

Special Feature A

Deleveraging and Rebalancing in the Global Economy: A Medium-term Perspective¹

Introduction

In the aftermath of the Global Financial Crisis, households in the advanced economies are consuming less to shed debt and bolster balance sheets. At the same time, governments are increasingly forced to undertake fiscal consolidation as budgetary positions deteriorate. Thus, aggregate demand will remain subdued even as the slow recovery from the crisis could reduce investment spending and hence trend growth rates.

Contrary to the view that Asia has “decoupled” from the industrialised world, past issues of the *Review* have shown that the continent is still heavily dependent on final demand from the G3 economies.² Consequently, public and private sector deleveraging in the developed countries

will hit export performance in Asia. A shift away from export-reliant strategies towards domestic and regional demand is needed to sustain economic growth. However, this rebalancing process in Asia will take time to effect.

The objective of this Special Feature is to consider how debt deleveraging in the West and demand restructuring in the East will affect the global economy in the medium term. The Feature does this by examining sustainable paths for advanced economies’ debt ratios and plausible trajectories for Asian consumption and investment spending. It then details the implications of these scenarios for the pace and pattern of growth across the main regions of the world.

Driving Forces and Adjustment Paths

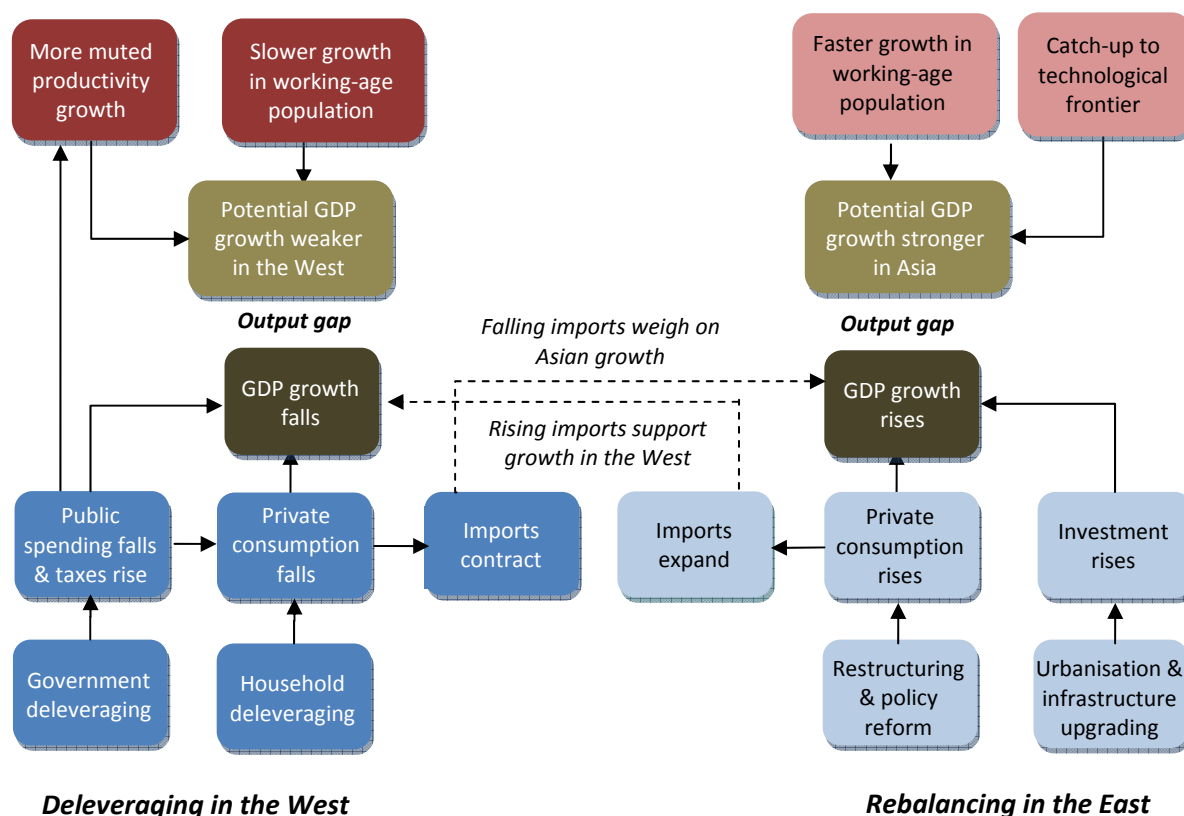
A coherent narrative for the evolution of the global economy over the medium term could proceed as depicted in Chart 1. On the supply side, Asia’s potential GDP growth outstrips that of the West, underpinned by favourable demographics and relatively faster productivity growth as it catches up to the technological frontier. Hence, the economic centre of gravity continues to shift eastwards, with Asia accounting for an increasing share of world output.

