



毕马威全球中国业务

KPMG Global China Practice

The 13th Five-Year Plan - China's transformation and integration with the world economy

**Opportunities for Chinese and
foreign businesses**



October 2016

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Foreword



KPMG's Global China Practice (GCP) is pleased to release this second report in our 13th Five-Year Plan (FYP) series. This report looks in more detail at the opportunities for Chinese and foreign businesses during the period from 2016-2020.

In our first report,ⁱ we used the *Proposal on Formulating the Thirteenth Five-Year Plan (2016-2020) on National Economic and Social Development*ⁱⁱ as a starting point for positing opportunities to invest along China's 'six narratives' of development: Efficient China, Balanced China, Beautiful China, Open China, Happy China and Transforming China.

In this report, we take this analysis further by identifying potential investment opportunities under each of the following seven development priorities that underlie the *Outline of the 13th Five-Year Plan for National Economic and Social Development*.ⁱⁱⁱ

1. Developing an innovative economic structure and accelerating industrial upgrading: Will bring opportunities for investment in emerging industries and advanced services
2. Promoting industrial transformation: Will bring opportunities for investment in the upgrade and transformation of traditional industrial and service sectors
3. Establishing a new model of coordinated regional development: Will bring opportunities for investment in and the operation and service of infrastructure in China
4. Advancing green development and putting 'ecology first': Will bring opportunities in environmental services, green finance and green technology
5. Building a more inclusive society and improving quality of life: Will bring opportunities in high-end, 'safe' consumption and in the provision of public services
6. Increasing openness and global integration: Will bring opportunities in traditional equipment manufacturing, natural resources, project contracting and cross-border agriculture investment
7. Deepening market-oriented reforms through progressive implementation of institutional reforms: Stands to bring opportunities in monopoly industries, strategic industries and the modern services sector, and create a more favourable institutional environment for both inbound and outbound investors.

Recognising the concerns that have been expressed about the business environment in China and the challenges which come with implementing such a comprehensive programme of reforms, we nevertheless believe that the 13th FYP has the potential to usher in a golden age of inbound and outbound investment activity. Naturally, any analysis such as that undertaken in these reports is inherently subject to a significant degree of uncertainty regarding events that might happen over the next five years, including the progress in implementing the ambitious reforms which are discussed in various places throughout this report and which are necessary for many of the opportunities to materialise. While recognising this important caveat, our analysis – supported by discussions with the Chinese Government – shows:

1. China's economic transformation is spurring the creation of new drivers of growth, new industries, new institutions and new opportunities. This creates a more positive environment and opens new sectors of the Chinese economy for foreign

businesses to invest in; it also offers outbound Chinese investors the opportunity to acquire resources and technology abroad, and apply these to new businesses in the domestic market.

2. China's traditional monopolies, state-run utilities and public services are gradually becoming accessible to private and even foreign investment. This opens new channels for foreign direct investment (FDI) into China, and provides Chinese outbound investors with the opportunity to form valuable synergies and linkages between their domestic and overseas businesses.
3. China will seek to promote broader, more bidirectional openness, and build institutions and mechanisms that encourage cooperation and are compatible with international trade and investment rules. This will help promote the orderly flow of factors of production both domestically and internationally, and lead to a more efficient allocation of resources and more deeply integrated markets. As these measures are implemented, they will better facilitate FDI and outward direct investment (ODI).

Supply-side structural reform is a key focus area in the 13th FYP around which other development-related initiatives will revolve. In essence, the supply-side structural reforms have three major goals, all of which also hint at significant opportunity for investment:

1. *Promote the upgrading of industrial structures in order to expand the effective supply of mid-range and high-end goods and services, and meet consumers' increasingly sophisticated and personalised material, cultural and environmental needs:* This provides an opportunity for FDI into China's advanced and emerging industries, and for ODI that seeks out advanced technology and best practices abroad for reintroduction into the domestic market.
2. *Strengthen market-oriented reforms in key sectors of the economy, correct misaligned policies and institutions, and ensure a level playing field in which winners and losers are determined by the market:* This can maximise vitality at the microeconomic level and effectively facilitate flows of both FDI and ODI.
3. *Meet the five targets of reducing industrial capacity, inventory, financial leverage and costs, and correcting structural shortcomings:* These efforts will broaden the channels of investment and help foreign investors lower the cost and risk of doing business in China.

We hope that this report will be a valuable resource for Chinese and foreign companies – global companies, niche players and emerging disruptors alike – to find ways in which they can share in the dividend generated by China's growth, while making their own contribution to the economy's transformation. This would represent a win-win for business and national interests as China strives to maintain medium-high growth, shift to the middle to high end of the value chain, and progress towards becoming a high-income nation.

We would like to express our sincere gratitude to the Market Economy and Competition Policy Research Institute of the National Development and Reform Commission, a leading research institution in the study of the global and Chinese market economy, for its contribution to this report. The insights they have shared will greatly benefit readers seeking a broad understanding of a more pragmatic, inclusive and open China.

Vaughn Barber
Global Chair,
KPMG Global China Practice

ⁱ 'The 13th Five-Year Plan – China's transformation and integration with the world economy: Key highlights and investment opportunities', KPMG China, December 2015, kpmg.com/cn/13fyp-report1-en

ⁱⁱ Adopted by the Fifth Plenary Session of the 18th Communist Party of China (CPC) Central Committee in October 2015

ⁱⁱⁱ Adopted by the Fourth Session of the 12th National People's Congress in March 2016

Chapter 1

Investment and the 13th FYP: A new phase, new approach and new opportunities



During the 13th FYP period, China’s economy will move towards a ‘new normal’, following an increasingly clear evolution towards a more sophisticated, better structured and more specialised mode of production. The Chinese Government is dedicated to improving the quality and efficiency of development, encouraging a mindset of growth that focuses on innovation, coordination, ‘greenness’, openness and inclusiveness. It also strives to promote supply-side structural reform to expand effective supply, meet effective demand, and form the mechanisms, institutions and modes of development that will guide the economy to this ‘new normal’. This new phase of and approach to development also creates new space for sectoral growth, and new opportunities for inbound and outbound direct investment.

1.1 China’s new phase of development – and the new opportunities within

The 13th FYP period marks a decisive stage in China’s drive towards a ‘moderately prosperous society’. There are a number of distinct features that are characteristic of this stage of development, and these features both contextualise and inform the policy climate of the 13th FYP. They also contain important information relevant to China’s opportunities for FDI and ODI.

The trend towards ‘two medium-highs’: Growth rate and value chains

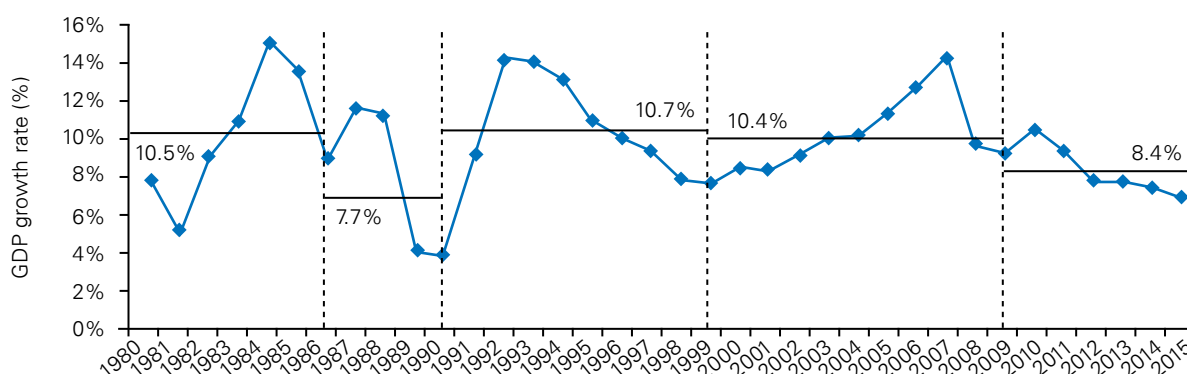
After more than three decades of high-speed growth and industrialisation, the Chinese economy has now begun to enter a phase of relative maturity. As is the case with many late-mover emerging markets, China is now in a relatively advanced stage in its move towards becoming a high-income economy, and as such, faces a relative slowdown in growth. Meanwhile, structural adjustments are pushing China’s industry to the middle to high end of the value chain, as evidenced by increasing signs of sophistication in sectors across the Chinese economy.

China has now entered a phase of *medium-high* growth, after maintaining a *high* average annual growth rate of over 10 percent that lasted from the beginning of reform and opening up over 30 years ago, up until 2009 (with non-

economic factors resulting in exceptions to this trend in 1989 and 1990) (Graph 1-1). This track record constitutes a rare growth ‘miracle’, both in terms of China’s own history and globally. Since 2009, however, there has been a gradual easing of acceleration; in 2015, China’s growth slowed to 6.9 percent, its lowest in 25 years, and potential annualised growth for the 13th FYP period could fall to 6.5 percent or below.¹ This trend marks the economy’s entry into a phase of medium-high growth.

Of course, while relative growth rates are declining, the absolute volume of annual economic growth remains considerable. Every 1 percentage point of gross domestic product (GDP) growth today equates to 1.5 percentage points of growth five years ago, or 2.5 percentage points of growth a decade ago.² In absolute terms, China continues to boast the highest annual economic growth of any country. This unique status and persistent economic expansion means that there is still a large demand for domestic investment to feed that growth. With per capita GDP having surpassed the USD 8,000 mark, China will have a markedly increased appetite for outbound investment. Over the course of the 13th FYP period, therefore, as China maintains a medium-high rate of growth, a range of new FDI and ODI investment opportunities will likely emerge.

