targeted output and eventually being able to make it contractible. PPPs work only when the output can be clearly described, then specified in a contract, and measured accurately. Indeed public purchasers must demonstrate a clear purpose and a strong vision of the desired outcomes from the scheme¹, then translate this vision into a simple output specification and resist the temptation to make regular changes of such a specification.

Whoever has studied a defence program may recognise this is a difficult point! Even though armed forces can provide a long-term, strategic view of their requirements and allow for flexibility in contracts to meet changing needs, there is a huge part of uncertainty they have to deal with. Then how can armed forces be sure that they get best value for money?

Surely PPPs can manage the basic needs of armed forces. This kind of contracts appears quite successful when treating housing, logistics, base operations or any other non-specific activities like "white fleet" transport (Pint *et al.*, 2001). Here, output can be clearly specified and a private contractor can manage to provide it more efficiently than a public administration. It is not the case for defence-specific needs, especially systems or activities located at the heart of armed forces' missions: their "core business". For instance, an arms program takes at least ten or fifteen years from the concept to the product, a time lag when technologies change dramatically and missions evolve quickly. Then the defence systems might be in service for ten to thirty years...

How can armed services clearly draw the need of a precise output in such a context and accept not to change its specifications, even incrementally? PPPs are expected to overcome two of the worst biases in public-managed projects: time and costs overruns. PFI projects themselves are no strangers to time and cost overruns. If part of such drifts results from organisational inefficiencies, shared by most public administrations, it appears that specific difficulties in providing defence also explains why arms programs are uneasy to manage. The problem is intrinsically linked to the issue of defining what it is requested, so that PFI cannot appear as a *silver bullet* to overcome inherent biases.

As Allen (2001: 27) explains it, "the PFI should reduce the burden on the public sector from the risks of cost overruns, provided the original contract stipulates that this risk should be transferred to the private sector contractor, thereby introducing incentives to avoid such problems". However the targeted risk relies on financial or organisational risks. Technological or geopolitical risks are far more difficult to manage and firms do not seem to be more qualified than public services on those issues. This leads to understand how and if risks can be transferred to private contractors.

According to a 1996 report from the Adam Smith Institute², the total costs of tendering for a PFI project to all potential contractors is just under 3 % of expected total costs while for a traditional procurement the total costs accounts for about 1 %. "One reason for the higher cost of tendering for a PFI project, notes Allen (2001: 34), is that the time taken between offering public services projects to the private sector and the final signing of the deal can be

¹ The Audit Commission published a 2001 report, *Building for the Future: The Management Procurement under the Private Finance Initiative*. This report emphasises the importance of specifying long-term service requirement, although acknowledged that this is often difficult. "However, contracts should also be flexible enough to build in allowances for operating flexibility but the contracts should be clear about how changes in service initiated by the contractor will be dealt with." (Scottish Parliament Finance Committee, 2001: 7)

² Eamonn Butler and Allan Stewart, *Seize the Initiative*, Adam Smith Institute, 1996.

protracted, especially for particularly intricate and technical projects". Defence projects show high transaction costs and very long negotiations, since systems are truly specific. Defence appears as an extreme instance of the inherent costs in PFI contracting, with three consequences:

- specific constraints in defence requirements and uncertainty induce a high level in the total costs of tendering, exceeding those of most civilian services;
- such costs are bound to reduce expected savings;
- they might become a barrier to entry, diminishing *de facto* competition, since incumbent firms are going to better manage contracting processes.

Moreover defence systems are characterised by strong asset specificity. These systems have very few alternative uses, and most of time there is no second-hand market. Asset specificity constitutes a prime condition for "hold-up" in contracting, especially in defence since most of time "there is no alternative party with whom to contract without net costs that equal or exceed those resulting from acceding to the opportunistic contractor's demands" (Parker and Hartley, 2001: 8).

Actually the British MoD has signed many PFI contracts of long duration (40 years on aircrew training simulators, 30 years for housing, 20 years for water and sewerage...), corresponding to the lifecycle of many defence systems. The problem is that long-term contracts induces three biases:

- suppliers tend to undertake costly investment schemes, and projects tend to have a bias towards high quality and advanced technology even though it is not the most suitable solution;
- it generates a long-term monopoly which cannot be suitable with market mechanisms and reveals disincentive to the introduction of disruptive innovations during the contract duration¹;
- it creates a window of opportunity for hold-up strategies.

Committing in long-term contracts implies that both principal and agents may rely crucially on partnership, trust, and reputation. Reputation (based on past behaviour) and trust (based on expectations of future behaviour) are central to the contracting process. This is especially true concerning defence systems, since armed forces must be sure that their partners are able to provide the requested output and are not going to go bankrupt. Defence imperatives and characteristics imply a deep co-operation between buyers and sellers, which does not correspond with the PFI philosophy—especially true competition and risk transfer.

