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**Working Paper**

## Long-term issues for fiscal sustainability in emerging Asia

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## **ADB Working Paper Series**

### **Long-term Issues for Fiscal Sustainability in Emerging Asia**

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and Peter J. Morgan

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**Abstract**

The aftermath of the global financial crisis of 2007–08 underlined the importance of maintaining fiscal space and fiscal sustainability. Even though many Asian economies implemented fiscal stimulus policies during the crisis period, their fiscal conditions generally improved rapidly thereafter, and their overall government debt positions, aside from that of Japan, appear strong. This reflects a number of supportive factors, including strong underlying growth, conservative fiscal management, and financial repression that keep interest rates low. Nonetheless, there are a number of reasons to believe that conditions in emerging Asian economies will not always be so supportive. First, economic growth will tend to slow as countries reach higher income levels. Second, many economies will face rapid aging, which will raise old-age-related spending dramatically, while tending to reduce economic dynamism. Third, financial repression is likely to diminish as financial markets develop, making debt management more challenging. The first objective of this paper is to identify long-term issues of fiscal sustainability risk for emerging Asian economies—such as large-scale subsidies, infrastructure investment requirements, aging and social protection spending, contingent liabilities, financial repression, and the exposure of the domestic banking sector to sovereign debt. The second objective is to recommend policies to reduce these risks to sustainability, including improving the balance of revenues and expenditures, implementing more explicit fiscal rules and frameworks, and establishing stronger fiscal surveillance at the national and regional levels.

**JEL Classification:** H2, H51, H54, H55, H62, H63, J11

## Contents

|   |    |
|---|----|
| 1. Introduction .....   | 3  |
| 2. Current Fiscal Conditions in Asia.....                       | 4  |
| 2.1 Review of Recent Experience .....                           | 4  |
| 2.2 Fiscal Expenditures, Revenues, and Debt Levels .....        | 6  |
| 3. Fiscal Expenditure Management Issues in Emerging Asia .....  | 9  |
| 3.1 Subsidies .....   | 9  |
| 3.2 Infrastructure Investment .....                             | 9  |
| 3.3 Aging and Social Protection Spending .....                  | 11 |
| 3.4 Policy Recommendations.....                                 | 12 |
| 4. Fiscal and Debt Management Challenges in Emerging Asia ..... | 13 |
| 4.1 Contingent Liabilities .....                                | 13 |
| 4.2 Potential Diminution of Financial Repression .....          | 14 |
| 4.3 Need for Enhanced Fiscal Management in Emerging Asia.....   | 15 |
| 5. Conclusions .....  | 18 |
| References .....  | 19 |

# 1. INTRODUCTION

The global financial crisis of 2007–09 and its aftermath led to a sharp buildup of government debt in many advanced economies, including the United States (US), the United Kingdom (UK), Japan, France, and the so-called PIIGS countries (Portugal, Ireland, Italy, Greece, and Spain). Moreover, the combination of lack of monetary policy flexibility and large exposure of domestic banking sectors to government debt led to the emergence of combined sovereign debt and banking crises in the euro area, particularly PIIGS. Regardless of whether or not these countries underwent debt crises, they all face the arduous long-term task of fiscal consolidation in order to bring their government debt down to sustainable levels.

In contrast, most emerging economies, including Asian ones, weathered the global financial crisis surprisingly well. Although many implemented large-scale fiscal stimulus programs, government debt levels remained relatively benign.<sup>1</sup> This benign result appears to reflect a number of positive factors, including an absence of financial crises that required bank bailouts, strong initial conditions in terms of both deficits and government debt levels, and high growth rates of gross domestic product (GDP) relative to interest rates, partly as a result of financial repression.

Nonetheless, there are a number of reasons to believe that conditions in emerging Asian economies will not always be so supportive. First, real growth rates will tend to slow as these economies achieve higher levels of income. Second, many Asian economies will face rapid aging in coming decades, which will raise pension, healthcare, and other old-age-related spending dramatically, while tending to reduce economic dynamism. Third, financial repression is likely to diminish as financial markets are liberalized and develop, leading to a narrowing gap between economic growth rates and bond yields that will make debt management more challenging.

The first objective of this paper is to identify long-term issues of fiscal sustainability risk for emerging Asian economies. These issues include: large-scale subsidies, infrastructure investment requirements, aging and social protection spending, contingent liabilities, financial repression, and the exposure of the domestic banking sector to sovereign debt. The second objective is to recommend policies to reduce these risks to sustainability, including: improving the balance of revenues and expenditures; implementing more explicit fiscal rules; and establishing stronger fiscal surveillance at the regional level.

Section 2 of this paper reviews the current fiscal situation in Asia, including the experiences during the Asian financial crisis of 1997–98 and the global financial crisis, and current fiscal sustainability conditions. Section 3 identifies fiscal expenditure management issues in emerging Asia. Section 4 identifies and analyzes longer-term fiscal and debt management challenges. Section 5 concludes with several policy recommendations.

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<sup>1</sup> The major exceptions were Eastern European economies, especially those slated to join the euro area, such as Hungary, Latvia, Lithuania, and Estonia. This was clearly related to their proximity to Europe.