Graph 1-1 China’s economic growth rate



Source: 1980-2014 data from the ‘China Statistical Yearbook’ series; 2015 data from the ‘Statistical Communiqué of the People’s Republic of China on the 2015 National Economic and Social Development’

Note: The values marked above the black line represent the average growth rate for the corresponding period.

1 ‘Cai Fang: China’s potential economic growth may slow to 6.2 percent during the 13th FYP period’, People’s Daily, 19 March 2016, <http://finance.people.com.cn/n1/2016/0319/c403268-28211208.html>

2 ‘Full text: Report on the work of the government’, Xinhua News, 17 March 2016, http://big5.xinhuanet.com/gate/big5/news.xinhuanet.com/english/china/2016-03/17/c_135198880_2.htm

As China progresses from the early stages to the relatively advanced stages of industrialisation, a gradual economic transformation is shifting its industrial structure towards the middle to high end of the value chain. In 2015, the share of the tertiary sector as a proportion of China's total GDP exceeded 50 percent for the first time, establishing it as the most powerful driver of growth in the economy (Graph 1-2). The producer services sector in particular has seen rapid development in recent years, with average annual growth of over 15 percent, far surpassing growth in the industrial sector. It accounted for almost 20 percent of total GDP in 2015.³

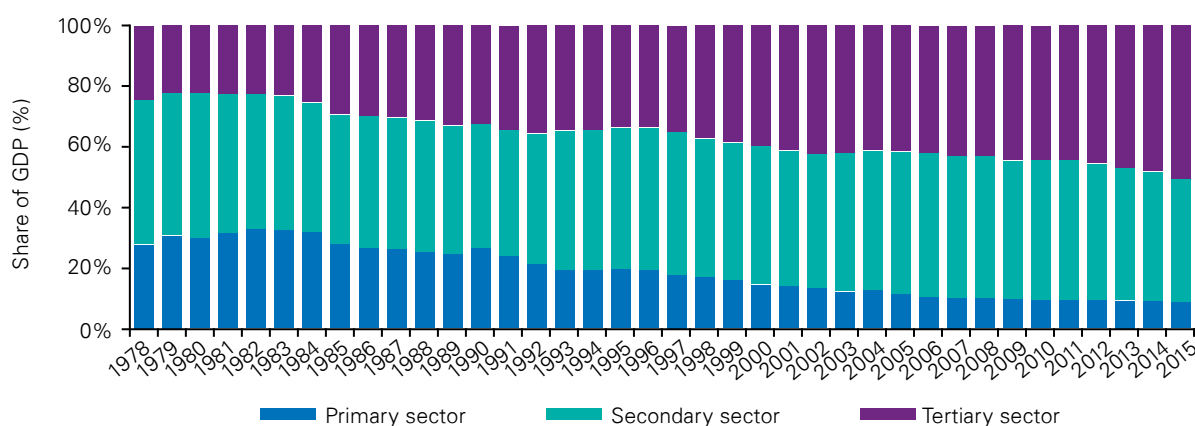
Advanced technology is another high-growth sector in China, posting 10.2 percent growth in 2015.⁴ Growth in the industrial sector lags behind, with traditional manufacturing steadily losing its share of GDP to advanced manufacturing, a trend that shows increasing momentum moving forward. Bright prospects for China's advanced technology and modern services sectors during the 13th FYP period indicate broader opportunities for expanded FDI and for outbound investment that matches overseas acquisitions with domestic technology and market demand.

The strategic 'two synergies': Government repositioning and market reform

The gradual recalibration of the role of government and the promotion of market-oriented reforms have been important strategic endeavours underpinning the significant development of the Chinese economy over the past 30 years. Two rounds of major institutional reform in the 1980s and 1990s have continued to pay 'reform dividends' over the years (i.e. benefits and developments brought about by the reforms), even as the relative pace of reform has slowed since 2000. As the benefits of those early reforms gradually recede, however, new reforms are necessary to stimulate future development.

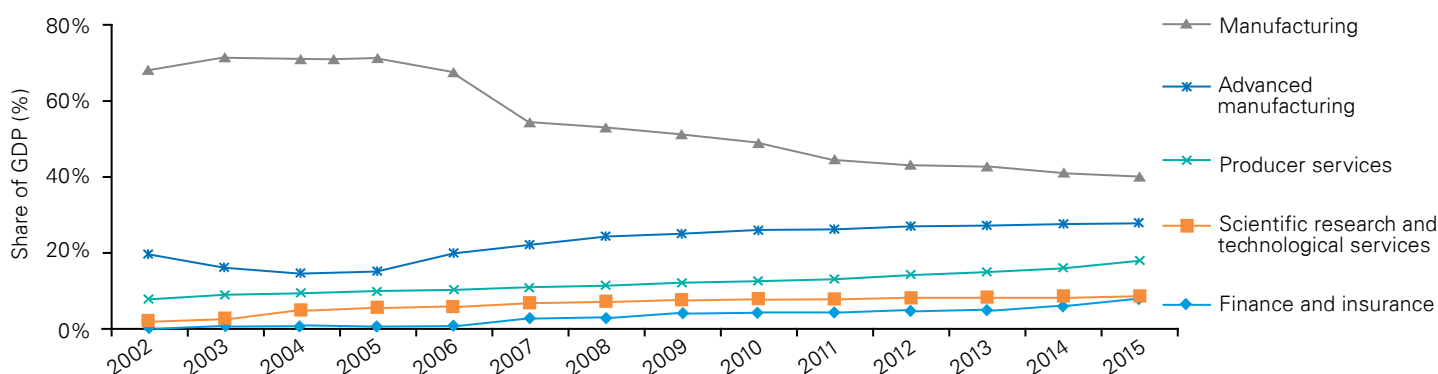
The first indication of a new round of reforms was revealed on 12 November 2013, with the adoption of *The Decision on Major Issues Concerning Comprehensively Deepening Reforms* by the Third Plenary Session of the 18th CPC Central Committee. *The Outline of the 13th Five-Year Plan for National Economic and Social Development* ("the Outline") clearly calls for the 13th FYP to mark a critical period in China's new round of institutional reforms, with a focus on the correct alignment between the role of the government and the market, an accelerated recalibration of government functions and breakthroughs in the reform of key sectors, and the creation of an economic 'new normal' with its attendant mechanisms, institutions and modes of development.

Graph 1-2 China's economic structure by sector



Source: 1978-2014 data from the 'China Statistical Yearbook series'; 2015 data from the 'Statistical Communiqué of the People's Republic of China on the 2015 National Economic and Social Development'

Graph 1-3 Structure of China's service and manufacturing industries



Source: 2002-2014 data from the 'China Industry Economy Statistical Yearbook' series and the 'China Statistical Yearbook of the Tertiary Industry'; 2015 data from the National Bureau of Statistics of the People's Republic of China (National Bureau of Statistics) (<http://www.stats.gov.cn/english>)

Note: Producer services are intermediate inputs to further production activities that are sold to other firms. According to the National Bureau of Statistics, producer services are organised into 10 industries: research, development, design, or other technical services; transportation logistics, warehousing, and postal and courier services; information services; financial services; energy conservation and environmental protection services; business leasing services; corporate services; human resource management and training services; wholesale agency and representation services; and business support services. These 10 industries are then further broken down into 34 sectors and 135 specific segments.

³ Calculated based on data from the *China Statistical Yearbook 2015* (<http://data.stats.gov.cn/english/publish.htm?sort=1>), accessed March 2016

⁴ 'China economy grows 6.9 percent in 2015', Xinhua News, 19 January 2016, http://news.xinhuanet.com/2016-01/19/c_1117822029.htm

The clarification and streamlining of government functions, ongoing decentralisation and deregulation while maintaining oversight, and the improvement of government services and administrative efficiency all help facilitate foreign businesses investing in China and outbound investors going abroad by lessening investment controls and reducing costs. Market-oriented reforms and the steady development of a mixed-ownership economy will help foster the growth of the non-state sector and establish a modern system of property rights and effective market systems. This will allow foreign investors to compete on a more level playing field in China, and will help create a more positive climate for Chinese outbound investors to expand into international markets.

The 'two engines' of transformation: Creation and consumption

The Chinese economy's transformation to increased quality and efficiency is marked by two important conditions:

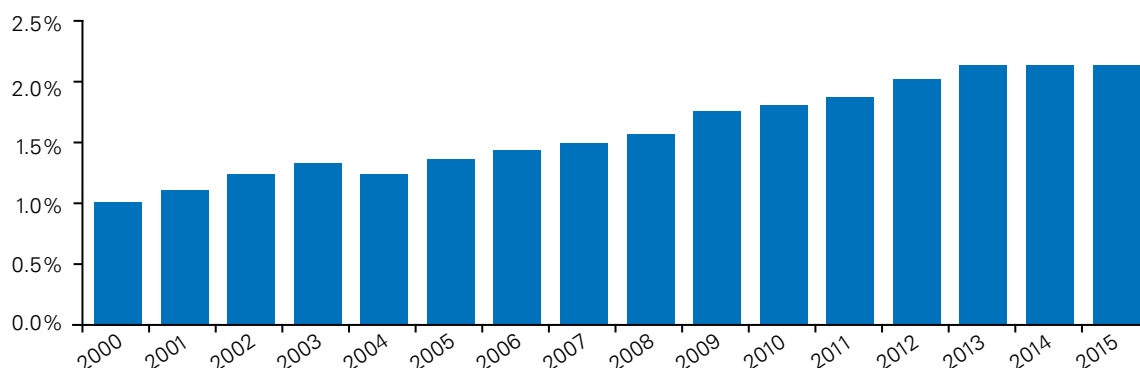
- Firstly, after many years of development, Chinese industry now boasts solid foundations and increasingly sophisticated research and development (R&D) capabilities. However, persistent weakness is seen around the industry's lack of home-grown innovation ability and the capacity to commercialise new technologies.

