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BASIC STATISTICS OF CHINA, 2017

(Numbers in parentheses refer to the OECD)

LAND AND PEOPLE					
Population (millions, 2018)	1 422.1	(1291.8)	Population density per km²	148.0	(37.2)
Under 15 (%, 2018)	18.3	(17.8)	Life expectancy (years, 2016)	76.0	(80.7)
Over 65 (%, 2018)	10.8	(17.3)	Men	71.0	(77.9)
Latest 5-year average growth (%, 2018)	0.5	(0.5)	Women	77.5	(83.2)
Urbanisation rate	58.5	(77.8)	Agricultural land (% of total, 2015 for OECD)	56.2	(34.5)
ECONOMY					
GDP, current prices (market exchange rate, trillion USD)	12.2	(56.8)	Value added shares (%)		
GDP, current prices (trillion CNY)	82.7	(384.0)	Primary	7.9	(2.5)
Latest 5-year average real GDP growth (%)	8.5	(2.1)	Industry	40.5	(26.9)
GDP per capita, (thousand USD PPP)	16.8	(42.5)	Services	51.6	(70.6)
GENERAL GOVERNMENT					
Expenditure (% of GDP)	37.1	(40.7)	Net lending (% of GDP)	-3.1	(-2.2)
Revenue (% of GDP)	34.2	(38.8)			
EXTERNAL ACCOUNTS					
Exchange rate (RMB per USD)	6.76		Main exports (% of total merchandise exports)		
PPP exchange rate (USA = 1)	3.55		Electrical, electronic equipment	26.42	
In per cent of GDP			Nuclear reactors, boilers, machinery, etc	16.9	
Exports of goods and services (2018 for China)	19.5	(27.9)	Furniture, lighting, signs, prefabricated buildings	3.93	
Imports of goods and services (2018 for China)	18.7	(27.5)	Main imports (% of total merchandise imports)		
Current account balance	1.3	(0.4)	Electrical, electronic equipment	24.83	
Net international transfers	-0.1	-(0.6)	Mineral fuels, oils, distillation products, etc	13.5	
Balance of income	-0.3	(0.5)	Nuclear reactors, boilers, machinery, etc	8.85	
LABOUR MARKET, SKILLS AND INNOVATION					
Employment rate (total population, %)	56.1	(67.7)	Unemployment rate (urban) (%)	4.0	(5.8)
Participation rate (total population, %)	58.4	(72.0)	Tertiary educational attainment 25-64 year-olds (%, 2010)	10.0	(35.0)
Gross domestic expenditure on R&D (% of GDP, 2016)	2.1	(2.3)			
ENVIRONMENT					
Total primary energy supply per capita (toe, 2016)	2.1	(4.1)	Freshwater use (m^3 per capita 2014)	443.3	(827.7)
Renewables (% of TPES, 2016)	9.0	(9.9)	Agriculture (% ot total use,year 2012 for China)	64.4	(43.9)
Fine particulate matter concentration (PM2.5, µg/m^3, 2016)	56.3	(14.3)	Households (% ot total use,year 2012 for China)	13.3	(15.1)
CO2 emissions per capita (metric tons,2015)	7.6	(9.7)	Industry (% ot total use,year 2012 for China)	22.3	(41.1)
SOCIETY					
Income inequality (Gini coefficient, 2015 for OECD)	0.470	(0.394)	Education outcomes (PISA score in B-S-J-G, 2015)		
Poverty headcount ratio at $3.2 a day (2011 PPP) (% of population, 2015)	7.0	n.a.	Reading	494	(493)
Share of women in parliament (%, 2016)	24.2	(28.7)	Mathematics	531	(490)
Net official development assistance (% of GNI, 2016)	-0.01	(0.39)	Science	518	(493)

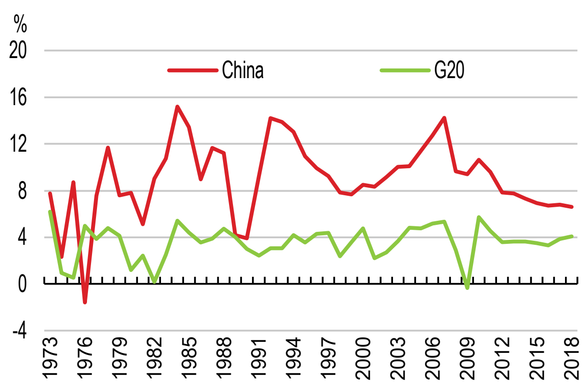
Note: B-S-J-G refers to the four areas covered by the latest PISA survey: Beijing, Shanghai, Jiangsu and Guangdong. The ratio of exports and imports to GDP is the ratio of aggregate exports and imports of OECD countries to aggregate OECD GDP. Other ratios are simple averages of OECD countries.
Source: Calculations based on data extracted from the databases of the following organisations: National Bureau of Statistics, OECD, International Energy Agency, World Bank and International Monetary Fund.

EXECUTIVE SUMMARY

Growth is slowing down and is rebalancing towards consumption and services.

Catching up with OECD economies continues despite slowdown. Even though it is slowing down driven by structural factors such as shrinking of the working-age population, economic growth remains robust by international standards. China contributes about a quarter of global growth. The economy continues rebalancing on the back of steady consumption growth. Difficult challenges remain, however, especially the high level of total debt, which exceeds that of many OECD countries.

Figure A. Real GDP growth has slowed, but remains strong by international standards



Source: OECD Economic Outlook 104 database.

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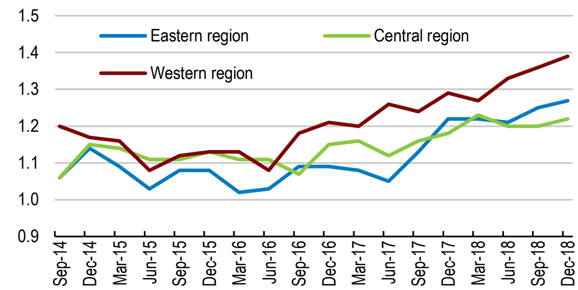
Consumption has been supported by low unemployment and steadily rising incomes. Households are spending increasingly on items such as e-commerce and shared services. As the labour force has been shrinking for a number of years, reflecting population ageing, labour shortages are keeping wage growth high, particularly in large inland cities.

Figure B. The jobs to job-seekers ratio has increased



Source: CEIC.

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Slowing investment is behind the recent slackening of growth. Excess capacity in a number of industries weighs on business investment. Government restrictions on mortgages have contributed to housing prices levelling off in the largest cities and have curtailed real estate investment. Infrastructure investment has also weakened, as local governments' borrowing has been reined in. To allow better assessment, investment and other basic National Accounts data should be published also in real terms and on a timely basis, following international standards.

Continuing trade frictions and the weakening global economy are undermining exports and creating uncertainties. The impact of trade tariffs is concentrated in processing and other export-oriented and import-dependent industries. Small and medium-size enterprises are disproportionately affected. Reflecting uncertainties, share prices have sharply declined, partly recovering thereafter. A further escalation of import tariffs faced by Chinese exporters would have an even more severe impact on activity, jobs, and corporate earnings.

Policy stimulus seeks to sustain growth over 2019-20. Faced with a dampening of domestic demand and export orders, the authorities have resorted to stimulus measures involving taxes, access to credit and infrastructure investment. The stimulus risks increasing once again corporate sector indebtedness and, more generally, reversing progress in deleveraging.

Monetary policy has become more expansionary to support domestic demand. Targeted policy instruments, which are still widely used, seek to inject more liquidity, though this is offset by the tightening of shadow banking. Monetary policy should move to more market-based instruments. Shifting towards exchange-rate flexibility and establishing a framework to move towards inflation targeting in the medium term should be explored.

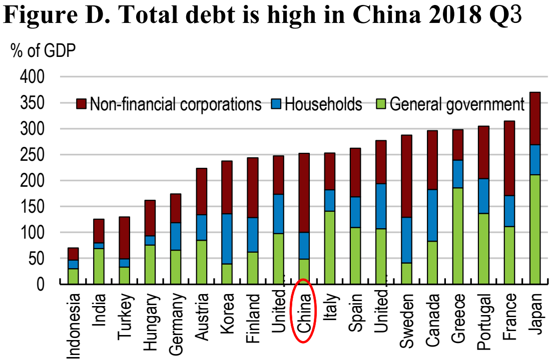
Figure C. Growth is moderating somewhat and the current account surplus will turn into deficit

	2017	2018	2019	2020
Real GDP	*6.8*	*6.6*	*6.2*	*6.0*
Exports of goods and services	*11.0*	*5.1*	*4.5*	*4.8*
Imports of goods and services	*6.9*	*9.5*	*6.0*	*4.7*
GDP deflator	*3.8*	*2.9*	*2.2*	*2.1*
Consumer price index	*1.6*	*2.1*	*3.0*	*3.0*
Terms of trade	*-6.8*	*-2.6*	*-0.8*	*-0.6*
Fiscal balance				
Overall	*-3.1*	*-3.1*	*-3.3*	*-3.5*
Headline	*-2.9*	*-2.9*	*-3.1*	*-3.1*
Current account balance	*1.4*	*0.2*	*-0.1*	*-0.2*

Source: CEIC database and OECD projections.

Excessive leverage and unsustainable levels of debt in the corporate sector imply financial risks. Corporate debt is higher than in other major economies, though urban construction-related debt by local government investment vehicles also belongs here, while in other countries it would show up as government debt. Infrastructure stimulus could lift growth over the projection horizon, but it could lead to a further build-up of imbalances and capital misallocation, and thereby weaker growth in the medium term. Some local governments are heavily indebted. The debt quotas therefore need to take into account repaying ability of the issuing local government.

Figure D. Total debt is high in China 2018 Q3



Source: Bank of International Settlements database.

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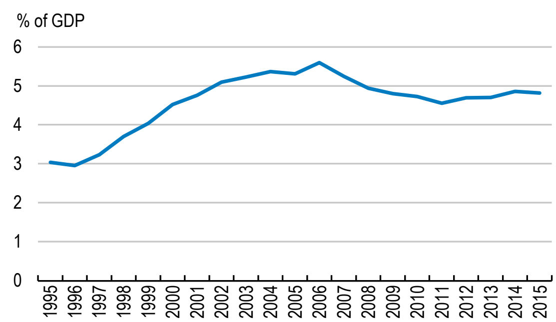
Digitalisation is expanding fast, but raises concerns. Digitalisation provides a leapfrogging opportunity, which Chinese firms and policy makers have been swift to seize. China has become a world leader in e-commerce, online payments and the sharing economy. Regulations lag behind the expansion of the sharing economy, raising environmental and security concerns. The widening of the digital divide needs to be remedied. Stronger basic literacy and computer skills and affordable internet services country-wide would help more people to benefit from digitalisation.

Figure E. Share of ICT value added has been flat

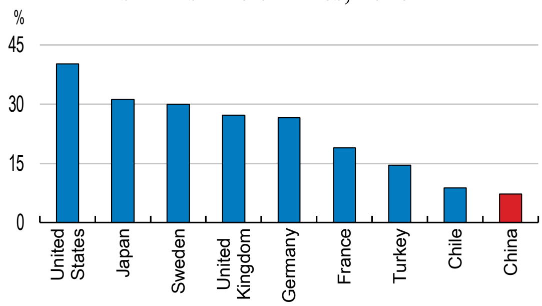


Source: European Commission 2018 PREDICT Dataset.

StatLink https://doi.org/10.1787/888933944633

Growth needs to be more equitably distributed. The benefits of growth have been more widely shared in the past decade, but more needs to be done. Personal income taxes made only a small contribution to redistribution and with the recent reforms they increase inequalities. The redistribution capability of the system should be strengthened by widening the tax base. Eliminating the minimum social security contribution, which is required irrespective of income, would alleviate the burden on low-income earners. The retirement age should be raised to make the pension system sustainable. The transfer system, including the minimum living allowance, the *dibao* should also be more redistributive by better targeting.

Figure F. The personal income tax represents a small share of taxes, 2016



Source: CEIC and OECD Revenue Statistics database.

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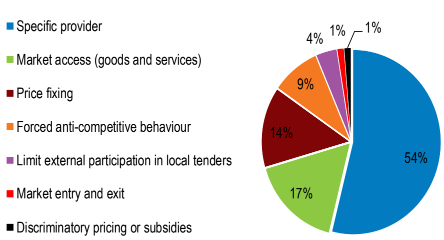
Pollution is taking a heavy toll on human lives. Pollution should be reduced below harmful levels by raising environmental taxes and fines for polluters as well as investing more in pollution treatment facilities. One priority is to halt construction of new coal-fired power plants.

Internal barriers hinder product market competition and labour mobility.

Protectionist measures by local governments hinder the entry of outside businesses and discriminating against them reduce efficiency. Local governments grant monopoly powers to local businesses. The requirement to use designated service providers or to be registered and have operating experience locally inhibit the reaping of the benefits of the large domestic market. Vague wording of statutes and other legal documents leaves room for discretionary implementation.

Figure G. Specifying service providers is the most common form of local protectionism, 2014-2017



Source: Price Supervision and Anti-Monopoly Bureau, NDRC.

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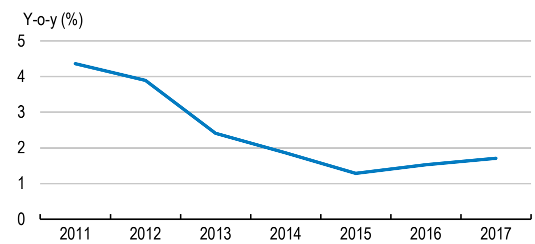
Access to and quality of public services is determined by one's household registration or *hukou*. Access to high-quality public services varies widely across regions and between urban and rural areas. Migration is slowing as the population ages and rural incomes are catching up with urban wages. The link between good quality services and the *hukou* should be abolished and a minimum level of service quality all over the country should be assured to support more inclusive outcomes. A better allocation of public resources, in particular high-quality teachers and medical personnel, would provide more equal opportunities to all.

Figure H. The growth rate of the migrant population is slowing



Source: National Bureau of Statistics.

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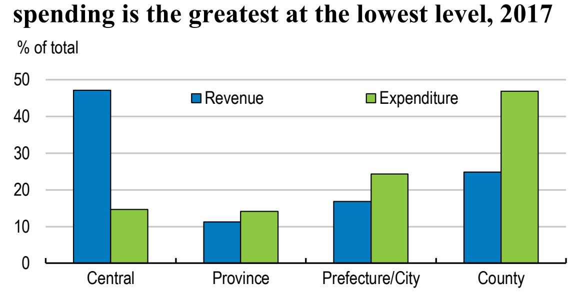
Creating a single product and labour market may initially require more redistribution as disparities are high. A single market would reduce transaction costs in the long run, but may imply greater transfers in the short run. The lowest level in public administration, the county, is in charge of delivering education, health and other public services. Counties rely heavily on fiscal transfers and are often burdened by unfunded mandates. The financing of some key spending items, such as education and health should be assigned to the central government to ensure a minimum service quality.

Figure I. The gap between own revenues and spending is the greatest at the lowest level, 2017



Source: Ministry of Finance.

StatLink http://dx.doi.org/10.1787/888933944709

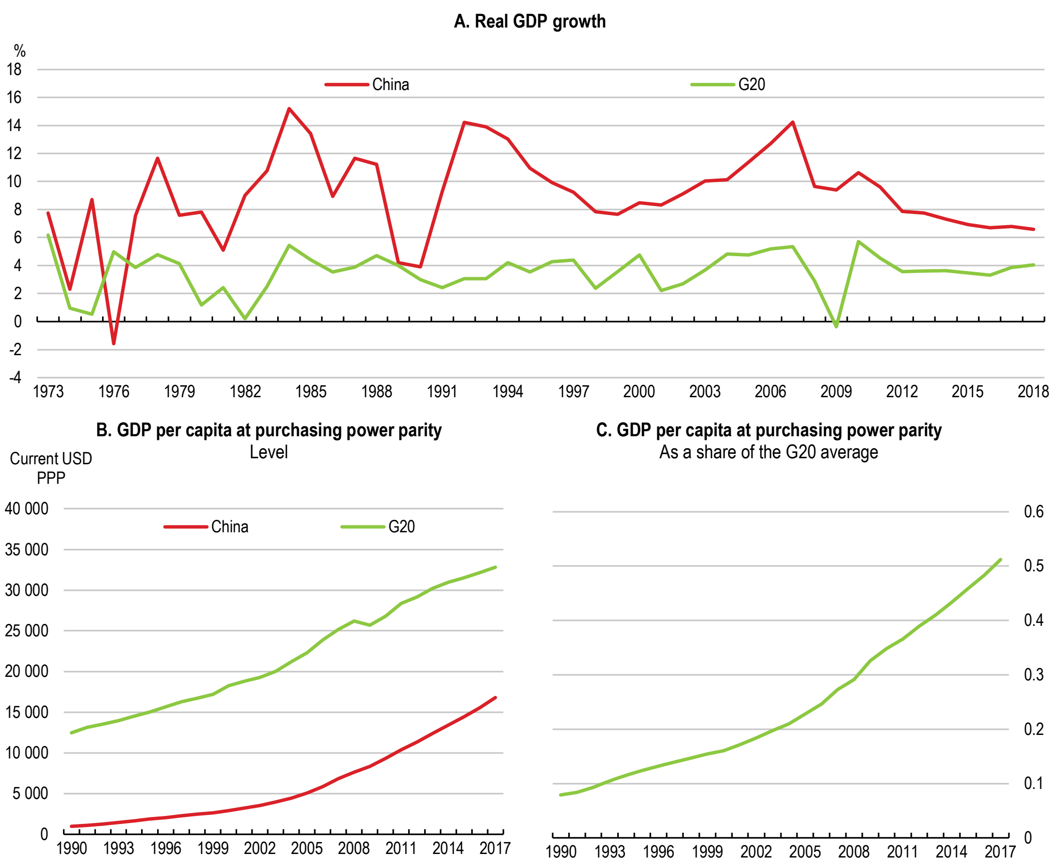
POLICY CHALLENGES	KEY RECOMMENDATIONS
Macroeconomic policy support and financial stability	
The economy is slowing and macroeconomic policy is becoming more supportive. However, enterprise debt is very high and local government finances are stretched.	Avoid directing credit to state-owned enterprises and local governments as part of the fiscal stimulus.
In many provinces, public debt exceeds total annual revenues, in some by a large margin.	Link debt ceilings to sub-national government revenues.
The exchange rate can move within a 2% range relative to the previous day's closing rate, and the move of the currency basket overnight and the so-called counter-cyclical factor.	Explore steps towards greater exchange-rate flexibility, starting with making its formation mechanism transparent.
Monetary policy rules appear to have attached a greater weight to inflation in the past decade and a half.	Establish a framework to move towards inflation targeting in the medium term, including the re-assignment of tasks among agencies.
Enhancing economic efficiency	
A series of general import tariff cuts in 2018 reduced the overall average tariff level, but trade barriers, in particular non-tariff barriers are still high.	Continue lowering import tariffs and dismantle non-tariff barriers.
Numerous market entry barriers and restrictions on the business conduct of foreign firms continue to apply, discriminating against foreign companies and preserving an uneven playing field. Recently announced relaxations on entry restrictions for foreign firms aim at making it easier to access the Chinese market.	Dismantle restrictions on the entry and conduct of foreign firms, in particular requirements to form joint ventures or transfer technology. Make public procurement more transparent and open it to all players.
Intellectual property right violations hinder innovation and the entry of foreign technology firms.	Strengthen intellectual property right protection by more systematically prosecuting violators and raising fines.
Corruption is still widespread, notwithstanding the various initiatives to fight it.	Enhance transparency and accountability and reduce the concentration of power in managers' hands. China should sign up to the Anti-Bribery Convention.
Chinese ODI is soaring and infrastructure projects risk imposing a heavy debt burden on several countries.	China should adhere to the OECD Declaration on International Investment and Multinational Enterprises and Chinese companies operating overseas should follow the OECD Guidelines on Multinational Enterprises in their business conduct. Infrastructure projects should be subject to thorough cost-benefit analysis and take into account the indebtedness of the recipient country.
Real economy developments are hard to follow owing to a lack of publicly available data on many key variables on an internationally comparable basis. Similarly, incomplete or tardy general government data hamper fiscal policy assessment and the lack of information on overseas affiliates inhibits the gauging of such activities.	Improve the quality, coverage and timeliness of data releases, in particular basic National Accounts and fiscal data and follow international standards. Data should also be published in real terms on a timely basis.
State-owned enterprises and other public entities enjoy implicit guarantees and other forms of preferential treatment. Ensuing problems include corporate debt inflation, distortion of credit allocation and excess capacities in several industrial sectors.	Gradually remove implicit guarantees to state-owned enterprises and other public entities by allowing them to default. Apply the competitive neutrality principle when dealing with SOEs.
SOEs have large market shares in many sectors.	Reduce state ownership in commercially oriented, non-strategic sectors.
Providing equal opportunities	
Good quality resources in major public services such as education and health are highly concentrated in the largest cities. Access to public services is linked to one's household registration or *hukou.*	Distribute more evenly high-quality education and health resources to reduce incentives to move to mega-cities. Gradually ease restriction on access to public services for non-*hukou* holders and delink it from the *hukou.*
The county level is in charge of education, health and other key public services, but relies heavily on transfers and often faces unfunded mandates.	Centralise the financing of some key spending items, such as wage bills in education and health.
Social security contributions are a high burden for the low-income earners as they pay according to 60% of the average wage and high-income earners three times of it.	Abolish the floor and raise the ceiling for social security contributions.
Income and wealth inequalities are large. Few people are subject to personal income taxes. The equalising impact of social assistance programmes is negligible.	Widen the base of personal income tax and make it more progressive. Introduce a recurrent tax on the holding of real estate and an inheritance tax. Target social assistance programmes better to the needy.
Greening growth	
Pollution is taking a heavy toll on human lives. Environmental data falsification or manipulation at the surveillance facility is rampant.	Enforce regulations more strictly, raise fines for polluters, and raise environmental tax, in particular on fossil fuels. Halt the construction of coal-fired power plants.
Investment in the treatment of environmental pollution has been stagnating and access to sanitary facilities in rural areas is limited.	Increase investment in pollution treatment facilities and environmental infrastructure, in particular urban water treatment and environmentally harmless rural sanitary facilities.

Key Policy Insights

The economy remains strong, though with signs of growth slowdown

China's "New Era" started with strong growth and per capita GDP will likely double by 2020 relative to 2010 (Figure 1), thus making a large contribution to the expansion of the world economy. According to long-term growth scenarios, until around 2030, China would contribute more to world growth than OECD countries (Guillemette and Turner, 2018). In that year, China's share of world output would peak at 27%. In the recent couple of years, a greater focus has been put on the quality of growth rather than its pace, with early signs of success. Efforts have been made to stimulate domestic consumption and to avoid the worsening of macroeconomic imbalances. In the recent period, downward pressure on the economy has increased, partly as a result of escalating trade tensions, prompting the government to swiftly introduce stimulus measures to support growth.

Figure 1. China continues to converge to OECD, notwithstanding growth moderation



Source: OECD Economic Outlook database, and World Bank International Comparison Program database.

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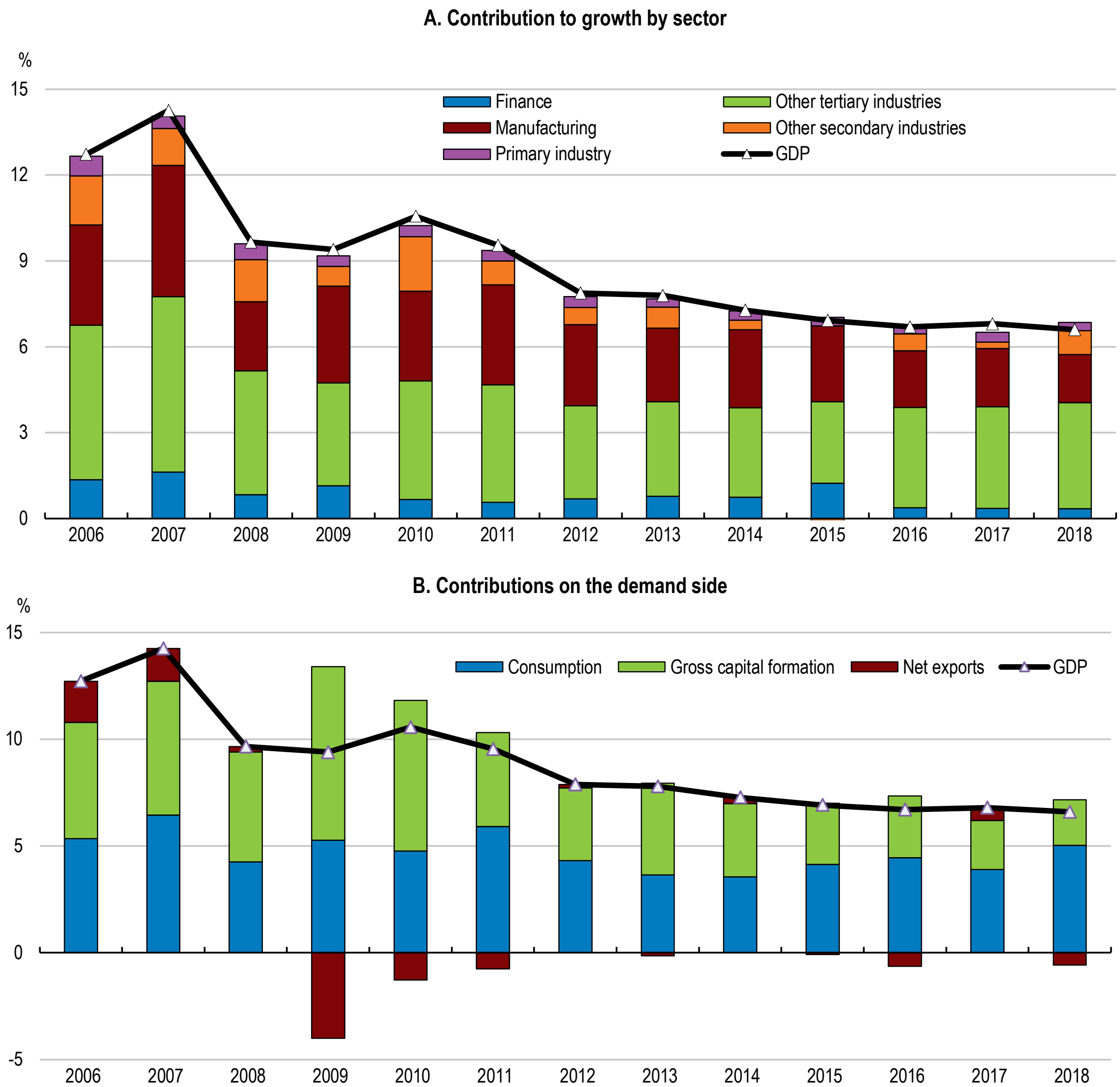
The economy is continuing to rebalance, with services and consumption increasingly driving growth (Figure 2). Moreover, among services it is no longer financial services that stand out, but other services such as commerce or business services. The shift from a business tax to VAT in 2016 is supporting the outsourcing of services and in general the development of the service sector, as now VAT on intermediate inputs can be reclaimed. Services development could be further spurred by levelling the playing field for private and foreign firms and by abolishing local protectionist measures such as hindering the entry or exit of outside businesses and discriminating them in terms of pricing or access to local procurement contracts. Trade in services, particularly in services underpinning global value chains such as transport, logistics and computer services, should be further liberalised.

Consumption has been a stable driver of growth in recent decades. Recent consumption strength is manifest in booming e-commerce and shared services. Strong employment creation and steadily rising incomes are supporting consumption growth. To enhance the role of consumption as a growth engine, however, more structural reforms are needed. Urbanisation and the lifting of *hukou* restrictions could boost consumption by 11% by 2020 (Molnar et al. 2017). A lack of data availability at a more disaggregated level at both the demand and supply sides inhibit a more granular assessment. Basic National Accounts data should be published also in real terms on a timely basis. Moreover, statistical data should be published based on international standards.

Urban unemployment is low and job vacancy rates are high, in particular in some large inland cities such as Chengdu and Zhengzhou (Figure 3). The wealth effects from the drop in stock prices over 2018 (Figure 4) have been limited as only a little share of household wealth is held in equities and recent crashes had no discernible impact on consumer spending. Moreover, in early 2019 stock prices have partly recovered. Tax cuts, including in the personal income tax and the VAT, also aim at boosting consumption.

Figure 2. Growth is increasingly driven by consumption and services



Note: For other secondary industries the secondary industry deflator was used, and for other tertiary industries the tertiary industry deflator. For the manufacturing industry, the Manufacturing Producers' Price Index (PPI) is used for the years before 2015.
Source: CEIC database, and 2018 China Statistical Yearbook.

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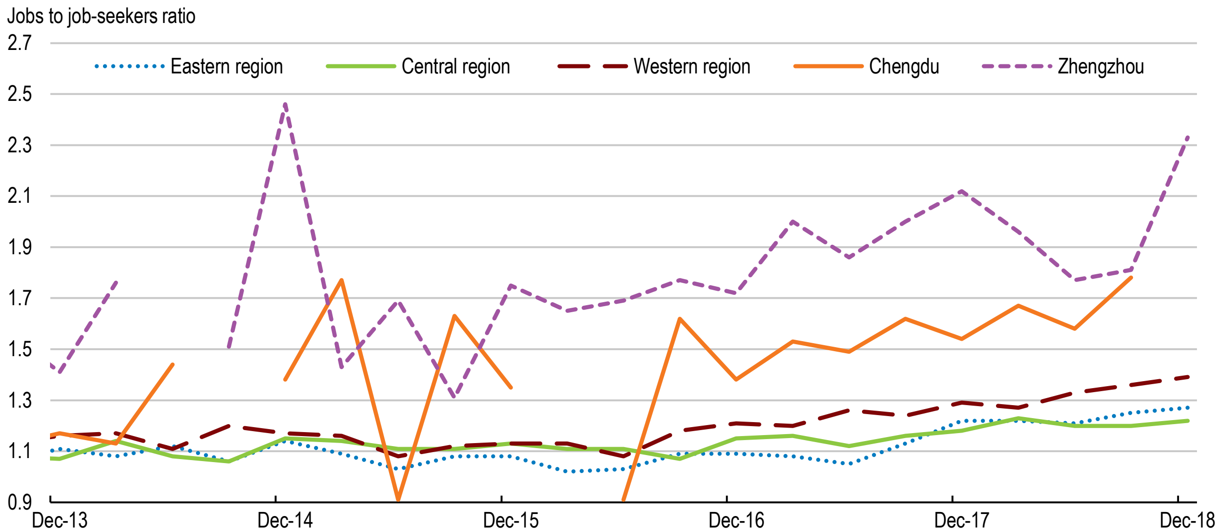
Figure 3. Job vacancy rates are high in some inland cities



Note: Ratio above one means more jobs on offer than the number of job seekers in the respective category.
Source: China City Labour Force Survey, Ministry of Human Resources and Social Welfare.

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Figure 4. Stock prices have partially recovered

Shanghai Stock Exchange Composite Index (2010 Jan =100)

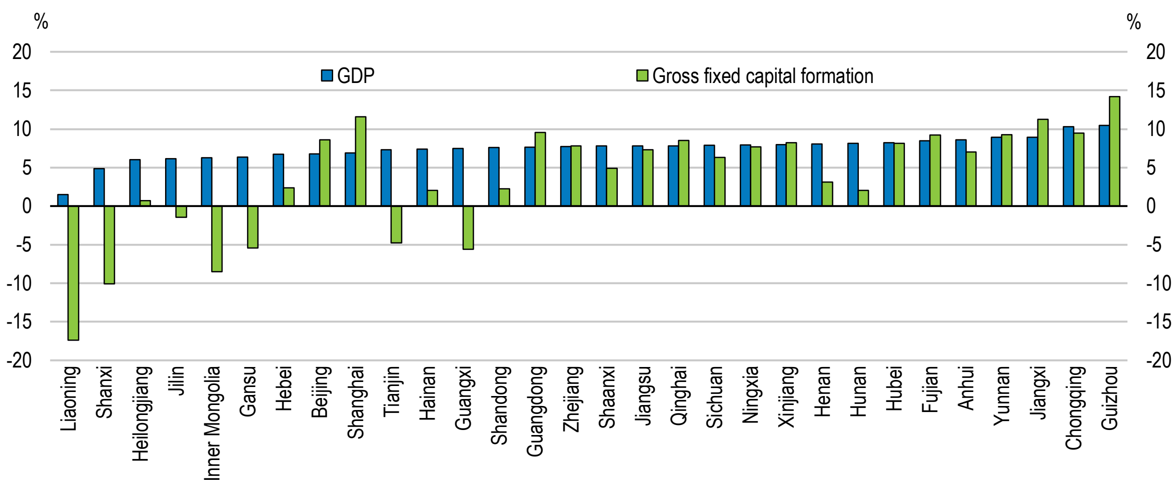
Source: CEIC.

StatLink http://dx.doi.org/10.1787/888933944785

Investment has been slowing since the start of the decade and has been the main driver of growth moderation. Excess capacity became apparent as early as in the late 1990s, weighing on business investment in the affected industries. The real estate investment boom and large infrastructure projects cancelled out that impact for some time. The deceleration in investment has been geographically uneven (Figure 5), being in general stronger in provinces with investment-driven growth models (Li et al., 2018) such as Jilin, Liaoning, Inner Mongolia, Hebei and Tianjin. In contrast, investment has been better sustained in export-oriented provinces such as Guangdong, Jiangsu and Zhejiang. Some less developed Western and Central provinces including Guizhou and Jiangxi continue enjoying double-digit investment growth as well as above-average growth rates.

Figure 5. The slowdown in growth and investment has been geographically uneven

Compound average growth rate, 2014-17



Note: Both GDP and gross fixed capital formation are in real terms. The real gross fixed capital formation is calculated from the nominal figures using the province-specific fixed asset investment deflators. For Tibet, for which no deflator is available, the national average is used.
Source: OECD calculations from data by the National Bureau of Statistics.

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Excess capacity continues to fall, and this may take some more years after decades of misallocation of investment. Since 2017, the list of sectors targeted has been extended to coal-fired power plants, aluminium and other industries, in addition to steel and coal (Table 1). While there has been some modest progress in closing down small-scale, inefficient or heavily polluting plants, in parallel new capacity is being built, thereby partly cancelling out the impact on overall capacity, though enhancing efficiency and reducing pollution. The Global Forum on Steel Excess Capacity, to which China is member, is the forum where steel production capacity issues are discussed, and China should more actively engage in multilateral dialogue. The Forum estimates that China's steel production capacity decreased by a modest 9.8% over 2014-17.

Table 1. Excess capacity is being phased out

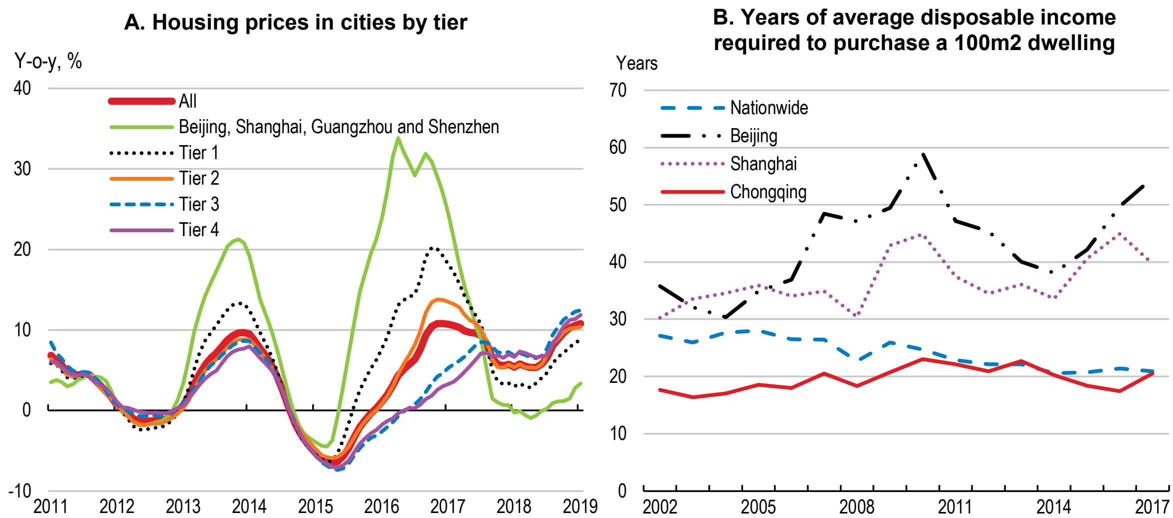
	Steel	Coal	Coal-fired power	Electrolytic aluminum
Production capacity to eliminate over 2016-20 (million t)	150	800	20 Mkw	/
Production capacity to eliminate in 2017 (million t)	50	150	50 Mkw/	/
Eliminated in 2017	Over 50	800	/	5.6
Percentage of 2017 target	Over 100	Over 500	/	/
Eliminated by end-2017	120	1090	/	/
Proportion of total capacity to eliminate over 2016-20 (million t)	13	17.5	18	/
Production capacity to eliminate in 2018 (million t)	30	150	4 Mkw	/

Note: In addition, in 2017 also 140 million tonnes of sub-standard steel capacity was phased out, which does not appear as part of official statistics.
Source: 2018 Government Work Report, Guanyu Zuohao 2018 Zhongdian Lingyu Huajie Guosheng Channeng Gongzuo de Tongzhi, in Chinese (Notice on Eliminating Excess Capacity in Key Areas in 2018), Guanyu Tuijin Gongjice Jiegouxing Gaige Fangfan Huajie Meidian Channeng Guosheng de Yijian, in Chinese (Opinions on Advancing Supply-side Structural Reform to Prevent and Eliminate Excess Coal Power Capacity), 2017 Meitan Hangye Fazhan Niandu Baogao by China National Coal Association, in Chinese (2017 Annual Report on Coal Industry Development), 2016 Nian Gangtie Hangye Yunxing Qingkuang he 2017 Nian Zhanwang, in Chinese (2016 Situation of Steel Industry Operations and 2017 Outlook) by the Ministry of Industry and Information Technology.

Real estate investment is now a less important driver of growth compared to a couple of years ago, when already bubbly housing prices were inching upwards, in particular in the largest cities. Housing prices in the four mega cities of Beijing, Shanghai, Guangzhou and Shenzhen (the “old” Tier 1 cities) have since stabilised (Figure 6) as a result of home purchase restrictions ranging from raising down payments to more stringent mortgage lending conditions. Since the 19th Party Congress in October 2017, the principle of “housing is for living in it and not for speculation” has increasingly been enforced, as the authorities have cracked down on speculators, black-market intermediaries, illegal developers and deceptive advertisements. Some cities such as Shenzhen or Kunming restrict the sale of housing to at least three years after its purchase.

Notwithstanding the flattening of house price inflation, prices remain very high in the largest cities (Figure 6). It takes 55 years for an average Beijing income earner to buy a 100 m2 apartment instead of 59 at the peak in 2010. Even in Western China (e.g. Chongqing), it takes 20 years of earnings. Inventories in third- and fourth-tier cities have fallen rapidly as a result of policies to work off the inventory overhang since 2014. Hunan Province provided subsidies for migrant workers who gave up their rural residential areas and bought housing in cities. Xi’an, the provincial capital of Shaanxi Province bought stocks of residential real estate to use as social housing and Leshan city in Sichuan Province increased the length of mortgage lending and relaxed the conditions for loans using housing providential fund savings (Deng et al., 2018). These diverse policies, which were tailored to local conditions, led to a steady adjustment in housing inventories country-wide. Given the lack of alternative saving instruments, property will remain in high demand.

Figure 6. House prices are flattening in mega cities but still not affordable for average earners



Note: Tier 1 comprises 17 cities, Tier 2 22, Tier 3 21 and Tier 4 10. For the nationwide series, the urban disposable income is used as only urban residential housing has an open market. For 2017, the residential housing price data are obtained from the National Bureau of Statistics Report *2017 Nian Quanguo Fangdichan Kaifa Touzi he Xiaoshou Qingkuang*, in Chinese, 2017 State of Real Estate Investment and Sales and calculated as sold residential housing area divided by sold residential housing value, which is the way the per square meter price is calculated in the National Bureau of Statistics database for the earlier years. All prices refer to newly built housing as no comparable data are available for second-hand residential buildings.

Source: Panel A: OECD calculations based on the CEIC database. Panel B: National Bureau of Statistics database and National Bureau of Statistics (2018), *2017 Nian Quanguo Fangdichan Kaifa Touzi he Xiaoshou Qingkuang*, in Chinese, 2017 State of Real Estate Investment and Sales, available at http://www.stats.gov.cn/tjsj/zxfb/201801/t20180118_1574923.html.

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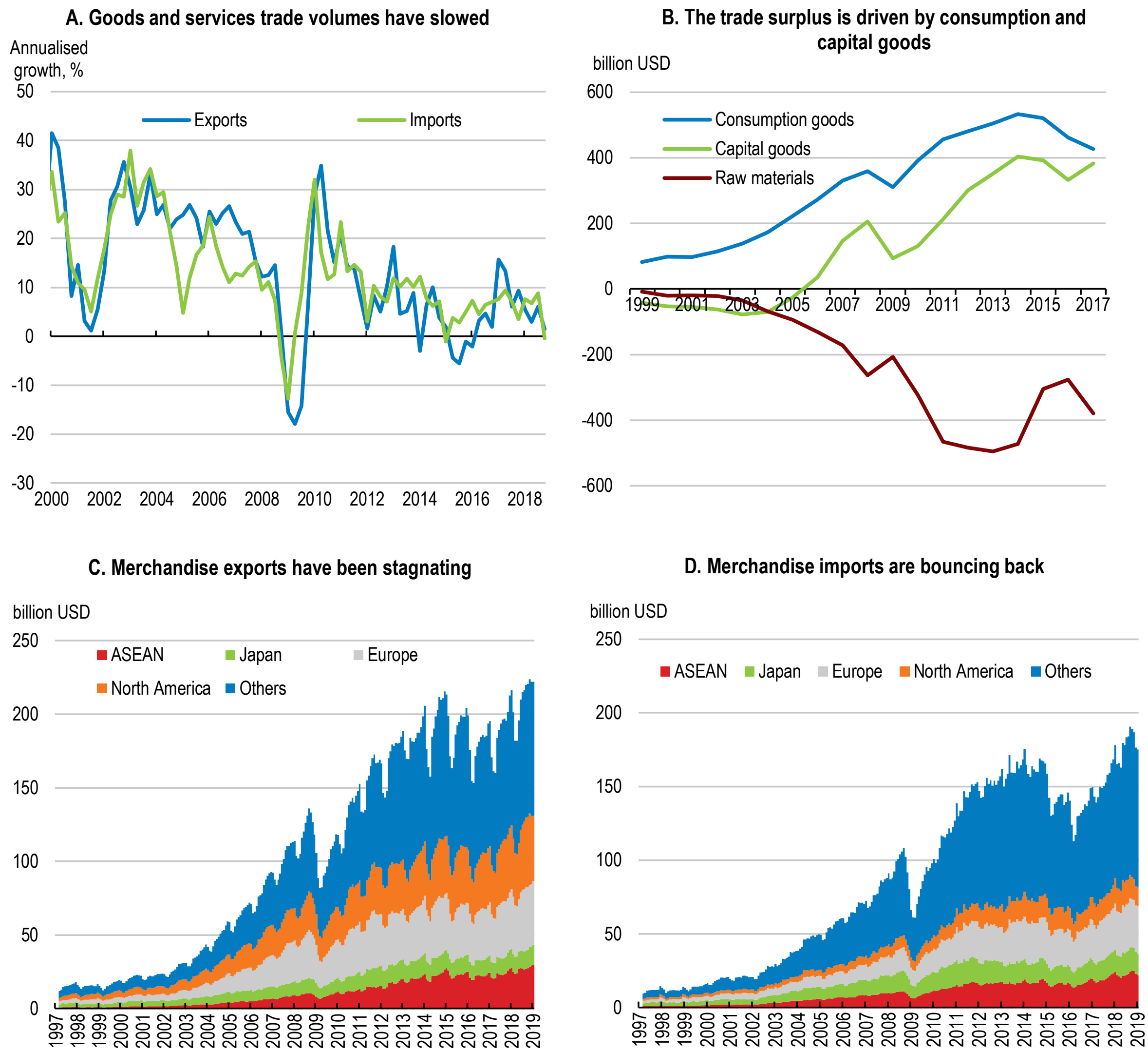
Trade has slowed amid heightening uncertainties (Figure 7). This trend had started before recent trade frictions and can be attributed to structural changes such as limited room for expansion, given some Chinese goods have saturated markets. Also, as China's export structure is becoming increasingly sophisticated, the growth of exports is edging down. On the import side, the slowing of domestic investment may exert downward pressure on import demand, as capital goods comprise a large part of imports. Lower import tariffs on consumption goods, however, may boost the imports of consumption goods, partially offsetting it. Trade surplus in goods trade appears persistent and large, driven by consumption and capital goods (Figure 7) and notwithstanding the stagnation of overall trade (Figure 7). The services deficit, in contrast, is soaring (Figure 8), resulting in the shrinking of the current account surplus. This trend is likely continue as an increasing number of people travel overseas.

Figure 7. Trade growth has stalled



Note: Panel C and D are three-month moving averages.
Source: CEIC database.

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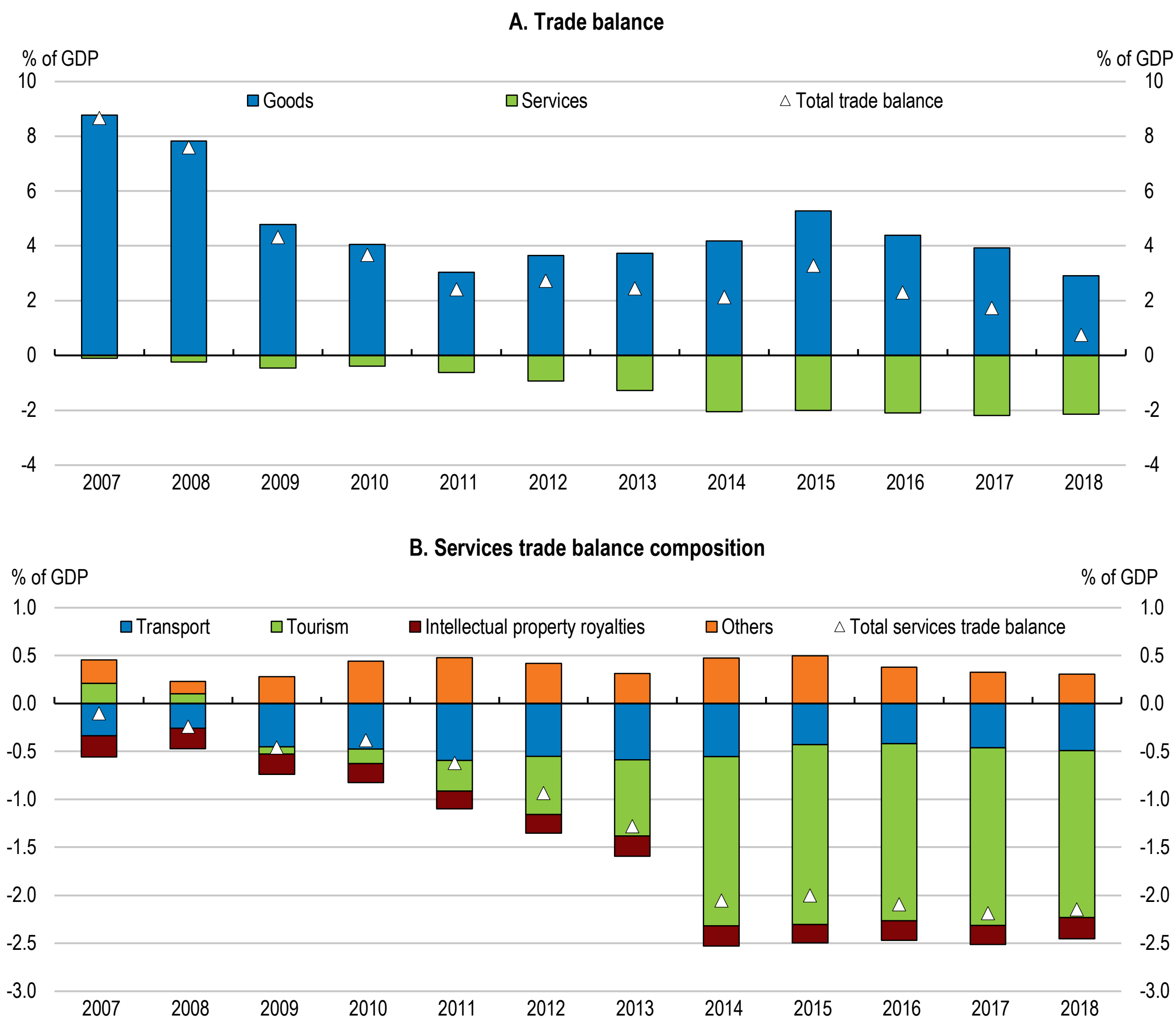
Figure 8. The goods trade surplus is shrinking while the services trade deficit is growing



Source: CEIC database.

