

# EAST ASIA & PACIFIC



The East Asia and Pacific (EAP) region continued its gradual adjustment to slower but more balanced growth. Regional growth slipped to 6.9 percent in 2014 as a result of policy tightening and political tensions that offset a rise in exports in line with the ongoing recovery in some high-income economies. The medium-term outlook is for a further easing of growth to 6.7 percent in 2015 and a stable outlook thereafter reflecting a gradual slowdown in China that starts to be offset by a pickup in the rest of the region in 2016-17. In China, structural reforms, a gradual withdrawal of fiscal stimulus, and continued prudential measures to slow credit expansion will result in slowing growth to 6.9 percent by 2017 from 7.4 percent in 2014. In the rest of the region, growth will strengthen to 5.5 percent by 2017 supported by firming exports, improved political stability, and strengthening investment. Adjustment to softer commodity prices will continue to weigh on growth of the commodity exporters of the region. A stalled global recovery, a sharp slowdown in China, financial market volatility, and eventual tightening of global financing conditions represent key risks to the regional outlook.

## Recent Developments

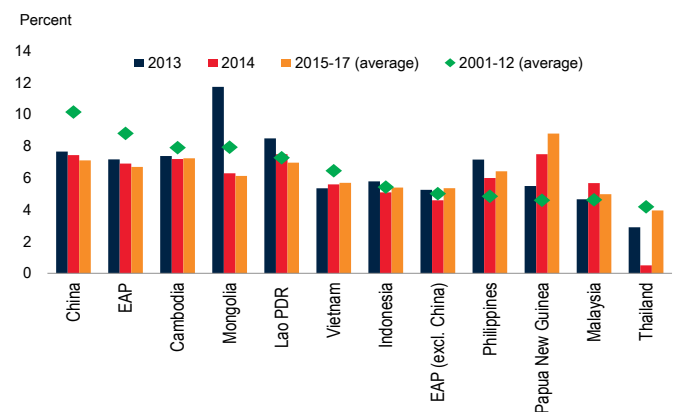
At 6.9 percent in 2014, growth was only 0.3 percentage point slower than in 2013, and the region remained the fastest-growing developing region in the world (Figure 2.1, Table 2.1). In most economies, the slowdown largely reflected domestic developments. In China, the impact of policy measures to contain financial vulnerabilities was mitigated by offsetting policy measures to avoid a sharper slowdown. As a result, growth has slowed marginally. In the rest of the region, growth slowed to 4.6 percent largely reflecting domestic policy tightening, and political turmoil in Thailand that was only resolved in late 2014. External conditions have been broadly supportive, reflecting weak but sustained recovery in demand, especially from the United States, for the region's exports and favorable global financing conditions.

In China, policy measures guided a gradual slowdown to 7.4 percent in 2014 from 7.7 percent in 2013 (Table 2.2). Since 2013, various policy measures have been enacted to contain the buildup of financial sector vulnerabilities by slowing credit growth, especially in innovative lending products. These have included tightened regulations and supervision for nontraditional lending products, the introduction of quotas for local government borrowing, and liquidity tightening in the interbank market where much of shadow banking is financed.

Credit growth decelerated somewhat, especially in innovative lending products such as trust loans. These measures were complemented by efforts to curb activity in sectors with overcapacity or that are environmentally polluting (such as aluminum, cement, coal, sheet glass, steel, and shipbuilding), including revised performance criteria for local government officials. Partly as a result of these measures, production in these sectors declined sharply.

### FIGURE 2.1 GDP growth

In most countries, growth slipped in 2014, but a modest recovery is expected.

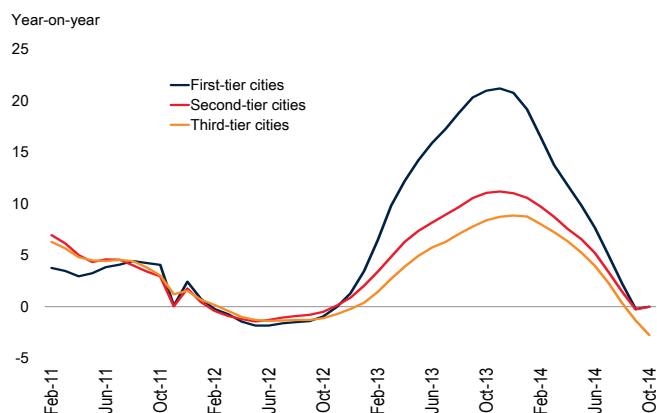


Source: World Bank.

Note: EAP and EAP (excluding China) are GDP-weighted averages.

### FIGURE 2.2 China: House price growth

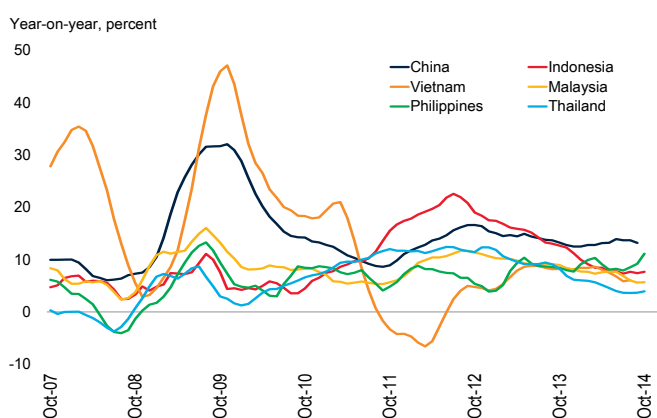
House price growth has slowed sharply.



Source: Haver Analytics.  
Note: Year-on-year house price growth.

### FIGURE 2.3 Credit growth

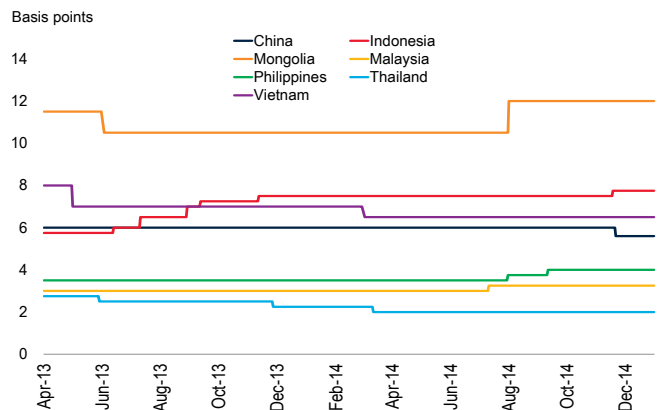
Bank credit growth continued to slow except in China and the Philippines.