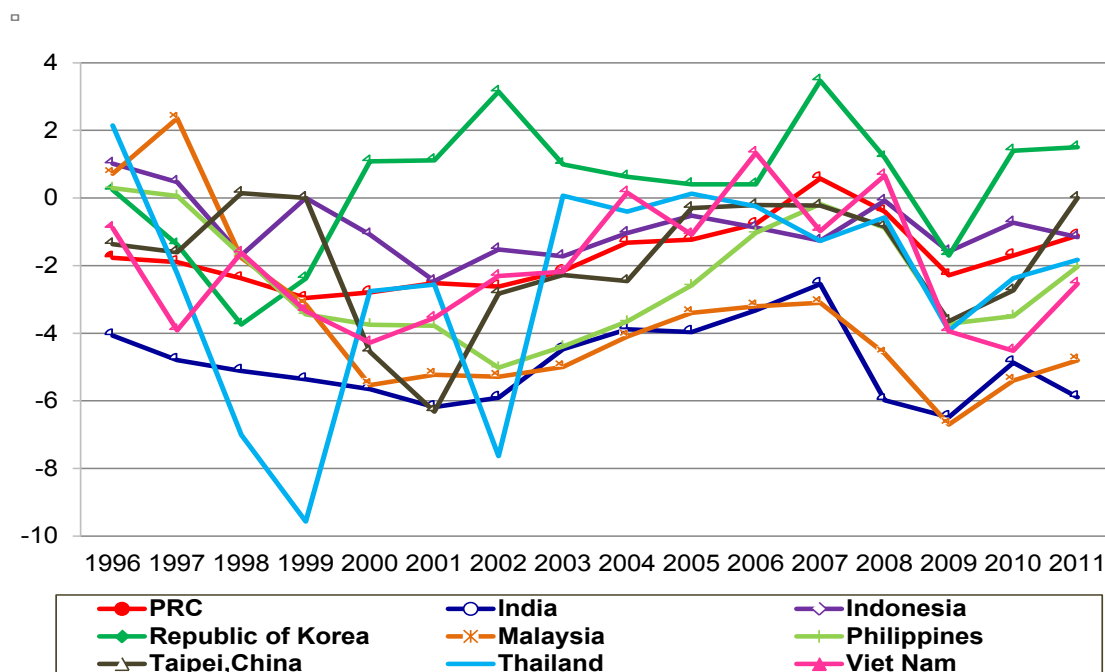
## 2. CURRENT FISCAL CONDITIONS IN ASIA

### 2.1 Review of Recent Experience

#### Asian financial crisis and global financial crisis experiences

The Asian financial crisis of 1997–98 differed from other financial crises in Latin America, as excess private demand, not fiscal profligacy, was the source of current account imbalances that contributed to currency crises in Indonesia, the Republic of Korea, Malaysia, and Thailand. Figure 1 shows the trend of fiscal balances from 1996, just before the crisis hit these economies. None of these four crisis-affected economies had a fiscal deficit in 1996. However, their fiscal deficits rose during the crisis period, reflecting a combination of: higher interest rates, cyclically weak domestic demand that depressed tax revenues, and banking sector recapitalization in the aftermath of banking sector crises (especially in Indonesia and Thailand). Thailand's deficit worsened the most, hitting almost 10% of GDP in 1999. However, fiscal balances were restored relatively quickly via currency-devaluation-induced economic recoveries. The Republic of Korea's performance was particularly rapid, as it restored a fiscal surplus by 2000, and all the crisis countries—except Malaysia, where fiscal balance data are not available—achieved deficits of less than 1% of GDP or surpluses by 2006.

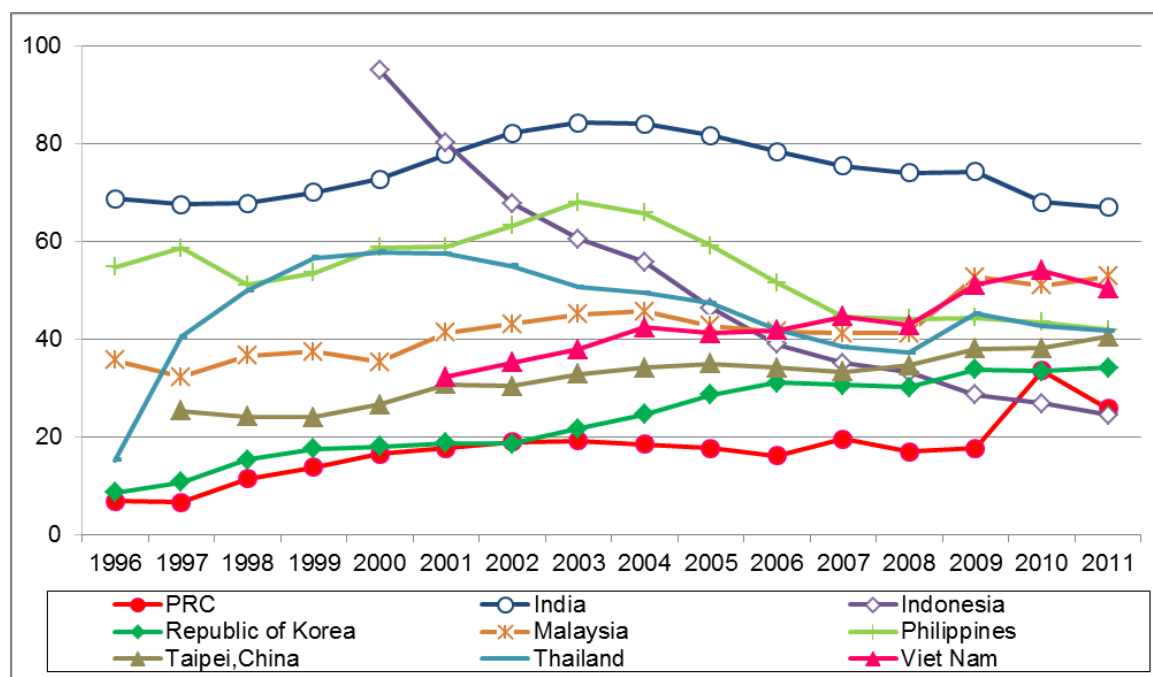
**Figure 1: Fiscal Balances in Emerging Asia (% of GDP), 1996–2011**



PRC = People's Republic of China.

Source: ADB, Statistical Database System.

Moreover, the increases in the ratios of government debt to GDP were also contained. Figure 2 shows that only Indonesia saw its government debt ratio rise to close to 100% of GDP, and that debt ratios of the other crisis economies generally remained below 60% of GDP, the International Monetary Fund (IMF)'s normal guideline for debt sustainability. Only India consistently saw a debt ratio over 60% of GDP, and even that has been trending downward since 2005.

**Figure 2: General Government Debt (% of GDP) in Emerging Asia, 1996–2011**

PRC = People's Republic of China.

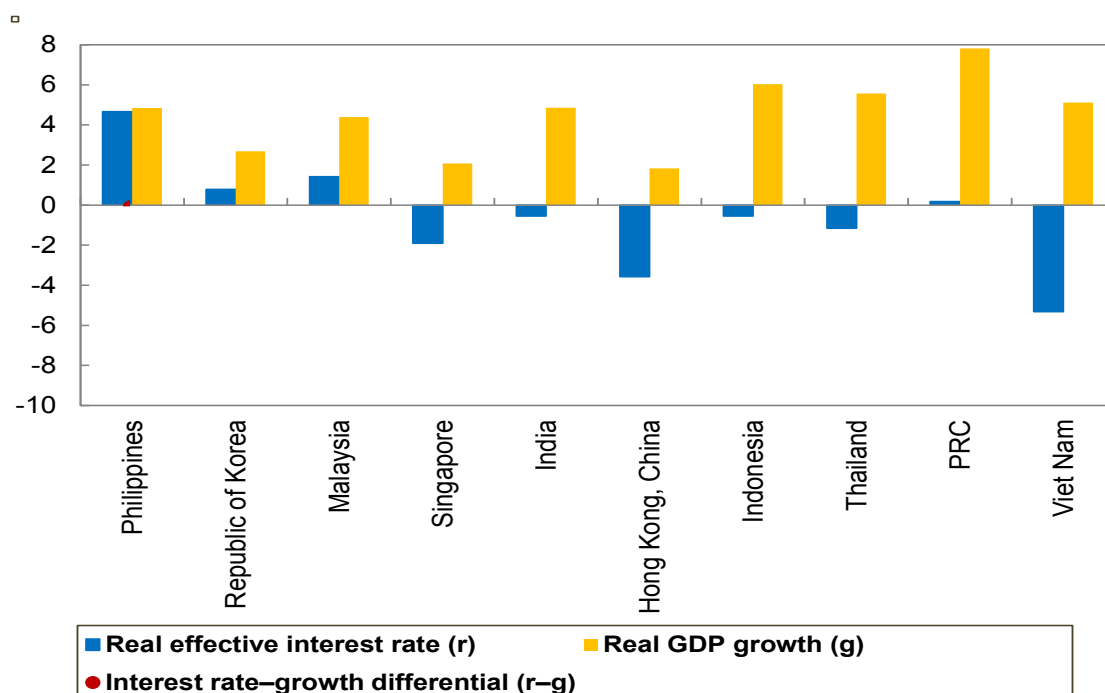
Source: IMF, *World Economic Outlook Database*.