The actual path for the global economy over this decade, however, will be determined by the interaction of these supply forces with demand factors. As Chart 1 shows, deleveraging and rebalancing are envisioned to be the principal demand-side forces that will shape outcomes in the medium term. In the industrial countries, the existing negative output gaps will persist for a while as deleveraging depresses both public and private demand. Over time, however, adjustments in goods and labour markets should restore output to its potential level.

¹ This Special Feature has benefited from comments and discussions with Professor Michael Spence, William R. Berkley Professor of Economics and Business at the Leonard N. Stern School of Business, New York University.

² See the October 2007 and October 2010 issues of the *Review* for further details.

Chart 1
Medium-term Driving Forces



For example, nominal wages respond to slack conditions in the labour market by adjusting downward, making it attractive for firms to boost hiring. While prices tend to be sticky in the short run, they too would adjust in the medium term. Finally, workers adapt to the changing industrial configuration of the economy by reskilling and finding jobs in new growth areas, as the composition of aggregate demand changes with the progress of deleveraging.

All else being equal, Asia's GDP growth would be dampened by deleveraging pressures in the advanced economies, given the region's continued reliance on the latter. However, Asian policy-makers are aware of the need to rebalance their economies towards domestic sources of growth. To achieve this aim, a slew of policy measures are needed to support increases in private consumption in some economies, and investment in others. Infrastructure upgrading and institutional reforms are also imperative as a means of escaping the "middle income trap".

If successfully carried out, deleveraging and rebalancing should lead to more balanced global

growth. However, this outcome is not assured, nor the adjustment path necessarily smooth. The global economic system, consisting of international monetary arrangements and exchange rate regimes, could either facilitate or hinder the process. Under a benign scenario, exchange rate adjustments will take place gradually and endogenously, even as the international financial architecture evolves towards a multi-polar world with alternative reserve currencies.

An orderly adjustment also requires central banks to manage monetary policy credibly, while mitigating the destabilising effects of surges in liquidity and capital flows. To minimise frictions and avoid protectionism, political constituencies in the West and Asia have to be supportive of spending cuts, tax hikes and expanded social safety nets, as well as globalisation and free trade. Needless to say, this will be more challenging in an environment of low growth.

In what follows, the medium-term supply and demand forces will be described and analysed.

Supply-side Potential

In terms of potential output, Asia's economies are set to continue growing at a fairly robust pace in the medium term by virtue of their more favourable demographics and greater scope for productivity improvements.³

Asia's stock of labour is the largest in the world, with China, India and Indonesia being the first, second and fourth most populous nations in the world, respectively. Moreover, the continent's labour force is relatively young, although there are cross-country variations.⁴ Over the period 2012–20, potential employment growth in Asia as a whole is projected to be 1.3% per annum.⁵ (Table 1)

Asia's relatively lower level of development also means that labour productivity growth has further room to be boosted via capital deepening and technological transfer. Likewise, the effectiveness with which labour and capital are combined in Asia, as measured by

total factor productivity (TFP), lags that in the advanced economies. Jorgenson and Vu (2010) have therefore estimated that future labour productivity growth in Asia could average close to 5% per annum. As a result, potential GDP growth is projected at 6.3% per annum for the rest of the decade.

In contrast, future employment in the advanced economies is expected to grow at a much slower pace, and even decline in the Eurozone. While productive capacity in these countries may not have been permanently impaired by the Global Financial Crisis, productivity gains will be more muted because deleveraging will reduce investments in infrastructure and education. Further, highly indebted Western governments are likely to under-invest in research and development. Hence, the potential growth rate is likely to be somewhat lower in the advanced economies, compared to the pre-crisis period and to Asia.

Table 1
Potential Output and Its Determinants
(Average annual growth in %, 2012–20)

	Potential Output*	Of which	
		Potential Employment	Potential Labour Productivity
US	1.4	0.4	1.0
Eurozone	0.8	-0.1	0.9
Asia	6.3	1.3	4.9

Source: Jorgenson and Vu (2010), UN (2011) and EPG, MAS estimates

Note: Labour productivity growth for the Eurozone and Asia is derived from the weighted sum of Jorgenson and Vu's (2010) forecasts for individual economies, and uses nominal US\$ GDP in 2008 as weights. Malta and Cyprus were excluded from the Eurozone 17.

