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Asia's Defence Industries: Challenges and Policy Options

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Synopsis

Many countries in the Asia-Pacific region have extensive local arms industries. However, in terms of technology innovation these regional producers continue to run a poor third to the United States and Western Europe. Latecomer China may gain the advantage regionally. But it remains to be seen whether its accelerated spending, especially in R&D, will enable it to pull ahead of regional or global competitors.

Commentary

MANY COUNTRIES in the Asia-Pacific region have created extensive, even quite impressive, local arms industries. In some cases, these nations are moving towards the point where they are capable of producing arms that approach the state-of-the-art in particular industrial sectors. And yet armaments production in Asia, in terms of technology innovation, continues to run a poor third to the United States and Western Europe.

Limitations

There are several limitations impeding technological innovation in the region's defence industries. First, most defence industries in the region are still primarily "metal-bashers" as opposed to innovators. Most weapons systems produced in Asia, while good, are still rather prosaic and "industrial-age": tanks, artillery pieces, surface combatants, combat aircraft, and the like. To be sure, the Asian arms industry has produced a few interesting, even cutting-edge military systems, but local defence industrial bases are particularly lacking when it comes to network-centric-type materiel, such as systems for command and control, and electronic warfare.

The heavy emphasis in most of these countries on self-reliance in arms production means that resources are often wasted on replicating the development and manufacture of weapons systems already widely available on the global arms market. In particular, local armaments production is often exemplified by "prestige projects" that cost more than comparable systems found on the international arms market and yet do not deliver more in terms of capabilities. Additionally, locally produced armaments are frequently acquired not for their capabilities, but for economic reasons, that is, to provide jobs and to keep factories operating.

Most regional defence industrial bases also lack the necessary design skills and technological expertise in order to truly innovate. In particular, these countries' defence industries in general do not possess sufficiently advanced systems integration capabilities to link together highly complex systems-of-systems, such as C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance) networks.

Most local defence firms are simply not set up to function as “lead systems integrators” – such as a Lockheed Martin or a BAE Systems – capable of leading large teams of disparate subcontractors to design, develop, and manufacture a system to customer specifications.

Finally, these local arms industries’ problems are compounded by the presence of small, financially strapped defence R&D bases. Quite simply, local R&D infrastructures are not big enough or adequately funded, to make sufficient advancements in defence-related areas. Regional defence R&D budgets average no more than US$2 billion a year and in some cases, much less. Certainly, local defence technology bases in the Asia-Pacific are nowhere near as lavishly funded as in the United States, which spent US$78 billion on defence R&D in FY2010.

Regional Capabilities

In the final analysis, most Asian armaments producers will remain – relative to the United States and Western Europe – secondary or even tertiary actors in the international arms business. They manufacture military equipment mainly for domestic consumption or occupy a few highly specialized niches in the global defence industrial food chain.

Japan’s defence industry currently suffers from two decades of funding neglect; Tokyo is already finding it increasingly difficult to maintain its traditional level of kokusanka or autarky. For its part, South Korea may be a perfect example of “technology overreach” in its indigenous arms industry, as earlier success with local arms production has bred greater ambitions, which in turn might spur it to pursue programmes that lay beyond its economic or technological capacities.

India is a particularly disheartening case study. After China, India possesses the largest and most ambitious defence industrial base in Asia, and yet its performance over the past 50 years has been disappointing in the very least. Billions of dollars have been squandered on domestic weapons programmes that have never performed up to their requirements or met their objectives when it came to costs and timetables. The local arms industry is a white elephant of highly protected, monopolistic, state-owned corporations, headed by a bloated government-run defence R&D establishment, which presses for indigenous solutions with little heed to capabilities and timeliness. Despite repeated attempts at reform, the Indian defence industrial base has eluded any real progress when it comes to restructuring.

The Chinese Exception?

Over the 15 years, China has emerged to become perhaps the regional defence industrial powerhouse. Beijing has made the modernisation and expansion of its arms industry a top priority, and it has moved aggressively to reform this sector, injecting more market-oriented thinking into the defence industry, upgrading production facilities, and expanding the inputs of the People’s Liberation Army (PLA) when it comes to weapons design and production. In addition, the Chinese have pursued a dual-use innovation strategy that emphasises the development and spin-on of advanced commercial technologies – such as space systems, information and communications technologies, advanced manufacturing, etc. – into the military sphere.

Finally, the local arms industry has been aided by over a decade’s worth of dramatic growth in the Chinese defence budget. The PLA’s equipment budget in particular has risen from US$3.1 billion in 1997 to an estimated US$26 billion in 2010; of this, perhaps US$6 billion is dedicated to defence R&D, putting it far ahead of any other country in the region and perhaps even making it the second-highest spender globally.

In terms of emerging systems, therefore, Chinese military hardware is probably as good as most found coming out of the arms factories of Japan, South Korea, India, or Singapore (although it should be pointed out that the overall quality of the PLA is dragged down by large amounts of obsolete systems in its arsenal that are yet to be replaced). In the future, however, the challenges facing the Chinese defence technological and industrial base may be similar to those facing the other regional arms industries: that is, moving from a basically platform-centric to an increasingly network-centric technological-industrial process.

The Future

To become true defence innovators, defence industries in Asia will need to move away from metal-bashing industrial-age weapons production to more network-centric systems. Additionally, significant investments in R&D and advanced systems integration capabilities will be necessary to move the region’s defence-industrial base forward. Also, there is a need for stronger links to civilian industries in order to tap into innovative commercial technologies.

Finally, autarky in arms production may no longer be the best model. Countries should consider partnering with Western defence firms to develop and manufacture next-generation weapons systems -- even if that puts them

in a decidedly subordinate role.

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