During the global financial crisis, a number of Asian countries implemented substantial fiscal easing policies to offset a sharp drop in import demand from advanced economies. However, the absence of domestic financial crises in those countries meant that the call on fiscal resources was more limited than in many developed economies and other economies that experienced banking crises. Moreover, prudent fiscal management after the Asian financial crisis provided most economies in the region (Japan was the major exception) with plenty of fiscal space to support such stimulus programs. Figure 1 shows that fiscal balances of emerging Asian economies all worsened substantially between 2007 and 2009, but, except for India and Malaysia, they were contained in a fairly modest range of 1%–4% of GDP. Moreover, fiscal balances improved rapidly thereafter, with a relatively small accumulation of government debt. Again, with the exception of India, Figure 2 shows that the debt-to-GDP ratios of all the economies rose only moderately, and stayed below 60% of GDP.

Less positively, financial repression contributed significantly to the rapid improvement in public debt conditions. It is well known that one of the main determinants of debt sustainability conditions is the difference between the growth rate of real GDP and the real bond yield (or nominal GDP growth and the nominal bond yield). If the interest rate is higher than the growth rate of GDP, the ratio of debt to GDP will tend to rise, while if less, it will tend to decline, for a given level of the primary balance. Figure 3 shows that the real GDP growth rate is substantially higher than the real bond yield in all emerging Asian economies except the Philippines. This factor exerts a powerful drag on the growth of debt relative to GDP; in other words, it is relatively easy for emerging Asian economies to contain government debt through economic growth. The gaps are particularly large in the People's Republic of China (PRC), India, Indonesia, Thailand, and Viet Nam. It is noteworthy that even Singapore and Hong Kong, China have large gaps, even though they have highly developed and open financial markets. Another less

positive factor supporting apparently low debt levels is reliance on unfunded contingent liabilities, which is discussed further in section 4.1 below.

**Figure 3: Real GDP Growth Rates and Real Interest Rates (%) in Emerging Asia, 2012**



Source: IMF *Fiscal Monitor* database, October 2012.

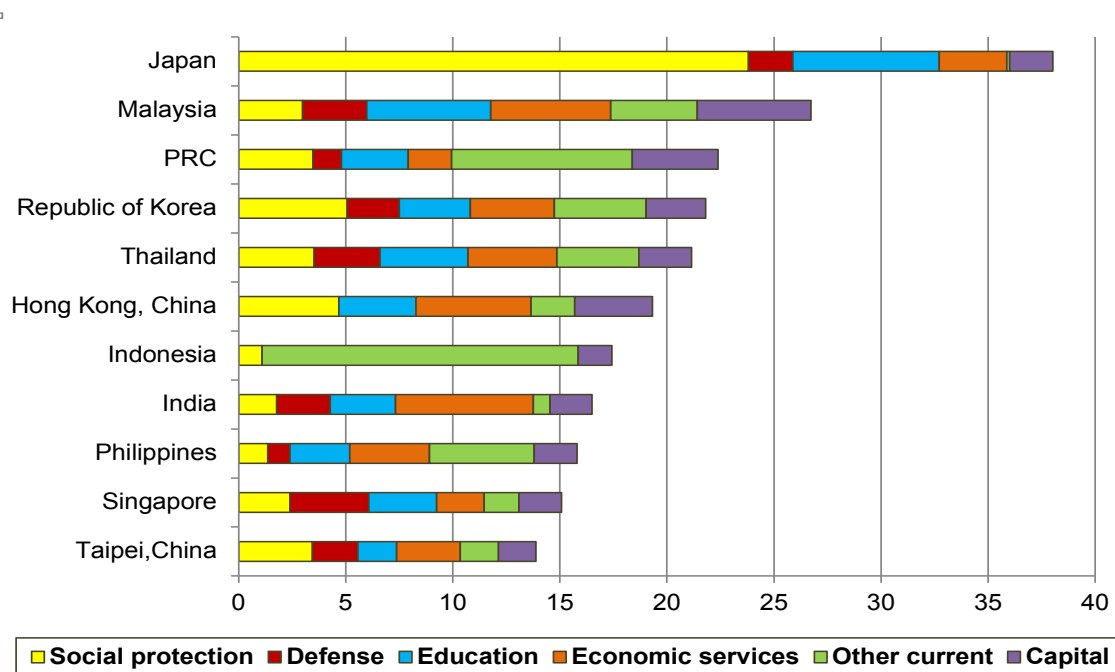
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## 2.2 Fiscal Expenditures, Revenues, and Debt Levels

This section describes the composition of expenditures and revenues and the fiscal sustainability issues in emerging Asia.

Figure 4 shows the breakdown of central government expenditures of Asian economies as percentage of GDP. Japan has by far the highest share of GDP overall (38%), followed by Malaysia and the PRC. Taipei, China; and Singapore have the lowest shares. Some low-income economies have low capital expenditure shares such as investment in infrastructure, including India, Indonesia, and the Philippines. This is likely to be exerting a restraining influence on the growth potential of those countries. It should be a high priority to secure sources of funding for higher levels of infrastructure investment spending in those countries.

**Figure 4: Composition of Central Government Expenditures (% of GDP) in Asia, 2011**



Note: Japan's social protection expenditures are for general government. Data for Thailand and Japan, 2010; Singapore, 2008; and the Philippines, 2004.

Source: ADB Statistical Database System.

Social protection-related expenditures tend to grow rapidly with income and population aging. Japan's are by far the highest, making up about 24% of GDP, well over half of total central government expenditures. The second highest shares are held by the Republic of Korea and Hong Kong, China, but they are much lower—only about 5% of GDP. Shares for other economies range between 2% and 4%. Nonetheless, the aging trend in those economies points to substantial increases in old-age-related spending in coming years, which will put a greater strain on government finances. This issue is discussed at greater length in section 3.3.

As expenditures tend to rise more than proportionately with income, adequate revenue sources must be generated to cover this. However, many low-income countries have narrow revenue bases. Table 1 shows the breakdown of tax revenues for major Asian economies. The share of indirect taxes, i.e., taxes on goods and services, ranges from 16% to 39% for Asian economies except the PRC (59%) and Hong Kong, China (8%). A greater reliance on indirect taxes (Value Added Tax [VAT] or Goods and Services Tax [GST]) could increase revenues in a relatively non-distorting way. Also, the share of tax revenues as percentage of GDP is relatively low, ranging between 10% and 18%, even including Japan.

**Table 1: Composition of Tax Revenue (% of GDP) in Asia, 2010**

| Country           | Taxes on Goods and Services | Taxes on Income, Profits, and Capital Gains | Taxes on International Trade | Other Taxes | Total Tax Revenue |
|-------------------|-----------------------------|---|------------------------------|-------------|-------------------|
| PRC               | 6.2                         | 2.6   | 0.4                          | 0.1         | 10.5              |
| Hong Kong, China  | 1.2                         | 4.8   | 0.1                          | 2.2         | 13.5              |
| India             | 2.3                         | 4.6   | 1.2                          | 0.0         | 9.7               |
| Indonesia         | 3.2                         | 4.0   | 0.5                          | 0.4         | 10.9              |
| Japan             | 5.8                         | 6.7   | 0.2                          | 0.7         | 16.8              |
| Republic of Korea | 4.0                         | 4.3   | 0.6                          | 1.2         | 15.1              |
| Malaysia          | 2.3                         | 6.3   | 0.6                          | 0.5         | 13.8              |
| Philippines       | 3.3                         | 5.2   | 2.4                          | --          | 12.3              |
| Singapore         | 3.6                         | 4.8   | --                           | 2.4         | 14.1              |
| Thailand          | 6.9                         | 6.7   | 0.8                          | 0.1         | 17.6              |

Note: PRC, 2009; Philippines, Singapore, and Thailand, 2011.