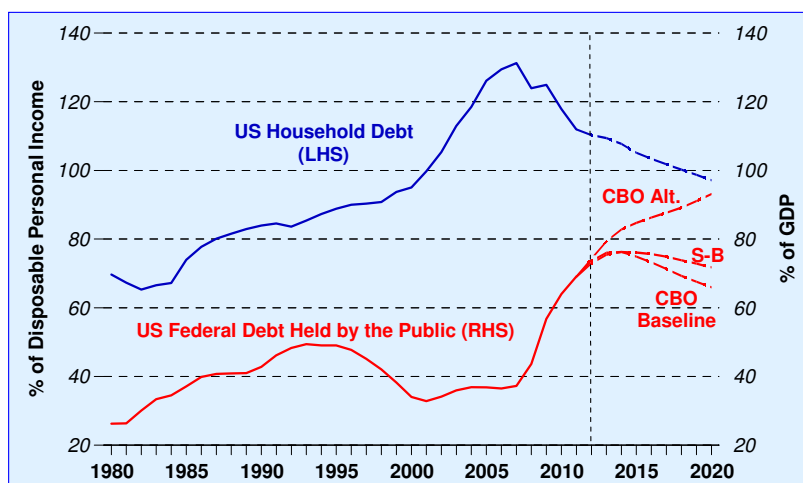
* Figures may not add up due to rounding.

³ In this Special Feature, Asia refers to the NIEs (Hong Kong, Korea, Singapore and Taiwan), ASEAN-4 economies (Indonesia, Malaysia, the Philippines, Thailand), China and India.

⁴ The NIEs have already attained fairly high levels of productivity and these economies, together with China, have relatively less favourable demographics. Consequently, their potential growth rates are likely to slow in the future.

⁵ Potential employment growth from 2012–20 is proxied by projections of the growth rate of the population aged 25–64 years, with the assumption that labour force participation and employment rates remain unchanged over the period.

Chart 2
US Household and Government Debt Ratios



Source: CBO and EPG, MAS estimates

Note: The government ratios after 2011 are based on the Simpson-Bowles (S-B) proposals and CBO fiscal scenarios; the household ratio is based on the scenario described in the text.

Deleveraging in the West

The Global Financial Crisis was preceded by a massive build-up of household borrowing to finance home purchases, especially in the US. The ratio of US household debt to disposable personal income (DPI) increased from 100% in 2001 to a peak of 131% in 2007, before falling back to 112% in 2011, mostly on account of defaults on home mortgages. (Chart 2) In the Eurozone, the corresponding debt ratio went from 60% in 2001 to 80% by 2011, as households borrowed more, and incomes fell during the crisis. Thus, private sector deleveraging in the US still has some way to go, while the process has barely begun in the Eurozone countries.

As a result of deficit spending during the Global Financial Crisis, sovereign debt ratios rose sharply

in the advanced economies. In 2011, the size of US gross federal debt was almost as large as its nominal output while the Eurozone's aggregate government debt ratio stood at 88% of GDP.⁶ Although there is considerable uncertainty about the future paths of these ratios, it seems reasonable to assume that they have to be normalised in due course so as to maintain macroeconomic and financial stability.⁷

By lowering disposable incomes through higher taxes and reduced transfers, fiscal consolidation will make it more difficult for households to service and pay down existing debt without cutting back on spending. Hence, sovereign deleveraging will have contractionary effects on both public and private consumption.

⁶ The US gross federal debt ratio is used here for comparability with the Eurozone's gross government debt ratio, while the ratio of US federal debt held by the public is used in the debt scenario discussion below.

⁷ McKinsey (2010) for instance, states that "while we cannot say for certain that deleveraging will occur today, we do know empirically that deleveraging has followed nearly every major financial crisis in the past half century".

