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Asian Defense Spending Trends

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SUMMARY

This brief summarizes key trends and findings of two recent reports by the Center for Strategic and International Studies (CSIS).¹ Despite the global financial crisis that began in 2008, research by CSIS has shown that many Asian countries experienced relatively low fiscal distress and continued to increase their level of involvement in global affairs during the crisis. Today, several Asian countries are already among the largest defense spenders in the world. In addition, unlike defense budgets in many other regions, including the West, Asian defense spending continues to increase.

¹ David J. Berteau, Guy Ben-Ari, Joachim Hofbauer, Priscilla Hermann, and Sneha Raghavan, "Asian Defense Spending, 2000-2011" (Washington, DC: CSIS, October 2012), http://csis.org/files/publication/121005_Berteau_AsianDefenseSpending_Web.pdf; David J. Berteau, Michael Green, Greg Kiley, and Nicholas Szechenyi, "U.S. Force Posture Strategy in the Asia Pacific Region: An Independent Assessment" (Washington, DC: CSIS, August 2012), http://csis.org/files/publication/120814_FINAL_PACOM_optimized.pdf.

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TOTAL DEFENSE SPENDING

The five Asian countries analyzed in this brief—China, India, Japan, the Republic of Korea (ROK), and Taiwan—spent a combined \$224 billion on defense in 2011 (Figure 1).² In constant 2011 U.S. dollars, this equates to almost twice the amount spent by these five countries in 2000.³ If the growth rates observed between 2000 and 2011 were to continue, by 2017 China, India, Japan, the ROK, and Taiwan would have spent a combined \$388 billion, or roughly 73 percent more than in 2011.

Total defense spending for all five countries has been increasing in constant 2011 U.S. dollars during the last decade, yet growth rates among the five Asian countries have not been uniform. In particular, the rise of spending by the People’s Republic of China is

² The countries analyzed in this study were chosen by the size of their defense expenditures. China, India, Japan, The ROK, and Taiwan are the five largest spenders on defense in the Asian region, not including Russia and Australia. These five countries accounted for approximately 87 percent of total defense spending in Asia in 2011.

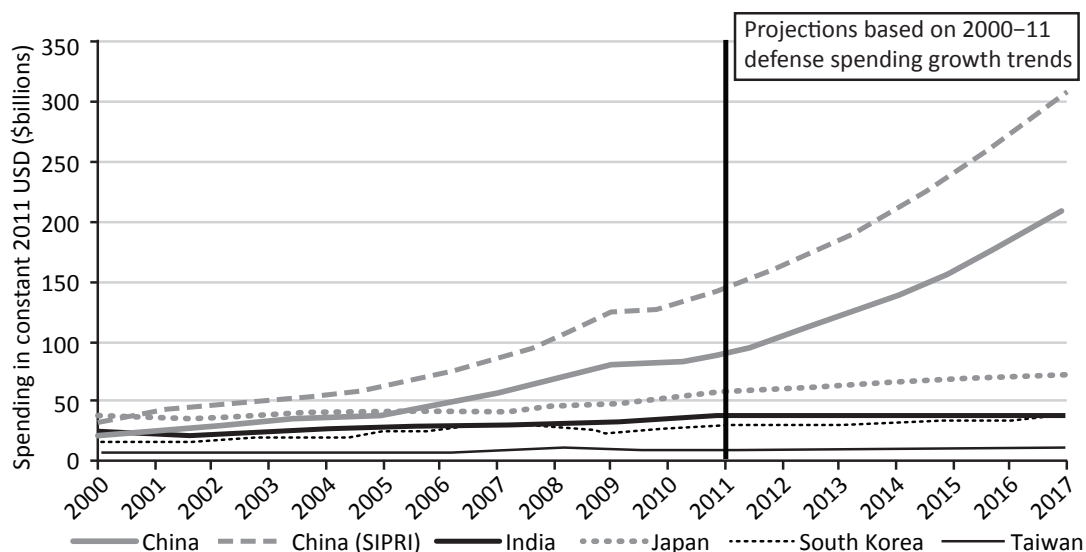
³ The report focuses on spending in constant FY 2011 U.S. dollars. This masks the impact of some significant exchange-rate fluctuations but in general permits better trend analysis and cross-country comparison.

noteworthy. At the start of the decade, China’s spending was barely half that of Japan’s (using China’s own reported levels of defense expenditures). By 2005, China’s growth in defense spending enabled it to draw even with Japan, and by 2011 China’s defense spending was at a rate roughly double that of the government of Japan. In fact, between 2000 and 2011 Chinese defense spending increased at the highest rate of all five countries with an 11-year compounded annual growth rate (CAGR) of 13.4 percent.