Sources: IMF and IFS.  
Note: Data is for year-on-year real credit growth, deflated by the GDP deflator.

### FIGURE 2.4 Monetary policy rates

Policy rates have been on hold in most EAP countries since mid-2014.



Sources: Haver Analytics and World Bank.  
Note: Official policy/interest rates: China: Prime Lending Rate, Indonesia: Bank Indonesia Rate, Malaysia: Overnight Policy Rate, Philippines: Reverse repo rate: overnight borrowing, Vietnam: refinance rate, Thailand: Policy Target Rate, Mongolia: Policy Rate.

This targeted policy tightening was accompanied by a parallel set of growth-stimulating measures designed to cushion the slowdown, especially in the real estate market where house price growth has dropped steeply (Figure 2.2). As a result, housing starts and the inventory-to-sales ratio stabilized in the last quarter of 2014, but activity remains weak and excess inventory high (World Bank, 2014a). Monetary policy was eased with a cut in the rediscount rate, liquidity support for individual banks, cuts in mortgage rates, steps to increase financing for real estate developers, and a lending and deposit rate cut in mid-November.

Elsewhere in the region, domestic policy tightening has continued to weigh on credit and investment growth (Figure 2.3). Partly to anchor inflation expectations following fuel subsidy cuts, central banks in Indonesia and Malaysia raised policy rates in 2014 to ease price pressures and contain credit growth (Figure 2.4). Mongolia and the Philippines also raised policy rates to contain price pressures reflecting capacity constraints. China, Thailand, and Vietnam were the exceptions, with rate cuts aimed at supporting activity amidst a sharp decline in inflation that suggests risks of deflationary pressures. Fiscal balances generally weakened as growth slowed, except in Malaysia where the structural deficit remained at over 3 percent of GDP (Figure 2.5) prompting the authorities to implement several rounds of fuel subsidy cuts. While investment growth slowed from post-crisis highs, robust demand for labor, strong inflows of remittances and buoyant capital markets supported resilient consumption. In Thailand, where political turmoil in the second quarter caused a temporary but sharp slowdown, consumption and activity more broadly rebounded strongly as political tensions subsided.

Current account balances improved, by virtue of rising exports, soft domestic demand, and robust remittances (Figure 2.6). Cambodia, Malaysia, Vietnam, and the Philippines were able to capitalize on firming global demand for the region’s exports through a diversified manufacturing base, integration into regional supply chains, competitive unit labor costs and relative political stability. In commodity-exporting countries, however, the decline in commodity prices reduced exports (except in Mongolia, where a newly operational copper mine raised export volumes). Remittances continued to benefit the Philippines and Pacific Island economies (e.g., Samoa and Tonga), but at a slower pace than in 2013, reflecting moderate growth in Australia and uncertainties related to the oil price decline for Gulf Cooperation Council countries.

Capital flows rebounded strongly from first quarter weakness, especially into equities and bond issuances but came under renewed pressure in December following a

sharp decline in oil prices and increased global uncertainty (Figure 2.7). Equity issuance in the region doubled, largely because of the \$25 billion initial public offering of China's Alibaba Group in September. Through much of the year, strong equity flows into Malaysia and Thailand, and, to a lesser extent, into Indonesia and the Philippines buoyed local stock markets but eased in late 2014. In contrast, in China, stock markets rallied in the last two months of 2014, encouraged by a sharp trading volume increase of retail investors and foreigners' access to A shares through the recently launched Shanghai–Hong Kong Stock Connect scheme and the expectations of the renewed policy easing.

Bond issuance was particularly strong in Indonesia, the Philippines, and China, where tight domestic funding conditions encouraged many corporations to borrow in international bond markets. In the last quarter of 2014, however, issuance declined reflecting increased global uncertainty and volatility. China accounted for more than one-quarter of all developing-country bonds sold in the first nine months of 2014. In contrast, overall bank lending fell to its lowest level since 2010, largely reflecting a sharp slowdown in lending to China as the property sector cooled. Foreign direct investment (FDI) flows into Indonesia and Vietnam rose strongly, reflecting subsiding political uncertainty in Indonesia and easing tensions between China and Vietnam.

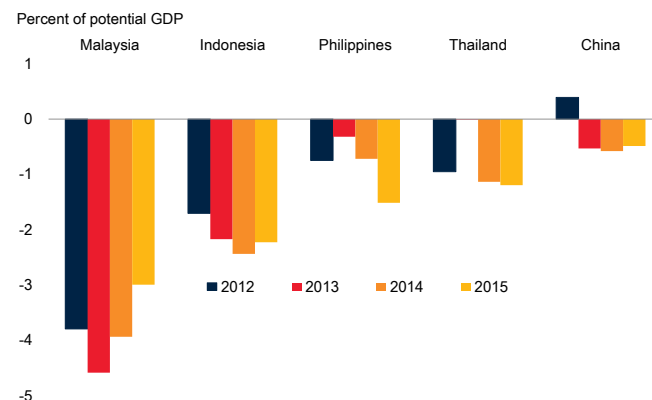
Regional currencies, which were firm for most of 2014, came under pressure in December. This reflected increased financial and external vulnerabilities, especially in oil- and gas-producing economies and economies with a significant share of foreign holdings of domestic assets. Given Japan's importance as a regional trading partner, the impact of the sharp depreciation of the Japanese yen on the competitiveness of developing countries in the region was only partly offset by the ongoing U.S. dollar appreciation. The Chinese renminbi continued its steady appreciation, reflecting gradual liberalization and renminbi internationalization.