US Debt Scenario

In the US, various plans for fiscal deficit reduction over the medium term have been proposed. For example, the proposals made by the National Commission on Fiscal Responsibility and Reform (2010), also known as the Simpson-Bowles plan, recommended tough reductions in discretionary spending and comprehensive tax reforms, amongst other changes. The tax reforms would include sharp reductions in income tax rates alongside a widening of the tax base. If these recommendations were to be passed into law, the amount of federal debt held by the public, as a proportion of GDP, would rise to a peak of 76% in 2014 due to continued deficits in the short term, before falling gradually to 72% in 2020.⁸ (Chart 2)

In contrast to the prescriptions by the National Commission, the Congressional Budget Office (CBO) has examined two plausible medium-term fiscal scenarios (CBO, 2012a and 2012b). In the baseline deleveraging scenario, all expiring tax provisions are not extended, Medicare's payment rates for physicians are reduced, the Alternative Minimum Tax (AMT) is not indexed for inflation, and all automatic spending reductions required by the Budget Control Act kick in. Under the alternative scenario, some tax cuts are extended and mandatory spending cuts are avoided. As shown in Chart 2, the overall impact of the reforms assumed in the baseline scenario is to lower the ratio of publicly-held debt to 66% in 2020, whereas the ratio rises to 93% in the alternative scenario. Although the assumptions behind the CBO baseline scenario have been questioned, it is adopted here to illustrate the impact of rapid fiscal consolidation. Historical experience has shown, however, that the pace of deleveraging is likely to be slow and it might take more than a decade for government debt to fall back to sustainable levels (IMF, 2012d).

Eurozone Debt Scenario

At this point, it is precarious to conjecture about how future developments might unfold in the Eurozone, given ongoing tensions in the sovereign debt markets. However, regardless of the possible outcomes, including further bailouts or debt restructuring, there is still a need for the region to return to fiscal sustainability in the long run. Giving impetus to such a move is the proposal for deeper fiscal integration within the Eurozone. Indeed, the first steps in this direction were taken when the Stability and Growth Pact (SGP) was strengthened by the fiscal compact agreed last year, which gives supranational bodies greater budgetary oversight over member states.

The amendments to the SGP would require overly indebted countries with sovereign debt exceeding 60% of GDP to reduce one-twentieth of the excess annually, after a grace period of three years. As this means that the Eurozone gross debt-to-GDP ratio has to fall from 88% at present to about 60% by 2033, some of the more heavily indebted countries such as Greece, Italy, Portugal, and Ireland would have to deleverage at a relatively fast pace after 2014. Changes in the government debt ratio before 2014 have been estimated by the IMF (2012c) based on austerity measures already announced by individual governments. These projections for 2012–13, together with the assumed implementation of the amended SGP, imply that the Eurozone's government debt ratio will decline to 81% by 2020. The tax increases and expenditure cutbacks required for the period 2012–20 can be calculated accordingly, assuming that the burden of fiscal adjustment falls equally on both.

⁸ The debt level projections were extracted from the official report by the National Commission on Fiscal Responsibility and Reform, "The Moment of Truth", December 2010. For comparison purposes, the debt ratio projections in the Simpson-Bowles proposals and the CBO scenarios discussed here use a common set of nominal GDP growth figures.

Impact of Deleveraging

Table 2 shows the impact of the projected fiscal consolidations in the US and the Eurozone, assuming a fiscal multiplier of one.⁹ Abstracting from the uncertainty associated with the fiscal policy stance following the elections later this year, US public spending growth could slow by an average of 0.9% point per annum over the period 2012 to 2015, compared to a non-deleveraging scenario. Thereafter, the recovery in expenditures will be weak, although debt reduction will no longer negatively impact public spending growth. In the Eurozone, enforced fiscal austerity will reduce the growth of government spending by 1.4% points each year during 2012–15, and 0.2% point in the second half of the decade.

To estimate the combined effects of government and household deleveraging on private consumption, a simple model of income-and-debt dynamics in the vein of Glick and Lansing (2009) is used. In this model, households consume a portion of their disposable personal incomes and save the rest, out of which they can make debt

repayments to bring the overall debt-to-income ratio down to a more sustainable level.¹⁰ Certain auxiliary parameters, including the effective nominal interest rate on existing household debt and future DPI growth rates, have to be fixed for the analysis.¹¹ In addition, it is assumed that no new household debt is added and the stock of debt grows by the interest incurred net of principal repaid.

Given these assumptions, the per annum growth of private consumption in the US will be 0.6% point lower during the initial period from 2012–15, and half of that in the later period. (Table 2) For the Eurozone, private consumption growth has to be initially scaled back by a larger 0.8% point—reflecting the region’s early stage of deleveraging—followed by 0.2% point from 2016 onwards. On average, annual consumption growth in the advanced economies will slow by 0.4% point per annum in the medium term.

