OECD Economic Surveys
CHINA

MARCH 2013

OVERVIEW

Summary

Main findings

Macroeconomic developments and prospects

China's economy expanded rapidly in recent years despite a dire international context, though it slowed in 2011-12. Rebalancing has made headway: externally, the current account surplus has fallen sharply, from over 10% of GDP in 2007 to under 3%; domestically, growth has lately been pulled more by consumption than by investment. With the slowdown, inflation has been brought under control. More recently, activity has regained momentum, helped by policy easing and a pick-up in infrastructure spending, but the global economic context remains fragile. If needed, there is room for further cautious monetary and fiscal stimulus. In a longer-run perspective, China has now overtaken the euro area and is on course to become the world's largest economy around 2016, after allowing for price differences. Living standards will continue to improve fast provided reforms are implemented, most of which feature in the 12th Five-Year Plan (2011-15) and in the conclusions of the November 2012 18th CCP Congress.

Selected reform areas

Financial sector reform Gradually, market-based financial instruments and interest rates are playing a greater role, the renminbi is being used more across borders and the restrictions on capital inflows and outflows are being eased. Continued progress in this direction will support growth.

Competition and innovation. Competition is generally intensifying, boosting productivity, but state ownership needs to be reduced in some sectors, reform needs to be started in others, and the state should pull out of non-core sectors. Publicly-funded R&D should focus more on fundamental research. The intellectual property rights of innovators, domestic and foreign, should be strengthened further.

Inclusive urbanisation. Close to a quarter of the population now lives in cities where income per capita is as high as in some OECD countries. Migration from the countryside to cities, and out of agriculture into higher productivity industry and services, will continue to fuel growth but also brings many challenges. In particular, sufficient land must be made available for the expansion of larger and more productive cities and to meet the demand for more living space. This will help avoid renewed overheating in the real estate sector and improve wellbeing. Farmers need to be given the same property rights as urban dwellers and allowed to develop, or sell for development, the land for which they have user rights. Internal migrants need to be given the same access to public services as registered urban residents. This is notably the case for education, all the way from primary school to university, and for health care.

Relations between levels of government. Providing adequate basic public services across the country is essential to improve wellbeing nationwide. This calls for a greater portion of transfers to provinces, prefectures or counties to go to lower-income areas.

Greening growth. Cities need to become greener, as does the countryside. Some forms of pollution are declining but air and water quality are often poor, imposing sizeable costs. Going forward a broad policy mix is needed to help meet environmental goals in a cost effective manner, including well implemented market-based approaches and better enforcement of existing regulations. To further encourage progress in the efficient use of energy, taxation of diesel and gasoline ought to be raised, while the price of electricity, coal, gas and water needs to better reflect costs. Large ongoing investment in renewable energy should be better harnessed. Continuing to move towards pollution taxes and carbon pricing is also key. So is further lifting standards for motor vehicle emissions and fuel quality. Progress in improving enforcement and information dissemination needs to be built on while targets should be set for a broader range of environmental objectives.

Key policy recommendations

Macro-structural policies

- Monetary policy can remain relatively accommodative in the near term but should be forward-looking and guard against inflation risks further out.
- Implement and closely monitor the effectiveness of the measures taken to deal with the off-budget liabilities of local government financing platforms and to prevent their further build-up.
- Substantially raise the annual quotas for new building land in areas where the cost of apartments is high, in order to guard against renewed pressure on property prices.

Financial sector reform

- Strengthen the rules on maturity mismatch and risk diversification for wealth management products.
- Continue to move to market-determined interest rates by progressively widening the allowable margin around the regulated rate.
- Align the regulation of bond markets for maturities of over five years with the practices of the market for shorter maturities.
- Progressively increase the quota for inward investment in equities and long-dated bonds.
- Allow greater use of offshore renminbi deposits in mainland China.
- Allow for greater exchange rate flexibility.

Competition and innovation

- Clarify rules concerning the opening up of new sectors to private investment, including of foreign provenance. Strengthen the business operating environment by reducing the time taken to register a new business. Avoid promoting "national champions" in new strategic sectors.
- Improve effectiveness of R&D spending by increasing the resources available to the agencies dispensing government funding and rebalance outlays towards fundamental research.
- Strengthen enforcement of intellectual property rights by raising awareness of laws and increasing penalties for infringements to ensure adequate protection to domestic and foreign innovators.

Inclusive urbanisation

- Allow migrants to enroll in high schools and take university entrance exams in their place of residence. Abolish local quotas for entrance to university.
- Disconnect the provision of local public services from local registration.
- Change the use-rights of agricultural land to the same length as in urban areas.
- Subject to zoning and planning requirements, ease the limits on the use of agricultural land for development and housing, and allow farmers to sell land to developers directly and to consolidate agricultural land parcels in order to raise productivity.

Intergovernmental fiscal relations

- Raise the share of general intergovernmental transfers and improve the design of earmarked ones.
- Where major cities cover a relatively small geographical area, expand their boundaries to absorb surrounding counties in order to create authorities covering a metropolitan region.
- Switch from taxing land transactions to taxing land possession, while keeping the overall property tax burden broadly unchanged.

Greening growth

- Encourage energy conservation by raising excise duties on gasoline and fully deregulating prices. Move to full market-based pricing for natural gas and coal. Deregulate electricity prices, beginning in the generation sector, and avoid preferential electricity pricing for selected industrial users.
- Raise piped water prices to end-users to better reflect scarcity and encourage conservation.
- Increase levies and pollution taxes. Effectively implement CO^2 pilot emissions trading schemes. Move towards national carbon pricing, preferably via a carbon tax, depending on experiences with the pilot schemes. Further lift standards for motor vehicle emissions as well as fuel quality.
- Establish targets for a broader range of environmental objectives and step up enforcement efforts, including by holding local governments accountable.
- Improve national data collection and dissemination for all major pollutants including CO^2 and other greenhouse gases.

Assessment and recommendations

China has weathered the global economic and financial crisis of the past five years better than virtually any OECD country and than many other emerging economies. It is well placed to enjoy a fourth decade of rapid catch-up and improving living standards, notwithstanding various risks: in the near term, global economic conditions might be less supportive than projected; there are also concerns about property prices and excessive off-balance sheet financing by the banking system and local governments; and over the longer run, inequalities and ageing are sources of tension. However, China can avoid the "middle-income trap" provided reforms are continued or stepped up. Encouragingly, in November 2012, the 18th Congress of the Chinese Communist Party called for further reforms in a number of areas, most of which are touched upon in this *Survey* (Annex 1).

The Chinese economy slowed down markedly over the past two years, with spillovers on the rest of the world, but rebalancing has made headway and a gradual reacceleration is in train. To sustain vigorous and socially inclusive growth over the longer run, renewed reform momentum is required with respect to financial sector liberalisation; open competition in markets for goods and services; education, research and innovation – all areas highlighted in the 12th Five-Year Plan (2011-15). After taking stock of progress on these fronts, this *Economic Survey* examines three closely interlinked sets of issues: urbanisation, relations between central and local governments and the environment.

Continued rapid growth will require further large-scale urbanisation. The *Survey* looks at how cities have developed over the past decade using fresh 2010 census data and documents the sizeable productivity gains associated with urbanisation. Problems have arisen, however, from the legal system governing the use of land, which need to be overcome to provide more land for growing cities and greater living space to households. Wellbeing will also improve, as will social inclusion, as internal migrants are granted better access to social services.

Local governments are responsible for providing nearly all public services, but have limited ability to raise income according to their needs. Transfers to lower levels of government need to be reformed to bring about a more equitable distribution of public services across the country.

As incomes have risen, the government has been paying far more attention to the environmental stress accompanying rapid economic expansion. However, major challenges remain, not least reducing air and water pollution. Environmental performance can further improve at limited if any cost to the economy through well implemented marked-based reforms complemented by stronger standards.

China continues to advance

The global economic and financial crisis that erupted in 2007 hit Chinese exports but swift policy action mitigated the impact on the economy, as described in the previous *OECD Economic Survey of China* (OECD, 2010). As a result, year-average growth remained above 9% in 2008, 2009 and 2010, only fractionally below the performance of the previous, high-growth, decade and in stark contrast to the OECD area (Figure 1). However, in the face of overheating symptoms and sectoral imbalances, corrective action was undertaken in 2011, contributing to a slowdown that was amplified by a weakening and uncertain international environment, so much so that policy reversed gears around mid 2012. Growth troughed at 7.8% in 2012 and is set to regain momentum in 2013-14 (Table 1).

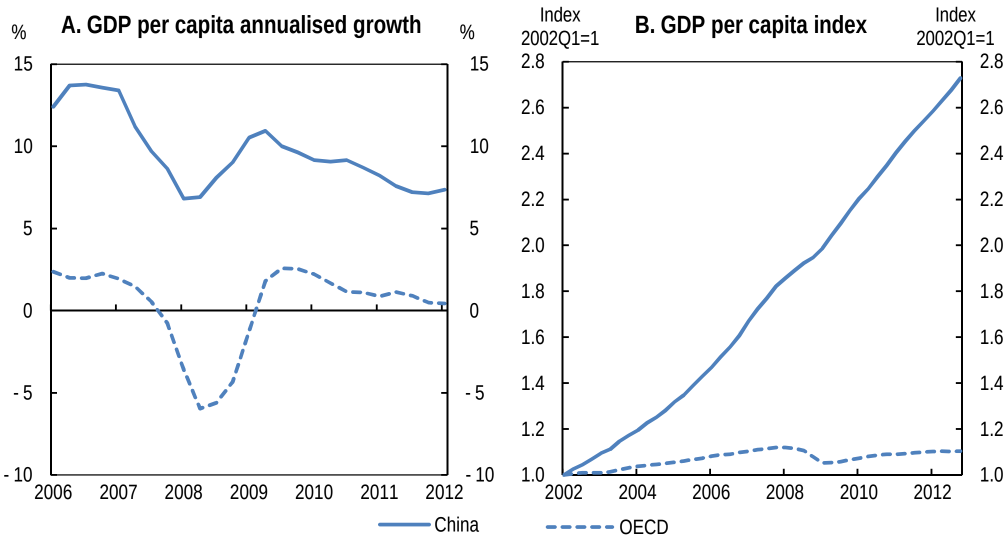
Table 1. Macroeconomic developments and prospects

	2007	2008	2009	2010	2011	2012	2013	2014
				% change				
Real GDP	14.2	9.6	9.2	10.4	9.3	7.8	8.5	8.9
Consumption (households and government)	10.8	8.4	9.2	9.0	10.5	8.2	8.5	8.7
Investment (fixed capital and inventories)	14.3	10.6	18.9	11.8	9.6	8.3	8.5	8.9
Total domestic demand	12.3	9.4	13.6	10.3	10.1	8.2	9.0	9.8
Exports	19.8	8.5	-10.2	27.6	8.1	5.1	9.4	10.9
Imports	13.7	4.0	4.5	20.6	8.8	6.3	10.4	11.5
				Percentage point contributions to changes in GDP				
Consumptions (household and government)	5.6	4.2	4.6	4.5	5.2	4.1	4.3	4.5
Investment	6.0	4.5	8.1	5.5	4.5	3.9	4.0	4.1
Foreign trade (including statistical discrepancy)	2.6	0.9	-3.5	0.4	-0.4	-0.2	0.2	0.4
of which								
Foreign trade[1]	3.6	2.3	-5.7	3.6	0.4	0.0	0.4	0.6
Statistical discrepancy[2]	-1.0	-1.4	2.2	-3.2	-0.8	-0.2	-0.2	-0.2
				% change				
GDP deflator	7.5	8.0	-0.8	6.6	7.8	1.9	2.5	2.7
Consumer price index	4.8	5.9	-0.7	3.2	5.5	2.6	2.7	2.9
Terms of trade	-1.0	-5.3	8.7	-9.6	-3.4	3.0	-0.1	-1.0
				% of GDP				
Fiscal balance[3]	2.0	0.9	-1.1	-0.7	0.1	-2.0	-2.2	-1.7
Current account balance	10.1	9.3	4.9	4.0	2.8	2.6	2.3	2.0
				% change				
Memorandum item: House prices[4]	25.0	22.5	2.8	40.0	15.6	-0.6		

1 Estimated using price indices for the export and import of goods.
2 Estimated as a residual.
3. Sum of the balance of the national government and the social security system.
4. Price index for the second-hand market, covering four of the five largest cities in 2007-08 and ten of the largest 13 thereafter. Average prices have been weighted by the estimated value of the housing stock in each city.

Source: National Bureau of Statistics, OECD Economic Outlook database, OECD estimates for house prices based on data from SouFun Holdings, http://fdc.soufun.com/index/ErShouFangIndex.aspx.

Figure 1. China sails through the crisis

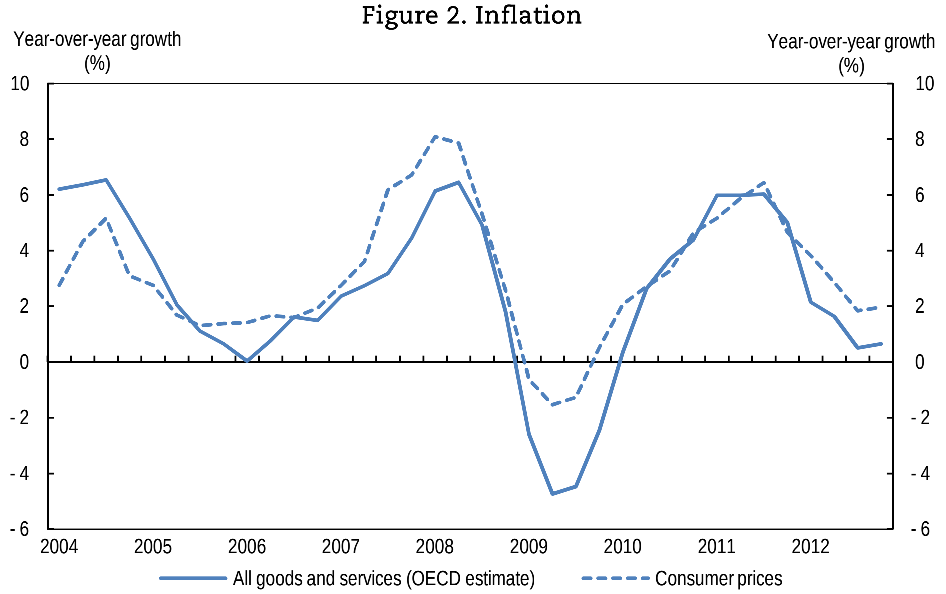


Note: OECD real GDP has been aggregated using 2005 purchasing power parities.
Source: CEIC; OECD Analytical database; OECD Economic Outlook database.

Policy stimulus gave rise to imbalances

The massive stimulus programme launched in late 2008 was based essentially on infrastructure investment and mostly financed by the banking system. The money supply jumped by 30% in the course of 2009 – an increase equivalent to over 40% of GDP, far larger than needed to fund the extra public outlays. The extra credit fed through quickly into the property market. Sales of new units in urban areas and housing completions soared. By May 2010, the price of existing houses was up by 48% over a year earlier.

Figure 2. Inflation



Note: Prices of all goods and service refers to the geometrically weighted average of the official indices for consumer prices, fixed asset investment prices and the unit value for export prices. The weights correspond to the share of consumption, capital formation and exports in total nominal demand in 2005. This index is designed to reflect as closely as possible all components of total demand.
Source: CEIC and OECD calculations.

With aggregate demand exceeding the ability of the economy to supply sufficient goods and services, year-over-year inflation rose to as much as 6.6% by mid 2011 (Figure 2). The increase in overall prices was exacerbated by a weather-induced spike in food prices.

The stimulus did not push the headline fiscal balance deep into the red (Table 1) and indeed on a national accounts basis the government remained in surplus (Table 2). Although public spending was ramped up, these two budgets had been in significant surplus and the bulk of the stimulus package was in fact financed off-budget. Moreover, much of the on-budget stimulus expenditure was of a one-off nature (*e.g.* subsidies for certain household goods). However, headline budget data vastly understate actual general government borrowing (Box 1). Taking into account various off-budget forms of debt, total public debt stood at 57% of GDP at the end of 2010.

Table 2. General government revenue and expenditure

In per cent of GDP

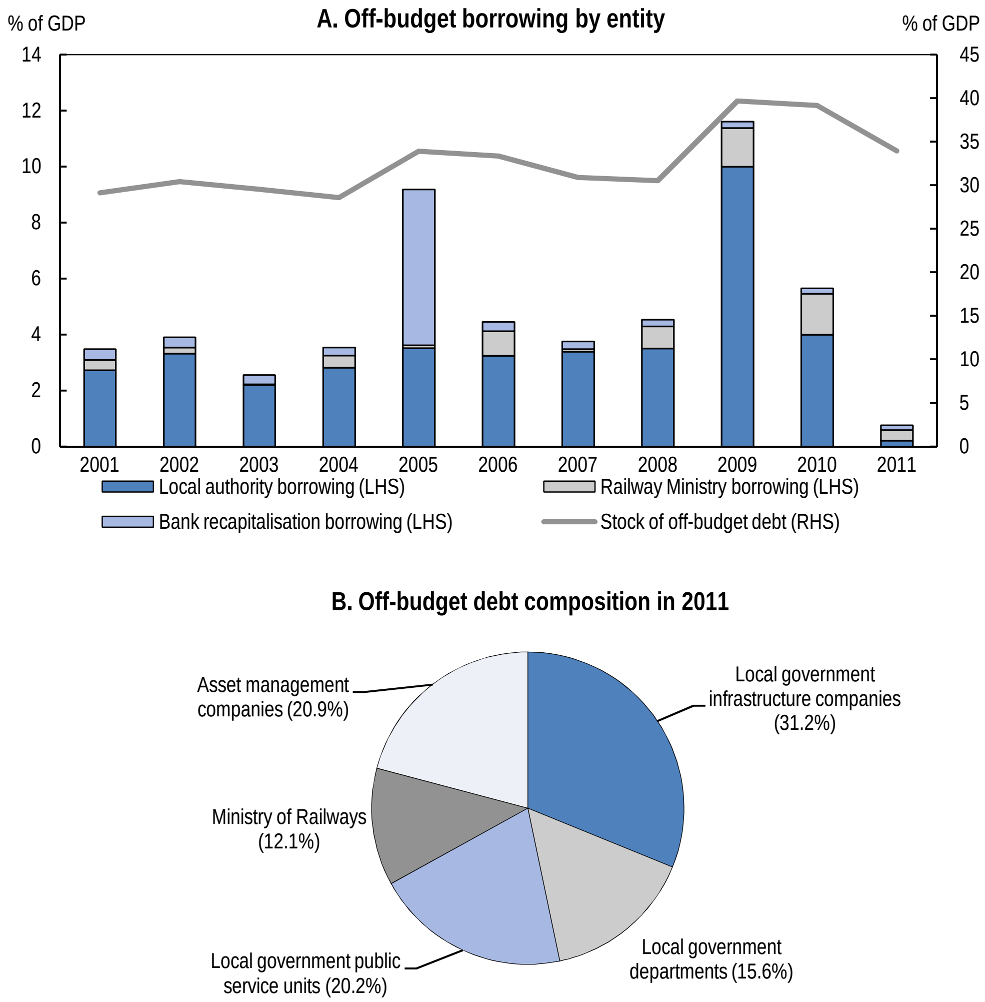
	2007	2008	2009	2010	2011
Indirect taxes	13.1	12.4	12.2	13.0	13.3
Direct taxes	8.6	9.1	9.3	9.1	9.9
Other revenue	2.0	2.5	2.2	2.3	2.4
Net property income	0.3	0.5	0.6	0.6	0.6
Total current income	24.0	24.6	24.4	25.1	26.2
Consumption	14.0	13.8	13.9	13.9	14.3
Social expenditure	4.3	4.8	5.5	5.6	5.8
Total current expenditure	18.2	18.6	19.4	19.5	20.1
Saving	5.8	6.0	5.0	5.5	6.1
Land use rights (net)	2.5	1.4	2.2	2.2	2.2
Capital outlays	5.1	5.6	6.6	6.6	6.7
Financial balance	**3.2**	**1.8**	**0.6**	**1.2**	**1.5**
of which					
National government	0.6	-0.4	-2.3	-1.7	-1.1
Social security	1.1	1.2	1.1	1.0	1.3
Fiscal balance	2.0	0.9	-1.1	-0.7	0.1
Other	1.5	1.0	1.8	1.9	1.4
Memorandum items:					
Stock of bank deposits	19.2	18.1	22.6	24.1	23.3
Stock of government debt	19.8	17.1	18.2	17.9	16.5
Bank deposits less debt	-0.6	1.1	4.5	6.2	6.8

Note: The fiscal balance consolidates central and local governments plus the social security fund.
Source: National Bureau of Statistics Flow of Funds Account, Ministry of Finance, Ministry of Human Resources and Social Security, data for 2010 and 2011 are estimates.