## Outlook

Regional growth is expected to ease slightly to 6.7 percent in 2015 from 6.9 percent in 2014 and remain stable over the projected period. A gradual pick-up of growth in the region excluding China is expected to gradually offset moderating growth in China. In China, structural reforms, a gradual withdrawal of stimulus, and continued measures to tighten credit will slow investment and gradually dampen growth to 6.9 percent by 2017. The unwinding of excess inventory in the housing sector

### FIGURE 2.5 Structural fiscal balance

Fiscal policy was mostly neutral, except for tightening in Malaysia on subsidy reform and loosening in Thailand and the Philippines.

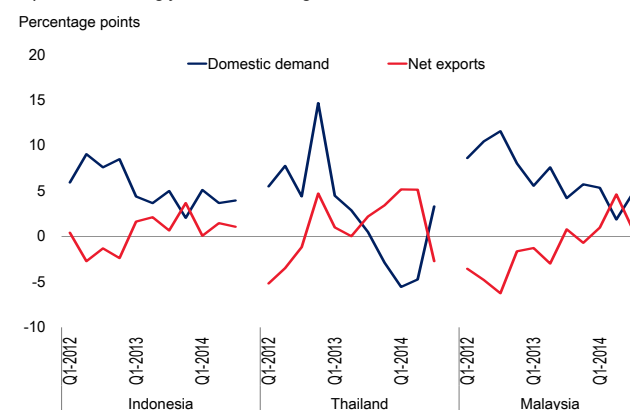


Source: IMF World Economic Outlook.

Note: The structural balance adjusts the overall balance for the business cycle and one-off factors.

### FIGURE 2.6 Contributions to growth

Exports increasingly contributed to growth, in contrast with domestic demand.

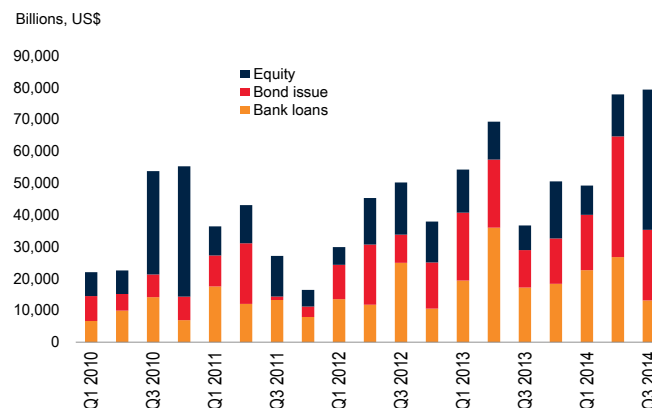


Source: World Bank.

Note: Contribution to year-on-year real GDP growth.

### FIGURE 2.7 Gross capital inflows

Gross capital inflows have rebounded strongly from the disruptions in January/February 2014.



Source: Dealogic.

Note: Gross issuance of equity initial public offerings; corporate and sovereign bonds, and syndicated loans. Exclude secondary market trading.

will continue to depress housing prices and the removal of excess capacity in other industries will be a drag on activity (Wang, 2011). In the short term, central government infrastructure and social housing projects, monetary support measures, and rising net exports will moderate the slowdown in the real estate sector and in industries with excess capacity.

In the baseline scenario, activity in East Asia other than China is expected to accelerate modestly, as exports firm, and political tensions in Thailand recede. Rising demand from high-income countries is expected to benefit the region given its integration into global value chains. In addition, portfolio and FDI flows will be attracted by improving terms of trade (except for commodity-exporting Indonesia, Mongolia, and to some extent Malaysia), by favorable growth prospects—the region being the fastest-growing developing country region—and by the resolution of domestic political uncertainty. This will encourage the return of temporarily relocated export production from neighboring countries to Thailand. It will also benefit neighboring Cambodia by reviving tourism. Investment is expected to strengthen in Vietnam and Myanmar as macroeconomic stabilization programs boost confidence. The recent sharp drop in oil prices, if sustained, is expected to improve terms of trade and current account balances for commodity importers but weigh on growth in oil exporters.

Myanmar should receive an additional boost from continued policy and institutional reforms, and a revival of trade. Post-typhoon reconstruction will raise activity in the Philippines. In Indonesia, the impact of the increase in subsidized fuel prices and policy rate hikes in November 2014 on private consumption will be partly offset by higher targeted social transfers. Growth is expected to pick up gradually as investment recovers. However, over the medium-term, growth will depend crucially on the implementation of long-standing structural reforms and key infrastructure investments.

In a few countries, growth will be held back by domestic policy tightening and weak commodity prices. Continued fuel subsidy reform and the introduction of a goods and services tax are expected to slow growth in Malaysia to 4.7 percent in 2015 from an estimated 5.7 percent in 2014. In the Lao People's Democratic Republic and Mongolia, fiscal and monetary tightening in 2015 to contain fiscal and current account deficits, and to reduce credit growth and inflation are expected to dampen growth.

Growth in Pacific Island countries will be buoyed by improved trade, tourism, and remittances, as well as by a series of country-specific factors. In Papua New

Guinea, growth is forecast at 16 percent in 2015, as rising liquefied natural gas (LNG) exports more than offset declines in LNG-related construction. In the Solomon Islands, reconstruction following the April 2014 flooding is expected to boost growth in 2015–16. In Timor-Leste, however, where activity has been driven by government spending, a flat 2015 draft budget compared with the 2014 budget is expected to keep non-oil growth constant at around 7 percent. In Fiji, the necessary fiscal consolidation to contain a further buildup of debt and contingent liabilities will contribute to a growth slowdown.

## Risks

Risks to this baseline outlook, as elsewhere around the globe, are tilted to the downside. Key risks stem from weaker-than-anticipated global growth and, although a low-probability scenario, a sharper-than-expected slowdown in China. In addition, the regional outlook is sensitive to the risk of a sharp tightening of global financial conditions.

The countries in the region are highly open economies, deeply integrated into global supply chains or commodity markets, and hence particularly sensitive to global growth (Box 2.1). Overall, global growth is expected to rise in 2015 to 3.0 percent, and to be sustained at around 3.3 percent in 2016–2017 led by continued recovery in the United States and a gradual acceleration of activity in the Euro Area. However, should the global recovery stall, e.g. because of the Euro Area or Japan slipping into stagnation or because of a faltering recovery in the United States, many countries in the region are likely to slow, with the impact transmitted through trade and investment channels. On the other hand, a faster-than-anticipated recovery in global growth and trade, and a steeper-than-expected and sustained decline in commodity prices should lead to higher growth than is envisaged under the baseline scenario, except in commodity-exporting countries.