Source: World Bank, *World Development Indicators*, available at: <http://databank.worldbank.org/ddp/home.do?Step=1&id=4>, accessed 15 January 2013; and OECD.

As noted above, most Asian economies saw greater fiscal deficits and higher government debt to GDP ratios as a result of the global financial crisis. This section tracks the progress of fiscal consolidation in these countries, based on IMF methodology (see IMF 2012). Table 2 summarizes the degree of progress in fiscal consolidation in terms of the change in the cyclically adjusted primary balance (CAPB) needed to achieve a return of the government debt to GDP ratio to its 2011 level by 2030. The table shows that the PRC, the Republic of Korea, and the Philippines are expected to fully satisfy the criterion by 2013, while Malaysia is about half way there. There has been no progress or deterioration for India, Indonesia, and Thailand. However, as noted above, the debt-to-GDP ratios for Indonesia and Thailand are not particularly high even if they are not declining significantly. Though India's ratio is high, it is declining slowly.<sup>2</sup>

**Table 2: Progress in Fiscal Consolidation (% of GDP) in Emerging Asia**

|                   | Benchmark: Adjustment to Stabilize Debt |                     |                           |                       |
|-------------------|---|---------------------|---------------------------|-----------------------|
|                   | CAPB needed to stabilize debt           | CAPB change 2009–13 | Further adjustment needed | Progress through 2013 |
| PRC               | -0.3                                    | 2.8                 | -1.1                      | 2.0                   |
| India             | 1.8                                     | 0.7                 | 6.9                       | 0.1                   |
| Indonesia         | 0.2                                     | -0.6                | 0.8                       | -3.2                  |
| Republic of Korea | -0.4                                    | 2.1                 | -4.4                      | 2.0                   |
| Malaysia          | 1.2                                     | 2.1                 | 3.0                       | 0.4                   |
| Philippines       | -0.2                                    | 0.8                 | -0.8                      | 2.0                   |
| Thailand          | 1.4                                     | -1.7                | 4.2                       | -0.7                  |

Note: The CAPB needed to stabilize debt is the primary balance required in 2020 to allow the debt-to-GDP ratio to return to 2011 levels by 2030.

Source: IMF *Fiscal Monitor*, October 2012.

<sup>2</sup> There are a number of different approaches to analyzing fiscal sustainability, which are beyond the scope of this paper. In a more extensive analysis, Adams, Ferrarini, and Park (2010) found that emerging Asian economies generally maintained fiscal sustainability in the aftermath of the global financial crisis. See also Burnside (2005) and Ferrarini, Jha, and Ramayandi (2012) for a general discussion.

### 3. FISCAL EXPENDITURE MANAGEMENT ISSUES IN EMERGING ASIA

This section describes some of the major issues related to management of government expenditures in emerging Asia, including subsidies, infrastructure investment, and social protection spending related to aging.

#### 3.1 Subsidies

Some governments maintain large price subsidy programs to support below-market consumer prices, especially for food and energy. Table 3 shows that India, Malaysia, Indonesia, and the Philippines have the largest subsidy programs in the region in terms of percentage of GDP. Fuel subsidies in Indonesia and Malaysia are the two largest programs in terms of percentage of GDP. These are large enough to have a significant effect on both government fiscal balances and the current account balance. When food and energy prices rise in the international markets, the amount of government subsidies also rise due to the need to maintain low domestic prices for consumers. Indeed, Jha, Quising, and Camingue (2009) find that higher oil prices create much larger fiscal impacts than do macroeconomic shocks in India, Indonesia, and Malaysia, while fuel subsidies are much less of a factor in the Philippines. Overspending for food and energy, due to low consumer prices, can lead to large current account deficits.

**Table 3: Food and Fuel Subsidy Programs in Emerging Asia, 2008**

| Country           | Total Subsidy<br>(% of GDP) | % of Total<br>Expenditure | Fuel<br>(% of GDP) | Food<br>(% of GDP) |
|-------------------|-----------------------------|---------------------------|--------------------|--------------------|
| PRC               | 1.9                         | 9.5                       | 1.5                | 0.4                |
| India             | 4.1                         | -                         | 1.6                | 2.5                |
| Indonesia         | 2.9                         | 13.7                      | 2.7                | 0.2                |
| Republic of Korea | 0.4                         | 1.5                       | 0.4                | 0.0                |
| Malaysia          | 3.3                         | 13.0                      | 2.6                | 0.7                |
| Philippines       | 3.6                         | 4.3                       | 0.2                | 3.4                |
| Taipei, China     | 1.3                         | 6.8                       | 1.3                | 0.0                |
| Thailand          | 0.9                         | 2.5                       | 0.8                | 0.1                |

Source: CEIC Database.

The subsidies on food and fuels can encourage intensive use of resources, which also has undesirable consequences for food and energy security and climate change. Governments need to shift from such universal subsidies toward a more targeted subsidy program—such as a direct cash transfer program—to protect the poor and socially vulnerable. Nonetheless, it has proved politically difficult to reduce such programs, although many studies show that fuel subsidies in particular mainly benefit upper-income and middle-income households, not the poor.

#### 3.2 Infrastructure Investment

The rapid growth of Asian economies requires substantial investments in infrastructure not only to keep pace with economic expansion but also to support higher levels of productivity. The ADB and ADBI study (ADB and ADBI 2009) estimated that total infrastructure requirements in Asia from 2010 to 2020 amount to \$8.3 trillion (see Table 4). Energy-related spending makes up about half of the total, and the second largest share is for transport.

**Table 4: Infrastructure Investment Needs in Emerging Asia (in 2008 million \$), 2010–2020**

| Sector/Subsector     | National Infrastructure |             |         | Crossborder Infrastructure | Total   |
|----------------------|-------------------------|-------------|---------|----------------------------|---------|
|                      | New Capacity            | Replacement | Total   |                            |         |
| Energy (Electricity) | 3,176.4                 | 912.2       | 4,088.6 | 82.4                       | 4,171.0 |
| Telecommunications   | 325.4                   | 730.3       | 1,055.7 | --                         | 1,055.7 |
| Transport            | 1,761.7                 | 704.5       | 2,466.1 | 204.6                      | 2,670.7 |
| Airports             | 6.5                     | 4.7         | 11.3    |                            | 11.3    |
| Ports                | 50.3                    | 25.4        | 75.7    |                            | 75.7    |
| Railways             | 2.7                     | 35.9        | 38.6    |                            | 38.6    |
| Roads                | 1,702.2                 | 638.4       | 2,340.5 |                            | 2,340.5 |
| Water and Sanitation | 155.5                   | 225.8       | 381.3   | --                         | 381.3   |
| Sanitation           | 107.9                   | 119.6       | 227.5   |                            | 227.5   |
| Water                | 47.6                    | 106.2       | 153.8   |                            | 153.8   |
| Total                | 5,418.9                 | 2,572.8     | 7,991.7 | 287.0                      | 8,278.7 |

Source: ADB and ADBI (2009).