Defense spending by the ROK grew at the second fastest rate during that period with a 4.8 percent CAGR. India and Japan were on a very similar growth trajectory with CAGRs of 3.6 and 3.5 percent, respectively (although in Japan’s case, exchange rate fluctuations mean that recent increases in defense spending would show decreases if presented in yen constant value terms). Taiwan experienced the lowest increase in defense spending among the group with an eleven-year CAGR of 1.8 percent.

This growth in defense spending did not occur in a linear manner. Instead, increases in defense spending visibly accelerated around the mid-point of the decade. With the exception of the ROK, growth rates (in constant 2011 U.S. dollars) were higher between 2005 and 2011 than between 2000 and 2005. In the case of Taiwan, defense spending actually decreased between

Figure 1. Total Defense Spending by Country, 2000–2017



Sources: Chinese MoD White Papers, China’s National Defense, 2002, 2004, 2006, 2008, 2010; U.S. Department of Defense 2010 Annual Report to Congress on Military and Security Developments Involving the People’s Republic of China; Indian Union Budget and Economic Survey: Expenditure Budget, 2000–2013; Japanese MoD White Papers, 2005–2011; The ROKn MoD White Papers, 2000, 2006, 2008, 2010; The ROKn MoD; Taiwanese National Defense Report, 2009 and 2011; analysis by CSIS Defense-Industrial Initiatives Group.

2000 and 2005, then rose by a 4.3 percent CAGR between 2005 and 2011. Figure 1 reflects illustrative trajectories in defense spending for all five countries for the 2012 to 2017 period based on their growth rates from 2000 to 2011. If the higher growth rates of recent years were to be sustained, however, future defense budget trends would significantly exceed the illustrative trajectories.

At this point it is not clear whether developments in recent years might, in fact, be a precursor to continued significant increases in defense spending or whether they are driven by internal as well as external factors. However, the need to budget for several recent large, high-profile investment decisions, including India's Medium Multi-Role Combat Aircraft (MMRCA) selection, Japan's F-35 order, or The ROK's F-X-3 multi-role fighter competition, might indicate that the current upward trend will continue.

Another critical factor for enabling further growth is the overall economic climate and the associated availability of sufficient financial resources. Compared to the United States and Europe, Asia was less affected by the 2008 financial crisis. Robust economic conditions allowed the five Asian countries to increase their defense spending between 2000 and 2011 without having to allocate a significantly larger share of their gross domestic product (GDP) to defense (Figure 2). In the

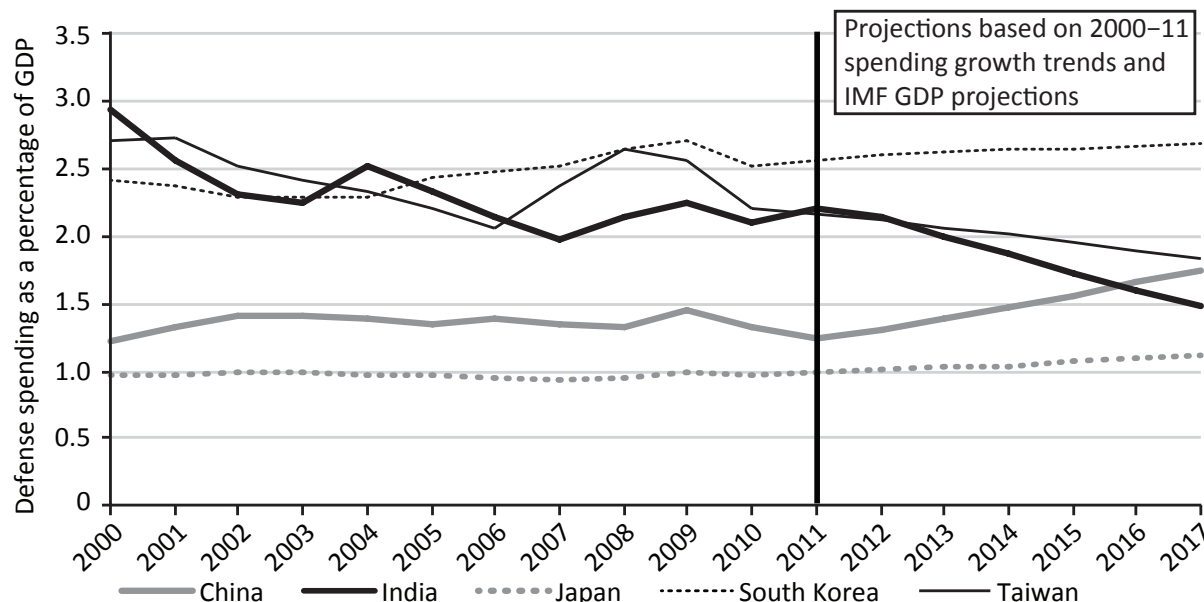
case of India and Taiwan, defense expenditures as a percentage share of GDP actually decreased during this time frame. This organic growth pattern combined with the moderate size of defense spending as a share of GDP in the individual countries might indicate that overall budget trajectories are sustainable, especially as the future economic outlook remains optimistic for the region.⁴