Box 1. Off-budget borrowing

Published data until 2010 showed no local authority borrowing as they are not legally allowed to do so but most of the infrastructure projects in the stimulus package have been undertaken by companies owned by local government and financed by borrowing by these companies. Likewise, the debt run up by a number of local government agencies (known as public service units and which run hospitals, schools and universities) is not included in the official data. Nonetheless, the local governments effectively stand behind the bulk of the debt incurred by these various entities, directly or through guarantees. Off-budget borrowing of this sort jumped to 10% of GDP in 2009-10 (Figure 3), pushing up total local authority debt to 26% of GDP. This debt has been financed mainly through commercial banks, but also by the China Development Bank. The banking regulator has estimated that the future cash flow of infrastructure companies responsible for one-quarter of outstanding debt may be insufficient to cover their debt service payments.

Figure 3. Off-budget borrowing by entity and the stock of off-budget debt



Source: Wang et al. (2012), National Audit Office, OECD estimates.

Substantial further debt was accumulated off-budget by entities backed by the central government. The Ministry of Railways has issued debt to finance high-speed trains outside the normal government budget. The rail network has been making losses which would impair its borrowing ability were it not for its quasi-governmental status. Furthermore, the government still has an implicit liability to pay off the debt given by asset management companies to banks in exchange for bad loans in past bank recapitalisations. The banking system holds this debt on its balance sheet and interest payments on the outstanding capital have been added to debt as the asset management companies do not have sufficient income to pay the interest. In all, the total amount of off-budget debt approached 40% of GDP in 2009-10, reflecting recurrent recourse to non-transparent finance.

The government has a two-pronged strategy to address the problem of local authority platform borrowing. Firstly, it is putting in place a monitoring system to reconcile government accounts and those of local platforms, so that going forward their borrowing can be accurately and rapidly assessed. In February 2013, the government also re-iterated the ban on local governments giving guarantees to their platforms and the ban on transferring social assets (hospitals, schools and offices) to platforms to serve as security for loans. These bans had been introduced in the summer of 2010.

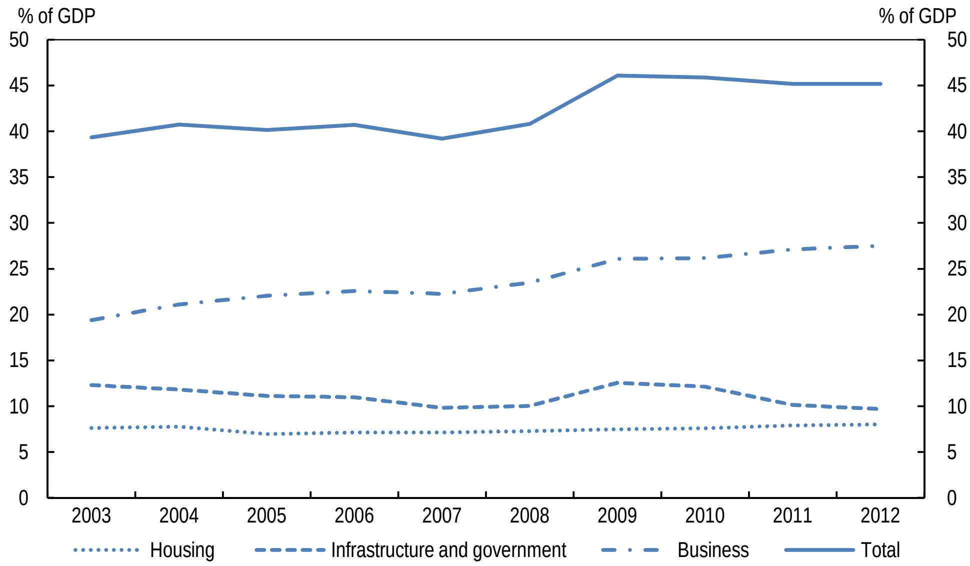
The second prong is to establish a resolution programme for existing loans whose maturity or solvability raises problems. In 2010, 52% of platform debt was to mature before 2013, well before most of the infrastructure projects being financed would start to yield paybacks. This debt has been refinanced since. Some projects, however, won't provide any material cash return, as with many infrastructure projects in the OECD area. If the shortfall is small, local governments may be required to pay subsidies to the platforms so that they can meet their interest bills. If the problem is more severe, local authorities will have to transfer assets (such as land-use rights or shares in quoted local state-owned enterprises) to cover financing expenses. Overall, clear data on the finances of every local government platform needs to be published together with resolution plans, if necessary.

The severe inflationary imbalances that had thus emerged by late 2010 prompted the government to take action. Monetary policy was tightened. From October 2010, regulated deposit interest rates were raised in steps from 2¼ to 3½ per cent, with a similar hike in lending rates. Reserve ratios were also increased though to some extent this was to offset the impact of the central bank's foreign exchange purchases. Liquidity was restricted, pushing up market interest rates. In addition, credit conditions were tightened in the real estate market: people already owning one property were required to make larger down-payments. Together with restrictions on lending to property developers, this led property sales to fall by 8% during 2011, and housing prices to decline in 2012.

On the fiscal side new borrowing by off-budget local authority companies was prohibited. As a result, overall, infrastructure investment dropped by two percentage points of GDP in 2011, with particularly large falls in rail expenditure (Figure 4). On-budget fiscal policy was also tightened somewhat and the headline budget balance moved back into surplus in 2011 (Table 1).

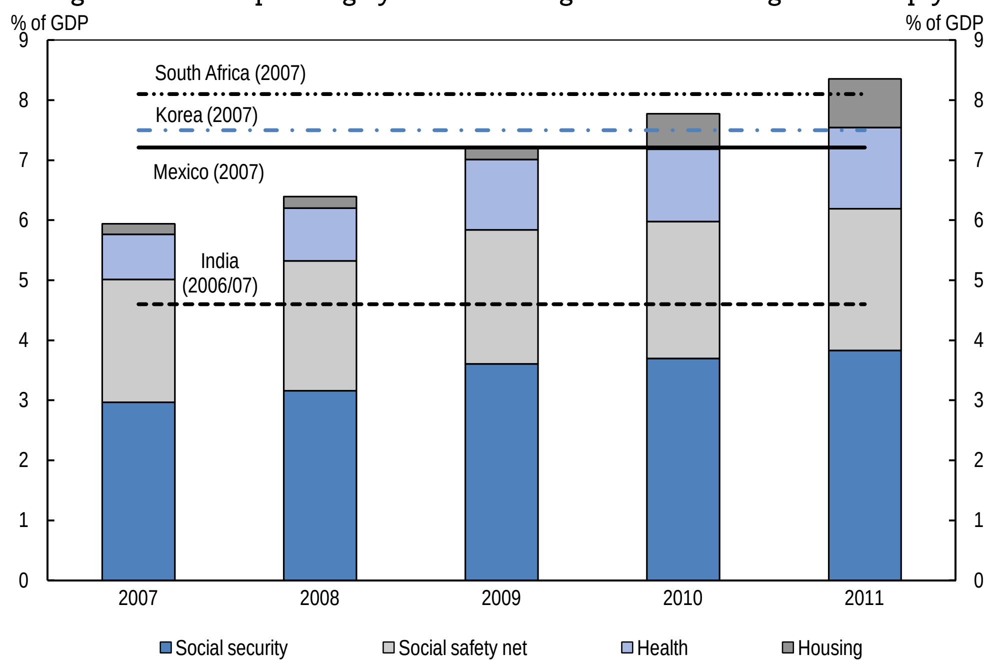
Even so, social expenditure continued to increase sharply (Figure 5). National government expenditure on health, social security, employment and other social services rose by over 24% per year on average between 2008 and 2012. This reflected the rolling-out of the new medical insurance schemes designed to give at least a low level of coverage to all citizens, the progressive introduction of the rural pension system, a major push to have employers respect the law concerning the enrolment of their staff in the social security system and greater spending on the programme for public rental housing (see the chapters on health, pensions and employment in the 2010 *OECD Economic Survey of China*). In the four years to 2011, the share of health spending covered by households fell from 40% to 35%, while the coverage of the rural medical insurance system rose to over 97%. As far as rural pensions are concerned, 60% of counties had implemented a scheme by 2011. While benefits tend to remain modest, the increase in social spending has helped reduce inequality in recent years (Box 2). A 19% increase of such outlays is planned for 2013.

Figure 4. Infrastructure and other investment



Source: CEIC and OECD estimates.

Figure 5. Social spending by the national government has grown sharply



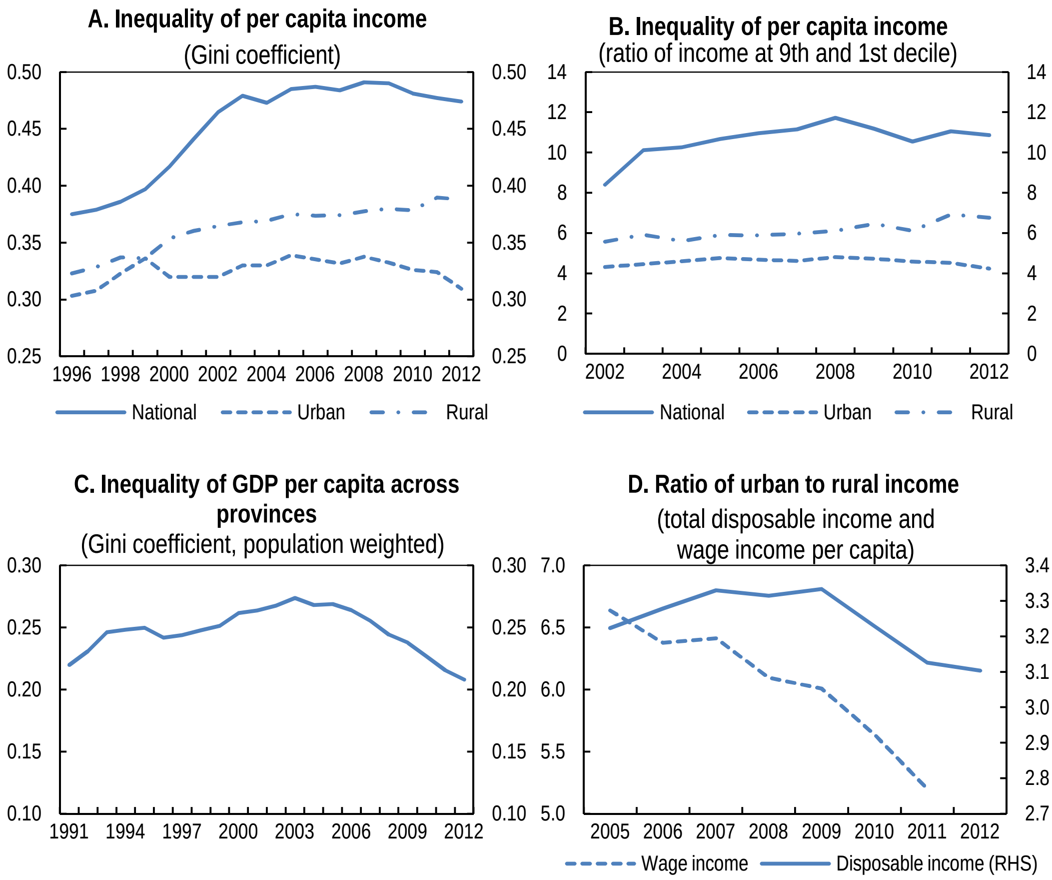
Source: CEIC and OECD Social Expenditure Database.

Box 2. Inequality is high but declining

Inequality is high in China but stopped rising a few years ago, as noted in the chapter on inequality in the 2010 *OECD Economic Survey of China*. In January 2013, the National Bureau of Statistics released a measure of national inequality in per capita incomes for the first time in a decade, in the form of the Gini coefficient. This showed that national inequality peaked in 2008 and has been declining slightly since. Several factors come into play. In urban areas, inequality has trended down for some years, perhaps reflecting faster growth in wages and larger reimbursements for health care at the lower end of the spectrum. In rural areas, migration has widened the gap between families where nobody has migrated and those with migrants, pushing up inequality. Overall, the gap between incomes at the first and ninth decile has started to decline. The gap between rural and urban incomes has also declined as migrants transfer income to the countryside. At the national level, this movement brings more people towards the middle of the income distribution and so lowers inequality.

Regional inequality has also been declining markedly in recent years. Growth and productivity in the poorer parts of the country have been catching up. The number of youth newly migrating to coastal areas has declined, which has pushed up wages there and encouraged industries to locate in cheaper inland areas. Overall, by 2011, regional inequality had fallen back to the level of the early 1990s.

Figure 6. Most indicators of inequality have declined somewhat in recent years



Source: National Bureau of Statistics; OECD estimates.

In February 2013, the State Council issued a set of guidelines prepared by the National Development and Reform Commission, the Ministry of Finance and the Ministry of Human Resources and Social Security to encourage ministries and local governments to take measures to further reduce the level of inequality and boost consumption. The government aims to raise the share of primary of income going to households in three ways: i) it will continue with financial sector reform, deregulating interest rates and encouraging the formation of mutual funds invested in short-term assets and longer-term debt; ii) it will aim to raise the proportion of the profits of central government-owned enterprises that is paid to the government by five percentage points, an increase of around 0.15% of GDP, with part of this money financing higher social benefits; iii) the government intends to raise the minimum wage to 40% of the average wage in most of the country by 2015, though this will have a limited impact on wages and employment as the estimated average minimum wage was already 37% of average earnings in 2011.

Furthermore, the guidelines stipulate that social spending should rise to 38% of government outlays by 2015 from 36% in 2011, with an emphasis on lower-income regions via intergovernmental transfers. One target is to reduce out-of-pocket health care expenses to 25% of the total, down from 34% in 2011. Total social spending is expected to thus be raised by 0.6% of GDP, financed partly by higher SOE dividend payments to the government, partly via higher taxes on luxury goods and partly by reducing the number of government employees. The guidelines call for pushing ahead with property taxation, which could help reduce inequality, depending on the specific design of such a tax, and better tax collection from high-earners, which would be redistributive.

The government intends to introduce a national residence card based on where a person actually lives. The card will give its holder the same rights where she or he lives as those accruing to the holder of a local urban (non-agricultural) *hukou*. At the same time the government intends to improve the compensation for farmers whose land is expropriated. A recent policy document from the Party rather than the government has also stated that there is a need to improve the security of farmers by extending leases and by constructing a complete register of all property rights. Besides, the government hopes to boost the income of farmers through higher agricultural subsidies, and is to promote rural cooperatives with a view to reap economies of scale.

Many of these policies fit with the recommendations in this Survey but in a number of areas the key will be effective implementation at a local level, especially in the big cities and in the areas around the expanding cities. The central government has been advocating policies to reduce the discrimination faced by migrants for the past decade but so far progress has been limited.

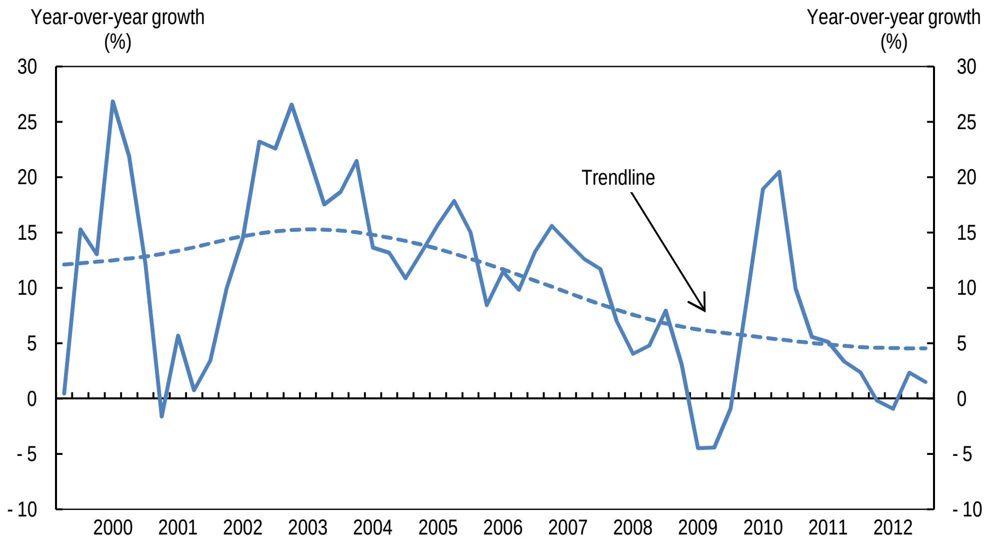
The February 2013 guidelines do not address the need for greater competition in the industries dominated by centrally-owned state-owned enterprises. Intensified competition would likely reduce the monopolistic profits that are shared between companies and their employees (whose wages far exceed market clearing levels – in 2010, the average annual wage in central government enterprises was almost three times the average in the domestic private sector). The guidelines do, however, suggest that the pay of chief executives should be limited and bonuses partly deferred.

The export sector has been under strain but rebalancing has made headway

In the seven years following its 2001 entry into the World Trade Organisation, China's share in the world market increased by almost one percentage point per year, approaching 10% by 2008. While export growth rebounded after the financial crisis, the pace of market share gains fell markedly (Figure 7). Combined with sluggish world market growth, this brought the trend increase in the economy's export dependence to a standstill. Indeed, exports have failed to grow as rapidly as GDP since 2006 with the result that the exports-to-GDP ratio has fallen by over 11 percentage points between 2006 and 2012. Recent data for the share of total value-added generated by the export sector of the economy are not available, but in 2009, the share of economy-wide value-added exported by the manufacturing sector was amongst the highest in the world – on a par with that in Canada and Mexico but slightly below that in Korea (Figure 8, Panel A). However, the service sector in China generates a relatively low level of exported value added (Figure 8, Panel B), so that the overall dependence of the economy on exports was similar to the average of other large economies.

Figure 7. China's market share is no longer expanding as rapidly

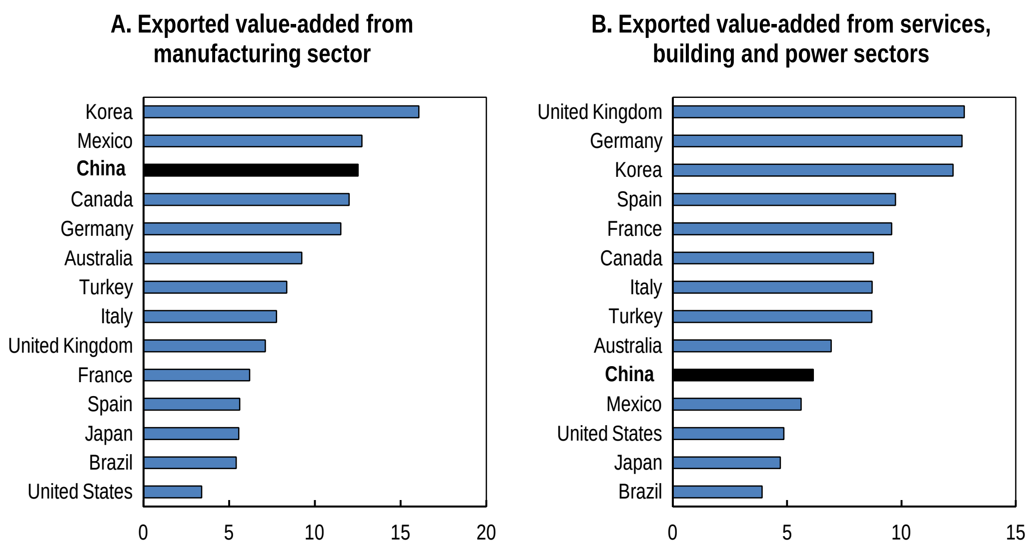
Growth in Chinese exports less growth in world markets



Note: The trend has been estimated using a Hodrick-Prescott filter.
Source: OECD Economic Outlook database.