Although unlikely, a failure to address vulnerabilities in the financial sector in China could increasingly weigh on activity, by allowing inefficient firms to continue operating and by weakening financial institutions (Jian, Lingxiu, and Yiping, 2013). This would reduce productivity growth and increase capital misallocation. In addition, the housing sector could weaken more than expected, thus undermining consumer confidence and investment activity (Chapter 1). A slowdown in China would dampen activity in the entire region, because of the size of the Chinese market and the close trade and investment links. Since it would likely be associated with commodity price declines, commodity

exporters (Indonesia and Mongolia) would suffer a double blow (Gauvin and Rébillard, 2014).

Financial market volatility, or abruptly tightening financial conditions, could lead to sharp reductions or reversals in capital inflows, exposing some countries to considerable pressures. Under the baseline scenario, financial conditions are expected to tighten modestly in 2015 and capital flows are expected to moderate smoothly. However, there is a risk that adjustments would happen abruptly. Portfolio flows are particularly prone to disruption. A flight out of risk assets would likely extend to emerging market debt. Tightening external financing conditions would feed into rising domestic interest rates. This would raise debt service burdens, and put pressure on the balance sheets of banks, businesses, and households. A rise in non-performing loans could impair banking system capital, and raise questions about financial stability. Countries with historically high private sector debt service ratios, resulting from rapid debt accumulation since the global financial crisis, are particularly at risk.<sup>1</sup> Other sources of vulnerability are reliance on short-term borrowing to finance current account deficits or rollovers (Indonesia, Malaysia, Mongolia, and Thailand)<sup>2</sup>, a heavy foreign currency debt load (Indonesia and the Philippines), and a large stock of domestic debt held abroad (Indonesia, Malaysia, and the Philippines).

Rising interest rates could trigger real estate market downturns, which could in turn prompt a sharp deleveraging of exposed financial institutions and a drop in investment. After a rapid rise in recent years, real housing prices began falling in Malaysia in the fourth quarter of 2013 and in China and Thailand in the first quarter of 2014. Housing prices in the larger EAP economies remain broadly within levels consistent with fundamentals, but an abrupt adjustment in real estate prices could trigger a chain reaction of banking system stress because of its high exposure to the housing sector and high leverage rates (World Bank, 2014b).

## Policy Challenges

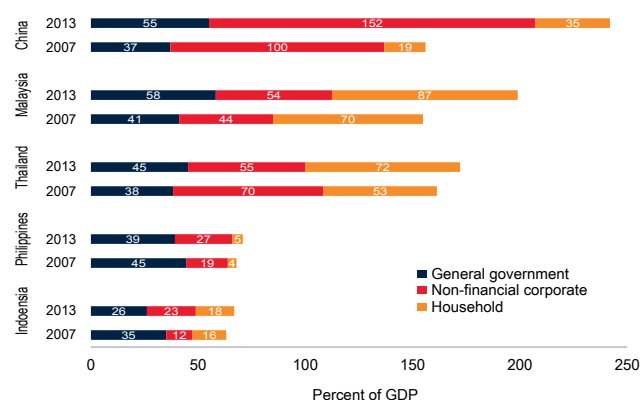
In China, the key policy challenge is to put growth on a sustainable path while reducing financial risks. Two

<sup>1</sup>Household debt expanded rapidly to 72 percent of GDP in Thailand, and has reached 87.1 percent of GDP in Malaysia in Q3 2014.

<sup>2</sup>In Indonesia, short-term external financing needs are estimated at 10 percent of GDP and 77 percent of foreign exchange reserves in 2014. External financing relies heavily on volatile portfolio inflows, which reached record levels in 2014. In Mongolia, short-term external financing needs amounted to almost 30 percent of GDP and 130 percent of reserves in 2014.

**FIGURE 2.8** Sectoral distribution of credit

*Credit has grown rapidly and exceeds GDP in some countries.*



Sources: World Bank, Haver Analytics, and BIS.

Note: Data are for credit from the financial system to the government and the private sector.

reform areas stand out as candidates for early action: fiscal reforms to place local government finances on a more solid footing; and financial sector reforms to strengthen market discipline, contain further buildup of vulnerabilities and engineer their gradual unwinding. Such measures need to be complemented with state-owned enterprise and land reform to boost productivity and to offset the impact of a shrinking labor force and decreasing returns to capital accumulation (World Bank and Development Research Center of the State Council, the People's Republic of China, 2014). The authorities have initiated several pilot programs to implement the comprehensive reform agenda announced in November 2013 (World Bank, 2014a).

Elsewhere in the region, countries face the challenge of containing a further buildup of debt while adjusting monetary and exchange rate policies in response to tightening global financing conditions and soft commodity prices. Although they would also reduce inflation pressures across the region, monetary policy remains constrained by high levels of domestic debt in several countries. The need for slowing the growth of debt is particularly acute in Malaysia and Thailand (Figure 2.8). In some smaller economies, including Lao PDR, Papua New Guinea, and Vietnam, containing the further buildup of external debt is a key policy challenge.

Governments across the region should preserve the recently achieved countercyclicality of fiscal policy and rebuild buffers where cyclical conditions are conducive (Chapter 3). Building policy buffers is especially important in Cambodia, Lao PDR, Mongolia, and Vietnam, where fiscal deficits are in excess of 5 percent

of gross domestic product (GDP). In Indonesia, the Philippines, and Thailand, measures to bolster revenues and to reduce further poorly targeted subsidies (as seen in the recent fuel price increases in Indonesia) would create space for productivity-enhancing infrastructure investments and a well-targeted poverty-reduction program. In Vietnam, although macroeconomic stability is solidifying, banking sector balance sheets need to be strengthened to improve access to credit; and regulatory reform is needed to level the playing field for private business—especially domestic—in relation to state-owned enterprises.