In addition to economic considerations, budget decisions on defense spending growth rates for these countries are not taken independently of one another. In particular, it is probable that the increase in defense spending by China is a significant factor in support of increases for all the other countries in the region. This impact may be enhanced by the fact that Chinese reports on defense spending are widely viewed as understating the actual budget for defense. Independent groups estimate that Chinese defense spending could be 40–60 percent higher than official numbers, as illustrated in Figure 1.⁵ To the extent that Chinese defense spending continues to increase at annual CAGRs in the

4 International Monetary Fund, "World Economic Outlook Database, October 2012," <http://www.imf.org/external/pubs/ft/weo/2012/02/weodata/index.aspx>.

5 See, for instance, Stockholm International Peace Research Institute), "SIPRI Military Expenditure Database, 2011," <http://www.sipri.org/databases/milex>.

Figure 2. Total Defense Spending as Percentage Share of GDP by Country, 2000–2017



Sources: Chinese MoD White Papers, China's National Defense, 2002, 2004, 2006, 2008, 2010; U.S. Department of Defense 2010 Annual Report to Congress on Military and Security Developments Involving the People's Republic of China; Indian Union Budget and Economic Survey: Expenditure Budget, 2000–2013; Japanese MoD White Papers, 2005–2011; The ROK MoD White Papers, 2000, 2006, 2008, 2010; The ROKn MoD; Taiwanese National Defense Report, 2009 and 2011; IISS Military Balance; IMF World Economic Outlook; analysis by CSIS Defense-Industrial Initiatives Group.

double digits, there will be pressure on other nations to keep pace.

PER-SOLDIER DEFENSE SPENDING

The previous section examined defense spending in the aggregate. CSIS also assessed defense spending on a per-soldier basis.⁶ This approach provides an additional perspective on topline defense spending trends both within countries and across countries over time. It captures the impact of changes to military force structure in conjunction with total defense spending trends. Given the cost of technology, per-soldier spending can also be used as a proxy variable for the quality potential of armed forces.

Analyzing defense spending on a per-soldier basis reveals a dramatic spending gap between Japan and the rest of the sample group. While four of the countries spent between \$28,200 and \$43,600 per service member in 2011, Japan allocated \$238,100 per soldier in the same year. This discrepancy reflects the relatively small size of the Japanese professional military forces; approximately 244,300 troops in 2011 compared to China, India, and the ROK, which were 2.7 to 8.9 times higher. Although Taiwan had the smallest defense budget of the five countries analyzed (Figure 1), the size of its military was comparable to that of Japan. As a result, Taiwan's per-soldier defense spending was similar to that of China, India, and the ROK, all of whom spread their larger defense budgets across more military personnel. (China, Taiwan, and the ROK all rely on conscription for military service personnel, but Taiwan is transitioning to a volunteer force; India and Japan have voluntary military service.)