Figure 8. Exports of manufactured and service value added relative to GDP

In per cent of GDP in 2009



Source: OECD-WTO database on trade in value added.

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The slowing in export market share gains has been one of the factors behind the rebalancing of the economy in the four years to 2011. Since 2007, the erosion of the share of household income in GDP has ceased and household investment in housing has risen (Table 3). At the same time, increased social spending has helped reduce the government financial surplus. However, these two developments account for only one-third of the domestic counterpart to the decline in the current account surplus. The main counterpart was higher investment in infrastructure and business ventures.

Table 3. Sectoral financial balances

Per cent of GDP

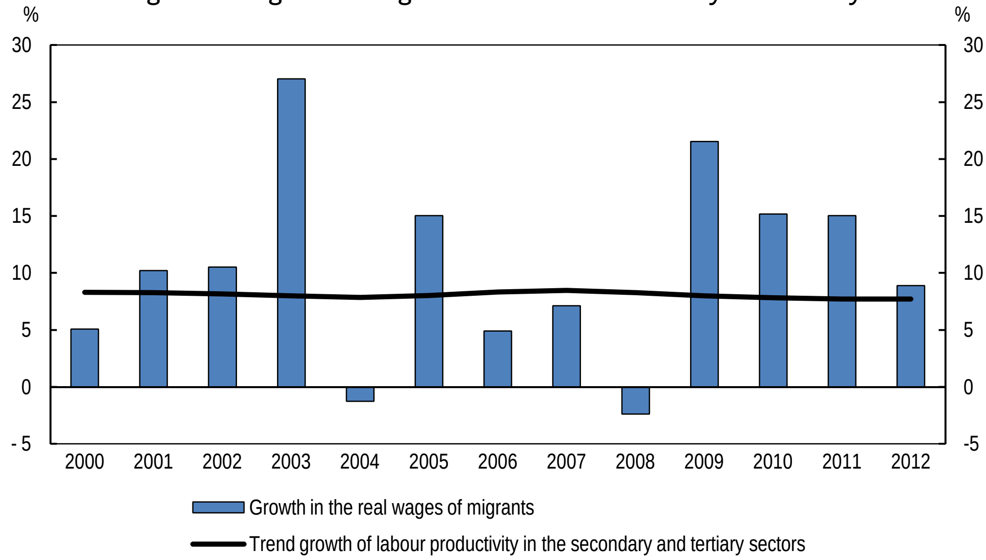
	2002	2007	2009	2011
Households	11.4	14.8	14.6	14.3
General government[1]	-4.7	3.2	0.6	1.5
Enterprises	-3.4	-5.6	-10.3	-11.2
Sum of domestic sectors	3.3	12.4	4.9	4.6
Statistical discrepancy	0.8	2.2	0.0	1.8
Foreign balance	2.4	10.1	4.9	2.8

1. Infrastructure investment by local government-owned enterprises is included in the enterprise sector.

Source: 2002-09, CEIC. 2011 OECD estimate based on partial data.

The inflexion in export performance also stems from a change in labour market conditions. Demand for labour in manufacturing and services has been strong over the past decade, and the share of the total rural labour force working away from their birthplace has increased accordingly. The pull intensified in recent years, and by 2011 this share approached 40%, with domestic migrants representing nearly half of non-agricultural employment. Demographic trends are reducing the number of people likely to migrate: most migrants are aged between 20 and 35, and the size of the cohort turning 20 in a given year is set to fall from 25 million in 2010 to 15 million by 2020. In addition, the new generation of migrant workers is better educated. Both factors tend to push up the growth of migrant workers' wages, which a decade ago were rising less than productivity in industry but have far outpaced it in recent years (Figure 9).

Figure 9. Migrants' wages have increased briskly in recent years



Note: Migrants' wages have been deflated by the urban consumer price index. The data for 2012 refer to the first three quarters.

Source: National Bureau of Statistics.

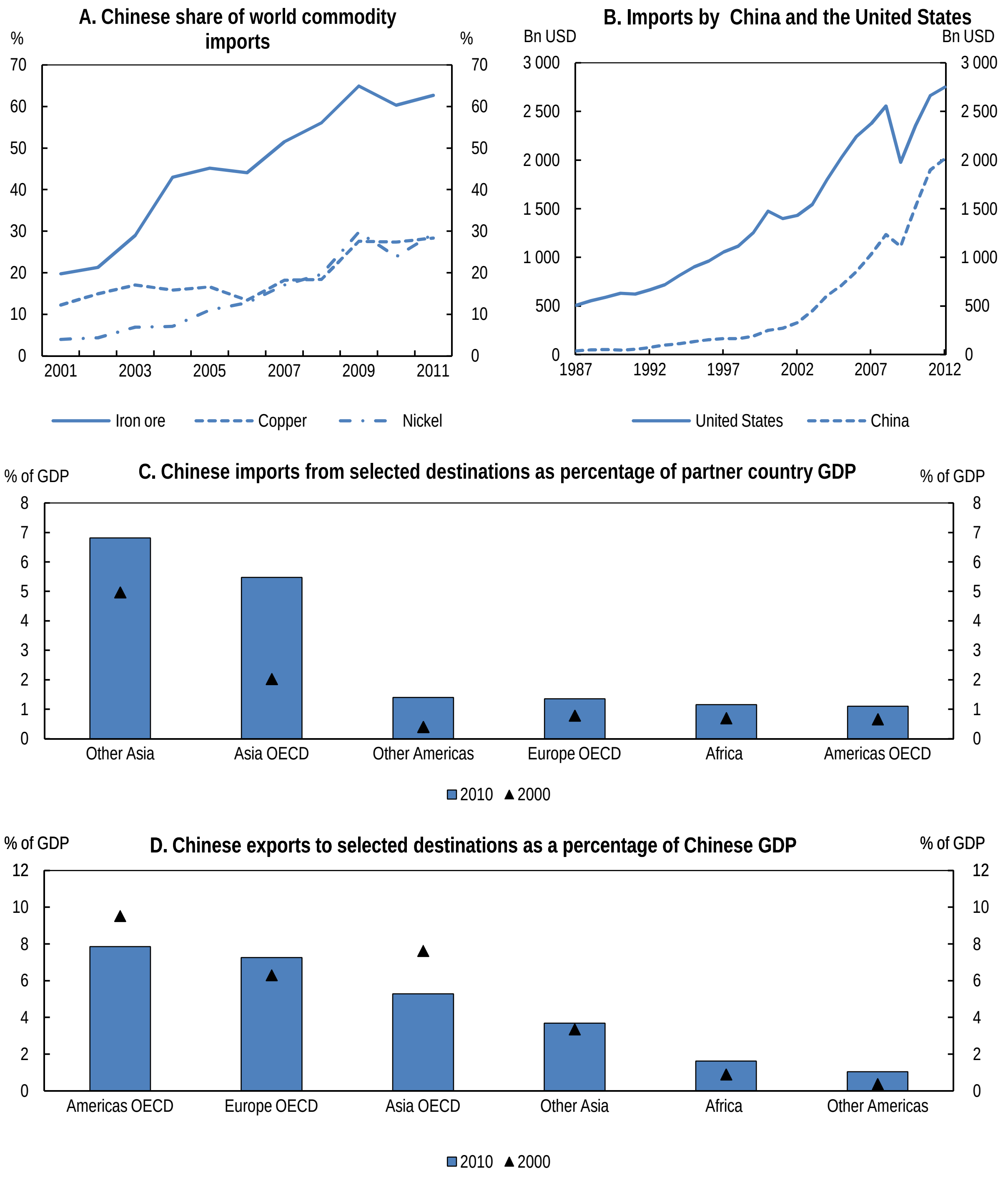
The export sector is extremely concentrated in China's coastal areas. Just 20 of the over 330 prefectures, accounting for only 13% of China's total population, produced three-quarters of total exports in 2010. Enterprises in these areas rely heavily on workers who moved to these cities from other parts of the country and so the rapid rise in real wages has weighed on profit margins and slowed export growth. Indeed, growth in the top 20 exporting prefectures was nearly four percentage points lower in 2008-11 compared to their average growth rate in the seven years after WTO entry, with particularly sharp falls in 2011.

The economy slowed down but a recovery is under way

With such strong headwinds, GDP growth fell to 7.8% by 2012 and the economy is now running below potential. The sharp deceleration has facilitated disinflation: by the fourth quarter of 2012, annual consumer price inflation had fallen to 2%. Employment has continued to rise but unemployment in urban areas, which was already high in 2011 at around 6½ per cent (as measured by the national labour force survey), has risen further in 2012, to around 7%. Youth unemployment is up sharply, notably due to the mismatch between the type of jobs offered to new graduates and their expectations. The jump in the numbers of new university and college graduates in the past five years is depressing the starting salaries they are being offered, which according to employment agencies are now approaching the pay levels of far less educated migrant workers. The wage gap between college and university graduates and technical school graduates showed some signs of peaking as early as 2008, after a steady increase in the previous decade as market forces were allowed to operate in the labour market (Meng *et al.*, 2012).

The slowdown in activity has also had major international spillover effects on countries such as Australia, Indonesia and Brazil by pressing down the demand and price of raw materials, since for many of them China accounts for a large and growing share of world demand (Figure 10). By 2010, exports to China represented 3% of world GDP outside China, up from 1% a decade earlier. The linkages are strongest in Asia, where exports to China are equivalent to around 5% of GDP, with Korea at 11%, Malaysia at 10%, and Thailand and Vietnam both at 7%.

Figure 10. China's growing importance to other economies



Note: Americas OECD covers Canada, Chile, Mexico and the United States. Asia OECD covers Australia, Japan, Korea and New Zealand.

Source: United Nations Comtrade database, Datastream.

Growing trade integration has increased the exposure of its trading partners to changes in demand in China. The import content of consumption is relatively low, implying that changes in consumption do not spill over much across borders. A change in investment, though, has a greater impact on the rest of the world: a 1% decline in fixed capital formation (equivalent to a 0.34% decline in total demand in China) is estimated to lower GDP in some G20 countries – notably Japan and Germany – by over 0.1% (Ahuja and Nabar, 2012). Growing trade integration is also contributing to the renminbi's increasing role as an anchor currency in Asia, discussed below (Subramanian and Kessler, 2012).

In the face of a pronounced slowdown, the authorities began to ease the macroeconomic policy stance from around mid 2012. The policy interest rate was cut in July, and the central government has been encouraging the frontloading of infrastructure spending. National government expenditure has been rising fast lately, far outpacing nominal GDP, leading to a slight deficit in 2012. This is justified in the current context but would push government expenditure above the levels seen in countries at a similar level of economic development if continued for much longer.

Against this backdrop, growth is projected to pick up. The underlying increase in the demand for housing is beginning to show through again, now that the impact of restricting purchases of second or third properties has been fully felt. Moreover, banks have been asked to lower interest rates for first-time buyers and outlays under the government's social housing programme have been growing. So far the increase in property demand has not jeopardised the government's aim of stabilising housing prices. The pick up in business investment also seems likely to continue as profitability is restored, market interest rates fall and credit availability improves. However, by past standards, export growth is set to remain subdued. As a result the upswing may be relatively sluggish compared with China's earlier experience, with growth not exceeding 9% during the next two years. Inflation seems likely to ease back further given persistent excess capacity. There is some uncertainty about the extent of slack in the economy and the pace at which the economy can grow. The rapid increase in the capital stock since 2009 has lowered total factor productivity gains as a larger-than-normal share of investment was in low-yielding infrastructure, but this may be a transient effect.

A risk to the outlook, on the domestic side, is that inflation, including for property prices, would shoot up in response to rising demand. This is especially of concern if the estimate of potential growth underpinning the OECD projection were too high. Signs of renewed overheating would warrant a tightening of the monetary stance. That said, the risk of another property price upsurge would be best warded off by relaxing the restrictions on land supply in the areas where demand is strong (see below). On the external side, a prominent risk stems from worse-than-expected developments abroad, notably in the euro area, which is one of China's key trading partners. In this case, the appropriate response would be to lower interest rates.

Box 3. Main macro-structural policy recommendations

- Monetary policy can remain relatively accommodative in the near term but should be forward-looking and guard against inflation risks further out.
- Implement and closely monitor the effectiveness of the measures taken to deal with the off-budget liabilities of local government financing platforms and to prevent their further build-up.
- Substantially raise the annual quotas for new building land in areas where the cost of apartments is high, in order to guard against renewed pressure on property prices.

China's high growth can be sustained over the medium term

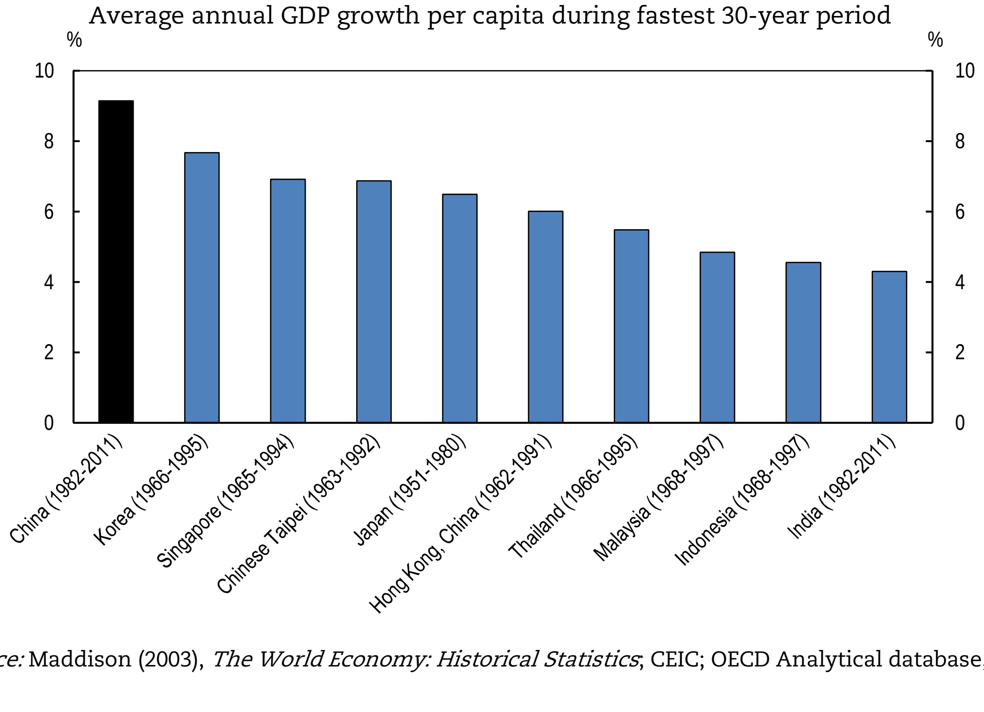
China's growth performance since the sharp acceleration in the early 1980s has been exceptional and has propelled it to become the world's second-largest economy. While trend growth is bound to slow gradually over time, China's rapid catch-up can continue during the coming decade if the reforms discussed below are implemented. Indeed, the Chinese economy is on course to become as large as that of the United States around 2016, when allowance is made for differences in price levels between the two countries by using purchasing power parity (PPP) rather than market exchange rates. However, China's income per head will be only one-quarter that of the United States in 2016. Even so, by 2020, China may have become a moderately prosperous society and a high-income country on the World Bank definition (around USD 12 500 in 2011 prices). For growth to be sustainable and to contribute as much as possible to citizens' wellbeing, however, it needs to become more inclusive and greener, as discussed below.

China's achievements have been underpinned by vigorous growth outside agriculture

The Chinese economy has expanded at an average annual rate of around 10% over the past three decades, even faster than other high-performing, rapidly-industrialising Asian economies during their long growth spells (Figure 11). This has delivered major improvements in living standards. Based on the World Bank's classification, China recently graduated from lower to upper middle-income status. By 2012, GDP per capita, on a PPP basis, likely exceeded USD 9 000. A growing emphasis on improving access to health and education as well as high investment in infrastructure have helped spread the benefits of growth nationally including in rural areas, where incomes have enjoyed consistently strong gains.

Figure 11. High-growth spells compared

Average annual GDP growth per capita during fastest 30-year period



Source: Maddison (2003), *The World Economy: Historical Statistics*; CEIC; OECD Analytical database,

Table 4. Growth accounting[1]

Average annual rate of change, in per cent

	1996-2001	2001-06	2006-11
Actual growth			
Capital	10.5	12.9	13.9
Labour	1.3	3.4	2.8
Output	8.9	10.9	10.7
Contribution to growth			
Capital	5.3	6.5	6.9
Labour	0.6	1.7	1.4
Productivity	3.0	2.8	2.3
Share of growth			
Capital	59.0	59.1	65.0
Labour	7.2	15.3	13.1
Productivity	33.8	25.5	21.8

1. For output outside agriculture and housing (as the output of the housing sector is poorly measured in Chinese national accounts), figures are calculated from log differences multiplied by 100.

Source: OECD calculation.

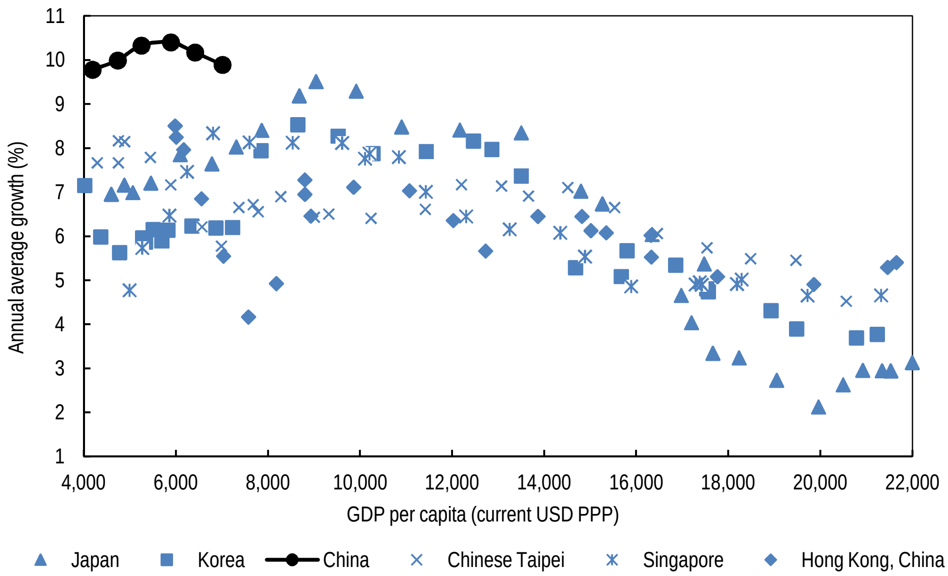
High GDP growth has been underpinned by a rapid and sustained expansion in industry and services, where high profits are largely reinvested. In contrast, excess labour remains in agriculture, which still employs 35% of the labour force, and where the marginal product of an extra household member is virtually nil. In the decade to 2011, non-agricultural growth averaged just under 11%. This performance was mainly driven by ever-more rapid capital accumulation (Table 4) – though there is considerable uncertainty about exact magnitudes in the absence of official capital stock data. The quality of investment appears quite good insofar as marginal returns to capital are quite high. There is also evidence that investment is allocated to areas where profits are highest, at least in industry, where the growth of the capital stock correlates well with the rate of return in previous years (Simons, 2013). The only exception is in electricity generation where the capital stock has continued to grow despite poor returns, presumably as producers expected regulated prices to be raised eventually.

Employment growth picked up in the early 2000s with the large influx of labour from the countryside, though it subsequently slowed a bit. The contribution of total factor productivity gains to overall growth has steadily declined over the past three five-year periods. In the second half of the past decade, this may partly reflect the spurt in infrastructure spending in 2009-10. Such outlays generally only generate paybacks over the longer term or are in areas where not all of the benefits show up in GDP – as is the case for toll-free roads or loss-making high-speed trains.

The economy will gradually slow but high growth can be maintained for some time

As China reduces the gap in GDP per capita with the leading OECD economies, opportunities for technological catch-up and returns from capital deepening are set to diminish, damping longer-term growth (Eichengreen *et al.*, 2012). The progression from middle to high income – based on the World Bank's typology – is not assured (Felipe *et al.*, 2012; Berg *et al.*, 2012). However, one-quarter of the current OECD membership, including the Czech Republic, Korea and Poland, have made that transition, as have Chinese Taipei; Hong Kong, China; Singapore and Macao, China.