However, public infrastructure investment can only cover a fraction of such an amount, and the amount that can be financed by multilateral development banks—such as the World Bank and the Asian Development Bank—and by bilateral donor agencies is much smaller. As mentioned above, the share of government spending on infrastructure in a number of countries is relatively small and inadequate. Table 5 shows that such spending amounts to less than 4% of GDP in Cambodia, Indonesia, and the Philippines.<sup>3</sup>

**Table 5: Infrastructure Investment in Emerging Asia (% of GDP)**

| 0%–4%       | 4%–7%    | More than 7% |
|-------------|----------|--------------|
| Cambodia    | Lao PDR  | PRC          |
| Indonesia   | Mongolia | Thailand     |
| Philippines | India    | Viet Nam     |

Sources: ADB, JBIC, and World Bank (2005); FICCI (2012).

Therefore, a number of measures are needed to support higher levels of infrastructure investment. First, local currency financial market development needs to be deepened and broadened. This includes promotion of local-currency bond markets as a source of long-term financing.<sup>4</sup> Second, promotion of public-private partnerships (PPP) can allow more infrastructure investment to be financed by private sector funds. However, such transactions are complex and difficult to implement, especially in emerging economies where policy environments have greater uncertainty for investors. It is necessary to develop the legal and financial infrastructure for this, including risk- and revenue-sharing arrangements.

Also, Asia's high savings rates and massive accumulation of financial assets point to the need to encourage cross-border investment to support worthwhile investment projects in

<sup>3</sup> There are no good sources on total spending on infrastructure by country in the region.

<sup>4</sup> Currently, much infrastructure investment is financed by bank lending. However, bank lending is typically short-term, so fundamentally inappropriate for infrastructure projects, which typically are quite long-term. The development of securitization businesses would help banks to continuously lend for infrastructure projects as they can sell infrastructure loans to other investors. A number of initiatives have been undertaken to support the development of local currency bond markets, including the Asia Bond Funds and the Asian Bond Markets Initiative.

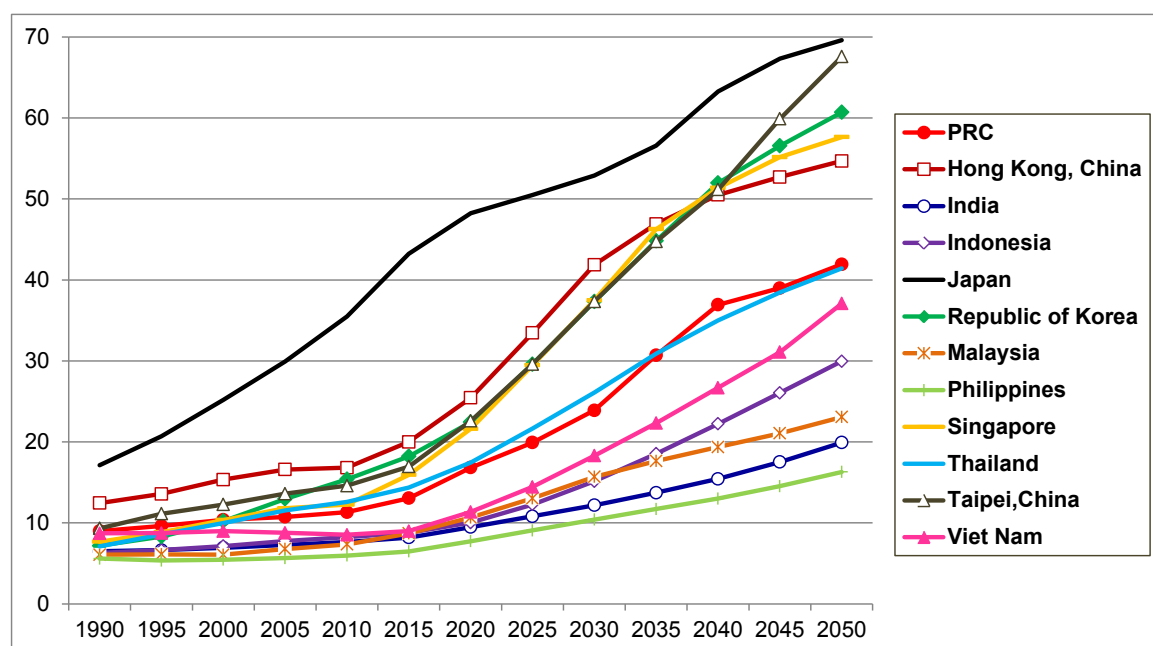
the region. Sovereign wealth funds could be one important source of investment funds. Also, the Association of Southeast Asian Nations (ASEAN) Infrastructure Fund, established in 2012, could serve as a template for a larger fund that receives contributions from the PRC, India, Japan, and the Republic of Korea. Finally, greater integration of Asian financial markets through liberalization of capital flows and harmonization of regulations and tax rules could facilitate crossborder investment flows.

### 3.3 Aging and Social Protection Spending

Perhaps the biggest long-term fiscal challenge faced by emerging Asian economies is the aging of their populations, which will lead to much higher levels of old-age-related spending, especially for health and pension benefits. This rapid aging trend reflects a number of factors, including the rapid increase in life expectancy as a result mainly of improvements in public health and the sharp fall in fertility rates in response to greater economic opportunities for women and higher costs of raising children. The IMF (2010, 2011) estimates that many emerging economy governments are facing large increases in public spending on pensions and health care services—an average increase of 7.0 percentage points of GDP between 2010 and 2050—due to aging populations.

Figure 5 shows the rapid increase in the ratio of the aged population (age 65 and over) relative to the working-age population (age 15–64) in much of the region. Japan's ratio had already hit 35% in 2010. By 2030, Hong Kong, China; the Republic of Korea; Singapore; and Taipei, China will have hit or exceeded the same level. By 2040, the PRC and Thailand will also reach this level. In contrast, the aging trends in the Philippines, India, and Malaysia are relatively subdued.

