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Globalization and Singapore's Defence Industrial Base

Adrian Kuah *

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Introduction

The unveiling of the Singapore Self-Propelled Howitzer 1 - called the *Primus* - by the Singapore Armed Forces (SAF) last November has turned the spotlight on Singapore's defence industrial base (DIB). The DIB refers to those sectors of the economy that produce goods, services and technology for the defence establishment. The development and launch of the *Primus* was noteworthy for being an in-house enterprise by the Defence Science and Technology Agency, Singapore Technologies Kinetics and the SAF. It raises questions of defence economics because it essentially went against the current trend in the global defence industry of outsourcing, buying 'off-the-shelf' and customizing to local requirements, a trend seen particularly in small and medium powers. The *Primus* raises the question of where the limits to the outsourcing of defence production lie and whether the decision to develop and produce locally was based purely on economic criteria. Also, given Singapore's embrace of the 'new economy' precepts of industrial streamlining, contract manufacturing and outsourcing, why has Singapore's DIB retained a significant local component of development and production?

Globalization of the Defence Industry

The global defence industry has undergone a dramatic shift with the end of the Cold War and the advent of the Revolution in Military Affairs (RMA). In the United States, the consolidation and rationalization of the industry has resulted in a small group of mega-firms dominating the US DIB. Given the higher information-technology demands associated with the RMA and the emergence of dual-use technologies, governments have become increasingly reliant on global suppliers to fulfil the needs of their military establishments. For example, the software in many weapon systems could originate from any part of what is now a global supply chain.

In Europe, the defence industrial landscape has undergone a similar series of mergers and acquisitions, but also has an additional transnational dimension to the rationalization process: hitherto national defence industries have given way to transnational defence markets and corporate structures and an increasing pan-European propensity to collaborate on specific projects. The transnationalization of defence production has been epitomized by the emergence of EADS and BAe Systems.

Although the defence sector is different from the civilian sector, and there will be limits to globalization and the cross-border collaboration of technology, these trends have nevertheless changed the preferences of defence firms and governments alike. For defence firms, consolidation is motivated by the belief that 'big is beautiful' and the rush to benefit from the

cost-savings of off-the-shelf procurement approach of governments. The corollary to this is that governments are becoming more and more predisposed towards foreign contractors in fulfilling their procurement needs, sometimes in preference to national defence firms, that are often inefficient.

Benefits of a Defence Industrial Base

Despite the potential benefits from the globalization of the defence supply chain, the uniqueness of the defence sector imposes several constraints. There remain several vital benefits (both economic and non-economic) to having an indigenous DIB. According to defence economists, they include the following:

First, the DIB is regarded as a vital aspect of national pride and state sovereignty. Transnational defence firms, like those in Europe today, may be able to circumvent some of the national restrictions on the export of certain defence products and technology and collaboration with foreign national firms, but are likely to encounter political barriers when it comes to sharing and collaborating on top-tier technologies.

Second, a national DIB affords security of supply and eliminates the risk of potentially unreliable foreign suppliers of vital defence equipment, especially in times of crisis or conflict. Hence, the strong desire to avoid dependence on foreigners on critical defence hardware. Governments will give greater primacy to the imperatives of national security over the gains from globalized defence production.

Third, a DIB can provide national economic growth benefits, usually in developing countries, such as job creation, improved resource utilization and spillover effects of military research and development. The defence industrial establishment could act as a driving force in technological modernization and infrastructure development. Furthermore, with the advent of dual-use technologies and the blurring of lines that have traditionally demarcated the defence sector from the rest of the economy, greater synergies can now be obtained from having a robust defence sector alongside the civilian one.

The above arguments certainly apply to Singapore, where substantive cost savings could result from increased outsourcing and scaling back domestic production. However, given the nature of national defence, decisions on allocation and production cannot be based solely on economic criteria. In a nutshell, defence economics alone cannot provide answers where political and strategic considerations are as important as cost-benefit analysis.

The SAF's *Primus* illustrates the fact that the allocation and production decision underpinning the project was not even solely based on the benefits of a strong DIB. The SAF, having conducted a survey of the world's best self-propelled guns, simply could not find anything that could be customized to suit its specific needs. When the option of off-the-shelf procurement and customization was not available and there was a pressing need for such a weapon, economic analysis took a backseat to strategic imperatives.

Conclusion

There are powerful constraints limiting the extent to which globalization of the defence industry can occur. First, concerns over national security threats could force policy makers to increase military spending without regard to the effect on the civilian economy. In other words, assessing the defence-growth trade-off becomes moot when the imperatives of national security take precedence over economic issues. Second, while the formation of a

coalition against terrorism has enhanced cooperation between governments and therefore national defence firms (especially the trans-Atlantic linkages), there have also been greater controls on exports of hardware and technology because of concerns over leakages to 'grey countries'. For these countries, where market access has been cut off, the only alternative is to develop domestic capability.

While the allocation and production decisions of the defence establishment are driven by the confluence of economic criteria and political preferences, ultimately the 'political' assumes primacy over the 'economic'. Hence, decisions on defence production and procurement do not necessarily have to make economic sense.

In the case of Singapore, there has always been a recognition of the limitations it faces in undertaking purely domestic defence production without supplementing it with technology transfer from abroad and even 'off-the-shelf' procurement. Yet, the development of the DIB post-1965 was undertaken because it was deemed a strategic necessity; economic viability was a secondary consideration. The launch of the *Primus* shows that the domestic DIB continues to be important to Singapore, notwithstanding the economics and globalization of the worldwide defence industry.

***Adrian Kuah** is an Associate Research Fellow at the Institute of Defence and Strategic Studies.)