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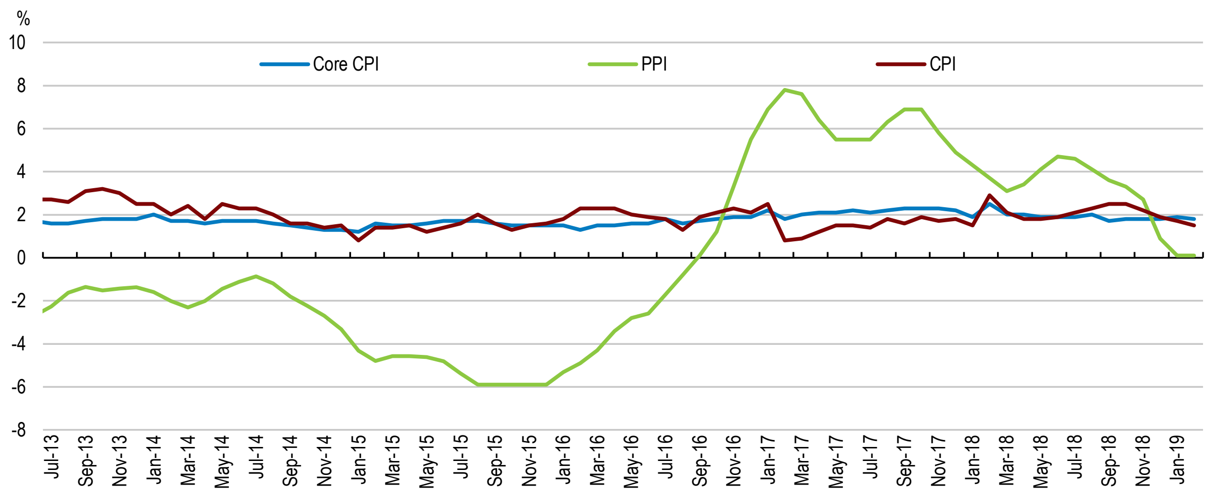
Following a strong increase, producer price inflation has been trending down (Figure 9), reflecting remaining excess capacity and exchange rate appreciation from mid-2017 till mid-2018. Consumer price inflation has remained subdued. Recent cases of African swine fever and mass culls of hogs are expected to lift pork prices and hence also CPI in the coming year or so. Tariff hikes as a result of on-going trade frictions are also likely to have an inflationary impact.

Figure 9. Producer price inflation is trending down and consumer price inflation remains stable

Per cent change over previous year



Note: Core CPI excludes food and energy.
Source: CEIC database.

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Against this backdrop, growth is projected to continue to slow gradually over 2019-20 (Table 4). Both structural and cyclical factors are in force. The demographic dividend had long been reaped and for a number of years the working age population has been falling. Investment growth has slowed from very high levels. Recently, trade growth has started to fade as stock-piling by US customers is over as a result of the kicking in of the announced and anticipated tariff hikes. Consumption will become a more prominent driver as investment slows, and will be supported by stable employment and income growth. The fiscal deficit (Box 1) will widen somewhat as a result of tax cuts and other measures (Box 2), though more efficient tax collection and more stringent enforcement of social security payments may more than make up for the loss and prompted authorities to reduce statutory contribution rates to ease the burden on firms, particularly smaller ones. Inflation will rise temporarily due to higher hog prices and tariff hikes, but will remain subdued. Uncertainty has already contributed to a sharp fall in share prices.

Box 1. Fiscal measures and definitions

This box provides some insights into the various measures of fiscal deficit published by official and private institutions. The official deficit (in Tables 2 and 3 called headline deficit) only refers to the general budget account among the four government accounts (the other three being government fund account, social security and state-owned capital management account). This deficit target is decided in the spring and normally cannot be increased over the course of the year. The overall fiscal balance consolidates the four budget accounts so that the internationally comparable general government budget data are obtained. How the overlap between government accounts is accounted for and how revenues from the sales of land rights are treated may cause some discrepancies across overall deficit figures and forecast (here land right sales are not treated as proceeds from privatisation as in the case of other institutions, given that it is a recurring revenue). The government managed funds and the state-owned capital management account cannot run a deficit. In addition, several institutions use various definitions of a so-called "augmented" deficit, which, in addition to the overall balance above, may include infrastructure financing by local government investment vehicles or government-guided funds, PPPs, development banks etc. Those figures are based on estimates as no such data are officially available on a comprehensive basis.

Table 2. Measures of fiscal deficit

Percentage of GDP

	2015	2016	2017
Headline (official) deficit	**-2.4**	**-2.9**	**-2.9**
Overall deficit	**-1.3**	**-3.0**	**-3.1**
Augmented deficit	**-8.4**	**-10.4**	**-10.8**

Note: The headline deficit is the published official fiscal deficit figure. The overall deficit is calculated as an overall deficit of the four budgetary accounts (general budget account, government fund account, social security and state-owned capital management account). The augmented deficit, according to IMF definition, includes local government investment vehicles and other off-budget activities.
Source: OECD calculations from CEIC database and IMF (2018) Article IV.

The actual spending and hence, deficit is even harder to assess due to the various reserve-type of funds established with the purpose of preparing for unexpected spending. Spending from such reserves does not need to be approved by the national People's Congress or disclosed to the public. Large reserve-type funds, manifested in large carryovers, however, reduce the efficiency of fund use and hinder budgetary transparency.

Box 2. Recent stimulus measures

As downward pressure increased, a number of measures have been adopted to stimulate economic activity. Local government debt issues to finance infrastructure projects have accelerated as has the approval of projects by the National Development and Reform Commission. This time, in addition to the usual infrastructure stimuli, a wide range of tax cuts have also been implemented. In addition to personal income tax reform saving income taxes worth 0.52% of GDP (lifting the personal allowance and the lowest two brackets) with the aim of stimulating consumption, the corporate sector is also benefiting from a sharp reduction in taxes and fees. The VAT was cut earlier in 2018 from 17% to 16% and 11% to 10%, which saved the corporate sector 0.44% of GDP. In 2019, VAT was further cut from 16% to 13% and from 10% to 9%, effective from April 1. Import tariffs have been cut twice in 2018, resulting in the lowering of the average tariff rate from 9.8% to 7.5% and reducing the tariff burden by 0.08% of GDP. The employer contribution rate to the pension fund will be cut from 20% to 16% as of May 1. Tariffs on car imports from the United States were reduced from 40% to 15%. Refund of VAT on certain exported goods was raised, saving nearly 0.07% of GDP in taxes. In addition, VAT on interest income from lending to small and micro firms has been exempted and technology firms benefit from accelerated depreciation. The stimulus in 2019 could be as high as 4.25% of GDP based on announced measures (Table 3).

Table 3. Fiscal stimulus measures will increase in 2019

Measure	Impact on the fiscal balance, % of GDP	
	2018	2019
Tax cut and fee reduction	1.44%	2.05%
Personal income tax	0.52%	
Value-added tax	0.44%	
Tax rebate for exports	0.07%	
Tariffs	0.08%	
Local government special bond limit	1.5%	2.2%
Total	2.94%	4.25%

Note: The impact of the personal income tax cuts in 2018 and 2019 are estimated using the 2013 wave of the China Household Integrated Panel database. Local government special bonds are mostly used for infrastructure investment purposes, here it is assumed that all are.
Source: OECD estimates based on official announcement and the 2013 CHIP database.

Table 4. Macroeconomic indicators and projections

	2012	2013	2014	2015	2016	2017	2018	2019	2020
					% change				
Real GDP	7.9	7.8	7.3	6.9	**6.7**	**6.8**	**6.6**	**6.2**	**6.0**
Exports of goods and services[1]	6.2	9.1	4.2	-2.3	**1.9**	**11.0**	**5.1**	**4.5**	**4.8**
Imports of goods and services[1]	7.1	11.0	8.3	2.6	**6.3**	**6.9**	**9.5**	**6.0**	**4.7**
GDP deflator	2.3	2.2	0.8	0.0	**1.1**	**3.8**	**2.9**	**2.2**	**2.1**
Consumer price index	2.6	2.6	2.0	1.4	**2.0**	**1.6**	**2.1**	**3.0**	**3.0**
Terms of trade	2.6	1.0	2.8	12.7	**0.1**	**-6.8**	**-2.6**	**-0.8**	**-0.6**
Fiscal balance					% of GDP				
Overall[2]	0.5	-0.3	-0.3	-1.3	**-3.0**	**-3.1**	**-3.1**	**-3.3**	**-3.5**
Headline[3]	-1.5	-2.0	-2.1	-2.4	**-2.9**	**-2.9**	**-2.9**	**-3.1**	**-3.1**
Current account balance	2.5	1.5	2.3	2.8	**1.8**	**1.4**	**0.2**	**-0.1**	**-0.2**
Memorandum items:									
					billion USD				
Foreign exchange reserves, end-year	3 312	3 821	3 843	3 330	3 011	3 140	3 073		
					% change				
Housing prices deflated by the CPI[4]	-3.2	3.2	0.5	-5.3	4.4	6.9	5.1		
Total employment	0.4	0.4	0.4	0.3	0.2	0.0	-0.1		
Urban employment	3.3	3.1	2.8	2.8	2.5	2.5	2.3		
Nationwide Gini coefficient for household disposable income	0.474	0.473	0.469	0.462	0.465	0.467			

Notes: 2019-20 figures are OECD projections.
1. OECD estimates.
2. The overall fiscal balance encompasses the balances of all four budget accounts (general account, government managed funds, social security funds and the state-owned capital management account).
3. The headline fiscal balance is the official balance defined as the difference between the three items i) general budget revenue, ii) revenue from the central stabilisation fund and iii) sub-national budget adjustment on the revenue side and the three items iv) general budget spending, v) replenishment of the central stabilisation fund and vi) repayment of principal on sub-national debt on the spending side. The 2018 figure is the official deficit target.
4. The housing prices are estimated using the property price index of 70 cities for 2008-10, then the simple average of the property price index of newly constructed residential housing for 2011-17.
Source: CEIC database; OECD projections, March 2019.

Box 3. Escalating trade frictions

In September 2018, following the initial 25% tariffs on goods worth of USD 50 billion in the summer, another USD 200 billion worth of Chinese exports to the United States were made subject to 10% tariffs, covering already roughly half of Chinese exports to the United States. Tariffs on this second group of goods were expected to rise to 25% from January 2019 before the two parties reached an agreement at the G20 meetings in Buenos Aires in early December to extend negotiations for 90 days. At the end of the period negotiations were still ongoing and the hike was not implemented. The first group was matched by China, but in this second case, China imposed 5-25% tariffs on US goods worth USD 60 billion only. The total so far covers about half of Chinese exports to the United States, but nearly all the other way.

The measures adopted by end-2018 would shave off ¼ per cent of Chinese and US GDP and would reduce world trade by 0.4% by 2020. Import volumes in both countries would decline by ¾ per cent and in the United States consumer price inflation would rise by 0.2 percentage point in both 2019 and 2020 as a result of higher import prices due to tariffs. Other countries would be negatively affected through declining trade growth, though in the longer term, they should benefit from an improved competitive position in the US market.

If the United States raises tariffs on USD 200 billion of goods from China from the current 10% to 25% from January 2019, the adverse impact would double to ½ per cent decline of Chinese and US GDP by 2020. World trade would decrease by ¾ percentage point and US CPI inflation would be 0.6% higher than otherwise.

In the extreme case of all Chinese exports subject to 25% tariffs (assumed to occur from July 2019), the GDP impact would be ¾ per cent decline by 2020. World trade would be 1% lower and import volumes in China and the United States 2% lower. In the United States, CPI inflation would be 0.9% higher.

The above simulations assume that the majority of the burden of the tariffs falls on US consumers in the near term in the form of higher prices. If Chinese exporters assumed some of the burden by squeezing profits, the adverse effects on growth in China would be greater due to terms-of-trade loss and the impact on US growth and inflation would be lower. Adverse confidence effects and heightened uncertainty would result in a sharper decline in output in all countries.

These shocks also have implications for macroeconomic policies: monetary policy will be tighter in the United States and the effective exchange rate of the US dollar would slightly appreciate. This in turn would put a downward pressure on the renminbi and other emerging market currencies and increase capital outflows from those economies.

Source: OECD (2018), *Economic Outlook November 2018,* OECD Publishing, Paris and OECD (2018), "Trade policy and the global economy scenario 2: Increasing tariffs", *Trade Policy Brief,* OECD Publishing, Paris.

Risks to the above projection are tilted to the downside. Further escalation of trade tensions (Box 3) will take a toll on exports and overall growth and likely trigger depreciation pressures for the currency. Confidence effects may trigger a sharp fall in stock prices, which in turn may have spillover effects on other economies. Excessive leverage and unsustainable levels of debt in the corporate sector compound financial stability problems even though a number of tax cuts and potentially, social security contribution cuts (to address the sharp increase in effective rates as a result of stricter enforcement) are being or will be implemented to reduce the burden on enterprises. Rapid adjustment in the real estate and industrial sectors would drag down growth, but is necessary to strengthen resilience. Supply-side policies, including deleveraging and working off excess capacity, are crucial to avoid a sharp slowdown. Further stimulus, in contrast, would result in stronger growth in the short term but larger imbalances later. On the upside, stronger than foreseen global growth and the alleviation of trade frictions would support Chinese exports and growth. Tail risks are also mounting from large-scale corporate defaults to a collapse of housing prices and rising geopolitical tensions (Box 4).

Box 4. Key vulnerabilities

Vulnerability	Possible outcome
Large-scale defaults in the corporate sector	Slowing growth and increasing costs of financing make it harder to service debt and can lead to further defaults, adversely affecting bank profitability and leading to liquidity problems. Trade frictions could also take a heavy toll among export-oriented smaller firms. This, however, may be mitigated in the short term by the government's bailout of defaulters or persuasion of creditors not to exercise their right.
A steep fall in housing prices	A collapse in housing prices would hurt some sectors of the economy including real estate, construction, furbishing, home appliances and other related industries, but the impact of a steep fall in house prices would be mitigated by stringent prudential regulations governing household mortgage borrowing and the prohibition of withdrawing housing equity.
Escalation of trade tensions	Further escalation of trade sanctions with higher tariffs and a wider coverage would hit exporters, in particular SMEs and private firms even harder. There could also be more aggravated confidence effects, a further fall in stock prices and in consumer confidence.
Escalation of geopolitical tensions	Regional instability, could lead to a massive influx of refugees. This would put public finances in the provinces already hard-hit by capacity cuts in the industrial rustbelt under further pressure. Escalation of conflicts in the South China sea could also have adverse confidence effects.

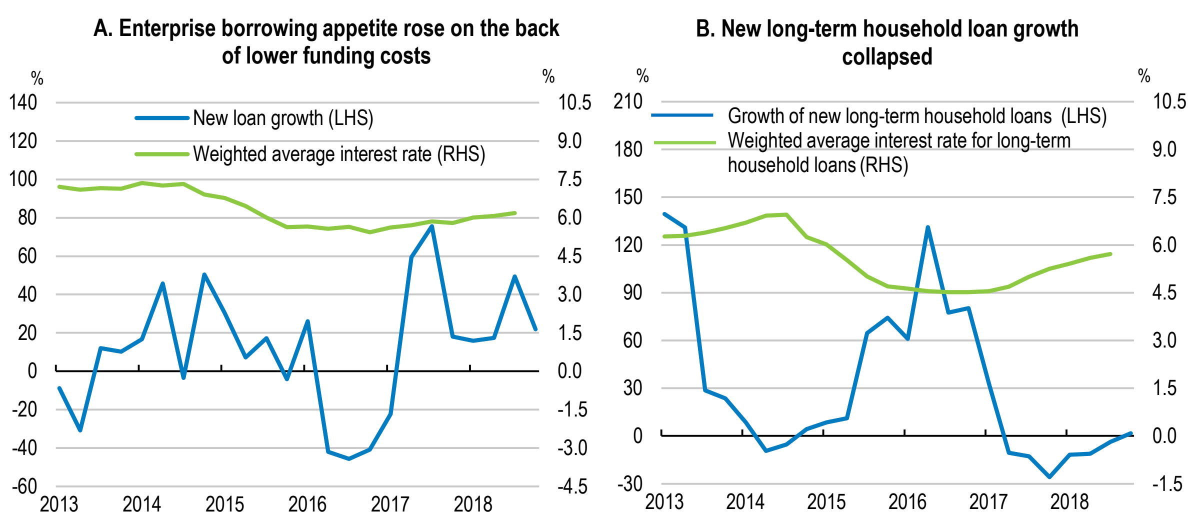
Ensuring stability and supporting the real economy has become priority for monetary policy

In general, monetary policy is increasingly price based, but targeted instruments continue holding back the move towards more market-based mechanisms. Transition towards an explicit inflation targeting regime over the medium- to long term could be explored, especially that the PBoC appears to have attached a greater weight to inflation in the past decade and a half and managed to achieve price stability with mildly persistent inflation (Girardin et al., 2017). This would, however, prerequisite institutional changes, including in the division of tasks between the central bank and other institutions. Also, it would require time, as China's monetary framework is still in transition to a more price-centric one, still using both price and quantity-based instruments. Window guidance is prevalent. Monetary policy remains prudent with an expansionary bias to support economic activity amid the slowdown related to the trade tensions.

Implicit guarantees to state-owned enterprises and public entities need to be removed to create a level playing field, instil greater market discipline and achieve better credit risk pricing. In the past two years, enterprise funding costs were low, leading to increased appetite for borrowing. Amid heightened uncertainty and risk aversion, funding costs have risen. Mortgage restrictions and rising costs have curbed household long-term borrowing (Figure 10). The hardest hit by soaring funding costs are small and medium-size firms, which are also the biggest victims of trade frictions. Informal lending rates at end-2018 have been as high as 17-18%, according to the surveys in Wenzhou city in Zhejiang Province, the "capital" of informal lending.

Figure 10. New enterprise and mortgage lending growth faded

Growth rates are calculated year-on-year



Note: Panel A: new loans refer to loans to non-financial corporations and government agencies and the weighted average interest rate is for general loans.
Source: OECD calculations based on the CEIC database.

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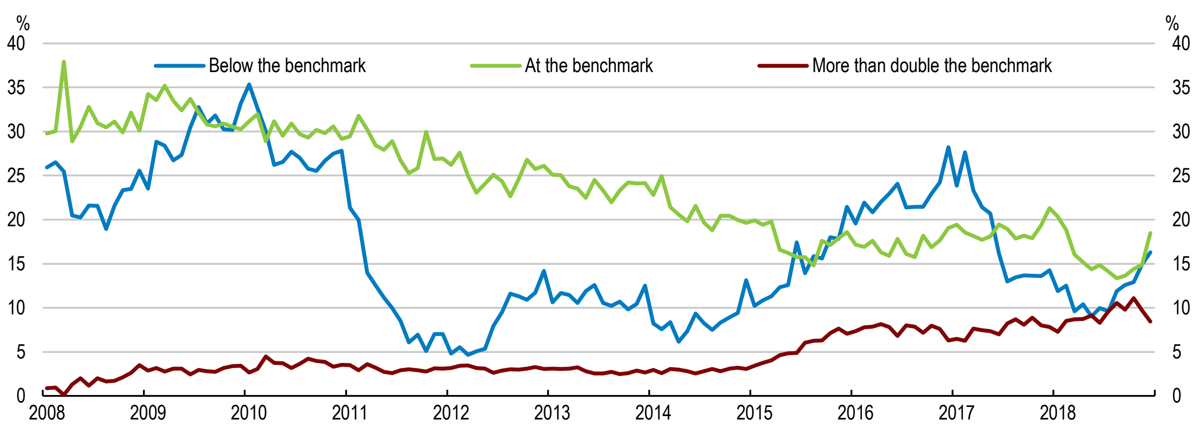
To ease SME access to finance, various incentives have surfaced for banks to better serve this segment, which is an important employer. Judging from the stable share of loans at more than double of the benchmark (Figure 11), however, these borrowers, which are normally more risky, do not appear to be well served. The exemption of lending to SMEs from the VAT on interest earnings may somewhat ease their access to finance.

The halving of the share of loans over the past year priced below the benchmark rate may suggest that SOE deleveraging is progressing. Credit (and bond issuance) policies will no longer privilege them over the private sector, which has been particularly hard hit by adverse confidence effects related to escalating trade frictions. The National Development and Reform Commission announced in mid-November 2018 that it would support private enterprises' bond issues, provided they are highly rated, robustly managed, are in the process of industrial upgrading or are leaders of their respective regions' development. The use of the bond proceeds is envisaged to be managed by a positive and negative list with firms contributing to national strategic projects and key areas enjoying easy access to such bond issues. Furthermore, private firms defaulting on their bond repayment may even benefit from bailout, though only if they are considered to be having temporary liquidity problems and only under strict conditions.

The People's Bank of China will also support private enterprises with temporary liquidity problems by promoting bank lending, bond issues and equity financing. There are attempts to increase lending by both large and small- and medium-sized banks to the private sector, in the former's case at least a third and in the latter's two-thirds of new loans should be to the private sector, though the targets do not apply for individual banks. In addition, to mitigate the adverse collateral effect stemming from falling share prices, 11 securities brokerages set up a parent asset management plan. Similar initiatives followed at the city level across the country with some even ordering SOEs to co-operate with listed firms including through M&As.

Figure 11. The share of lending at and below the benchmark rate have fallen

Percentage of lending by interest rate relative to the benchmark interest rate



Source: CEIC database.

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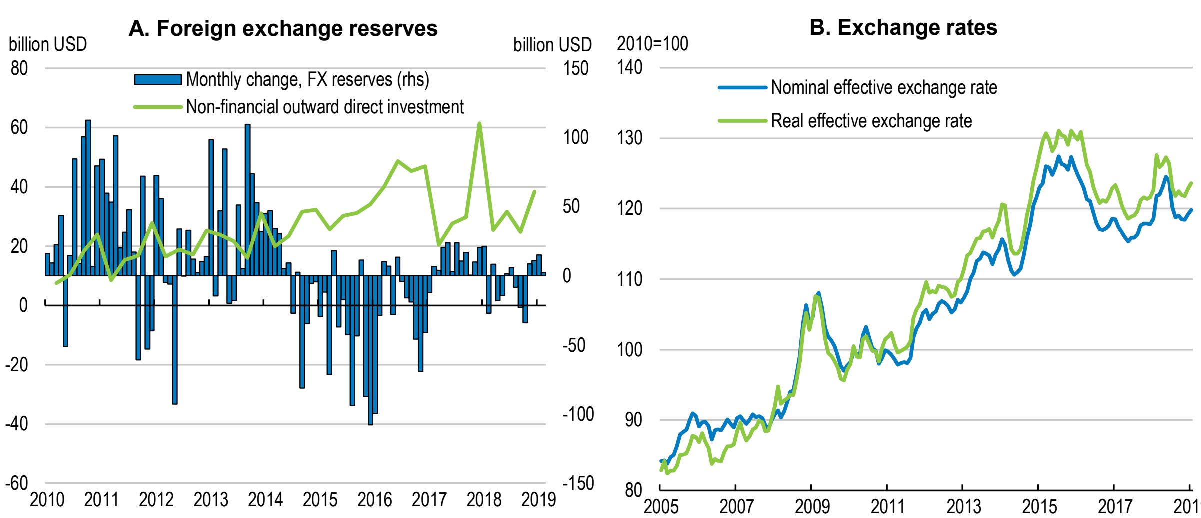
The exchange rate came under pressure on the back of adverse confidence effects stemming from the escalation of trade tensions, prompting the PBoC to regain control over it by introducing an additional element, the counter-cyclical factor (Box 5), to the central parity formula. The essence of the countercyclical factor has never been disclosed, but *ex post* it emerged as a powerful tool to drive expectations and halt the slides of the renminbi. With direct capital outflows effectively reined in, and forex reserves and the exchange rate stabilised (Figure 12), capital account liberalisation could resume. As previous Economic Surveys emphasised, however, further flexibility should come with greater market determination of the exchange rate, which can serve as a cushion to absorb shocks as the capital account opens up further. The escalation of further trade tensions, however, could trigger depreciation pressures and capital outflows. In any case the benefits of liberalisation need to be weighed against its risks and therefore steps to open up the capital account and to make the exchange rate fully flexible should be taken with care.

Box 5. What is the countercyclical factor?

The so-called counter-cyclical factor was added to the daily fixing mechanism of the renminbi's exchange rate in May 2017 to stabilise it and avoid depreciation expectations. The daily fix takes into account the previous day's closing rate, the move of the currency basket overnight and the countercyclical factor and market makers can deviate 2% in either direction. As the exchange rate rebounded in the second half of 2017, the countercyclical factor was no longer necessary and thus the PBoC announced that market makers can decide whether they include it and if so, how they define it in January 2018. But when the renminbi embarked on another depreciation wave in early summer, in August the countercyclical factor was re-activated and, as expected, achieved its objective of halting depreciation expectations.

Figure 12. Forex reserves are stable and the exchange rate appreciation faded in 2018



Source: CEIC and Bank of International Settlements database.

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Stability is the key target of financial policy

Stability has become the major objective for financial policy since the once-in-five-years Finance Working Group meeting in mid-2017, in the context of high corporate leverage and activities brought to life by financial innovation – new ways of attempting to provide higher yield for savers and access to credit to riskier borrowers - running out of control. In November 2017 the Financial Stability Committee was established to oversee the lowering of financial risk, strengthen financial regulation and regulatory coordination and decrease shadow banking. The merger of the banking regulator, China Banking Regulatory Commission, and the insurance regulator, China Insurance Regulatory Commission, which was announced in March 2018, is another measure that can limit systemic risk by enhancing regulatory coordination. According to authorities' assessment, the banking sector (in particular the largest banks) are in good shape, but the most recent IMF stress tests show that mid-tier banks are more vulnerable and therefore should increase capital (IMF, 2017).

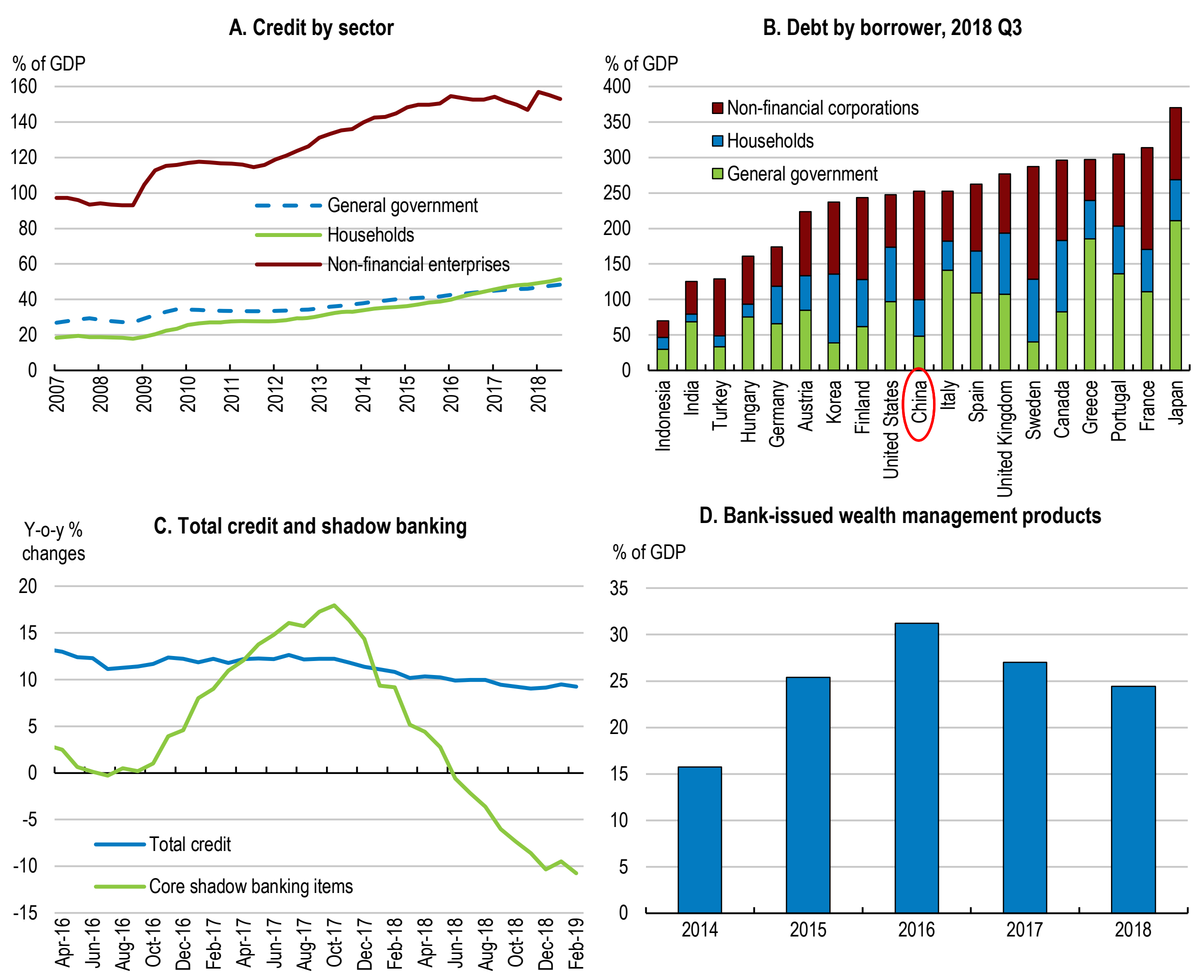
Shadow banking is being reined in (Figure 13), as stability has become the major focus of financial policy. Channelling funds to riskier borrowers and paying higher returns to investors met insatiable demands on both the demand and supply sides. On the one hand, the banking sector is risk averse and regulations kept it from lending to riskier sectors such as real estate and excess capacity industries; on the other, deposit rates were initially controlled and even after liberalisation did not increase much and households have few other alternatives to invest their large savings. Banks, especially the largest ones, have the largest deposit base and are prohibited or reluctant to lend to riskier borrowers. But they found myriad ways to channel funds through intermediaries. As such schemes are off balance sheet (wealth management products), they were outside regulatory oversight and as they avoid capital provisioning, their surge implied heightening financial risks. In addition, wealth management products carried perceived implicit guarantees, with some carrying explicit guarantees on the principal, and involved maturity mismatch. Financial institutions raised funds through the inter-bank market by issuing certificates of deposit that were considered bonds, and sold wealth management products to each other, thereby enhancing systemic risk.

The regulatory measures first brought assets behind wealth management products into macro-prudential assessment in 2017 and subjected certificates of deposits to the inter-bank liability ceiling of 1/3 from 2018. Issuers are now prohibited to use their own assets to bail out failed wealth management products. These have curbed the size of the shadow lending (i.e. lending through non-bank financial intermediaries), as its funding sources shrank. They also mitigated moral hazard arising from guarantees on the principal and enhanced transparency. However, there is evidence that the more stringent rules on bank wealth management products triggered a shift to fund and security company wealth management products and to structured deposits and income certificates. Therefore, an integrated approach to regulation under the new Financial Stability Committee is crucial to eliminate grey areas in regulation and prevent systemic risk. Regulators should not only monitor the health of each financial institution, but also the linkages between them through cross-investments and lending.

The deleveraging of non-financial corporations, which started in the second half of 2016, continued as corporate debt decreased to 160% of GDP by the end of 2017 (Figure 13). However, this level is still much higher than in major economies (Figure 13) and is unlikely to be sustainable. De-leveraging should accelerate, in particular in SOEs, and should not reverse. Debt-to-equity swaps are an important tool in the deleveraging campaign, but they have so far only covered a tiny share of non-financial enterprises debt. To speed up the process, the PBOC released liquidity worth of CNY 500 billion in July 2018 designated to the programme through cutting the reserve requirement ratio. Since January 2018, asset management companies can invest in debt-equity swaps. SOEs, which accumulated over 70% of non-financial corporate debt (Molnar and Lu, 2018), are the major participants in debt-equity swaps, but now the scheme has been extended to private firms.

Debt-to-equity swaps, however, only provide a partial solution to corporate debt as they do not cover bad loans or companies with bleak prospects. As highlighted in the previous Economic Survey, zombie firms take up resources which could have been allocated to more efficient firms, dragging productivity down and in such cases bankruptcy may be the best way forward (Adelet McGowan et. al., 2017). In April, 2018, six government agencies issued a notice emphasising the necessary exit for zombie firms (i.e. those making losses for years in a row), whose debt exceeds assets and that are not capable of staying afloat. To speed up the process and reduce uncertainty, the compensation of laid-off workers should be according to relevant laws and should not be subject to negotiation and be condition for filing for bankruptcy. Notwithstanding high corporate debt, defaults have remained low at 0.4% of outstanding bonds at end-July 2018, though higher than in the year before. Orderly defaults are necessary to sharpen risk perceptions and lead to more efficient resource allocation.

Figure 13. Corporate deleveraging continues amid shrinking shadow banking



Note: Shadow banking includes entrusted loans, trusted loans and undiscounted bankers' acceptance.
Source: OECD calculations based on the CEIC and Bank of International Settlements databases.

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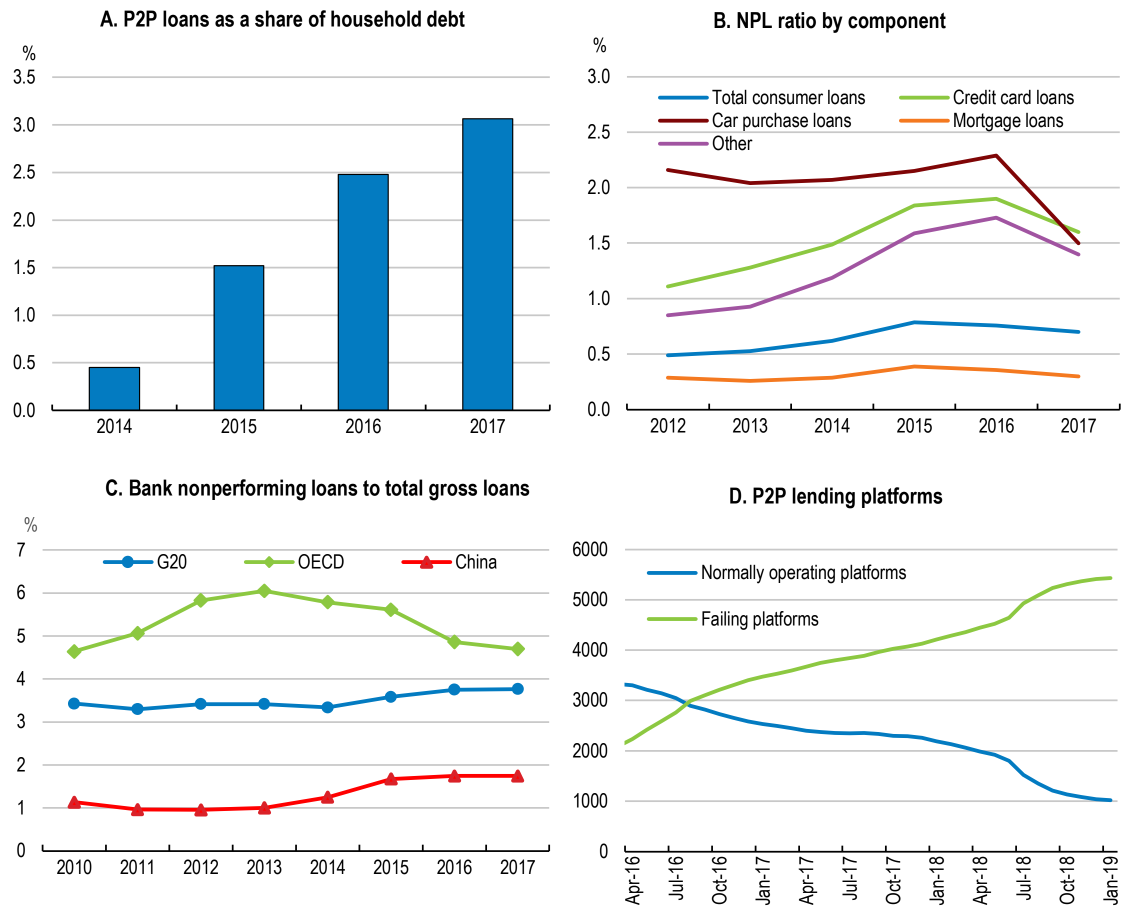
Household debt has soared. An increase in household debt can be a positive development as it supports private consumption; though excessive levels of household debt can limit long run private consumption growth, this usually occurs at higher debt to GDP ratios than where China is now (Lombardi et al., 2017). The rise in household credit has also been accompanied by rising shares of NPLs, in particular for credit card loans, the second biggest component in household lending, which now constitute the biggest share of household credit NPLs (Figure 14). In the second quarter of 2018, the total value of credit card loans overdue for half a year or more reached 1.2% of credit card loans.

Another fast growing component of household credit has been peer-to-peer (P2P) on-line lending, which grew 13-fold in 3.5 years to H1 2018 before sharply falling as more stringent regulations, such as halting the issue of new P2P licenses from November 2017 and high-profile cases of fraud, led to an increasing number of platforms closing down or struggling to operate (Figure 14). The under-regulated environment in which these firms operated led to widespread misuse of funds and over-reporting of returns. To address those issues, a registration process requiring greater transparency was introduced in December 2017 for all operating P2P firms.

In addition to tighter regulation, improved financial literacy could help limit bad loans and contain financial risks (Yuan, 2017) in particular in rural areas as they lag well behind urban areas (PBOC, 2017). As recommended in the previous Economic Survey, financial institutions should lend only to borrowers with ability to service their debt. Furthermore, advertising campaigns need to be strictly controlled to prevent fraud. Financial education is a complement to financial consumer protection, inclusion and regulation, as a way to improve individual decision making and well-being, and to support financial stability and development (OECD, 2017c). In China, the socio-economic status appears to be a more important determinant of financial literacy than in OECD countries according to the 2015 PISA test results. Furthermore, the difference in financial literacy between socio-economically advantaged and disadvantaged students is larger than not only in OECD countries, but other emerging economies. This calls for stronger financial education of disadvantaged groups.

Individual defaulters are placed on a black list, which comes with a number of restrictions in civil rights (Box 6). Ensuring that people pay their debts and obligations is important for a functioning financial market and more information for creditors can improve the pricing of risk and enhance efficiency as well as reduce overall financial risk. However, overly strict measures against debt defaulters can decrease risk taking, thus limiting innovation and in some cases can push people further into debt if their employment prospects are limited or if they take high interest loans to pay off their old ones.

Figure 14. Increasing household credit creates financial risks



Note: In Panel C, G20 excludes South Africa. In Panel D, failing platforms include those that have been closed, transformed, are unable to repay investors, come under police investigation or had operators flee with clients' funds.
Source: CEIC database, BIS, IMF Financial Soundness Indicators database, and Online Lending House, China.

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Box 6. Individual debt defaulters and the social credit system

As household debt – particularly credit card loans – rises, an increasing number of individuals defaulting on their debt is blacklisted by the courts. Blacklists also include people who owe child support and from January 2018, employers who fail to pay their migrant staff. Blacklisted people are prohibited from buying air or fast train tickets, staying in 4- or 5-star hotels and enrolling their children in expensive private schools. The blacklist also limits job prospects as blacklisted people face tougher entry exams for civil service jobs and since the black list is publicly available, the chances of securing a job with corporate employers could also fall.

Furthermore, local governments have used shame campaigns which publish the names and pictures of blacklisted individuals to apply further pressure (e.g. in Guangzhou 141 people have had their personal names displayed on buses and street posters). From 2013 to the end of 2017, 8.8 million individuals have been added to the list, and have collectively been denied buying air and high-speed train tickets 8.7 million and 3.4 million times, respectively. Data on past offences is stored for 5 to 10 years depending on the severity of the offence, although after one to two years of "good" behaviour, restrictions are removed.

By 2020, the blacklist is planned to be replaced with a more comprehensive national social credit score which would cover firms and individuals. This score will not only be based on debt repayment history but on other factors, which relate to trustworthiness such as fraudulent advertising and intellectual property rights infringements. The coverage of the national social credit score is rapidly increasing: by the end of 2017, 34 million credit codes were recorded for firms, and 71 central government departments and provincial governments were connected to the national credit information sharing platform.

Table 5. Past OECD recommendations on monetary and financial policies

Recommendation	Actions taken since the 2017 OECD Economic Survey
Rely less on targeted monetary policy instruments	No action taken.
Enhance prudential regulation by requiring lenders to take into account borrowers' repayment ability when extending loans.	In April 2018 a centralised online personal credit database was established, linking over 200 online lending platforms and over 8000 microcredit institutions. Default on one loan would cut access to all other lenders, freeze third party payment accounts and limit online payments.
Restrict leveraged investment in asset markets	The document on managing commercial bank liquidity risk in December 2017 set a ceiling for interbank liability exposure at 33% and included certificates of deposit in interbank liabilities. The Guiding Opinion on Financial Institutions' Asset Management in April 2018 closed loopholes in the regulatory system and brought the whole industry under greater regulatory oversight.

Debt-related risks are being reined in and fiscal relations adjusted

Fiscal policy is becoming more expansionary. With the slackening of the drivers of growth, the powerful tool of infrastructure investment is reversing the trend of slowing investment in infrastructure seen through most of 2018. China still needs to build up its capital stock, which is lower than in advanced economies in per capita terms, but capital allocation was not always efficient in the past and related to overinvestment in areas like small airports and insufficient investment in urban structures.

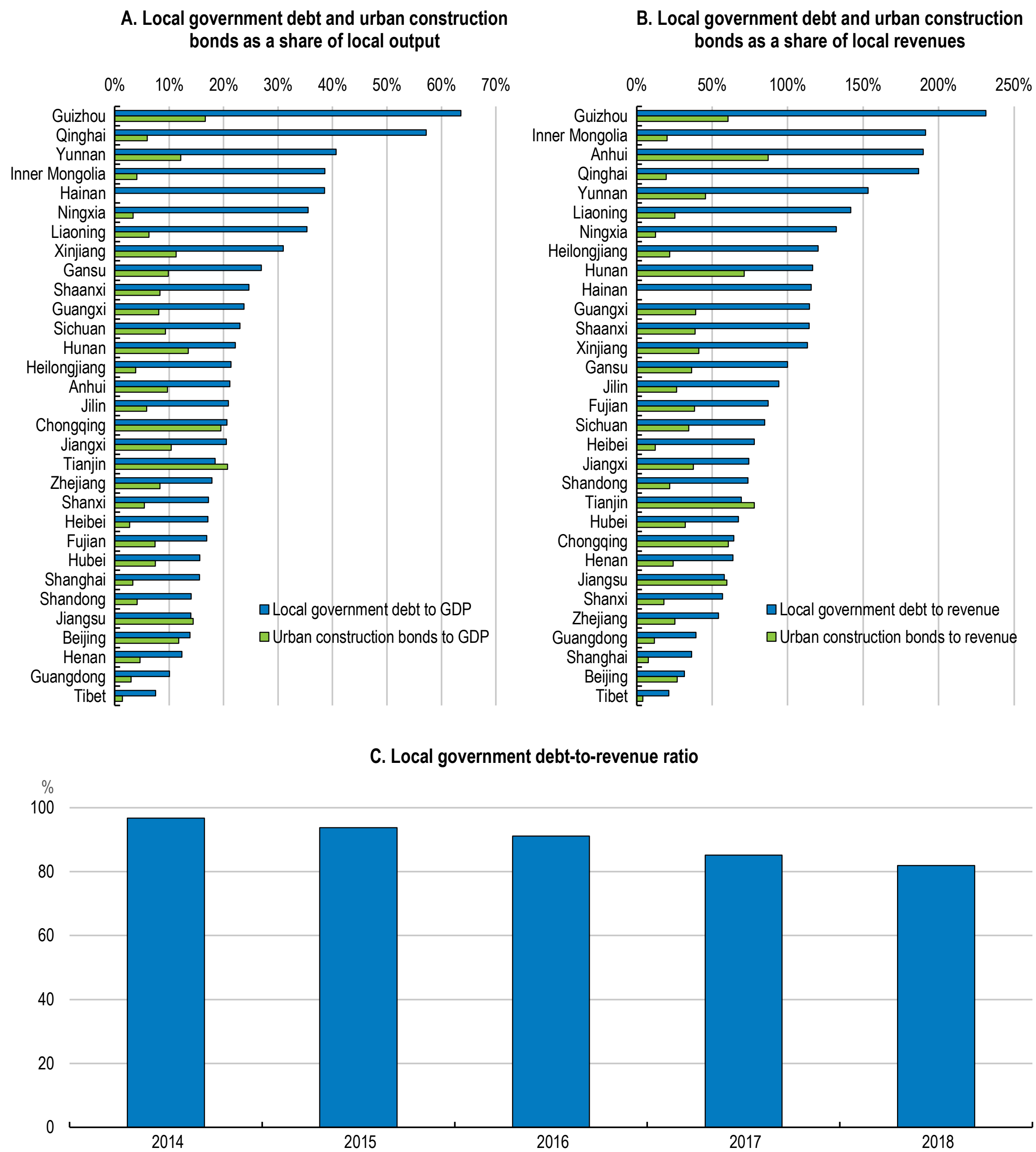
While nationally important strategic projects are financed by the central government, infrastructure investment is mainly the responsibility of sub-national governments. The amendment of the Budget Law in 2014 made it possible for sub-national governments (from 2015) to issue debt to meet such financing needs. Local debt has exceeded a third of local output in eight provinces and in two, Guizhou and Qinghai, exceeded half (Figure 15). Moreover, debt exceeded overall local revenues in 13 provinces in 2017 (Figure 15). Such huge sizes of debt relative to revenues warrant linking debt ceilings to revenues at least to the extent debt needs to be serviced from fiscal resources. This could be done by monitoring the evolution of debt and fiscal resources as well as assessing repayment ability by the sub-national People's Congresses when determining debt quotas.

Although sub-national government debt issues are strictly conducted within the framework of quotas approved by the National People's Congress and its sub-national equivalent (i.e. the debt outstanding at the end of the year is capped and therefore the ceiling for debt issues in that year can be calculated from the outstanding debt at the end of the previous year and maturing debt during that year) and pre-2015 illegally accumulated debt has been tackled, a series of innovative ways to borrow has emerged and the illegal practice of guarantees is continuing. Misuse of public-private partnerships, government foundations and borrowing disguised as government service procurement at the sub-national level prompted the central government to curb such practices.