**Figure 5: Rapid Rise in the Ratio of the Aged to the Working-Age Population (%) in Asia, 1990–2050**

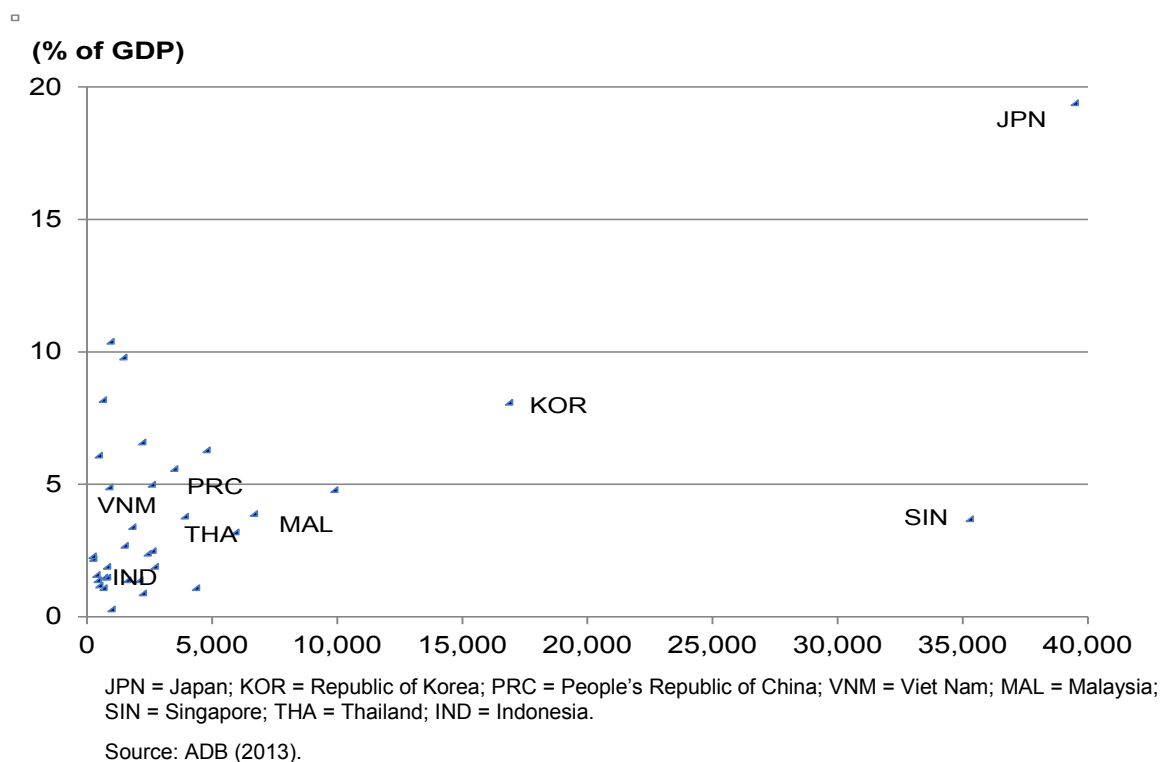


PRC = People's Republic of China.

Sources: United Nations, *World Population Prospects: The 2010 Revision of the United Nations Population Division*, available at: <http://data.un.org/Data.aspx?q=dependency+ratio&d=PopDiv&f=variableID%3a44> and Council for Economic Planning and Development (Taipei, China), available at: <http://www.cepd.gov.tw/encontent/m1.aspx?sNo=0001457>, accessed 28 December 2012.

The aging process largely tracks the progress of growth of per capita income. This is important, because both the level of social protection expenditures as a ratio of GDP and its coverage tend to increase with per capita income. Data gathered by ADB (2013) show that social protection spending in low to middle income countries—excluding those in Central and West Asia—lies between 1% and 5% of GDP, but that the level rises once per capita income exceeds \$15,000 (Figure 6).<sup>5</sup> The same data suggest that social protection coverage, defined as social protection breadth, also rises with per capita GDP. It turns out that the Republic of Korea's coverage is not that much different from Japan's, even though its aged population ratio is still lower than Japan's. Thus, the combined effects of higher incomes and population aging should lead to a rapid rise in social sector spending in Asian economies in coming decades.

**Figure 6: Social Protection Expenditures (% of GDP) and Per Capita GDP (in nominal US dollars) in Asia, 2009**



### 3.4 Policy Recommendations

Based on the previous analysis, we can identify several areas of debt sustainability risk among Asian economies. One group of economies has large subsidies of about 3% or more of GDP. India, Indonesia, Malaysia, and the Philippines face the challenge of containing subsidies. A second group of economies faces rising social protection expenditures due to rapid aging of their populations. The four Asian newly industrialized economies (NIEs)—Hong Kong, China; the Republic of Korea; Singapore; and Taipei, China—face the most immediate risk, while the PRC and Thailand are next in line for such risks. A third group of countries maintains relatively high degrees of financial

<sup>5</sup> The former Soviet Union republics in Central and West Asia—such as Uzbekistan, Kyrgyz Republic, Georgia, and Azerbaijan—tend to have high levels of social protection expenditures as a share of GDP; so does Mongolia.

repression, including the PRC, India, Indonesia, Thailand, and Viet Nam. A fourth group of countries has low levels of infrastructure investment, which do not by themselves represent a near-term risk to fiscal sustainability, but would require greater revenues to fund higher investment, including Cambodia, India, and Indonesia.

Economies with high levels of subsidies should phase out such subsidies and replace them with targeted income support programs. As noted above, universal subsidies are generally a very inefficient way to reach the most vulnerable groups. Economies with low levels of infrastructure investment should take steps to improve the environment for PPP and reduce their reliance on contingent liabilities, e.g., loss-sharing arrangements.

Economies facing sharp increases in aging and social protection expenditures need to take a number of steps, including:

- Introducing obligatory premium payments on pension and health insurance and increasing premiums;
- Implementing means testing for pension and healthcare benefits;
- Taxing benefits (if this is not done already);
- Shifting from defined benefit plans to defined contribution plans for pension systems;
- Cutting pension benefits, by reducing the replacement ratio and raising the retirement age; and
- Containing health and medical costs by requiring the beneficiaries to pay part of costs.

## **4. FISCAL AND DEBT MANAGEMENT CHALLENGES IN EMERGING ASIA**

This section reviews some of the longer-term challenges facing fiscal and debt management in Asian economies, including dealing with contingent liabilities, ending financial repression, and implementing fiscal management rules.

### **4.1 Contingent Liabilities**

As noted above, emerging Asian economies generally have comfortably low ratios of government debt to GDP, but one reason for this is their reliance on unfunded contingent liabilities. The PRC is a notable example. Table 6 shows that although total government debt, including that of the central government, local government and the Ministry of Railways, amounts to only 47% of GDP, various contingent liabilities raise the potential total to well over twice that, or 113% of GDP. Some of the largest potential liabilities include those of state-owned commercial banks, state-owned policy bank bonds, liabilities of the People's Bank of China, and debt of local investment companies that are responsible for investment activity by local governments. The table does not include unfunded pension liabilities of the government, since its size is difficult to estimate, as it depends on many future developments (Hemming 2012).

**Table 6: Estimate of PRC Contingent Liabilities (% of GDP), 2009**

| <b>Category</b>  | <b>% of GDP</b> |
|--|-----------------|
| Total government debt  | 47.0            |
| Official government debt                                       | 17.7            |
| Local government debt  | 25.5            |
| Ministry of Railways liabilities                               | 3.8             |
| Total contingent liabilities                                   | 66.1            |
| Commercial bank NPLs   | 4.0             |
| Asset management company bonds                                 | 2.9             |
| Policy bank bonds  | 13.3            |
| PBOC bonds   | 12.4            |
| Local investment company debt                                  | 33.5            |
| Total government liabilities, including contingent liabilities | 113.1           |

PRC = People's Republic of China; NPLs = non-performing loans; PBOC = People's Bank of China.

Note: Data for total government debt from the IMF and PRC official sources; non-performing loan (NPL) data from the China Banking Regulatory Commission; PBOC bonds from the People's Bank of China; others are private estimates.

Source: Based on Hemming (2012).

IMF (2013) provides the most recent estimate of “augmented” general government debt, including off-budget infrastructure spending, of “over” 45% of GDP in 2012. This estimate includes central and local government debt of various kinds, but not contingent liabilities.

Contingent liabilities can pose a number of risks to fiscal sustainability. If growth slows down, then non-performing loans (NPLs) and other liabilities are likely to rise. If they increase to an extent that leads to a financial crisis, the government may have to inject capital into the financial sector. If the real interest rate rises, this may also impose greater burdens on investment companies, also increasing the risk of rising NPLs and the need for recapitalization.