Figure 12. Growth pathways in selected East Asian economies



Note: Growth rates calculated as ten-year moving averages of annual observations. Each point for a country advances the ten-year moving average of the growth rate by one year. The starting points for the ten-year averages are as follows: Japan (1951), Korea (1970), China, (1999), Chinese Taipei (1967), Singapore (1961), Hong Kong, China (1961). The income level for each point is the income level at the mid-point of the moving average.

Source: Penn World Tables and OECD calculations.

In many ways China's economic progress has mirrored the earlier take-offs of Chinese Taipei, Korea and Japan, or the city-size economies of Hong Kong, China and Singapore. In each of these, rapid catch-up was driven by strong investment in physical and human capital, a dynamic and competitive export sector and a commitment to sound policy including prudent macroeconomic management. High growth was maintained for many years and only began to slow much at relatively high income levels (Figure 12). There is significant scope for further catch-up in China, China has a strong record with respect to several of the key factors for sustaining growth and is well positioned to emulate the record of earlier stellar Asian performers. Recent OECD simulations suggest that China could maintain high, though gradually easing, growth during the current decade, averaging 8% in per capita terms (OECD, 2012d).

Continued migration of labour from agriculture will support productivity growth

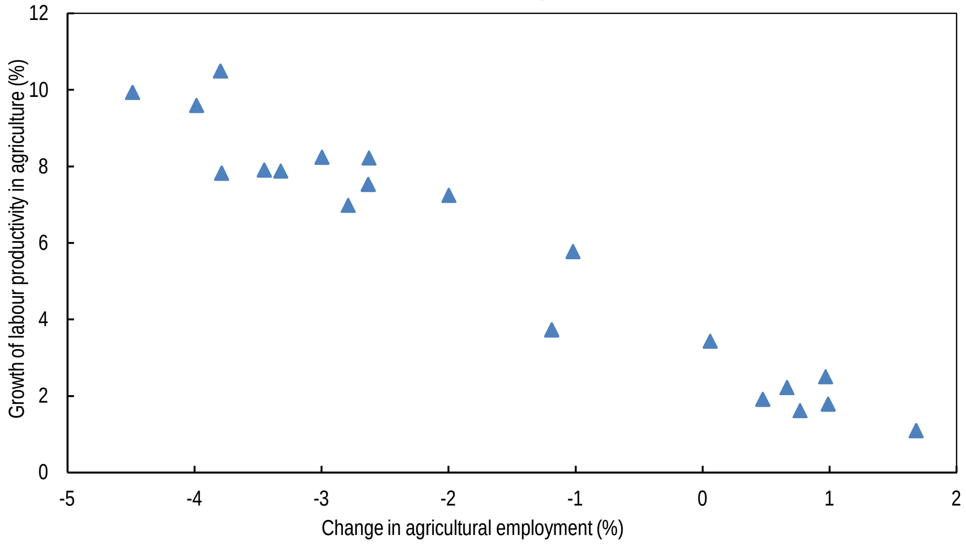
Over the medium term, demographics will switch from supporting growth to acting as a drag, as the working age population starts to decline and the population ages. Over the past three decades declining fertility and slower population growth supported high economic growth as the dependency ratio fell and the saving rate rose. The fertility rate, at around 1.5, is now well below the replacement rate, and is even lower in the most economically advanced parts of the country reflecting stricter enforcement of family planning policy in urban areas. Like in other industrialising countries, the fertility rate in the countryside is likely to fall due to rising incomes and labour force participation, higher education levels and increasing opportunity costs of child rearing. A marked fall in the proportion of women amongst younger cohorts in the next decade will also depress fertility and population growth. Over the longer term, the preference for male babies may fall as the education level of women increases and as the change in policy that allows a second child when the first one is a girl, starts to take effect. The share of the population aged 20 to 64 in the total population is expected to peak soon and the elderly dependency ratio will continue to rise, exerting downward pressure on saving rates (if the elderly in China behave as elsewhere in the world).

With slowing productivity, an already high investment rate and an ageing society, continued rapid growth in manufacturing and services will require further transfer of labour from the agricultural sector. Agricultural employment has been falling for a decade at an average rate of 3.5% annually, with massive migration from the countryside to cities. This fall in employment has not been accompanied by any fall in agricultural output, on the contrary (Figure 13). Continuing migration of workers out of agriculture will help boost farming profitability, leading to further gains from more mechanisation. In addition, some consolidation of farms into bigger units may occur provided that the laws governing the ownership of rural land-use rights are changed to allow the sale of use-rights and favour the rental market for agricultural land.

Further large economy-wide productivity gains are in store as urbanisation and the migration of labour from agriculture to higher value-added manufacturing and services proceed. One scenario would be for employment in agriculture to continue to fall at the same pace as during the five years to 2011. This would reduce the share of the labour force in agriculture to 12.5% by 2025, down from over half of total employment a decade ago. Such a massive reallocation of labour was in fact experienced in Korea during its period of rapid industrialisation from 1970 to 1990, and earlier on in Japan (Figure 14). It has also already been witnessed in China’s five most advanced provinces over the past two decades. In this scenario, the non-agricultural labour force would continue to grow at close to 2% a year, a solid, if slower, pace than in the recent past.

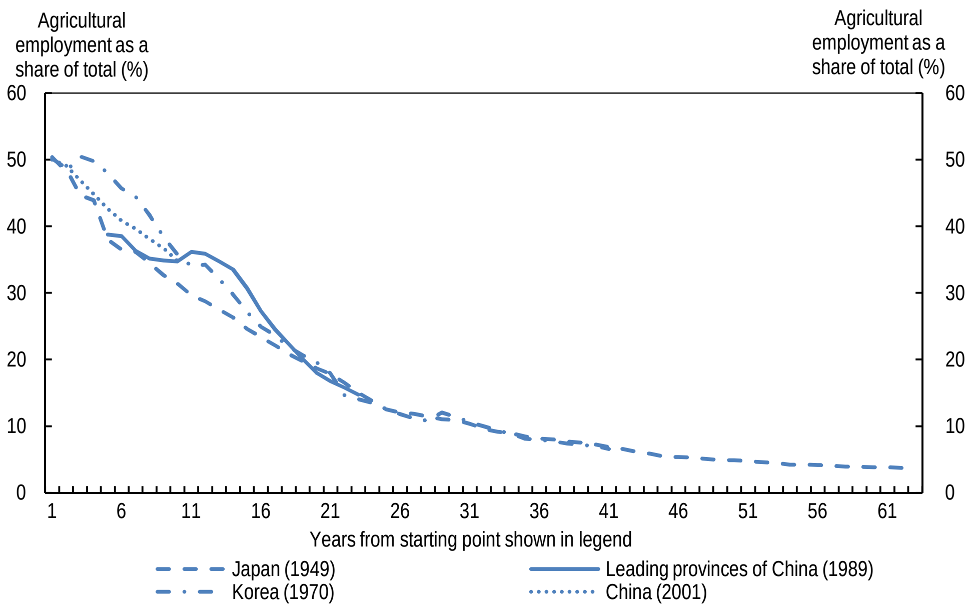
Figure 13. In agriculture, employment has declined and productivity has risen

Annual observations, 1991-2011



Note: The agricultural sector is defined here as including forestry and fishing.
Source: CEIC.

Figure 14. Fall in agricultural employment in East Asian countries and regions

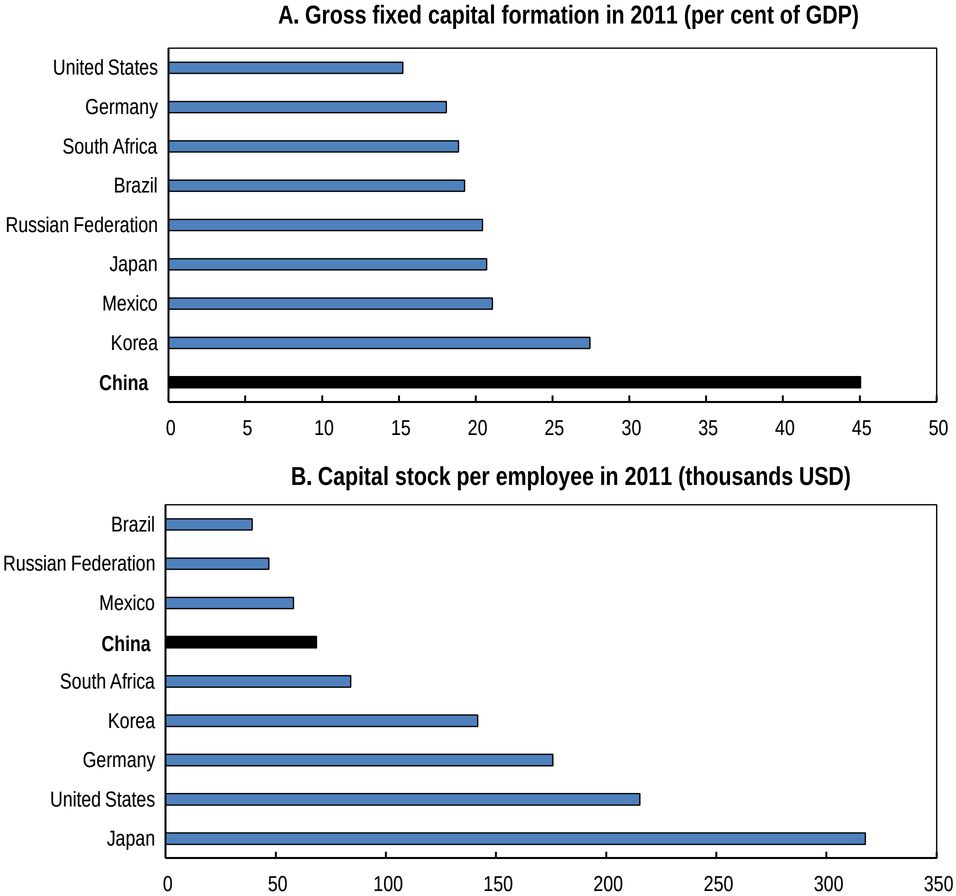


Note: The agricultural sector is defined here as including forestry and fishing.
Source: CEIC, *Korean Statistical Yearbook*, *Japan Statistical Yearbook*.

Further capital accumulation, as well as more education and innovation, will also support growth

Growth will also continue to be underpinned by capital deepening. The investment share is already high (Figure 15, Panel A). Indeed, on some estimates it may far exceed warranted levels (Lee *et al.*, 2012). Given also that domestic saving rates will probably ease back as the population ages, the investment rate seems unlikely to rise further. However, capital per head in China remains well below levels in advanced economies, though above those in some other large emerging economies (Figure 15, Panel B). In key infrastructure segments capacity lags behind. By the late 2000s the total length of paved roads in China was around half that in the United States, despite a comparable land area and a population more than four times larger. The total length of the railway network in China is even further behind, at around one third of the United States. Accordingly, returns to infrastructure investment may still be high. Despite strong investment in the property sector, per capita residential living space is still just only 20 m² (and lower on an internationally comparable basis), while large sections of the rural and urban populations live in sub-standard buildings. In sum, large unmet demand in a number of areas will require continued strong investment.

Figure 15. Investment is high but the capital stock per employee is still low in China



Note: The capital stock has been converted to constant 2005 international dollars using PPP for gross fixed capital formation.
Source: OECD.

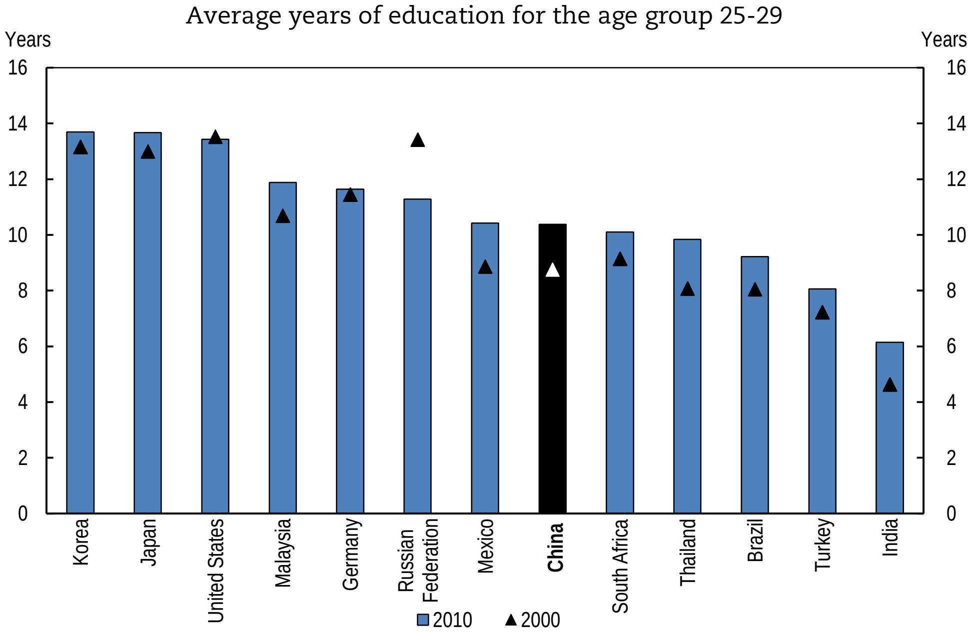
Notwithstanding a very high investment rate, profitability outside agriculture and housing has remained elevated by international standards: the estimated gross rate of return averaged 19% between 1992 and 2009 and the net rate of return 15%. This is probably a lower bound insofar as the capital stock includes assets in the government sector on which it makes no profit. The rate of return has been quite stable over time, though it has fallen in periods of slower growth. Other estimates confirm that the rate of return has been and remains high (Bai *et al.*, 2006; Sun *et al.*, 2011).

Housing and infrastructure investment seem likely to remain high for some time but the outlook for business investment depends on how profitability evolves. As noted, the labour supplied to the business sector is set to slow over the next decade, reducing profitability. In addition, overall productivity growth may well slacken as GDP per capita grows, as has happened in other fast-growing economies. Against this backdrop, the nominal capital-output ratio may stabilise by around 2020 (OECD, 2012d). This would imply a fall in the investment share. With employment stabilising and the growth of both productivity and capital per worker slowing, per capita GDP growth could slacken to under 7% by 2020.

However, other scenarios are possible. A much greater increase in the capital stock might be required to reduce the rate of return on capital to levels found in developed countries. This would be especially the case in the non-state sector of the economy, where rates of return are higher. Employment in the business sector might expand faster than suggested by overall demographic considerations. In such a scenario investment would be higher and growth stronger. Indeed, the superior performance of the Chinese economy compared with other East Asian economies when the latter were at a similar stage of development (Figure 12), suggests this could be the case.

Figure 16. Human capital is catching up

Average years of education for the age group 25-29



Source: Barro and Lee (2011).

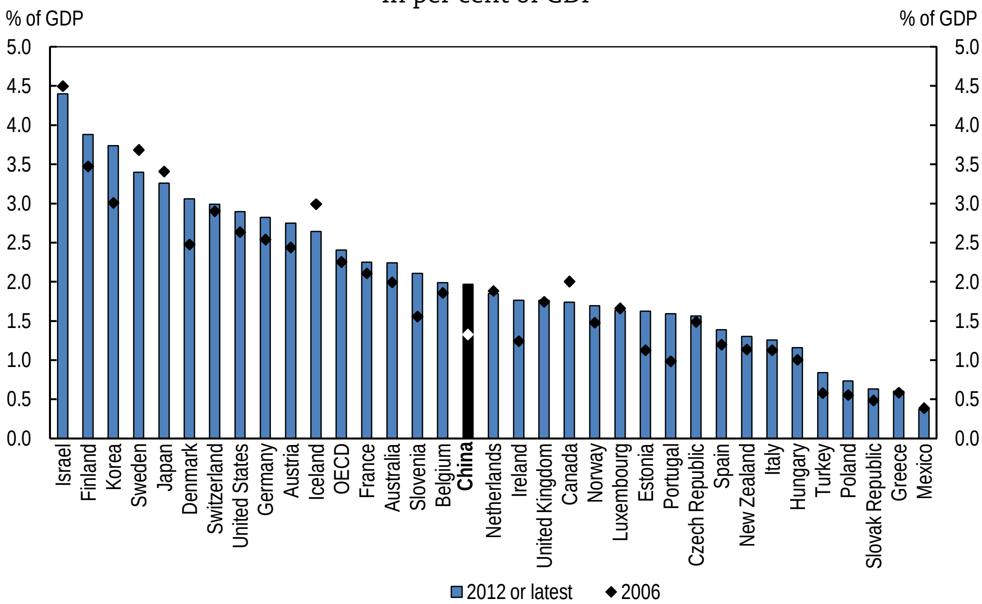
Educational attainment continues to progress rapidly and average education levels across the population are now comparable to other upper-middle-income countries (Figure 16). Growth will be driven by further increases in educational attainment. Education up to the junior high school level, which involves nine years of schooling, is compulsory and since the late 2000s has been free of charge. This has helped ensure that the completion rate for this type of schooling is now reaching universal levels and is pushing up participation at higher levels of education. Upper secondary school completions rates are on the rise and the number of students enrolled in higher education institutions almost tripled through the 2000s.

The government plans to ensure that all children receive 12 years of education by 2020. Over time, this rising participation in higher education of younger cohorts will ensure that average education levels amongst Chinese workers will increase and the gap with advanced economies narrow further. Moreover, on some measures, the quality of higher education is improving: 26 Chinese universities now rank in the top 500 worldwide when judged by faculty performance (Shanghai Jiao Tong University, 2012).

Innovation capacity is also expanding strongly. Research and development (R&D) spending more than doubled in the second half of the 2000s and reached almost 2% of GDP by 2012 (Figure 17). The Medium and Long-Term National Plan for Science and Technology aims to lift it to 2.5% of GDP by 2020. In absolute, PPP, terms Chinese expenditures are second only to the United States, while China is home to one of the largest R&D workforces. The business sector has always accounted for the largest share of R&D spending in China, though this reflects the key function played by state-owned enterprises (SOEs), with barely over a third of the spending by large and medium enterprises undertaken by private mainland firms or non-mainland or joint venture companies.

Figure 17. Spending on research and development

In per cent of GDP[1]



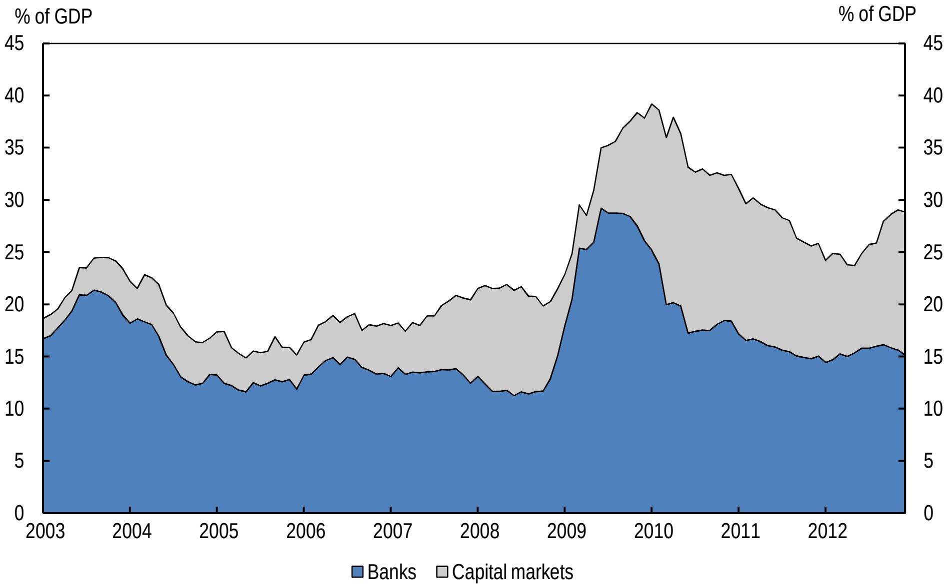
1. Data for China refer to, for Canada to 2011 and for other countries data refer to 2010.

Source: OECD.

Further financial sector reforms are underway

With high investment underpinning rapid growth and a large share of investment undertaken by SOEs, a financial system that allocates capital efficiently is essential. The role of capital markets in the financing of the business sector has increased over the past decade, as underlined in the chapter on financial reforms in the 2010 *OECD Economic Survey of China*. After a pause during the initial phases of the global financial crisis, the share of capital markets in total financing flows rose anew and by late 2012 it exceeded 40%, double the share in the five years before the start of reform in 2007 (Figure 18).