Changes over time in the spending trends on a per-soldier basis resemble the overall growth trends in total defense spending. The 11-year overall CAGRs for total and per-soldier defense spending are similar, due to relatively small fluctuations of troop levels in China, India, Japan, and the ROK. The major exception to this pattern was Taiwan. A 21.6 percent reduction in troop numbers between 2000 and 2011 yielded a 4.0 percent CAGR for Taiwanese per-soldier defense spending, a substantial increase over its 1.8 percent CAGR for total defense spending during the same time frame. Personnel reductions enabled Taiwan's per-soldier spending to grow at a faster pace than India's or Japan's even as its overall defense spending grew the least among

⁶ The term "per-soldier spending" reflects total reported defense spending divided by the total number of all active duty full time military personnel, including sailors, airmen, and marines as well as army soldiers. All costs are in constant 2011 U.S. dollars.

the countries analyzed in this report.

Per-soldier defense spending by Japan puts its forces on a par with spending by the most sophisticated militaries in the world. Japan's 2011 per-soldier spending level is approximately the same as France and trails only a small number of countries such as the United Kingdom, Canada, Australia, and the United States.

DEFENSE SPENDING DISTRIBUTION

Total defense spending is one way to analyze Asian economics and security, and per-soldier spending permits additional comparisons. A third category looks at defense budgets by functional defense spending categories: Defense Investment (which includes procurement, military construction, and Research & Development or R&D), Personnel, Operation & Maintenance, or O&M, and Defense R&D (only available for India, Japan, and the ROK). This assessment reveals considerable differences in the budget composition of the five individual countries.

Absolute spending in all budget categories increased for all five countries between 2000 and 2011. However, these increases occurred at different speeds, resulting in relative shifts in spending priorities for individual countries (Table 1). China exhibited a nearly equal share of total dollars spent across all three cat-

Table 1. CAGRs for Total Defense Spending and Individual Spending Categories by Country, 2000–2011 (constant 2011 USD)

Country	Defense spending CAGRs (percent)				
	Total	Defense investments	Personnel	O&M	Defense R&D
China*	15.1	15.1	15.3	14.9	n/a
India	3.6	3.2	7.2	1.1	0
Japan	3.5	2.3	3.5	4.1	0.8
ROK**	4.8	3.1	5.4	6.1	6.3
Taiwan	1.8	3.6	0.6	2.8	n/a

*For China, CAGRs are for 2000–2009.

**For the ROK, the R&D spending CAGR is for 2000–2010.

Sources: Chinese MoD White Papers, China's National Defense, 2002, 2004, 2006, 2008, 2010; U.S. Department of Defense 2010 Annual Report to Congress on Military and Security Developments Involving the People's Republic of China; Indian Union Budget and Economic Survey: Expenditure Budget, 2000–2013; Japanese MoD White Papers, 2005–2011; ROK MoD White Papers, 2000, 2006, 2008, 2010; ROK MoD; Taiwanese National Defense Report, 2009 and 2011; analysis by CSIS Defense-Industrial Initiatives Group.

egories, which seems to validate concerns about the extent to which Chinese budget numbers reflect an image rather than actual spending. India spent 36.7 percent of its defense budget in 2011 on Defense Investment—the highest relative value among the countries analyzed—while Japan allocated a group low of 18.5 percent of its defense resources to Defense Investment. Japan’s and Taiwan’s defense expenditures were very personnel-focused with 44.9 and 47.5 percent of their respective spending going to military Personnel accounts. Of the three countries with separate R&D breakdown available, the ROK has the highest level of R&D spending in both absolute and relative terms.

In most countries, O&M and Personnel accounts have grown faster than overall defense budgets. Only in Taiwan did the Defense Investment category grow at a faster pace than overall defense budgets, and only in the ROK did Defense R&D spending grow at a faster rate than total defense spending. While Defense R&D spending is an input rather than an output metric, the ROK’s spending may be indicative of more home-grown capabilities in the future. In Japan, Defense R&D allocations grew at a slower rate compared to total defense spending, although that trend could change in the next decade with the relaxing of prohibitions against defense exports from Japan.

TWO KEY FINDINGS

There are two key initial findings from the above analysis: 1) an accelerated growth in defense spending across the countries analyzed; and 2) the countries in question seem to be prioritizing force size over quality.

Accelerated Growth in Defense Spending

Analyzing defense spending in China, Japan, India, the ROK, and Taiwan for the years 2000 to 2011 reveals growth trends at both the aggregate and country-by-country level. Defense spending during the second half of the decade (2005 to 2011) increased at a faster rate (8.0 percent CAGR) than in the first half (2000 to 2005, 4.5 percent CAGR) for all countries except The ROK. The net result was that defense spending doubled for these five countries over the decade led by four-fold increases in Chinese spending.