- Secondly, as China moves towards becoming a high-income economy, consumption has emerged as the primary driver of growth. In 2015, the contribution of final consumption expenditure to growth reached 66.4 percent (Graph 1-5).⁵ With greater volume and quality of consumption comes new demand for education, culture, entertainment and other public services (Graph 1-6) – but effective supply is nowhere near sufficient to meet Chinese consumer demands generally, and for public services in particular.

Two important paths to be pursued in the 13th FYP period, therefore, are enhanced 'creation' (specifically, innovation and entrepreneurship) and household consumption. To that end, the Chinese Government is accelerating its promotion of innovation and entrepreneurship, facilitating both foreign investment into emerging sectors, as well as outbound investment aimed at acquiring overseas technology that can serve the development of advanced industries back home. A parallel effort is underway to expand and enhance consumption, and raise the quantity and quality of public goods and services.

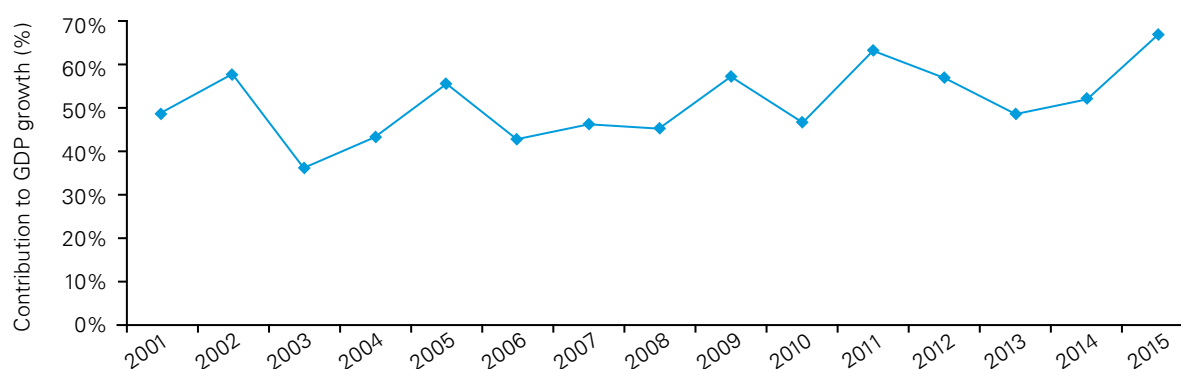
These efforts are beneficial to foreign investors looking to tap into Chinese consumer markets or invest and operate in the public services sector. These changes will also prompt Chinese companies to 'go out' in search of market-leading service providers whose capabilities can be 'brought back' to better serve domestic consumption and public services markets.

Graph 1-4 Chinese investment in R&D as a proportion of GDP (%)



Source: 2000-2014 data from the 'China Statistical Yearbook' series; 2015 data from the 'Statistical Communiqué of the People's Republic of China on the 2015 National Economic and Social Development'

Graph 1-5 Contribution of consumption to overall economic growth



Source: 2001-2014 data from the 'China Statistical Yearbook' series; 2015 data from the 'Statistical Communiqué of the People's Republic of China on the 2015 National Economic and Social Development'

⁵ 'China says consumption growth will remain fast in 2016', Reuters, 23 February 2016, <http://www.reuters.com/article/us-china-economy-consumption-idUSKCN0VW08M>

The ‘two cores’ of urban-rural development: ‘New cities and a beautiful countryside’

The urban economy has been an important driver of growth since the beginning of China’s reform and opening up, when the development of industry and the expansion of cities helped power China’s transformation from an agricultural economy into an industrial economy. In 2015, China’s rate of urbanisation, on a resident population basis, was 56.1 percent (Graph 1-7); by 2020 it is expected to reach 60 percent.⁶ Despite this trend, imbalances between rural and urban development persist, and the quality of urban development is often substandard.

To address these challenges, the *Outline* calls for efforts to close the development gap and promote urban-rural integration. This will be done through people-oriented urbanisation and the development of city clusters, coupled with institutional reforms and measures to enhance cities’ overall carrying capacity in a bid to accelerate ‘new urbanisation’ and further develop the ‘new socialist countryside’. These efforts will broaden the avenues for FDI into urban-rural development, and will, to some extent, benefit Chinese outbound investors that have accumulated operational experience in the construction sector abroad. These companies can apply that expertise to China’s drive to achieve ‘new cities and a beautiful countryside’.

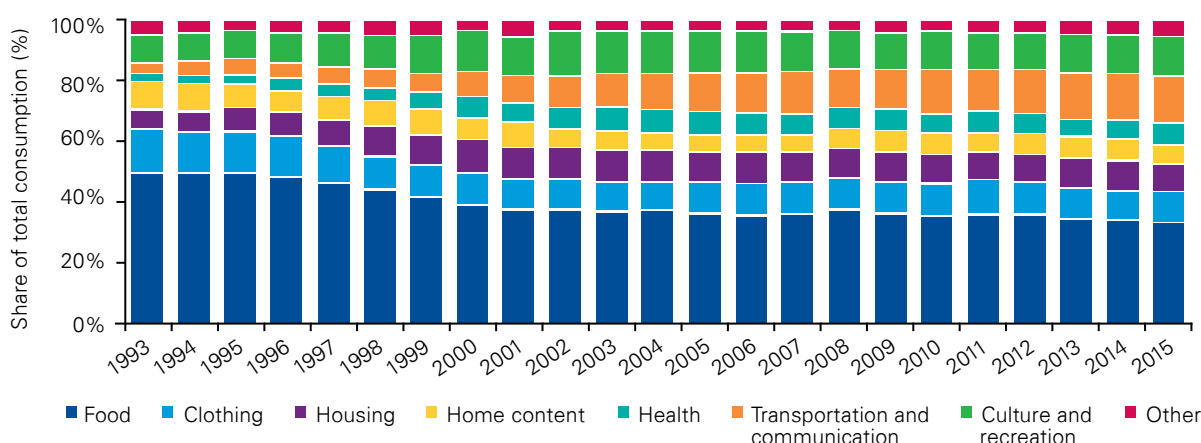
The ‘two channels’ of openness: Higher-value trade and capital export

China is entering a new phase of openness to global markets, as is evidenced by:

- **The shift from goods export to capital export:** Since 2015, China’s traditional export sector has experienced a successive quarterly decline, while ODI has maintained an annual growth rate of around 15 percent since 2012.⁷ Increasingly, outbound investment is replacing export trade.
- **The move up the value chain in global trade:** High-tech products now account for approximately 30 percent of China’s total trade volume (Graph 1-9), and over 35 percent of export trade. Moreover, new business models such as cross-border e-commerce and ‘market purchasing’ are emerging as new growth points in global trade. Cross-border e-commerce grew 30 percent in 2015, while ‘market purchasing’ grew by over 70 percent.⁸
- **The evolution from being a net capital importer to a net capital exporter:** In 2015, China’s outbound investment flows already exceeded inbound investment flows (Graph 1-10).⁹

These changes offer foreign businesses the opportunity to invest in China’s high-tech and advanced industries and new business models, and require that Chinese businesses accelerate their efforts to ‘go out’.

Graph 1-6 Composition of Chinese consumer spending



Source: The ‘China Statistical Yearbook’ series

6 ‘China’s urbanization level to reach 60 pct by 2020’, Xinhua News, 16 March 2014, http://news.xinhuanet.com/english/china/2014-03/16/c_133190605.htm

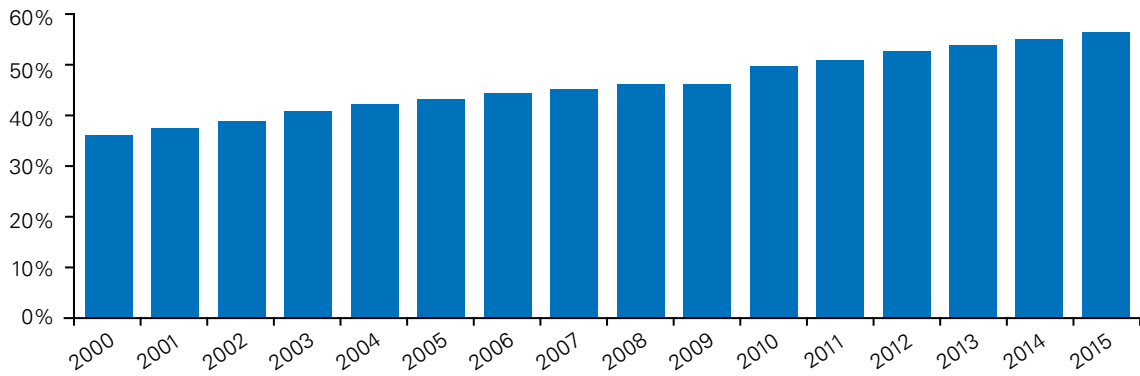
7 ‘2014 Statistical Bulletin of China’s Outward Foreign Direct Investment’, Ministry of Commerce, National Bureau of Statistics, State Administration of Foreign Exchange, Published by China Statistics Press, September 2015

8 ‘Market purchasing’ refers to a new foreign trade model whereby qualified foreign purchasers buying goods from Chinese vendors located in designated areas, such as Zhejiang’s Yiwu Commodity Market, can clear customs formalities in those areas more easily than in the rest of the country. These designated areas help speed up the customs clearance of exported goods, and simplify the procedure of levying and refunding VAT on exported goods, among other measures.