Explicit guarantees are repeatedly banned, but implicit guarantees to public entities such as local government investment vehicles are still perceived to continue. A new guiding opinion on the balance sheet constraints of SOEs in September 2018 emphasises the need to let unviable local government investment vehicles fail. Such entities issued sizeable amounts of debt, in some provinces such as Jiangsu, Tianjin, Chongqing and Beijing close to or even exceeding local debt (Figure 15) and in some over half of total local revenues (Figure 15). While these entities are mostly diversified enterprises in various sectors, to the extent they carry out urban construction projects of public investment nature and in the event of their failure (due, for instance, to making loss if they are in declining industries such as mining), the government might need to step in and bail them out, as happened in 2014. While official public debt is not particularly high, future debt relief to local government investment vehicles could potentially derail it from a sustainable path (Box 7). Any attempts to rein in illicit debt accumulation and to stop implicit debt by issuing an increasing number of government documents prohibiting guarantees, however, are unlikely to be effective in the longer term as long as implicit guarantees to public entities prevail and sub-national governments, in particular at the lowest levels, are burdened by unfunded spending mandates.

Figure 15. Debt and urban construction bonds are high relative to output and revenues

2017



Note: Panels A and B: Both debt and urban construction bonds refer to outstanding amount. Panel B and C: local government revenue refers to total own revenues at the local level comprising the general, the fund, the State capital operation budget accounts and the social security fund account. The social security fund revenue for Heilongjiang is not included in the 2017 budget implementation report and therefore is calculated as the difference between the national total and the sum of the other provinces.

Source: CEIC and Wind database, China Human Resources and Social Security Yearbooks and local finance bureaux reports on budget implementation.

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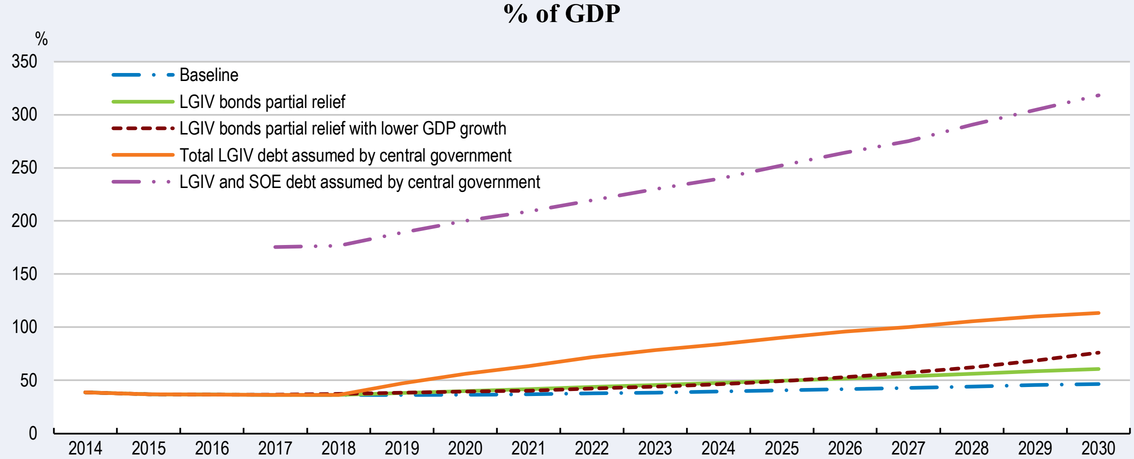
Box 7. Assessing debt sustainability

China's official public debt-to-GDP ratio at around 36% of GDP is not particularly high. With the assumption of gradually slowing growth to 5% by 2030, a GDP deflator of around 3%, interest rates increasing to 4% and the primary budget deficit increasing to 2.8%, public debt appears sustainable. Rapid population ageing and the related social security, healthcare and old-age care costs, however, will exert pressure on spending and will increase the deficit. These costs are likely to be mitigated by sizeable potential efficiency gains related to improved collection and budgetary practices, and therefore are not included in the below scenarios.

A separate scenario assumes that part of the debt issued by local government investment vehicles (LGIVs) is taken on by the government. Here only bond issues are considered as that is where data are publicly available. The proportion assumed to be transferred to government accounts is two-thirds, the same as in 2014, when that share of accumulated LGIV debt showed up as local government debt. Another scenario assumes that, in addition to the above partial debt relief, GDP growth gradually slows to 3% by 2030. While these two scenarios assume a much faster accumulation of debt than the baseline scenario, even with these assumptions debt will not be particularly high in 2030 (Figure 16). For illustrative purposes, total LGIV debt and in addition to that total SOE debt is also plotted in the chart. Total LGIV debt includes loans in addition to the bonds outstanding above and is based on estimated by academics and rating agencies, which put it at CNY 40 trillion at end-2017. While it is unlikely that all LGIV and SOE debt would need to be assumed by the government, it is indicative of the upper bound of contingent liabilities. These contingent liabilities do not include PPP-related liabilities, reconstruction of shantytowns using development bank loans and other implicit or contingent liabilities for which no comprehensive data are publicly available.

Figure 16. Relief to LGIVs may derail debt from the sustainable path
% of GDP



Note: The baseline scenario assumes that GDP growth slows to 5% by 2030, GDP deflator is 3%, interest rates on debt increase to 4% and the primary deficit to 2.8%. Partial debt relief to local government investment vehicles (LGIVs) assumes that two-thirds of LGIV debt is transferred to local governments every three years and that it is swapped with debt issued by local governments to reduce the interest burden. Every year one-third of the transferred debt is swapped. LGIV debt is the sum of provincial totals in 2017 without Hainan Province, for which no comparable data were available. The interest rate on central government bonds is based on a Ministry of Finance press conference release on July 13, 2018 and the interest rate on local government bonds on the first such release on that Ministry's website in September 2018. The total LGIV debt estimate is based on Standards & Poors (2018), "China's Hidden Subnational Debts Suggest More LGFV Defaults Are Likely".
Source: OECD calculations based on the CEIC database,
http://www.mof.gov.cn/zhengwuxinxi/caizhengxinwen/201807/t20180713_2961117.htm and
http://yss.mof.gov.cn/zhuantilanmu/dfzgl/sjtj/201809/t20180921_3024772.html.

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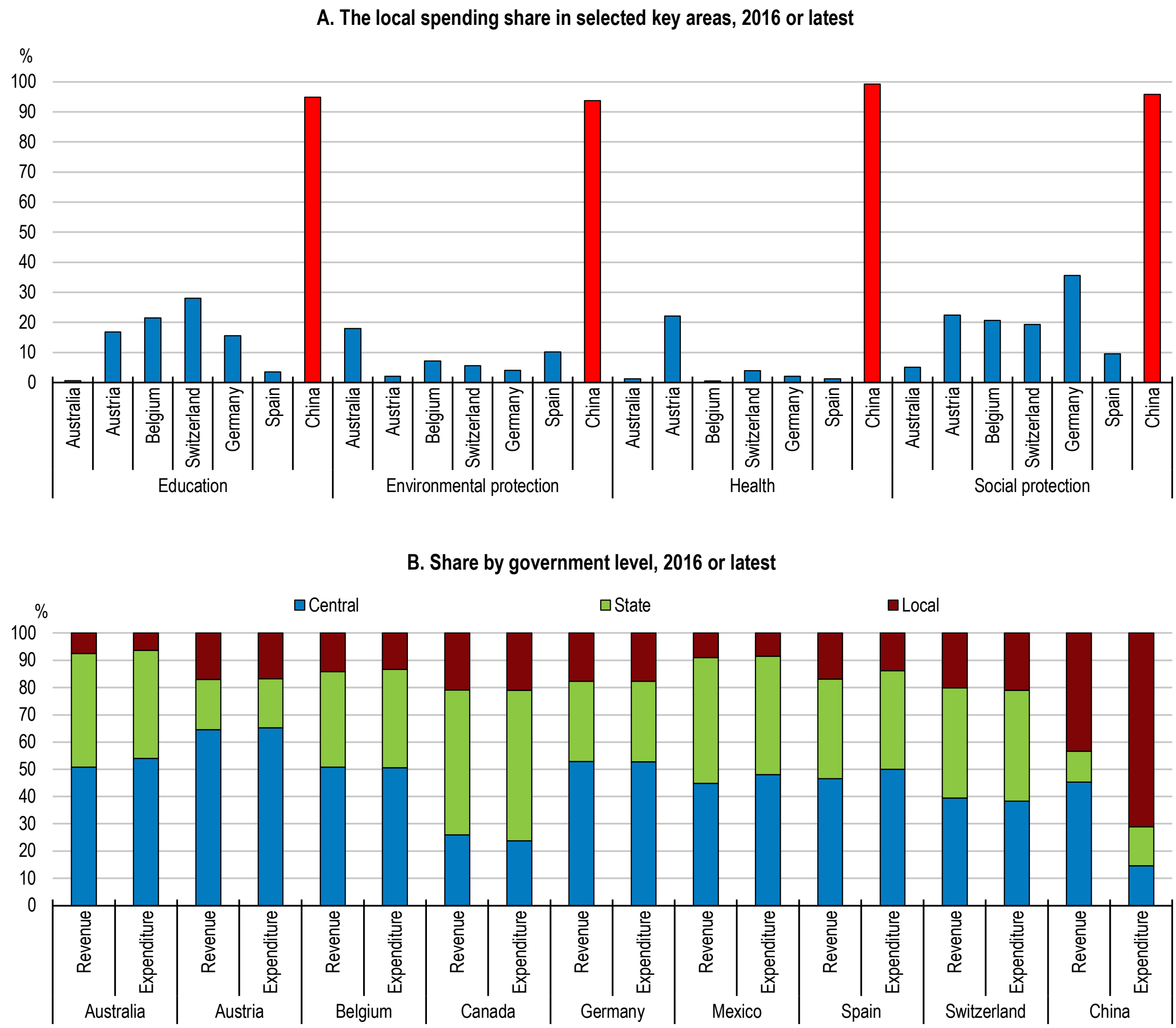
The lowest government level in the public finance system, the county, is mandated to deliver the majority of crucial public services such as education, environmental protection, health and social protection, well above the local shares in OECD countries (Figure 17). Although China has a unitary fiscal system, the lowest local level assumes a greater share of revenues and spending than in most federal systems (Figure 15), albeit with little autonomy at the local level. The greater extent of decentralisation on the spending side than the revenue side necessitates sizeable fiscal transfers from higher government levels and is behind unfunded mandates. To improve access to better public services nationwide, the financing of key public services such as education and health should be assigned to the central government level. Decentralisation of such key services has led to a deterioration of quality and necessitated a re-centralisation in some OECD countries. Improving education and health services provision country-wide, in particular in rural areas would not cost too much and could easily be financed from a more progressive social security contribution system and more efficient collection of taxes (Box 8).

Figure 17. The burden at the local level is high



Note: For China, the general budget account revenues and expenditures are used as that is what was available at all sub-national levels.
Source: OECD National Accounts, Regions and Cities database and Ministry of Finance and finance bureaus at the sub-national level.

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Box 8. Quantifying the fiscal impact of selected revenue and spending reforms

The table below (Table 6) quantifies the fiscal impact of selected recommendations in the Survey. The estimates are the direct impacts of the respective fiscal measures and are based on the latest publicly available data. Improving the efficiency of the collection of social security contributions is an illustrative example of the large amount of potential savings through collection efficiency gains.

Table 6. Estimated fiscal impact of selected recommended reforms

Reform measure	Impact on the fiscal balance, % of GDP
Deficit-increasing measures	
Abolish the floor to social security contributions[1]	0.41
Increase per student spending to the national average	0.12
Increase per student spending in rural areas to the urban level	0.01
Increase the per capita number of doctors to the national average[2]	0.02
Increase the per capita number of doctors in rural areas to the same as in the urban areas of the given region (i.e. Eastern, Central and Western region)[2]	0.24
Total	0.8
Deficit-reducing measures	
Increase the ceiling on social security contributions to 5 times of average wages[3]	0.12
Increase the ceiling on social security contributions to 10 times of average wages[3]	0.18
Remove the ceiling on social security contributions[3]	0.24
Improving the efficiency of the collection of social security contributions[4]	2.28
Total	2.4-2.52

1. Abolishing the 60% of average wage floor on social security contributions. Based on the 2013 Chinese Household Income Project database.
2. Based on 2015 average wages of doctors in Eastern, Central and Western provinces, respectively.
3. Lift/abolish the 300% of average wage ceiling for social security contributions. Based on the 2013 Chinese Household Income Project database.
4. Assuming that social security contributions for urban employees are collected according to the statutory rates. Only the pension and the health accounts of urban employees are considered, as for other accounts no comparable data are available.
Source: OECD calculations based on the 2013 Chinese Household Income Project database, 2016 China Human Resources and Social Security Yearbook and 2016 China Labour Statistical Yearbook, Zhang and Liu (2018), "The salary of physicians in Chinese public tertiary hospitals: a national cross-sectional and follow-up study", BMC Health Services Research Vol. 18(661), available at: https://doi.org/10.1186/s12913-018-3461-7.

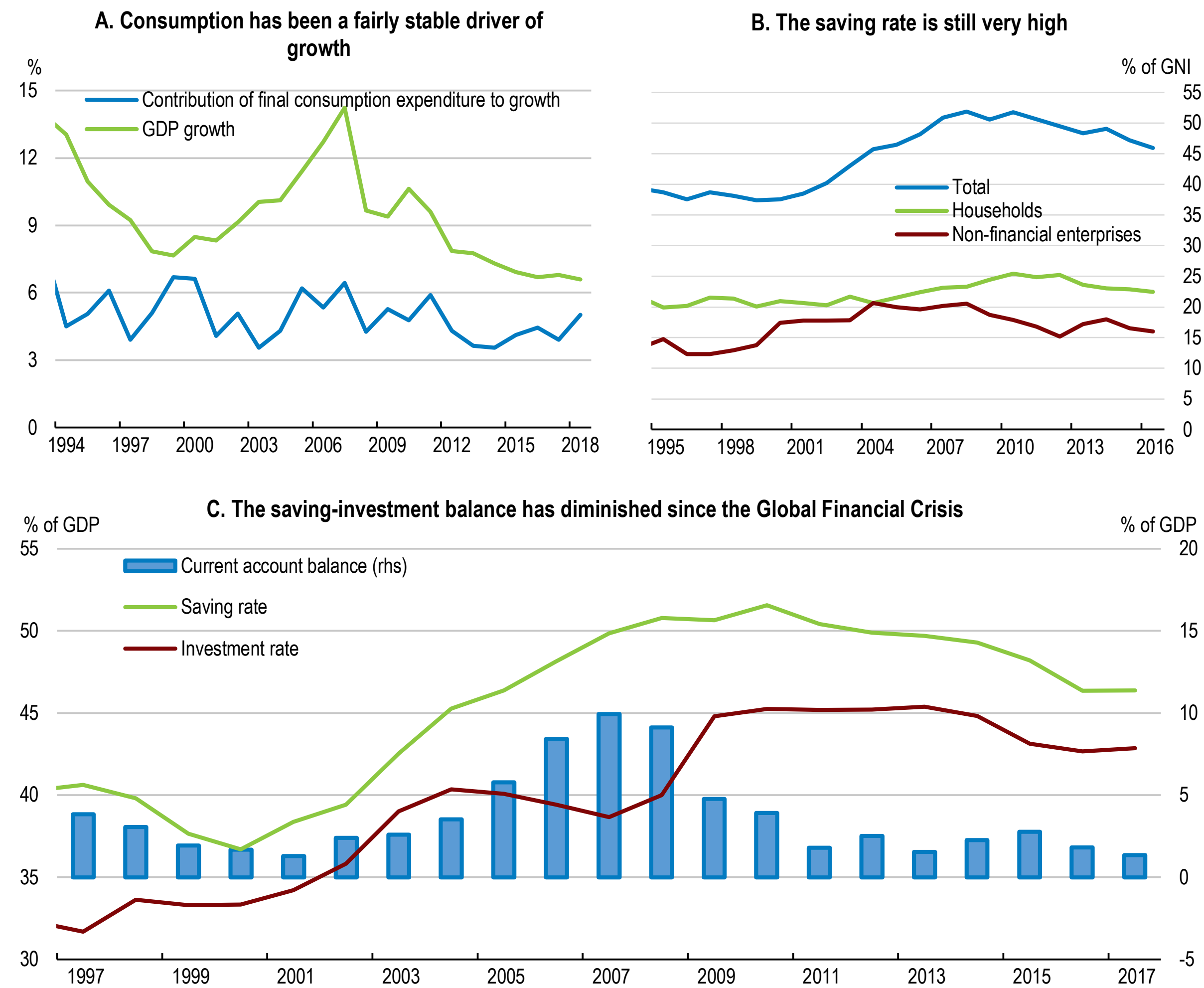
Table 7. Past OECD recommendations on fiscal reform

Recommendation	Actions taken since the 2017 OECD Economic Survey
Conduct a prudent fiscal policy. Increase public spending efficiency by channelling funds to where returns are high such as education, health and social security and avoid misallocation of capital by allowing banks to better price risk.	In April 2017, the Ministry of Education and other three ministries published an opinion on the implementation of the pre-school action plan, which envisages a broad-based pre-school system with basic spending covered by public resources and guaranteeing a certain quality. In March 2018, the Ministry of Finance issued a notice on raising basic pensions. The specific implementation is left for the sub-national level.
Improve the quality, coverage and timeliness of fiscal reporting	From 2017, the central government budget and its implementation, central agency budgets and central transfers are disclosed online. In June 2018, the Finance and Economic Committee of the National People's Congress required the agencies that submit budget proposals in 2019 to include State asset allocation and persons employed and their remuneration.

Towards stable and inclusive growth

China's growth is increasingly consumption driven, but this is mainly the result of the slowing of investment growth rather than a surge in consumption. Moreover, consumption's contribution to overall growth has recently been closer to the lower end of the 4-6 percentage point range, where it has stayed over the past two decades (Figure 18). Notwithstanding various attempts to lift consumption such as extending e-commerce to rural areas or tax cuts, motives to save remain strong. High real estate prices, which are well beyond affordability for average earners in big cities as well as high home ownership rates and limited rental markets encourage people to save. So does the education system, which presupposes high private spending on prep schools and the health system with its high out-of-pocket payments. Not surprisingly, the household saving rate remains high (Figure 18). Moreover, the shrinking of the saving-investment balance since the Global Financial Crisis is attributable more to the drop in the investment rate than to a fall in the saving rate (Figure 18).

Figure 18. The saving rate is still very high



Source: CEIC database.

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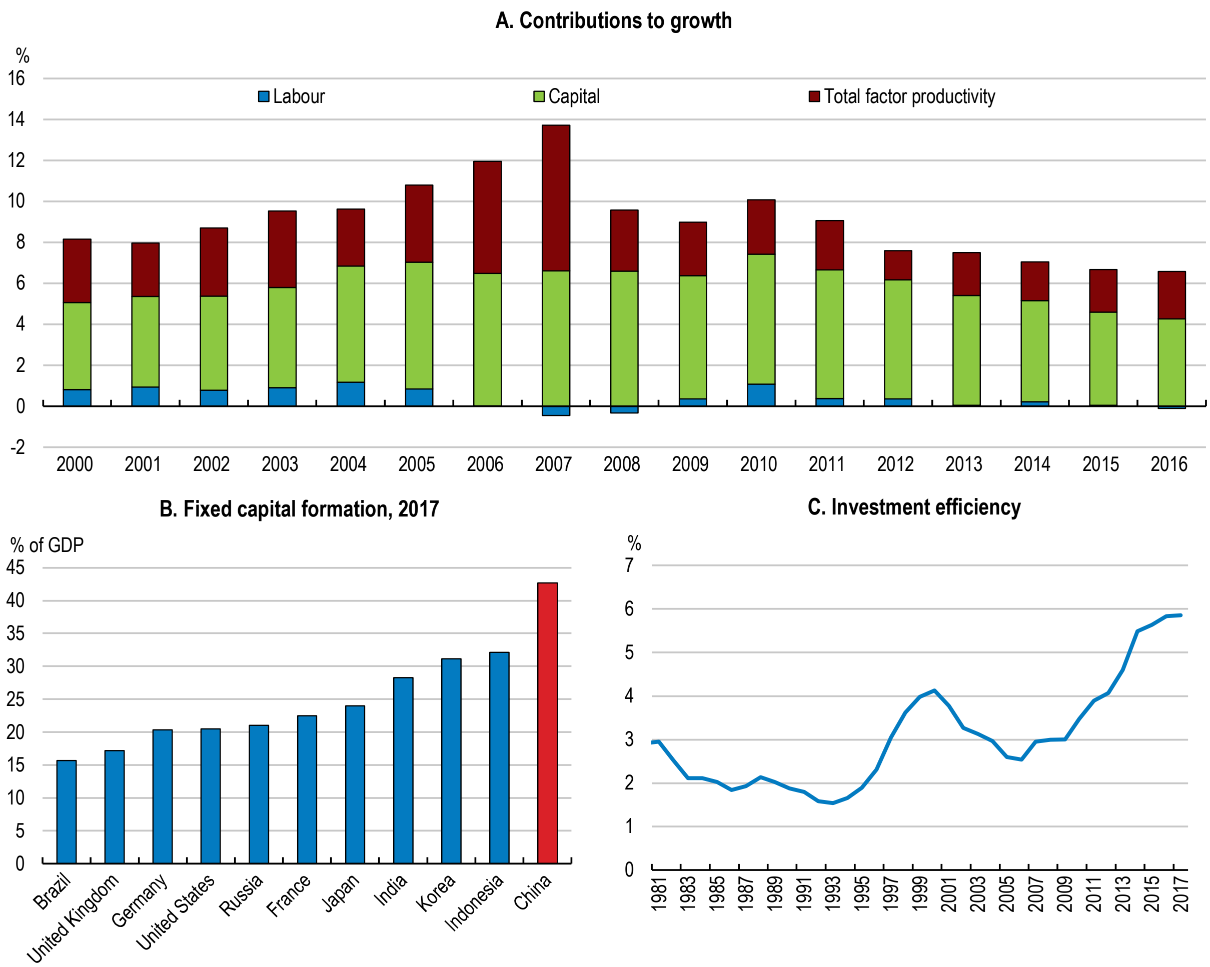
Various structural reforms could help reducing the saving rate, in particular: (i) granting same status to migrants: by 2020 100 million more migrants getting urban *hukou* could increase consumption by 8%; (ii) urbanisation: by 2020 moving 100 million more rural residents to cities would add another 3% boost to consumption (Molnar et al., 2017); (iii) ensuring equal public service quality country-wide; (iv) removing the remaining barriers to the portability of health insurance; (v) improving the coverage of social security; and (vi) not making prep schools a precondition to advancement to high-quality schools but teaching the necessary skills in public schools, which would also make opportunities more equal and contribute to upwards social mobility and more inclusive growth.

Growth needs to be driven more by productivity gains to be sustainable

Economic growth continues to rely mainly on capital accumulation (Figure 19). The investment rate, pushed up by the stimulus in 2009 by five percentage points, remains high, well above the share in OECD and other major emerging economies (Figure 19). Even though China needs investment in a number of areas, such as environmental facilities, suburban railways and underground structures, given its low level of capital stock compared to advanced economies, investment efficiency figures (Figure 19) indicate that investment is not made where it would be needed. Rigorous cost-benefit analysis would help avoid undertaking unviable projects and thereby improve capital allocation efficiency.

Figure 19. Capital accumulation still drives growth



Note: Panel C: investment efficiency is measured by the incremental capital-output ratio, i.e. the amount of capital needed per extra unit of output, expressed as a ratio. It is calculated as a ratio of the investment rate and the change in GDP. Higher values of the indicator mean lower efficiency.
Source: OECD calculations based on the Asian Productivity Organisation's Productivity database and OECD Economic Outlook database.

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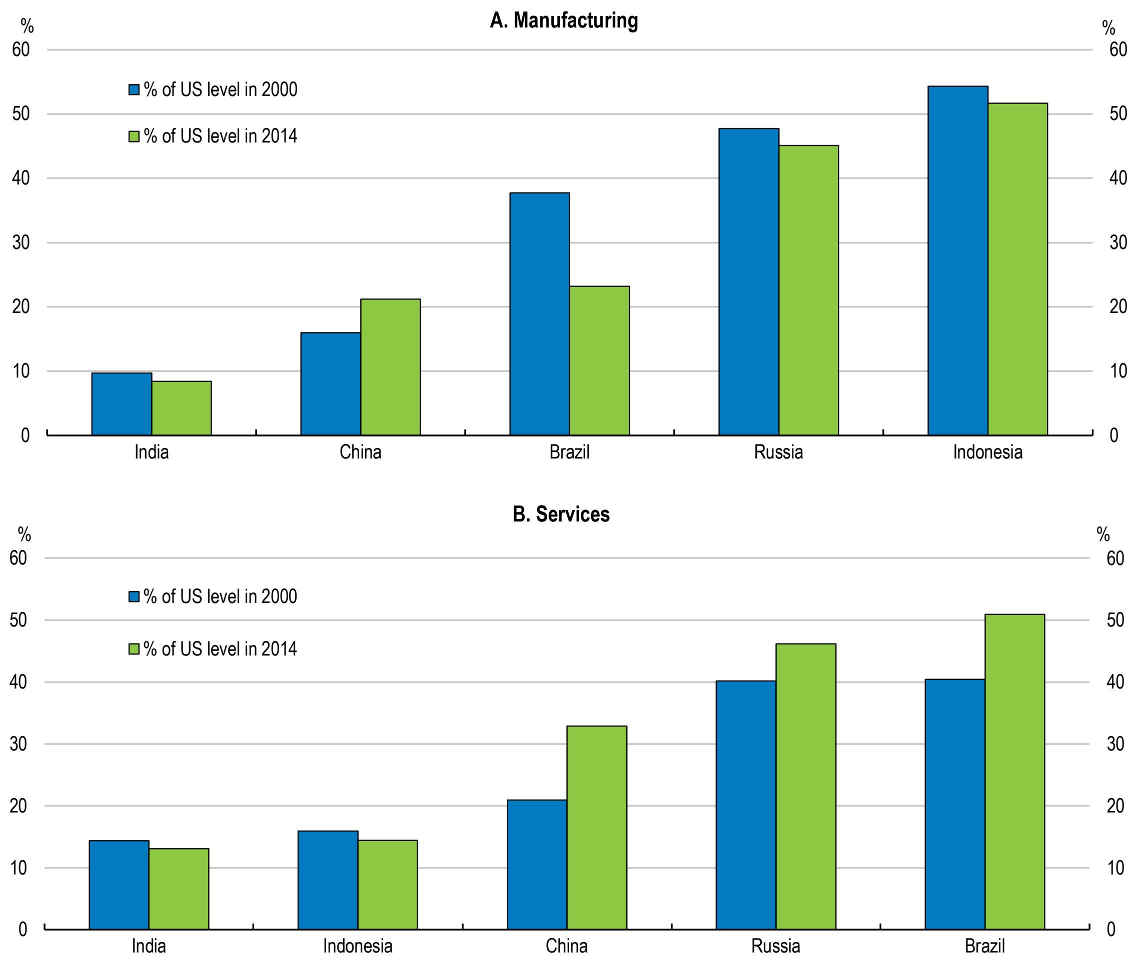
Owing to high labour force utilisation and an ageing-related shrinking labour force, labour has little room to contribute more to growth with the exception of raising the retirement age, which is unlikely to materialise in the next few years. The scrapping of the one-child policy and more recently, plans to abolish altogether the limit on the number of children one can have, are unlikely to reverse the trend. Thus, total factor productivity, driven by innovation, needs to become a more important engine of growth to ensure sustainability.

Unlike other BRIIC economies, China managed to reduce its productivity gap in manufacturing with the United States significantly over the past decade and a half, but the gap remains large (Figure 20). The catching up in services was faster, though the gap similarly remains large.

Figure 20. Catching up with the United States is rapid but the productivity gap is still large

Total factor productivity, 2000 and 2014



Note: The sector-specific value-added deflators are used in a lack of gross fixed capital formation deflator to deflate capital stocks. The base year is 2014.
Source: OECD estimation using the Groningen Growth and Development Centre's World Input-Output Database.

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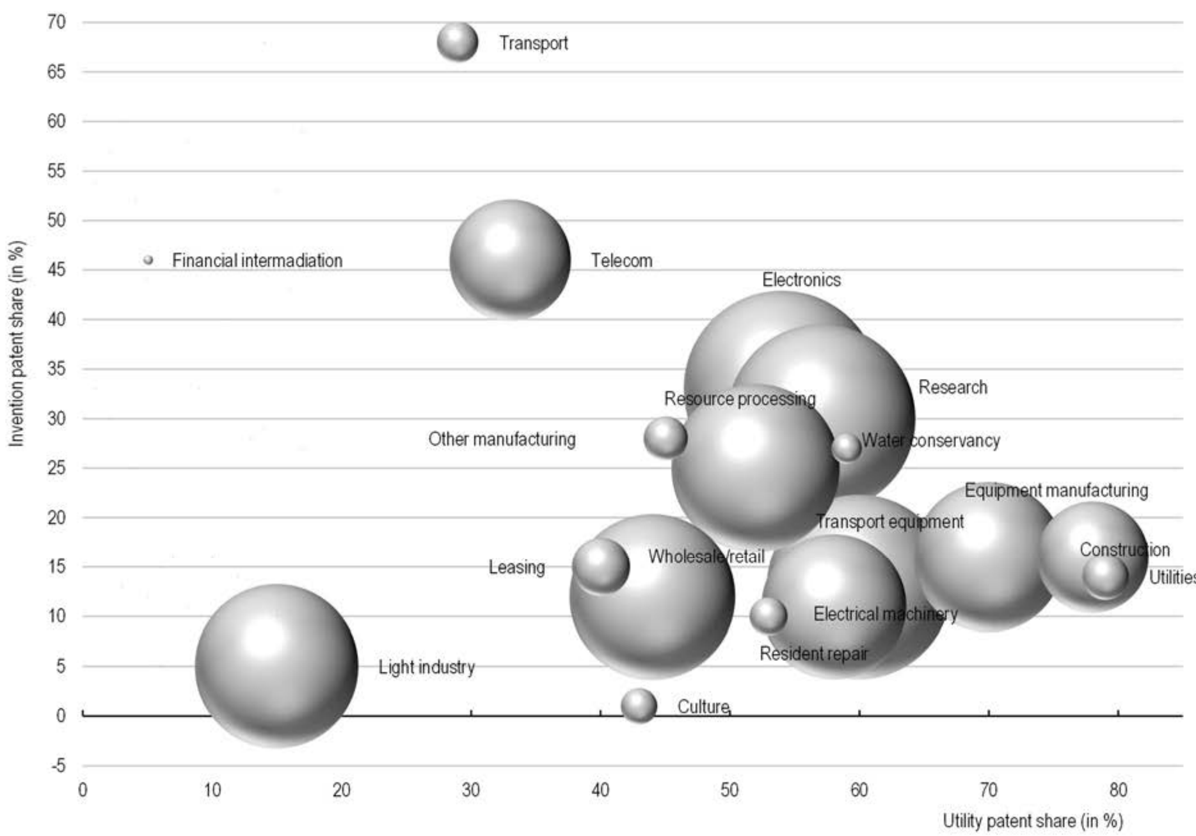
The many plans and policies related to innovation, industrial upgrading and digitalisation all aim at boosting productivity. Notwithstanding the impressive outputs, however, so far little has been realised in terms of productivity gains. The low impact of patents on productivity is related to quality and relevance issues (OECD, 2017b). Most patents are utility (improvement over existing products or technologies) or design patents, and only a small share are genuine inventions (Figure 21). Moreover, few are registered abroad.

Relevance, assessed by utilisation rates, is affected by the performance evaluation system for research staff, which focuses on the quantity of output and does not cover quality (OECD, 2015). Based on micro-data analysis of patenting firms, SOEs spend more on R&D per patent than firms in other ownership categories, but private and foreign-invested firms own more patents per researcher (Figure 22). Moreover, a high number of patents is not associated with high utilisation rates and neither is greater government support (Molnar et al, 2019). These findings jointly with those of the 2017 Economic Survey of China suggest that scarce government funds should be better utilised and channelled to potentially high-value inventions rather than based on sector-specific industrial policy.

Figure 21. In several manufacturing industries only a small share of patents are genuine inventions

Share of invention and utility patents in the total, 2015



Note: Data show the sector aggregates of micro-level data of patenting firms in the 2016 SIPO China Patent Survey. The shares on the two axes do not add up to 100% as there are also design patents, which make up the difference. The size of the bubbles indicates the number of patents held by firms in the sector.
Source: OECD compilation based on the 2016 SIPO China Patent Survey.

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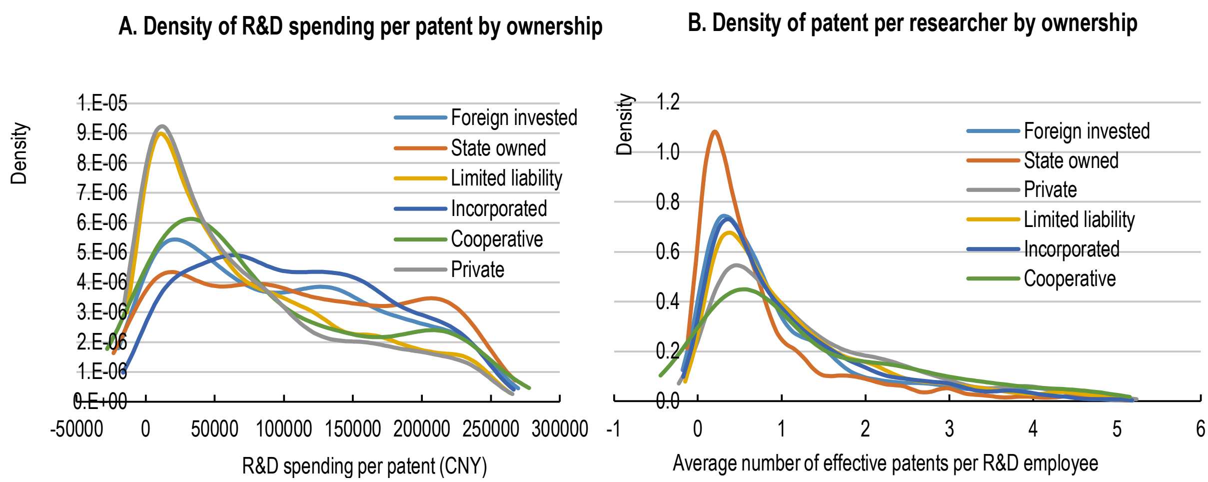
Figure 22. SOEs spend more on R&D per patent but own fewer patents per researcher than private or foreign patenters

Kernel densities, 2015



Note: Patents refer to effective patents and include all the three categories of invention, utility and design patents. Ownership classification follow the National Bureau of Statistics'. State-owned firms refer to firms purely owned by the State. Limited liability and incorporated firms include firms with various shareholders (public and private), whose composition is unknown.

Source: OECD calculations based on the 2016 SIPO China Patent Survey.

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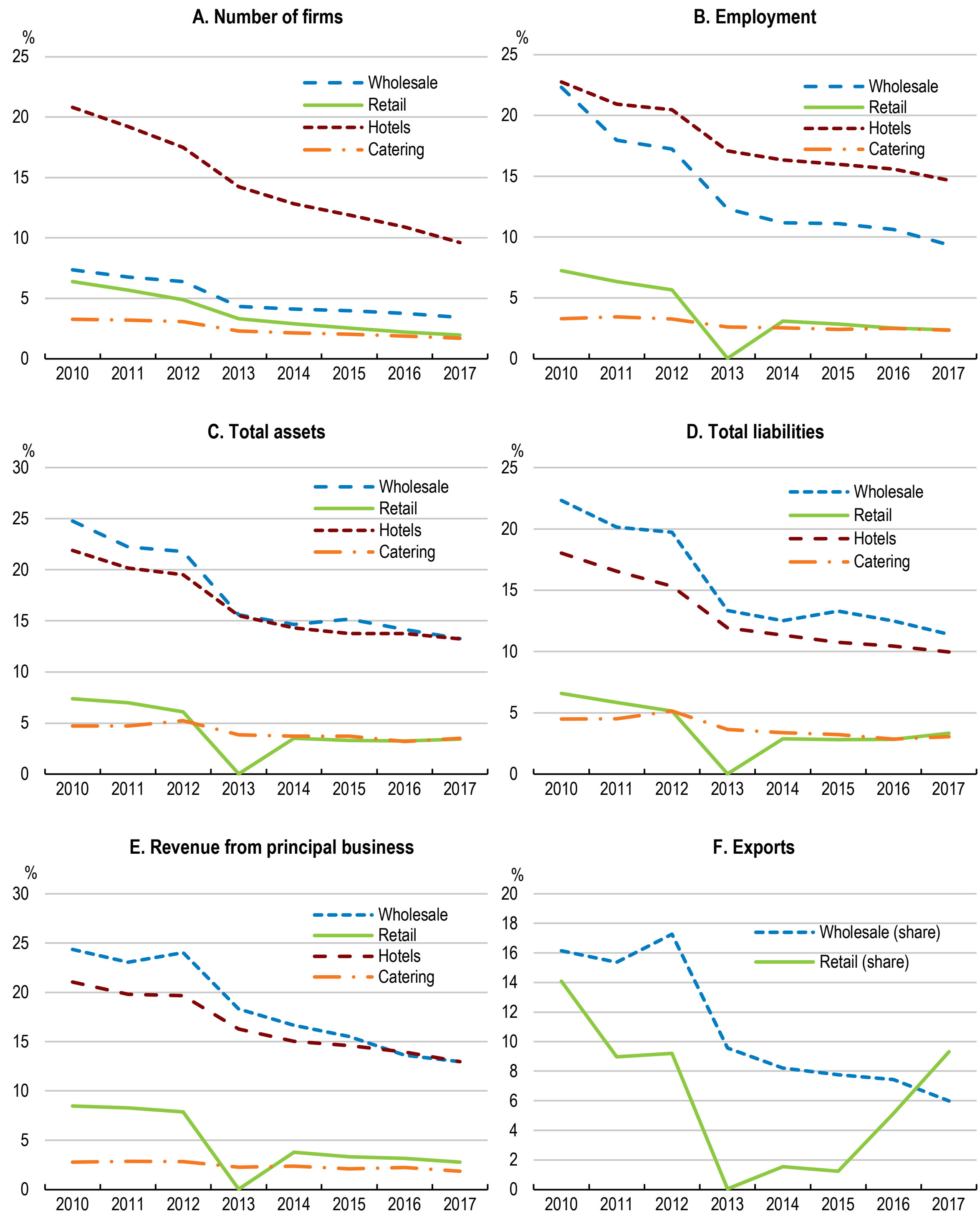
State ownership is large even in non-strategic, commercially oriented sectors such as wholesale and retail trade and accommodation and catering (Figure 23). Reduction of majority state ownership in those industries to minority ownership would bring about a 1.2% increase in GDP per capita in 10 years and 1.3% in the long term. SOEs should be subject to competitive neutrality with regard to their access to finance, regulation, taxation and public procurement as recommended in earlier Economic Surveys.

Figure 23. State ownership in some commercially oriented sectors is still high



Note: The chart depicts the shares of state-owned enterprises (defined as the sum of entirely state owned, state joint operated and state controlled) in the total above-threshold enterprises as no annual data are available for the entire enterprise sector.
Source: National Bureau of Statistics *China Statistical Yearbook,* various editions.

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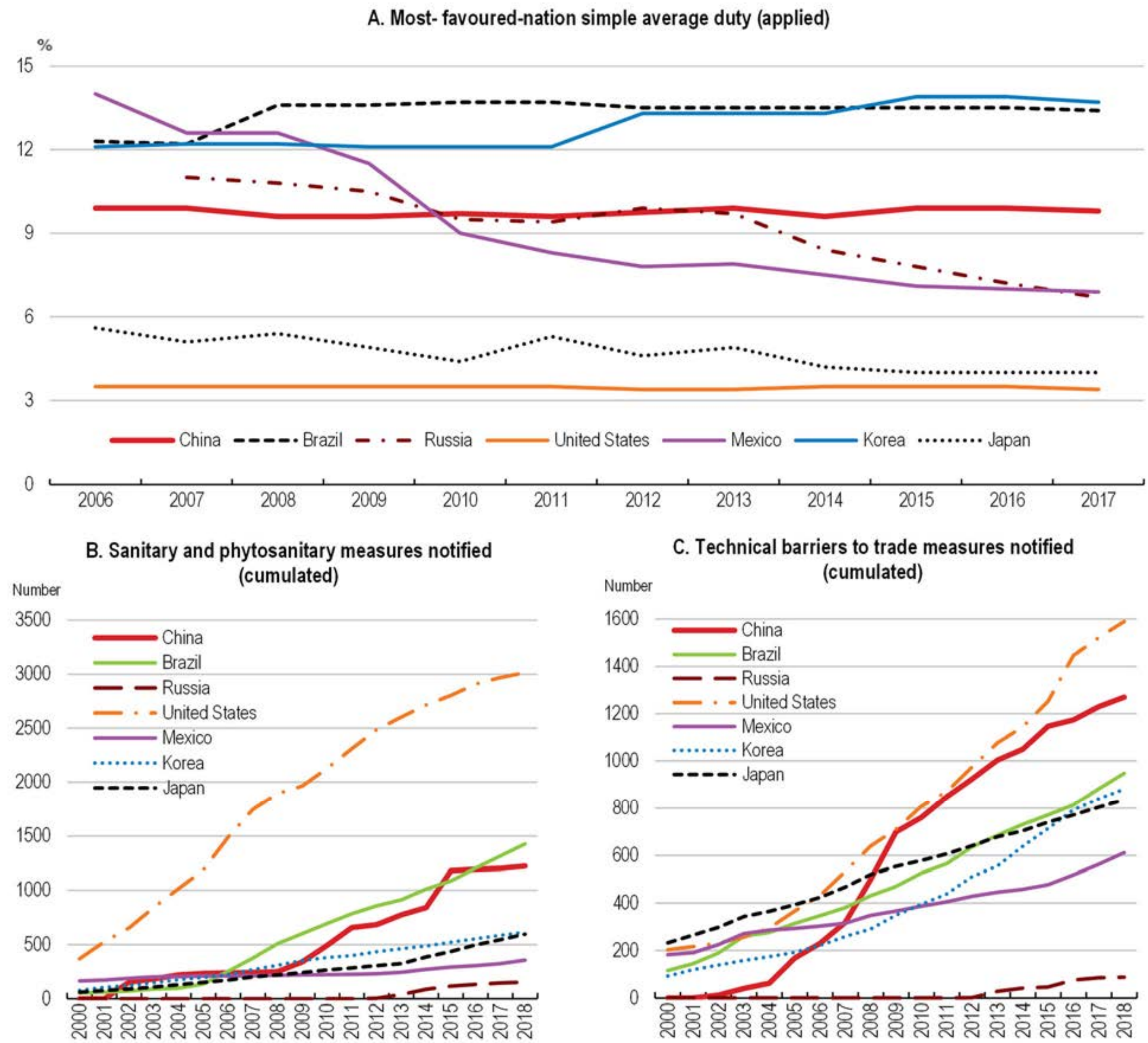
Further liberalising trade and investment could also lead to productivity gains. Import tariffs, measured by the simple average applied Most Favoured Nation rate (Figure 24), are higher than in most OECD countries, including some emerging economies such as Mexico, and higher than in some BRIICS economies such as Russia or South Africa, though lower than in Korea, Brazil or India. Non-tariff measures, such as sanitary and phytosanitary measures and technical barriers are frequently used, which can constitute barriers to trade. Restrictions on foreign investment are being reduced, with prohibitive and restrictive measures on FDI falling to 48 from the earlier 63 as a result of the 2018 draft new foreign investment law. Other major changes include shifting from an approval-based system to a pre-establishment national treatment with a negative list and explicit prohibition of forced technology transfer. Further liberalisation of FDI, for instance removing restrictions to the level of the OECD average, would result in a 3.9% growth in per capita GDP in 10 years and over 10% in the long term (Table 7 in Box 9). Tariff cuts of the extent of those in 2018 (reducing the average tariff rate from 9.8% to 7.5%) could also bring about an additional 0.9% increase in 10 years and 2.5% in the long term. Both measures affect output through productivity increase.

Figure 24. Import tariffs are relatively high, but non-tariff measures are frequently used



Source: WTO Data.

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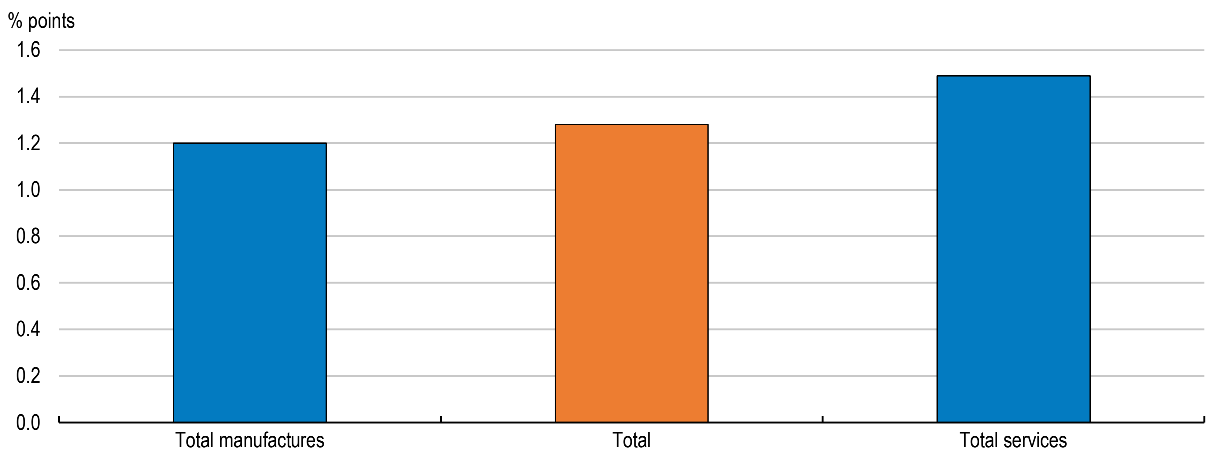
With an ageing population and rising labour costs, moving up the value chain is a prerequisite for China to remain competitive. There are some indications that it is happening. Between 2000 and 2015 international competitiveness in labour-intensive products (measured, for example by global market shares and relative prices) decreased, while the competitiveness of some capital and technology-intensive industries improved (Guo et al., 2018). Also, the services value added share of gross exports has been increasing in both services and manufacturing (Figure 25). Further evidence of China's climb up the value chain can be found in trade dynamics in importing countries; the average export price of cellular phones relative to the price of United States exports increased from 33% and 21% in Germany and France, respectively to 58% in both countries between 2008 and 2017

(UN Comtrade data) and the rising elasticity of substitution between European and Chinese exports to Latin American economies shows that China is increasingly becoming a direct competitor to European exporters, in particular regarding high value-added products such as electrical machinery (García-Herrero et al., 2018).

To move further up the value chain, investment in advanced manufacturing equipment should be complemented by enhanced IPR protection, which could support innovation. Stronger basic skills, workplace-based vocational training and better matching skills to the needs of the labour market (Molnar et al., 2015) would all work in that direction.

Figure 25. The services value added share of exports is rising

Total services value added share of gross exports, growth in percentage points, 2012-14



Source: OECD Trade in Value Added database.