Table 2
Impact of Deleveraging in the US and Eurozone
(% point change in average annual growth)

US			
	2012–15	2016–20	2012–20
Private Consumption	-0.6	-0.3	-0.4
Public Spending	-0.9	0.1	-0.4
Eurozone			
	2012–15	2016–20	2012–20
Private Consumption	-0.8	-0.2	-0.4
Public Spending	-1.4	-0.2	-0.7

⁹ The IMF (2012a) estimated the average value of the fiscal multiplier to be around unity for the G7 countries during downturns.

¹⁰ The proportion of savings devoted to paring debt was assumed to be 80% for the US from 2012 to 2015, and 60% during 2016–20. The Eurozone’s ratio for the first period is set at 70% in view of households’ lower indebtedness, and 50% for the remaining years. As there is no agreement on what would constitute sustainable household debt ratios, the ratio assumed for the US in 2020 is 97%, broadly in line with most studies and implying a fall of more than 30% points from the peak in 2007. For the Eurozone, the terminal ratio of 65% is close to the pre-crisis historical average from 2000 to 2006.

¹¹ Effective nominal interest rates on household debt for both the US and the Eurozone were taken to be 6%, given expected low rates for some time to come. The assumed growth rates for nominal DPI (prior to fiscal deleveraging) were based on CBO estimates for the US, and projections of trend GDP growth and inflation in the case of the Eurozone.

Rebalancing in Asia

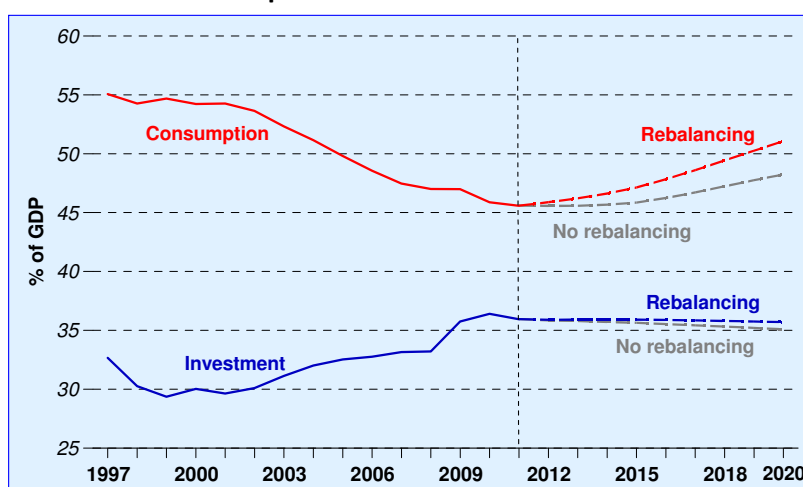
Asia will not be insulated from the impact of deleveraging in the advanced economies. The October 2007 issue of the *Review* estimated that a 1% fall in US private consumption spending will shave off 2.2% from Asia's exports. When re-estimated using recent data, the figure remained high, at 1.8%. A similar exercise for the Eurozone yielded an even larger estimate. Together, these estimates imply that a slowdown in G2 consumption of the magnitude described in the previous section would reduce Asia's real export growth by around 3.0% points each year from 2012 to 2015, and 1.7% points from 2016 to 2020.

If no rebalancing takes place, Asia's domestic consumption and investment spending cannot be relied upon to counteract weaker external demand from the advanced economies. Demographic trends *per se* will not raise Asian consumption by much in the next decade since the share of the working-age population is expected to rise in most countries, thus causing the saving rate to increase in tandem. Even in the NIEs and China, where the old age dependency ratio is increasing, the increase in consumption owing to demographic changes could be modest.¹²

However, one factor that will unambiguously boost Asia's consumption is its burgeoning middle class. Kharas (2010) estimates that the middle class in the Asia Pacific region, led by China and India, will grow by 3.3 times over 2009–20, with spending expected to triple. Still, a rising middle class and population ageing by themselves will be insufficient to increase the region's consumption share of GDP substantially, which at 46% remains significantly lower than the G7's average of 64.5%. (Chart 3)

For consumption rebalancing to succeed in Asia, policies to boost household incomes and reduce precautionary savings, especially in China, are critical. Since 1995, China's consumption ratio has fallen from 46% to 36%, due to both a declining share of wage income in the national product and a lower propensity to consume out of it. To reverse these trends, the Chinese government has announced a broad range of measures to accelerate domestic consumption. Social safety nets are being bolstered through health insurance reforms and extended pension coverage, while increased education spending and further support for migrant workers are forthcoming.