9 ‘The Regular Press Conference of the Ministry of Commerce (January 20, 2016)’ Ministry of Commerce, 22 January 2016, <http://english.mofcom.gov.cn/article/newsrelease/press/201601/20160101244116.shtml>

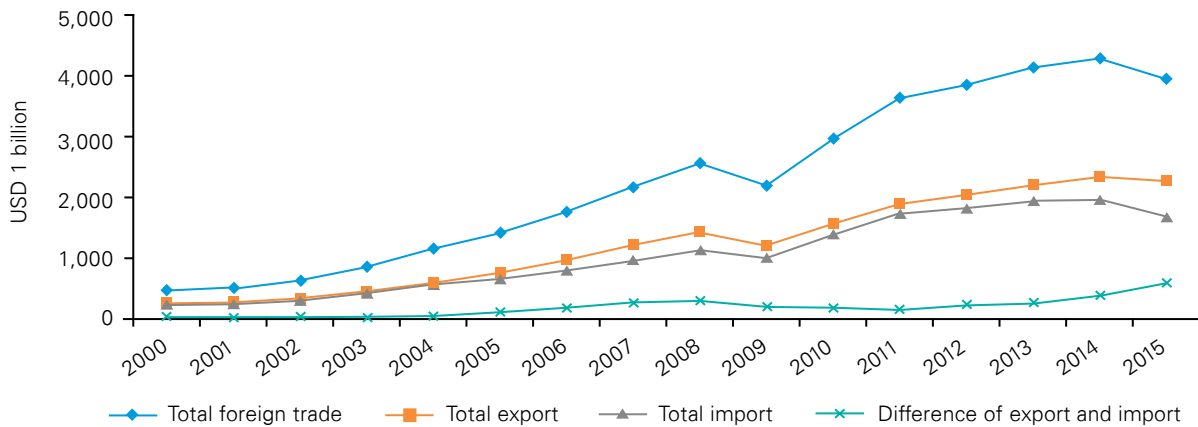
9 ‘The press conference by the State Council Information Office to release “2015 Statistical Bulletin of China’s Outward Foreign Direct Investment”’, State Council Information Office, 22 September 2016, <http://www.scio.gov.cn/xwfbh/xwfbh/wqfbh/33978/35181/wz35183/Document/1492016/1492016.htm>

Graph 1-7 China’s urbanisation rate (share of total population living in urban areas) (%)



Source: 2000-2014 data from the 'China Statistical Yearbook' series; 2015 data from the 'Statistical Communiqué of the People's Republic of China on the 2015 National Economic and Social Development'

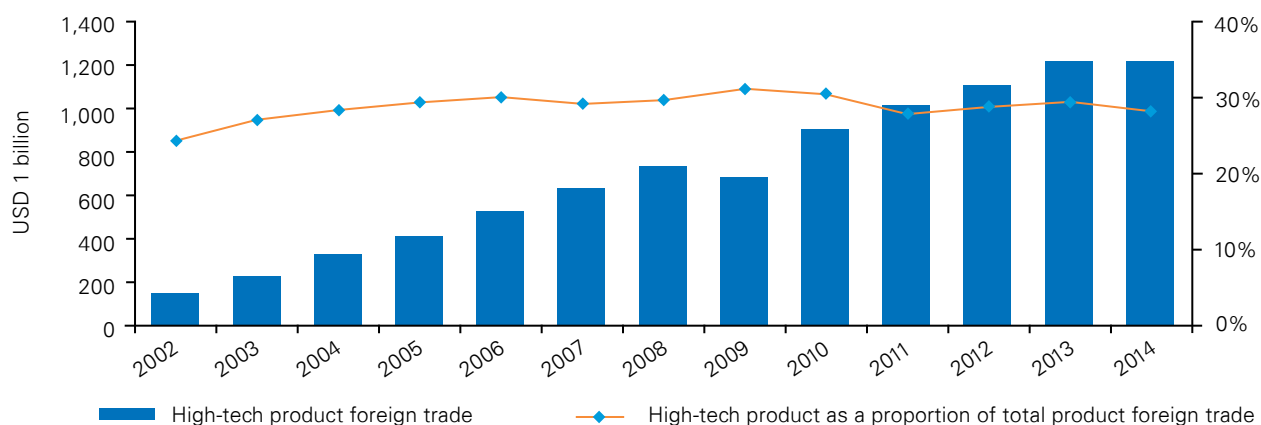
Graph 1-8 China’s import and export trends



Source: 2000-2014 data from the 'China Statistical Yearbook' series; 2015 data from the 'Statistical Communiqué of the People's Republic of China on the 2015 National Economic and Social Development'

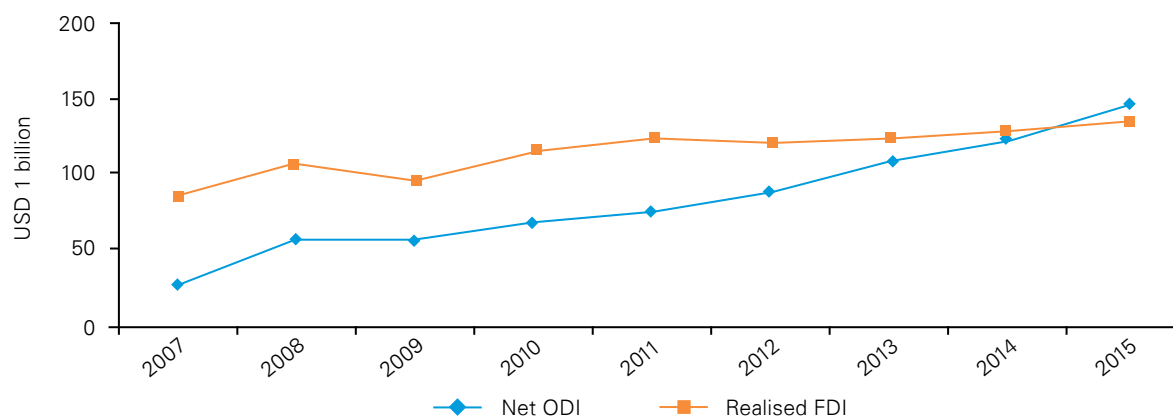


Graph 1-9 Trade in high-tech goods



Source: Data from the Ministry of Science and Technology of the People's Republic of China (PRC) (<http://www.most.gov.cn/kjtj/>)

Graph 1-10 FDI and ODI flows in China



Source: 2007-2014 data from the '2014 Statistical Bulletin of China's Outward Foreign Direct Investment' and CEIC Data; 2015 data from 'The press conference by the State Council Information Office to release "2015 Statistical Bulletin of China's Outward Foreign Direct Investment"', State Council Information Office, 22 September 2016, <http://www.scio.gov.cn/xwfbh/xwfbh/wqfbh/33978/35181/wz35183/Document/1492016/1492016.htm>

1.2 The 13th FYP: Development strategy and investment opportunities

The guiding principles laid out in the *Outline* call for an approach to development that focuses on innovation, coordination, 'greenness', openness and inclusiveness, with the core goal of improving the quality and efficiency of growth. It identifies supply-side structural reform as the main focus area, with the expansion of effective supply to meet effective demand, and the development of the attendant institutions, mechanisms and models necessary to guide the economy towards a 'new normal'.

With that in mind, there are three critical aspects of China's socioeconomic development strategy during the 13th FYP period: promotion of supply-side structural reform; improvement of the quality and efficiency of growth; and implementation of the five tenets of development.

Supply-side structural reform: Investing in effective supply and demand

Supply-side structural reform is a key focus area in the 13th FYP around which other development-related initiatives will revolve. In essence, the supply-side structural reforms have three major goals, all of which hint at tremendous opportunity for investment:

- i) *Promote industrial restructuring in order to expand the effective supply of mid-range and high-end goods and services, and meet consumers' increasingly sophisticated and personalised material, cultural and environmental needs.* This provides an opportunity for FDI into China's advanced and emerging industries, and for ODI that seeks out advanced technology and best practices abroad for reintroduction into the domestic market.

- ii) *Strengthen market-oriented reforms in key sectors of the economy, correct misaligned policies and institutions, and ensure a level playing field in which winners and losers are determined by the market:* This can maximise vitality at the micro-economic level and effectively facilitate flows of both FDI and ODI.
- iii) *Meet the five targets of reducing industrial capacity, inventory, financial leverage and costs, and correcting structural shortcomings:* These efforts will broaden the channels of investment and help foreign investors lower the cost and risk of doing business in China.

The quality and efficiency of growth: Investing in innovation and quality consumption

Improving the quality and efficiency of growth is the core goal of the 13th FYP, with a primary focus on maintaining a medium-high rate of growth; achieving a more coordinated, innovation-driven mode of development; raising the standard of living across the broader population; strengthening the nation’s social, cultural and educational fundamentals; improving environmental conditions; and developing secure, robust institutions.

Improving the quality and efficiency of growth involves three components:

- i) Encouraging innovation-dependent growth
- ii) Making investment more efficient
- iii) Elevating the quality of consumption.