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The acceleration of high-profile corruption cases suggests that the rule of law is strengthening, though non-compliance with laws and regulations is widespread and a lack of transparency in many aspects of business provides room for discretionary decisions. Thus, corruption continues to take a toll on productivity growth and to make wealth distribution less equitable. Excessive concentration of power in the hands of managers in charge of vast State assets often makes it irresistible to turn some of it to personal gains. In an attempt to effectively address corruption at all levels and in all spheres of the society, supervisory commissions were established countrywide at the provincial, city and county levels starting in early 2018, taking the anti-graft campaign to a new level. They incorporate the Party's Discipline Inspection Committees and are therefore the single anti-corruption body with a ranking equivalent to that of the judiciary and the procuratorate.

To prevent abuse of power, transparency and external supervision of the commissions' operation is indispensable (Deng, 2018). In addition, whistle-blower protection needs to be strengthened to make officials less willing or less able to indulge in corruption. Overseas corruption should also be prevented by extending judiciary power across the border and by enhancing transparency of transactions. Strengthening the rule of law could bring about tangible growth impacts: a one standard-deviation improvement in the rule of law, measured by the World Governance Indicators' respective component, could lift per capita incomes by 5% (Égert, 2017). Other structural reforms would also provide a sizeable boost to medium- to long-term growth (Box 9).

Box 9. Quantifying selected structural reforms

The table below (Table 8) quantifies selected structural reforms proposed in the Survey. Most of the estimates are based on empirical modelling of the relationship between the reform measure and total factor productivity, capital deepening and the employment rate. The sample of countries includes both OECD and major non-OECD countries (Égert, 2017). Where possible, the table uses the time or "within" estimate to assess the impact of the change over time. Although China is included in the sample on which the estimation is based, the estimates may not fully capture the specificities of the country and therefore are more of indicative nature.

The estimate of the impact of *hukou* reforms is based on the China Family Panel Study database, which has a time dimension. The table assumes that the GDP impact is equivalent to the share of the increased consumption in GDP as a result of *hukou* reform, which is estimated in Molnar et al. (2017).

Table 8. Estimated impact of structural reforms on per capita GDP

Impact on the average annual growth rate of per capita GDP

Reform measure	Immediate effect	10-year effect	Long-term effect
Product market			
Reduce State ownership in commercially-oriented sectors[1]		1.2	1.3
Remove entry restrictions[2]		0.1	0.2
Rule of law[3]			5.2
Reduce import tariffs[4]		0.94	2.48
Reduce FDI restrictions to the OECD average level[5]		3.86	10.12
Labour market			
Granting urban hukou to 100 million more migrants[6]	3		1.6

1. State ownership in wholesale, retail businesses and in accommodation and catering is reduced (no majority State shareholding in firms in those sectors).
2. Removing entry restriction is abolishing legal barriers to entry, i.e. there is no longer restriction on the number of competitors in any industry.
3. Improving the rule of law indicator to reach the score of Korea, which made the greatest advance in this area among G20 countries in the past 20 years. The estimations are based on the within estimator.
4. Reducing the average tariff level from 9.8% to 7.5%.
5. Measured by the OECD FDI restrictiveness index.
6. Providing equal access to public services and urban opportunities to 100 million more migrant workers. The immediate effect is obtained by estimating the impact of migrants' moving into cities on their consumption and the long-run effect is by assuming that migrants will consume the same as urbanites.
Source: OECD calculations based on Égert, B. (2017), "The quantification of structural reforms: extending the framework to emerging market economies", *OECD Economics Department Working Papers 1442.* OECD Publishing. https://doi.org/10.1787/18151973 and Molnar, M., T. Chalaux and Q. Ren (2017), "Urbanisation and household consumption in China", *OECD Economics Department Working Papers 1434*, OECD Publishing, https://doi.org/10.1787/d8eef6ad-en.

Table 9. Past OECD recommendations to increase productivity

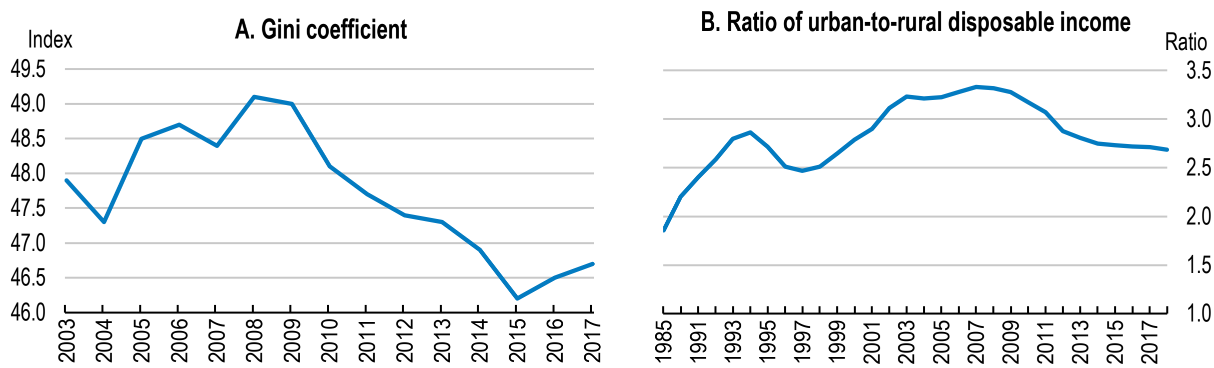
Recommendation	Actions taken since the 2017 OECD Economic Survey
Strengthen intellectual property right protection by more systematically prosecuting violators and raising fines.	In April 2017, the Supreme Court issued the 2016-20 plan on the legal protection of intellectual property rights. The plan aims to build a fair and reasonable system primarily based on compensation, complemented by penalties. It also foreshadows the raising of statutory compensation level for IPR violators.
Broaden the number of sectors benefiting from government support for innovation.	No action taken.
Raise penalties for individuals committing fraud.	In July 2018, the National Development and Reform Commission and the People's Bank of China jointly issued a notice on strengthening credit supervision of dishonest entities, requiring province-level social credit systems to compile a list of such entities and put forward limitations in their access to public services. Persons in charge of entities deemed dishonest will have it recorded in their personal social credit files and shared on a national-level platform.
Gradually remove implicit guarantees to SOEs and other public entities to reduce contingent liabilities.	In February 2018, the Ministry of Finance issued a notice on preventing enterprise bonds to become local government debt, which prohibits the linking of enterprise credit rating to that of the shareholding local government, misleading advertising and showing any public assets such as land reserves, parks, schools, urban roads and toll-free bridges as enterprise assets. (N.B. These regulations attempt to regulate bond issues of local government investment vehicles, which are categorised as enterprises). In March 2018, an additional notice prohibited financial institutions to provide any type of financing to local governments with the exception of investing in the securities those issue.
Reduce state ownership in commercially oriented, non-strategic sectors.	No action taken.
Let unviable SOEs go bankrupt, notably in sectors suffering from overcapacity.	In April 2018, six government agencies jointly issued a notice on addressing excess capacity, which encourages exit for zombie companies (i.e. those that are long-term loss makers, have no ability to survive, whose debt is greater than assets and who have no prospects).
Professionalise the state ownership system to make a clear division between business and politics.	In May 2017, a guiding opinion by the State Council Office promotes an appointment system for managers in SOEs that are classified as commercial among enterprises in competitive sectors.
Strengthen the independence and decision-making role of the board by hiring truly independent directors and giving it authority to appoint and evaluate management as well as to decide management salaries and promotion.	In May 2017, the State Council Office issued a guiding opinion on improving corporate governance of SOEs, which gives the power to the board to appoint and evaluate management. Fully State owned need to have independent directors in majority on their boards by 2020.
Where possible carry out social functions separately from commercial operations to boost the efficiency of the latter.	In February 2018, the Leading Group on separating social functions from SOEs and dealing with legacy issues required utilities and property management to be separated from SOEs by end-2018. From 2019, SOEs will not be burdened by the relevant costs.

The benefits of growth need to be more equitably distributed

The target year of 2020, by which China is supposed to achieve a "moderately prosperous society", is approaching rapidly. To track progress on that front, the OECD Better Life Index would be helpful and so would be the OECD Framework for Policy Action on Inclusive growth. 2020 is also the last year of the current Five Year Plan, which has shared development as one of its five keywords. While the benefits of growth appear to be more widely shared since 2009, measured by the Gini index of income inequalities (Figure 26), it has been less inclusive than in OECD countries.

The narrowing of the urban-rural income gap – expressed in multiples – from the peak of 3.4 in 2007 to 2.7 in 2017 (Figure 26) greatly contributed to the reduction in inequalities over the past decade as the urban-rural dimension is where disparities are the largest. Indeed, the contribution of urban-rural disparities to the total was as high as 91% in 2016 (Zhongnan University of Economics and Law, China Income Distribution Research Centre, 2018). The same study found that incomes were highly correlated with education levels, and that up to the tertiary education level women earned more on average than men. This is largely attributable to high labour force participation rates. In general, women fare relatively well on labour market indicators, but are less protected against discrimination and have fewer choices for childcare than in other countries.

Figure 26. Income inequality has declined but is still high



Note: The Gini coefficient is based on market income, before taxes and transfers.
Source: CEIC database.

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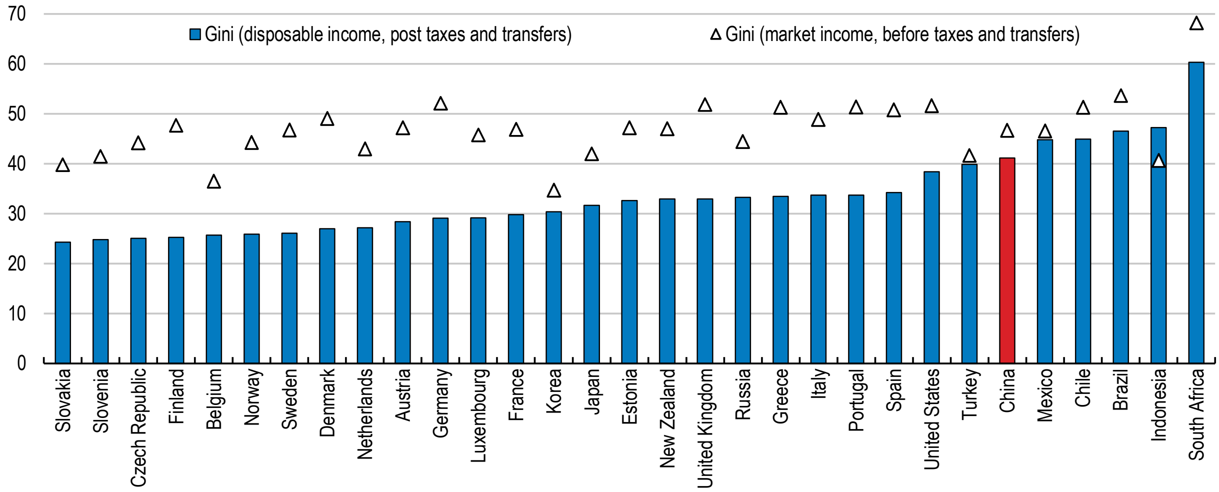
A main culprit behind the relatively high inequality in disposable incomes is the low efficiency of the tax and transfer system. Indeed, the tax and transfer system reduces the Gini index only by 6 percentage points (Figure 27), though the extent of this reduction is greater than two years before (OECD, 2017b). Household data analysis based on the CHIPS (China Household Income Project) database reveals that personal income taxes (PIT) reduced inequalities in gross income (which were 57.75 measured by the Gini index in 2013) by only 0.25 percentage points and social security contributions were even regressive (in particular health insurance fees) (Li et al., 2017). This is not surprising given the narrow base of PIT and the design of the social security system. A key regressive factor is the floor on social security contributions, based on 60% of the average wage, which hurts the low-paid. Scrapping the floor would thus improve after-tax income redistribution. The ceiling at three times the average wage should be raised to increase the system's redistributive effect. The fiscal impact of abolishing the floor would amount to a reduction of about 7% of social security fund revenues, which is about 1% of total fiscal revenues (based on OECD calculations using the 2013 CHIPS database). Public transfers appeared the most powerful in reducing disparities, in particular retirement allowances, but the impact of some major social assistance programmes such as the *dibao*, was negligible.

Figure 27. The tax and transfer system are not very effective

2017 or latest year



Note: For China, data refer to 2015.
Source: Standardized World Income Inequality Database v8.0 (Solt 2019).

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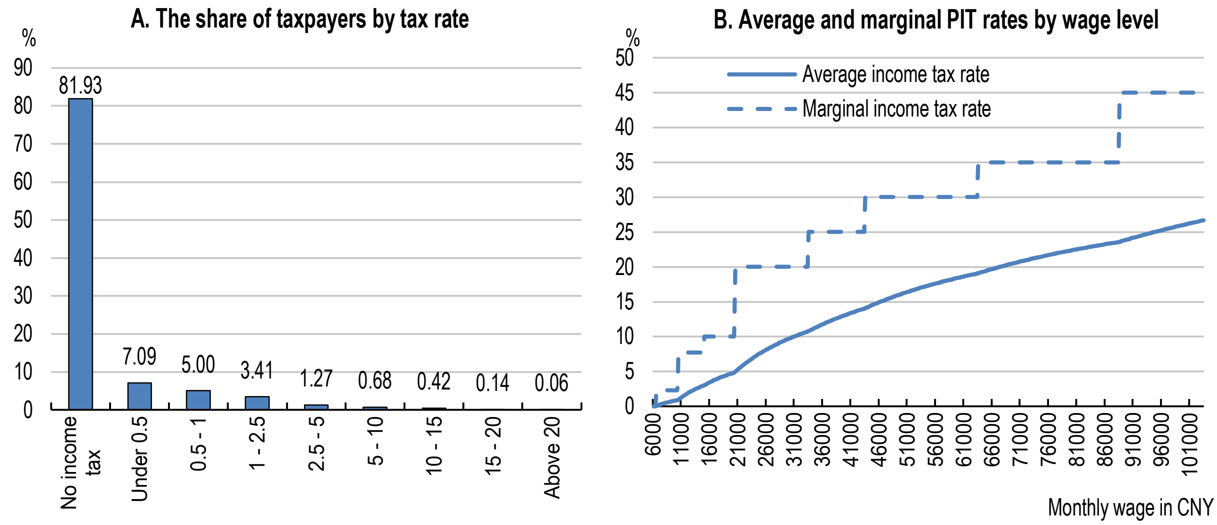
The high personal allowance sharply reduces the number of taxpayers subject to income tax (Figure 28). Furthermore, only people earning 14.5 times the national average in public units and 23.5 times the national average in private firms pay the highest marginal rate. The lifting of the allowance from October 2018 and widening the brackets at lower incomes further reduced the tax base and made even fewer people pay income taxes. Not even people earning the national average wage are subject to PIT (Figure 29). Based on the China Household Income Project data, the lifting of the personal allowance and the widening of the lower two brackets reduced revenues by 0.52% of GDP and increased income inequalities (the Theil index increased from 0.24 to 0.25). Assuming that one benefits from all the deductions (including education for children, adult education, health expenses, mortgage interest, housing rent and elderly care) allowed up to the ceiling, the combined impact is a revenue loss of 0.84% of GDP and income inequalities would increase further (to 0.26 measured by the Theil index). Employees of private firms in China start paying PIT only at a wage 250% of the national average and even at this level they pay less than 1%. Overall, only people in the top income quintile are subject to income taxes.

Figure 28. Few people pay income taxes and only a tiny fraction at the highest marginal rate



Note: The recently amended PIT rates were applied to a household dataset, the China Household Income Project, which is the most appropriate publicly available dataset to look at income distribution. The most recent available vintage of the data is for 2013.

Source: Panel A: OECD calculations based on the Amendment to the Personal Income Tax Law passed by the 5th meeting of the 13th Congress of the NPP Standing Committee on August 31 and the China Integrated Project Survey database, 2013 vintage. Panel B: OECD calculations based on the Amendment to the Personal Income Tax Law passed by the 5th meeting of the 13th Congress of the NPP Standing Committee on August 31.

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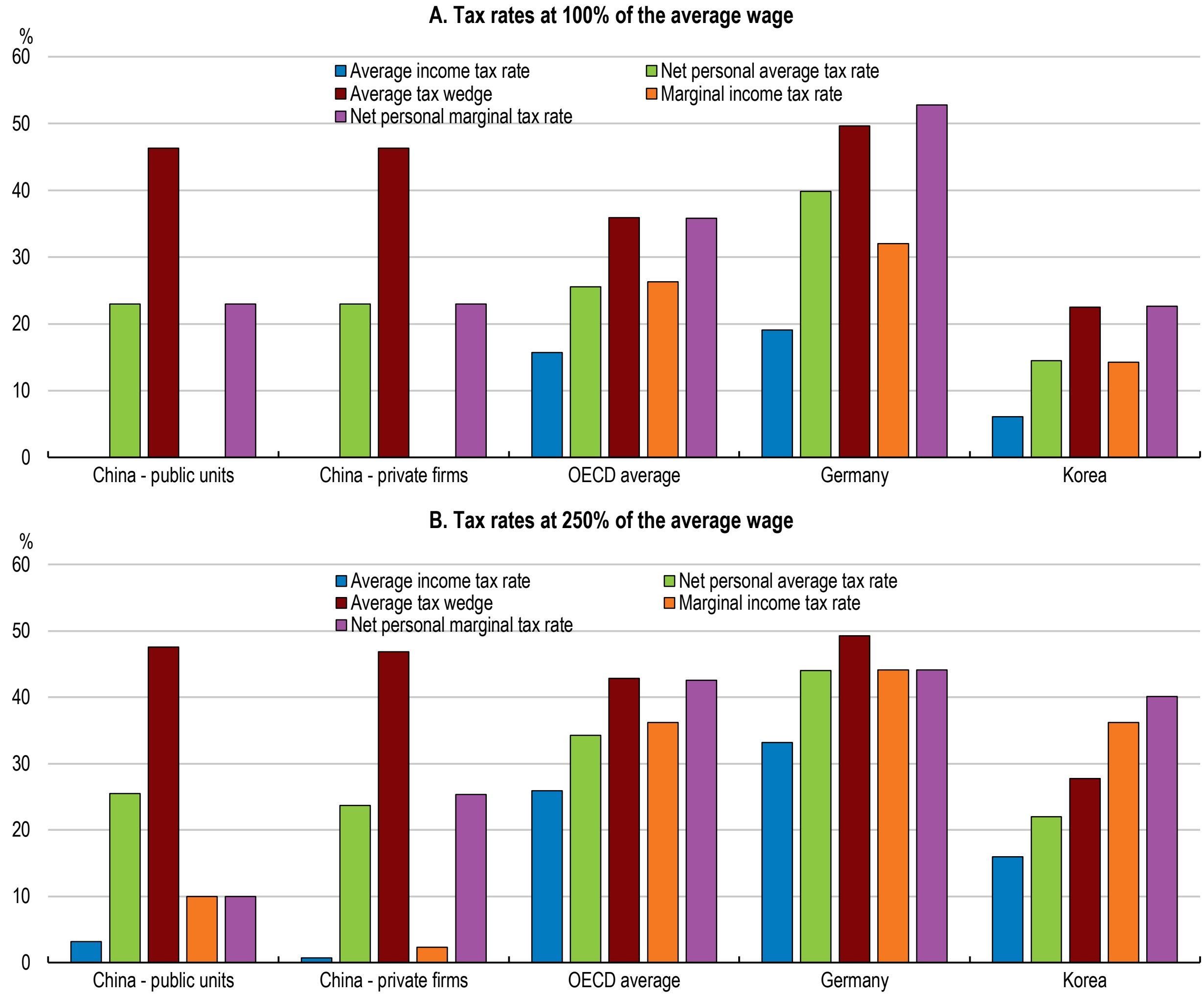
Figure 29. Those who pay income taxes pay at very low rates

Income tax profiles of single earners at various incomes, 2017



Note: Calculations were based on the recently amended personal income tax rates.
Source: OECD Taxing wages database for OECD countries and OECD calculations based on the Amendment to the Personal Income Tax Law passed by the 5th meeting of the 13th Congress of the NPP Standing Committee on August 31, 2018 and National Bureau of Statistics data.

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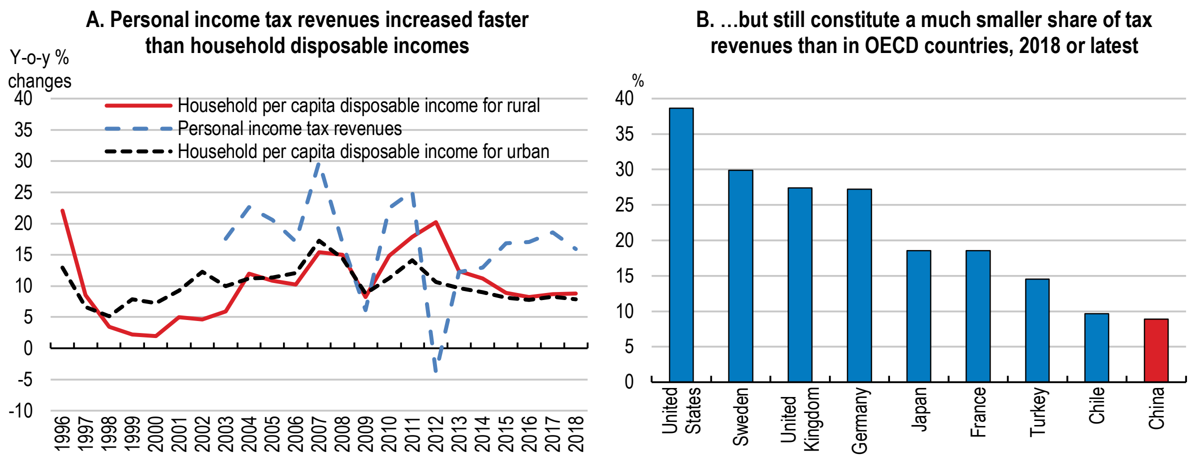
Not surprisingly, even though personal income taxes grew faster than disposable income in the past several years, they contribute little to the government budget, making up about 7% of tax revenues, lower than in any OECD country (Figure 30). This means there is little room for redistribution through the income tax system, notwithstanding high income inequalities. The PIT system's redistributive capacity should be strengthened by changing its key parameters. As wealth inequalities are even higher (Figure 31) and most wealth is held in the form of real estate, introduction of a recurrent tax on the holding of real estate and an inheritance tax would help achieve a more equitable distribution of income and wealth.

Figure 30. Personal income taxes remain a tiny source of tax revenues in China



Source: CEIC and OECD Revenue Statistics database.

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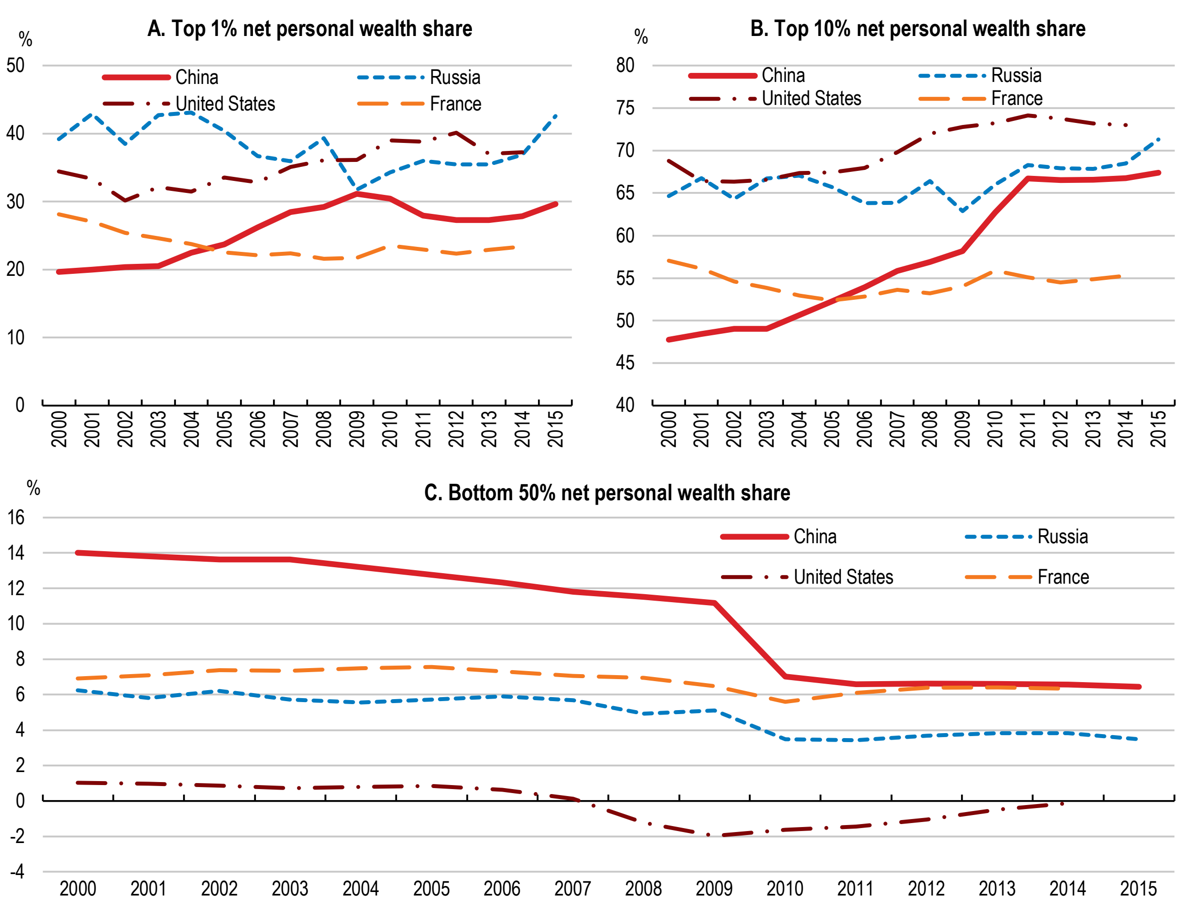
Figure 31. The richest people hold a high share of net personal wealth



Source: World Inequality Database.

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Table 10. Past OECD recommendations on inclusive growth

Recommendation	Actions taken since the 2017 OECD Economic Survey
Base social security contributions on actual income earned.	No action taken.
Increase central and provincial government social assistance transfers to poorer areas.	In December 2017, the People's Bank of China and other government agencies jointly issues an opinion on how finance can support poorer areas, which requires new funds to primarily meet the needs in those areas and likewise, new services give priority to those areas. In June 2018, the State Council and the Central Committee issued a guiding opinion on the three-year action plan to alleviate poverty. The plan aims to lift the remaining 30 million people out of poverty by stepping up special-purpose funds for poverty reduction, fiscal transfers for education, health and social security and improving rural housing standards.
Broaden the personal income tax base and increase tax progressivity.	In August 2018, the Ministry of Finance raised the personal allowance and widened the lower brackets while keeping the higher ones unchanged.
Implement a broad-based nationwide recurrent tax on immovable property and consider an inheritance tax that would include some basic inheritance allowance.	No action taken.
Gradually increase and unify the pension age to 65 and then index it to life expectancy.	No action taken.
Improve administrative procedures to make it easier to draw a pension in a different location from where it is earned.	In June 2017, the Ministry of Human Resources and Social Security issued a notice on how to carry pension rights across regions for employees in quasi government institutions, including upon their move across public institutions or to the corporate sector. .
Increase public funding for childcare and introduce incentives to encourage the participation of migrant children and those in rural areas in early childhood education.	In February 2018, the State Council and the Central Committee issued the opinion on the implementation of the strategy of revitalising rural areas, which emphasised the development of rural pre-school education. In February 2019, the State Council and the Central Committee issued the Modernisation of Chinese Education 2035, which stresses making quality pre-school education available across the country and equalising basic public education services. The implementation plan of accelerating modernisation of education 2018-22 goes further into details of establishing professionalised management and quality control for early childhood education.

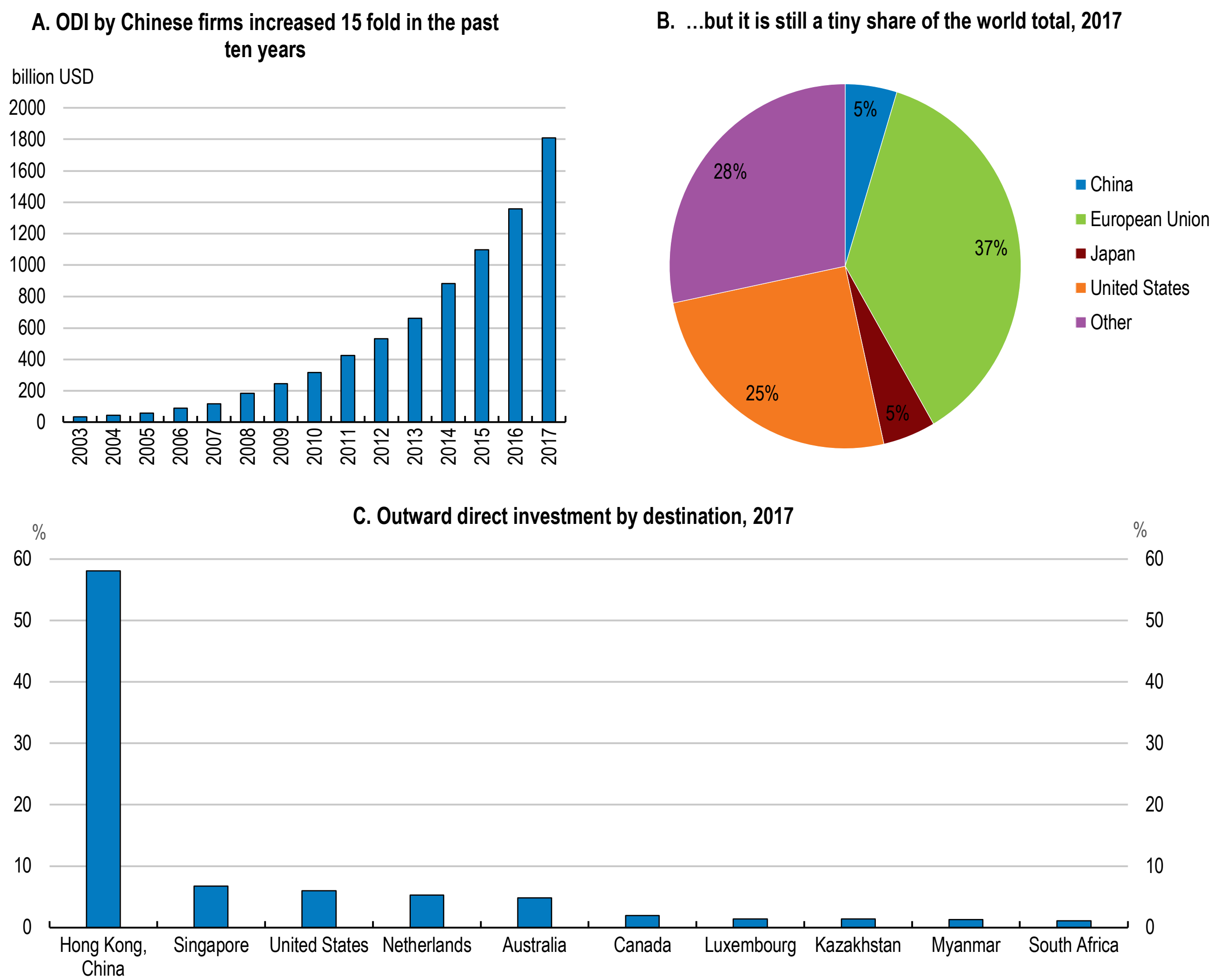
Outward direct investment is a major source of technology acquisition

Curbing capital outflows helped halt the decline in reserves seen between mid-2014 and early 2017. While capital outflows have been crucial in acquiring foreign technology and upgrading industries, and under the aegis of "going out" also to boost profits, very often they involved profit hiding or money laundering. As a result of NDRC's Order No. 11 related to the promulgation of Administrative Measures for Overseas Investment by Enterprises and the Catalogue of Sensitive Industries for Overseas Investment, effective from March 2018, in the future capital will have harder time to flee the country. The new measures replaced the 2014 approval system with a notification regime below investment of USD 300 million in non-sensitive industries or regions. Sensitive industries listed in the Catalogue as research, production or maintenance of weaponry, development and utilisation of cross-border water resources and press and media require approval by NDRC. Approval or rejection is based on the project's authenticity and whether it conforms to relevant regulations. To halt money-laundering practices under the disguise of foreign direct investment, all investment, including by overseas affiliates should be reported.

Furthermore, as in major investor countries, such as the United States, Japan or Germany, collecting basic data related to affiliates (i.e. FATS or foreign affiliate trade statistics data) such as their sales (by destination), input sourcing (by source country), employment, investment etc. would help monitoring and evaluating overseas investment. Accounts of foreign affiliates of SOEs should be regularly audited to avoid loss of state assets. Also, as the 2017 Economic Survey of China recommended, management of SOEs should be professionalised to make a clear division between business and politics. Truly independent directors and greater authority of boards to appoint and evaluate management would also lead to more responsible overseas investment decisions. Decisions regarding ODI should be made on the basis of market considerations in the case of both SOEs and private firms.

Although the surge in outflows in the past couple of years put off regulators and the stock of overseas Chinese direct investment is indeed soaring (registering a 15-fold increase in the past decade or so) (Figure 32), it only amounted to a tiny 5% of the world total in 2017 (Figure 32). Major destinations include Hong Kong, China; Singapore; the United States; the Netherlands; and Australia (Figure 32). Most Chinese ODI, according to statistics by the Ministry of Commerce, went to services, in particular leasing and business services (Figure 33). Official statistics, however, classify all ODI through third parties as leasing and business services, even if investment is actually in manufacturing or mining. Alternative data compiled from greenfield project and M&A deal sources indicate that manufacturing has been a more important target of ODI with a roughly 40% share of the total stock at end-2017 (Molnar et al., 2019).

Figure 32. Chinese ODI is expanding rapidly



Note: ODI data refer to stocks.
Source: CEIC database, OECD Globalisation database and IMF Coordinated Direct Investment Survey (CDIS) database.

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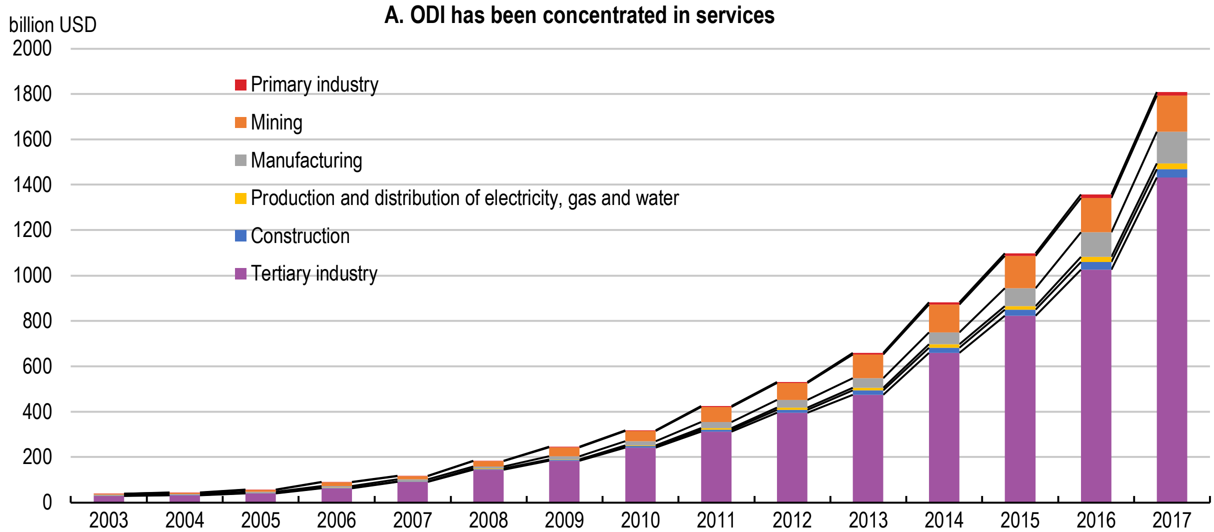
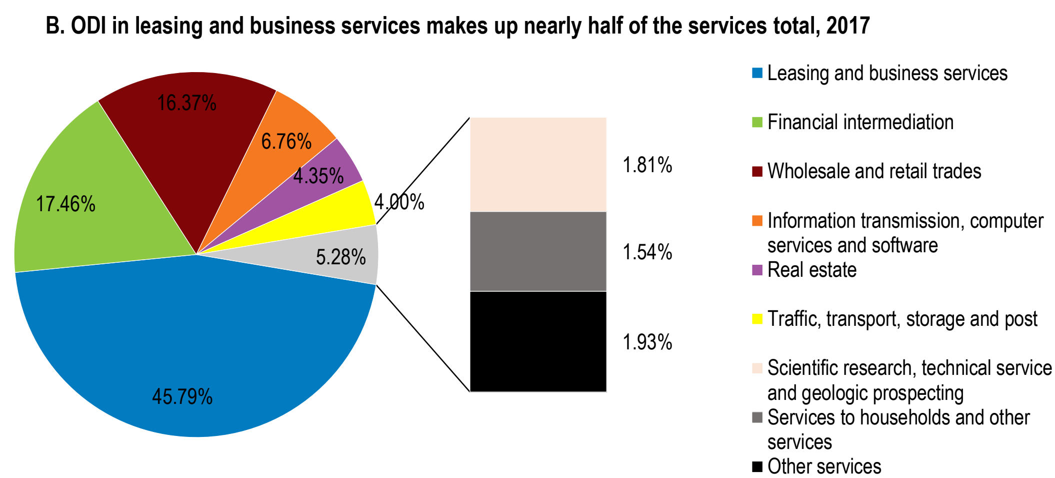
Figure 33. Most Chinese ODI went into services

ODI stocks





Note: Panel A data are based on the Chinese industry classification, where utilities or construction are not part of the tertiary industry. Panel B also uses the Chinese industry classification, the one-digit categories, as reported by MOFCOM.
Source: CEIC database.

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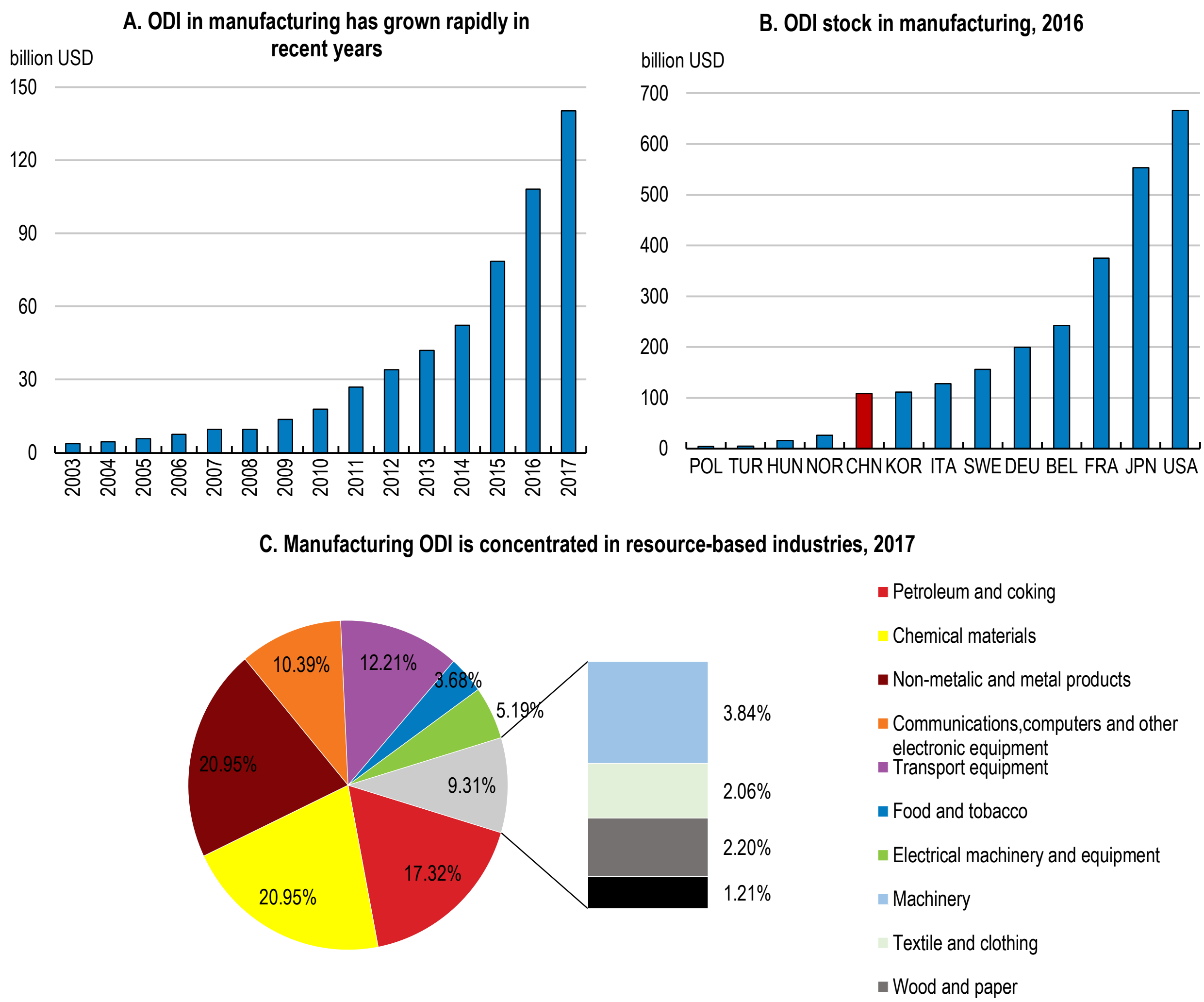
According to official data, the Chinese manufacturing ODI stock has quadrupled in the past five years (Figure 34), but it remains less than a sixth of that of the United States and a fifth of Japan's, and it is comparable to Korea's (Figure 34). Alternative data indicate that China's ODI in manufacturing is closer that Japan's (Molnar et al., 2019). Resource-based industries have been major targets of Chinese manufacturing ODI, with petroleum coking making up over a quarter, non-metallic minerals and metal products 22%, and chemicals 14%.

Figure 34. Manufacturing ODI is small, but is growing rapidly

ODI stocks



Note: Panel B depicts overseas investment stock in manufacturing by the countries in the chart. In panel C, the detailed manufacturing sectors were obtained by extrapolating the manufacturing totals published by MOFCOM based on the sum of the cumulated green field investments from the FDI Markets database and the cumulated M&A deals from the Dealogic database.
Source: CEIC, OECD Globalisation, FDI Markets and Dealogic database.

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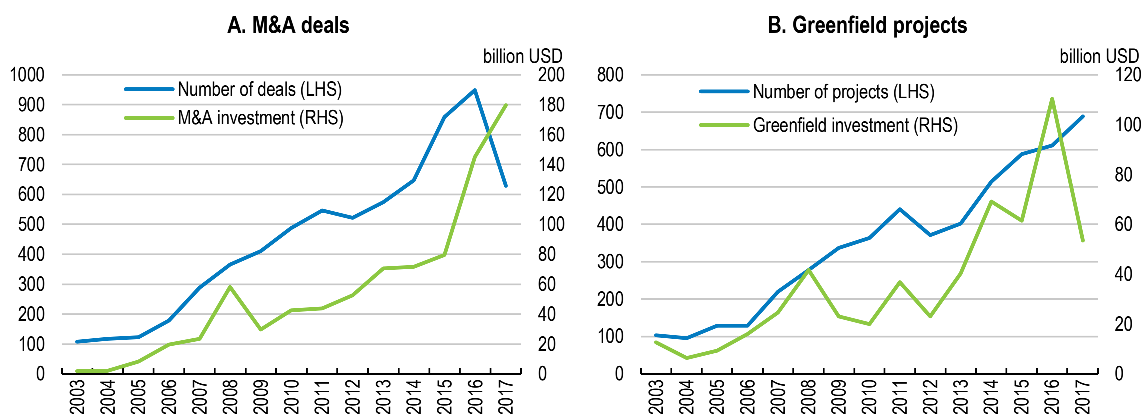
Chinese acquirers have been facing greater scrutiny, particularly in sensitive sectors with national security ramifications. This, coupled with more stringent domestic stance on capital outflows, curbed outward M&A deals in 2017 (Figure 35). There is considerable variation across sectors in terms of the relative sizes of M&As and greenfield investment (Box 10), just like in the case of destinations. The prospects for ODI are shadowed also by trade disputes, which may even reorient global and regional value chains. Firms previously investing in mines overseas to import minerals and process them domestically now may need to re-think their business model if tariffs hurt on either or both ways. Higher commodity and raw material prices may encourage more expensive extraction and investment in technologies that used to be too expensive.

China should adhere to the OECD Declaration on International Investment and Multinational Enterprises and Chinese companies operating overseas should follow the OECD Guidelines on Multinational Enterprises in their business conduct and should contribute more to local employment creation by hiring locally. Furthermore, adhering to worldwide best practices in particular in terms of environmental and labour standards (in contrast to just following host-country standards, which are very often lower) in investment in countries benefiting from the Belt and Road Initiative, whose share is rapidly increasing in Chinese ODI, would help create an image of a responsible investor and make investments more sustainable. The OECD has further instruments that could help shaping Chinese investors' overseas activities such as the OECD Due Diligence Guidance for Responsible Business Conduct, for Meaningful Stakeholder Engagement in the Extractive Sector and for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas. Infrastructure projects under the aegis of the Belt and Road Initiative should be subject to thorough cost-benefit analysis as well as that of the repaying ability and debt sustainability of the recipient country.

Figure 35. More investment is done through M&A than greenfield



Note: Data depict annual investment flows.

Source: FDI Markets and Dealogic database.

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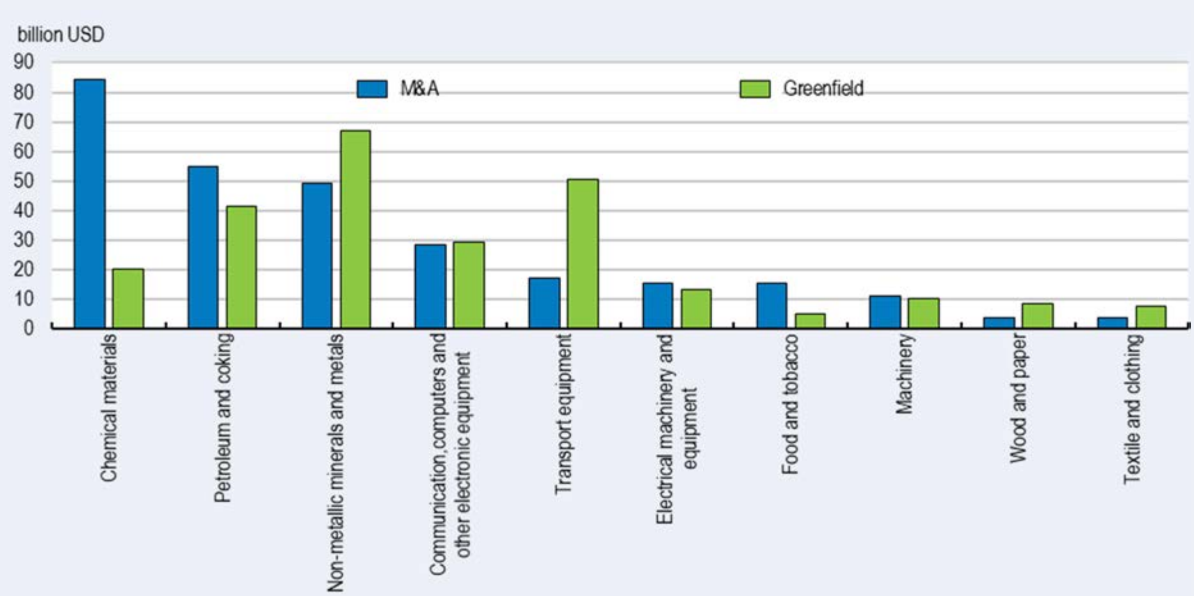
Box 10. The geographical and sectoral dimension of M&As and greenfield investments

The cumulated deal value of M&As as of end-2016 is about a third higher than that of greenfield projects. Although the United States is the top destination for both, greenfield investment favoured developing countries (with Indonesia, India, Malaysia and Egypt among the top five in terms of cumulated investments), while M&As targeted advanced economies (with Hong Kong; China, Australia, Canada and the United Kingdom among the top five in terms of cumulated deal value). For greenfield investment, the Cairo Governorate, New York State, California, Southeast UK and Sulawesi are the most popular destinations; among cities, New York ranks first, followed by London, Kuantan (Malaysia), Hong Kong, China and Singapore. Beijing, Shanghai, Guangdong, Jiangsu and Zhejiang are the largest greenfield investor provinces. Location decisions for Chinese greenfield investment in European regions appear to exhibit bandwagon effects with private firms more likely to follow earlier Chinese investors than SOEs (De Beule et al., 2018). Most acquisitions were by listed firms in terms of value, followed by non-listed SOEs and non-listed private firms, but non-listed SOEs closed about five times larger deals on average than the other two groups of firms.