Figure 18. Composition of financing flows



Note: The total financing flows from capital markets is the sum of the change in entrusted loans, trust loans, bankers' acceptances, notes, bonds and equities. The flow from banks is the sum of the changes in domestic and foreign currency lending. The sum of flows from banks and capital markets is called "total social financing".

Source: CEIC.

Banks remain the key element in the Chinese financial system and have to conform to the new Basel III capital requirements by end-2018. The ratios are one percentage point higher for the systemically important banks, whose identity, however, has not been revealed so far. The major banks' capital ratios were already above the 2018 targets in September 2012. Moreover, as from 2013, the regulator will allow them to calculate risk weights internally, which may lift their capital ratios by one percentage point. However, stress-testing of the major banks points to vulnerabilities, with a medium-scale shock leaving half of them with a capital adequacy ratio below 12% (People's Bank of China, 2012).

Many new instruments have been developed. The short-term commercial paper market and the market for notes (bonds) with maturities of less than five years have taken off. The market for shorter-term securities is regulated and supervised by the central bank (People's Bank of China – PBoC), in contrast to the longer-term enterprise bond market supervised by the National Development and Reform Commission. In both markets, access is restricted to state-controlled firms with A or above credit ratings. The securities regulator (CSRC) has now opened a third channel for the development of bond markets by allowing the Shenzhen and Shanghai stock markets to list bonds from small or lower-rated companies. While the stock of bonds is still dominated by issuers linked to the central government, the stock of bonds issued by local government companies has grown rapidly, as has the stock of medium-term notes. The bond market is now the world's third largest but, in relation to GDP, it is much smaller than markets in most OECD countries.

Banks themselves have developed new products that offer savers higher rates of return by giving them access to capital markets. Notably, bank loans have been effectively securitised through a system known as "loan designation": investors specify the type of industry exposure they wish and set a required rate of interest and the banks then create a matching portfolio of loans. Other channels have included the use of trust banks in which the trust purchases securities for the investor. A number of products allow investors to obtain a return higher than the regulated deposit rate or firms to borrow below the regulated rate. These instruments were particularly popular in 2010-11 when tighter monetary policy drove market interest rates well above benchmark rates.

The popularity of these products led to some attempts to discourage their use, as the regulatory authorities feared that the stability of banks would be undermined by off-balance-sheet lending. This issue remains a concern as many of these instruments (known collectively as wealth management products) display a mismatch between the maturity of their liabilities to the public and their assets. In addition, in some cases the assets consist of loans to just a few companies. Rules on maturity mismatch and risk diversification need to be strengthened for these products. The process of liberalisation continued in 2012, with the PBoC granting banks greater leeway in interest rate setting by allowing their loan and deposit rates to differ more substantially from the regulated rates. This was in part to avoid clients with the best risk-profile raising money from the market rather than banks, at the expense of the quality of banks' portfolios.

The government has launched pilots in the city of Wenzhou and the province of Guangdong to ease the provision of finance for small and medium-sized enterprises and formalise local non-bank credit channels. Existing informal lenders can acquire formal status if they do not lend more than three times their own equity, do not charge more than four times the PBoC benchmark rate and do not take deposits from the public. So far, the lending is short-term and tends to be secured with a mortgage on residential property belonging to the borrower. These non-bank lenders could eventually become village-level banks.

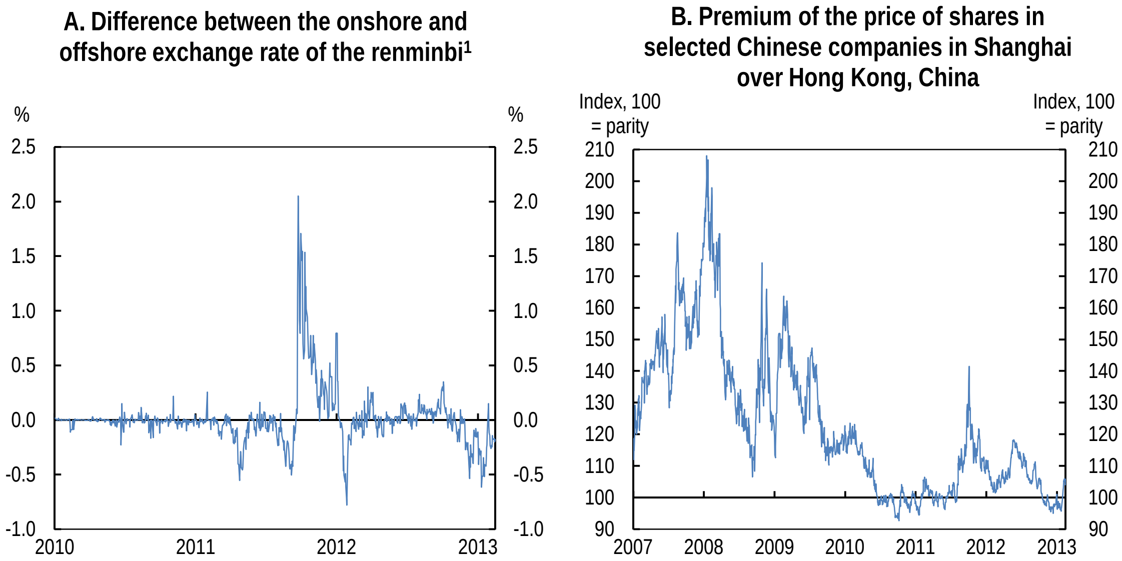
On the external side, controls on capital movements are being eased. Restrictions on the use of the renminbi by foreigners and by Chinese companies abroad have been relaxed. In 2009, companies in selected geographic areas in China were allowed to use the renminbi in trade-related transactions in Hong Kong, China. This led to the development of an offshore market for renminbi bank deposits in Hong Kong. The range of companies allowed to operate in this market was gradually widened. In early 2012, all restrictions on domestic companies using the market were removed and later in the year all restrictions on the opening of renminbi deposit accounts that applied to non-residents were abolished. As a result, the proportion of Chinese current account transactions settled in renminbi rose sharply, to 9.5% in the first three quarters of 2012. Nonetheless, the renminbi is still only the 17th currency in terms of the total value of cross-border transactions, representing only 0.5% of the value of all transactions through SWIFT.

Transactions in renminbi have also been facilitated by the creation of the China International Payments system, which links directly with SWIFT, the worldwide interbank transmission system. Two additional small offshore markets have sprung up, in London and Singapore. Around three-quarters of international payments in renminbi transit through Hong Kong, with the remainder paid directly to mainland Chinese banks (SWIFT, 2012). While these changes have generated a liquid offshore market for the renminbi, banks are still restricted in their ability to lend money back into mainland China. Indeed, bank renminbi holdings in excess of lending to non-Chinese clients must be deposited at the Bank of China which in turn deposits the money at the PBoC. Japan's 1980s experience when it tried to increase the settlement of its trade in yen suggests that allowing increased reflows of offshore deposits will be crucial to foster the international use of the renminbi.

Restrictions on capital account transactions have begun to be loosened. The quota for investment in the Chinese stock and interbank bond markets has been raised to USD 80 billion, though it had not been allocated to individual qualified institutional investors by late 2012. In addition, the Hong Kong subsidiaries of qualified Chinese asset managers can apply for permission to use a quota of offshore renminbi for investment in mainland equity and bond markets, up to CNY 200 billion (around USD 30 billion). In combination, these two schemes represent 4.5% of the current value of negotiable shares on the Shanghai and Shenzhen stock markets. The major channel for foreign investment in the Chinese market is the Hong Kong stock market, where the value of mainland shares is equivalent to almost one-third of the market capitalisation of the Shanghai and Shenzhen stock markets. It is now possible to finance direct investment in China with an offshore renminbi loan. The amount of capital inflow allowed is still small relative to the size of domestic markets. Foreign investors can also invest in the very small issuances that have been made offshore. Greater opening of the longer-term bond and equity markets could help achieve the government objective of liberalising capital transactions, with limited risk of outflows. In addition, the authorities have greatly reduced the controls over domestic companies wishing to invest abroad and outflows of direct investment have surged.

Two indicators point to a considerable amount of *de facto* capital account convertibility. As liquidity in the offshore renminbi market has increased, the difference between the exchange rate for offshore and onshore renminbi against the US dollar is generally very low (Figure 19, Panel A). Another indicator is the difference in price of Chinese company shares quoted both in domestic markets and in Hong Kong. While in mid 2009, prices for the same share were 30% higher in Shanghai than in Hong Kong, this difference has now almost vanished (Panel B). However, *de jure* non-convertibility is still evident when markets are under stress: in September 2011, when perceived risks in Europe worsened, investors liquidated positions in the offshore renminbi market, providing an arbitrage opportunity for mainland borrowers which the authorities blocked, thereby creating a differential between the domestic and offshore markets that spread to the equity market (Cockerell and Shoory, 2012).

Figure 19. Evidence of *de facto* capital account convertibility



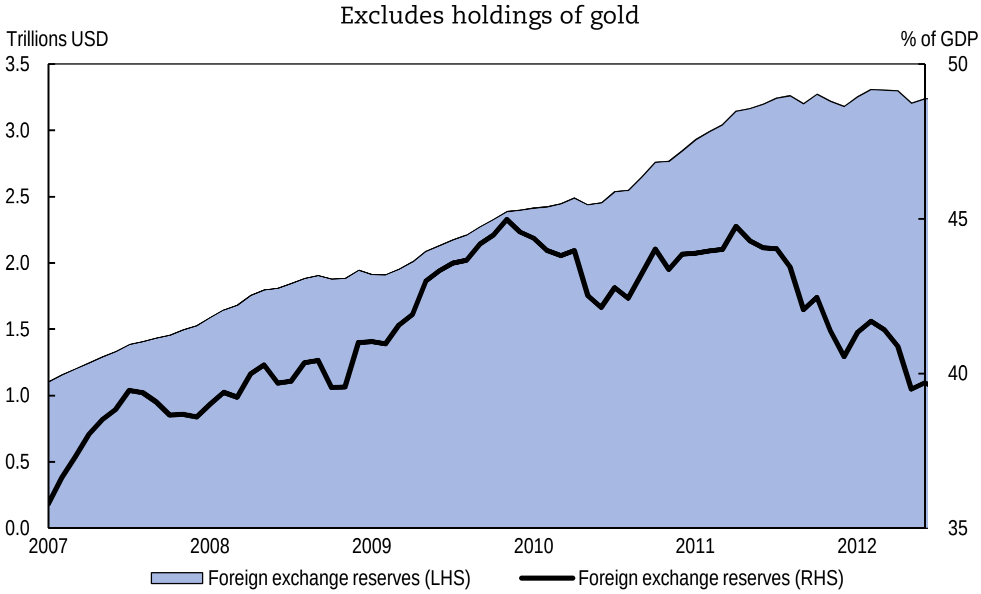
1. The offshore market for the renminbi has existed since 2010. Prior to that date, an offshore futures market for the renminbi existed, but transactions could not be settled in renminbi. Any difference in value of the contract was settled in dollars.

Source: Datastream.

With the decline in the current account surplus and the growth of direct investment outflows, conditions in the foreign exchange market have changed markedly. In April 2012, the PBoC announced that the intra-day range for the movement of the exchange rate against the dollar had been widened to ±1% around the initial fixing price announced by the PBoC at the opening of the trading session. This signalled a move towards a more market-determined exchange rate regime. In the process, the accumulation of foreign exchange reserves essentially came to a halt in 2012, with the value of reserves ceasing to grow somewhat earlier due to valuation changes (Figure 20). Since then, their level has hovered around USD 3.1 trillion, by far the highest worldwide in absolute terms but only the 17th highest relative to GDP at the end of 2011.

Figure 20. Official foreign exchange reserves

Excludes holdings of gold



Source: CEIC.

Overall, China has continued to move towards a more market-based system despite a turbulent international financial environment. The official objective is to further enhance the role of the market in channelling financial resources to the economy. The government expects that bond and equity financing will represent 15% of total financing flows ("total social financing") by 2015, against 11% in 2011. Banks are to receive further degrees of freedom in interest rate setting. In a change of policy the government will actively encourage financial institutions covering more than one activity, subject to firms having clear strategies and effective risk control systems. Financial sector regulation is to be eased further, notably as regards capital account transactions. However, a careful sequencing of reforms is necessary. Domestic reform of the banking system should come first with deregulation of bank deposits and lending rates. Only when this has been achieved should the capital account be fully liberalised in order to avoid the creation of arbitrage opportunities. Greater exchange rate flexibility is envisaged, though without any specific targets. The presumption that such flexibility would result in a marked appreciation of the currency has withered, as foreign exchange markets are now closer to balance. Greater flexibility would enhance the effectiveness of monetary policy. Other key goals include establishing a deposit insurance system and creating a mechanism for resolving failed financial institutions. Last but not least, co-ordination between the financial regulators is to be improved.

Box 4. Main recommendations on financial sector reform

- Strengthen the rules on maturity mismatch and risk diversification for wealth management products.
- Continue to move to market-determined interest rates by progressively widening the allowable margin around the regulated rate.
- Align the regulation of bond markets for maturities of over five years with the practices of the market for shorter maturities.
- Progressively increase the quota for inward investment in equities and long-dated bonds.
- Allow greater use of offshore renminbi deposits in mainland China.
- Allow for greater exchange rate flexibility.

Strengthening innovation and competition is essential for sustaining growth

Market competition and innovation capacity are essential for lifting productivity and therefore for long-run economic performance and wellbeing. Competition helps promote efficient resource allocation and spurs firms to engage in costly R&D. Innovation can boost productivity through the accumulation of intangible assets: knowledge-based capital accounts for a rising share of business investment in China, as it does in a number of OECD countries (Hulten and Hao, 2012; OECD, 2012a). As the economy matures and opportunities for technological catch-up diminish the importance of innovation capacity will rise.

Competition and innovation, including greener modes of production and consumption, may also aid economic rebalancing (OECD, 2011b). Green innovations have already supported environmental improvements in China, notably through the rapid expansion of renewable energy. There remains tremendous scope for further gains. While multinational corporations continue to play a key role in the development of leading export sectors and facilitating the diffusion of advanced technology from abroad, Chinese policy is increasingly focussed on promoting indigenous innovation capability and lessening the reliance on foreign technology.

Liberalisation has enhanced competition

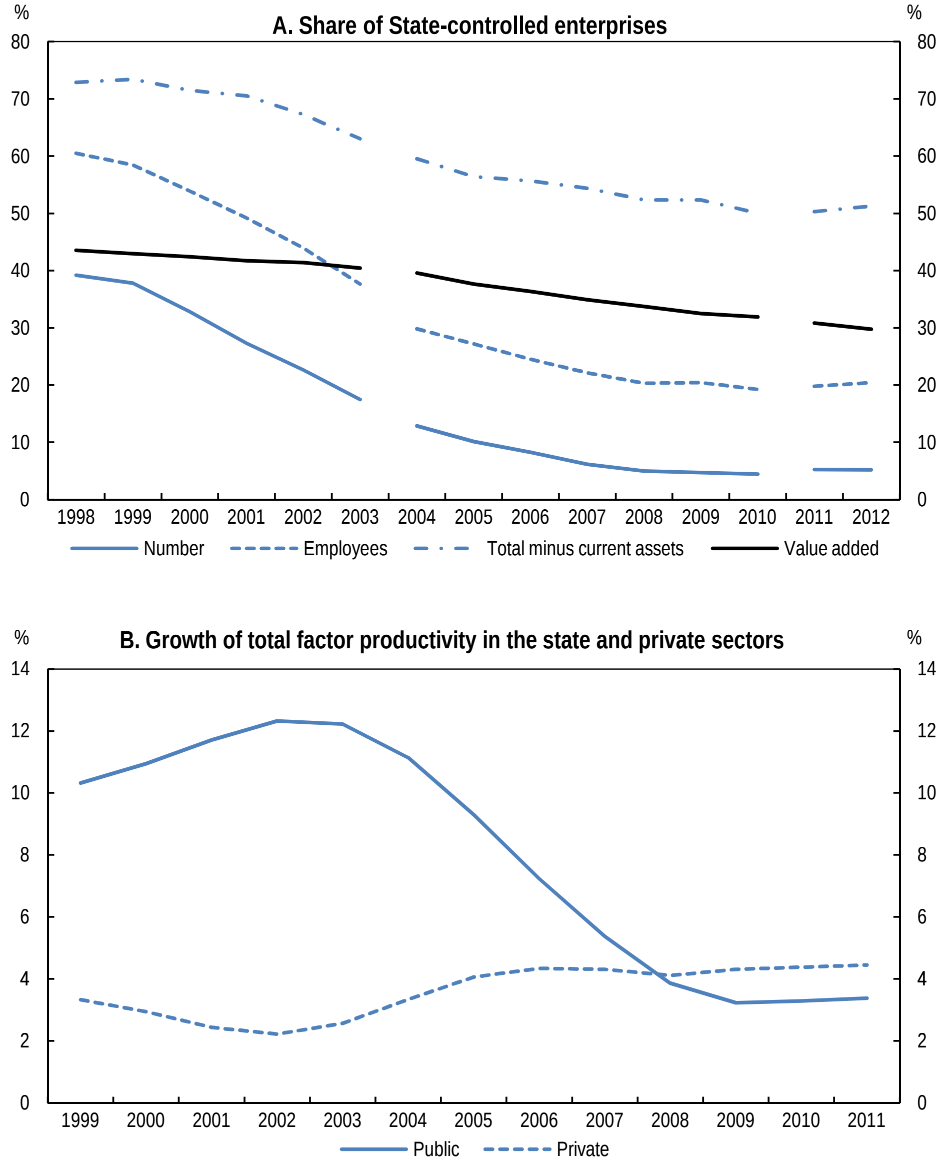
A long-standing commitment to liberalisation has allowed market forces to play a primary role in allocating resources in the Chinese economy for some time, as documented in the chapter on product market regulation in the 2010 *OECD Economic Survey of China*. Prices for most goods are market determined, with direct price regulation and price guidance now limited to some forms of energy, water and a very small proportion of retail goods. A modern competition policy framework has been established, underpinned by the 2008 Anti-Monopoly Law (AML) and more recent complementary regulations. This provides enforcement authorities with a comprehensive legal basis for addressing anticompetitive agreements, abuse of market dominance, anticompetitive mergers and administrative monopolies. Trade barriers are generally low and the dispersion of tariffs moderate. Empirical evidence shows that trade liberalisation and other reforms aimed at enhancing competition, including product market liberalisation, have boosted productivity in China (Bas and Causa, 2013; Zheng and Ward, 2011).

However, economic liberalisation has lost momentum in the past four years. The reduction in the size of the state-owned sector came to an end in 2008. Since then, employment in state-controlled enterprises has stabilised as has the number of enterprises (Figure 21, Panel A). Even so, the value-added of private sector enterprises has continued to grow more rapidly than of state-controlled firms. By mid 2012, the stock of their assets was on a par with that of the state sector, while they accounted for 80% of industrial employment. SOEs still account for a larger share of value-added than of employment, reflecting much higher capital per employee.

Back in 2000, total factor productivity was six times lower in SOEs than in the private sector (OECD, 2010a). SOE restructuring a decade ago helped boost efficiency, as did privatisation. Private sector productivity accelerated around 2003 as foreign firms entered the market, and even as the pace of restructuring in state-controlled firms slackened. The slowdown in total factor productivity outside agriculture in the five years to 2011 can be ascribed, in part, to the interruption of SOE restructuring.

Progress with liberalisation has generally been sluggish in other areas, including banking where the four very large state-owned commercial banks accounted for around half of all banking assets in 2011 (CBRC, 2012). The state also retains control over the second-tier banks and other lending institutions and foreign ownership is restricted.

Figure 21. A comparison of the state and private industrial sector



Note: There are two discontinuities in the data series. The 2004 Economic Census brought to light a large number of hitherto unrecorded private sector companies. In 2011, the reporting threshold for industrial companies was raised from a turnover of CNY 0.5 million to CNY 2.0 million. These discontinuities have been controlled for in Panel B. The year-to-year growth in total factor productivity has been smoothed using a Hodrick-Prescott filter.

Source: OECD estimates based on data from CEIC on the main economic indicators of industrial enterprises.