These measures should be supported by structural reforms to mitigate the effects of weak global trade

growth and declining productivity growth. Indonesia, where growth has slowed as a result of the sharp fall in commodity prices since 2012, has a pressing need to address long-standing structural reforms, which can help to deliver the necessary improved performance in the manufacturing sector to support export performance and diversification, and quality job creation. Many countries in the region will benefit from addressing infrastructure and logistics obstacles and from the removal of restrictions on service trade. Finally, the region will benefit from implementing a comprehensive strategy to address skills gaps and other human capital constraints, ranging from early childhood development to higher education and lifelong learning.

**TABLE 2.1 East Asia and Pacific forecast summary**

(Annual percent change unless indicated otherwise)

	00-10 <sup>a</sup>	2011	2012	2013	2014e	2015f	2016f	2017f
<b>GDP at market prices<sup>b</sup></b>	9.0	8.3	7.4	7.2	6.9	6.7	6.7	6.7
(Average including countries with full national accounts and balance of payments data only) <sup>c</sup>								
<b>GDP at market prices<sup>c</sup></b>	9.0	8.3	7.4	7.2	6.9	6.7	6.7	6.7
GDP per capita (units in US\$)	8.2	7.6	6.7	6.5	6.2	6.1	6.2	6.1
PPP GDP	8.8	8.1	7.3	7.1	6.7	6.6	6.7	6.6
Private consumption	6.7	9.0	7.7	6.8	7.4	7.4	7.5	7.6
Public consumption	8.4	8.7	8.1	7.7	7.4	7.4	7.4	7.4
Fixed investment	11.9	8.6	9.4	8.6	6.7	6.9	6.8	6.7
Exports, GNFS <sup>d</sup>	11.3	8.7	4.7	7.4	6.8	7.6	7.3	7.0
Imports, GNFS <sup>d</sup>	11.0	9.8	6.1	8.6	7.1	8.2	8.1	8.3
<b>Net exports, contribution to growth</b>	0.4	0.0	-0.3	-0.1	0.1	0.0	-0.1	-0.2
<b>Current account balance (percent of GDP)</b>	4.6	2.0	2.1	1.6	1.8	2.0	1.9	1.7
<b>Consumer prices (annual average)</b>	2.6	5.6	2.8	3.0	2.5	...	...	...
<b>Fiscal balance (percent of GDP)</b>	-1.6	0.2	-0.3	-2.3	-2.1	-2.1	-2.1	-2.0
<b>Memo items: GDP</b>								
East Asia excluding China	5.0	4.8	6.3	5.3	4.6	5.2	5.4	5.5
China	10.5	9.3	7.7	7.7	7.4	7.1	7.0	6.9
Indonesia	5.2	6.5	6.3	5.8	5.1	5.2	5.5	5.5
Thailand	4.3	0.1	6.5	2.9	0.5	3.5	4.0	4.5

Source: World Bank.

World Bank forecasts are frequently updated based on new information and changing (global) circumstances.

Consequently, projections presented here may differ from those contained in other Bank documents, even if basic assessments of countries' prospects do not differ at any given moment in time.

a. Growth rates over intervals are compound weighted averages; average growth contributions, ratios and deflators are calculated as simple averages of the annual weighted averages for the region.

b. GDP at market prices and expenditure components are measured in constant 2010 U.S. dollars.

c. Sub-region aggregate excludes Fiji, Myanmar and Timor-Leste, for which data limitations prevent the forecasting of GDP components or Balance of Payments details.

d. Exports and imports of goods and non-factor services (GNFS).

**TABLE 2.2 East Asia and Pacific country forecast**

(Real GDP growth at market prices in percent and current account balance in percent of GDP, unless indicated otherwise)

	00-10 <sup>a</sup>	2011	2012	2013	2014e	2015f	2016f	2017f
<b>Cambodia</b>								
GDP	8.0	7.1	7.3	7.4	7.2	7.5	7.2	7.0
Current account balance	-4.7	-6.8	-9.6	-10.7	-11.3	-11.2	-9.6	-8.7
<b>China</b>								
GDP	10.5	9.3	7.7	7.7	7.4	7.1	7.0	6.9
Current account balance	5.0	1.9	2.6	2.0	2.0	2.3	2.2	2.0
<b>Fiji</b>								
GDP	1.6	2.7	1.7	3.5	3.7	2.5	2.5	2.6
Current account balance	-6.6	-5.0	-1.8	-15.5	-8.7	-9.3	-9.7	-9.3
<b>Indonesia</b>								
GDP	5.2	6.5	6.3	5.8	5.1	5.2	5.5	5.5
Current account balance	2.3	0.2	-2.8	-3.3	-3.2	-2.8	-2.8	-2.6
<b>Lao PDR</b>								
GDP	7.1	8.0	8.0	8.5	7.5	6.4	7.0	6.9
Current account balance	-10.6	-10.3	-12.7	-11.5	-11.2	-14.9	-15.4	-13.8
<b>Malaysia</b>								
GDP	4.6	5.2	5.6	4.7	5.7	4.7	5.1	5.2
Current account balance	11.7	11.6	5.8	4.0	4.2	3.1	3.4	3.4
<b>Mongolia</b>								
GDP	6.5	17.5	12.4	11.7	6.3	6.0	6.1	6.3
Current account balance	-4.6	-26.5	-27.4	-25.1	-11.3	-9.0	-10.1	-13.6
<b>Myanmar</b>								
GDP	10.3	5.9	7.3	8.3	8.5	8.5	8.2	8.0
Current account balance	...	-1.9	-4.3	-5.4	-5.3	-5.1	-5.0	-4.9
<b>Philippines</b>								
GDP	4.8	3.6	6.8	7.2	6.0	6.5	6.5	6.3
Current account balance	1.4	2.5	2.8	3.8	3.0	2.7	2.4	1.7
<b>Papua New Guinea<sup>b</sup></b>								
GDP	3.5	10.7	8.1	5.5	7.5	16.0	5.1	5.4
Current account balance	4.5	-23.6	-53.6	-30.8	-8.5	12.5	10.8	9.5
<b>Solomon Islands</b>								
GDP	2.9	10.7	4.9	3.0	0.1	3.5	3.5	3.5
Current account balance	-16.6	-6.9	0.2	-8.4	-14.7	-15.5	-14.6	-12.0
<b>Thailand</b>								
GDP	4.3	0.1	6.5	2.9	0.5	3.5	4.0	4.5
Current account balance	3.3	2.6	-0.4	-0.5	3.4	2.3	1.6	1.9
<b>Timor-Leste<sup>c</sup></b>								
GDP	4.3	14.7	7.8	5.6	7.1	7.0	7.0	7.0
Current account balance	19.1	40.4	43.5	34.3	32.1	27.0	27.7	27.0
<b>Vietnam</b>								
GDP	6.6	6.2	5.2	5.4	5.6	5.6	5.8	6.0
Current account balance	-3.3	0.2	6.0	5.6	4.1	3.4	2.6	1.2

Source: World Bank.