## **4.2 Potential Diminution of Financial Repression**

As mentioned above, a large negative gap between the bond interest rate and the growth rate of GDP suggests a high degree of financial repression in the government bond market. Though the correlation is loose, Figure 3 suggests that the interest rate gap tends to narrow as incomes rise, in line with greater financial liberalization, development, and openness, with the major exceptions of Hong Kong, China; and Singapore. A narrowing of the growth-interest rate gap will make it more difficult for countries to rely on economic growth and contain the debt-to-GDP ratio, putting a greater burden on revenue and expenditure adjustment in the primary balance to achieve debt sustainability. This suggests another route—in addition to the route where rising income levels lead to greater spending on social sector protection—by which rising incomes may result in a greater threat to fiscal sustainability by leading to higher interest rates.

Moreover, high holdings of government bonds by the banking sector could increase the risk of the emergence of a “doom loop” of a sovereign debt and banking crisis, as was seen in a number of European countries during the euro area sovereign debt and banking crisis. In other words, a fall in the value of sovereign debt leads to large losses in the banking sector, which forces banks to sell more sovereign debt, setting a vicious circle to work. Table 7 shows that banks hold high shares of government debt in a number of Asian economies, including the PRC (highest of all at 77%), Indonesia,

Japan, and Malaysia. These countries face the greatest risk of a “doom loop” cycle developing, and therefore need to strengthen frameworks for fiscal sustainability and diversify the holders of government debt.

**Table 7: Share of Government Bonds held by Investor in Asia (%), 2012**

| Country           | Banks | Other Domestic Financial Institutions | Government | Central Banks | Foreign Holdings | Others |
|-------------------|-------|---------------------------------------|------------|---------------|------------------|--------|
| PRC               | 77.0  | 10.5                                  | 0.0        | 0.0           | --               | 13.3   |
| Indonesia         | 39.1  | 17.8                                  | --         | 0.6           | 29.6             | 42.7   |
| Japan             | 38.4  | 27.6                                  | 9.6        | 10.2          | 8.7              | 14.2   |
| Republic of Korea | 18.8  | 43.3                                  | 23.2       | 2.8           | 10.0             | 31.2   |
| Malaysia          | 44.1  | 71.6                                  | 1.0        | 0.4           | 27.1             | 27.1   |
| Thailand          | 15.8  | 51.6                                  | 1.0        | 6.2           | 15.0             | 10.4   |

Notes: The category “other domestic financial institutions” may also include contractual savings institutions, such as insurance, pension and other funds institutions. Data for the PRC, Indonesia, and Thailand are end-September 2012, others are end-June 2012.

Source: Asian Bonds On-line, available at: <http://asianbondsonline.adb.org/regional.php>, accessed 15 January 2013.

### 4.3 Need for Enhanced Fiscal Management in Emerging Asia

The risk factors discussed above all suggest that, as their incomes rise, Asian economies will need to put greater reliance on fiscal discipline, supported by fiscal rules, to maintain fiscal sustainability.<sup>6</sup> Coordinated, well-defined, and distinct roles should be set for central and local governments, state-owned commercial banks, and state-owned enterprises. This includes clear rules for funding of infrastructure projects and avoiding the use of commercial banks for fiscal policy purposes.

#### Establishment of fiscal rules

A number of Asian economies have established fiscal rules as a tool to maintain fiscal discipline. The nature of these rules is summarized in Table 8. It is not always easy for countries to follow their rules, however. Of the four economies in Table 8, only Hong Kong, China has generally been successful in keeping to the rules, reflecting its generally strong fiscal conditions and low levels of expenditures.

<sup>6</sup> Adams, Ferrarini, and Park (2010) also argue that Asian economies should adopt strong fiscal policy frameworks, and resist, to the extent possible, the temptation to shift toward a more activist philosophy for fiscal policy interventions than previously.

**Table 8: Elements of Fiscal Rules in Asia**

| Economy          | Expenditure Rule | Revenue Rule | Budget Balance Rule | Debt Rule | Key Elements of Fiscal Rules  |
|------------------|------------------|--------------|---------------------|-----------|---|
| Hong Kong, China |                  |              | Yes                 |           | The budget should always display an operating surplus, i.e., an excess recurrent revenue over recurrent expenditure.  |
| India            |                  |              | Yes*                |           | Originally the target was to reduce the fiscal deficit to 3% of GDP by 2008. The escape clause in the fiscal rule law (FRBMA) allows the government not to comply with the targets in exceptional circumstances "as the central government may specify."  |
| Indonesia        |                  |              | Yes                 | Yes       | DR (since 2004): Total central and local government debt should not exceed 60% of GDP. BBR: The consolidated national and local government budget deficit is limited to 3% of GDP in any given year.  |
| Japan            | Yes              |              | Yes                 |           | ER: The Fiscal Management Strategy in effect since 22 June 2010, introduced a Medium-term Fiscal Framework, including an "Overall Expenditure Limit" (the amount of the General Account Expenditure, excluding debt repayment and interest payment, should not exceed that of the previous fiscal year). BBR: The Fiscal Management Strategy introduced in 2010 (with effect of 2011) a pay-as-you go rule, which implies that any measure that involves increases in expenditure or decreases in revenue need to be compensated by permanent reductions in expenditures or permanent revenue-raising measures. |

DR = debt rule; BBR = budget balance rule; ER = expenditure rule.

Note: \*Implemented by Indian Government until 2008.

Source: Budina, Kinda, Schaechter, and Weber (2012).

An important aspect of fiscal management is the coordination of borrowing between national and subnational levels within an overall framework. This is particularly relevant for infrastructure projects, as is discussed in Liu and Padrelli (2012), for example.

### Debt management office

Indonesia and Thailand have also established debt management offices to increase the efficiency of their fund raising activities. The objectives of these offices are summarized in Table 9, and can be seen primarily as ways to reduce the cost of government debt. However, they have only been established recently, and it is unclear to what extent they can actually contribute to lowering the amount of government debt.

Strengthening of fiscal surveillance can also contribute to fiscal sustainability. At the national level, this can be done by the finance ministry, central bank, and financial supervisors. At the regional level, the ASEAN+3 Macroeconomic Research Office (AMRO) can also play a role. Development of regional guidelines for sustainability conditions could contribute to increasing pressure on governments to maintain responsible fiscal policies. Table 10 provides an example of macroeconomic indicators that could be used to monitor fiscal sustainability risks, including the fiscal deficit, ratio of government debt to GDP, inflation, and interest rates within an overall macroeconomic environment.

**Table 9: Role of Debt Management Offices in Emerging Asia**

| Country          | Objectives  |
|------------------|---|
| <b>Indonesia</b> | <ul style="list-style-type: none"> <li>• Manage government debt portfolio in an effective, transparent and accountable manner</li> <li>• Control debt issuance and procurement by maintaining a borrowing capacity that supports fiscal sustainability</li> <li>• Establish development financing independence by prioritizing domestic financial sources and developing an efficient and stable domestic market</li> <li>• Promote international cooperation in obtaining alternative financial sources as well as supporting regional financial market stability</li> </ul> |
| <b>Thailand</b>  | <ul style="list-style-type: none"> <li>• Manage public debt to achieve low costs subject to acceptable risks</li> <li>• Develop the domestic bond market to be one of the three main pillars of the financial market</li> <li>• Evaluate and mobilize feasible funds to finance government's infrastructure products</li> <li>• Modernize technology to support the Public Debt Management Office's operations</li> </ul>   |

Sources: Ministry of Finance of the Republic of Indonesia. The presentation of Mr. Widjanarko, Director, Directorate General of Debt Management on 8th UNCTAD Debt Management Conference Geneva, 14–16 November 2011 and Public Debt Management Office of Thailand, available at: <http://www.pdmo.go.th/en/about.php?m=about>.