In some industries, investment is split in roughly equal proportions between M&A and greenfield, while others mainly choose one way or the other (Figure 36). Construction ODI, for instance, is nearly exclusively through greenfield investment, moreover, the first five destination countries account for about half of total Chinese ODI in the sector, Egypt alone for about a fifth, Malaysia and the United States for over a tenth, each, India and the United Kingdom for over a fifteenth, each.

Figure 1.36. In many manufacturing industries, M&A and greenfield investment are equally important

Cumulated values, 2017



Source: OECD tabulations based on the FDI Markets and Dealogic databases.

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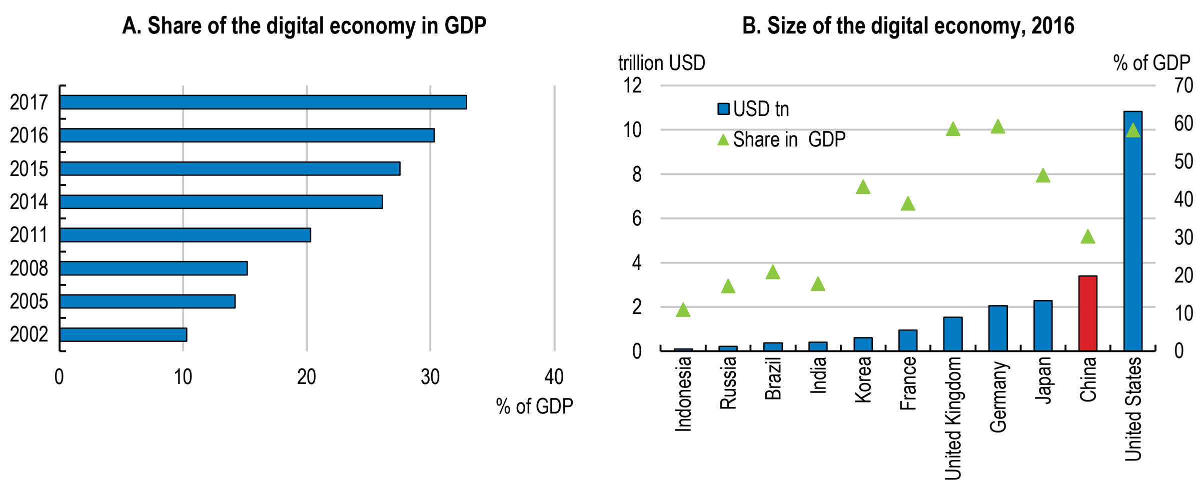
Digitalisation is a leapfrogging opportunity

Digitalisation provides a leapfrogging opportunity that Chinese firms and policymakers have been swift to seize. By the measure widely used in China (i.e. the sum of the direct and indirect value added of the ICT sector: the direct part is the sum of value added in ICT manufacturing and ICT services, while the indirect part is calculated on the basis of how much ICT inputs are used in other sectors), the digital economy now accounts for about a third of China's GDP and a fifth of employment and it is growing rapidly (Figure 37). The big size of the Chinese digital economy by these measures stems from large intermediate ICT inputs to other industries. The ICT industry itself, which is the backbone of the digital economy, is not particularly large. Its value added share is smaller than not only that of advanced economies, but also than India's (Figure 38) and has been stagnant for several years already. This explains the increased emphasis to foster new strategic industries as drivers of growth.

Figure 37. China's digital economy is about double the size of India's, but smaller than in advanced economies

Digital economy value added in billion USD and as percentage of GDP



Note: The digital economy is measured as the sum of the direct and indirect value added of the ICT sector. The direct part is the sum of value added in ICT manufacturing and ICT services, while the indirect part is calculated on the basis of how much ICT inputs are used in other sectors.
Source: China Info 100 (2018), 2017 Nian Zhongguo Shuzi Jingji Fazhan Baogao, in Chinese, 2017 China Digital Economy Development Report.

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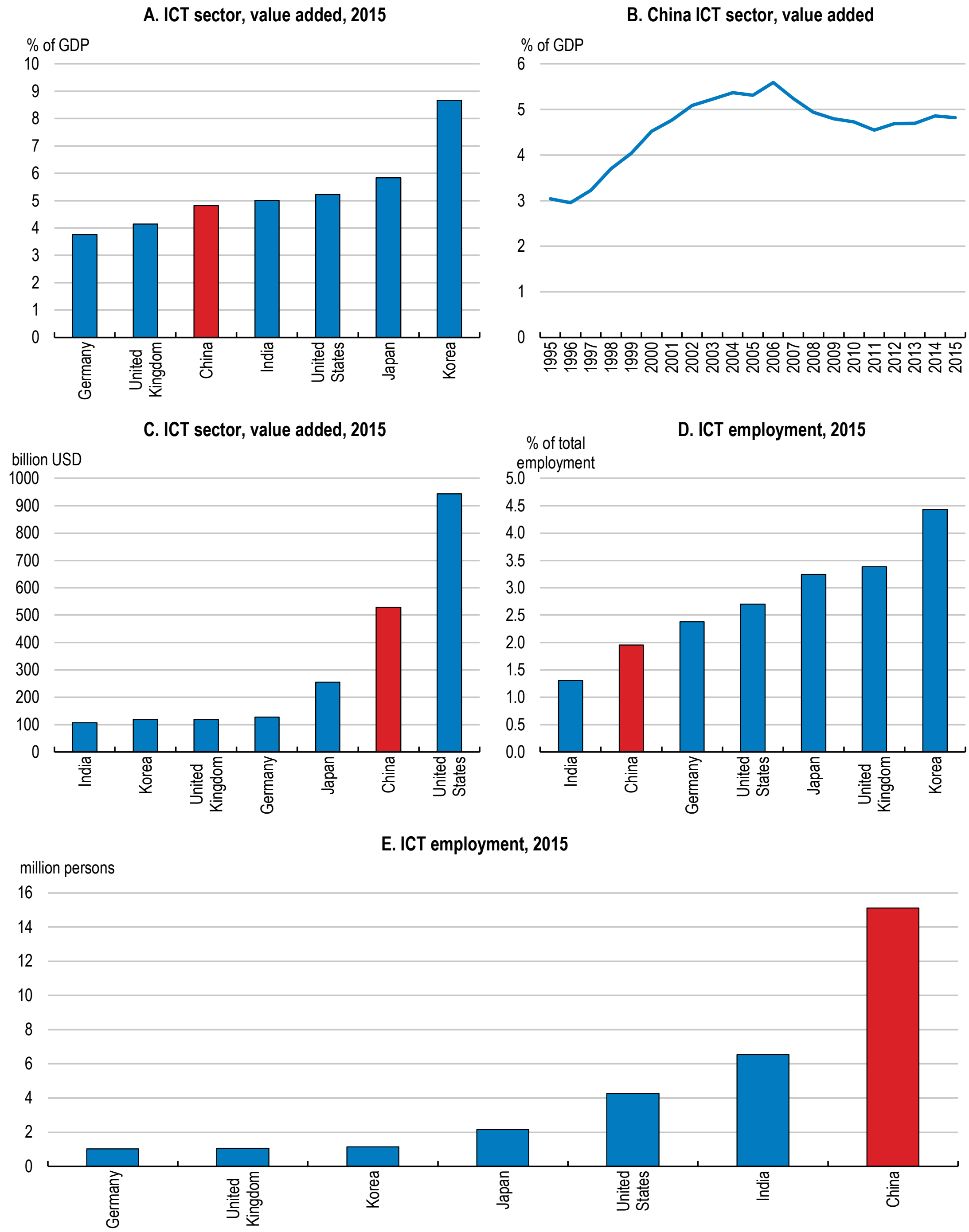
Figure 38. The ICT sector is not particularly large

Size of the ICT sector in terms of value added and employment and comparison with other countries



Note: The definition of the ICT sector used here takes into account the standard distinction between manufacturing and services, but does not include manufacture of magnetic and optical media and ICT trade industries. ICT services industries are grouped in two sub-sectors: telecommunications and computer and related activities. This definition of the ICT sector allows making an international comparison over a longer period of time, as some of the above countries do not have the necessary disaggregated information to estimate all the ICT subsectors included in the comprehensive definition.

Source: European Commission 2018 PREDICT Dataset.

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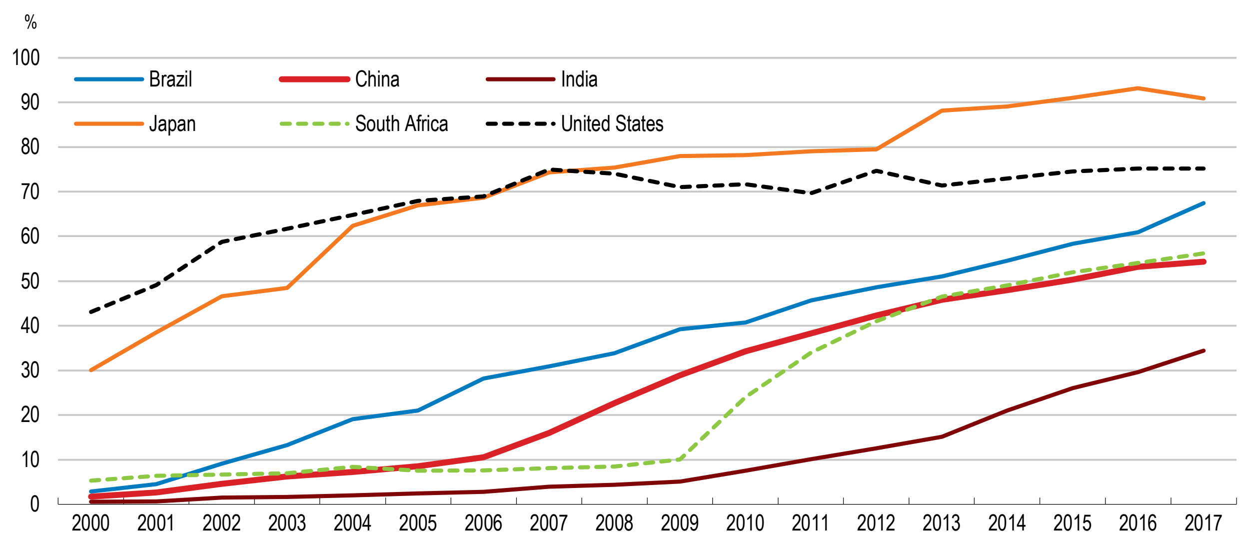
The 2018 Government Work Report further emphasised the need to reach full internet service coverage and to reduce fees. Domestic roaming charges by mobile operators were scrapped from July 2018. As of 2017, roughly 56% of the population were internet users, comparable to South Africa or Brazil (Figure 39). The 750 million Chinese internet users make up 22% of the world's total. Mobile internet penetration is well below frontrunners such as Korea or Scandinavian countries. Average internet speed at around 16 Mbps (CNNIC, 2018b for Q3 2017) is double of the world average (Fastmetrics for Q1 2017), but is well behind advanced countries (28.6 Mbps for South Korea, the frontrunner).

Figure 39. The internet penetration rate is on par with other upper middle-income countries

Percentage of internet users in the population



Source: International Telecommunications Union database and China Internet Network Information Center (2019), Zhongguo Hulian Wangluo Fazhan Qingkuang Tongji Baogao.

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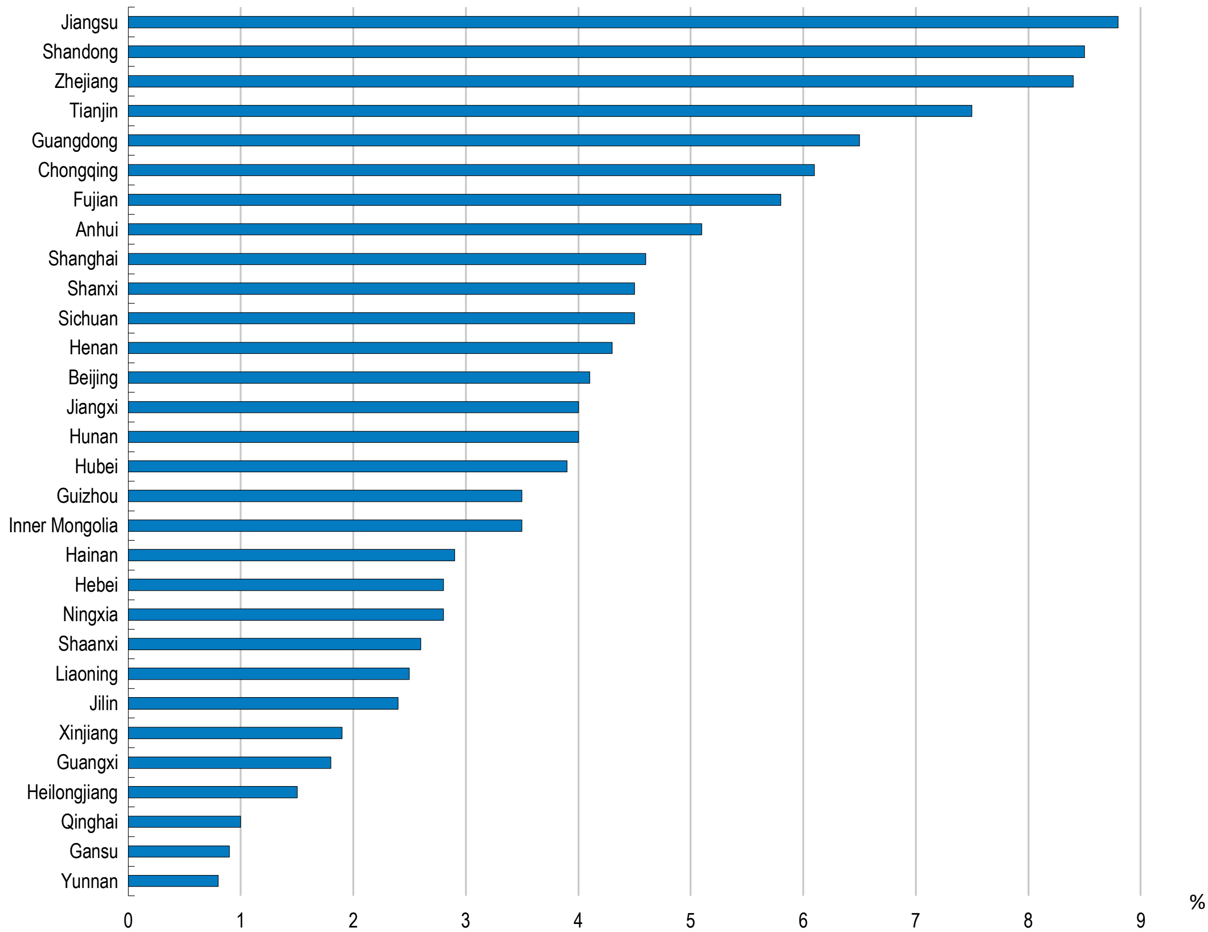
The spatial digital divide is manifested in a wide gap in smart manufacturing between coastal and inland provinces. Defined by the extent of digitalisation and the integration of various processes in production, smart manufacturing firms made up nearly 9% of all manufacturing firms in Jiangsu and a similar share in Shandong and Zhejiang in 2017 (Figure 40). Western (except Chongqing and Sichuan) and North-eastern provinces, however, are lagging behind.

Figure 40. Smart manufacturing is most widespread in coastal provinces

The share of smart manufacturing firms in total, 2017



Note: A manufacturer is "smart" if over 50% of its key processes are digitalised, management and control and production and sales are integrated, is in the process of upgrading integration or introducing path-breaking innovation.
Source: China Info 100 (2018), 2017 Nian Zhongguo Shuzi Jingji Fazhan Baogao, in Chinese, 2017 China Digital Economy Development Report.

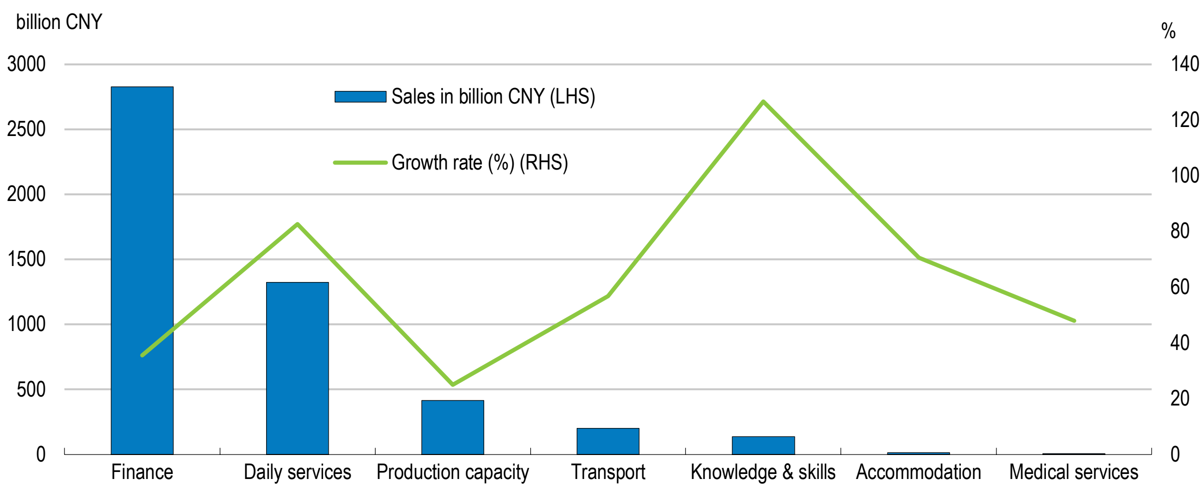
StatLink https://doi.org/10.1787/888933945469

China has become a world leader in a number of services, particularly those that can be easily digitalised. Within a short period of time China has become world leader in a range of internet-based services such as e-commerce, online payments and online car hailing. China's e-commerce market was nearly double the size of that in the United States in 2016, with online shopping accounting for a quarter and business-to-business services for most of the rest (CNNIC, 2018b). The sharing economy is a typical example where China jumped on the bandwagon later, but soon became world leader. The shared economy accounted for about 6% of GDP in 2017 and the target is 10% in 2020 and 20% in 2025. The major area is financing, followed by daily services, production capacity, transport, knowledge and skills, accommodation and medical services (Figure 41). In 2017, 10% of newly created employment (1.3 million) was in the sharing economy and employed 7.2

million people. Didi Chuxing, an online car hailing company alone provided work opportunities for nearly 4 million laid off workers in addition to 1.3 million unemployed and 1.8 million former soldiers. Regulations in shared services should catch up with the development of the industry to ensure safe use and provide for potential environmental and other consequences.

Figure 41. The sharing economy is expanding rapidly, in knowledge and skills sharing

Annual sales value in billion CNY and growth rate, 2017



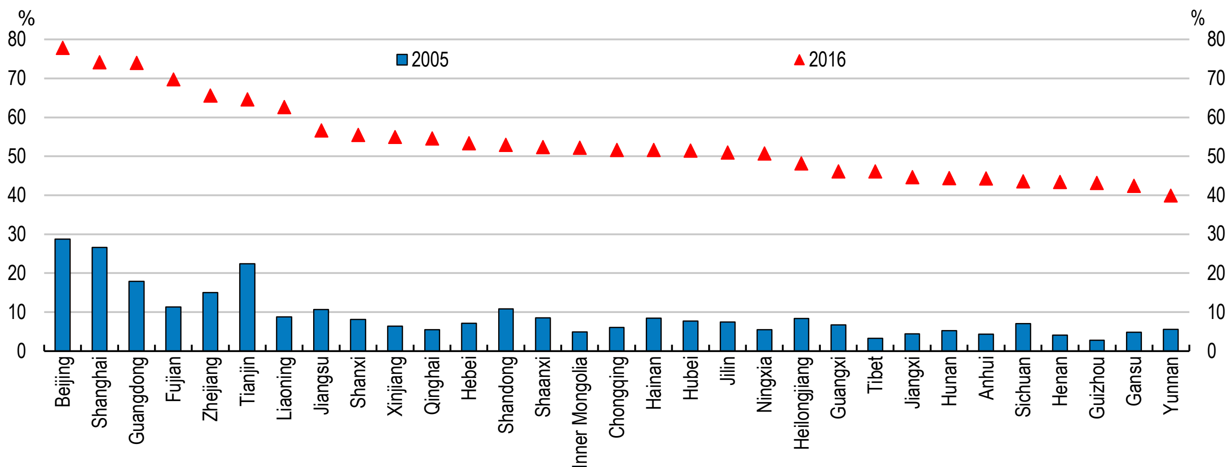
Source: State Information Centre Sharing Economy Research Centre (2018), Gongxiang Jingji Fazhan Niandu Baogao, in Chinese, Annual Report on the Development of the Sharing Economy.

StatLink https://doi.org/10.1787/888933945488

Stronger basic and computer skills training will narrow the digital divide

On some key indicators, there is indeed a sizeable gap between the more developed coastal areas and inland provinces. The internet penetration rate in some Western and Central provinces such as Yunnan, Gansu, Guizhou and Henan is roughly half of that in Beijing (Figure 42). The outflow of professionals from many Western and Central cities such as Wuhan, Xian and Chengdu will make the catching up of those regions even more difficult.

Figure 42. Internet penetration is high in the East, but remains low in the Centre and the West



Source: Blue Book on the Internet Economy, 2017.

StatLink https://doi.org/10.1787/888933945507

Internet penetration is 71% in urban and 35% in rural areas. The reasons for not using internet are mainly skill related. Half of these non-users cannot use computers or the internet, another 38% cannot read pinyin, the alphabetic transcription of Chinese characters, which is necessary to enter text, 5% lack the infrastructure (no nearby internet service) and 10% are not interested (CNNIC, 2018b).

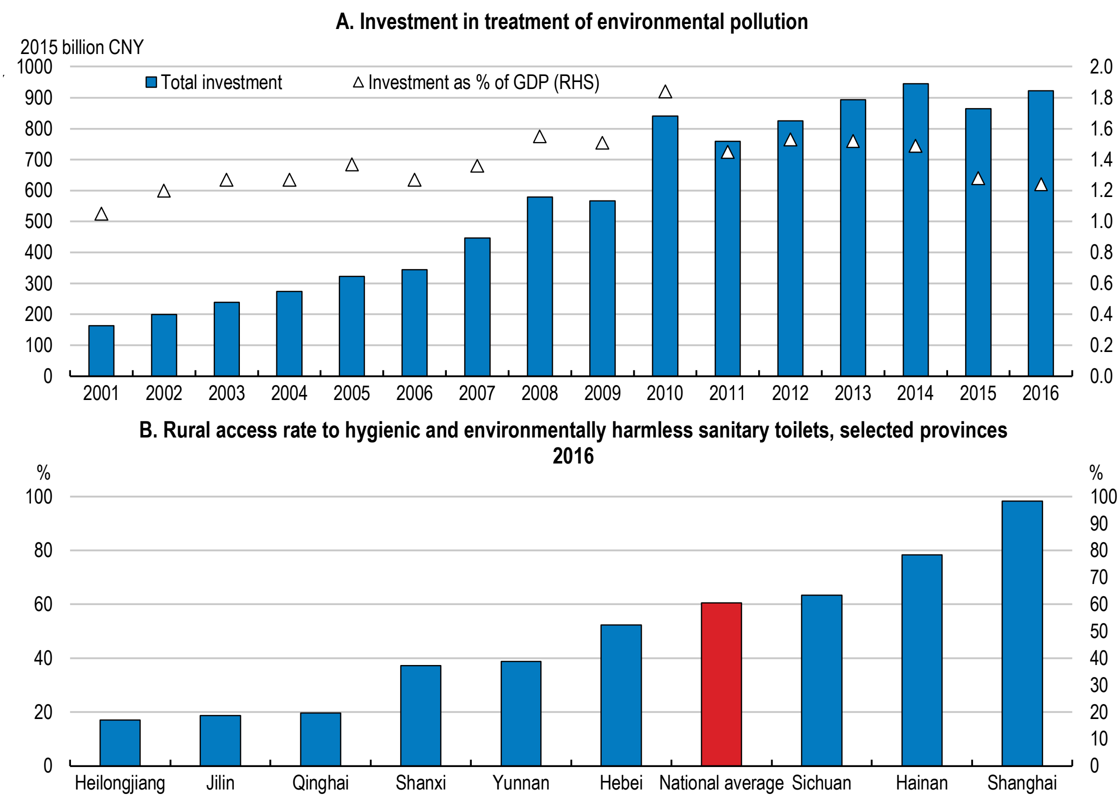
Stronger training in basic literacy and numeracy skills at the primary level as well as in adult learning is needed to overcome barriers to internet use. Upgraded and more widespread computer programming skills would also be essential in confronting the digital revolution as that is where the skill deficit is the greatest (OECD, 2015 and Molnar et al., 2015).

Air quality is improving but more work is needed

Trying to alter the growth-at-all-costs mindset, enforcement of environmental regulation has become stricter, with more on-site inspections. In addition, increasing attention is directed to rural pollution. In Hebei Province, 3 500 cameras were installed by August 2018 to deter farmers from burning agriculture waste and penalise them if they do so. Attempts to improve measurement of pollution and supervision of surveillance facilities are ongoing. In August 2018, the Ministry of Ecology and Environment issued a three-year action plan for environmental monitoring, in particular for ensuring that the data submitted by governments at various levels are not fabricated or altered. The consolidation of all water-related responsibilities under the Ministry of Ecology and Environment (formerly split between the Ministry of National Land and Resources, Ministry of Water Resources and the State Oceanic Administration), as well as the transfer of other environmental responsibilities such as climate change and emissions reduction policies, formerly under the National Development and Reform Commission, can improve regulatory coordination and policy consistency.

Further challenges remain as investment in environmental pollution treatment stagnated in real terms and gradually declined as a share of GDP since 2010 (Figure 43). For example, an investment of CNY 1 trillion, equivalent to 1.2% of 2017 GDP, or total 2016 investment in environmental pollution treatment, is needed to improve water quality in urban rivers according to the Ministry of Ecology and Environment. Rural areas also have their specific infrastructure needs. In 2016, less than 50% of the population had access to hygienic and environmentally harmless sanitary toilets in the rural regions of 14 provinces. Pollution control retrofitting should also be completed countrywide (International Energy Agency, 2016). Investment in environmental pollution treatment equipment and environmental infrastructure should increase to avoid any potential public health impacts. Energy-related taxes generate little revenue. Diesel is taxed at a lower rate than petrol, even though its environmental impact is greater.

Figure 43. Environmental investment has stagnated



Source: China Statistical Yearbook on Environment 2017.

StatLink https://doi.org/10.1787/888933945526

Regulation has improved air quality in recent years in major cities, but most of the Chinese population still remains exposed to very high levels of air pollution leading to substantial health issues and an estimated 7% of 2015 healthcare expenditure (Barwick et al., 2018). Air pollution also increases the risk of dementia and hence long-term care needs at high age (Bishop et al., 2018). Furthermore, according to OECD estimates, the welfare costs of premature deaths from exposure to outdoor PM2.5 and ozone were equivalent to 8.6% of GDP in 2016 (Roy and Braathen, 2017). On current policies, mortality could more than double by 2060, reaching 1500 deaths per million inhabitants (OECD, 2016), in part reflecting an ageing population, which is more susceptible to premature mortality. High air pollution contributed to China being ranked 14th in the world in terms of the incidence of lung cancer, after correcting for the age structure, in 2012 (Ferlay et al., 2014). Pollution should urgently be reduced below harmful levels by more stringent enforcement of regulations, more deterring fines for polluters and higher taxes.

In an attempt to more effectively address air pollution, a new action plan for clean air was released in July 2018 for 2018-2020. The new plan widens coverage to more pollutants, such as ozone, and more cities, as it includes all 338 cities at the prefecture level and above. It sets a target of reducing the concentration of PM2.5 to 35μg/m³ in major cities by 2020, a level significantly higher than the one set by the World Health Organisation of 10μg/m³. While this target is lower than observed concentrations in cities such as Beijing, where PM2.5 concentrations were 58μg/m³ in 2017, 16 of the 113 major cities already had lower PM2.5 levels in 2016. To ensure that a city with 30μg/m³ level of PM2.5, for example, also has incentives to reduce pollution, targets should be set by city. Coordinating housing, commercial development and transport policies in metropolitan areas helps reduce car dependency and boost public transport use, lowering pollution while boosting productivity and access to jobs. This requires metropolitan governance arrangements which match travel-to work areas.

The CO2 intensity of the Chinese economy has diminished substantially in recent years, although it remains higher than the OECD average (Figure 44). This has allowed China to stabilise its per-capita CO2 emissions at a level below the OECD average. The target set for 2020 to reduce carbon intensity by 40-45%, was already reached in 2017 (Climate Action Tracker, 2018). On the back of these achievements, and although carbon emissions rose in 2017 and the first quarter of 2018, China is on track to meet its commitment to peak total CO2 emissions by 2030 and lower the carbon intensity of GDP by 60%–65% below 2005 levels by 2030. China has also committed to raising the share of non-fossil fuel consumption in total primary energy consumption to 20% in 2030. However, there are no longer-term commitments, and in view of the need to reduce world-wide greenhouse gas emissions to close to zero on a net basis around 2060 to fulfil the Paris Agreement, China's commitments are insufficient (Climate Action Tracker, 2018). Stronger incentives to lower carbon emissions would also lower air pollution. Indeed, coal-fired power plants contribute strongly to pollution which is harmful to human health (Fei, 2018).

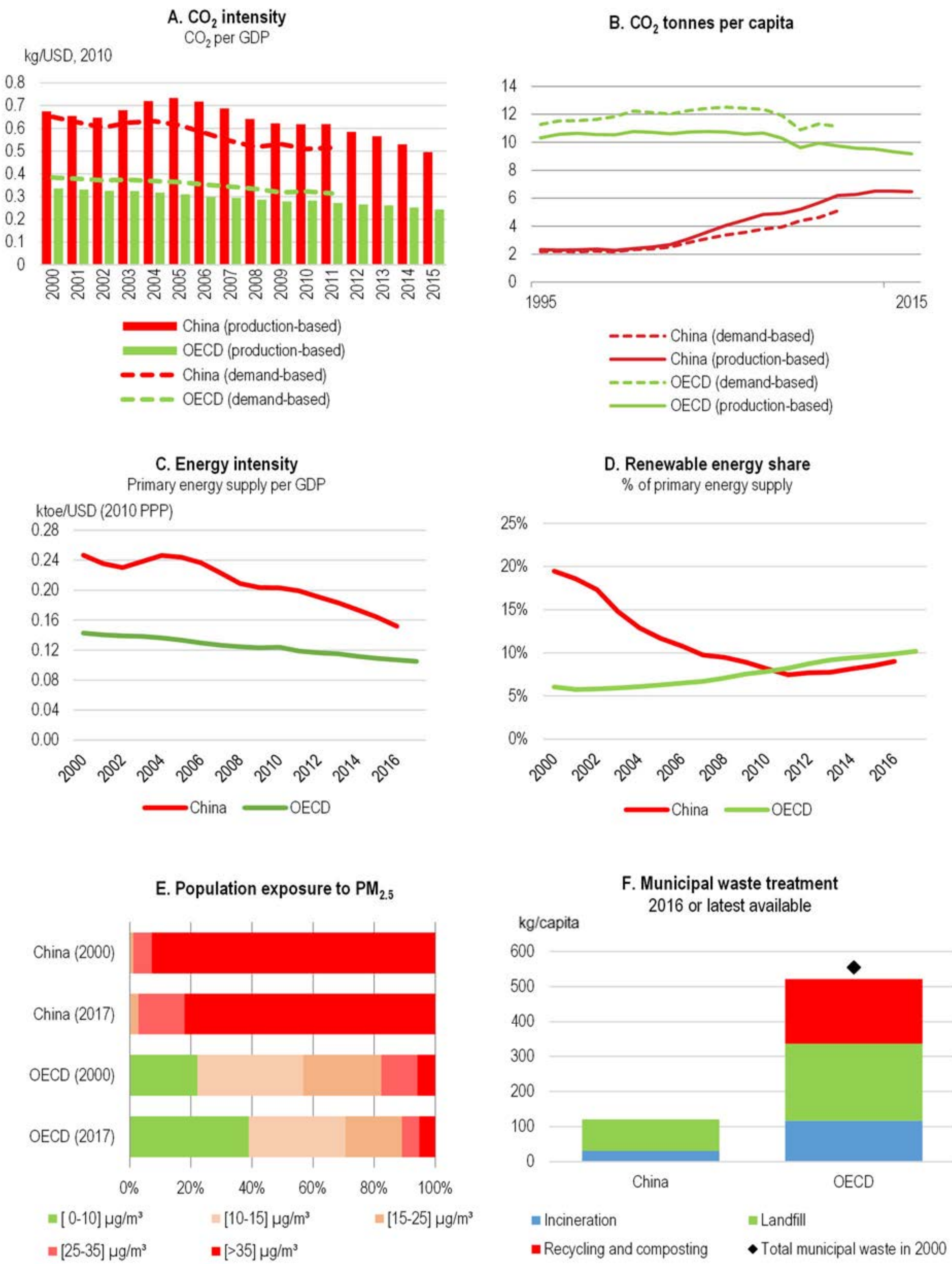
The national cap-and-trade carbon emissions system will come into force only by the end of 2020, and will cover only the power sector; no date has been set thus far for other sectors. China should set a path of emission permit allocations according to an emission reduction target which is consistent with reaching the objectives of the Paris Agreement and move towards auctioning emission permits. Stronger policies to price CO2 emissions also need to be coordinated with steps towards the liberalisation of electricity prices, so markets can respond to changes in costs (Fei, 2018).

Reducing coal use in industry and electricity generation is key to lowering CO2 emissions further. Although the share of renewable energy has increased in recent years, China is planning new coal-fired power plants (Global Coal Plant Tracker, 2018), such as the expansion of the Jiangxi Fenyi Power Plant announced on June 2018, which is inconsistent with reaching the objectives of the Paris agreement. To further reduce emissions, pricing of CO2 emissions should be reinforced; only 9% of CO2 emissions are taxed at EUR 60 per tonne. EUR 60 is a midpoint estimate of climate-related carbon costs in 2020, as well as a forward-looking low-end estimate of climate-related carbon costs in 2030. Investing in new coal-fired power plants also exposes China to the risk of having to write off investments early if action to decarbonise the economy is taken belatedly. The negative impact on GDP of stranding assets related to fossil fuel production and use can be substantial. This risk is particularly relevant for China, as one of the world's largest producers and consumers of coal. This impact can be aggravated by financial market consequences (OECD, 2017a). Existing electricity generation capacity is sufficient to meet even ambitious electricity demand projections at least until 2025 (Fei, 2018).

Table 11. Past OECD recommendations on greening growth

Recommendation	Actions taken since the 2017 OECD Economic Survey
Effectively implement the December 2016 Environmental Protection Tax Law, stepping up enforcement efforts and raising environmental taxes.	Environmental protection enforcement became stricter, with more on-site inspections. In August 2018, the Ministry of Ecology and Environment issued a three-year action plan for environmental monitoring, in particular for ensuring that the data submitted by governments at various levels are not fabricated or altered.
Allow independent renewable generators to sell surplus energy and link renewable capacity expansion with the extension of the local power grid.	No action taken.

Figure 44. Ample room for improvement in greening growth



Source: OECD Green Growth Indicators database.

StatLink http://dx.doi.org/10.1787/888933945545

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Chapter 1. Realising regional potentials through better market integration

China's regions have been experiencing impressive growth over the past decades, but their potentials could be better exploited by creating a single product and labour market. Local protectionism increases transaction costs and hinders competition, thereby taking a toll on productivity. Administrative monopolies have long thrived and are hard to dismantle. Restrictions on the hukou and the fragmented pension system limit labour mobility. Local regulations aim at, among other things, securing the collection of local taxes, without which cities could not afford to offer the same public services to migrants as to urbanites. Hence, dismantling local regulations and creating a single product and labour market needs to go hand-in-hand with the reform of inter-governmental finances.

Recent measures on both the product and labour market front appear to aim at making up for the slow progress over the past decade or so. There are signs that these efforts are helping China's regions at various levels to converge toward each other. Disparities are shrinking faster across provinces, compared to within provinces. Integration of product and labour markets will boost productivity over the medium-to long term by reducing transaction costs, but could potentially widen regional disparities, which are already relatively high. This will necessitate enhanced transfers and re-centralisation of the financing of spending in some key categories such as education and health. Policies to help catching up of laggard regions by better connectivity through infrastructure investment are bearing fruit, but such investments should be subject to rigorous cost-benefit criteria to enhance capital allocation efficiency and should take into account externalities. Notwithstanding significant disparities along multiple dimensions across provinces, inequalities, be it in terms of income, wealth or education, are actually most striking along the rural-urban dimension. The rural revitalisation strategy, a novel element of the 19th Party Congress outcomes, is expected to address this issue. The other recent strategy of nurturing the formation of city groups will also likely benefit rural areas in-between those cities.

China is a collection of regions whose income per capita ranges from lower-middle to high and population from as young as India's to as old as Korea's. Life expectancies also vary widely across the country with Beijing's 80 years close to life expectancy in advanced economies and Tibet's 68 years close to India's. Population densities vary from lower than the United States' to higher than Korea's. The spatial distribution of the population – which is related to geographical endowments -- had a bearing on the distribution of economic activities. Export-oriented provinces with large manufacturing clusters appear to be the most productive, while agriculture's productivity lags well behind more advanced countries.

Disparities in GDP per capita measured by the Theil index at the province level at 0.09 (in 2016) are lower than across Indian states (0.15 in 2014), but higher than across US States (0.04 in 2016). In contrast, disparities are high within provinces, which largely reflects the urban-rural divide. Indeed, an average urbanite earns almost three times of what a rural resident earns and holds nearly five times of the assets (Molnar et al., 2017). Migrants are in between the two groups, with half of the average urban income and less than half of the assets. Education and health resources are unevenly distributed, with urban areas in general having easier access to and better quality of such services. While access to education resources, especially at the compulsory education level, requires living in the catchment area, health resources can be used by anyone, though with lower reimbursement rates for people not belonging to the institution's area of service. As a result, urbanites spend only double of that of rural residents on health and 50% more than migrants, but about three times and twice, respectively, on education.

China's regions have been experiencing impressive growth over the past decades, but their potentials could be better exploited by creating a single product and labour market. A single product market would raise efficiency by economising on transaction costs related to varying regulations and other barriers to the flow of goods and cross-regional activities. Anti-competitive regulations at the local level continue to take a toll on productivity and hence curb the speed of catching up with the frontier economies. Similarly, a single labour market would allow human resources to flow where they are valued most, and thus raise efficiency. The *hukou* system entrenches inequalities in pay and social security and hence lowers productivity. High inequalities in the distribution of education resources reinforce inequalities in opportunities (OECD, 2015) and hinder upward social mobility. Poorer health services in rural areas and lower reimbursement rates in cities of workplace impair migrant workers' health outcomes and hence also productivity.

Phasing out local protectionism to create a single product market

Local protectionism has long been preventing the integration of product markets across the country and reducing capital allocation efficiency (Chen et al., 2016). Protectionist measures include hindering the entry or exit of outside businesses and discriminating them in terms of pricing or access to local procurement contracts. Any such anti-competitive behaviour is strictly prohibited by the Anti-Monopoly Law of 2007. Many of the anti-monopoly investigations have been brought against public utilities that imposed extra costs on consumers by tying services, restricted consumer choice by designating a constructor or abused their dominant position in other ways to restrict competition (Horton, 2016). In addition to enterprises, in particular SOEs, attempting to protect their business interests by reducing competition, local governments granted monopoly powers to local businesses (Box 1.1 and Schneider, 2010). The origin of local protectionism strongly relates to the desire of local governments to keep the tax base within their jurisdiction and to stimulate local production of goods and services, which again translates into more local taxes.

Box 1.1. Administrative monopolies

Administrative monopolies are the abuse of administrative power with anti-competitive effects. The issue of administrative monopoly in China arises from the condition that State power penetrates into all aspects of the economy and the close link between monopoly enterprises and the government (Huang, 2008).

Administrative monopolies, as opposed to market monopolies, are brought to life by administrative departments. They are granted to a business through the issuance of regulations or statutes by administrative departments.

Most often they take the form of entry barriers to local markets or preferential pricing in input or output markets. Very often it may involve free resources such as land as input.

By OECD terminology, administrative monopolies would fall under the anti-competitive regulations of the product market regulation indicators and relate to scope of State involvement, barriers to entry and explicit and implicit barriers to trade and investment.

Source: Sheng et al. (2015).

While abuse of dominance cases by public utilities or other enterprises with dominant position can be addressed by anti-monopoly laws, as administrative monopolies stem from the abuse of power by administrative departments, anti-monopoly laws alone are not sufficient to tackle them, but also the power of those departments needs to be restricted and the rule of law strengthened. In fact, it is often the ambiguity of laws that grants discretionary power to implementing departments. The lack of clear and detailed implementation rules has provided large room for the interpretation of, for instance, foreign investment-related laws, leading to varying investment environments across the country. Therefore, to address the issue of local protectionism, a form of administrative monopoly, laws and regulations should be clearer and more specific to leave less room for discretion in their implementation.

The only publicly available systematic investigative research on local protectionism dates back to a decade ago (Li and Hou, 2008 and World Bank, 2005). The most protected industries by local governments in the early 2000s were tobacco and beverages, followed by transportation equipment, agriculture, food, utilities, petroleum, culture, education and health, medicine and electronics (Box 1.2). Local protectionism was manifest in the lack of judicial independence, government procurement and intervention in the labour market. The past decade and a half, has, however, brought about many structural changes and reforms are being pursued. With rapid ageing, labour shortages emerged, thus local governments are less tempted to protect their local labour markets. A path breaking change in making the judiciary impartial was the introduction of lifelong responsibility for judges for the outcome of the cases they hear. Furthermore, a professional career path has been established for judges and the financing responsibility of courts has been lifted to the provincial level. Nevertheless, the issue of local protectionism has not yet been rooted out.

Box 1.2. The DRC-World Bank questionnaire-based research on local protectionism

The research is based on a questionnaire sent and collected from 3156 firms (valid responses) in 2003. The questionnaire covered all provinces in China with larger samples in larger provinces. The studies based on the questionnaire (Li and Hou, 2008 and World Bank, 2005) identified 42 types of local protectionist practices, which were classified in the eight categories of direct control over the quantity of sales, price limit and local subsidy, discriminatory measures on quality inspection, informal restrictive measures to check local imports, intervention in the input of raw materials, intervention in the labour market, intervention in investment and financing and intervention in technology transfer.

Local protectionism was considered at that time particularly harmful in judicial independence, government procurement and intervention in the labour market. Most enterprises claimed that local judicial departments were delaying cases where outside enterprises brought local ones to court. The legal environment was considered the weakest in Heilongjiang, Guangxi, Shanxi, Jiangxi, Hubei, Guizhou, Yunnan, Shaanxi, Gansu and Ningxia, while firms in Shanghai, Jiangsu, Zhejiang, Fujian, Shandong and Guangdong had a higher appreciation of the operating legal environment. Local protectionism in government procurement was particularly serious in finance and insurance, posts and telecommunications, construction, science and technology, culture, education and health and in the regions of Beijing, Anhui, Jiangxi, Fujian and Sichuan.

Source: Li and Hou, eds. (2008) and World Bank (2005).

Local governments are now required to eliminate anti-competitive protectionist measures and implement Fair Competition Review Mechanism

The preponderance of protectionist policies has prompted the central government to order in December 2017 all local governments to undertake self-investigation of measures hindering competition and to eliminate them within a year. In fact, as of end-2018, altogether 820 000 documents have been checked, from which over 20 000 have been found to exhibit local protectionist behaviour, violate competition laws or constitute market barriers. Moreover, 2% of cities and 15% of counties have not yet put a Fair Competition Review Mechanism in place yet.

Highlighting the importance attached by the government to the issue, this Work Plan for Dismantling Barriers to Competition was jointly issued by the National Development and Reform Commission (NDRC), the Ministry of Finance (MOF) and the Ministry of Commerce (MOFCOM). Mirroring the Work Plan, a Ministry of Housing and Urban and Rural Development (MOHURD) issued a Notice in March 2018 calling for self-reporting by MOHURD bureaux at all levels of measures hindering an open, unified and competitive construction market. The aim is breaking administrative monopolies and dismantling illegal market barriers that limit cross-provincial activity. Furthermore, eight ministries and agencies promulgated in May 2017 (Fagai Diqu No. 2017/922) the Guiding Opinion on the Development of Enclave Economies (special areas where superior experiences of another locality are put in practice through joint management), which explicitly targets the elimination of cross-regional barriers. It mentions the mutual recognition of administrative licences, registration, customs procedures and the results of quality inspection. Although this Guiding Opinion is focusing on the Enclave Economies specifically, the above articles have much wider implications for creating a single product market.

The Work Plan follows the historical State Council Opinion Establishing a Fair Competition Review Mechanism as a Way of Building a Market Economy in June 2016 and its Detailed Rules of Implementation in October 2017. It identifies government-sponsored or –sheltered anti-competitive behaviour as "local protectionism, regional blockade, industry barriers, business monopoly, granting preferential policies in violation of the law or illegally prejudicing the interests of market players". The Opinion defined the 18 review criteria of the Fair Competition Review Mechanism and the Implementation Rules clarified the conduct that is prohibited under each. Not even a single criterion can be violated, otherwise the proposed regulation or other measure cannot be promulgated. While the Implementation Rules make sure that no anti-competitive administrative monopoly will be established in the future, the Work Plan aims at addressing the accumulated stock of such measures.

The Opinion can be viewed as an initiative with more "teeth", as the Anti-Monopoly Law provides little remedy for anti-competitive government actions (Chan, 2009). Indeed, there is no mechanism defined by which administrative monopolies could be effectively broken. Article 51 of the Anti-Monopoly Law designates the superior authority of the violator to address such conduct, but such authorities may not be impartial in solving disputes. The same Article also puts forward potential administrative penalties for the persons directly responsible for the abuse of power.

Even though the Opinion might have more "teeth", it does not provide for any specific sanctions if a government body does not comply. For individuals there are mentions of the prospect of being subject to government disciplinary rules for contravening the Opinion. Litigation is possible under the Administrative Litigation Law of 1989 (amended in 2017), which bans abuse of administrative power and anti-competitive behaviour. In addition, anti-monopoly enforcement in general, lacks independence. The merging of the former three enforcement agencies into one may raise independence and enforcement powers. Enforcement also needs to be more transparent and rule based.