World Bank forecasts are frequently updated based on new information and changing (global) circumstances. Consequently, projections presented here may differ from those contained in other Bank documents, even if basic assessments of countries' prospects do not significantly differ at any given moment in time.

Samoa; Tuvalu; Kiribati; Democratic People's Republic of Korea; Marshall Islands; Micronesia, Federated States; N. Mariana Islands; Palau; and Tonga are not forecast owing to data limitations.

a. GDP growth rates over intervals are compound average; current account balance shares are simple averages over the period.

b. The start of production at Papua New Guinea Liquefied Natural Gas (PNG-LNG) is expected to boost GDP growth to 16 percent and shift the current account to a surplus in 2015.

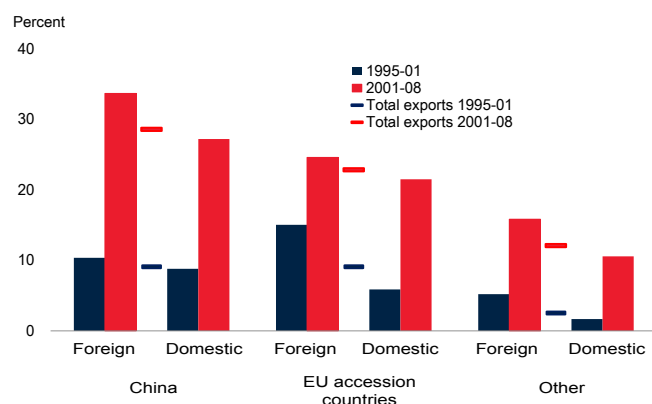
c. Non-oil GDP. Timor-Leste's total GDP, including the oil economy, is roughly four times the non-oil economy, and highly volatile, sensitive to changes in global oil prices and local production levels.

### BOX 2.1 China's integration in global supply chains: Review and implications<sup>1</sup>

Since 2001, China has rapidly integrated into global supply chains. Rising foreign content has been associated with robust growth in the domestic content of exports, especially in knowledge-intensive sectors. This has shifted China's comparative advantage towards these sectors.

**FIGURE B2.1.1 Growth of foreign and domestic value added of exports and total exports**

Strong growth in foreign and domestic value added of exports followed China's WTO accession.

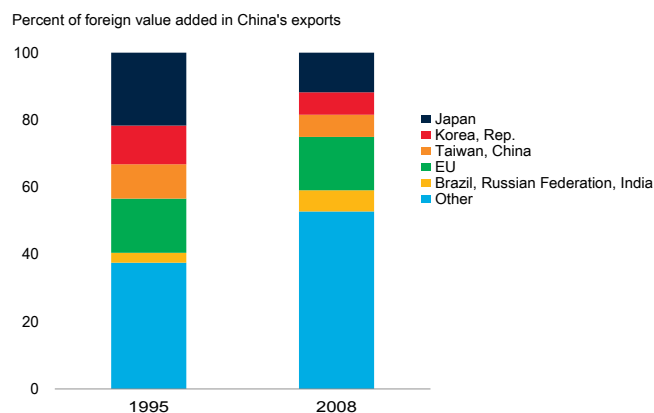


Sources: WIOD and World Bank.

Note: Average annual growth for manufacturing goods exports. EU accession countries are Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovenia, and Slovak Republic.

**FIGURE B2.1.2 Source of foreign content of China's exports**

The share of foreign content of China's exports from outside East Asia has grown significantly.



Sources: WIOD and World Bank.

Note: In both bars, EU includes the 15 member countries of the European Union before 2004, excluding the accession countries from 2004 onwards.

Between 2001 and 2008, manufacturing exports from China surged by 29 percent per year, on average. This rate was significantly faster than that of other Asian countries and other regions, including Eastern Europe, which over the same period rapidly integrated into Western European production processes. The brisk growth of China's manufacturing exports reflected a surge in both foreign content (i.e., the intermediate inputs and raw materials that are shipped from abroad and processed in China into exports) and domestic content (i.e., the domestic factor inputs that complement foreign intermediate inputs and raw materials to produce China's exports), which grew on average by 34 and 27 percent per year, respectively (Figure B2.1.1). The increase in foreign content is partly attributable to China's World Trade Organization (WTO) accession in 2001.

This box examines the episode during which China integrated into global supply chains with a focus on two questions:

- How has China's participation in global supply chains evolved?
- What are the implications of China's vertical integration on trade balances and comparative advantage?

The analysis employs sector-by-sector and country-by-country input-output and import-export matrices from the World Input-Output Database (WIOD) to calculate the shares of foreign content and domestic content in exports for each of 35 sectors in 41 countries from 1995, the first year for which WIOD data is available, until the start of the global financial crisis in 2008.<sup>2</sup> This time period was chosen because it represents a unique episode in China's process of integration into global supply chains.

#### Evolution of China's integration in global supply chains

China initially participated mainly in the East Asian supply chain. In 1995, nearly half of the foreign content in China's exports was sourced from three economies: Japan; the Republic of Korea; and Taiwan, China. After its WTO accession, China

<sup>1</sup>The main authors of this box are Tianli Zhao and Dana Vorisek.