The 12th Five-Year Plan foresees a growing role for the private sector, including via the promotion of private investment in sectors hitherto dominated by SOEs. Sector-specific guidelines calling for an opening to private capital were issued in 2010 and 2012 covering energy, finance, telecommunications, transport and others areas. While lifting restrictions, the guidelines lack detail on what forms of investment will be permitted and whether any other limitations might apply. These new arrangements need clarification and more generally further steps are called for to improve the business environment. In the World Bank's latest survey of 185 economies, China ranked 91st for ease of doing business, ahead of some other large emerging economies but far behind most OECD economies (World Bank, 2012). Reducing the time to register a new business is one area needing attention.

In order to stimulate private investment the authorities will need to proactively address any anticompetitive behaviour and strengthen institutional capacity to ensure effective enforcement. The effectiveness of the AML in promoting competition in China depends on how it is applied in practice. The authorities have begun to scrutinise mergers under the new framework and action has been taken against price collusion and other anti-competitive behaviour at the local level (Fels, 2012).

The 12th Five-Year Plan also identifies a number of strategic emerging industries which the government is actively promoting with a view to increasing their share in the economy to 8% by 2015. In the process, the government needs to avoid promoting "national champions" and instead focus on removing impediments to investment. Undue industrial policy activism would stifle competition and work against other government objectives, including promoting the role of private enterprise.

Furthermore, renewed action is needed in the state-controlled sector. Local governments still own scores of loss-making industrial companies that need to be rationalised. In addition, more SOEs need to be run as corporations and listed on stock markets, which will boost their productivity, as shown in the chapter on product market regulation and competition of the 2010 OECD *Economic Survey of China*. This holds in particular for railways, postal services, water and sanitation enterprises. As well, a vast number of semi-commercial activities are still part of ministries – especially in publishing, culture and sport. Over 20 000 SOEs are operating restaurants, hotels, wholesaling and retail stores, which could also be privatised.

As importantly, the corporate governance of the major central enterprises needs to be improved. A key challenge remains coordinating the multiple roles played by state entities – as shareholders, regulators and managers (OECD, 2011a). In particular, the opaque holding companies sitting between the listed SOEs and the government should become more transparent. Their listed assets should be split out from the holding company, which is generally the major shareholder of the listed company. Already in 2008, nearly 67% of the assets of centrally-owned SOEs were listed and they accounted for almost 90% of the after-tax profits of this sector. If the government became the direct shareholder of these listed companies (as is already the case with several major banks) then it would receive their dividends directly and transparency would be improved. The holding companies would then need to be restructured and their remaining assets eventually listed. While the overall corporate governance of the state-owned sector needs improvement, especially for the holding companies at the top the pyramid of SOEs, a few quoted SOEs have made considerable progress, with five of China's largest SOEs quoted in Hong Kong being rated as amongst ten companies with the best governance when judged by their compliance with the OECD *Code of Corporate Governance* (Hong Kong Institute of Directors and Baptist University of Hong Kong, 2012).

Expanding research and development

Strong R&D growth has led the number of patents granted to domestic inventors in China to more than triple between 2006 and 2011. Likewise, the number of scientific papers published by Chinese residents in domestic and international journals has soared in recent years. Even so, China still lags well behind OECD countries on innovation. One international benchmark is the number of patents registered simultaneously in the United States, Europe and Japan: China accounted for less than 2% of the global total in 2010. Within China, foreign companies are typically granted the type of patents associated with significant innovations while Chinese firms most often receive patents for incremental advances.

With innovation output continuing to lag the input of resources, further reforms are needed. Ensuring that funding is allocated efficiently and transparently is essential. Public funding allocation has not always followed best practice and has been skewed to favour particular initiatives or outcomes (Shi and Rao, 2010). As well, a balance must be struck between funding for fundamental research and supporting strategic initiatives: compared with OECD countries public R&D funding in China is heavily oriented towards applied research, suggesting that some rebalancing is needed towards cutting-edge research, as underlined in the latest OECD *Science, Technology and Industry Outlook* (OECD, 2012b).

Experience in OECD countries also highlights the importance of sound framework conditions for creating the right incentives and a supportive environment for innovation (OECD, 2010b). This includes a system of intellectual property rights (IPR) that balances the need to provide sufficient financial reward and protection for costly investments with the need to make new technology accessible to firms. China established an IPR framework consistent with international norms in tandem with WTO membership and the signing of the international agreement on Trade-Related Aspects of Intellectual Property Rights in 2001. Since then several amendments, most recently in 2009, have brought the framework into closer alignment with those operating in many OECD countries. While efforts to strengthen enforcement have also been stepped up, concerns remain over infringement, including software piracy and the production of counterfeit goods (Kassner, 2012). In recent surveys, foreign investors in China continued to voice concerns over IPR enforcement (AmCham China, 2012; European Chamber, 2012).

Nevertheless, there are indications that when aggrieved firms seek legal recourse over possible IPR violations, matters are often dealt with adequately. Responses from one survey of foreign businesses showed almost two-thirds of those who had taken action against infringements were satisfied with the level of co-operation with local officials and courts (AmCham China, 2012). An analysis of trademark infringement cases dealt with by courts in the coastal province of Zhejiang showed that rulings overwhelmingly favoured foreign firms (Snyder, 2012). Both foreign and domestic firms are making increased use of legal avenues to address infringement concerns. Indeed, it would appear that as domestic innovation capacity expands, local inventors and owners of intellectual property, particularly in high-technology sectors such as software, are seeking stronger legal protection (Suttmeier and Yao, 2011). Going forward, IPR enforcement should be further strengthened by raising awareness of laws and ensuring adequate penalties for infringements. Such moves will help promote the diffusion of foreign technology, through the continued presence of multinational corporations, and achieve the policy objective of creating a world-class domestic innovation capability.

Strengthening other framework conditions including governance, competition and access to finance, will also support innovation goals. Access to finance is especially a problem for SMEs (OECD, 2010a). Firm-level analysis from emerging economies underscores the importance of framework issues such as access to finance and competition in determining the pace of innovation (Ayyagari *et al.*, 2011). Indeed, in a survey of SME managers in China that examined the key institutional barriers to innovation, the top two responses related to problems in accessing finance and unfair competition (Zhu *et al.*, 2011). This holds back the ability of small firms to innovate and commercialise their new technologies. Recently, though, access to finance has been improving, with a rapid increase in bank lending to small and micro enterprises.

Box 5. Main recommendations to strengthen competition and innovation

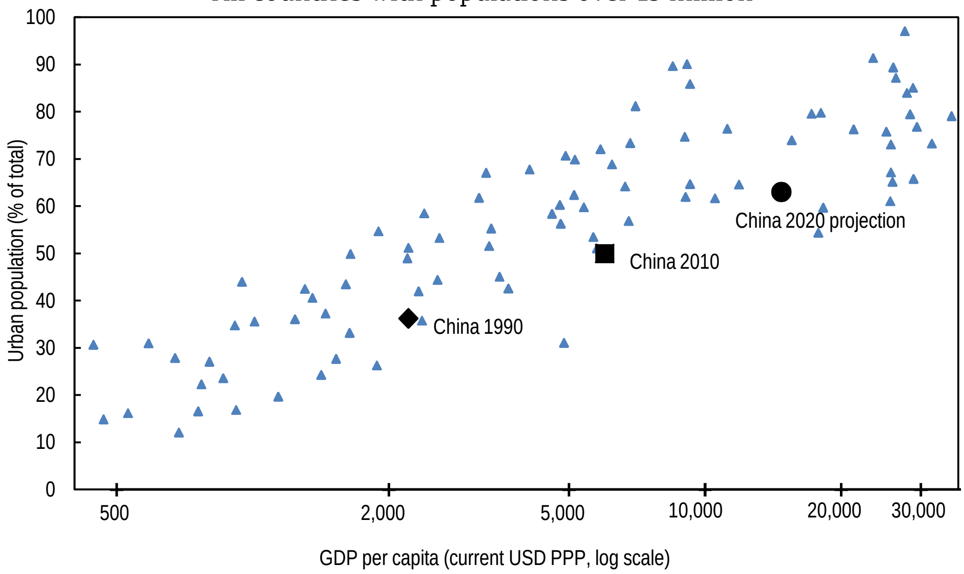
- Clarify rules concerning the opening up of new sectors to private investment, including of foreign provenance. Strengthen the business operating environment by reducing the time taken to register a new business. Avoid promoting "national champions" in new strategic sectors.
- Improve effectiveness of R&D spending by increasing the resources available to the agencies dispensing government funding and rebalance outlays towards fundamental research.
- Strengthen enforcement of intellectual property rights by raising awareness of laws and increasing penalties for infringements to ensure adequate protection to domestic and foreign innovators.

Further reforms for inclusive urbanisation

China's urbanisation was long held back by severe restrictions on land and internal migration but took off in earnest in the 1990s, as they were gradually relaxed. As a result, the urbanisation rate, which stood at 17% when economic opening up was initiated in 1978, reached 52.6% by 2012, and is expected to continue to increase. Even so, the urbanisation rate is on course to remain below the level associated internationally with China's per capita income (Figure 22). Moreover, the share of the population living in very large cities has risen considerably but is still low compared with other countries, as policymakers have traditionally favoured smaller cities.

Figure 22. Urbanisation and level of income worldwide

All countries with populations over 15 million

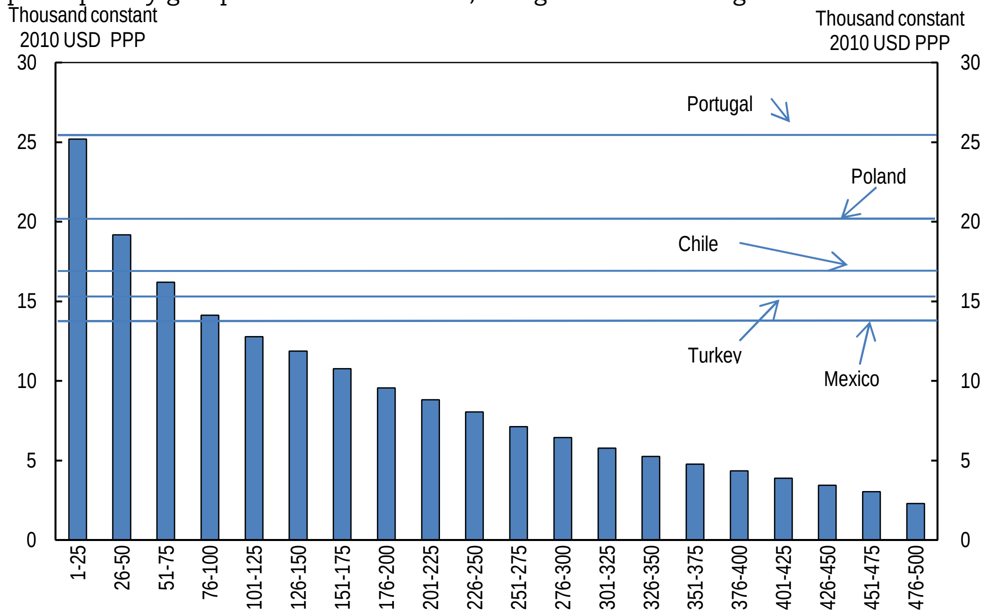


Source: World Development Indicators (IBRD); National Bureau of Statistics; National Population and Family Planning Commission (2011).

Urbanisation has been and will remain a powerful driver of growth and social change. Cities have expanded mainly via migration away from rural areas. Labour has thus been reallocated out of agriculture into higher-productivity sectors, and the concentration in urban areas has allowed the reaping of agglomeration benefits. In the process, living standards have improved rapidly: close to one quarter of China's population now lives in areas where income per head is at least as high as in Chile, Mexico or Turkey (Figure 23); and in China's richest 25 metropolitan areas (as defined in Herd *et al.*, 2013) GDP per capita is on average equivalent, in PPP terms, to Portugal's. Productivity tends to be higher in the large metropolitan areas, even though efficiency gains diminish beyond a certain size. At the same time, the departure of unproductive workers, plus remittances from migrants, have lifted per capita income in rural areas enough for the rural-urban income gap to have narrowed over the past decade (Box 2).

Figure 23. The largest 500 Chinese metropolitan areas by GDP per capita: international comparison

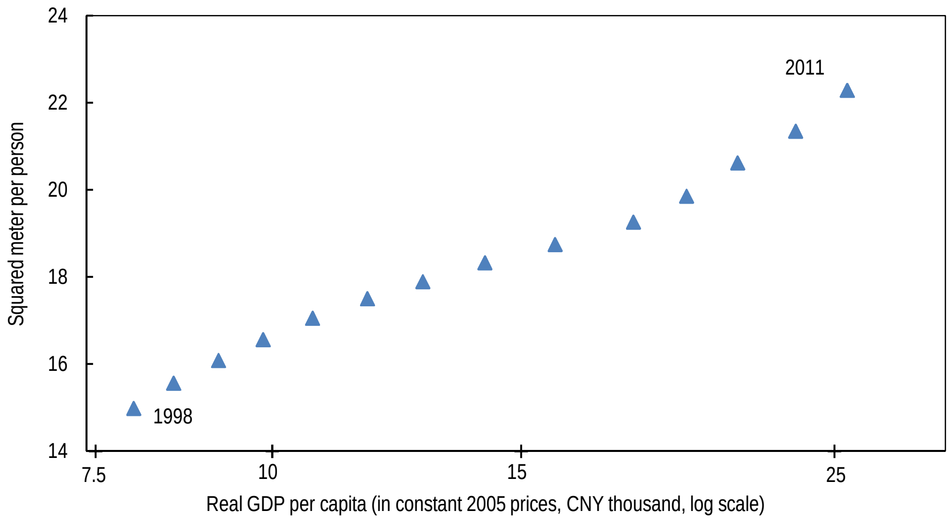
GDP per capita by groups of 25 cities in 2010, using the PPP exchange rate of the World Bank



Source: CEIC, National Bureau of Statistics*: City Statistical Yearbook;* Communiqués on 6th Census issued by local national Bureau of Statistics offices; *World Development Indicators* and OECD calculations.

While urbanisation brings considerable benefits, it also entails costs. One relates to congestion: the development of public transport infrastructure, while impressive, has not kept up with urbanisation. Cities also regroup numerous industries and generate more trips than rural areas, with deleterious effects on air quality. However, larger cities need not be more polluted than smaller ones. In fact, compact cities can help reduce automobile dependence and allow for more efficient energy generation and use, while carbon pricing, congestion charges and regulation can help address environmental concerns (see below).

Figure 24. Living space and GDP per capita



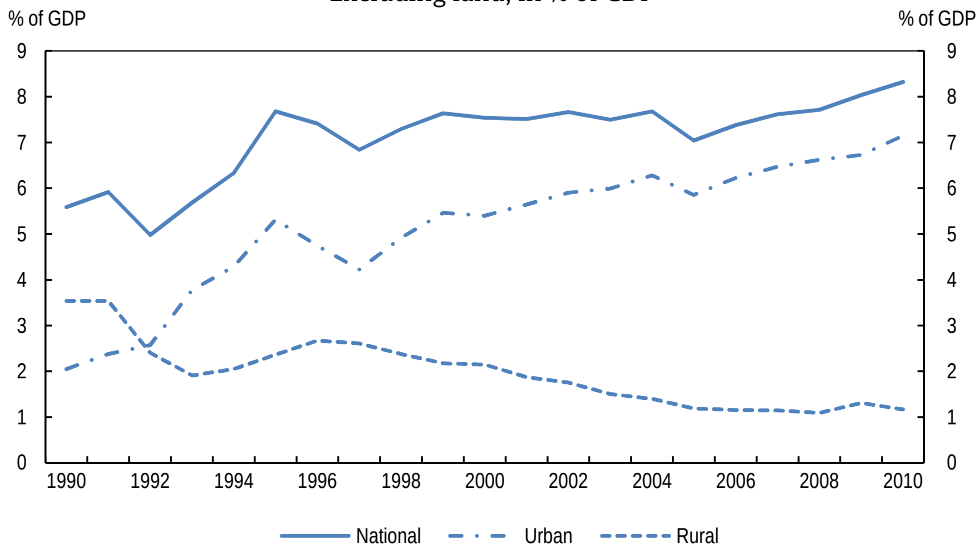
Source: CEIC, National Bureau of Statistics; OECD calculations.

Demand for living space has increased in lockstep with GDP per capita (Figure 24), though less than in other East Asian countries (Berkelmans and Wang, 2012), likely reflecting the exceptional scale of migration towards cities in China and migrants' lower demand for floor space. Concomitantly, population density has declined in a number of major urban areas – often from extremely high levels. Housing investment took off in the early 1990s, as land-use rights became marketable (Figure 25). The sale of these rights by specialised agencies set up by the local authorities amounted to over 7% of GDP in 2010, but only half of this represented revenue for the local authorities in 2009 (Table 5). The use of the other half often remains opaque. In particular, compensation payments for expropriated land are shown in official statistics as being far higher than the amounts received by farmers. By 2012, gross revenue from sale of use-rights had fallen to 5½ per cent of GDP. The property developers purchasing the land-use rights have to comply with a myriad of administrative procedures in order to start construction. At the same time, illegal construction on collectively-owned rural land has taken place on a large scale, leading in some cases to expropriation and demolition.

The total number of rural migrants living in urban areas is estimated at around 275 million in 2010, *i.e.* one fifth of China's total population. The vast majority of them have no official registration (*hukou*) in their place of residence. Therefore, they do not enjoy the same social entitlements as local *hukou* holders, nor do their families, even if the rules governing migrants' access to schools, health care and pensions have begun to be relaxed in recent years in a number of cities. In Shanghai, for example, some 70% of migrant children now receive free compulsory education in state schools. However, progress has been more modest regarding access to senior secondary school and university, where registration remains a barrier, *de facto* if not *de jure*. Here, Fujian province stands out, as it has announced it would allow all migrant high-school students to take the university entrance exam there. As regards health insurance, it is also very difficult for migrant families to cover their children, whose health is markedly worse. Furthermore, taking advantage of the affordable housing programme is reserved to *hukou* holders.

Figure 25. Housing investment

Excluding land, in % of GDP



Source: Herd *et al.* (2013).

Against this backdrop, the central government has pushed for *hukou* reform, and in particular for allowing the conversion of registration from one locality to another and from agricultural to non-agricultural. The modalities of *hukou* reform vary enormously across cities, but overall the uptake seems to be rather limited, owing to the associated conditions. As a result few of the more than 250 million who have migrated to cities have been able to change their registration status from their place of origin to their new residence. Many would anyhow choose not to do so because a change involves sacrificing potentially valuable land and given that they move to another place if favourable opportunities arise. Overall, the *hukou* reforms introduced to date are attractive mainly for highly-educated individuals moving from one city to another and who intend to stay for a long time in their new place of residence. Thus, the best way forward would be to further delink the eligibility for urban public services from the *hukou* status, for example by granting resident migrants a residence permit with the same rights as those of local urban *hukou* holders. The cost of such a policy is declining as access to education is broadening rapidly. Suzhou prefecture introduced such permits in 2011, of which more than 6 million had been issued by mid 2012.

Continued urbanisation is hampered by the rigid central planning rules governing the conversion of designated cropland into construction land, which partly reflect misguided concerns about food security (Herd *et al.*, 2013). This is likely to put considerable pressure on land prices in the coming years and to encourage illegal construction. A major change in land ownership rules in rural areas is needed to allow famers and their collectives to obtain land-use rights enabling them to change the use of their land to construction. Market-based reforms need to be complemented by strong standards and sound urban planning (OECD, 2012c). The sale of land use-rights for development under this new regime would result in a capital gain for the farmer. For real estate transactions, the current capital gains tax rate varies according to the scale of the gain. In the case of a farmer selling land for residential development, the farmer would be liable to a 60% tax on the total price, given that the use-right was obtained without payment. The revenue from this tax should accrue to the local government.