With that in mind, FDI in China should focus on innovative industries and investment areas such as urban development, public goods, environmental projects, as well as urban and rural consumption, education, entertainment, green consumption, and other consumer sectors. ODI should look towards these same sectors and areas, and step up investment and acquisitions abroad in order to bring global best practices and technologies back to China to fill sectoral gaps and tap into market potential at home.

The five tenets of development: Investing in innovation, coordination, ‘greenness’, openness and inclusiveness

The *Outline* states that in order to break through existing bottlenecks, achieve development goals, and secure an advantage moving forward, China must embrace and practice new tenets of development, including innovation, coordination, ‘greenness’, openness and inclusiveness. More specifically, ‘innovation’ is to be the primary driver of development; ‘coordination’ refers to the intrinsic need for sustained, healthy development; ‘greenness’ speaks to the preconditions for perpetual development and people’s natural pursuit of a better life; ‘openness’ is an inevitability on the path to national prosperity; and ‘inclusiveness’ is an essential requirement of ‘socialism with Chinese characteristics’.¹⁰

The five tenets of development represent a collective expression of the thinking, direction and key approach of China’s development during and perhaps beyond the 13th FYP period, and will be present in almost every aspect of China’s economic and social development:

- *Innovation-driven development* indicates tremendous opportunity in the high-tech and internet sectors, as well as in other emerging industries and business models.
- *Coordinated trans-regional and urban-rural development* offers a ‘blue ocean’ for investment.
- *Green development* suggests that new opportunities in the environmental sector will gradually be revealed.
- *Open development* refers to greater facilitation of outbound and inbound investment flows.
- *Inclusive development* suggests that more opportunities will emerge in the public goods and public services sectors.

Both Chinese and foreign businesses should look for and secure investment opportunities within the framework of these important tenets.

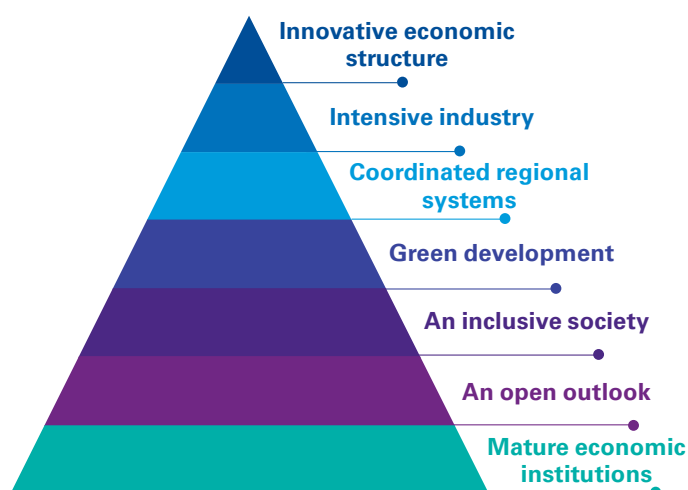


¹⁰ This refers to socialism adapted to China’s development status and fundamental national conditions. It is the official ideology of the CPC and is based on scientific socialism.

1.3 The seven aspects of the Chinese economy: Opportunity for FDI and ODI in the 13th FYP period

The *Outline* articulates an overarching blueprint for China’s development during the 13th FYP period, describing concerted efforts to achieve economic, cultural, social and environmental progress, and a timely realisation of the goal to become a ‘moderately prosperous society’. We believe that the investment opportunities inherent in the 13th FYP period can be understood in seven aspects (Figure 1-1), each corresponding to a particular set of sectoral investment opportunities. These aspects are: an innovative economic structure, intensive industry, coordinated regional systems, green development, an inclusive society, an open outlook and mature economic institutions.

Figure 1-1 The seven aspects of the Chinese economy



Innovative economic structure: Industrial upgrade

The *Outline* calls for China’s development during the 13th FYP to be grounded in innovation, anchored by scientific progress and supported by the cultivation of talent. Scientific progress is to be combined organically with mass entrepreneurship and innovation to yield a mode of development that is more heavily driven by innovation and first-mover advantages. A strong grasp of changing trends in information technology (IT) and the continued development of the internet sector will help accelerate the development of ‘digital China’. Mass entrepreneurship and innovation will likely dramatically boost the development of emerging industries, which will also require the support of other advanced service sectors.

These trends suggest that during the 13th FYP period, China’s economic structure will shift towards innovation just as advances in industry expand the scale of high value-added sectors. According to the *Outline*, the key goal is to raise the share of GDP contributed by strategic emerging, internet-related and modern high-tech services sectors of the economy, bringing the strategic emerging industries’ contribution to 15 percent of total GDP or more. Moving forward, there will be even more room for investment in these sectors.

Intensive industry: Industrial transformation

The *Outline* calls for China to embark upon a programme of deep economic restructuring, the stimulation of the real economy, the overhaul and upgrade of traditional industry, and the establishment of a new, modern industrial system featuring a strong capacity for innovation, excellence in product quality and service, synergistic coordination, and a healthy environment. Additionally, there is a need for a modern services industry with expanded global connectivity, made up of a professional, high-value producer services sector and a sophisticated, high-quality consumer services sector. A national manufacturing strategy and a programme to strengthen the industrial base will help facilitate the upgrade and transformation of more traditional sectors such as heavy industry, chemicals and equipment manufacturing. The movement towards a modern services sector will strongly incentivise innovation and repositioning in the traditional services sector. These changes will collectively yield a more intensive industrial landscape, and suggest greatly expanded opportunity for investment in the upgrade and transformation of traditional industrial and services sectors during the 13th FYP period.

Coordinated regional systems: Geospatial optimisation

The *Outline* calls for a new model of urbanisation that is focused on people, and which is mainly reflected in the establishment of city clusters, supported by enhanced urban carrying capacities, and backed by innovative institutions and mechanisms. The *Outline* also calls for improvements to the ‘new socialist countryside’ and increased urban-rural integration. An overarching regional development strategy led by the ‘Belt and Road’ initiative, the Beijing-Tianjin-Hebei integration programme, and the Yangtze River Economic Belt will form a matrix of horizontal and vertical economic corridors that run along major geographic and transportation lines. The goal is to establish a new model of coordinated regional development in which factors of production can flow freely in an orderly manner, regional function designations are effectively enforced, basic public services are fairly distributed and accessible, and environmental and resource capacities are respected. As this strategy seeks to optimise location pattern and the functional orientation of regional, urban and rural areas, it offers opportunities for trans-regional infrastructure investment.

The growth of city clusters will be beneficial to industries linked to municipal infrastructure and connectivity, and the drive to develop 'new cities and a beautiful countryside' will expand investment potential in urban and rural projects. On the whole, a coordinated regional system represents a market opportunity for investment in and the operation and service of infrastructure in China.

Green development: Putting 'ecology first'¹¹

The *Outline* calls upon China to put improved environmental quality at the core of development by addressing acute environmental and ecological issues; stepping up environmental protection; increasing the efficiency of resource use; offering more high-quality, ecologically friendly products to the population at large; and ensuring balanced development between increased prosperity for individuals, national growth and the vision of a 'Beautiful China'.

The *Outline* introduces the concept of putting 'ecology first'. During the 13th FYP, China will develop markets for eco-products and eco-services, as well as industries that harmonise growth and conservation imperatives. This programme is designed to yield tangible improvements in environmental quality and form a 'green' model of development. By attracting private sector capital to participate in environmental projects, the green economy and its attendant industries will be backed by a strong investment market. Improved resource efficiency and the promotion of green, low-carbon lifestyles and production methods signal opportunities to invest in the environmental and new energy sectors.

Inclusive society: A higher quality of life

The *Outline* calls for broad social development during the 13th FYP period that ensures equal opportunity, social security, and access to high-quality education and healthcare for all. There will be an expansive push to bring science, culture and health more prominently into people's lives, step up efforts in poverty alleviation, and offer all of China's people a greater sense of achievement derived from common effort and common development. A steadily improving standard of living will mark the people's progress towards a 'moderately prosperous society'.

Improving the standard and quality of living will be a focal point of China's social development during the 13th FYP period, and the key to that improvement lies in meeting diverse consumer demands and improving the supply of public services. An inclusive model of development is built on a foundation of social equity and elevated by superior consumption and public services. This bodes well for the high-end goods and safe foods segments, and notably enhances the opportunity for investment in the public services industry.

Open outlook: Global integration

The *Outline* calls upon China to encourage the formation of a mutually beneficial, deeply integrated cooperative framework of global connectivity – spearheaded by the 'Belt and Road' initiative and supported by a more sophisticated and evolved level of openness – that promotes strategic mutual trust, investment and trade cooperation, and people-to-people exchange. During the 13th FYP period, China's approach to openness will be guided by its need to balance domestic and overseas demands; imports and exports; inbound and outbound flows; and the ability to attract capital, technology and expertise. Greater openness and accelerated integration and interest alignment between China and the world at large should lead to the establishment of a more open economy.

At the core of these efforts lies the 'Belt and Road' strategy, which, by opening up overseas markets will provide more opportunities for outbound Chinese investors. Its focus on international cooperation in production capacity will also promote efforts by Chinese companies to 'go out', and create rare opportunities for development in the resources industry and cross-border services sector.