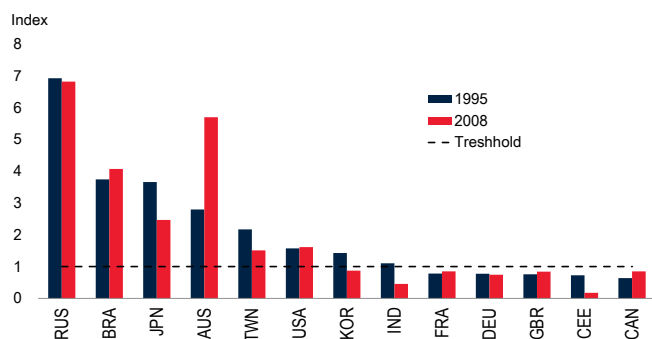
<sup>2</sup>The World Input-Output Database (WIOD) by Timmer and others (2012) includes data on 35 sectors for 41 countries (Australia; Austria; Belgium; Brazil; Bulgaria; Canada; China; Cyprus; Czech Republic; Denmark; Estonia; Finland; France; Germany; Great Britain; Greece; Hungary; Ireland; Italy; India; Indonesia; Japan; South Korea; Lithuania; Luxembourg; Latvia; Malta; Mexico; Netherlands; Poland; Portugal; Romania; Russian Federation; Spain; Slovak Republic; Slovenia; Sweden; Taiwan, China; Turkey; United States; and rest of the world) for the period 1995 to 2009. The analysis in this box is based on the framework employed by Koopman, Wang, and Wei (2014).



**BOX 2.1 (continued)**

**FIGURE B2.1.3 Foreign content in exports**

*China's position relative to other countries in the global value added chain has shifted.*

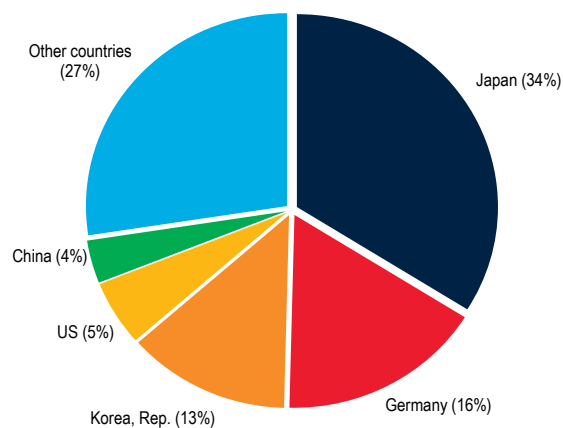


Sources: WIOD and World Bank.

Note: The index is constructed as a ratio of each country's value added in China's exports to China's value added in the other country's exports. An index value greater than 1 indicates China is downstream relative to the country, while an index value less than 1 indicates China is upstream relative to the country.

**FIGURE B2.1.4 Decomposition of foreign content in China's iPhone exports, 2009**

*Only 4 percent of the value added of China's iPhone exports was domestic as of 2009.*



Source: Xing and Detert, 2010.

began to expand beyond the regional supply chain into the global network and, as a result, the share of foreign content from Japan; Korea; and Taiwan, China in China's exports declined to less than a quarter in 2008 (Figure B2.1.2).

As it became vertically integrated with a more diverse set of countries, China moved "downstream" to several resource exporters (such as Australia and the Russian Federation) and high-tech intermediate component exporters (such as the United States)—that is, these economies' content in China's exports increased more than Chinese content in their exports (Koopman, and others, 2010). Meanwhile, China gradually moved "upstream" to Central and Eastern European countries that, over the same period, rapidly integrated into Western European production processes (Figure B2.1.3).

**Implications for trade balances and comparative advantage**

Integration into global supply chains increased bilateral trade imbalances between China and other countries. The production chain for iPhones constitutes a good example: prior to the financial crisis, iPhones were entirely assembled in China, using inputs from nine companies in other countries, before being exported to the United States. Of the total value of China's iPhone exports, 96 percent was from Japan, Germany, South Korea, and the United States and other countries, while only 4 percent was domestic Chinese content (Figure B2.1.4). Although predominantly produced with foreign content, the full value of Chinese exports of iPhones to the United States was recorded in China's trade surplus in *gross terms* to the United States (Xing and Detert, 2010). In contrast, only 4 percent of Chinese content in iPhones would be recorded in China's trade surplus with the United States in *value-added terms*.

Because China's exports embed content from other countries in the global supply chain, its bilateral trade balances in value-added terms can differ significantly from bilateral trade balances in gross terms (Figure B2.1.5).<sup>3</sup> China's bilateral trade deficit with Japan, for example, is about three times larger in gross terms than in value-added terms. This reflects significant exports of intermediate goods from Japan to China, which are used not for domestic Chinese consumption, but rather in the production of China's exports to the world. China's bilateral trade surplus with the United States is about one-quarter larger in gross terms than in value-added terms because intermediate inputs produced by other countries (e.g., in

<sup>3</sup>The bilateral trade balance between, China and the United States, in value-added terms is China's value added that is eventually absorbed by the United States net of the value added of the United States eventually absorbed by China—as opposed to the bilateral trade balance in gross terms, which is simply the difference between total exports and imports between China and the United States (Koopman, Wang, and Wei, 2014).

**BOX 2.1 (continued)**

the iPhone) are used extensively in Chinese goods made for export to the United States (Cheung, Chinn, and Qian, 2014).

As it integrated into global supply chains, China also rapidly expanded its domestic content of exports.<sup>4</sup> This was most pronounced in knowledge-intensive sectors.<sup>5</sup> With foreign content growth of 30 percent per year during 1995–2008, vertical integration in the knowledge-intensive manufacturing sectors was almost twice as fast as that in most other sectors. Although the share of domestic content in knowledge-intensive exports remained lower than in other sectors, rapid vertical integration in this sector was accompanied by brisk growth in domestic content, also well in excess of that in most other sectors (Figure B2.1.6).

As expected, this rapid vertical integration contributed to a gradual shift in comparative advantage (Bahar and others, 2014). China’s revealed comparative advantage (RCA) captures this process, where RCA is defined as the share of an industry’s exports in China’s total exports compared with the share in world exports—all based on domestic content of exports.<sup>6</sup> In 1995, China had a comparative disadvantage in knowledge-intensive sectors. By 2008, however, following a period of rapid vertical integration in these sectors, this comparative disadvantage had turned into a comparative advantage (Figure B2.1.7). As a result, the value-added trade deficits that China ran in these sectors in 1995 had turned into, in some cases, large value-added trade surpluses in 2008 (Figure B2.1.8).

