

## Box 1

### FACTORS UNDERLYING CHINA'S GROWTH PERFORMANCE AND PROSPECTS

China's economic expansion over the past three decades has been remarkable by historical standards. The rate of growth in real GDP averaged around 10% over the last decade, peaking at over 14% in 2007. Although there has been some loss of momentum since then, with real GDP growth standing at close to 8% in 2012, China's economy continued to expand at more than twice the pace of the global economy. By 2012 China's share of global GDP (valued in terms of purchasing power parity) had risen to 14.7%. During its transition towards a market economy, the role of China in world trade has also increased remarkably. The share of Chinese imports in global imports has increased from levels of below 1% in the early 1980s to around 9.2% by 2012, whereas the share of both US and euro area imports embarked on a declining path (Chart A).

Over this period China has attracted a larger volume of imports from nearly all of its trading partners, in particular from neighbouring economies. China's demand for imports has also become increasingly significant for the euro area, with the share of exports to China in total euro area exports increasing from 2.4% in 2001 to 6.4% in 2012.

Given China's prominent role in the global economy, the question of whether it will be able to sustain a similarly robust pace of growth in the future has important implications for world economic activity. In the past China has relied heavily on rapid capital accumulation and rural-urban labour reallocation to drive growth. Looking ahead, it is widely expected that China will shift gradually to a more balanced economic growth model.<sup>1</sup> Against this background, this box analyses from a supply-side perspective the drivers of China's robust performance over the past decade, explains what lies behind the slowdown in activity since 2007 and discusses the prospects for growth.

### Estimates of potential growth in China

Potential output measures the level of activity that may be achieved in the economy in the medium to long term. One means of understanding the potential performance of an economy is to employ a production function approach, whereby potential output is determined based on the trend level of the factors of production – physical capital and labour – and total factor productivity (TFP), which captures the overall efficiency of the use of the factors of production.<sup>2</sup> However, potential growth is an unobservable variable, making such estimations subject to significant uncertainties.<sup>3</sup> Chart B uses a growth accounting framework to show the estimated contributions of the factors of production to potential output growth based on a Cobb-Douglas production function. The estimates suggest that potential growth averaged around 10% over the past decade. Capital accumulation contributed on average more than half to potential growth during the period 2000-12, reflecting the very high rates of investment in China. TFP gains contributed on average nearly one-third of potential growth, while labour force developments supported growth to a more limited extent. Moreover, the contribution of the labour force declined slowly over that period, in line with the slowdown in the growth of the working age population.

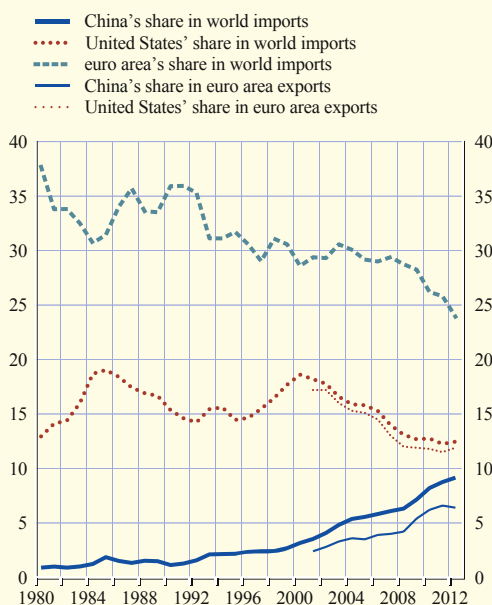
1 See the box entitled "China – short-term prospects and medium-term policy intentions", *Monthly Bulletin*, ECB, September 2013.

2 See the article entitled "Potential output, economic slack and the link to nominal developments since the start of the crisis", *Monthly Bulletin*, ECB, November 2013.

3 By applying de-trending techniques to obtain the potential level of the factor inputs, the production function approach inherits all the well-known weaknesses of the filtering method employed. In China's case, estimates could also be hampered by the availability and quality of the data.

Chart A Developments in the shares of China, the euro area and the United States in global trade

(percentages per annum)

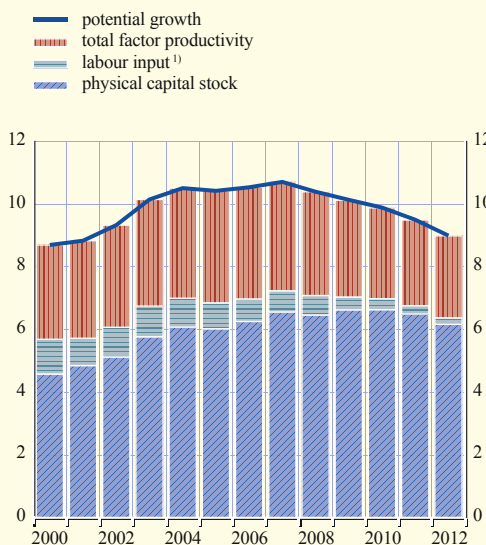


Sources: Eurostat, IMF and ECB calculations.

Note: World import shares are based on the value of imports of goods and services; euro area export shares are based on the value of exports of goods from the euro area to non-euro area countries.