Box 6. Main recommendations to foster inclusive urbanisation

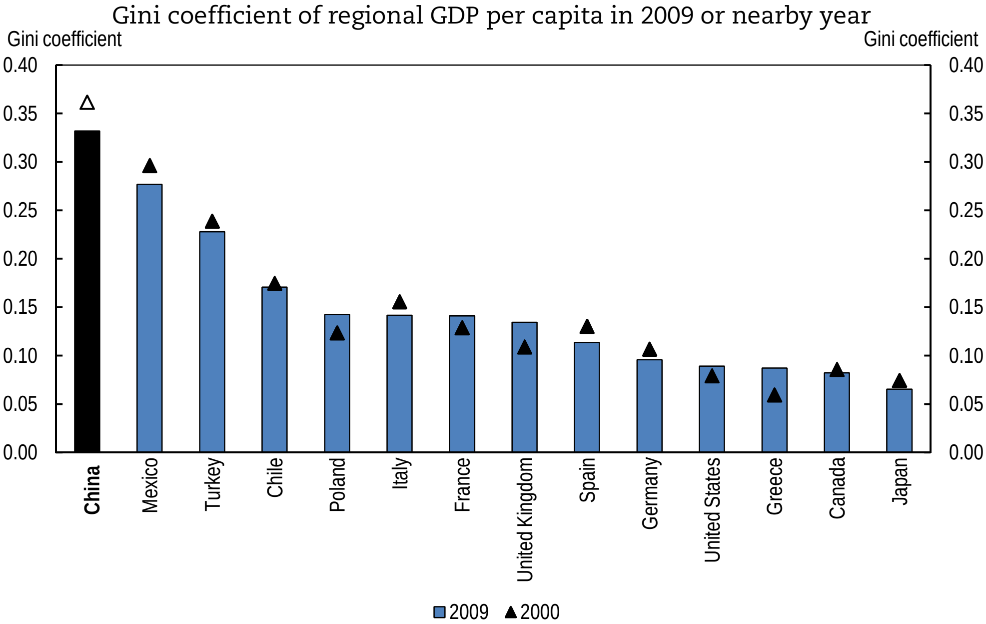
- Allow migrants to enrol in high schools and take university entrance examinations in their place of residence. Abolish local quotas for entrance to university.
- Disconnect the provision of local public services from local registration.
- Change the use-rights of agricultural land to the same length as in urban areas.
- Subject to zoning and planning requirements, ease the limits on the use of agricultural land for development and housing, and allow farmers to sell land to developers directly and to consolidate agricultural land parcels in order to raise productivity.

Reforming sub-national finance to promote geographical equity and facilitate urbanisation

Disparities across Chinese regions started to increase in the early 1990s. While this trend ceased around the mid-2000s and disparities may have declined somewhat since, as documented in the chapter on inequality in the 2010 OECD *Economic Survey of China*, they remain more pronounced than in many OECD countries (Figure 26). Reorientation of infrastructure investment towards the less prosperous regions – notably under the aegis of the Western Development Programme – has contributed to reducing regional inequality. And as noted above, urbanisation has helped narrow the rural-urban income gap.

Figure 26. Regional disparity in China and in OECD countries

Gini coefficient of regional GDP per capita in 2009 or nearby year



Note: Gini coefficients range from 0 (full equality) to 1 (maximum inequality). The definition of regions varies across countries to avoid that their population size be overly dissimilar. For China, the regional unit is the prefecture. For the United States, states are the units. In Europe, level-2 regions in the Nomenclature of Territorial Units for Statistics have been used. Elsewhere, the unit is the highest sub-national territorial unit, *e.g.* province or state. Data for China, United States and Korea refer to 2010. For Greece and Turkey data refer to 2008. Gini coefficients have only be calculated for countries where there are at least10 regions.

Source: OECD Regional Statistics; National Bureau of Statistics.

To mitigate the effects of regional disparities, national policy has focused increasingly in recent years on public service equalisation (State Council, 2012). A very high proportion of public services are provided by sub-national governments. The total tax revenues of provinces are generally a fairly similar proportion of local GDP. Consequently, given the disparities in GDP across provinces equalisation of services will require a sizeable increase in transfer payments to lower-income areas. In addition, continued rapid urbanisation requires major local investment in infrastructure. Social spending is also likely to increase over time and much of this type of outlays is made at the local level. In all, the need for fiscal transfers may well increase in the future.

More specifically, there are four sub-national tiers: province, prefecture, county/district and township. The level of nominal decentralisation is exceptionally high relative to OECD countries and is meant to ensure that local service needs are met efficiently. However, local governments have almost no freedom to change either the rates or the tax base of those revenue sources allocated to them. In addition the major lines of local expenditure decisions are transmitted to local governments that are effectively agents acting on behalf of the central government (Wang and Herd, 2013). There are also overlapping responsibilities between different levels of government. Sub-national governments have very limited local tax bases and no freedom to vary tax rates, but receive a fixed proportion of a number of national taxes, amounting to 15% of local government revenue in 2011. They also get part of the revenue from the sale of land-use rights. Even so, sub-national governments require transfers from the central government to balance their budgets as they are not generally allowed to borrow. The reliance on transfers is particularly marked at the level of the rural counties and county cities (Table 5).

Table 5. Revenue and expenditure across levels of government

Excludes social security and local government financing platforms

			Sub-national levels				
	National consolidated	Central	Consolidated-total	Province	Prefec-ture	Country-District	Town -ship
	% of national GDP						
Own revenue	27.6	11.4	16.3	3.6	6.1	5.4	1.2
Tax revenue	17.5	9.8	7.7	1.8	2.5	2.4	1.0
Gross land lease revenue	4.4	0.1	4.3	0.4	2.1	1.7	0.1
Other revenue	5.8	1.5	4.3	1.3	1.4	1.4	0.2
Own expenditure	29.4	5.3	24.1	5.1	7.4	10.3	1.3
Land compensation and improvement[1]	2.3	0.0	2.3	0.1	1.1	1.0	0.1
Balance on own account	-1.8	6.1	-7.8	-1.5	-1.3	-4.9	-0.1
Transfers from higher levels of government		0.0	8.4	8.4	6.1	5.5	0.0
Transfers to lower levels of government[2]		8.4		7.2	4.4	0.0	0.0
Net received transfers		-8.4	8.4	1.2	1.7	5.5	0.0
Balance of above = net acquisition of financial assets	-1.8	-2.3	0.5	-0.3	0.3	0.6	-0.1
Use of cash balances (negative means an increase)	-0.8	0.3	-1.1	0.0	-0.5	-0.7	0.1
Net borrowing[3]	2.6	2.0	0.6	0.3	0.2	0.1	0.0
	Net received transfers as percentage % of own expenditure						
Transfer dependency			34.8	23.4	22.5	53.7	n.a.

1. This line measures the costs that local authorities incur before land rights are sold. The costs are *i)* the compensation paid to farmers and home-owners when land is acquired for development and *ii)* the expenses incurred by local governments when they improve the land by installing roads and utilities on a site before it is sold. The values for individual levels of sub-national government are based on the average proportions for all levels of sub-national government.

2. Transfers to prefectures exclude those prefectures whose provinces make transfers directly to counties and districts.

3. The central government borrows on behalf of provincial governments which then lend to lower levels of government.

n.a. Data not available.

Source: OECD calculations based on Ministry of Finance (2010), *Finance Yearbook 2009;* Ministry of Finance (2011a), *2009 Fiscal Statistics of Prefectures, Cities and Counties;* Ministry of Finance (2011b), *Local Fiscal Statistical Yearbook, 2009*.

The transfers from the central government are governed by the rules set out at the time of the 1994 fiscal reform. The transfer system has three parts:

- general transfers, which aim to lessen fiscal disparities and which can be used freely (47% of total transfers in 2012);
- earmarked transfers, which can be used only for specified goals such as to subsidise local projects in certain areas subject to matching outlays by the local government (42% of total transfers);
- compensation transfers to provinces that lost revenue as a result of the 1994 reform, which have still not been completely phased out (11% of total transfers).

Transfers have grown rapidly since 1994, from 4.7% of GDP in 1995 to 8.5% by 2011. Within the total, the share of compensation payments has declined substantially, as intended at the inception of the system.

The transfers only partly alleviate fiscal disparities: there is substantial equalisation across provinces but disparities within provinces remain high. County-level governments are particularly dependent on transfers and many have inadequate revenue to meet central government mandates, even after significant transfers (Shen *et al.*, 2012). The degree of fiscal equalisation within a province does not appear to be linked to the income level of the province but to local policies. For instance, amongst high-income provinces, Zhejiang achieves a much higher level of equalisation than Guangdong whilst amongst lower-income provinces equalisation is much higher in Guizhou than in Liaoning.

The share of transfers whose use is unrestricted stands at 58%, well within the (very wide) ranges observed across OECD countries. General transfers are designed to lessen differences in per capita public spending across the country. Compensation transfers tend to go to the richest provinces. Earmarked transfers, in contrast, are less redistributive and include over 100 different types all of which are allocated on an *ad hoc* or negotiated basis, thus undermining transparency relative to a rule-based system. However, going further and reducing earmarked transfers may be difficult, as the central government wishes to ensure that its priorities are followed. Efforts are therefore required to improve the effectiveness of earmarked transfers and ensure that they do not work against equalisation. This could involve, for example, grouping different earmarked project grants together into a block general purpose grant allocated to a particular type of social service.

To date, the need for transfers has been assessed mostly based on registered rather than actual population in a province. This has in fact increased the extent of fiscal equalisation as actual population is generally lower than registered population in low-income provinces, given that migrants remain registered in their home province regardless of where they live. The government is set to henceforth include 15% of the difference between actual and registered population in the formula for determining transfers (Ministry of Finance, 2012). This will partly take into account the cost of migrants to a province. However, as a rule it will also reduce the extent of equalisation. As compensation payments generally accrue to high-income provinces, the adverse impact on lower-income provinces of the change in population base could be offset by reducing compensation payments more rapidly.

The reform of the tax system in 1994 left some local governments with inadequate revenue to meet their expenditure needs. The gap has been met by a rapid increase of transfers from the central government. This necessarily involves central or provincial governments taking decisions about spending at lower levels of government. If the objective is to devolve expenditure decisions as much as possible, the 1994 rules about the share of each national tax attributed to local government need to be revisited. In particular, the share of value-added tax that is attributed to county and district level governments needs to be raised substantially. The generalisation of the VAT on services to replace the business tax (which cannot be reclaimed as an input tax) would provide an opportunity to make this change. The formula for tax sharing will have to be altered because the business tax is an almost entirely local tax while three-quarters of VAT accrues to the central government.

The introduction of a property tax has been under consideration since 2003 as a means of improving local tax revenue. However, the government owns all land in China. Insofar as a property tax reduces the value of land-use rights, governments face a conflict: introducing a generalised property tax would reduce the income that they derive from sales of land-use rights. There are already a range of taxes on property in China which bring in about 1.7% of GDP, similar to what is raised through property taxation in the OECD area. However, in China two-thirds of the taxes are based on transactions and so limit the fluidity of the property market.

The balance of forces in favour of property taxation will gradually increase as China becomes more urbanised. Land sales will become a much less important source of revenue and the balance would change even more if rural residents were given the same property rights as urban residents and were able to benefit from the increase in value of land when it changes use from agricultural to residential use (see above). Over the longer term, property taxation would represent a stable source of revenue – albeit one that would mainly accrue to the governments of richer areas.

Pilot schemes have been launched in Chongqing and Shanghai in 2011 to tax the possession of a second residential property. In Shanghai, it only applies to newly acquired second properties and only to properties of over 180m² for a family of three. The tax rate is only 0.28% per annum for property worth less than twice the local average price. Moreover, if newly married children are using the second property, no tax is payable. The yield from the tax in both Shanghai and Chongqing will be very low.

Finally, progress with the ongoing reform efforts to reduce the number of levels of government has been slow. These efforts need to be stepped up, while taking into account metropolitan development. The current reform aims to put in place direct transfer programmes from province to county, bypassing the prefecture government. The objective is to reduce the administrative hierarchy and better support local rural development (Ministry of Finance, 2009). Removing the responsibility of counties from the prefecture government, which is normally based in the prefecture's large city, would allow that level of government to be transformed into an entity that focused entirely on an urban metropolitan area. In some cases, mergers between city and immediately surrounding counties should be envisaged on the lines of what has already occurred in a number of areas.

Box 7. Main recommendations on intergovernmental fiscal relations

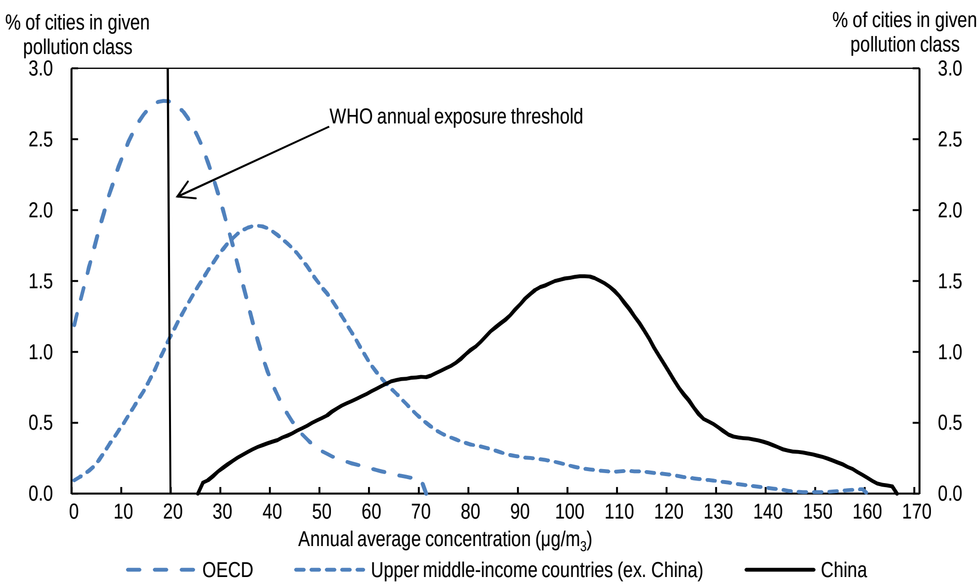
- Raise the share of general intergovernmental transfers and improve the design of earmarked ones.
- Where major cities cover a relatively small geographical area, expand their boundaries to absorb surrounding counties in order to create authorities covering a metropolitan region.
- Switch from taxing land transactions to taxing land possession, while keeping the overall property tax burden broadly unchanged.

Greening the economy will require concerted efforts

One of the overarching policy priorities in China is to shift towards more environmentally friendly modes of consumption and production. This requires wide-ranging reforms. The 11th Five-Year Plan ensured progress in curbing some types of pollution and improving water and energy efficiency. However, large sections of the freshwater system continue to suffer from severe pollution, creating problems in some coastal areas. Air quality is poor due to high concentrations of small particles (Figures 27 and 28). Moreover, recent air pollution episodes, notably in Beijing, saw concentrations many times in excess of the WHO limit, rivalling the infamous London smog of 1952. Given the tendency for many types of pollution to spill across national boundaries, tackling environmental issues also has important global ramifications. This is especially true in the case of climate change as China is the largest emitter of greenhouse gases which continue to rise rapidly. The challenge ahead is to further decouple pollution and other forms of environmental degradation from economic growth.

China's environmental challenges reflect rapid economic growth as well as underlying industrial and energy structures. Significant progress has been made in improving energy efficiency but it is still relatively poor. Energy demand is also rising rapidly and China recently passed the United States as the largest energy consumer, even though its energy use in per-capita terms remains relatively low. China relies heavily on fossil fuels for its energy needs, especially coal, reflecting large endowments (Figure 29). Coal is used for the bulk of electricity generation and central heating as well as directly by heavy industry, and is a major source of air pollution. The supply of cleaner forms of energy has expanded at impressive speed with China quickly becoming a world leader in both renewable energy capacity and manufacturing (Pew, 2012). The share of cleaner energy is set to rise further over the medium term but will remain relatively small. Water pollution originates from a diverse range of point and non-point sources, notably households and agriculture. Water quality problems are compounded by water scarcity in some parts of the country, which is putting pressure on resources including groundwater.

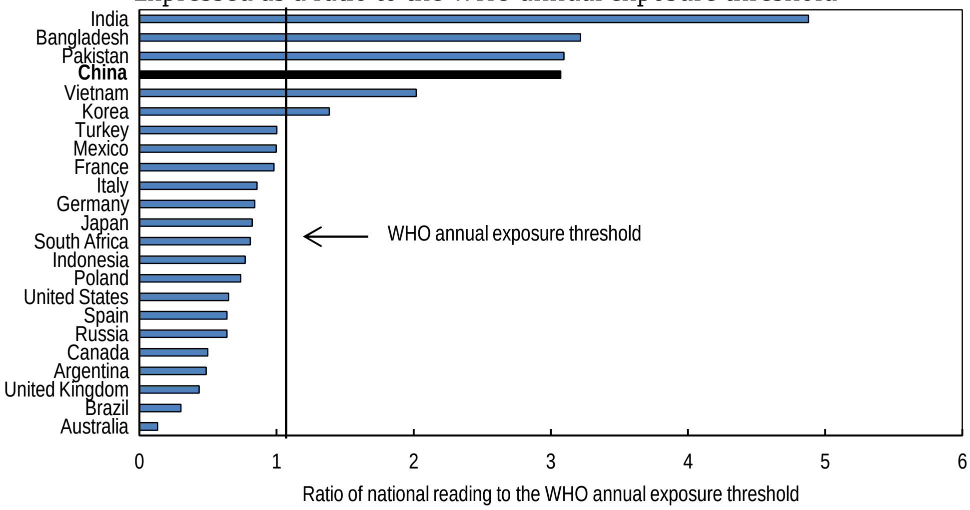
Figure 27. Percentage of cities with a given ambient concentration of particulate matter



Note: 2010 or most recent observation.
Source: CEIC, OECD and NBS-MEP (2011).

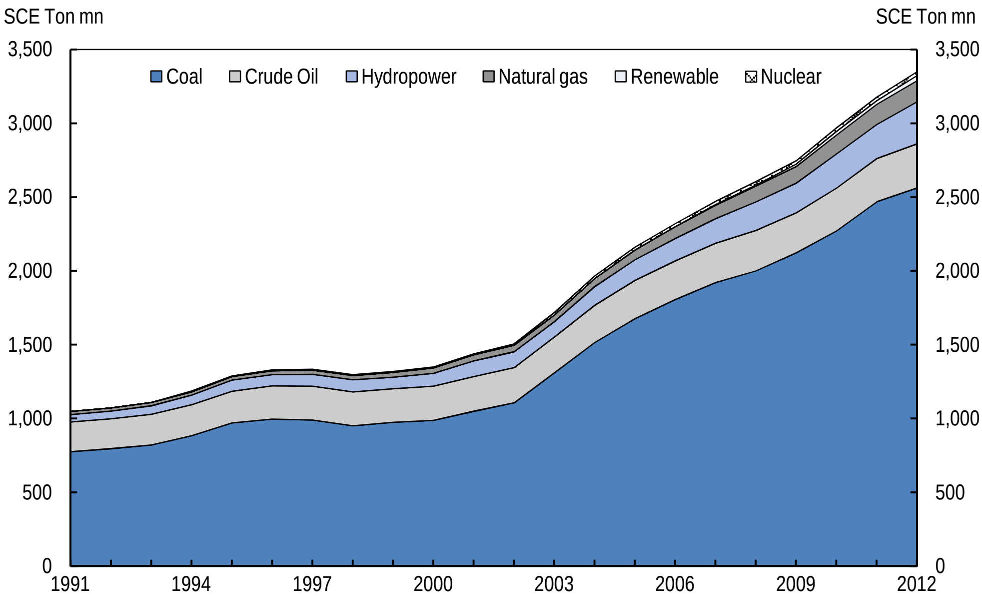
Figure 28. Outdoor air pollution from small diameter particulates

Satellite estimates of PM2.5 concentrations, annual population-weighted averages
Expressed as a ratio to the WHO annual exposure threshold



Source: Environmental Performance Index (2012), concentrations have been estimated using satellite remote sensing data.