Administrative monopolies are widespread

While there are no comprehensive data on the extent and the types of administrative monopolies, recent disclosures by government agencies provide some insights into the plethora of measures that local governments adopt to protect their industries. As of April 2018, most measures targeted by the cross-sectoral national Work Plan and disclosed by the former Price Supervision and Anti-Monopoly Bureau of NDRC (now under the newly created State Administration for Market Regulation) were in residential construction, service procurement, tendering, insurance and medical goods and services (Figure 1.1). They relate to choosing specified service providers and excluding outside firms from participation in local tenders (Figure 1.1). The number of publicly reported cases over 2014-17 totals 61, which is the result of the central government requirement to report two cases by province. Over half of the cases were reported by NDRC, while a third by the public (Figure 1.1) and 28% are related to public procurement (Figure 1.1).

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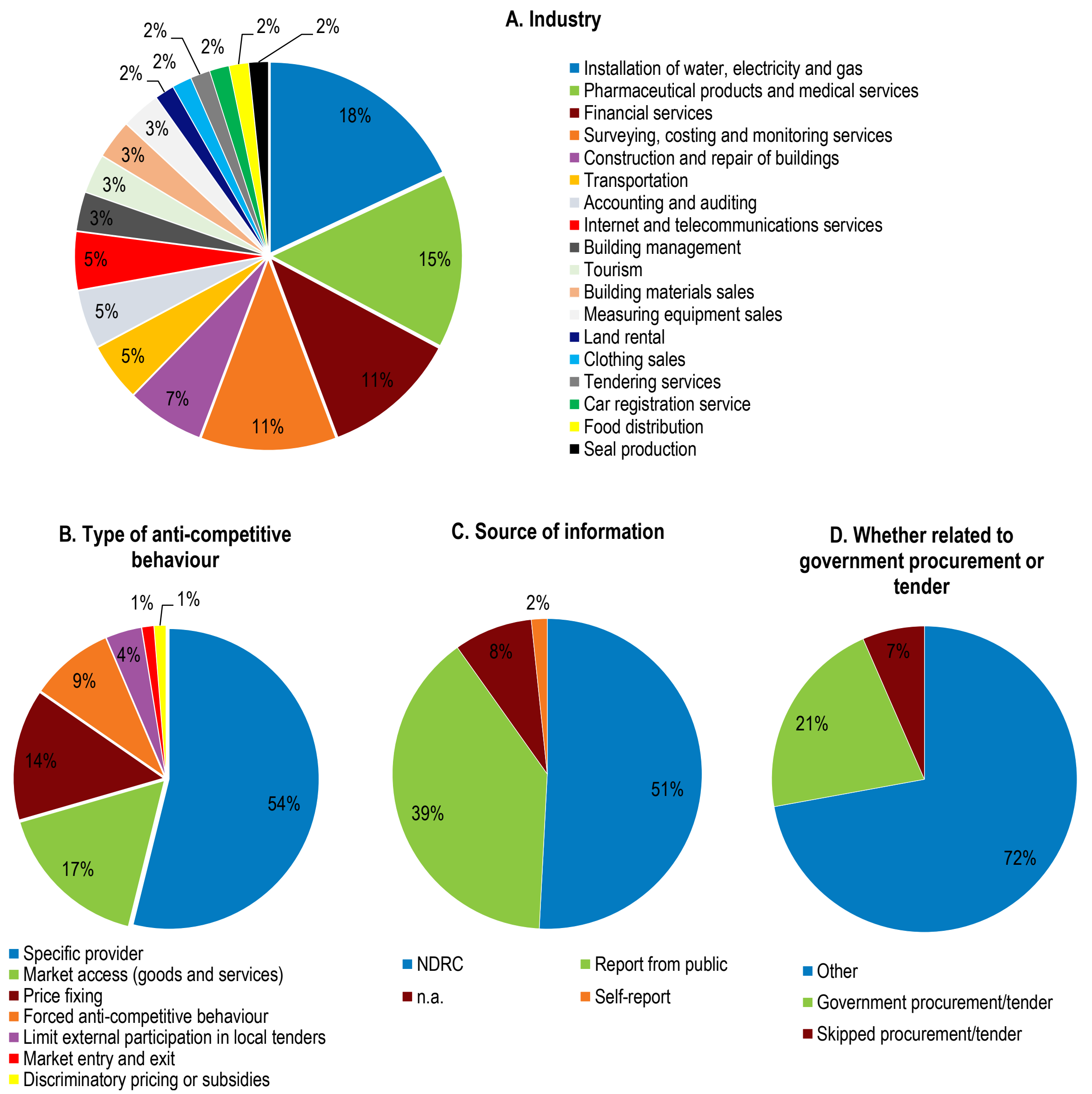
Figure 1.1. Local protectionism is mostly manifest in purchasing goods or services from specific providers, in particular in the construction industry

Percentage of cases



Note: Panel A is cases by industry, each case belongs to a single industry. Panel B is cases by the type of anti-competitive behaviour, one case may involve multiple types of anti-competitive behaviour. The chart is limited to reported cases (totalling 61) by the Price Supervision Bureau of the National Development and Reform Commission over 2014-17.

Source: Price Supervision and Anti-Monopoly Bureau, National Development and Reform Commission.

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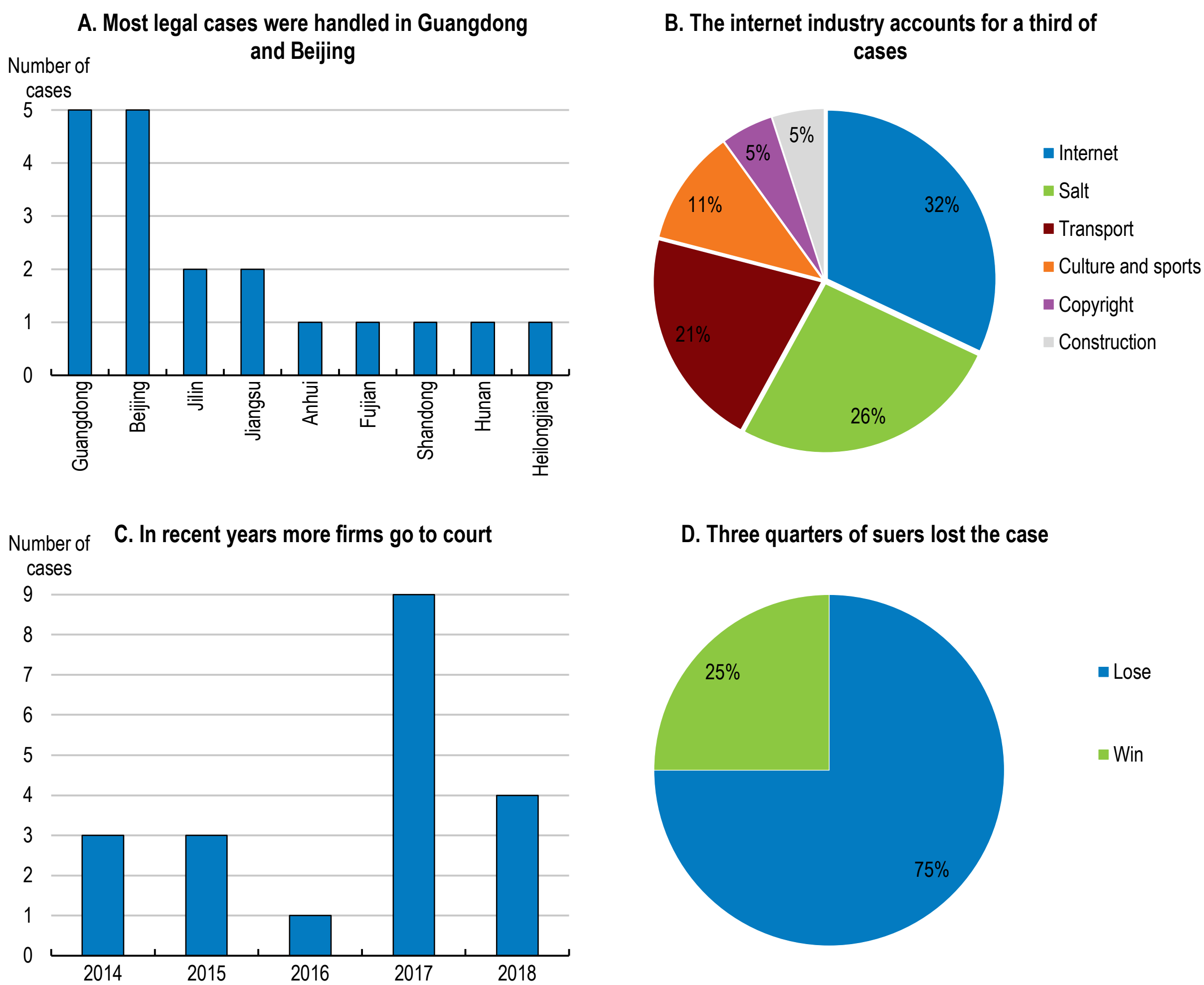
The number of cases that made it to court is even fewer at 20, mainly in Guangdong and Beijing (Figure 1.2) and mainly in internet, salt and transport industries (Figure 1.2). In 2017-18 the number of cases increased relative to previous years (Figure 1.2) and in three-quarters of the cases the government company won the case (Figure 1.2). Taking a local government to court would be the very last choice for any firm wishing to do business in that locality. Anyway, even if they decide to sue the local government, they have little chances to win. The low probability for the plaintiff to win the case relates to the obligation to prove abuse of power by the administrative department, which is in most cases difficult. Moreover, even if the plaintiff wins, as some of the cases demonstrate, it has no compensation except perhaps the court fees (not including lawyer charges). Owing to the fear of potential consequences, many firms find ways to put up with the various local protectionist regulations. Removing the heavy burden to prove abuse of administrative power would help reveal more administrative monopolies and so would easing the financial burden of suing.

The requirement of registering a subsidiary or a branch in order to conduct business is deemed illegal, though is being practised widely (Table 1.1). While laws and regulations may vary across sub-national governments in OECD countries with federal systems, a company registered in one jurisdiction can do business countrywide without having to register in other ones (though may need to acquire the necessary licences). In China, local governments require registration on security grounds, they consider that a firm registered locally would be easier to trace in case needed for accountability purposes. Another reason is tax purposes. Companies pay income taxes in the locality where they are registered, while their non-legal person subsidiaries (i.e. subsidiaries that are not stand-alone companies) jointly pay only 50% of the group's income taxes. Corporate income taxes are shared in a 60:40 proportion between the central and local governments. Value-added taxes are usually paid where the activity takes place, even if it is in a non-legal person subsidiary, except when the group follows the consolidated tax collection method, i.e. the headquarters pay all VAT, but this requires approval by local finance and tax bureaux where the headquarters are located. Clearly, local governments with headquarters have incentives to promote the consolidated collection method for firms headquartered in the respective locality. Foregoing value-added and corporate income tax revenues appears a significant barrier to scrapping the registration requirement. To effectively eliminate that requirement, company-related taxes, including the corporate income tax and the value-added tax, would either need to entirely be collected at the central level, or at the place where the economic activity such as production or sales takes place and not where the firm is registered, without exceptions. Otherwise sub-national governments would find ways to entice firms to register locally.

Figure 1.2. Wealthier provinces, the internet industry, recent years saw more cases and most were unsuccessful

Distribution of cases of administrative monopoly that restricts competition at the local level



Note: Altogether there were 20 cases filed as of April 2018.
Source: Referee Instruments Network, available at http://wenshu.court.gov.cn.

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Table 1.1. Protectionist measures in procurement and transportation are rampant

Selected anti-competitive measures stipulated in local regulations

Area and type of anti-competitive behaviour	Enactment year	Province/City	Document or project	Content
Procurement: requirement to register locally	2018	Xinjian qu, Nanchang, Jiangxi	Tax administration document	Local registration is a condition for construction companies to participate in the bidding process
	2015	Beijing	Beijing public hospital procurement	Higher credit for firms registered in pilot area, which exists only in Beijing
	2015	Shanxi	Shanxi basic medicine and low-price medicine central procurement tender	Constraining sales area for outside winners: they need to choose either the North or the South of Shanxi, while local firms can cover the whole province
	2015	Liaoning	Economic and technical evaluation criteria for the implementation of central procurement of medicine for Liaoning hospitals	Up to 2 Liaoning taxpayers with a local brand can enter the bidding process in addition to the allowed number as long as they can provide at the same price
	2015	Shenzhen	Government procurement document for equipment for police use	Local representation is a condition for participation in the bidding process
	2011	Inner Mongolia	Inner Mongolia government public procurement for network and other equipment	At least one year of local license holding is a condition for participation in the bidding process
Procurement: using a specific service provider	2018	Fengqiu, County, Henan	County government meeting minutes	Zhongnuo Ltd was appointed as a sole provider of medicine and medical equipment in the county
	2018	Yichun and Yingtan, Jiangxi	Notice on salt sales	Yichun and Yingtan City designated the list of salt wholesalers in their jurisdictions
	2017	Tianmen, Hubei	Notice on the treasury management of migrant salaries in construction projects	The Human Resources and Social Security Bureau of Tianmen City designated three banks for construction firms to open migrant accounts
	2017	Luan, Anhui	Procurement notice on purchase of production liability insurance	Production liability insurance in 18 industries must be bought from a designated insurance company in case of participation in procurement processes
	2017	Shanghai	Notice on 2016 year-end audit of pawnshops	Shanghai Commercial Bureau appointed an accounting company to audit all pawnshops
	2017	Xi'an	Notice on real estate property right registry work by the Land Resources Bureau of Xi'an	Two companies were appointed for the surveyor and measuring work in two city districts
	2016	Beijing	Gas Development Centre of Fangshan District contract	All developers must hire the affiliate of the Gas Development Centre for gas construction work in the district
	2016	Nanchong, Sichuan	Medicine delivery contract	Nanchong Taiji Medicine Ltd was appointed as a sole deliverer for commissioned medicines in Xichong County
	2014	Jinzhong, Shanxi	Housing and Urban-Rural Development Bureau meeting minutes	Shanxi Henglong Ltd was appointed as the sole examiner of all construction plans

	2013	Inner Mongolia	Inner Mongolia Police Bureau procurement document for electronic and physical stamp systems	The provincial police bureau imposed the service package for stamp systems produced by Jinfeng Co Ltd, registered in the provincial capital, on all police branches in the province and stamps issued by other companies not using Jingfeng's system were not approved by the provincial police
	1995	Beijing	Beijing Traffic Regulator contract	Beijing Traffic Regulator appointed the Beijing Branch of the Industrial and Commercial Bank of China as sole collector of traffic fines
Market access	2018	Linyi, Shandong	Selection of tendering agencies	The tendering agency is selected by lottery, not by merit
	2017	Hunan	Providers of power plant equipment	The number of providers of equipment for small-scale power plants is limited
	2010	Zhongshan, Guangdong	Gas industry code of conduct	Bottled gas providers must join industry association and pay guarantees. Market segmentation
	2017	Suzhou, Jiangsu	Suzhou driver training market plan	New entrants to the driver training market must use a software, through which registration is more expansive than through other means
Price fixing	2016	Jinan, Shandong	Notice on standardising solar-power heating systems	Authorities penalise companies selling solar power equipment below the agreed price by the local industry association
Goods transport: treatment of local and outside trucks differs	2018	Guangzhou	Notice on further adjusting truck circulation in city area	Circulation restrictions differ for trucks with local and outside plate numbers in terms of truck size and time
	2014	Beijing	Notice on reducing emission of polluting matters by restricting circulation	Circulation restrictions differ for trucks with local and outside plate numbers in terms of restricted zones and time
	2017	Chengdu	Notice on truck circulation restriction in Chengdu in 2018 by the Chengdu City Police and Transport Management Bureau	Outside trucks cannot apply for permit to enter city centre area

Source: OECD compilation from publicly available local regulations.

Discrimination of outside service providers in land transport is also rampant. Circulation restrictions differ for trucks with local and outside number plates in several large cities including Beijing, Chengdu and Guangzhou (Table 1.1). Different parameters are set in terms of weight of the truck, restricted area and time. While restricting trucks in inner city areas is reasonable for environmental purposes, prioritising local trucks excludes competitors and therefore may result in higher prices and lower efficiency.

Some of the behaviours triggered by administrative monopolies are not based on any official document, but are observed during implementation. While all eligible firms for VAT refund on exports have the right to it, local governments may delay the refund and therefore force the exporters to provide free “credit”. Similarly, suppliers’ profits can also be expropriated by delayed payment. Such behaviour imposes extra burden on exporters and suppliers, hurting their competitiveness.

As proponents of regulations establishing administrative monopolies often portray themselves as protectors of consumer interests, it would be useful to require the regulator to identify the particular market failure or systemic issue before enacting any new regulation.

Even when there is no discrimination of outside providers, the fragmentation of the regulatory system implies that a company seeking country-wide operations is required to obtain a licence in each single city. The example of Didi Chuxing, an online car hailing company show that it may take three entire years to obtain operating licences in the 300 prefecture-level cities (the applications cannot be done simultaneously in multiple places as original company registration documents need to be submitted). A recently adopted remedy for having to obtain a licence in each city for courier companies is in effect since May 2018. State Council Order No 697 allows courier companies to establish service stations by simply registering at the local postal regulator as long as they have a licence already in one city.

An even more serious concern is the lagging behind of regulations relative to some new industries. For instance, online truck hailing regulations have been issued only in a couple of provinces and in others they remain in a grey area. National-level regulation would not only solve the status of such new services providers but would also substantially reduce transaction costs and enhance efficiency.

Government procurement was already a decade and a half ago one of the areas most prone to administrative monopolies. Even though rules have become stiffer, it is still the case now. Eight of the 61 cases reported by NDRC relate to tendering and many more can be traced in the press and media. In some industries, where the practices of compulsory local registration and discrimination in tenders are more common, such as construction, the government has issued specific documents. Given the cross-cutting nature of the issues, MOF, SAT and MOHURD issued a joint Opinion in September 2017 aiming at creating a competitive market environment. To avoid any potentially competition-hindering clause in tender documents, they could be reviewed by competition authorities.

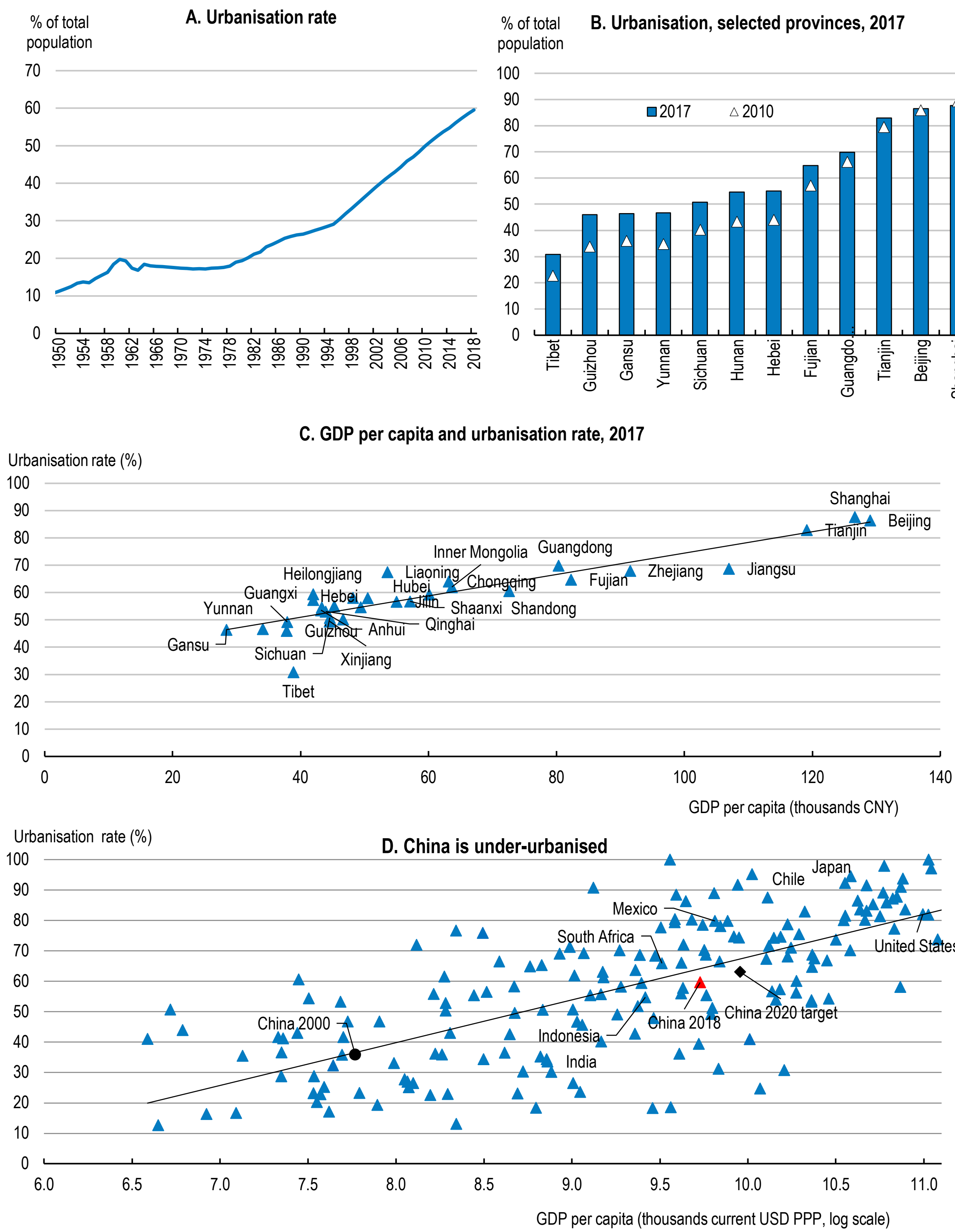
Local registration, however, even though may be required by local governments to do business, is often not sufficient for participating in local tenders, as conditions for participation may require a certain number of years of operation in the province or city. Network and other equipment providers in Inner Mongolia, for instance, must be locally registered and must hold a local license to bid for government procurement contracts. To overcome this requirement, outside firms often team up with local ones to bid for local contracts.

Another way of restricting outside competition is requiring the use of certain technologies (which “happen” to be the ones held by local competitors) to deliver services. A typical example is environmental services, where the central government requirement is to meet certain targets, but local governments may add the type of technology to use as an additional condition in the tender document. Environmental and other service delivery should be technology neutral. This way not only a more level playing field would be established, but it would also encourage innovation to discover new and more efficient technologies to meet the targets.

Creating a single labour market for stronger growth and inclusiveness

Although no work permit is needed for a Chinese citizen to take up a job outside of the place he or she is registered, several factors, such as the linking of the provision of public services to the household registration or *hukou* and limited portability of pension rights, hinder labour mobility. Notwithstanding such obstacles, economic incentives have led in recent decades to a massive wave of migration, mainly from rural to urban regions, resulting in a sharp increase in the (residence-based) urbanisation rate: from 32% in 1995 to 59% in 2017. In contrast, based on *hukou,* the urbanisation rate would be 24% and 42%, respectively, a sharp contrast to the residence-based rates. The difference is the migrant workers (be it manual workers or skilled professionals), who do not have local *hukou* at the place of their residence. The number of migrants amounted to 286 million in 2017, about 20% of the population (Box 1.3). A more unified labour market can improve resource allocation partly through further increase in urbanisation. A greater extent of urbanisation in turn, can lead to higher economic growth as labour productivity in cities, and their surrounding regions, tends to be higher, due to the benefits stemming from agglomeration (OECD, 2014). Furthermore, provinces differ greatly with regard to their urbanisation rates, and closing the provincial urbanisation gap can improve equity as low urbanisation rates are associated with low per-capita incomes (Figure 1.3). Increased urbanisation can also aid China's attempts to boost private consumption (Molnar et al., 2017). Although the national urbanisation rate has increased dramatically in the last two decades, China's urbanisation rate is still low compared to countries of similar level of development (Figure 1.3) and thus unifying the labour market can lead to further economic gains.

Figure 1.3. Urbanisation is progressing but still low in some provinces



Note: Panel D includes all countries with populations over 15 million for 2017.

Source: CEIC database; OECD calculation based on CEIC database; World Bank World Development Indicators database; IMF Word Economic Outlook database; and National Bureau of Statistics.

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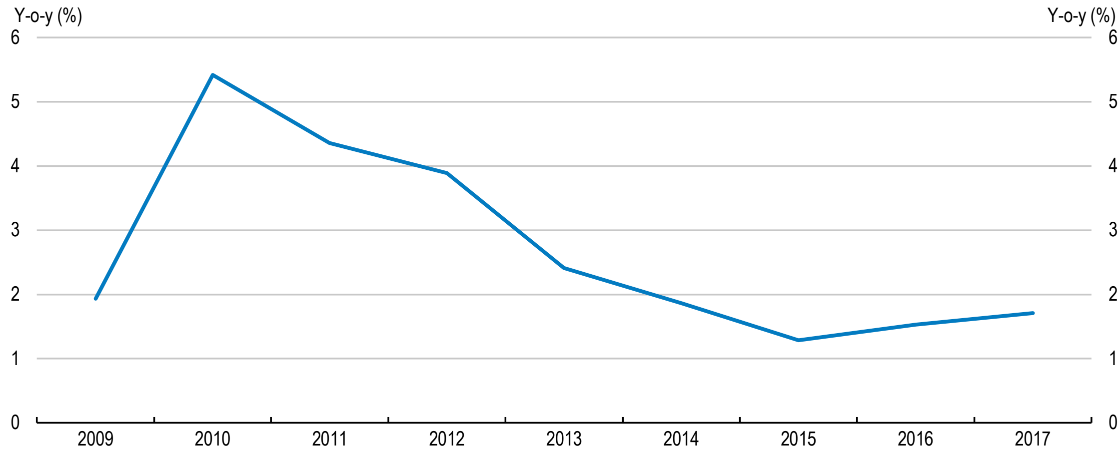
Migration enhances urbanisation and productivity but it also creates de-facto second class urban citizens; this has social and economic ramifications. Not all rural-urban migrants want to convert their *hukou,* since that may mean losing their right to their rural lands, but when they are interested, their chances differ by city and according to migrant characteristics. University graduates are in high demand and have better access to a local *hukou*; more than 50 big cities have recently initiated policies to attract college graduates. Xi'an, for example, offers from February 2018 local *hukou* for university graduates and plans to attract a million graduates through this scheme. This and similar plans in Tianjin, Nanjing and other big cities mainly target young graduates from other cities and contribute to a better integration of the national graduate labour market. In some cities, home ownership increases chances to get a local *hukou*, but sometimes only houses above a certain threshold are considered. In general, it is harder to obtain a *hukou* in bigger, wealthier cities, where demand is high and local authorities often try to control the population size. In these cities, applicants need to go through a screening process, which considers many factors through a credit system. The vision of attracting migrants to smaller cities and towns, rather than to bigger cities, could potentially help develop more metropolitan centres and address the issue of over capacity of residential housing in those places, while also preventing overpopulation and the creation of slums in the biggest cities. The major issue with this vision, however, is the lack of attractiveness of such cities for prospective migrants.

In an attempt to both boost urbanisation and address the migrant issue, the New Urbanisation Plan announced in 2014 aims, among other things, to grant to around 100 million rural migrants urban *hukou* by 2020. The NDRC Plan (Fagaiban Guihua 2018 No. 1190) issued in October 2018 to grant urban *hukou* for 100 million non-*hukou* holders pays special attention to rural migrant families who have been residing in cities for at least five years and who have school-age children. Furthermore, the Plan envisages an increase in urban construction areas corresponding to the number of new *hukou* holders. Even more importantly, it guarantees rural residents -- who take up an urban *hukou* -- their agricultural, residential and collective land rights. The growth of the migrant population started to slow in 2011 and this trend continued after the release of the Plan (Figure 1.4) notwithstanding the narrowing income gap between urbanites and migrants (Molnar et al., 2017). The slower migration growth rates could be driven by a shrinking pool of potential rural-urban migrant workers. Taking into account the age and human capital profile, according to some estimates, only 30 million of the current rural population could potentially migrate and work in urban regions, which could slow future urbanisation growth (Cheng, 2016). While the 2014 urbanisation plan is ambitious in scale, even if fully implemented it will only address the status of around 35% of the current migrant population.

Figure 1.4. The growth rate of the migrant population is slowing



Source: National Bureau of Statistics.

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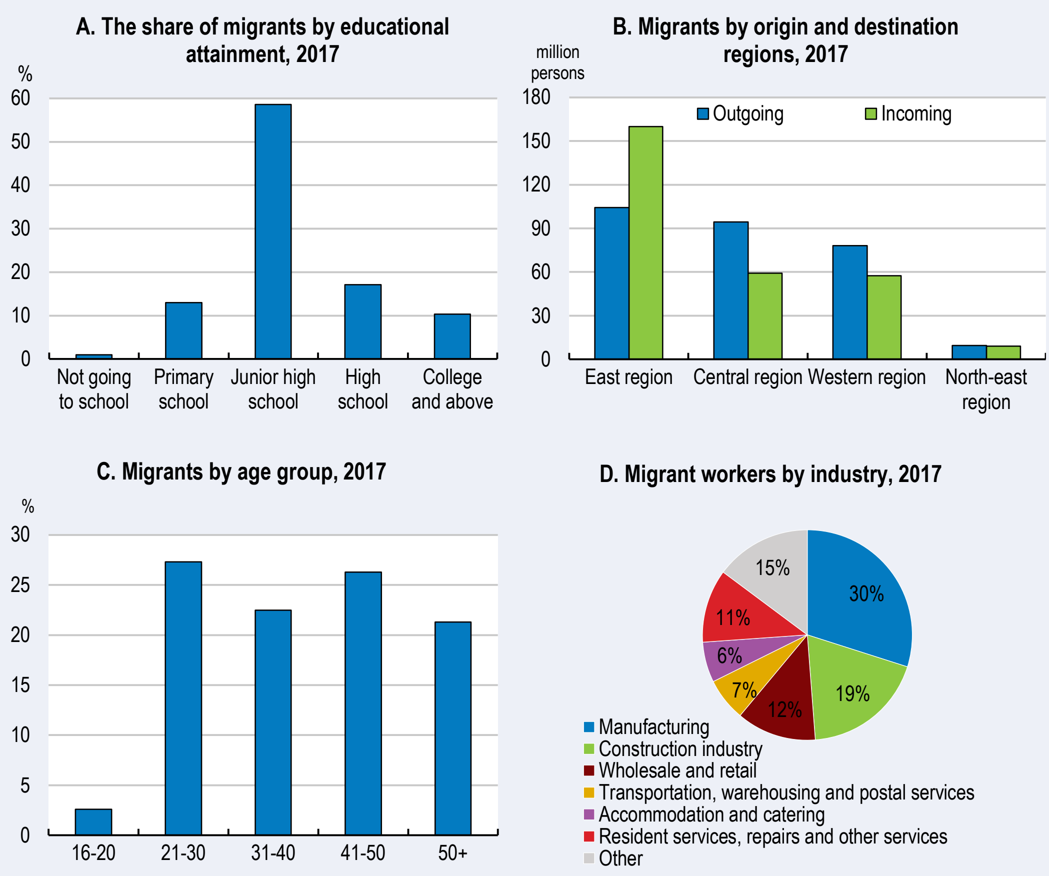
Box 1.3. Migrants' characteristics

The majority of migrants come from rural areas to work in cities and the second largest group are urban residents who moved to work in other cities. Geographically, the general direction of migration is toward the east (Figure 1.5) but most migrants don't travel far from their household registration area. For example, the share of migrants in Guangzhou and Shenzhen who come from the same province are 56% and 46%, respectively and the share who come from neighbouring provinces is 27% and 30%, respectively (Baidu, 2017). The migrant population is generally young with most under the age of 40 (Figure 1.5), as most migrants only move to cities for temporary employment and then go back to their original location. Also, for older migrants it is more difficult to find a job in cities and staying after retirement can be prohibitively expensive. Although 10.3% of migrant workers are college graduates, but most did not even attend high school and perform simple tasks for low to moderate pay (Figure 1.5). Manufacturing, construction, and wholesale and retail are the three major industries employing migrants, jointly 61% of them (Figure 1.5).

Figure 1.5. Migrants are young and have little formal education as of 2017



Note: The Figure includes intra-region migrants.
Source: National Bureau of Statistics, Migrant Workers Monitoring Survey, 2017.

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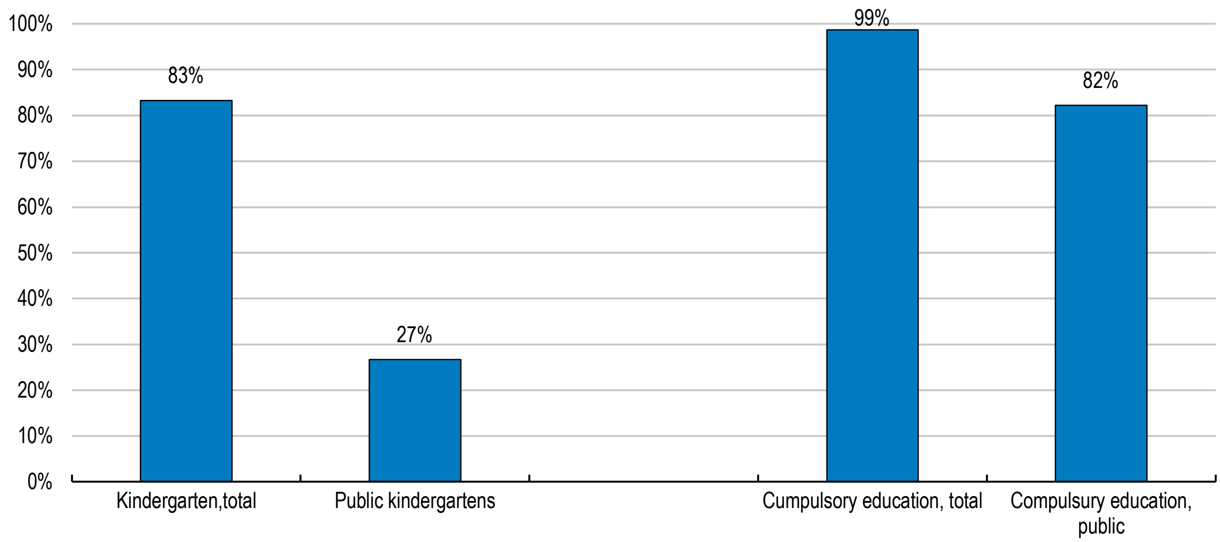
Since the Urbanisation Plan was released, a number of implementation measures have been adopted by local governments. For example, Hefei, the provincial capital of Anhui, relaxed the requirement to obtain a *hukou* to two years of employment and one year of contribution to social security in the city and Changsha, the provincial capital of Hunan, since June 2018, issues *hukou* for all migrants who paid income tax in the city for at least 12 months. Dongguan City in Guangdong Province abolished the credit system for obtaining *hukou* in February 2018 and rural workers with a resident card over five years and at least the same length of social security payments are eligible for local *hukou.* Several cities have made it easier for tenants to obtain local *hukou* (for home-owners it had already been made easier to obtain urban *hukou*). Kunming, the provincial capital of Yunnan Province, for instance, grants *hukou* for tenants with at least of three years of pension contributors in the city. Furthermore, several provincial government guidance funds to finance urbanisation-related projects were created, such as a CNY 20 billion fund in the Hainan Province, which could help improve the infrastructure for new urbanites. Furthermore, all provinces have published plans to unify the urban and rural *hukou*, which will improve the services offered to rural residents and improve mobility, though implementation will take time.

Public services to migrants are still limited

Many public services, such as education and health, are linked to *hukou*. Thus, although migrants' access to public services improved in recent years (OECD, 2017), coverage rates for some services remain low and differ by city. The access of migrants' children to public schooling has improved in recent years; the compulsory school attendance rate in 2017 for migrant workers was 99% though only 82% of the children attended public schools; over 77% of migrant workers were happy with the quality of their children's teachers. However, access to public kindergartens remains low; although most migrant children between the ages 3-6 attended kindergartens, only about one quarter attended public establishments (Figure 1.6) and 55.7% of migrant workers reported they faced admission difficulties. It should be noted, however, that even urban *hukou* holders often have limited access to public kindergartens. Migrants spend less than half in per capita terms on education than urban people (for comparison, the per capita health spending difference is much smaller at less than 50%). Migrants' children's access to top-quality higher education is also limited, since some top universities give preferential treatment to applicants with local *hukou* by setting lower minimum admission scores and other measures. While migrants can, in principle, take the national higher education entrance examination (*gaokao*) at the place of their residence and be considered as locals, the conditions for this are demanding and exclude many. For example, in Beijing the migrants must have payed social insurance for six consecutive years so that their child qualifies to sit for the *gaokao* locally.

Figure 1.6. Admission rates in kindergartens and schools is still low for migrants' children

Admission rates for migrants' children in cities, 2017



Source: Migrant Workers Monitoring Survey, 2017, National Bureau of Statistics.

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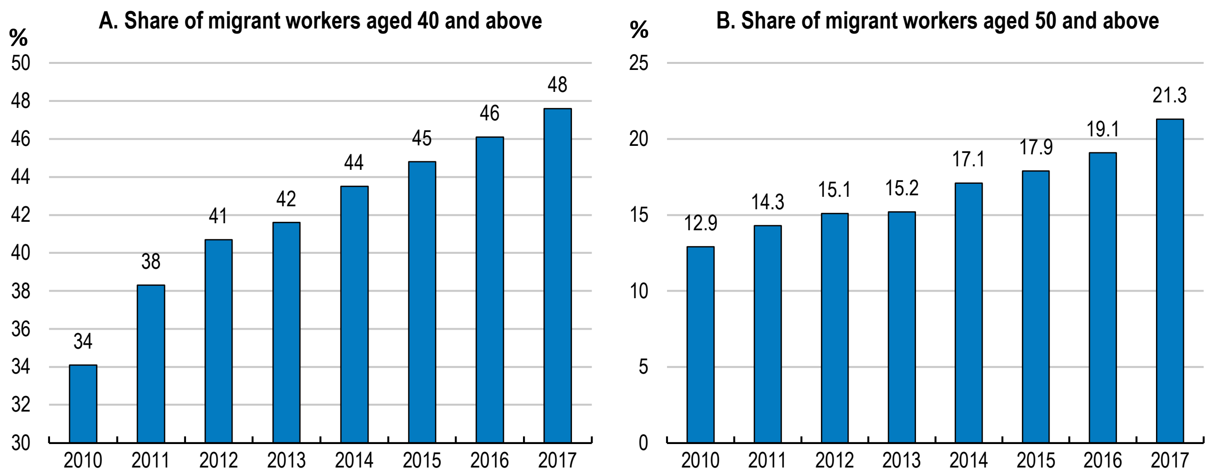
Public health insurance for migrant workers and their families is also inferior to that for people with a local *hukou*. In most cases, migrants face lower reimbursement rates compared to locals (Müller, 2016). As part of the attempt to improve the portability of health insurance, a nationwide network for the settlement of cross-regional medical treatment has been established and as of May 2018 it included over 9,000 medical institutions. Migrants can use medical services at institutions which are part of this network and the treatment charges will be directly settled with their local insurance. So far, over 500 thousands payments have been made through this system. However, this network still covers only a fraction of medical institutions. There are no legal barriers for migrants to enrol in the local health insurance scheme, but only 13% are enrolled (Hou and Zhang, 2017). The low rates of migrant's local health insurance partly reflect personal preferences but the higher urban health insurance cost may also play a role.

The pension system is fragmented and hinders labour mobility

Migrants are generally young and of working age, but as is the trend in the general population, the migrant population group is also ageing and so securing a sufficient pension is becoming a pressing issue for many of them (Figure 1.7). However, the pension system is fragmented with not only provinces having their own schemes, but in some cases, even cities in the same province have different pension schemes. While some basic parameters such as the retirement age or the minimum number of years of contributions for eligibility are the same, employer contribution rates can vary widely across the country. Pensions are also managed separately, which can create problems for migrants who go through multiple pension systems during their lifetime. The transfer of a pension annuity between regions can be complicated. Due to differing recording practices of pension rights and differing items in the accounts, in practice, the transfer sometimes may be impossible. Also, since the pension annuity is linked to the average local wage, there is an incentive for migrants to work in rich cities, where the supply of migrant workers might already be very high. To be entitled to pensions in a city, the migrant must have worked there for at least 10 years and it must be the last place before his retirement where he worked that minimum number of years. Although this may seemingly create incentives to spend the last decade or so before retirement in Shanghai, which has the highest average wage, for a middle-age migrant worker it may not be easy to find a job where competition is stiffest.

Figure 1.7. The migrant work force is ageing

Share of migrant workers who are 40 or 50 years old or above



Source: Migrant Workers Monitoring Survey, National Bureau of Statistics.

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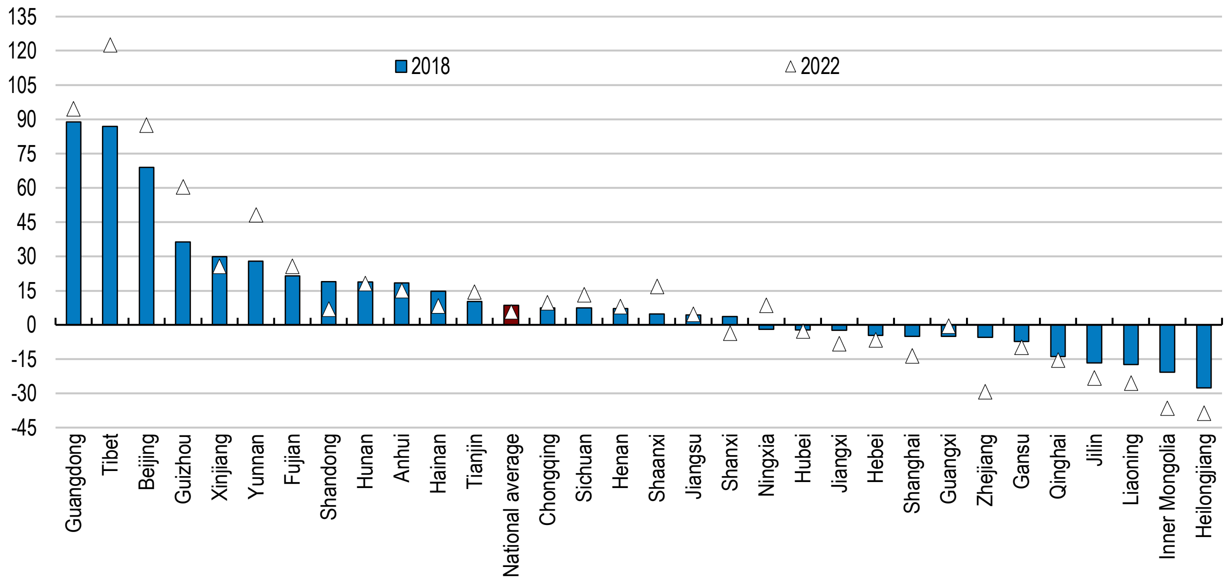
The spatial fragmentation of the pension system has repercussions on the revenues and disbursements, and thereby the sustainability of each local pension fund. Provinces with a younger population that are able to attract migrant workers tend to have a surplus while others have deficits (Figure 1.8). Migration has indeed exacerbated regional disparities in pension fund revenues and disbursements (Wang, 2017). Some cities in provinces such as Guangdong, which enjoy a big surplus partly due to having many migrant workers (22 million in 2016), have a lower employer contribution rate than the recommended 20%, which boosts competitiveness and economic activity. The city Dongguan, for instance, charges employers only 11%. In contrast, migration source-provinces often cannot cover pension disbursement from their receipts. To address this imbalance, the national pension fund collects 3 percentage points of the employer contribution (of 20%) and transfers it to deficit provinces according to a set formula. However, these transfers are not sufficient to completely fill the gaps. According to the forecasts of the China Pension Actuarial Report, deficits and surpluses are expected to grow in the coming years, even after taking the transfers into account. The transfer rate, therefore, will increase over time. In a further attempt to stabilise the pension system in deficit provinces, the central government has recently established an adjustment fund which will draw portions from the stock of accumulated pension funds, rather than from the mandatory employer contribution to pension funds, as already done, and redistribute them; contribution to the fund will start from 3% annually and can increase according to a formula dependant on factors such as average wages and redistribute the money according to the number of retirees.

Figure 1.8. Government support doesn't prevent growing pension deficits

The ratio of pension fund surplus to pension annuity payments by province



Source: Zheng, B. (ed.) (2018), China Pension Actuarial Report 2018-2022.

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Unification of the pension system can address many issues such as portability of pension rights or financial sustainability of local pension schemes. However, to achieve long-term sustainability at the national level, further steps will be needed, such as increase of the retirement age, which is now lower than in OECD countries and is not in line with life expectancy. The implementation of pension system unification will require harmonising many different systems. For example, regions that today have an actuary surplus are able to encourage local economic activity by having a lower employer contribution rate but should increase it to the statutory level in order to harmonise the system and thereby enhance sustainability. Furthermore, more rigorous collection of contributions would boost social security revenues.

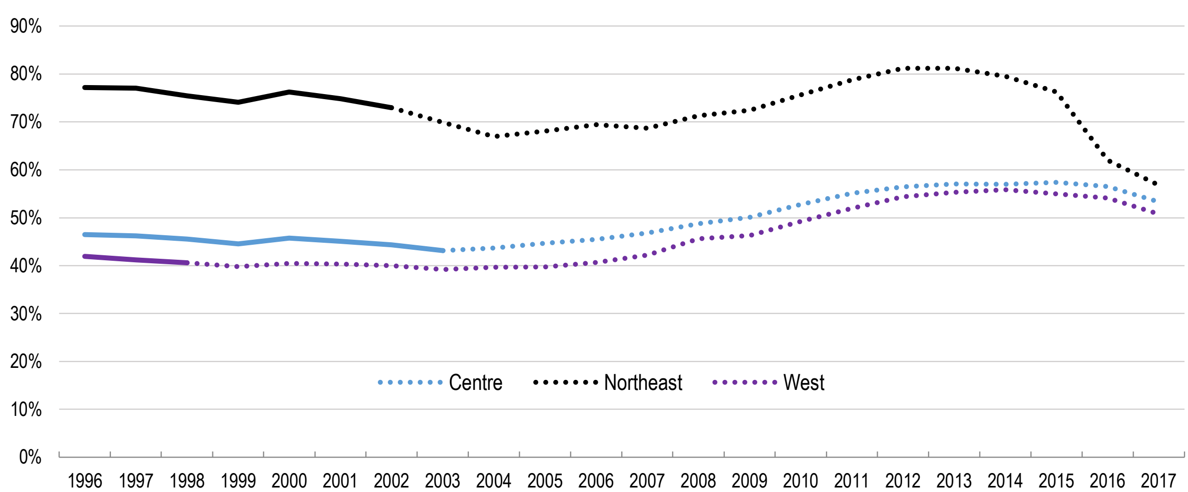
Regional policies to help laggard regions catch up

Better exploiting regional potentials by establishing a single labour and product market will raise productivity in the medium-to long run through economising transaction costs. In the short run, however, some regions may be negatively impacted. In the case of the product market, for instance, the phasing out of monopoly rents related to local protectionist measures may adversely affect local revenues in some cases and therefore may require additional higher-level transfers to meet basic spending needs. This would be the case if governments with weaker fiscal positions are more protectionist, and that in turn would lead to greater spending disparities. In contrast, if innovative firms in laggard provinces had a level playing field in doing business and in particular accessing government procurement markets in wealthier ones, that could boost profits and thus tax revenues in their province of origin, therefore reducing disparities. The elimination of differences across household registrations would improve labour mobility, but without a substantial reduction of disparities in the quality of public services across the country, it would potentially lead to further overcrowding in the largest cities. Improved pension portability without unifying the currently fragmented system, would result in even greater deficits of social security funds in provinces that are sources of migrants.