Chart 3
Asian Consumption and Investment Shares of GDP



Source: CEIC and EPG, MAS estimates

¹² According to Chamon and Prasad (2010), urban saving rates in China are highest among both the youngest and the oldest households.

The corollary to raising consumption in China is a lowering of investment spending, which accounted for 45% of GDP in 2011. At the same time, a sectoral shift in investment away from export-oriented sectors and less productive ventures to services industries and public infrastructure programmes will result in better utilisation of domestic savings. Some potential reforms, such as interest rate liberalisation, can help in achieving this objective and stimulating consumption simultaneously. Furthermore, compelling state-owned enterprises to surrender a larger share of their profits to the government for eventual redistribution to households could redress the severe imbalance between consumption and investment in China.

In contrast to China, the ASEAN economies face the different challenge of increasing investment spending. Having plunged from 35% in 1997 to 24% in 1998 as a result of the Asian Financial Crisis, the average investment ratios in the ASEAN-4 countries have been largely stagnant ever since. Given their stage of development and incremental capital-output ratios (ICOR), model-based estimates suggest that there is scope for the share of investment in GDP to rise (Mohammad *et al.*, 2011). Furthermore, a larger proportion of the increase in investment could in principle be financed by domestic savings than is currently the case.

The potential for increasing investment is not confined to the ASEAN economies. An ADB study estimates that Asia's infrastructure needs from 2010–20 amount to US\$8.2 trillion, with China and India alone accounting for almost 80% of the total (Bhattacharyay, 2010). Infrastructural spending is critical for Asia's rebalancing. Besides crowding in private investment, improved infrastructure raises labour productivity and wages, thus giving a further fillip to household consumption.

Therefore, it is possible to envisage a rebalancing scenario, whereby the consumption share of GDP in Asia increases by about 5% points to 51% over the next decade as a result of effective policies and structural reforms to boost domestic demand. (Chart 3) If that happens, private consumption expenditures would grow faster than GDP for a decade, or by almost a full percentage point higher than in a no-rebalancing scenario. (Table 3)

With successful rebalancing, the investment ratio in the larger ASEAN countries rises by an average of 5% points by 2020, although this is offset by a fall in China's ratio, leaving the region-wide investment share only marginally higher. Nevertheless, it implies that Asia's investment expenditures will expand at a slightly more rapid clip from 2012–20 compared to the no-rebalancing scenario.

Table 3
Impact of Rebalancing in Asia
(% point change in average annual growth)

Asia			
	2012–15	2016–20	2012–20
Consumption	1.0	0.9	0.9
Investment	0.4	0.4	0.4

Final Observations: Global Economic Implications

This Special Feature has analysed the macroeconomic effects of various deleveraging and rebalancing scenarios in the advanced economies and Asia respectively. Consistent with current research, the results suggest that the deleveraging cycle will significantly curtail household as well as government spending in both the US and the Eurozone over the next four years (IMF, 2012b).

Asia's exports to the developed economies will fall off accordingly, compared to the pre-crisis years. However, if policy-makers in Asia can successfully create the necessary conditions to raise private consumption and investment spending, the resultant increase in domestic demand can compensate for some of the weakness in exports and even support growth in the West through an expansion of the region's imports. Needless to say, the advanced economies can only access this source of external demand if structural reforms to improve competitiveness and boost productivity are undertaken. It is also important to recognise that the composition and duration of policy reforms that are eventually carried out will affect the sustainability of the deleveraging process, and also influence final growth outcomes.

The international trade repercussions and spillover effects resulting from deleveraging and rebalancing can be investigated in a general equilibrium context using a macroeconomic model such as the Global Projection Model (GPM).¹³ Simulations by EPG indicate that the net effect of these two medium-term forces would be to drag annual GDP growth in the US down by 0.7% point and in the Eurozone by 1.1% points during the most intense phase of deleveraging from 2012–15.

In Asia, average GDP growth will moderate by about 0.4% point per annum in the initial years of deleveraging, before the full impact of rebalancing is felt. As deleveraging winds down and rebalancing gets underway in the second half of the decade, however, the rise in the region's domestic demand provides an offset to slower export expansion, thus allowing growth to converge towards its potential rate.

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¹³ The GPM is a large-scale macroeconomic model of the world economy, which was developed by the IMF and maintained since 2008. The latest version, GPM6, comprises six country/regional blocs including the US, Euro area, and emerging Asia, and allows for interactions between the different regions through traditional trade channels as well as a financial channel.

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