Figure 29. Primary energy production in China



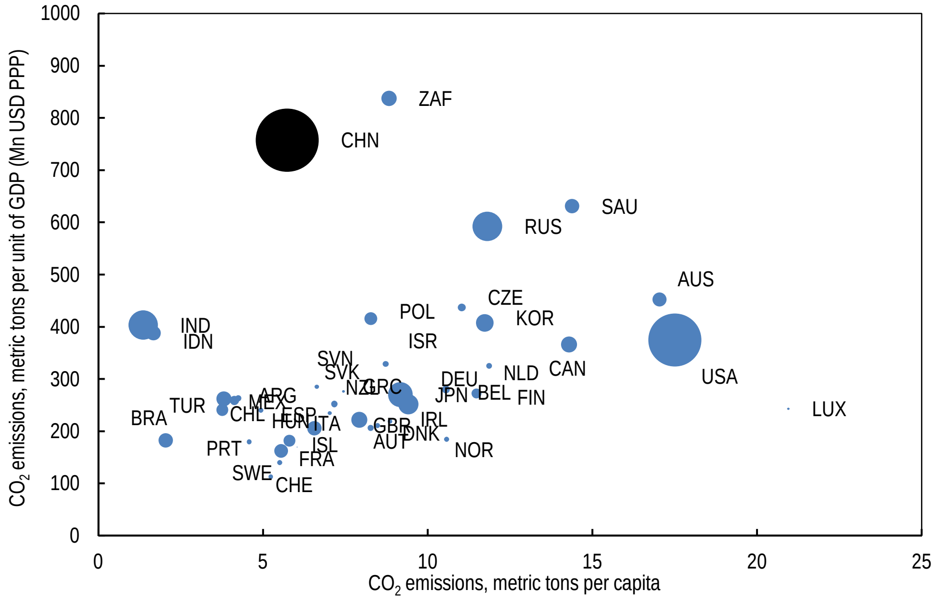
Source: National Bureau of Statistics.

Environmental degradation has significant costs which justify a continued strong policy response. Exposure to polluted air and water as well as other contaminants can damage health while climate change can entail costs through adverse weather developments and other channels. Broader costs from pollution include damage to property and resource depletion. Quantification is difficult but several recent estimates suggest that these costs are large in China (Ebenstein, 2012; Matus *et al.*, 2012; World Bank-DRC, 2012), with increases in inequality as the poor and vulnerable often suffer disproportionately from environmental degradation. The government has invested heavily to increase access to improved drinking water but many, especially in rural areas, remain exposed to water pollution related health threats. Addressing environmental problems is likely to deliver particularly large co-benefits given that in many cases high pollution emissions originate from the same sources.

Major efforts have also been made to address desertification stemming in part from excessive conversion of poor quality grasslands into cultivated land. Such conversion is now being rolled back with land being turned into forests. Ambitious forestation projects have been launched. While they have not always been completely successful, with examples of new forests dying quickly or failing to mature, the area of desert appears to be receding. Moreover the number of sand storms appears to be declining, though their intensity may be rising.

The government has accorded the environment a high priority in the 12th Five-Year Plan and aims to build on its recent successes. The range of pollutants the government is targeting to reduce in absolute terms has widened. For the first time, a target to reduce the amount of carbon dioxide (CO^2) emitted per unit of output has been specified, which represents an interim step towards a 2020 goal. This should help bring emission intensity, which is high in China, down towards the levels seen in most other countries while allowing per capita emissions, which are low, to increase (Figure 30). Targets are also set for energy and water efficiency as well as forest coverage. To achieve these goals a number of the strategies adopted so far will be extended and in some cases broadened. Spending on water treatment and other environmental infrastructure by governments at all levels, as well as private enterprise, is set to increase further. Efforts to reduce air pollution from thermal power generators by retrofitting equipment to remove sulphur dioxide (SO^2) and nitrogen oxides will continue and standards for new facilities are being lifted to OECD levels. There will also be a continued push to close heavily polluting, outdated industrial and power generation capacity.

Figure 30. Emissions of carbon dioxide and emission intensity[1]



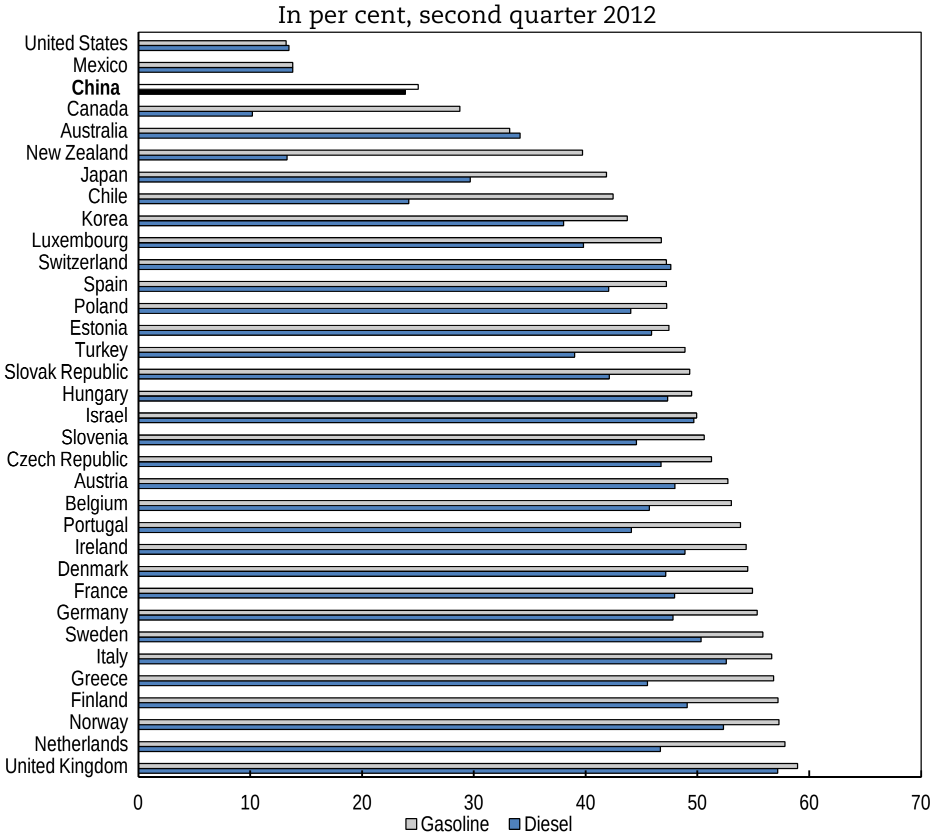
1. The size of each circle is proportional to the carbon dioxide emissions of the country.
Source: IEA.

Beyond these initiatives, achieving the government's objectives in a more cost-effective manner calls for the focus to shift towards a greater reliance on well implemented market-based reforms. While often successful in improving the environment, many command-and-control approaches adopted thus far have had undesirable consequences, including costly power shortages. The closure of further industrial capacity through administrative means is also likely to be costly given the resources required to identify facilities and implement changes. The limits of end-of-pipe measures are also being reached in some areas. Notably, the installation of desulphurisation equipment in coal combustors is reaching saturation point amongst large facilities and may be unviable in smaller ones (Wang, Lei *et al.*, 2012). As manufacturing emits more pollution than services, market-based approaches that enforce the polluter-pays-principle will also support the broader government objective of increasing the proportion of output produced by the service sector.

Notable progress has been made in liberalising some energy prices, which supports energy efficiency targets and ensures energy subsidies are low by international comparison. The regulations governing gasoline and diesel prices have been changed so that domestic prices reflect prevailing average international oil prices over the previous month, so providing better signals to end users. Nevertheless, the government still intervenes to smooth adjustment and the current regulations leave the possibility for the government to cap prices if oil prices spike. To ensure timely pass-through the government should move to full deregulation but first needs to improve competition in distribution. Prices also remain relatively low by international standards so there is scope to increase excise rates to bring them closer towards the OECD average (Figure 31). Significant steps have also been taken towards liberalising coal prices but suppliers are still required to sell some coal to power companies below market price. Less progress has been made with natural gas, where the price of domestically produced gas is held down by the government. For both coal and natural gas the government should move to a system of market-based pricing.

Figure 31. Tax share of retail diesel and gasoline prices

In per cent, second quarter 2012



Source: IEA.

Electricity prices for power generators and end-users remain tightly regulated and have barely moved in the past few years despite rising generation costs, reducing the profits of the power generators and threatening future investment. The government needs to change its formula for regulating the price received by generators from the two state-owned grids so that prices properly reflect input costs, notably that of coal. This would put the regulation of electricity prices on a par with petroleum prices and would restore the financial health of the generators. The government should then implement its plan to experiment with separating distribution companies from the State Grid companies in certain areas. If these experiments are successful in improving efficiency, they should be generalised. Once distribution and transmission have been separated, then a market-based system of energy pricing could be tested in order to promote competition and clear the way for the introduction of carbon pricing. At the same time the authorities need to avoid providing special pricing arrangements to support industrial policy objectives.

Reforms to water prices would also help meet water conservation targets as well as broader environmental objectives. Though prices for households have risen they remain low compared with other countries and could be raised somewhat. Distributional concerns could then be addressed by providing direct assistance to poorer households. In rural areas some progress has been made in encouraging the development of local water markets. However, these are sometimes hindered by government intervention. Providing farmers with clearer water usage rights and allowing for water trading can provide effective incentives for farmers as well as a supplementary income source. Progress in this area is especially important given the large share of national water resources that are used in agriculture.

China has a long history of applying pollution levies as well as experimenting with emissions trading schemes (ETS), especially for SO^2. Pollution and carbon pricing in particular are also envisaged in the 12th Five-Year Plan (Information Office of the State Council, 2011). Such approaches can offer significant advantages and are becoming more popular in OECD countries, particularly to help meet climate change related objectives. Thus far the experience in China has been mixed, with many schemes failing to achieve desired goals. In many cases failures can be linked to poor implementation which has led to weak incentives to curb pollution. Pollution levies have sometimes been set too low and have been plagued by problems with collection and poor enforcement. Trading schemes have suffered from a weak institutional basis, inadequate scale and inappropriate government interventions. Central and sub-national governments are establishing pilot CO^2 ETS in several Chinese cities and provinces. To be effective, these schemes need to set clear emissions caps on a rolling basis, have a well defined (and ideally broad) coverage, strong monitoring, reporting and verification systems and effective sanctions for firms exceeding their permit allocation.

Going forward more emphasis is needed on better implementation of pollution pricing. Pollution price signals should be strengthened by increasing levies and pollution taxes. Applicable rates also need to be adjusted to ensure adequate incentives for pollution mitigation in line with policy objectives, including indexation so that their effectiveness is not eroded over time. National carbon pricing should form the cornerstone of government efforts to reduce carbon intensity. In principle this could be achieved either through a trading scheme or a carbon tax. However, given mixed experiences with pollution trading schemes in China as well as in a number of OECD countries, and their additional administrative complexity, a national carbon tax is likely to offer some practical advantages. Irrespective of the approach taken, a key associated implementation challenge will be ensuring that electricity prices reflect higher costs due to the introduction of carbon pricing.

Market-based reforms need to be complemented by strong standards and sound planning, particularly with respect to cities. International evidence underscores the many environmental and other advantages of well planned compact cities, notably greater energy efficiency and lower pollution from transport (OECD, 2012c). As noted, population density is high in Chinese cities and as they continue to grow ensuring land is used efficiently and investment in public transport is adequate will be key. This will help control motor vehicle use, which is rising quickly. A number of cities have taken measures to discourage motor vehicle ownership and exhaust emissions standards have been raised.

However, the effectiveness of emissions standards depends on fuel quality standards which are continuing to lag in most parts of the country. Success in reducing air pollution, especially NOx emissions, will require a more concerted effort to raise national standards in this area. Further promoting recent initiatives to improve energy standards for buildings and consumer goods would also help meet energy efficiency targets.

More generally, efforts need to be redoubled to strengthen environmental regulation and enforcement. In recent years the framework for environmental policy and protection in China has continued to evolve (McElwee, 2011). In 2008 the government established the Ministry of Environmental Protection with broad responsibilities for formulating environmental policies, thereby upgrading environmental matters to ministerial level. However, enforcement primarily remains the domain of local environmental protection bureaus controlled by local governments which at times face conflicting incentives. Strong central government oversight has been essential for progress in key areas and a continued effort is needed going forward. Some steps to strengthen penalties, including higher fines, have also been taken and raising them in the future will be important for ensuring they provide an adequate disincentive. One specific area where the government is seeking to bolster regulation is nuclear energy safety. A recent safety audit found that most facilities met domestic and international safety standards (Zhou, 2012). However, the sector is expanding at a rapid pace and it is vital that regulatory capacity is increased in tandem.

Better monitoring and information dissemination can support stronger enforcement. In the late 2000s a national pollution census was undertaken which provided policymakers and other stakeholders important insights on environmental challenges. More recently, efforts have been stepped up to track industrial air pollutants more closely, including SO^2 and mercury, while monitoring of fine particulate matter, which is especially damaging to human health, is being rolled out across the country. Awareness and interest in environmental issues has increased and information dissemination is improving. Changes are also being made to the way environmental information is disseminated, including through devices such as the official Air Pollution Index. However, further steps should be undertaken to broaden the coverage of pollutants reported on a regular basis, including CO^2 and other GHG emissions. Going forward this would help the government to establish targets for a broader range of environmental objectives.

Box 8. Main recommendations to improve the environment

- Encourage energy conservation by raising excise duties on gasoline and fully deregulating prices. Move to full market-based pricing for natural gas and coal. Deregulate electricity prices, beginning in the generation sector, and avoid preferential electricity pricing for selected industrial users.
- Raise piped water prices to end-users to better reflect scarcity and encourage conservation.
- Increase levies, moving them towards a system of pollution taxes. Effectively implement CO_2 pilot emissions trading schemes. Move towards national carbon pricing, preferably via a carbon tax, depending on experiences with the pilot schemes. Further lift standards for motor vehicle emissions as well as fuel quality.
- Establish targets for a broader range of environmental objectives and step up enforcement efforts, including by holding local governments accountable.
- Improve national data collection and dissemination of all major pollutants including CO_2 and other greenhouse gases.

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ANNEX 1. OECD KEY RECOMMENDATIONS ON STRUCTURAL POLICIES AND SELECTED ASPECTS OF THE PRESIDENT'S REPORT TO THE 18TH PARTY CONGRESS HELD IN NOVEMBER 2012

OECD key recommendations	Orientations in the Report to the 18th Party Congress
Financial sector reform	
Continue to move to market-determined interest rates by progressively widening the allowable margin around the regulated rate. Align the regulation of bond markets for maturities of over five years with the practices of the market for shorter maturities.	Take steady steps to make interest rates more market-based. Accelerate the development of a diversified capital market.
Progressively increase the quota for inward investment in equities and long-dated bonds. Allow greater use of offshore renminbi deposits in mainland China. Allow for greater exchange rate flexibility.	Promote the RMB's convertibility under capital accounts in due course. Take steady steps to make the RMB exchange rate more market-based.
Competition and innovation	
Clarify rules concerning the opening up of new sectors to private investment. Strengthen the business operating environment by reducing the time taken to register a new business. Avoid promoting "national champions" in new strategic sectors.	Strike a balance between the role of the government and that of the market. Follow more closely the rules of the market.Support and guide the development of the non-public sector, and ensure that economic entities under all forms of ownership have equal access to factors of production in accordance with the law, compete on a level playing field and are protected by the law as equals.
Improve effectiveness of R&D spending by increasing the resources available to the agencies dispensing government funding and rebalance outlays towards fundamental research.	Strengthen basic research, research in frontier technologies, and public benefit-oriented research and development.
Strengthen IPR enforcement by raising awareness of laws and increasing penalties for infringements to ensure adequate protection to domestic and foreign innovators.	Implement the strategy concerning intellectual property rights and strengthen their protection.
Inclusive urbanisation	
Allow migrants to enrol in high schools in their place of residence and university entrance examinations to be taken in the place of residence. Abolish local quotas for entrance to university.	Ensure that children of rural migrant workers in cities have equal access to education.
Disconnect the provision of local public services from local registration.	Accelerate reform of the household registration system, in an orderly way, so that all permanent urban residents have access to basic urban public services.
Equalise the use-rights of agricultural and	Protect and improve farmers' rights to farm the land

urban land by extending rural leases .	and houses they have contracted to use.
Subject to zoning and planning requirements, ease the limits on the use of agricultural land for development, and allow farmers to sell land to developers directly and to consolidate agricultural land parcels in order to raise productivity.	Improve the farmers' share in the proceeds from rural collective operations and ensure that the quality of urbanisation improves markedly.
Intergovernmental fiscal relations	
Raise the share of general intergovernmental transfers and improve the design of earmarked ones.	Ensure that the central and local governments have sufficient financial resources to exercise their respective powers and fulfil their respective responsibilities. Improve the public finance system to ensure equal access to basic public services.
Where major cities cover a relatively small geographical area, expand their boundaries to absorb surrounding counties in order to create authorities covering a metropolitan region.	Improve the geographical and administrative structure of local government by experimenting with provinces controlling counties and county-level cities. Reform town and township administrations.
Switch from taxing land transactions to taxing land possession, while keeping the overall property tax burden broadly unchanged.	Accelerate the reform of the taxation systems.
Environment	
Improve incentives for energy conservation by raising excise duties on gasoline and fully deregulating prices. Move to full market-based pricing for natural gas and coal. Deregulate electricity prices, beginning in the generation sector, and avoid preferential electricity pricing for selected industrial users. Raise piped water prices to end-users to better reflect scarcity and encourage conservation.	Reform of prices, taxes and fees paid for resource products. Establish a system for paying for resource consumption and ecological damage - a system that responds to market supply and demand and resource scarcity.
Strengthen pollution price signals by increasing levies and pollution taxes. Ensure effective implementation of CO_2 pilot emissions trading schemes. Move towards national carbon pricing, preferably by implementing a carbon tax, depending on experiences with the pilot schemes. Further lift standards for motor vehicle emissions as well as fuel quality.	Carry out trials for trading energy savings, carbon emission rights, pollution discharge rights and water rights. Accelerate the reform of the fiscal and taxation systems.
Establish targets for a broader range of environmental objectives and hold local governments accountable. Improve national data collection and dissemination of all major pollutants including CO_2 and other greenhouse gases.	Strengthen environmental monitoring and improve accountability for ecological and environmental protection and the system of compensation for environmental damage.

Chapter summaries

Chapter 1. Urbanisation, growth and social inclusion

Urbanisation in China has long been held back by various restrictions on land and internal migration but has taken off since the 1990s, as these impediments started to be gradually relaxed. People have moved in large numbers to richer cities, where productivity is higher and has increased further thanks to agglomeration effects. In the process, the rural-urban income differential has narrowed. Urbanisation also entails costs, however, notably in the form of congestion, all the more so as public transport provision has not kept up. Demand for living space is set to continue to increase as living standards improve, putting pressure on land prices. This can be offset by relaxing the very stringent restrictions on the use of agricultural land for building. For migrants to better integrate in the cities where they work, their access and that of their families to education, health and other social services must continue to improve, in particular *via* further changes to the registration system, coupled with more market-based rules on land ownership and use.

Chapter 2. Reforms for a cleaner, healthier environment

China's exceptional economic expansion has led to rising energy demand and pollution as well as other environmental pressures. Strong efforts by the government have moderated emissions of some types of air and water pollution from high levels but others, including greenhouse gas emissions, continue to rise. Poor air and water quality threaten human health, create other costs and reduce well-being. The 12th Five Year Plan aims at further reducing pollution and at other environmental improvements. To achieve these goals in a cost-effective manner wide-ranging reforms are needed. Reliance on command-and-control measures ought to make way gradually for well-implemented market-based approaches. Energy and water pricing need to be reformed to provide stronger incentives for end-users. So does pollution pricing. A carbon tax should be given serious consideration, especially if pilot carbon emissions trading schemes turn out to be difficult to implement. As well, stronger standards are needed, including for motor vehicles and fuels. Efforts to enhance environmental enforcement, particularly at the local level, will also be key to further progress.

This Survey was prepared in the Economics Department, with Richard Herd as the main author under the supervision of Vincent Koen. The other contributors were Sam Hill and Xiao Wang. Technical assistance was provided by Thomas Chalaux, and secretarial assistance by Nadine Dufour and Pascal Halim.

The Survey was discussed at a special seminar of the Economic and Development Review Committee on 10 January 2013, with participation of representatives of the Chinese government.

The Survey is published on the responsibility of the Secretary-General of the OECD.

Further information

For further information regarding this overview, please contact:

Vincent Koen, e-mail: vincent.koen.oecd.org;
tel.: +33 1 45 24 87 79; or
Richard Herd, e-mail: richard.herd@oecd.org;
tel.: +33 1 45 24 87 00; or
Xiao Wang, e-mail: xiao.wang@oecd.org;
tel.: +33 1 45 24 18 06.

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