Mature economic institutions: Institutional reform

The *Outline* calls for China to leverage the potential of institutional reform to guide the economy forward; correctly manage the relationship between government and markets; achieve significant breakthroughs in the reform of key sectors; and establish the institutions and mechanisms required to guide and support economic development under the 'new normal'. During the 13th FYP period, China's institutional reform will focus on correcting misaligned policies and systems, and crafting a market environment that ensures fair competition so that companies and individuals are motivated to contribute to the economy through their business operations. The fundamental task will continue to be market-oriented reform.

From a governance perspective, market mechanisms designed to transform the role of government, streamline and decentralise decision-making processes, improve government services, and strengthen property rights will create a more favourable institutional climate for both inbound and outbound investors. From an industry perspective, perhaps the most important measures are the reforms to the state-owned sector, the mixed-ownership economy, the financial system and the price system. These measures will create more investment opportunities by attracting private capital into the monopoly industries, strategic industries and the modern services sector.

¹¹ This refers to the following: "In the course of social and economic development, guaranteeing ecological benefits should be prioritised. Especially when ecological benefits and economic development contradict each other, priority should be given to evaluating the long-term impacts of construction planning on the natural environment and ecological system." "Definition: Ecology First", The Standing Committee of Beijing Municipal People's Congress, 16 April 2013, http://www.bjrd.gov.cn/zt/jjsdbht/mcjs/201304/t20130416_116421.html

Chapter 2

Innovative economic structure and industrial upgrade: Opportunities in emerging industries and advanced services



During the 13th FYP, China will seek to promote a science-centred innovation movement to unlock new forces of growth. It will also foster the development of an innovative economic structure led by scientific progress, integrated with industrial application, and jointly driven by the advanced manufacturing and modern services sectors. The industrial sector will be encouraged to capture the cutting edge of technology and shift upwards on the global value chain. The development of an information economy will help consolidate and enlarge China's 'digital dividend'. An advanced services sector will be cultivated to support ongoing innovation and entrepreneurship.

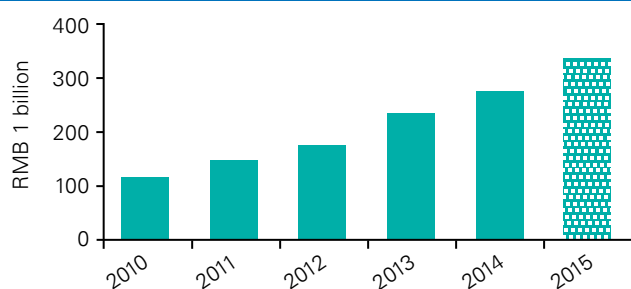
2.1 Biopharmaceuticals: Opportunities abound in market consolidation and technical cooperation

Biopharmaceuticals are an important part of the bioscience industry and are highlighted among the strategic emerging industries for development during the 13th FYP period. They include sub-industries such as synthetic pharmaceuticals, modern traditional Chinese medicine (TCM), biopharmaceuticals and medical devices. As the precision of medical technologies is improving rapidly and the ageing population in China continues to grow, the Chinese biopharmaceutical industry is poised to sustain rapid development throughout the 13th FYP period.

Thanks to substantial state support, the biopharmaceutical industry has enjoyed concentrated, high-speed growth over the past several years

China has considered biotechnology a strategic development priority, and in 2010 listed the biosciences industry as a strategic emerging industry, spurring a period of rapid development. From 2010-2014, annualised growth in sales revenue among biopharma manufacturers topped 23 percent (Graph 2-1). In 2013, the output of biopharmaceutical and medical device makers grew about 18 percent year-on-year (YOY) to RMB 2.1 trillion and RMB 190 billion respectively.¹² To date, the biopharmaceutical industry's development is concentrated mainly in the Yangtze and Pearl River deltas, and the Bohai Economic Rim. As at 2015, there were 173 publicly traded pharmaceutical companies; 55.9 percent of these were concentrated in the Yangtze River Delta (43), the Bohai Economic Rim (34) and the Pearl River Delta (19).¹³

Graph 2-1 Sales revenue of Chinese biopharmaceutical manufacturers



Source: 2010-2014 data from Zhi Yan Data and Research Centre (www.abaogao.com); 2015 figure is an estimate.

The industry also faces practical constraints, including a shortage of core technology, a subpar industrial structure, weak R&D capacity, low resource efficiency, and disorderly markets. The industry's development is further constrained by factors including a high barrier to entry, high risk of investment, long investment cycles and a deteriorating macroeconomic environment. Other issues include policies that favour industry growth over R&D and geographic concentration over advances in quality.

China's biopharmaceuticals industry will be developed to scale during the 13th FYP period, with a focus on enhanced innovation capacity, industrial structures and international cooperation

The *Outline* describes a plan to double the industry's scale through the broad application of genomics and other biotechnologies, networked application demonstration, and the scaling up of a new generation of biotechnology products and services, including personalised treatment and innovative pharmaceuticals. The *Outline* sets a clear direction for the sector that lies in large-scale technological application and industrial development. According to a set of *Guiding Opinions*¹⁴ from the State Council, innovation will be strengthened through collaboration on key R&D projects, the commercialisation of pharmaceuticals, advances in medical devices, and the modernisation of TCM. Industry and organisational structure will be optimised through cross-sectoral mergers and restructuring, trans-regional shifts, and the development of concentrated industry clusters.

Medium-high rates of growth and advancement to the mid- to high end of the value chain can be achieved by both inbound and outbound investment that results in cross-border mergers and acquisitions (M&A), outsourcing services and deepened international collaboration. These goals signal strong state support for the development of the biopharmaceutical industry by encouraging technical innovation, structural optimisation and foreign cooperation.

¹² 'Value of biomedical output exceeds RMB 2 trillion in China', Xinhua News, 24 March 2014, http://news.xinhuanet.com/local/2014-03/24/c_119919232.htm

¹³ Calculated according to the directory of listed companies of the China Securities Regulatory Commission

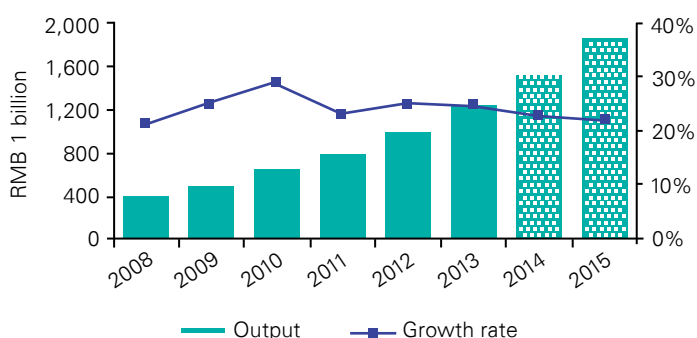
¹⁴ 'Guiding Opinions of the General Office of the State Council on Promoting the Sound Development of the Medical Industry', General Office of the State Council, 11 March 2016, http://www.gov.cn/zhengce/content/2016-03/11/content_5052267.htm

Foreign investors may find opportunities in technical cooperation and market consolidation in the biopharmaceutical sector

China has already emerged as a leading consumer market in biopharmaceuticals, which is set to be a major segment of China's advanced consumer market over the coming years.¹⁵ By 2020, the size of China's biopharmaceutical market will be second only to the US.¹⁶ According to the *Bio-industry Development Plan*,¹⁷ the biopharmaceutical market will grow to RMB 7 trillion by 2020 at an annual growth rate of 20 percent. There is tremendous potential for development, as the industry currently remains in a nascent stage with many small players in a fragmented market, and a robust demand for technology.

With policies in place to encourage technical cooperation, FDI and R&D outsourcing,¹⁸ multinationals can participate in joint R&D, undertake national biopharmaceutical development projects, and play a role in shaping the Chinese biopharmaceutical industry into an open ecosystem of innovation. Foreign companies can also develop in China by leveraging their technology and capital with an eye towards the M&A and restructuring opportunities on the industry's horizon. Additionally, local companies backed by national support policies can look to acquire new products, core technologies, manufacturing licences and sales channels as they begin a selective process of overseas M&A and equity investment with the goal of building global networks in research, development, production and sales.

Graph 2-2 Output (RMB 1 billion) and growth (%) of China's new materials industry



Source: 2008-2013 data from CCIDNET (www.ccidnet.com) and affiliated reports; 2014-2015 data represents a forecast

2.2 New materials: Graphene and other cutting-edge materials emerging as the new darlings of industry

New materials are not only a strategic emerging industry, but they are also an important foundation to other strategic emerging industries such as environmental and new energy science, next generation information and communications technology (ICT), and advanced equipment manufacturing. In the *12th Five-Year Development Plan for National Strategic Emerging Industries*,¹⁹ new materials, new energy and new energy vehicles are collectively listed as leading sectors of the national economy.

Rapid development and technological advances are being made in the new materials industry

The Chinese Government has issued a series of documents that have stimulated rapid growth in this industry, including the *12th Five-Year Development Plan for the New Materials Industry*,²⁰ the *Implementation Plan for the Projects to Upgrade Key Materials*,²¹ and *Made in China 2025*.²² In 2013, the output value of the new materials industry was approximately RMB 1.25 trillion, with a YOY growth rate of roughly 25 percent (Graph 2-2).²³ Since 2015, transforming and upgrading in the raw materials and key industrial materials sectors has been led by rapid growth in high-performance structural materials, fibres and special-use materials such as graphene.

The industry does face challenges, however: there is more scale than there is technology in the sector; capacity is high and profits are low; there is a wide diversity of products but very short value chains; the key materials market remains heavily reliant on imports; and indigenous innovation remains weak. These challenges partially stem from hasty efforts to attract and support industry in certain municipalities, which led to the construction of low-quality, redundant capacity. Other factors include poor coordination between the scientific community and industry around new materials, and a lack of specialised talent in the field.