**Chart B Potential growth accounting**

(annual percentage changes; contributions in percentage points)

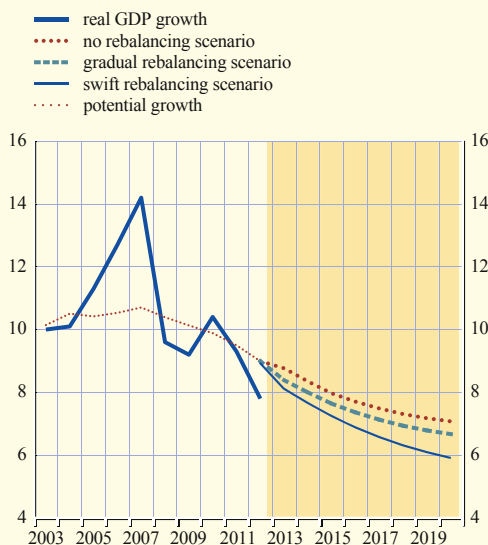


Source: ECB estimations.

1) Quality adjusted labour by taking into account the average years of schooling and decreasing returns to education.

**Chart C Outlook for potential growth**

(annual percentage changes)



Sources: Haver Analytics, ECB estimations.

Note: The yellow area refers to the illustrative scenarios for potential growth, as explained in the text.

The analysis indicates that both cyclical conditions and a fall in potential growth have been behind the slowdown in growth in China since 2007. The cyclical factors have reflected weaker global demand and also the moderation in fiscal support following the large fiscal stimulus in 2009. Potential growth has also fallen, to reach around 9% in 2012, reflecting weaker growth in the trend component of TFP, as well as a gradual moderation in the contribution of labour input. In the past two years, the contribution of capital accumulation has also moderated slightly. However, with investment remaining very high as a share of GDP, the economy remained heavily reliant on capital accumulation as a source of growth.

### Outlook for potential growth

There is a general consensus among forecasters that China's economic growth will slow in the coming years (see the table). According to the OECD's projections, China's potential growth is estimated to have slowed from around 10% between 2000 and 2012 to 8.5% on average between 2013 and 2015 and is expected to slow further to 7.3% between 2016 and 2020. Over a longer horizon, the World Bank has estimated that average growth in GDP might decline to around 6.4% between 2013 and 2030.<sup>4</sup> Over the same period, the IMF projects that China's growth could slow even more sharply, to around 6%.<sup>5</sup>

Given the prominent role of physical capital in contributing to economic growth in recent years, expectations about the future prospects for investment are of great import for the assessment

<sup>4</sup> See World Bank Development Research Center of the State Council, the People's Republic of China, "China 2030: Building a modern, harmonious, and creative society", 2013.

<sup>5</sup> See IMF Country Report, "People's Republic of China 2013 Article IV Consultation", No 13/211, July 2013.

## Projections for long-term growth in China and illustrative scenarios for rebalancing demand

(average annual percentage changes)

	2000-2012	2013-2015	2016-2020	2026-2030
OECD <sup>1)</sup>	10	8.5	7.3	
World Bank <sup>2)</sup>	-	8.6*	7.0	5.0
<b>Illustrative scenarios</b>				
No rebalancing scenario		8.4	7.3	
Gradual rebalancing scenario		8.0	7.0	
Swift rebalancing scenario		7.7	6.4	

Sources: OECD, World Bank, ECB estimations, Haver Analytics.

Notes: 1) potential growth rate; 2) projected growth pattern assuming steady reforms and no major shock.

\* The figure refers to the average between 2011 and 2015.

of China's potential growth prospects. To illustrate that point, Chart C shows three alternative scenarios for potential growth incorporating different assumptions about future investment flows. The "no rebalancing" scenario assumes that, in real terms, the investment-to-GDP ratio will stay unchanged at its 2012 level. Consistent with the Chinese government's aim to shift the economy gradually onto a growth path that relies less on capital expenditure and more on private consumption, two other scenarios are considered. In a "gradual rebalancing" scenario, the investment-to-GDP ratio will decline from 47% in 2012 to 45% in 2015 and to 43% by 2020. The "swift rebalancing" scenario assumes that the investment-to-GDP ratio will decline to 38% by 2020. The assumptions for other inputs are the same in all three scenarios. Potential employment is assumed to decline in line with the United Nations projections of a reduction in the population of working age. TFP growth is assumed to remain at levels similar to those in 2012. This relatively low pace of TFP gains compared with the average recorded in the previous decade is consistent with the view that gains in TFP may gradually become more limited as China converges towards higher income levels.

In all three scenarios, China is expected to undergo a gradual moderation in potential growth mainly on account of lower contributions from physical capital (see the table). The strongest outlook for growth is generated in the "no rebalancing" scenario, which projects that potential growth will be above 8% between 2013 and 2015, before slowing down gradually to 7.1% in 2020. Even in this scenario, despite maintaining a high ratio of investment to output, the contribution of capital accumulation is smaller than in the past decade, when investment grew on average considerably quicker than output. In the "gradual rebalancing" scenario, potential growth is expected to follow a downward trend from around 8% in 2013-2015 to 6.7% in 2020. Finally, the "swift rebalancing" scenario entails a more rapid decline in investment, with potential growth falling to 6% by 2020.

## Conclusion

The development strategy of relying heavily on investment flows and rapid productivity gains has been successful in promoting strong growth in previous decades. As a result, China has become increasingly important in the global economy. In the coming years potential growth is likely to follow a downward path, owing to a decline in the population of working age and a gradual rebalancing of demand away from capital expenditure towards household spending. However, China's growth is likely to remain well above the average pace of global expansion and the prominence of China in the global economy is therefore likely to increase further.