



# IDSS COMMENTARIES (33/2003)

*IDSS Commentaries are intended to provide timely and, where appropriate, policy relevant background and analysis of contemporary developments. The views of the authors are their own and do not represent the official position of IDSS.*

---

## **Rising Defence Spending and the Defence-Growth Nexus**

Adrian Kuah\*

28 August 2003

### **Introduction**

The US economy grew by 3.1 percent in the second quarter of this year, according to official figures. While greatly outperforming market expectations, this stellar growth was driven largely by the biggest increase in defence spending since the Korean War. In fact, US defence spending for 2003 is about US\$75 billion higher than initial long-term projections because of the war on terror after 9/11 and the Iraq war, representing a surge of 46 percent over the previous year. The consensus is that, absent the spending on defence and homeland security, the quarter's growth rate would have been an anaemic 0.5 percent.

This upward trend in defence spending is also reflected in the Stockholm International Peace Research Institute's (SIPRI) latest annual report, which stated that world military spending increased 6 percent to US\$795 billion. Russia and China, for example, increased their defence spending by 12 percent and 18 percent respectively over the past year. These figures show that the trend in global defence spending, which had been creeping up since 1998, picked up sharply in 2002, and is set to rise further. The post-Cold War 'peace dividend' is fading to a distant memory.

Rising global military expenditures, necessitated by the current geopolitical environment and security concerns, are bound to have an impact on economic growth. While higher defence spending has contributed substantially to aggregate output in the short term via the multiplier effect, the long-term costs and benefits of sustained (or increasing) levels of defence spending to the wider economy also need to be considered. By revisiting the defence-growth trade-off, this paper examines the linkages between military spending and economic growth. It assesses whether the choice between defence and civilian output remain as stark as conventionally posited, or if the emergence of the information economy and network-centric warfare, as well as the convergence of defence and civilian technologies, mean that synergies in addition to trade-offs are now crucial to analysing the defence-growth nexus.

### **The Defence-Growth Trade-off**

Is defence spending growth inducing or growth inhibiting? The implication of this fundamental question is obvious: if defence is growth promoting, then reallocating resources towards defence can be used as a policy tool for development; if growth inhibiting, then continued high levels of spending on defence would retard overall growth.

According to mainstream economic thinking, defence spending is not meant to be a direct growth driver. The link between defence and growth is indirect: national defence provides security, and thus the stability required for economic growth. In this framework, military spending ‘crowds out’ private investment and current consumption, and diverts resources from other public goods such as health and education. Defence spending siphons R&D resources away from the civilian sector, which is viewed to be more efficient and of greater socio-economic utility. Finally, military spending usually results in budget deficits, which reduce the national savings rate, and hence impinges on the long-term rate of investment. For example, if military spending is financed through increased taxation, this could in turn reduce consumption (which would impact short-term growth) and/or investment (which would affect the longer-term structural growth dynamics).

Is this necessarily the case? There is an emerging body of evidence that suggests not. First, aggressive defence spending has contributed to economic growth as a form of fiscal stimulus, whether intended or not. Indeed, under certain conditions, the relationship between the defence burden and economic growth could be a positive one. For example, alternative civilian uses of resources might not be as efficient as defence applications; also, total resource-use simply increases with a heavier defence burden, thereby raising aggregate output. Second, positive factors for long-term growth prospects must also be considered, such as industrial modernization, infrastructure development, technological progress and human-capital formation. Given such countervailing evidence, defence cannot be regarded entirely as a ‘sunk cost’.

### **Defence Spending in the Information Economy**

However, trying to understand the defence-growth nexus in the context of the information economy remains highly problematic. Given the information revolution and the emergence of network-centric or information warfare, is the ‘guns and butter’ debate still relevant?

Notwithstanding both the information economy and network-centric warfare, the impact of defence spending on the economy must still be considered in terms of the relative efficiencies of the defence and civilian sectors. Put simply, it means that the gains from one sector must be framed against the opportunity cost of foregone production in the other sector. Furthermore, the contribution to total output must be seen in the context of the employment levels of the economy. If the economy is operating at less than full employment, then the stimulative effect of defence spending is greatest; if the economy is already at full employment, then increasing the defence output would entail a loss of civilian output, and a potential loss of social welfare.

The trade-off between defence and civilian output is predicated on the notion that applications of military and civilian technologies are mutually exclusive and incompatible. Most of the R&D breakthroughs in the defence sector do not make an easy transition to the private sector, and indeed, some (such as stealth technology) simply do not have widespread civilian applications. This, however, may no longer be the case.

Since the early 1980s, there has been a two-way flow of applications of these two erstwhile distinct technologies, resulting in greater convergence into dual-use technologies. For example, many of the advances in electronics, aviation and electro-optics developed by defence industries during the Cold War have now been successfully commercialised. By the

same token, with the late 1990s IT revolution intelligence and defence agencies are increasingly adopting technologies that were primarily developed by private sector technology and software companies.

In the information economy, biometric identification and voice-recognition technologies are just as likely to be used for 'hard' security purposes as they are for phone-based stock trading. With the US-led coalition's swift and decisive military victory in the second Gulf War regarded as a triumph of the information warfare paradigm and an impetus for strategic transformation, the cross-fertilization of civilian and defence technologies has greatly accelerated. In a nutshell, the same technologies are increasingly being used to produce both 'guns' and 'butter'.

The successful application of information warfare and the push towards strategic transformation greatly modify the 'guns versus butter' trade-off. The information warfare paradigm calls for the importation and adoption of technologies from the civilian sector to complement, even supplant, traditional military hardware. The significant role played by C<sup>4</sup>ISR technologies (Command, Control, Communications, Computing, Intelligence, Surveillance and Reconnaissance) in the recent Iraq conflict is a testimony to dual-use technology convergence.

Alvin Toffler, author of *War and Anti-War*, writing more than ten years ago argued that the old military-industrial complex with its clearly demarcated division of labour was melting into a civilian-military complex. If this trend continues, then it follows that policy choices between 'guns' and 'butter' are not only not as stark as originally imagined, but that these choices are becoming conflated. One important implication, given the increasing amalgamation of the civilian and military industrial bases, is the peace dividend could ironically come at the cost of forfeited economic growth. Furthermore, there is the impact of defence R&D to consider: given the increasing synergies, will there now be a 'crowding in' effect, as opposed to the 'crowding out' of civilian R&D?

## **Conclusion**

The emergence of the information economy, and the advent of network-centric warfare as the military analogue of that phenomenon, has challenged the fundamental assumptions that underpin analysis of the linkage between defence spending and growth. While it is clear that the conventional framework runs into many difficulties when assessing the policy choices of the developed industrial countries as they grapple with economic and military transformation, many of the less developed countries still face the defence-growth trade-off in its fundamental form. Hence, for the less developed countries at least, the conventional defence-growth nexus still holds relevance.

---

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