15 'Guiding Opinions of the State Council on Boosting the Leading Role of New Consumption to Speed up the Cultivation of New Supplies and Engines', State Council, 23 November 2015, http://www.gov.cn/zhengce/content/2015-11/23/content_10340.htm

16 'Analysis of the development of China's pharmaceuticals industry', SOHU News, 20 June 2016, <http://mt.sohu.com/20160620/n455320606.shtml>

17 'State Council Notice on Issuing the Bio-industry Development Plan', State Council, 6 January 2013, http://www.gov.cn/zhengce/content/2013-01/06/content_2754.htm

18 Many cities, such as Beijing, Shanghai and Tianjin, consider medical R&D outsourcing services an important component of local development of the producer services sector.

19 'State Council Notice on Issuing the 12th Five-Year Development Plan for National Strategic Emerging Industries', State Council, 20 July 2012, http://www.gov.cn/zwqk/2012-07/20/content_2187770.htm

20 'The "12th Five-Year Development Plan" for the New Materials Industry', Ministry of Industry and Information Technology, 22 February 2012, http://www.gov.cn/gzdt/2012-02/22/content_2073383.htm

21 'Notice on Issuing the Implementation Plan for the Projects to Upgrade Key Materials', NDRC, Ministry of Finance, Ministry of Industry and Information Technology, 23 October 2014, http://www.sdpc.gov.cn/gzdt/201410/t20141031_635673.html

22 'Made in China 2025', State Council, 19 May 2015, http://www.gov.cn/zhengce/content/2015-05/19/content_9784.htm

23 'China New Materials Industry Development Report for the 2014 Fiscal Year', Ministry of Industry and Information Technology, Department of the Raw Materials, Beijing: Publishing House of the Electronics Industry, September 2014

Development during the 13th FYP period will be aimed at cultivating key areas and core competencies, and will promote growth in the new materials industry by devising improved standards and incentive mechanisms

The *Outline* calls for a movement to develop high-end materials, with six new materials given a clear mandate for future growth: smart materials, structural and functional materials, next-generation semiconductors, emerging structural materials, degradable materials, and biosynthetic materials (Table 2-1). This helps to further highlight the future focuses for the new materials industry, and accelerate breakthroughs in key areas.

The state also released *Development Plan for National Standardization System Construction (2016-2020)*²⁴ which calls for the establishment of comprehensive standards governing new materials, with an emphasis on standards-setting for emerging functional materials, advanced structural materials, and high-performance compound materials. The relevant authorities have proposed a premium reimbursement mechanism to offset the insurance costs of first-time applications of new materials and key components.²⁵ Improved standards and incentives mechanisms will help offer institutional and policy support to the healthy development of the new materials industry.

Cutting-edge materials such as graphene are poised to become the focus of investment in new materials

The new materials industry could maintain an annual growth rate of over 20 percent during the 13th FYP period, with expected output value topping RMB 5 trillion by 2020.²⁶

Meanwhile, the new materials field will soon be included for the first time in big science projects, making it one of the five fields on China’s road map to becoming a major scientific power.

Having already achieved preliminary progress in the development of graphene, the Chinese Government will now step up support for the application of the material to achieve industrial scale through increased funding and the establishment of innovation alliances and specialised industry bases. Meanwhile, new materials standards are being formulated more quickly, and early phase research on strategic cutting-edge materials such as superconductors, nanomaterials, graphene and bio-based materials is gradually starting.

Overseas investors can take advantage of policies that encourage foreign capital in new materials R&D and commercialisation. By leveraging their strengths in technology and capital, these businesses can work to develop markets for emerging materials through collaboration with local partners and research organisations on standards-setting and materials R&D. Chinese companies should bring the enormous potential demand of the local market into partnerships with leading international companies and research institutions, and, by sharing markets and returns from intellectual property rights, seek to establish an early-mover advantage in China as well as overseas.

Table 2-1 Comparison of new materials segments in the 12th and 13th FYPs

Period	Source	Description
13th FYP	Outline of the 13th FYP	Smart materials such as shape-memory alloys and self-healing materials; functional nanomaterials such as graphene and metamaterials; next-generation semiconductors such as indium phosphide (InP) and carborundum; new structural materials such as high-performance carbon fibres, vanadium-titanium alloys and superalloys
	Made in China 2025	Special-use functional materials; high-performance structural materials; functional polymers; special-use inorganic non-metals; advanced compounds
12th FYP	12th Five-Year Development Plan for National Strategic Emerging Industries	Emerging functional materials; advanced structural materials and compounds; research and commercialisation of generic base materials such as nanomaterials, superconductive materials and smart materials
	12th Five-Year Development Plan for the New Materials Industry	Special-use metals; metal structural materials; advanced polymers; inorganic non-metals; high-performance compounds and other cutting-edge new materials

Source: 12th FYP and 13th FYP reference documents

²⁴ General Office of the State Council Notice on Issuing the Development Plan for National Standardization System Construction (2016-2020), General Office of the State Council, 30 December 2015, http://www.gov.cn/zhengce/content/2015-12/30/content_10523.htm

²⁵ State Council Notice Endorsing the NDRC’s Guiding Opinions on Deepening Focus Areas for Economic System Reform, State Council, 31 March 2016, http://www.gov.cn/zhengce/content/2016-03/31/content_5060062.htm

²⁶ New energy-efficient building material has vast development space, Hc360 Network, 12 May 2016, <http://info.fire.hc360.com/2016/05/121342904409.shtml>

2.3 High-end equipment: An expanded programme of innovation highlights new opportunities

High-end equipment manufacturing lies near the top of the value chain and at the core of supply chains – it plays a decisive role in the competitiveness of industrial sectors, and is regarded as a key breakthrough area as China seeks to increase its core competitiveness during the 13th FYP period.

The foundations of China's high-end equipment industry have already taken shape, but there continues to be tremendous potential for future growth

High-end equipment manufacturing in China has already attained some scale, with rapid development in five key fields: aviation, satellite and applications, rail transport, ocean engineering, and smart manufacturing. This development has also yielded core technology with indigenous intellectual property (IP). From a revenue perspective, sales of high-end equipment manufacturing in China grew from RMB 1.6 trillion in 2010 to RMB 2.58 trillion in 2012, rising by almost RMB 1 trillion in two years, with an average annual growth rate of 27 percent.²⁷ From an industry segmentation perspective, the top three growth categories were rail and transport, aviation and aerospace, and ocean engineering equipment. From 2009-2015, sales output in these categories maintained an average annual growth of approximately 20 percent; output in 2013 was double that in 2009 (Graph 2-3).

While China's general equipment manufacturing sector accounted for over 30 percent of global output in 2013,²⁸ its high-end manufacturing capabilities lagged significantly behind those of advanced nations. This deficiency manifests in a strong reliance on foreign technology, a lack of indigenous core components, poor product reliability, limited supporting products, and an unbalanced industrial structure. Moreover, a trend of 're-industrialisation' has sent high-end manufacturing back to developed nations, leaving China's high-end equipment industry facing a range of risks, from international market pressure to geopolitical instability. Future growth in the high-end equipment manufacturing sector will likely continue to face serious challenges moving forward.

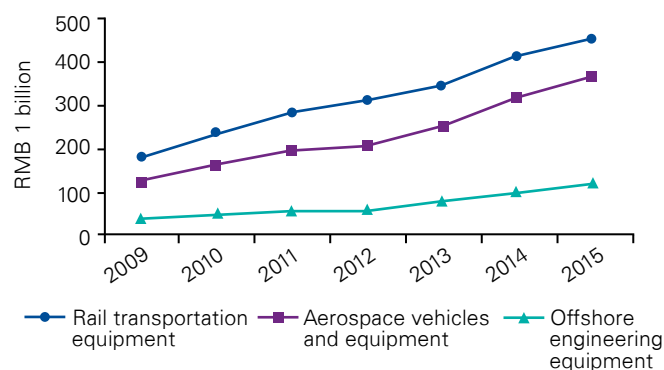
The focus during the 13th FYP period will be on technological progress and improvements in quality, using high-end equipment to spearhead the development of China's advanced manufacturing sector

To implement the national manufacturing strategy, the *Outline* calls for a five-year programme of innovation in high-end equipment. The scope of this programme has been expanded from five to eight key directions (Table 2-2), where breakthroughs in core technology can elevate indigenous design and systems integration capabilities. On the basis of those eight key directions, *Made in China 2025* lists 10 key areas in which the organisation and implementation of

major technical programmes can yield landmark equipment and product developments that have the power to galvanise industry and win a competitive advantage in the field.

The *Plan for Improving Standardization and Quality in the Equipment Manufacturing Sector*, which seeks to promote quality improvements through the setting of industry standards, is also envisioned to be implemented during the 13th FYP period.²⁹ The industry's broad application of technologies such as cloud computing, 'Internet of Things' (IoT), smart industrial robotics and additive manufacturing can enhance automation, digitalisation and artificial intelligence in high-end equipment manufacturing.