The notion and practice of risk transfer, which lies indeed at the heart of the PFI justification, is problematic in these cases. The concept raises issues of definition and measurement that cannot be considered as trivial, particularly when we are aware that risk transfer is likely to be evaluated *ex post facto* rather than *ex ante*. When the requirements of defence concern its essential features of public good, it appears that the public sector is unable to relinquish risk

¹ "The more specialised those assets, the large will be the quasi-rents at stake over that period and hence the greater the incentive for agents to attempt to influence the terms of trade through bargaining or other rent-seeking activities once the investments are in place." (Masten, 1984: 405)

and responsibility for ultimate performance—even though contracts *formally* transfer such risk and responsibility¹.

The defence industrial base restructuring gave birth in the 1990s to few major, transnational actors². One consequence of such a trend is that States face stronger and bigger private partners. It is perceptible through contract awards. "The increasingly large scale and long-term contracts being negotiated in the name of 'partnerships', remarks Shaoul (2002: 3), mean that public agencies can only work with a relatively small number of large corporations capable of managing and operating such contracts". The Centre for Facilities Management³ reported the results of a survey of contracts awarded in 1996-1998, indicating a continuing decline in the number of single service contracts awarded and a big rise in total facilities management contracting.

This transformation turns upside down the provider-client relationship, especially in defence since there is fewer firms than in many civilian activities. More and more States have to negotiate with a monopolist and competition is though to maintain without compromising the national industrial and technological base. Even worse, States may become under influence of their private partners in their procurement choices. The PFI strategy can work when there are many potential contractors in a specific market. When the State faces an oligopoly or even a monopoly it can no longer secure a competitive bidding. Such a result is accentuated when there is a learning effect.

When conditions favours the creation of a sheltered cartel firms have a strong temptation to collude to control the defence market, secure a high rate of profit and keep innovation under control. A relative small number of bidders leaves contractors in a potentially powerful position—reducing competition, limiting the public sector's ability to obtain value for money and affecting the nature of service provision. Moreover transferring activities to private partners might diminish armed forces' ability to evaluate output or proposed services. Public sector loses control over assets and services through PFI. There is a risk that private sector dictates social and public needs because of a stronger and stronger information asymmetry. Such a risk results from the loss of competencies.

People who have the adequate know-how progressively lose it (since they can no longer bright their knowledge to light) or leave public institutions; and these latter become progressively unable to assess relevantly projects which are submitted or proposed. Institutions might then become "blind and dumb" in the medium or long term. In an innovative sector like defence this creates a jeopardising situation. Armed forces need advanced systems and if they rely entirely on private firms, these latter may propose the systems they master, not the state-of-art technologies and alternative systems.

The quality of public services, especially when these latter are quite specialised, relies on the expertise of public sector employees, who are not only able to describe the outputs required but know how those outputs well enough to monitor their production. One issue of moving

¹ Specifying that risk has been transferred to contractors is one condition to put off-balance sheet the contracts according to the British Accounting Standard Board and eventually avoid increasing public borrowing statistics.

² The United States represents an exception, since its large domestic market helped the US preserving a truly national defence industrial and technological base.

³ Centre for Facilities Management, *UK Facilities Management Market 1999*, Strathclyde Graduate Business School, Glasgow, 2000.

activities to the private sector is that the intellectual capital is also transferred. As embedded knowledge within public institutions is vanishing, there will be no one with the required competencies to specify services as well as judge the price and quality offered for their provision (particularly on technological issues when they are truly specific to one field).

2.3. Benefiting from private firms knowledge: towards true PPPs

In fine the government is bound to bail failing activities out, for it is the last-resort guarantor of sovereign activities. As Shaoul (2002: 21) puts it, "ultimately the government cannot avoid political embarrassment and public perceptions of responsibility, and may end up footing the bill when things go wrong". Such a situation can be uneasy in civilian services. It becomes truly perilous in the case of defence when one country's international security is jeopardised because of the bankruptcy of a crucial provider.

The dogmatic application of the PFI might lead to a travesty of the notion of risk transfer... Transfer remains apparent, and incentives toward private partners are vanishing. This is the reason why armed forces need to assess the fields for which PPPs can apply and which kind of PPP is the most relevant to a given issue. Even the British Treasury recognises that "risk should be allocated to whoever is best able to manage it"¹, not risk transfer for its own sake. Then it seems that there is a core business of armed services that must keep under the control of State. Otherwise it could contradict armed services' own and ultimate missions.

When buyers and suppliers have imperfect information, contracts cannot be optimal in a full information sense. As Parker and Hartley (2001: 14) underline: "A distinctive feature of MoD's business is the requirement to provide an operational capability in peace, crisis and war and PPP projects have to meet this criterion. This increase the difficulty of writing a long-term contract dealing with all contingencies".