**Conclusion**

Since joining the WTO in 2001, China has rapidly integrated into global supply chains, especially in knowledge-intensive industries. While the analysis here is limited by data availability, it shows that the process of integration was accompanied by a rapid expansion of domestic production for exports and led to an increase in the degree of comparative advantage in knowledge-intensive industries. The results also suggest that trade balances in value added terms can provide additional information about bilateral trade positions, especially for countries that are integrated in global supply chains.

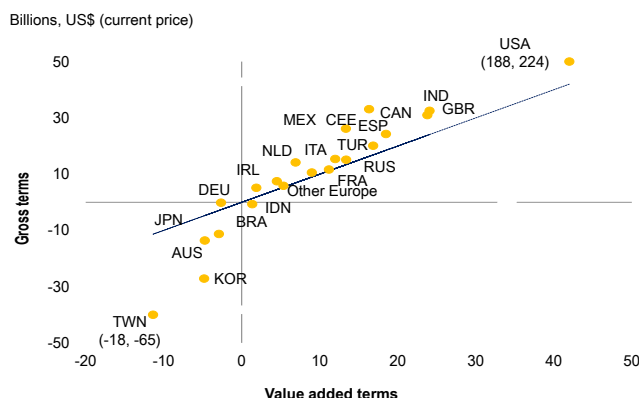
<sup>4</sup>The positive correlation between the growth of foreign content in exports and growth of domestic content in exports is also found in the European supply network (Rahman and Zhao, 2013).

<sup>5</sup>The classification of knowledge-intensive sectors follows the Organisation for Economic Co-operation and Development (OECD) Technology Intensity Definition. Specifically, the industries belonging to “high-technology” or “medium-high-technology” in the OECD definition are classified as knowledge-intensive sectors here.

<sup>6</sup>Recent research shows that a RCA based on the value-added decomposition of exports eliminates double counting and is more accurate than a RCA based on gross trade (Koopman, Wang, and Wei, 2014; Rahman and Zhao, 2013).

**FIGURE B2.1.5 China’s bilateral trade balance in value-added and gross terms, 2008**

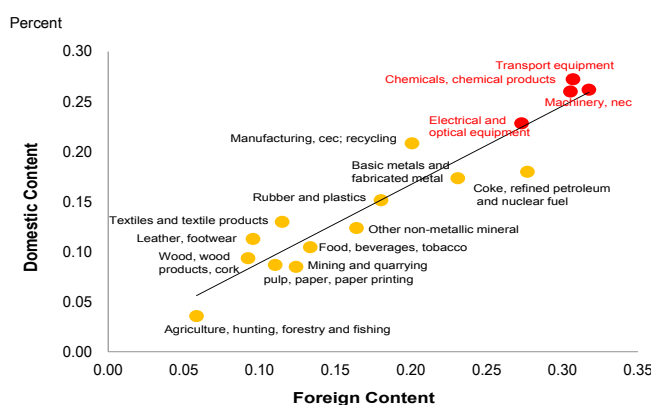
*Because of vertical integration, China’s bilateral trade balance with Japan is more negative in gross terms than in value-added terms (and vice versa with the United States).*



Sources: WIOD and World Bank.  
 Note: China’s bilateral trade deficit with Taiwan, China and bilateral trade surplus with the United States is off the scale in the figure; the relevant amounts are shown in parenthesis.

**FIGURE B2.1.6 Average annual growth in domestic and foreign content in Chinese merchandise exports by sector, 1995–2008**

*Growth in foreign value added of China’s exports was accompanied by growth in domestic value added.*

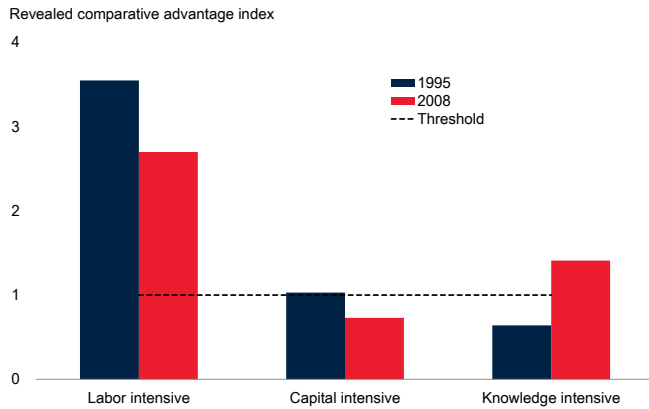


Sources: WIOD and World Bank.  
 Note: Knowledge-Intensive manufacturing sectors are shown in red.

**BOX 2.1 (continued)**

**FIGURE B2.1.7 China's revealed comparative advantage in three sectors**

*China's comparative advantage in knowledge-intensive industries has grown as the economy became increasingly vertically integrated.*

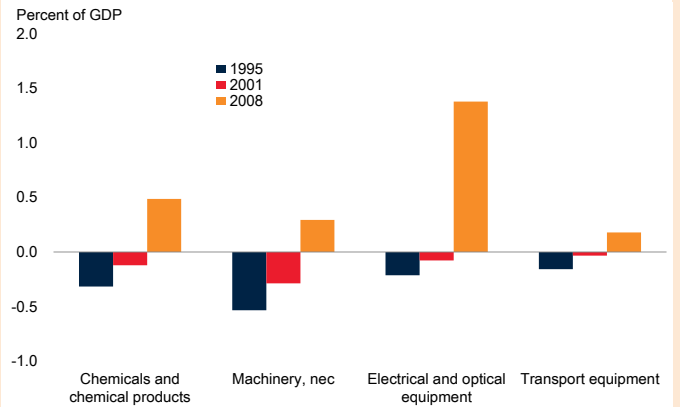


Sources: WIOD and World Bank.

Note: An RCA above the threshold of 1 indicates comparative advantage. Revealed comparative advantage is defined as an industry's share of China's exports (in terms of domestic value added of exports) relative to the same industry's share in world exports (also in terms of domestic value added of exports).

**FIGURE B2.1.8 China's value-added trade balances**

*China's value-added trade balance in knowledge-intensive sectors turned from deficit to surplus between 1995 and 2008.*



Sources: WIOD and World Bank.