To counter those effects, greater transfers and re-thinking of spending assignments may be needed, complemented by a set of policies to support catching up of laggard regions. There are signs that Chinese regions at different levels are converging in terms of per capita incomes (Figure 1.9). Disparities in GDP per capita measured by the Theil index at the province level at 0.09 (in 2016) are lower than across Indian states (0.15 in 2014), but higher than across US States (0.04 in 2016). In contrast, they are high within provinces, which largely reflects the urban-rural divide. The example of the European Union also illustrates that it appears easier to reduce disparities across higher-level units (in that case, countries) than within those units (i.e. EU regions). Those countries that managed to reduce the gap between frontier and laggard regions did so by building infrastructure to link those regions to global value chains, nurturing large tradable sectors and creating well-functioning cities (OECD, 2018). In China, while fiscal redistribution is important, infrastructure investment, better coordination among local governments and greater integration of cities with surrounding areas could also reduce disparities.

Figure 1.9. The West and the Centre are catching up, but not much the Northeast

Regional GDP per capita as a percentage of the Eastern region's



Note: Dotted lines indicate the periods in which regional development programmes were active. The Centre includes Anhui, Henan, Hubei, Hunan, Jiangxi and Shanxi; the East Beijing, Fujian, Guangdong, Hainan, Hebei, Jiangsu, Shandong, Shanghai, Tianjin and Zhejiang; the Northeast Heilongjiang, Jilin and Liaoning and the West Chongqing, Gansu, Guangxi, Guizhou, Inner Mongolia, Ningxia, Qinghai, Shaanxi, Sichuan, Tibet, Xinjiang and Yunnan.
Source: OECD calculation based on CEIC database.

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Redistributing for greater equity

China's fiscal system is unique with a seemingly high level of decentralisation on particularly the spending side, albeit with little autonomy at the local levels (Box 1.4). Moreover, the key spending items for growth and inclusiveness such as education or health are assigned to the county level, which is the lowest in the public finance administration and has little own revenue, let alone autonomy.

Box 1.4. Institutional arrangements for fiscal governance

China's public finance administration system usually refers to the central, provincial, prefecture (or city), county and township level governments.

The revamping of fiscal relations is now on the agenda again and time is ripe as the most recent major change in inter-governmental fiscal relations is the 1994 tax sharing reform, which achieved a higher central government revenue share. Since then, sharing rules have been modified for some taxes, but the system as a whole remained unchanged. The major tax revenues are subject to explicit sharing formulas between the central and provincial governments. The VAT is shared in a 50:50 proportion temporarily as the business-tax to VAT conversion deprived sub-national governments of a major revenue source (prior to the conversion 75% belonged to the central and 25% to sub-national governments). Income taxes are shared in a 60:40 proportion between the central and sub-national governments (corporate income taxes paid by financial institutions and the railway corporation and personal income taxes on interest income belong to the central government). Resource taxes belong to sub-national governments except offshore oil taxes, which are assigned to the central level. The central level has few tax sources exclusively assigned to it, though tariffs are. In contrast, several smaller taxes such as the contract tax and taxes on land use are assigned exclusively to the sub-national level. While these taxes are reported on the general budget account, some of the major revenue items for many sub-national governments, such as revenue from land right sales, are on the fund account.

Spending is even more decentralised than revenues. The central government is in charge of national defence, armed police troops, diplomacy and external assistance and the national-level public security agency, procuratorial agency and court of justice. Sub-national governments are responsible for social-security-related spending, price subsidies, and sub-national public security and procuratorial agencies and courts of justice. Infrastructure investment is shared, with the central government being in charge of projects of national or interregional nature and sub-national governments of projects within their jurisdictions. Culture, education, science and public health are also shared according to similar principles. In general, however, assignments are not very clear and often overlap. The 2016 Guiding Opinion by the State Council aims at clarifying spending assignments between the central and sub-national levels. The details of the exact assignment of spending by item will be worked out by 2020. The Guiding Opinion designated some items, such as compulsory education as shared expenditure. In fact, the central government has already been supporting sub-national governments with financing the costs of several spending items that are assigned to the sub-national level such as compulsory education and poverty reduction.

Sharing of revenues and spending below the province level is determined at the discretion of the province.

Horizontal disparities in revenues are now better taken care of

There are significant spending disparities across regions. These disparities are largely due to variations in revenues arising from differences in economic activity and incomes. The interaction between the structure of incomes and the tax system results in tax yields being even more unequally distributed geographically than income. The national government has put in place various mechanisms, notably a formal system of transfers, to moderate the effects on spending of the differences in tax revenue. As a result, spending disparities are smaller than income disparities (Table 1.2). For comparison, India's between-state disparities were 1.4 and 1.2 in revenues and spending, respectively in 2014.

Within-province disparities are much higher in the two dimensions of income and revenue per capita, compared to the between-province component. Within- and between-province disparities in expenditure per capita are roughly the same. Income disparities increased somewhat over the past decade and a half, but disparities in revenues grew much more and notwithstanding transfers, spending disparities also increased. (OECD, 2006). An interesting development, is that the contribution of the within-region component to disparities in expenditures decreased significantly by 2016 vs. 2002 (as in OECD, 2006). This may relate to more rigorous redistribution within provinces in recent years.

Table 1.2. Within-province disparities are dominant in overall disparities at the county level

Theil index, 2016

	GDP per capita	Revenue per capita	Expenditure per capita
Within-province	0.21	0.35	0.13
% Contribution to Total	70.4	71.3	49.7
Between-province	0.09	0.14	0.13
% Contribution to Total	29.6	28.7	50.3
Total	0.29	0.49	0.27

Note: Decomposition of the Theil index of GDP per capita, general government revenue and general government spending per capita at the county level into a within-province and across-province component.
Source: OECD calculations based on CEIC database and province-level yearbook data.

Disparities in general budget revenues are much smaller than in tax revenues (Table 1.3) owing to non-tax revenues, which are less related to the size of economic activity. General-purpose transfers (officially roughly 30 kinds of transfers, such as equalisation transfers, transfers to old revolutionary, minority, border and poor areas and reward to big grain producers) (Figure 1.10) significantly reduce disparities in provincial revenues. This is not surprising, given that, equalisation grants, are formula based and their objective is to top up fiscal resources of poorer regions, based on the regions' needs (which in turn are determined in an objective way to avoid disincentives to collect more revenues). The equalisation impact of earmarked transfers (officially also roughly 25-30 categories including transfers for general public services, education, science and technology, environment and social housing) is also large. The tax sharing system (which includes a handful of taxes such as VAT, and income taxes), in contrast, only slightly reduces revenue disparities owing to its design. Bonds also have little equalising impact on revenues. The same is true for the other three government accounts – the fund, the social security and the SOE operating revenue accounts – as several revenue items on those accounts are closely related to economic activities and thus wealthier provinces collect more.

Table 1.3. Fiscal transfers reduce disparities in province-level revenues

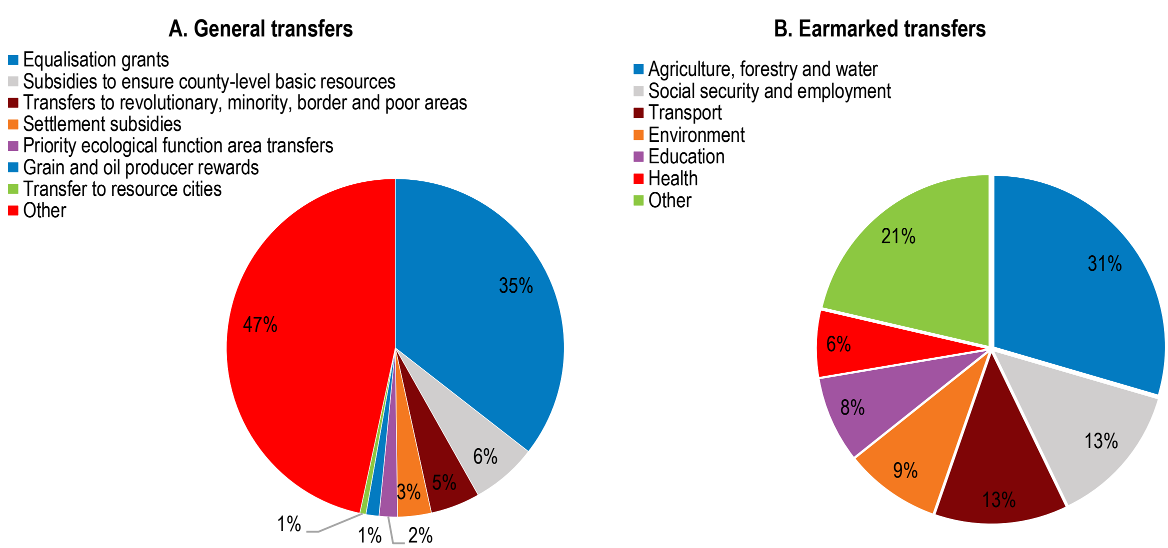
Theil index of disparities, 2016

Revenue items and their combinations	Theil index
Tax revenue	0.29
General revenue	0.22
General revenue+ general purpose transfers	0.12
General revenue+ earmarked transfers	0.14
General revenue + total transfers	0.13
General revenue+ tax sharing	0.21
General revenue + bonds	0.20
General revenue + total transfers + tax sharing + bonds	0.13
General revenue + land rights revenue	0.22
General revenue + fund revenue	0.21
General revenue+ fund revenue + total transfers+ tax sharing + bonds	0.11
General government revenue + SOE operating revenue account	0.22
General government revenue+ social security account revenue	0.21
General government revenue+ fund revenue + SOE operating revenue account+ social security account revenue	0.19
General government revenue+ fund revenue+ SOE operating revenue account + social security account revenue + total transfers+ tax sharing + bonds	0.11

Note: General revenue is revenue on the general budget account; fund revenue is on the fund account, social security on the social security account and SOE operating revenue on the SOE operating budget account. General revenue includes tax and non-tax revenue. General-purpose transfers include equalisation transfers and local governments have discretion over their use. Earmarked transfers are special-purpose transfers and have to be used for what they are designated.
Source: OECD calculations based on Finance Yearbook 2017 and province-level yearbook data.

Figure 1.10. Equalisation transfers and agriculture-related subsidies are the most important transfer items

Shares of major general and earmarked transfer items, 2016



Note: Data refer to the sub-national level.
Source: Ministry of Finance and local finance bureaux.

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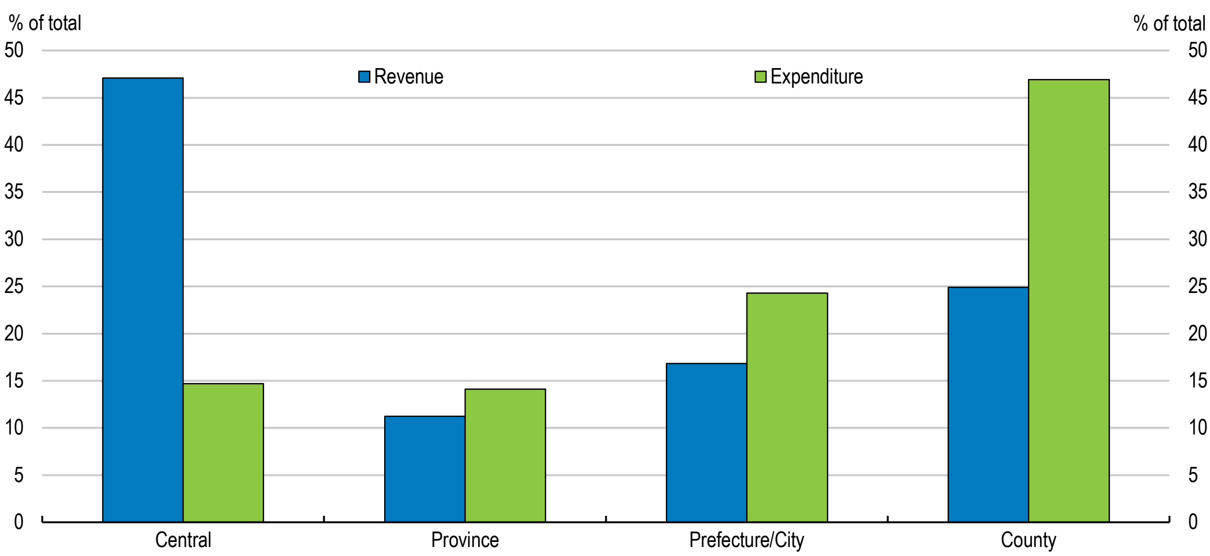
Vertical disparities between revenues and spending mandates are high

Notwithstanding the greater effectiveness of the transfer system in reducing regional inequalities in spending compared to the early 2000s, the gap between revenue and spending remains large at sub-national levels, in particular at the county level (Figure 1.11). Only 39% of county-level government funding comes from own taxes and roughly 13% from non-tax revenues. The share of non-tax revenues at the county level can be as high as the share of taxes in some provinces (e.g. Hunan). The remaining half is transfers. Earmarked transfers account for 23% and shared taxes and general transfers for 26% (Figure 1.12). Moreover, the heavy reliance on transfers and shared taxes changed little over the past decade.

Figure 1.11. The gap between own revenues and spending is the greatest at the lowest levels

Share of revenue and expenditure by government level, 2017



Note: Data refer to the general budget account and revenues do not include transfers.
Source: Ministry of Finance and local finance bureaux.

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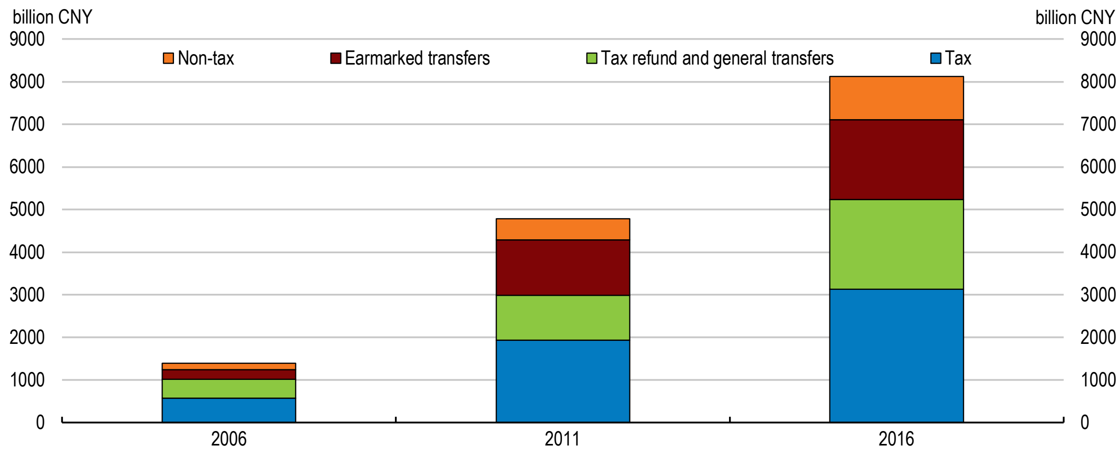
Figure 1.12. Counties rely on transfers for a large part of their spending

Sources of county-level spending, 2016



Note: Data are for the general budget account.
Source: Ministry of Finance and local finance bureaux.

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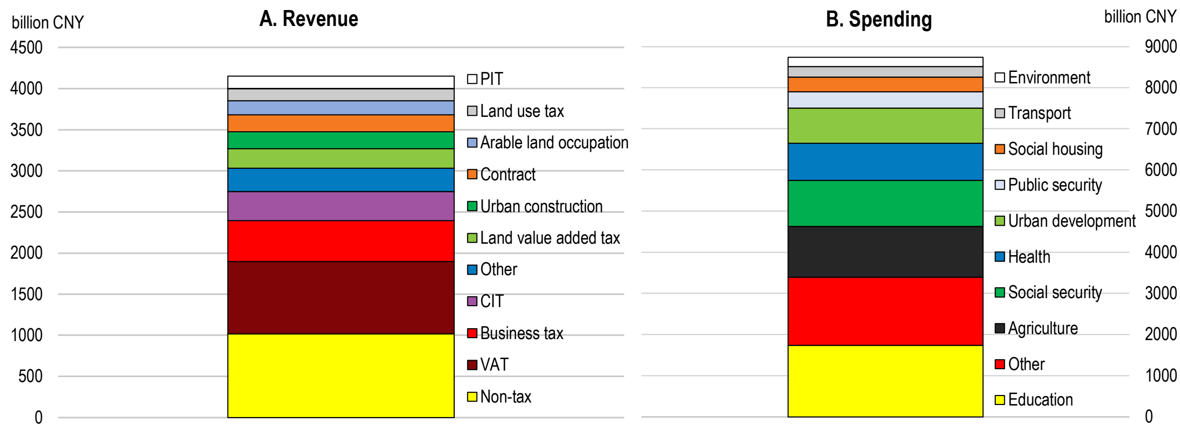
The major tax revenue at the county level is the VAT (Figure 1.13). With the phasing out of the business tax (which was a local tax based on turnover) and integrating it with VAT, the importance of VAT is increasing further and reliance on own taxes is decreasing in turn. In 2016, near the end of the VAT conversion programme, only about 12% of county-level government revenues came from the business tax. Other local taxes are even smaller and have less potential to rely on. Real-estate-related turnover taxes, including the real estate tax, the urban land use tax, the land value added tax and the arable land occupation tax altogether only made up slightly more than 16% of county-level revenues in that year. Roughly a fifth of county spending goes to education, a sixth to agriculture, forestry and water, 13% to social security and employment and roughly 10% to health and urban construction each (Figure 1.13). To make sure that people receive similar standards of public services no matter where they were born, not only sufficient funding should be allocated to education, health and social security at the aggregate level, but distribution across the country, in particular to less developed and rural areas needs to be more equal. At present, the 15-time difference between the province with the highest per-capita revenue at the county level (Jiangsu) and the lowest (Chongqing) only narrowed to 11 times on the spending side (with Tibet counties having the highest and Chongqing counties the lowest per capita spending) (Figure 1.14).

Figure 1.13. Counties rely on VAT and non-tax revenues and are in charge of education and other crucial public services

Major sources of revenues and destination of spending at the county level, 2016



Note: Data refer to the general government budget. The business tax was phased out in 2016.
Source: Ministry of Finance and local finance bureaux.

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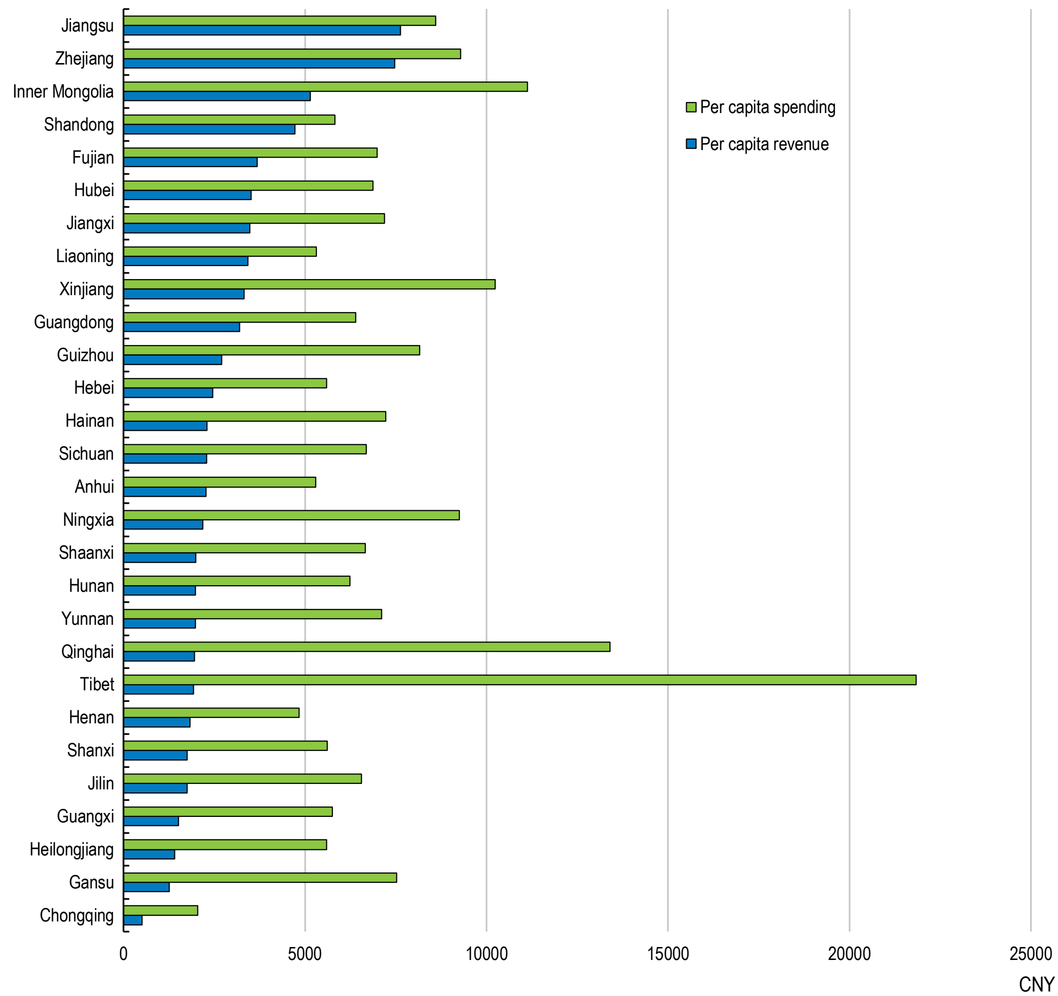
Figure 1.14. Disparities in per capita spending are even greater than in revenues

Per capita county-level revenues and spending, 2016



Note: Revenue refers to the general budget account revenue, spending includes transfers.
Source: Ministry of Finance and local finance bureaux.

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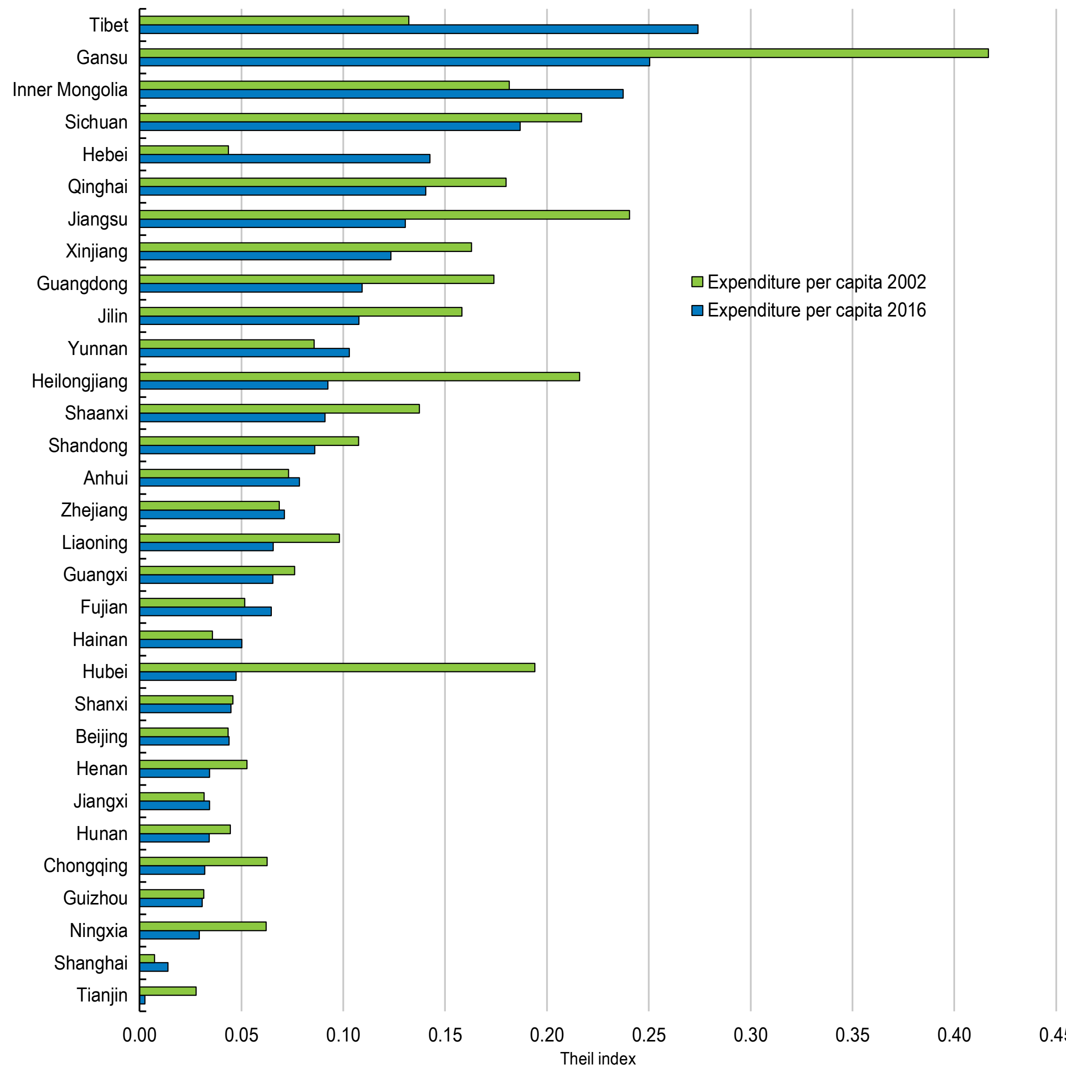
Moreover, even though the within-province contribution to disparities in spending across the country has shrunk over the past decade and a half, in some provinces such as Hebei, Inner Mongolia, and Tibet, disparities in spending per capita increased significantly (Figure 1.15). Indeed, those provinces are among the ones with the highest inequalities across counties in per capita spending. Their disparities in revenue per capita are at least double or more of spending disparities, suggesting their high spending disparities are not necessarily the result of the lack of an effective redistribution system. Gansu's disparities are still high, notwithstanding the substantial narrowing since 2002 and Sichuan's remain high.

Figure 1.15. In several Western provinces, spending disparities are high across counties

Theil index of disparities in spending per capita, 2016 and 2002



Note: Government spending refers to the general budget account.
Source: OECD calculations based on the CEIC database and province-level yearbook data.

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Centralisation of some spending assignments would improve access to better public services

Large disparities in per capita spending at the county level and counties' crucial role in providing key public services such as education, health and social security have led to uneven access and quality of those services across the country. That in turn created inequality in opportunities: being born in rural or urban areas leaves a mark on one's career and life. Furthermore, upward social mobility is constrained by the family background (Molnar et al., 2015). Spending disparities have led to disparities in outcomes. For instance, in a number of provinces there are 4-5 times more doctors and eight times more nurses per capita in urban areas than in rural. There also appears to be a sizeable gap between the qualification of many rural doctors and their urban counterparts. Public service quality differences have long raised policymakers' attention, but it was not until recently when concrete measures have been adopted aiming at equalisation of public services such as the defining of the types of services to equalise. Under the current arrangement with persisting imbalances between revenues and spending mandates at the sub-national level, the provision of similar quality of goods and services is challenging. Improving the alignment of revenues with spending mandates should therefore reduce disparities in the distribution of some major public goods such as education and healthcare resources and of the generosity of public social security systems between locations, lowering inequalities. A better alignment between revenues and expenditures will entail a combination of changes in expenditure and revenue assignments along with reform of the fiscal transfer system.

Centralisation of the financing of some spending assignments may be more effective in reducing inequalities in the provision of public goods and services than devolution of revenue-raising powers given that greater taxing powers would further aggravate already high income inequalities and necessitate higher transfers (OECD, 2006). Potential candidates for centralisation could include crucial public services such as education and health to ensure a minimum quality. Establishing a graduated system of tax sharing under which poorer provinces would receive a higher proportion of shared revenues than wealthier provinces, and making transfers to poorer provinces conditional on improvements in their tax collection could also be considered (OECD, 2006). A gradual increase in the central share of tax revenues is already being targeted, which is a welcome step. It should be matched with a greater degree of financing of key public services at the central level.

Regional policies to address disparities

China's regional policies have long been characterised by targeting and offering privileges. The three major initiatives (of the Belt and Road Initiative in Box 1.5, the Jingjinji Coordinated Development Strategy comprising Beijing, Hebei and Tianjin and the Yangtze River Belt Construction, made up of 11 provinces, Annex B) were re-emphasised in the 2017 Economic and Social Development Plan. The three strategies cover almost the entire country (with the exception of Henan, Shandong and Shanxi). In early 2018, the Great Bay Area was mentioned together with the three strategies as an additional important pillar of coordinated development. In February 2019, the development plan for the Great Bay Are - encompassing the cities of Hong Kong, Macau, Guangzhou and Shenzhen as well as seven smaller cities around them – was launched. The plan focuses on new and strategic industry development and aims at greater integration of some basic public services, for instance by mutual recognition of school credits.

Box 1.5. China's Belt and Road Initiative

China's Belt and Road Initiative emerged as a regional integration project aiming at improving connectivity and boosting trade and investment along the ancient Sild Road connecting Europe, Asia and Africa on land and sea. Since its launching in 2013 by President Xi, the scope of the strategy has expanded both geographically and thematically, even though no official map or sectoral delineation have been published. The global scope of the initiative has expanded to include countries in Central and South America. The initiative originally was envisaged as an infrastructure connectivity project, but now it includes disaster prevention, environmental degradation and innovation.

Major recipients of Belt and Road projects are Central, Southeast and South Asian countries. The initiative could contribute to partly bridge the infrastructure gap in those regions. Improving connectivity could foster both competition and productivity in those regions, contributing to world growth. Nevertheless, some projects in those countries are highly polluting, including coal-fired power plants and steel projects, which also intensely use coal. Other concerns over the initiative include a lack of transparency, increased debt, high potential for corruption and a lack of adherence to best practices in infrastructure development, financing, stakeholder management and governance. On the fifth anniversary of the initiative, President Xi acknowledged the need for better vetting of Belt and Road projects and companies, greater private sector participation and better risk management. At that time, he called for greater leadership by the communist party in the initiative.

Adhering to worldwide best practices in particular in terms of environmental and labour standards (in contrast to just following host-country standards, which are very often lower) in investment in countries benefiting from the Belt and Road Initiative, whose share is rapidly increasing in Chinese ODI, would help create an image of a responsible investor and make investments more sustainable. China should adhere to the OECD Declaration on International Investment and Multinational Enterprises and Chinese companies operating overseas should follow the OECD Guidelines on Multinational Enterprises in their business conduct. The OECD has further instruments that could help shaping Chinese investors' overseas activities such as the OECD Due Diligence Guidance for Responsible Business Conduct, for Meaningful Stakeholder Engagement in the Extractive Sector and for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas, the OECD Anti-Bribery Convention and OECD instruments on export credits. Furthermore, as a G20 member and sovereign creditor, China should remain committed to the implementation and adherence to the G20 Operational Guidelines for Sustainable Financing. Infrastructure projects under the aegis of the Belt and Road Initiative should be subject to thorough cost-benefit analysis as well as that of the repaying ability and debt sustainability of the recipient country.

The initiative is also expected to accelerate the catching up of Chinese inland regions that tend to lag behind the more developed coastal areas, trickling down the benefits of international opening to the local level.

Infrastructure investment is a major component in the three initiatives as well as in the four region-specific plans. Indeed, infrastructure development has played an important role of connecting isolated regions to the economic artery of the country. The proliferation of bullet trains has made doing business more efficient. Air connections are also reaching remote areas. Such "universal" service, however, can be costly. From the 228 airports, 80%

are small scale, 70% of which are making losses. Infrastructure investment with the aim to help laggard regions to catch up may yield a short term growth boost through increased construction activity, but is likely to lead to long-term boost in growth and wellbeing if it is subject to a cost-benefit analysis (OECD, 2014b) and if externalities are accounted for. The infrastructure investment procedure in China is less transparent and involves less public scrutiny compared to OECD countries, which may lead to low returns on investment and low long-term growth benefits (Ansar et al., 2016, Zao et al., 2015). To benefit from such programmes, public review as well as thorough cost-benefit analysis of projects is needed. It is also important to establish a causal link between the programmes and their economic impact. A third-party evaluator has already been assigned to assess the impact of the programmes, though no results have been published yet.

The three major strategies aim at tighter integration

Coordinated development is one of the five keywords in the current Five Year Plan (2016-20). Accordingly, the two initiatives of Jingjinji and Yangtze River delta aim to improve and enhance economic integration of several province-level regions. They put emphasis on integrated regional planning. Improving coordination across municipalities is an important element of regional development policy in OECD countries, which can enhance productivity and reduce disparities (OECD, 2018). The Guiding Opinion on the Development of Enclaves (Document No. Fagai Diqu 2017/922) explicitly encourages Shanghai, Jiangsu and Zhejiang to invest in the up- and midstream areas of the Yangtze River and with local governments there, jointly establish enclaves with the purpose to explore new markets and new sources of development. The idea of enclaves is to transplant best practices in the areas of economic management and policy implementation as well as transfer technologies to less developed regions with the aim to share the benefits of such collaboration. Such enclaves could potentially become model zones that would attract local skilled labour and capital by their higher productivity from the surrounding regions until their management practices are replicated elsewhere in the recipient province. A major condition for that is a genuine adoption of superior management and implementation practices and the rooting out of excessive regulation and local protectionism. This is, however, difficult, as the current experience with enclaves shows, many local governments are reluctant to relinquish control over businesses in their areas and to forego rents. Provinces with superior management experiences and higher efficiency should be assigned greater role in the management of enclaves to make this idea work.

City agglomerations are a more recent initiative, aiming at tighter integration of nearby cities, which may or may not be in the same province. The Jingjinji, the Pearl River Delta and the Yangtze River Delta belong to this type of integration as they are centered around cities, but there are several more. For example, the Guanzhong Plain Urban Agglomeration Development Plan includes several cities from the three provinces of Shanxi Shaanxi and Gansu with Xian as the major city. As part of this agglomeration initiative, the transportation infrastructure is planned to be upgraded, a trade and logistics zone to be established and key cities and tourist attractions will be identified. These city agglomerations can potentially integrate the rural areas in-between, which appears as the missing link in the urbanisation and rural revitalisation move. The integration of the rural regions surrounding cities can be promoted by better connecting them with the arteria of urban public transportation infrastructure through building more suburban and regional trains, which include stops in towns along the way. This will enable more commuting to cities from neighbouring areas, thus improving town dwellers' welfare and reducing income disparities. OECD experience shows that integrating rural areas with nearby cities allows those areas to benefit also from the agglomeration effects of cities. Furthermore, creating mega-regions, which include cities and towns and rural areas in-between through better connectivity, can create agglomeration benefits with limited congestion and densification costs (OECD, 2018). Endogenous development in rural areas applying the OECD's rural development framework 3.0 could potentially be a key focus of the rural revitalisation strategy. This framework, instead of creating dependency relationships, stresses enhancing competitive advantages.

The four mega-regions are targeted with different policies

Starting in 1999, China has been operating programmes designed to push forward the development of the regions lagging behind the coastal area (Annex C). The first programme targeted the Western region. In 2003 the Northeastern Revitalisation Programme was announced and then in 2004 a third one, the Centre take-off.

Policy measures taken as part of the development programmes are diverse and relate to most major potential development levers including investment in infrastructure (transportation, energy, telecommunication), education and attracting foreign investment. For example, as part of the Western Development Programme, a strategic multi-year plan was drawn up to reform the regional higher education system. The programme's strategy has evolved over time. While the first generation of the Western Development Programme focused on infrastructure and the environment, the second generation promoted industries which best suit local characteristics and the third and current strategy focuses on opening up, innovation and green growth.

This approach of large scale regional policies holds potential for helping lagging regions to catch-up if the policy measures are able to address regional specific issues in a more efficient way than "spatially blind" measures (OECD, 2016). However, although such programmes have been in effect for almost two decades, and even though the Western and Central regions have managed to close some of the gap to the Eastern region (Figure 1.9), the exact size of the impact of the programmes is not clear.

Various special zones compete for privileges

In addition to the strategies and regions, there is an ever-evolving mix of special zones enjoying various privileges. These zones tend to get denser toward the southeast of the country. They overlap largely, which makes it difficult to evaluate the impact of each individual privilege. Privileges range from simplified administrative procedures for doing business and cheap land to tax and tariff exemptions (Box 1.6). The designation of special areas not only at the national but also at the province or even the city level further complicates the picture. The recent decision to sort out which areas should enjoy which benefits and cancel unjustified privileges and duplications is a necessary step in the direction of raising efficiency of the use of resources and effectiveness of specific measures. The various zones, in particular the first-generation special economic zones (SEZs) and among them especially Shenzhen, have played a crucial role in attracting foreign investment and in experimenting with institutional reforms on a path towards a more market-based economy. The Shenzhen SEZ was also a pioneer in the transfer of land use rights, which then became possible countrywide. Furthermore, SEZs create agglomeration economies, however, there is empirical evidence that for zones created later, the benefits are smaller while the distortions in firm location behavior are larger (Wang, 2013). There is less assessment of the efficiency of subsidies and foregone tax revenue to support SEZs and other zones.

Efficiency measures of high-tech zones (HTZs) show that most sectors in HTZs have a low level of efficiency, and there is little interaction between production and research sectors within the HTZs (Bai et al., 2015). Excessive focus is given to research of breakthrough technologies, which leads to overinvestment and reduced efficiency in those sectors. A specific, indicator-based evaluation system is needed for the various zones with a special focus on the use of public funds. A race-to-the-bottom situation should be avoid by restricting the use of tax exemption by local governments to lure investors. Local competition should be encouraged more in areas such as administrative efficiency, adherence to the rule of law, infrastructure and human capital.

Box 1.6. Myriads of special zones with privileges

National New Areas started with Pudong in 1992, the newest addition to this 19-member group is Xiong'an New Area, a new target for rapid development through attracting investment, mainly through PPPs, as is the practice in this type of special areas.

Comprehensive reform pilots and special economic zones are the major laboratories to experiment with new ideas for economic reforms. The Shenzhen Special Economic Zone (SEZ) (alongside the other three of Zhuhai, Shantou and a year later Xiamen) established in 1980 became the symbol of China's opening to the outside world. This type of special zones have the privilege to experiment with various sets of reforms and implement them on a trial-and-error basis. There are altogether 12 comprehensive reform areas, some with a special focus on urban-rural integrated development (Chengdu and Chongqing), modern farming (Heilongjiang), resource industries (Shanxi), new industries (Shenyang) or international trade (Yiwu). In addition the original four SEZs and the fifth, Hainan, which joined in 1988, in 2010 the concept was revived and two new such zones were established in Horgos and Kashgar of Xinjiang. The aim in these areas is to attract private investment. SEZs offer exemption from the corporate income tax in the initial profit-making years and reduced tax rates thereafter. Re-invested earnings are exempt.

A more specialised set of special zones is free trade zones (FTZ) and financial reform areas, pioneered by the Shanghai FTZ in 2013. Tianjin, Fujian and Guangdong followed two years later as second-generation FTZs and the third generation came in 2017 with seven more zones (in Liaoning, Henan, Shaanxi, Sichuan, Chongqing, Hubei and Zhejiang). FTZs focus more on regulatory simplification and investment environment rather than subsidies. There are also sevenfinancial reform pilot areas (Lankao, Taizhou, Diangui, Qingdao, Wenzhou, Quanzhou and Pearl River Delta).

There is a large number of national-level Economic Development Zones (219) and of New and High-Tech Zones (168) all around the country. The latter are industrial parks that accommodate 40% of high-tech companies and in 2017 produced 11.5% of China's GDP. These zones are also crucial engines of China's exports: in the first five months of 2018 accounted for over 22% of its goods exports. High exports are spurred by tariff exemption on both exports and imports. 17 of these high-tech zones are also designated National Innovation Demonstration Zones. The best known is the Beijing Zhongguancun Zone, but there are such zones along the East coastline as well as in inland provinces such as Anhui, Hubei, Hunan, Shaanxi, Chongqing and Sichuan, the latter three representing the entire Western part of China.

Source: Various government documents and news agencies.

Characteristic townships seek to benefit from their uniqueness

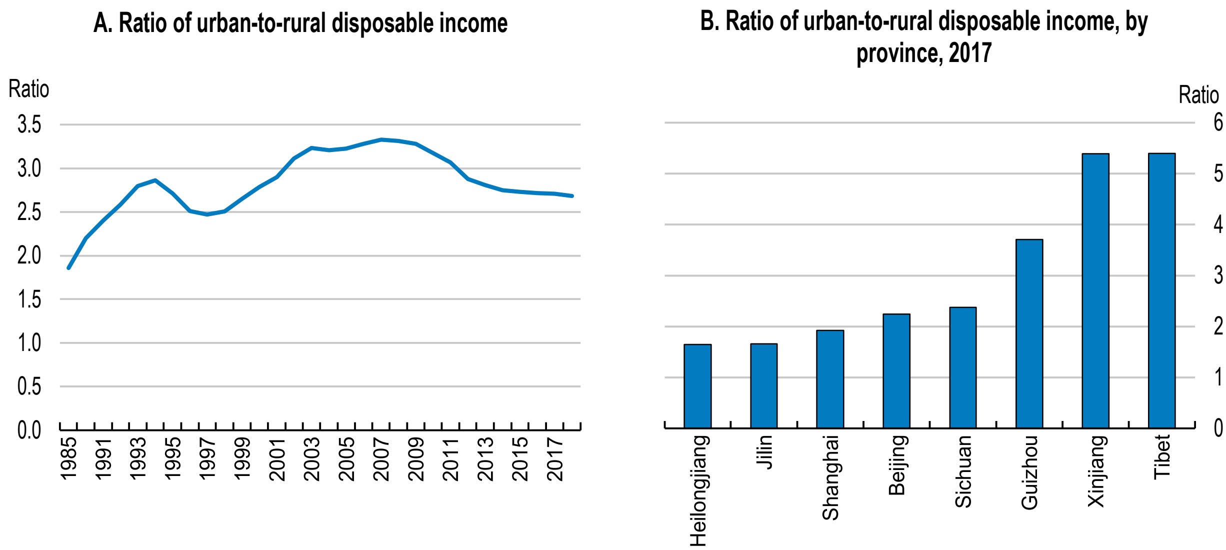
Another regional development tool implemented in China is the development of so-called characteristic towns. The Ministry of Housing and Urban and Rural Development declared in 2016 that 127 characteristic towns would be developed as a pilot, with the aim of having around 1,000 by 2020. These towns, which are spread over all Chinese provinces, are designed to have specialised capabilities, such as tourism, finance, fashion or equipment manufacturing, with the aim of creating and cultivating expertise and making use of towns' relative advantages. For example, Guyanhuaxiang Town of Zhejiang Province specialises in tourism due to its picturesque surrounding and traditional architecture and Shannan of the same province was designed to serve the financial sector of the surrounding region, taking advantage of its proximity to Shanghai, Hangzhou and Ningbo as well as to other key locations (Wu et al., 2018).

While the characteristic townships concept may have economic merit in theory, in practice only some of the towns have been successful so far. It seems that in many cases the application of the concept has been mechanical, in an attempt to imitate successful towns without adequate planning and making the necessary adjustments to local conditions. A few lessons can be learned so far. Thorough checks should be conducted with regard to the demand for the service or the product the town is planned to specialise in. Planning should also prevent over-reliance of the towns' economy on the characteristic specialisation in order to avoid strong cyclical effect and to better endure the start-up stage. A more market-based approach needs to be adopted, in which the development of the town is based more on actual demand than theoretic planning. In addition, more thorough planning is in order, to avoid the copy-paste approach (OECD, 2018) and to make sure the orientation of the town fits well with its location and the skillset of its citizens.

Closing the gap between urban and rural regions

Although there are significant differences in income levels across provinces, decomposing inequality shows that most of it (over 69%) stems from within provinces and in particular from the stark income differences between urban and rural regions. Since 2010 the income multiple of urban versus rural residents has been on a downward trend. However, in 2017 urban incomes were still 2.7 times higher than rural incomes (Figure 1.16). These differences are prevalent all across China with the urban-rural income ratio as low as 1.7 in Heilongjiang and as high as 5.4 in Tibet and Xinjiang (Figure 1.16).

Figure 1.16. Urban-rural disparities are declining, but are still significant



Source: CEIC database.

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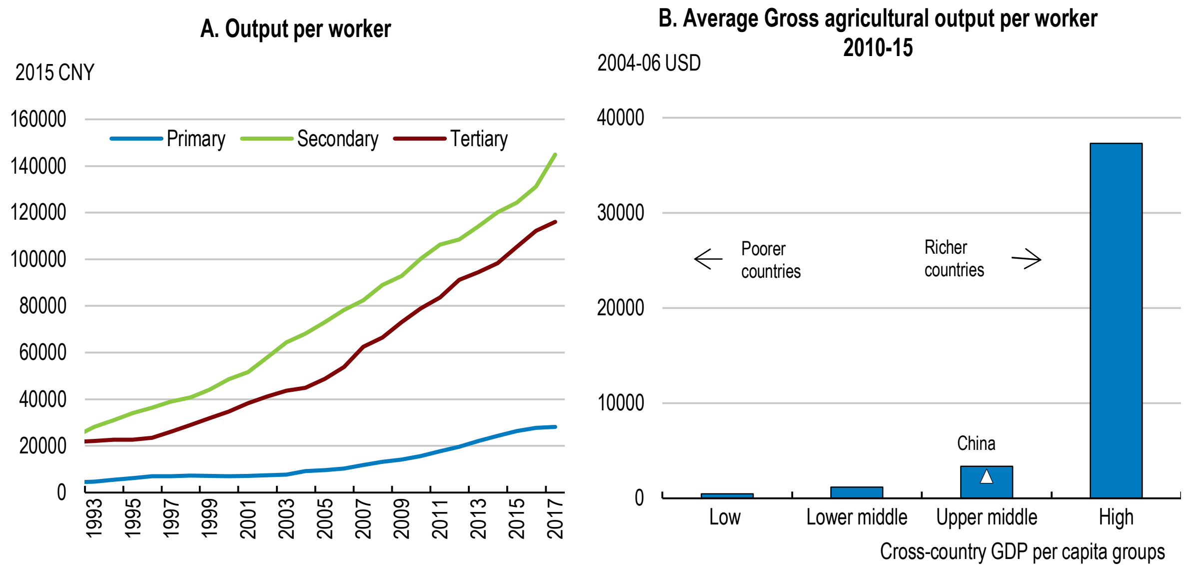
Labour productivity in rural regions is low and further modernisation is needed

The central government is currently finalising a national plan for rural revitalisation. The publication of such a plan will be timely as a complement to the 2014 national urbanisation plan since much of the current policy focus is on urban development. The rural revitalisation strategy could potentially benefit from the OECD's rural development framework 3.0 (OECD, 2016), which stresses competitive advantages in rural communities. It further emphasises the role of integrated investments (OECD, 2014b) and the tailoring of public services to the needs of different types of rural areas.

The rural revitalisation plan, which is expected to have a long term perspective and focus on rural productivity, should provide much needed back-wind for rural development. Labour productivity in the primary sector, which includes the agricultural sector, is lagging significantly behind the other sectors of the economy with the gap increasing over time (Figure 1.17).

Figure 1.17. Agriculture productivity is low and its gap with other sectors is growing

Labour productivity by sector



Source: OECD calculations based on CEIC database; and United States Department of Agriculture.