**Table 10: Fiscal and Other Macroeconomic Indicators for Asia, 2011**

|                   | General<br>Government<br>Gross Debt | General<br>Government<br>Fiscal<br>Balance | CPI<br>Inflation<br>Rate | Interest Rate<br>on Time<br>Deposits,<br>12 months | Lending<br>Rate |
|-------------------|-------------------------------------|--|--------------------------|--|-----------------|
| Economy           | % of GDP                            | % of GDP                                   | %                        | %  | %               |
| Japan             | 229.6                               | -9.8                                       | -0.3                     | 0.07   | 1.50            |
| PRC               | 25.8                                | -1.2                                       | 5.4                      | 3.29   | 6.56            |
| Hong Kong, China  | 33.8                                | 4.1  | 5.3                      | 0.15   | 5.00            |
| Republic of Korea | 34.2                                | 1.8  | 4.0                      | 4.15   | 5.76            |
| Taipei, China     | 40.5                                | -3.6                                       | 1.4                      | 1.30   | 2.88            |
| Singapore         | 107.6                               | 7.3  | 5.2                      | 0.32   | 5.38            |
| Brunei Darussalam | 0.0                                 | 30.2                                       | 2.0                      | ---  | 5.50            |
| Cambodia          | 28.5                                | -4.1                                       | 5.5                      | 6.16   | 15.22           |
| Indonesia         | 24.5                                | -0.8                                       | 5.4                      | 7.06   | 12.40           |
| Lao PDR           | 55.9                                | -2.9                                       | 7.6                      | ---  | ---             |
| Malaysia          | 52.9                                | -6.9                                       | 3.2                      | 3.22   | 4.92            |
| Myanmar           | 53.5                                | -5.9                                       | 4.0                      | ---  | 16.33           |
| Philippines       | 41.9                                | -0.8                                       | 4.7                      | 2.03   | 6.66            |
| Thailand          | 41.7                                | -1.6                                       | 3.8                      | 2.85   | 6.91            |
| Viet Nam          | 50.4                                | -3.2                                       | 18.7                     | 13.00  | 16.95           |
| India             | 67.0                                | -9.0                                       | 8.9                      | 8.95   | 10.17           |

CPI = consumer price index.

Notes: Public sector debt refers to consolidated government debt except for Indonesia and the Republic of Korea, while the Philippines's debt refers to nonfinancial public sector debt.

Sources: IMF, *World Economic Outlook* and *International Financial Statistics*; ADB, *Key Indicators*.

## 5. CONCLUSIONS

Fiscal sustainability conditions in Asia excluding Japan are generally benign—among major economies, only India has a government debt-to-GDP ratio above 60%. However, future developments may undermine this rosy picture for a number of reasons. First, some countries, notably Indonesia, India, Malaysia, and the Philippines, have high subsidy levels for food and energy that contribute substantially to fiscal deficits. Second, some economies, notably the Asian newly industrialized economies (NIEs) and (somewhat later) the PRC and Thailand, have rapidly aging populations and will likely face rising social protection spending—particularly old-age-related spending such as pensions and healthcare benefits—in the future that can threaten fiscal sustainability. Third, some economies, including India, Indonesia, and the Philippines, have inadequate levels of infrastructure investment, which will require greater spending in the future. Some economies, including the PRC, have large contingent liabilities which could translate into future large increases in government debt. Some economies, including the PRC, India, Indonesia, Thailand, and Viet Nam, have high levels of financial repression, which has contributed to reducing government debt burdens. But as financial markets are liberalized, further develop, and become more open, such policies may not be sustainable in the future. Finally, some economies, most prominently the PRC, have very high bank holdings of government debt, which increases the risk of a sovereign debt and banking crisis.

These risks to medium-term fiscal sustainability can be reduced by timely adoption of a number of policy measures. Costly subsidies should be replaced with targeted, direct income transfer programs. In response to pressures from population aging, economies need to contain social protection program costs through enforcement of premium payment obligations and increases in such premiums to provide adequate funding. Inadequate infrastructure investment can be bolstered by widening channels of private sector funding for infrastructure investment, including encouragement of PPP financing, though governments need to continue to make efforts to expand fiscal space by cutting unproductive spending and raising revenues. Governments should manage contingent liabilities in a more transparent manner while eliminating the use of the commercial banking sector for fiscal policy implementation.

A number of policies can be adopted to improve management of expenditures, revenues, and government debt. Governments should establish rational frameworks for allocating expenditures, aim to achieve more balanced sources of direct and indirect revenue, strengthen tax collection, and manage government debt in a prudent way. Beyond this, governments may adopt fiscal rules and frameworks aimed at expenditure, revenue, or deficit levels, and establish a debt management office. Finally, strengthening of fiscal surveillance by regional bodies such as AMRO can provide additional pressure for sustainable fiscal policies.

## REFERENCES

- Abidin, M.Z. 2010. Fiscal Policy Coordination in Asia: East Asian Infrastructure Investment Fund. *ADBI Working Paper 232*. Tokyo: Asian Development Bank Institute. Available: <http://www.adbi.org/working-paper/2010/07/30/3973.fiscal.policy.coordination.asia/>.
- Adams, C., B. Ferrarini, and D.Y. Park. 2010. Fiscal Sustainability in Developing Asia. *ADB Working Paper No. 205*. Manila: Asian Development Bank.
- ADB. 2013. *The Social Protection Index: Assessing Results for Asia and the Pacific*. Manila: Asian Development Bank.
- ADB and ADBI. 2009. *Infrastructure for a Seamless Asia*. Tokyo: Asian Development Bank Institute.
- Budina, N., T. Kinda, A. Schaechter, and A. Weber. 2012. Fiscal Rules at a Glance: Country Details from a New Dataset. *IMF Working Paper No. WP/12/273*. Washington, DC: International Monetary Fund.
- Burnside, C., ed. 2005. *Fiscal Sustainability in Theory and Practice*. Washington, DC: World Bank.
- Ferrarini, B., R. Jha, and A. Ramayandi, eds. 2012. *Public Debt Sustainability in Developing Asia*. London and New York, NY: Routledge.
- Hemming, R. 2012. Public Debt Sustainability and Hidden Liabilities in the People's Republic of China. In: *Public Debt Sustainability in Developing Asia*, edited by B. Ferrarini, R. Jha, and A. Ramayandi. London and New York, NY: Routledge.
- IMF. 2010. *Macro-fiscal Implications of Health Care Reform in Advanced and Emerging Economies*. Fiscal Affairs Department. Washington, DC: International Monetary Fund.
- . 2011. *The Challenge of Public Pension Reform in Advanced and Emerging Economies*. Fiscal Affairs Department. Washington, DC: International Monetary Fund.
- . 2012. *Fiscal Stability Monitor*. Washington, DC: International Monetary Fund. October.
- . 2013. People's Republic of China 2013 Article IV Consultation. Washington, DC: International Monetary Fund.
- Jha, S., P. Quising, and S. Camingue. 2009. Macroeconomic Uncertainties, Oil Subsidies, and Fiscal Sustainability in Asia. *ADB Economics Working Paper No. 150*. Manila: Asian Development Bank.
- Liu, L., and J. Pradelli. 2012. Financing Infrastructure and Monitoring Fiscal Risks at the Subnational Level. *World Bank Policy Research Working Paper 6069*. Washington, DC: World Bank.