Will this trend of accelerated increases in defense spending beginning in 2005 continue, and if so, for how long? That will depend on China’s continued defense build-up and its posture toward the United States and Taiwan as well as on mounting trade and territorial tensions in the South and East China Seas. The response to a rising China, of course, is a challenge for the United States as well as for Japan, the ROK,

and all the nations of the Asia Pacific region, as highlighted in the recent CSIS report on U.S. Pacific force posture. Defense spending by the ROK and India will also continue to be affected by the DPRK and Pakistan, respectively. Economic factors, such as available financial resources and the global economic climate, could also affect whether countries can maintain current trends in defense spending.

Exchange rate fluctuations can also influence defense spending trends in Asia. Growth in buying power from devaluation of the U.S. dollar against local currencies might entice these countries to increase imports of U.S.-made defense capabilities. This effect could be offset by efforts to promote the development of an indigenous industrial base supporting defense, as in India and Korea.

Prioritizing Quantity, not Quality

Three of the five countries assessed in this report—China, India, and Japan—ranked in the global top ten defense spenders in 2011, and the ROK was 12th.⁷ Three of the five—China, India, and the ROK—ranked in the global top ten in number of active troops. With such large numbers of military personnel, defense spending per soldier in these countries has been relatively low. China, India, the ROK, and Taiwan spent between \$28,200 and \$43,600 per service member in 2011. (Japan spent \$238,100 per soldier in 2011.) By comparison, European states spent on average \$140,433 per service member in 2011, and the United States spent \$504,800 per soldier in 2011. On a per-soldier basis, China, India, the ROK, and Taiwan only spent as much as countries like Bulgaria (\$28,000 in 2010) or Latvia (\$43,900 in 2010). China alone fielded almost as many troops as all of Europe, yet it spent only 26.6 percent of total European defense spending.

Per-soldier defense spending offers a proxy measure for force quality as it captures the resources available for recruitment, training, compensation, equipment, and sustainment. It does not capture other relevant qualitative factors such as doctrine, leadership, operational experience, or the efficient and effective use of available resources. The comparatively low levels of per-soldier spending in four of the five Asian countries analyzed here imply that these countries prioritize force size over force quality.

Other factors could offset the proxy value of per-soldier spending. Conscription forces, such as those of China, the ROK, and Taiwan, require only a fraction of

⁷ Stockholm International Peace Research Institute, *SIPRI Yearbook 2011* (New York: Oxford University Press, 2011).

the per-soldier personnel costs than most all-volunteer forces. Lower wage levels in China and India might narrow the buying power gaps in per-soldier personnel spending for these two countries. Acquiring and maintaining equipment from domestic or non-Western sources might cost less than Western options. This may be especially relevant for China and India with their strong reliance on Russian imports and growing emphasis on domestically produced equipment.

Still, the significant gap in per-soldier defense spending between China, India, the ROK, and Taiwan on the one hand and the major European militaries and the United States on the other, reflects, at least to some extent, differences in the overall quality of military forces. It remains to be seen whether Asian states will continue field large militaries or if they will eventually follow trends in Europe and the United States, where force structure is reduced in favor of investing in higher-quality, more capable forces.

AREAS FOR FURTHER RESEARCH

This paper and the CSIS report “Asian Defense Spending, 2000–2011” on which it is based focus on overall and functional defense spending trends for the five biggest Asian defense spenders: China, India, Japan, Taiwan, and the ROK. Subsequent efforts could cover ASEAN member states and Russia, Australia, and

New Zealand. Such an expansion would facilitate a more comprehensive and integrated analysis of defense trends in Asia, assuming reliable data are available for those countries.

Additional assessments on defense import and export patterns of Asian countries could help understand sourcing for meeting regional force modernization requirements. An analysis on what portions of acquisition activities are indigenous or foreign sourced and on the identification of key importers and exporters would provide valuable insights on the Asian defense market and business opportunities in it.

Research on the regulatory frameworks governing defense acquisition and the supporting defense industrial bases in individual countries would provide a better understanding of the legal framework in which participants operate. This would allow for more complete defense market profiles of individual countries and comparisons across Asia. A thorough understanding of defense markets should include an analysis of the industrial bases supporting defense to highlight the overall structure of the defense industry in the region, its financial health and competitiveness, its core areas of expertise, and the policy framework within which it operates.

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