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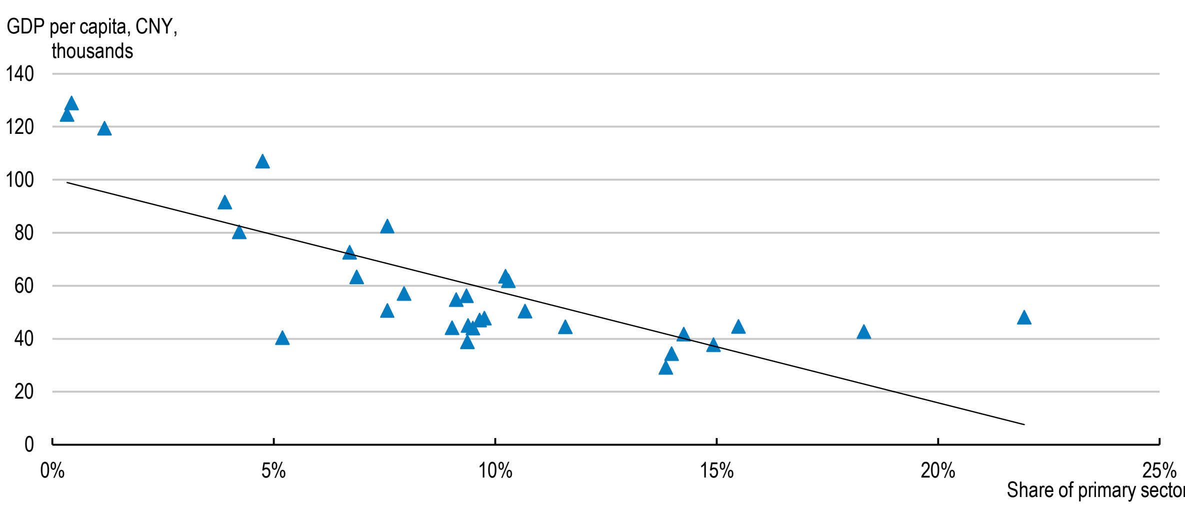
In order to close some of the urban-rural income gap, labour productivity in the agriculture sector will need to be boosted through modernisation. Agricultural mechanisation has been impressive with the number of large-scale tractors and combine harvesters increasing roughly seven-fold between 2000 and 2016. One important measure to achieve modernisation is creating economies of scale. Average farm size is small in China (OECD, 2015) and bigger farms will allow for more mechanisation and improved labour productivity. Land circulation, i.e. the renting of land use rights, is highly encouraged to speed up farm consolidation while preserving farmers' rights to their land as a kind of social security. Land circulation rose from 0.4 to 3.2 billion square kilometres between 2007 and 2016. Rural cooperatives can be particularly effective in achieving economies of scale in remote or poor areas where farmers may not have the means to come up with the land use fees upfront and outsiders may not express interest. The agriculture sector can also benefit from the easing of restrictions on land use. For example, grain production is more suitable for large plots of farmland but there are instances where small plots are designated for such crops, which may be unprofitable for the farmer and results in an inefficient use of resources. Allowing farmers to swap the designations of plots would improve productivity, while maintaining food security.

Limited access to finance is another constraint for agriculture productivity growth. Allowing land usage rights to be used as collateral, as attempted in several pilot trials across China, could increase access to finance for farmers. However, to effectively collateralise land use rights for agricultural loans, a well-functioning market for land use rights is needed. Without that, banks may remain reluctant to accept land use rights as collateral as they may end up holding them in case of foreclosure.

An agriculture modernisation process will need to be complemented by increasing urbanisation rates as fewer workers would be needed for agriculture and move from villages to towns and cities. Others could find non-agricultural work nearby as opportunities such as in services, increase. The establishment of a workplace training-based vocational education system, as recommended in the 2015 economic Survey (OECD, 2015) would better prepare young people for a change in career if needed at a later point in their life. Furthermore, more widespread life-long learning, could help ease the transition process for workers to the secondary and tertiary sectors. Continued upgrading of tourism expertise in rural regions, as targeted in the current Five Year Plan, can also help the labour market absorb surplus workers from and reduce the reliance on the agriculture sector. Development of food processing industries in rural regions is another avenue of boosting productivity and rural incomes. The experience of China's provinces show that relying on the secondary and tertiary sectors more is associated with higher per capita incomes (Figure 1.18).

Figure 1.18. Provinces with big primary sectors tend to be less wealthy

Share of the primary sector in GDP and GDP per capita in CNY thousands, 2017



Source: OECD calculations based on CEIC database.

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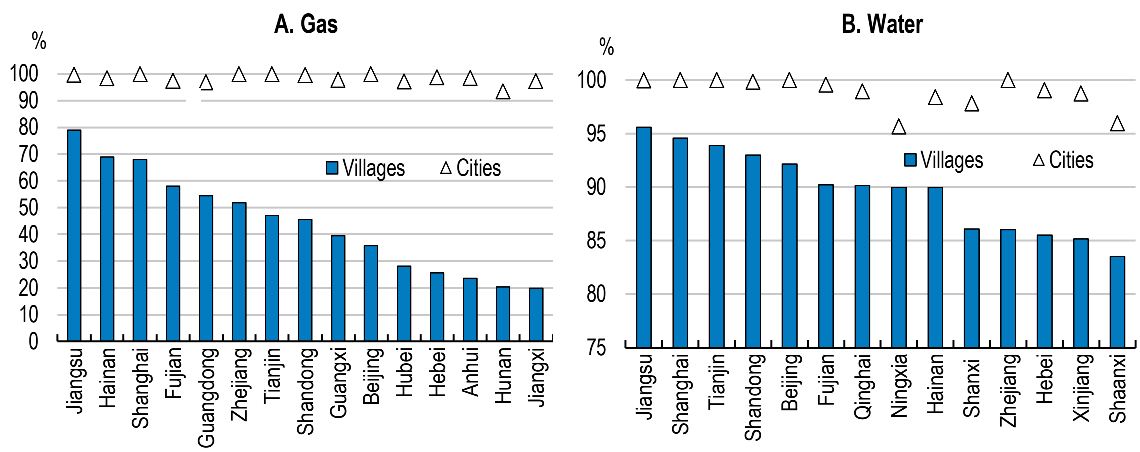
Improving public services in rural areas will increase welfare and productivity growth

Closing the gap between urban and rural areas will also need to rely on improved public services, in particular infrastructure, health and education services. Doing this will not only increase welfare but will also support labour productivity growth. In recent years, large-scale public investment has led to a significant improvement in the rural road infrastructure. Still, however, more investment in roads is needed, particularly at the village level (Figure 1.19). Some villages are still connected by dirt roads, which do not allow for efficient transport of commercial goods. Better connection to the railroad network can encourage commuting which will increase rural incomes. Such networks should be built by the provincial, or in the case of inter-provincial networks, by the central government, as externalities are large. Road maintenance should neither be neglected, given that about a quarter of all rural roads are in need of medium-to high repairs. Further infrastructure investment is also needed in sewage and waste management as in 2016 the access rate to toilets with contained sewage facilities was as low as 40% in Tibet and lower than 70% in nine other provinces. Public investment choices should be linked to a broader development strategy, accounting for competitive advantages, equity and environmental sustainability (OECD, 2014b).

Figure 1.19. Infrastructure in villages lags well behind cities

Access rate to piped gas and water, 2017



Source: China Urban Construction Statistical Yearbook, 2017 and China Urban-Rural Construction Statistical Yearbook, 2017.

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Education in rural regions has improved significantly in recent years as coverage rates and infrastructure quality have reached comparable levels to urban regions for most age groups. Rural education quality is also improving. For example, education infrastructure standards for rural and urban regions were unified. In addition, subsidies, higher wages and various benefits have been provided to teachers in rural regions and work in rural regions has been made compulsory for teachers' promotion. A joint effort by the Ministry of Education and the Ministry of Finance aims to recruit 10 000 retired teachers below the age of 65 by 2020 to work in rural regions. However, more work is needed as rural regions still lag with respect to teacher quality. Also, further emphasis should be put on early childhood education, an important developmental age (OECD, 2017), where coverage rates remain low and public expenditure per student is around 45% lower compared to urban regions.[1]

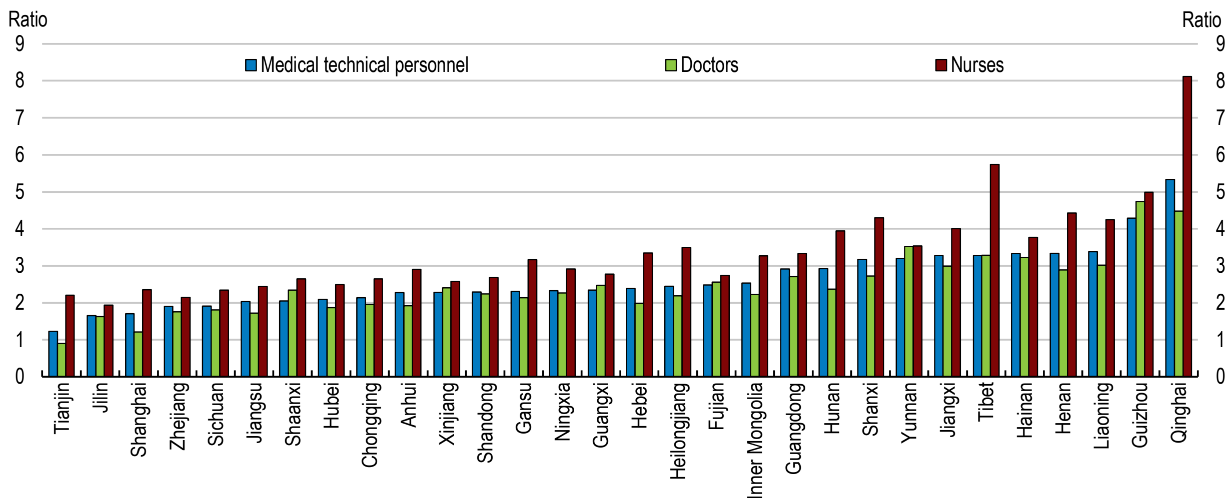
Health services in rural areas also lag behind, in particular with regard to the quality and availability of medical personnel (Figure 1.20), who in many cases, are under-qualified and lack formal medical credentials. The number of qualified practitioners is on the rise, but the challenge might be to create the right incentives to bring enough qualified personnel to rural regions. Linking work in rural regions to future promotions, as used in certain regions, could be an effective incentive. A further effective tool is staff exchanges in which urban medical staff swaps places with their rural counterparts for a day every week or two. This helps both the rural community, which enjoys top-end medical service, and the rural staff

[1] The comparison of urban to rural expenditure per early-age student is based on Educational Finance Statistical Yearbook data on total and rural expenditure per student. For this it is assumed that the share of rural children in the 0-14 age group is the same as their share in the 3-6 age group.

member who can improve his/her skills and know-how. However, as currently done, these daily staff exchanges are only relevant for the surrounding area of cities where daily commuting is possible. If done on a weekly basis (e.g. a week every 2 months), more remote areas, where the medical standard might be even lower, could benefit as well.

Figure 1.20. Rural medical staff is in shortage

Ratio of medical staff per capita in urban to rural areas, 2017



Note: Data include medical establishments of all levels and grades.
Source: China Statistical Yearbook 2018.

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Realising regional potentials - Recommendations

Create a single product market by abolishing local protectionist measures

- Strengthen the rule of law and restrict the power of administrative departments to prevent the creation of administrative monopolies.
- Provide clear and detailed implementation rules to limit the discretionary power of implementing departments. Specify deadlines for administrative bodies to perform their duties and impose penalties for delay.
- Define a mechanism through which administrative monopolies could be broken with potential sanctions for administrative bodies not complying. Strengthen the independence of anti-monopoly enforcement, make it more rule based and enhance its transparency.
- Remove the heavy burden for the plaintiff to prove abuse of power by administrative departments.
- Strengthen whistle-blower protection to uncover and rectify more cases of protectionist behaviour.
- Subject tender documents to the review of competition authorities to avoid any potential competition-hindering clause.
- Ensure technology-neutrality of environmental and other services to promote innovation and competitive markets.
- **Make public procurement more transparent and open it to all players**. Subject all purchases above the defined threshold to the government procurement procedure and raise penalties for non-compliers to deterring levels. Purchases below the threshold should also be done in a transparent way.

Create a single labour market by improving public service provision

- **Distribute more evenly high-quality education and health resources to reduce incentives to move to mega-cities.**
- Expand the coverage of early childhood education institutions and enrolment in rural areas.
- Increase the number of qualified teaching and medical staff in rural areas by more effectively rotating good quality staff. For instance, the required period spent in rural areas could increase to a week or a month at a time instead of a day to reach more remote regions.
- Create suburban rail networks to allow for a better integration of rural regions nearby cities. Increase and improve rural roads to integrate such areas into commercial networks and enable commuting for work to cities.
- **Gradually ease restriction on access to public services for non-*hukou* holders and delink it from the *hukou*.**
- Unify the pension system at the national level to ensure portability of pensions and improve financial sustainability of the system.

Enhance regional equity and efficiency

- **Centralise the financing of some key spending items, such as wage bills in education and health.**
- Further reduce horizontal disparities in spending, by for instance, progressive tax sharing schemes.
- **Conduct thorough cost-benefit analysis of large-scale infrastructure projects and enhance transparency of public investment.**
- Make the characteristic town and other initiatives more market based and avoid excessive replication of successful towns.

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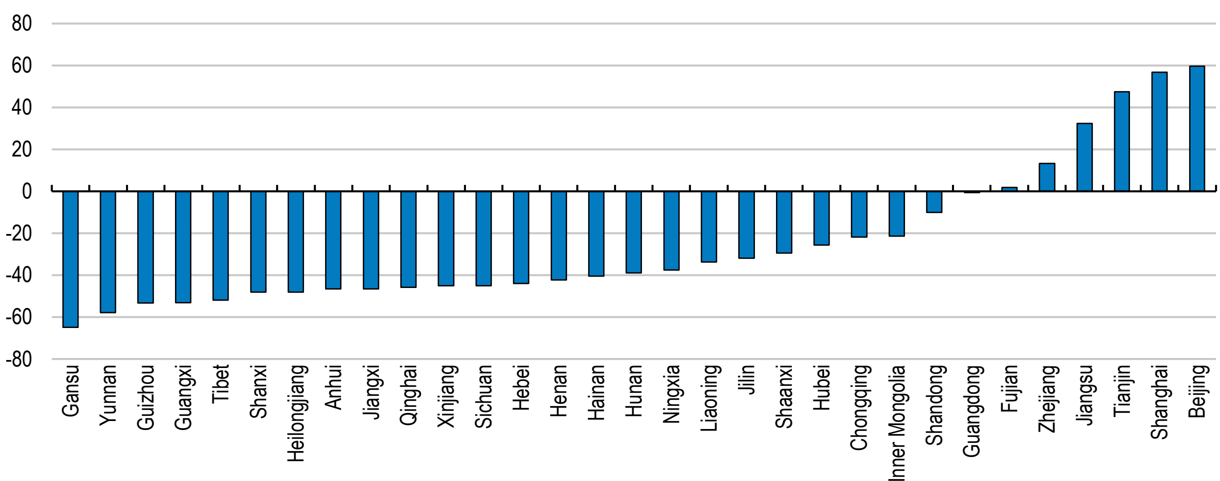
Annex A. Gauging disparities across regions in multiple dimensions

China is a collection of regions whose income per capita ranges from lower-middle to high. Western provinces such as Gansu, Yunnan or Guizhou would belong to the former, while province-level municipalities in coastal areas such as Beijing, Shanghai and Tianjin to the latter (Figure A.1.21). For comparison, Gansu's per capita GDP in current USD terms in 2017 was at par with that of Angola, Yunnan's with Belize's and Guizhou's with Iran's. At the other extreme, Beijing and Shanghai's per capita incomes are close to that of Greece and Tianjin's to that of Lithuania.

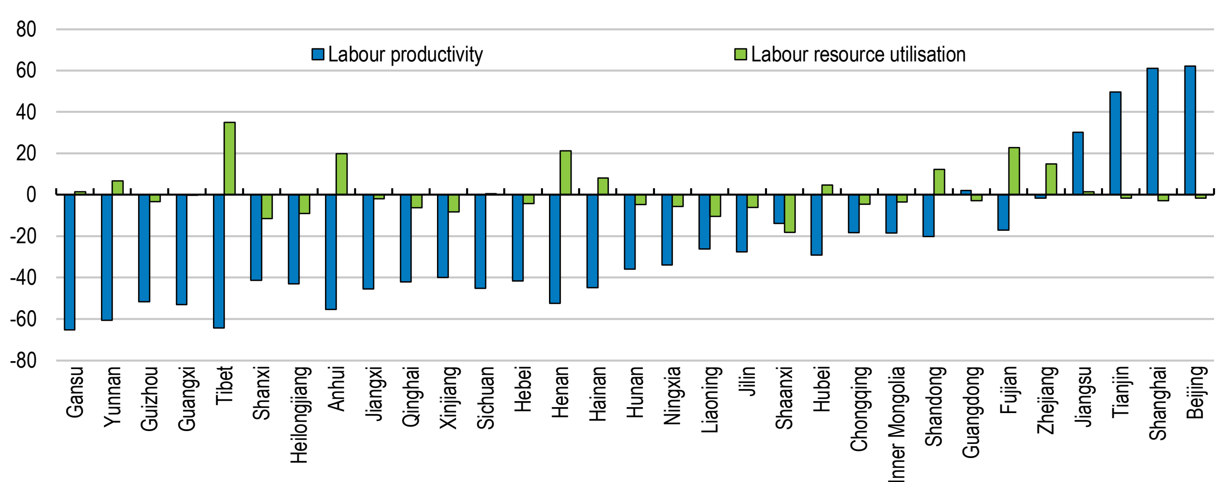
Figure A.1.21. Disparities in per capita incomes across China's provinces are large

GDP per capita, labour productivity, and labour resource utilisation compared with the upper half of provinces, 2017

A. Percentage difference in GDP per capita



B. Percentage difference in labour resource utilisation and labour productivity[1]



Note: For the calculation of GDP per capita, the long-term resident population is used. The sum of the percentage difference in labour resource utilisation and labour productivity do not add up exactly to the GDP per capita difference since the decomposition is multiplicative. Labour productivity is measured as GDP per total employment. Labour resource utilisation is measured as total employment per capita.
Source: OECD calculations based on CEIC database.

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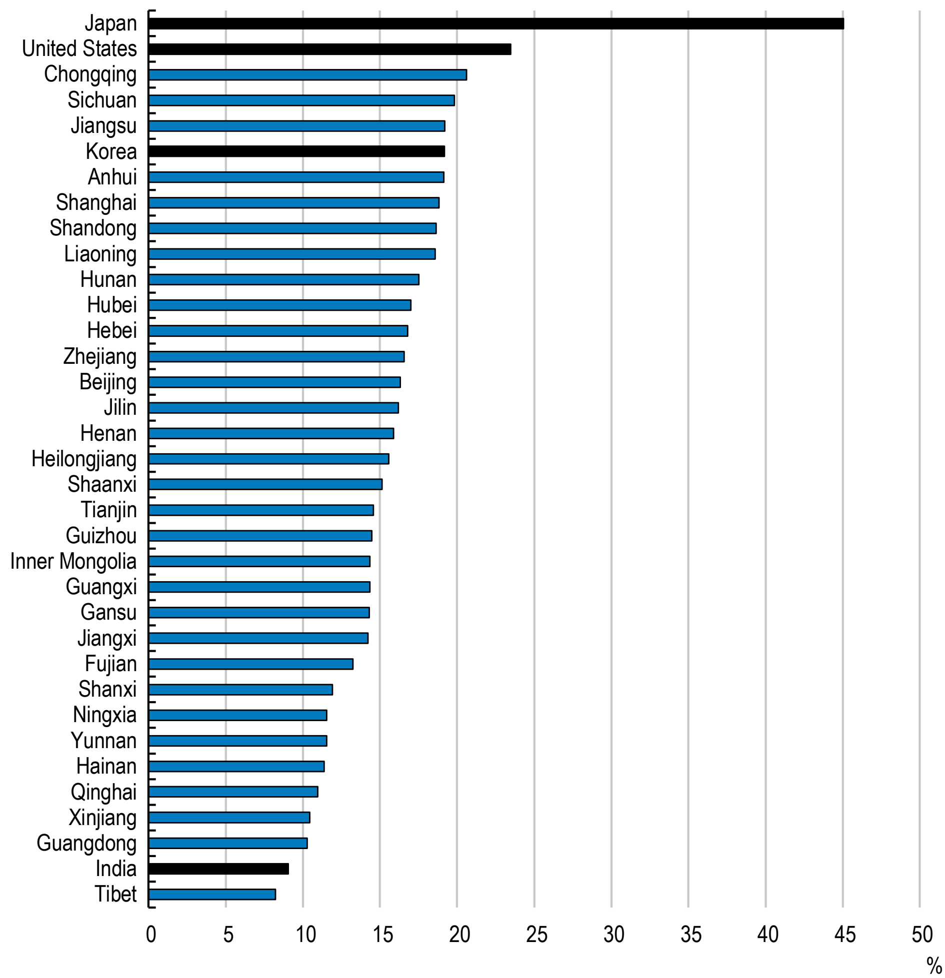
The income gaps with more advanced provinces (the upper half of the provinces) reflect lower output per worker (Figure A. 1.21). Participation rates are high in general, as China's is also high compared to OECD countries'. In Yunnan, Tibet, Guangxi, Anhui and Henan, large income gaps are coupled with higher-than-average participation rates, implying even weaker labour productivity. Different participation rates stem from not only different labour force participation and unemployment rates across provinces, but, even more importantly, significantly differing demographics. Indeed, the population structure varies widely across the country: in some provinces such as Tibet or Guangdong the population is as young as India's, while it is even older than Korea's in others such as Chongqing, Sichuan and Jiangsu (Figure A.1.22). The large divergences are related on the one hand to different natural population growth rates as in rural and minority areas the one-child policy has long been abandoned and also to different expected life times and on the other hand to migration to more prosperous areas.

Figure A.1.22. Old-age dependency varies greatly across provinces

The ratio of population above 65 to 15-64, 2017



Source: CEIC and World Bank World Development Indicators database.

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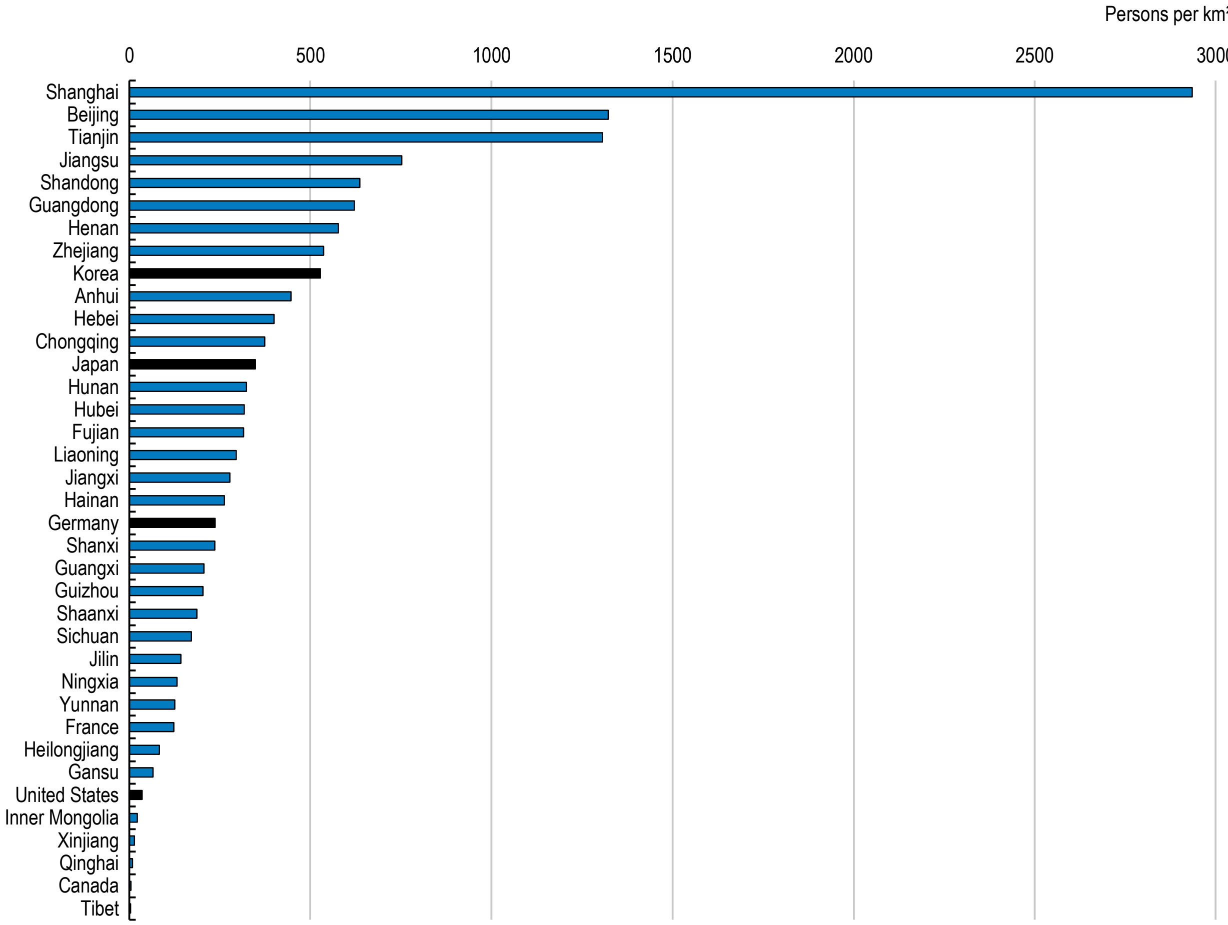
Natural endowments also vary widely across provinces: some are prone to floods, others to droughts. In general, the North and the West are dry and the South and the East are humid. Largely reflecting geographical endowments, population density also varies: in a quarter of the provinces it is even higher than in Korea, which is the most densely populated OECD country and in some provinces it is even lower than in the United States (Figure A.1.23). Manufacturing industries, in particular the labour-intensive ones settled in densely populated areas, the resource-intensive ones in resource-rich areas and agriculture-related industries where there is ample supply of fertile land. Partly owing to natural endowments, the coastal provinces participate more in international trade and are better integrated in global value chains, in particular the three regions of Jingjinji (Beijing-Tianjin-Hebei), and the Yangtze River and the Pearl River deltas. While the Yangtze River Delta region relies more on domestic value-added (in particular from neighbouring provinces such as Anhui) for its exports, the Pearl River Delta is more dependent on foreign value added and has little value-chain connections with other provinces (Li et al., 2018). Indeed, even though the Pearl River Delta accommodates some of the biggest innovator firms of China, there is no concentration of high-productivity areas around those innovation centres (OECD, 2017, 2014a). In contrast, there are high-density cities in the productivity map around Shanghai and the Yangtze River Delta. This suggests spillovers, which could potentially stem from value-chain connections.

Figure A.1.23. Population density varies widely across provinces

Resident population per square kilometre, 2017



Source: OECD calculations based on CEIC and World Bank World Development Indicators database.

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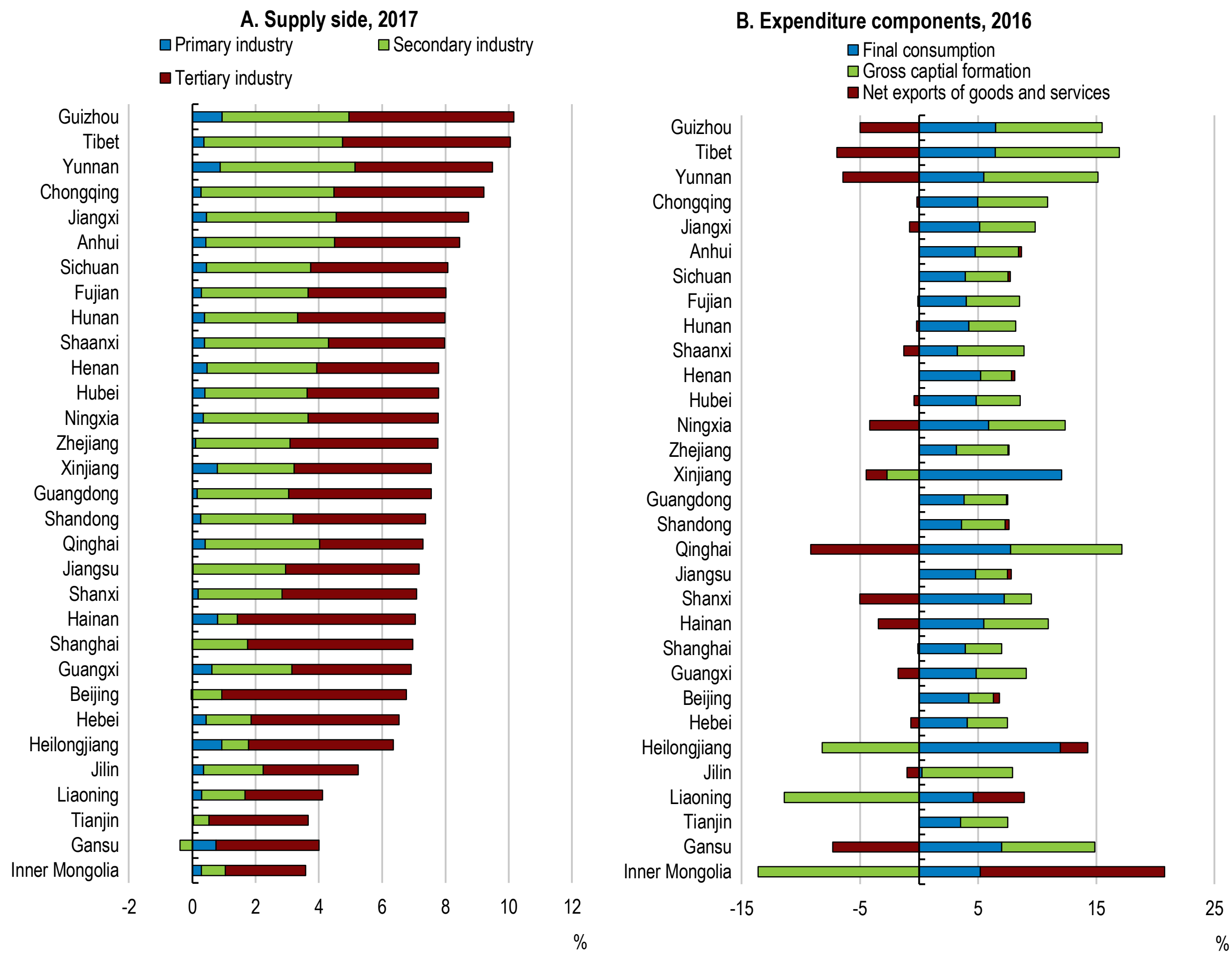
Not surprisingly, the drivers of growth also vary across provinces (Figure A.1.24). Although the tertiary sector is the major driver of growth in most provinces, as is at the national level, many -- mainly Western and Central -- provinces still rely on industry to a large extent (Figure A.1.24). On the demand side, consumption has become the major driver of growth in most provinces, though many -- again mainly in the West -- rely on investment to a greater extent (Figure A.1.24). This is related to the lower capital stocks in those provinces and shows that investment can be an important way of reducing regional disparities. In general, provinces with lower per capita income registered higher investment growth rates over the past years. Highly-investment-dependent provinces, however, experienced a sharper growth slowdown, in general (Li et al., 2018). Rapid investment growth was to a large extent driven by real estate investment in provinces at the two ends of the regional income distribution: in Shanghai, Guangdong and Zhejiang at one and in Tibet, Guizhou and Hainan at the other end. Decline in manufacturing investment was a main reason for negative fixed asset investment growth in North-eastern industrial rustbelt provinces of Heilongjiang and Liaoning and in coal-rich Shanxi.

Figure A.1.24. The drivers of growth vary widely across provinces

Contribution of supply and demand-side components to growth



Note: For Hubei Province, the supply-side statistics were used to recalculate the expenditure components using the contribution shares.
Source: Yearbooks, provincial statistics bureaux.

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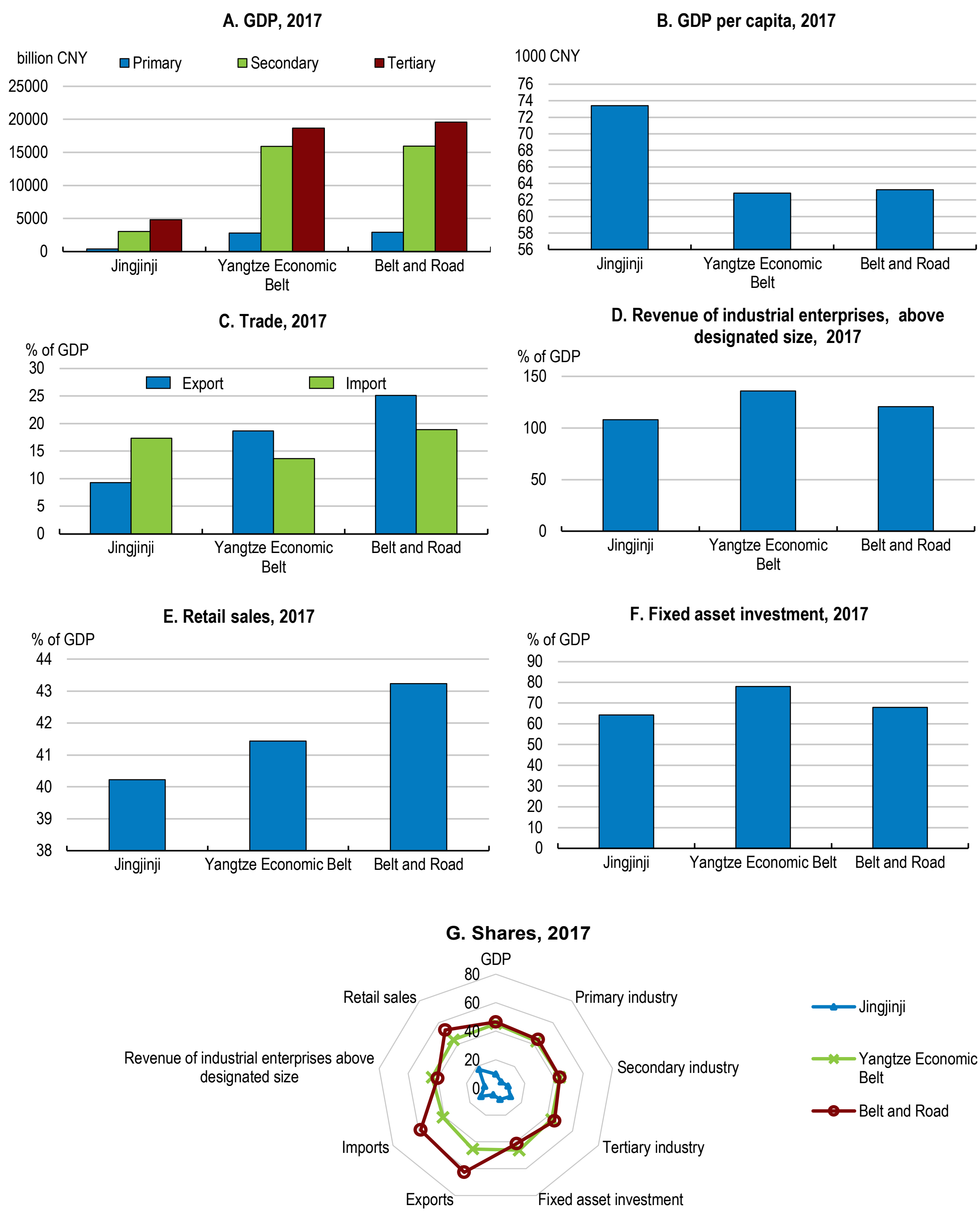
Notwithstanding the greatly varying natural endowments, regional disparities in per capita incomes have become pronounced only in the past couple of decades. At the time of China's reform and opening up, more emphasis was on growth and efficiency and regional inequalities got less attention. As disparities increased, however, the government started to deploy a wide array of tools designed to enhance regional development. Overall inequalities have decreased recently, including between regions and within provinces, though the gap widened across provinces based on nighttime light data imagery (Wu et al., 2018).

Annex B. The three initiatives

The three strategies cover a very diverse set of regions, with Jingjinji being the smallest in terms of economic weight, but the wealthiest in terms of per capita incomes (Figure B.1.25). The Yangtze Economic Belt and the Belt and Road's domestic dimension are quite similar both in terms of size of the economies and per capita incomes. These two regions are also more open in terms of their export shares to GDP than Jingjinji (Figure B.1.25). The Yangtze Belt invests slightly more and its large enterprises earn more than in the other two regions (Figure B.1.25).

Figure B.1.25. The three strategies cover a diverse set of regions



Note: Jingjinji comprises Beijing, Hebei and Tianjin, the Yangtze Economic Belt Anhui, Chongqing, Guizhou, Hubei, Hunan, Jiangsu, Jiangxi, Shanghai, Sichuan and Yunnan and the Belt and Road Chongqing, Fujian, Gansu, Guangdong, Guangxi, Hainan, Heilongjiang, Inner Mongolia, Jilin, Liaoning, Ningxia, Qinghai, Shaanxi, Shanghai, Tibet, Xinjiang, Yunnan and Zhejiang. Fixed asset investment also includes the purchase of fixed assets.

Source: OECD calculations based on the China Statistical Abstract (2018) and CEIC database.

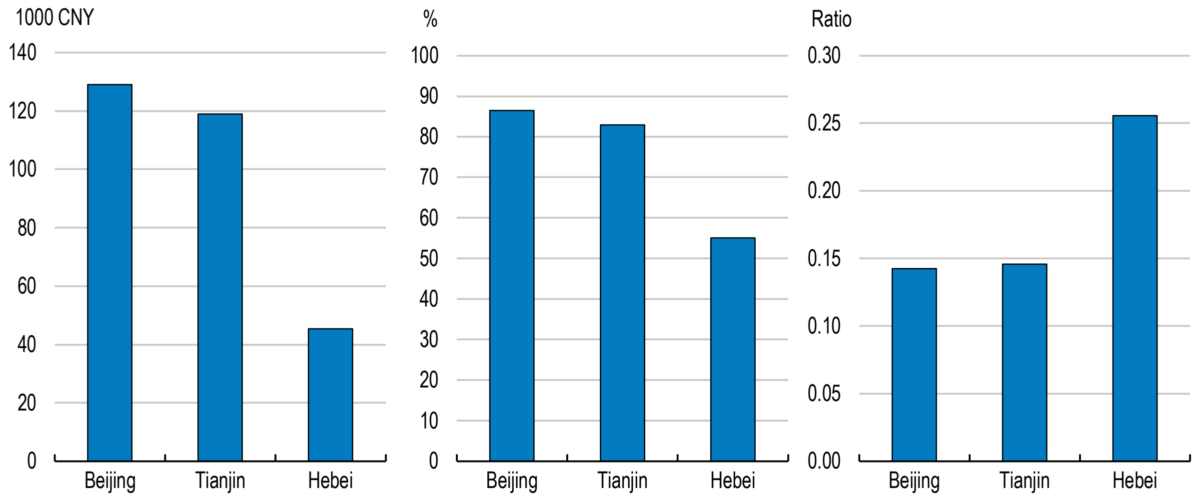
StatLink https://doi.org/10.1787/888933946020

The Belt and Road Initiative is mostly known to the world as a multi-country initiative to upgrade the infrastructure network, but in fact its scope goes much beyond infrastructure investment and it has an important domestic dimension. Many of the 18 provinces that were designated as Belt-and-Road provinces, are in the Western and Northeastern part of China and lag behind more developed provinces. The Initiative has already brought prosperity to many border cities and towns in those provinces through enhanced trade and investment under its aegis. Those provinces, mainly along the western and northern borders will also be major beneficiaries of tightening integration with Belt and Road countries through harmonisation of various policy areas including disaster reduction strategies, ecological conservation, environmental protection and innovation.

In the Jingjinji region, Beijing, Tianjin and Hebei Province differ significantly (Figure B.1.26). Improved integration and coordinated planning within this region can help exploit relative advantages (e.g. high productivity levels in Beijing and low labour costs in Hebei) and deal with relative disadvantages (such as congestion and high housing prices in Beijing). The biggest single project, which has emerged so far as part of this initiative, is the new city of Xiong'an to be built in Hebei Province, 100 kilometers from Beijing. According to the plan, many major institutions will move there from Beijing, including government institutions, banks, hospitals, universities and business headquarters. Overall, this new city is expected to house around 2-3 million people. This ambitious attempt aims to lower congestion in Beijing and to create a new technology and financial hub, while also decreasing regional disparities by moving high-productivity industries and high earners to a less wealthy province. This move can have further knock-on effects as similar public service standards will be provided as in Beijing, which should further attract high-level service providers such as teachers and doctors, which could further decrease regional disparities. Xiong'an, as the other New Areas, is supposed to attract private investment through public-private partnerships. Amid the current deleveraging and financial tightening, however, private investors may first want to be sure they earn profits and therefore may take a wait-and-see approach. In a further attempt to reduce congestion in central Beijing and to shift some economic activities outside of the center, several municipal-level agencies are being moved to Tongzhou, a district of Beijing. With the move of those civil servants with high demand for quality education, preparatory schools and other child-oriented facilities, a vibrant private sector is expected to emerge there providing those services.

Figure B.1.26. Jingjinji is a diverse region

GDP per capita, rate of urbanisation and youth dependency ratios, 2017



Note: The youth dependency ratio refers to the population aged 0-14 years divided by the population aged 15-64 years.
Source: CEIC database.

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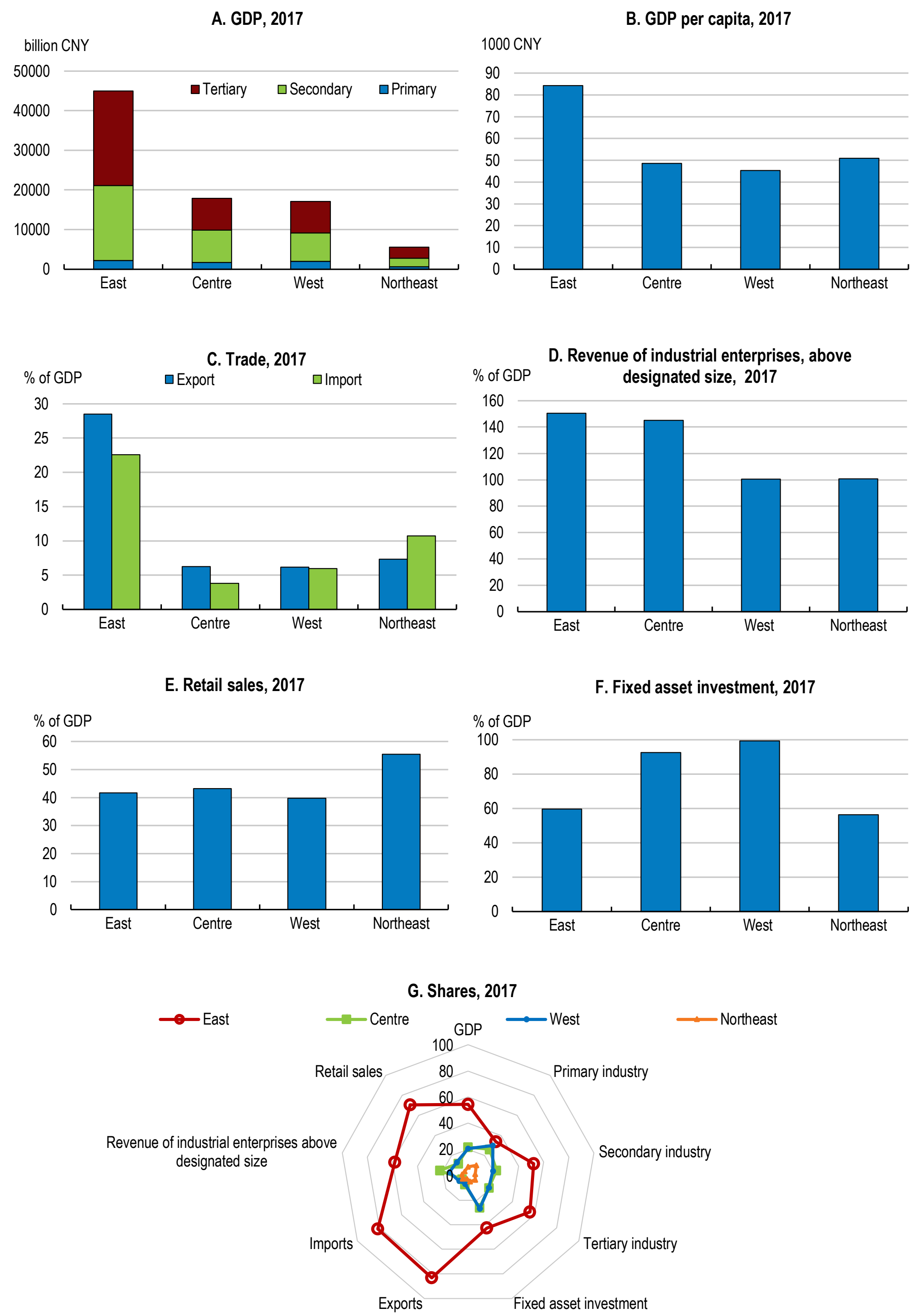
However, other than the Xiong'an project, there are indications that thus far the benefits of the increased integration approach have been limited and focused on relatively small-scale projects. Indeed, improved cross-provincial coordination is challenging since even within provinces there are many coordination difficulties between prefectures and counties. In order for these programmes to yield significant benefits, it should deal with large-scale projects such as integrated infrastructure development. The central government may need to assume a greater role to ensure coordination.

The Yangtze River Economic Belt is the third region of the three major strategies and spreads across 11 provinces including Shanghai, Jiangsu, Anhui and Zhejiang. It covers 21% of the country's territory and represents over 40% of the population and output. It includes some of the richest and some of the poorest provinces. Thus, relative advantages within the region can create significant benefits here as well. The initiative aims to enhance regional cooperation and sharing of information as well as inter-connectedness through various transportation projects. Since it only started in 2014 it is early to assess its effectiveness, but due to the size of the area and the number of provinces and cities involved, it is fair to assume that strong central government involvement will be needed to ensure effective cooperation between all parties.

Annex C. The four mega-regions

The three programmes of Western Development, Northeastern Revitalisation and Taking off by the Centre cover the vast majority of China's territory, as well as most of the population. The much greater economic weight and significantly higher per capita income in the East of the country (Figure C.1.27) -- resulting from the opening up and reforms -- prompted the central government to adopt those programmes aimed at helping catching up of the other three regions.

Figure C.1.27. The East is bigger, wealthier and more open than the other regions



Note: The Centre includes Anhui, Henan, Hubei, Hunan, Jiangxi and Shanxi; the East Beijing, Fujian, Guangdong, Hainan, Hebei, Jiangsu, Shandong, Shanghai, Tianjin and Zhejiang; the Northeast Heilongjiang, Jilin and Liaoning and the West Chongqing, Gansu, Guangxi, Guizhou, Inner Mongolia, Ningxia, Qinghai, Shaanxi, Sichuan, Tibet, Xinjiang and Yunnan. Fixed asset investment also includes the purchase of fixed assets.

Source: OECD calculations based on the China Statistical Abstract (2018) and CEIC database.

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China's growth continues to slow, but it is still high by international standards and contributes about a quarter of global growth. The growth model based on capital accumulation has led to misallocation of capital and excess capacity in a number of industries as well as falling investment efficiency, dictating a slower pace for investment. The reining in of shadow banking, an important source of financing for local infrastructure projects and for the private sector, weighs further on investment. Investment has been financed by debt, fuelled by interest subsidies and implicit guarantees for state-owned enterprises and other public entities. Slower growth implies lower enterprise profits and lower ability to service their debt, which has been accumulated primarily by state-owned enterprises and has reached unsustainable levels. Slowing growth and swiftly enacted tax cuts also imply lower fiscal resources to make growth more inclusive. In the medium term, productivity gains and more inclusive policies could sustain growth. Local protectionism increases transaction costs and hinders competition and restrictions on the hukou and the fragmented pension system limit labour mobility.

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