It seems indeed difficult to write contracts with complete contingent claims. Particularly when these contracts cover a lengthy period of time, technologies and costs are inherently uncertain. Such "true uncertainty" (Davidson, 1991) leads private contractors to secure the contract by adopting a conservative perspective. Thus Kaldor (1981) showed that incumbent firms fight against disruptive technologies since these latter devalue their assets and reduce barriers to entry. Then PPPs contracts may not adequately correspond to a provision of defence in a long-term perspective.

Furthermore, when there is a true risk transfer, one may wonder whether private contractor will have real incentives to provide the kind of innovations on which strategic superiority is based. Hart, Shleifer and Vishny (1997: 1159) suggest that State ownership is superior to private ownership only when "quality innovations are unimportant". However this idea is relevant only under a specific definition of innovations.

While PFI helps administration benefit from financial or managerial innovations, entrepreneurship is weak or even non-existent in disruptive technologies because of the specific features of defence markets (Bellais, 1999). Firms try to manage risks by reducing true uncertainty, and "it leads to less risky designs which are most likely to work being undertaken" (Pollitt, 2000: 16). Then it is very likely that private contractors do not provide the crucial, technological innovations needed by armed forces.

¹ HM Treasury, *Private Opportunity, Public Benefit: Progressing the Private Finance Initiative*, London, November 1995.

A restricted approach of PPPs, through PFI, can suit some basic requirements. Indeed PFI appears well adapted to services, which are not very different from civilian ones even though "customised". Examples listed by Parker and Hartley (2001) show such a trend: Joint Service Command and Staff College, Armed Forces Personnel Administration Agency, Defence Fixed Telecommunications Service, RAF Lyneham Sewerage, RAF Married Quarters, Aircrew training facilities (simulators)...

Indeed there are very few contracts concerning defence-specific needs. The only exception is the upgrade radio communications between Command HQ and front-line submarines. One may wonder if it is worth jeopardise such sensitive fields just to know if PPPs contracts are suitable there... PPPs must help armed services concentrate on their core task of providing operational capability and obtain better value for money from existing budgets.

The aim is to create "true" public-private partnerships. The PFI has been used to overcome budgetary difficulties and implement a rampant privatisation. Transferring non-core activities to private sector is relevant but there is more room for long-term co-operations between the State and private contractors. As Parker and Hartley (2001: 13) remark, PPPs might create "opportunities to use spare capacity, to share overheads and to undertake long-term investment against the security of income from a long-term contract". Such market opportunities provide support for the preservation of defence industrial and technological bases (Chang *et al.*, 1999).

PPPs might not be limited to a public-private substitution in infrastructure investment. So-called "innovation" mentioned in PFI literature refers most exclusively to managerial and/or financial innovations. These kinds of innovation are indeed crucial and help public administrations to provide better and cheaper services; but armed forces cannot limit their partnerships with private firms to this kind of contracting. Focusing on short-term savings may reduce the window of opportunity for technological breakthroughs and disruptive innovations, leading to a technological stalemate.

PPPs entail transferring the risks associated with public service projects to the private sector in part or full. Where the private sector is deemed less able to manage the project's risks, then at least some of the responsibility must remain within the public sector. This does not mean that no partnership can be imagined in such situations. Indeed true partnerships rely on long-term bases where each partner contributes a common or, at least, share project.

The specific features of defence needs require to go beyond "classical" PFI approaches, since the private-public relationship must be deeper than in most of civilian sectors. In such a process reputation leads to trust and reinforces the partnership. PPPs must then be assessed in a long-term perspective, as agents gain experience and learn, reducing the risk of opportunism.

Conclusion

While provision and production of defence have been coincided for long and were eventually considered as inseparable, it is no longer the case. After two decades of pro-market policies, the place of the State evolved and much of the activities previously realised in-house have been delegated to private partners. Nevertheless outsourcing and co-development cannot indefinitely enlarge their sphere of implementation. There are some specific activities that cannot be delegated because they correspond to the core business of public administrations.

This is especially true concerning defence since armed forces have in charge some essential missions related to sovereignty. Armed forces must focus on the activities for which they create the best social value and rely on partnerships when it is possible for secondary activities. The true question is to determine where to draw the frontier between defence-specific activities and quasi-generic ones.

Moreover the way PFI is implemented demonstrates that partnership might go beyond a pure market relationship. PPPs represent a dramatic opportunity to combine commercial know-how and defence assets in a "win-win strategy". They cannot be restricted to a means of overcoming budgetary shortfalls. One may wonder thus if PPPs could be applied beyond the national context.

Actually some issues have intrinsically an international dimension and require policies, which do not suit national frameworks. For instance, peacekeeping and peace-restoring missions are managed by national armed forces; but these latter face some difficulties to adapt themselves to such missions and especially CIMIC (Civil Military Co-operation). It might be more efficient to delegate them to dedicated structures, freeing armed forces from these non-core missions.

PPPs open a window of opportunity to manage peace as an "international public good" without requiring the creation of a global State. This example show that the PFI represents a very limited vision of PPPs and many innovations can be introduced to explore the field of potential applications to defence or other public services.

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