Graph 2-3 High-end equipment manufacturing sales output value by segment



Source: Calculated based on data from the 'China Industry Economy Statistical Yearbook' series;³⁰ 2014-2015 data represents forecasts



27 'Development Plan for the High-end Equipment Manufacturing Industry during the 12th Five-Year Plan', China Energy Research Observer Net, 8 May 2012, <http://www.chinaero.com.cn/rdz/tevwghzt/hygh/2012/05/119981.shtml>; Calculations from Qianzhan Industry Research Institute, <http://www.qianzhan.com/analyst/detail/220/151216-3db62cf2.html>

28 'Value of equipment manufacturing output exceeds RMB 20 trillion in China', Xinhua News, 3 April 2014, http://news.xinhuanet.com/energy/2014-04/03/c_126350451.htm

29 "'Plan for Improving Standardization and Quality in the Equipment Manufacturing Sector' needs to be linked with 'Made in China 2025'", State Council, 8 April 2016, http://www.gov.cn/xinwen/2016-04/08/content_5062410.htm

30 To simplify calculations, manufacturing of shipping equipment for all railways and metropolitan rail lines were combined under 'rail transport equipment'. For 2012 and prior years, sales value for all sub-industries was calculated based on the relative output values of specialised equipment across sub-industries in 2013-2014.

The shift in focus highlights investment opportunities in the high-end equipment industry over the coming five years

In particular, the revised programme explicitly mentions robotics, numerical control machines and modern agricultural equipment. This emphasis reflects an urgent demand for these technologies to fuel China's growth. For example, China has over the last two years become the world's largest consumer of robotics. According to the International Federation of Robotics, there were a total of 57,000 robots sold in China in 2014, up 55 percent YOY and accounting for a full quarter of the global market. Relative to population, however, China has a low saturation rate; there are only 23 robots per 10,000 people in China, less than half the world average.³¹ Foreign companies can leverage their

technical expertise to invest in robotics, numerical control machines, and modern agricultural equipment by setting up local branches and research centres, strengthening technical cooperation, and developing localised products.

China also has a tremendous market for urban rail transport and high-performance medical equipment. It is estimated that between 2015 and 2020, sales revenue from China's high-end equipment manufacturing will continue to grow at an average annual rate of as much as 20 percent, with sales in 2020 exceeding RMB 13 trillion.³² Chinese companies are increasing their exports of high-speed rail, oceanic, nuclear and agricultural equipment. They see investment cooperation as a means of expanding overseas markets and establishing a strong Chinese brand in high-end equipment worldwide.

Table 2-2 Innovation programme for high-end equipment: Core technologies and goals

Field	Core technologies and goals
Aviation & aerospace	Core technology for aircraft engines, gas turbines, and aerospace components and parts
Marine engineering and high-tech shipbuilding	High-tech shipbuilding and integrated/smart/modular design and manufacturing
Advanced rail transport	Next-generation high-speed, heavy-haul rail transport systems
Advanced numerical control	Precise, high-speed, flexible numerical control machines; basic manufacturing equipment; and integrated manufacturing systems
Robotics	High-precision arresting systems; high-speed, high-performance controllers; and high-performance servomotors and drivers
Modern agriculture	High-horsepower tractors; food crop equipment; and cash crop management and harvesting machinery
High-performance medical devices	Diagnostic and treatment devices including nuclear imaging devices; superconducting magnets (for magnetic resonance imaging (MRI)); non-invasive ventilators; and in vitro diagnostic equipment including fully automated biochemical analysis and high-throughput genome sequencers
Advanced petrochemical equipment	Coal classification, gasification, purification and synthesis; energy utilisation; and wastewater treatment

Source: Extracted from the 'Outline'



³¹ 'China falls short of Japan and Korea with 23 robots per 10,000 workers', People's Daily, 24 November 2015, <http://it.people.com.cn/n/2015/1124/c1009-27849266.html>

³² 'China's high-end equipment industry will see an annual growth of 30 percent by 2020', China Machine Tool Information Network, 23 January 2016, <http://www.zgicdq.com/news/show.php?itemid=3842>

2.4 The internet: A golden age approaches as big data is elevated to a national strategic priority

The internet is one of the hottest industries in China today. As information technology permeates every sector of society and the economy at large, the internet will continue to change the way we work and live, and will likely maintain a strong growth momentum moving forward.

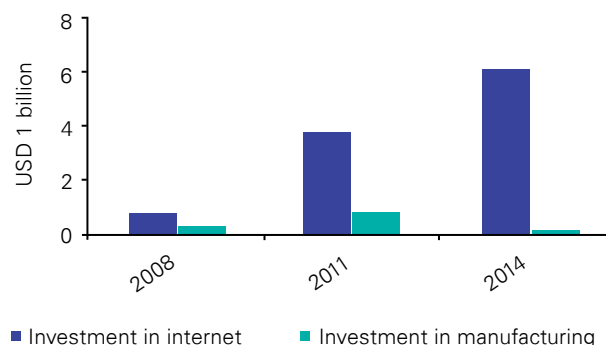
The internet industry has undergone extremely rapid development and has emerged as an important driver of growth

The industry's share of GDP has climbed steadily, reaching 7 percent in 2014, up 2.6 percentage points from the previous year. The internet's relative weight in the Chinese economy has surpassed that of the US.³³ Chinese internet firms – most notably BAT (Baidu, Alibaba and Tencent) – have established a diverse ecosystem of internet services encompassing search, e-commerce, content and data, finance, culture, and entertainment. Internet-related investment has become a hot area of investment for venture capital in China (Graph 2-4).

During the 12th FYP period, China's online retail gross merchandise value leapt to first place worldwide, exceeding RMB 3.5 trillion in 2015, over seven times the figure in 2010, representing an average annual growth of 50 percent (Graph 2-5). Internet finance has also grown rapidly in that period. The number of online banking users grew 120 percent YOY to 307 million, and online payment services users increased by 162 percent YOY to 359 million.³⁴ The leapfrog development of mobile internet has brought hundreds of millions more Chinese online. Revenue from mobile data and internet services reached RMB 270.2 billion in 2014, having grown at an average annual rate of 53.9 percent over the 12th FYP period.³⁵ The internet has also spurred development in related industries such as ICT and lifestyle services.

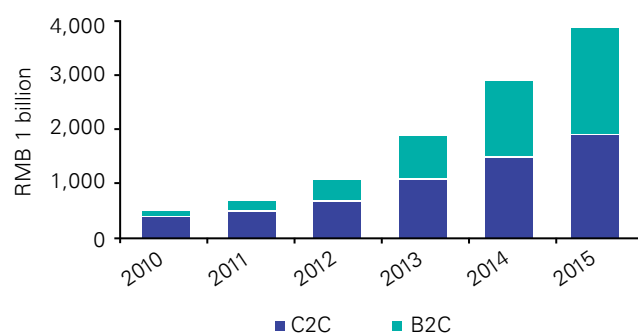
The vitality of China's internet sector is the result of huge demand, efforts by world-class industry champions and strong government support. It is important to recognise, however, that the industry also faces a number of challenges, including excessive investment risking the unintentional creation of a bubble, serious underlying issues with information security, underdeveloped infrastructure, disorderly market conduct and regulatory blind spots.

Graph 2-4 Venture capital investment in internet vs manufacturing



Source: CEIC Data (<http://www.ceicdata.com/en/countries/china>); China Venture (<http://www.chinaventure.com.cn/>)

Graph 2-5 Online shopping in China by sales volume



Note: C2C indicates consumer-to-consumer; B2C indicates business-to-consumer. Source: 'China Outlook 2016', KPMG, <https://home.kpmg.com/xx/en/home/insights/2016/03/china-outlook-2016.html>



³³ '10 highlights of China's internet development during the 12th Five-Year Plan', China Internet Network Information Center, 29 October 2015, http://www.cnnic.net.cn/guwm/xwzx/rdxw/2015/201510/t20151028_52960.htm; 'China's digital transformation: The internet's impact on productivity and growth', McKinsey Global Institute, July 2014, <http://www.mckinsey.com/~media/McKinsey/Industries/High%20Tech/Our%20Insights/Chinas%20digital%20transformation/MGI%20China%20digital%20Full%20report.ashx>

³⁴ See footnote 33

³⁵ See footnote 33

The healthy development of the internet sector during the 13th FYP period will revolve around efforts to upgrade infrastructure, develop a strong value chain and network, strengthen regulation, and bolster information security

China will continue to advance its 'Broadband China'³⁶ strategy, upgrading infrastructure through the deployment of new-generation high-speed fibre optics, ubiquitous wireless networks, and other next-generation internet technologies. Increasing connection speeds, lowering fees, liberating the market, and encouraging 'triple play'³⁷ will together facilitate the improvement of network infrastructure.

The 'Internet Plus' movement has the ability to catalyse broad transformations in productivity and organisation, as industrial processes become smarter, better synced, more networked, and more service-focused. Regulation and governance also need to be improved in line with the State Council's *Guiding Opinions*,³⁸ which call for more robust regulation of online payments, lending, equity-based crowdfunding, trusts and insurance, with the aim of mitigating potential financial risk. In addition, the 13th FYP period will see efforts to enhance the protection of personal data and solidify information security through the development of the information security industry, the 'assetisation' of internet companies' data resources, and the establishment of authorisation mechanisms.

Big data and e-commerce will likely be the internet industry's major growth points moving forward

The *Outline* calls for the implementation of a national big data strategy. Starting with the implementation of the *Action Outline for Promoting Big Data Development*,³⁹ big data is being elevated to a national strategic priority, with the expectation that it will play a role in promoting industrial transformation, reshaping the nation's competitive advantage, and improving governance capacity in the public sector. This suggests that big data will be deployed in economic activities, policymaking and other aspects of life, and that there will be significant demand for and investment opportunities around big data technology, data trading, information security and standards-setting. Foreign companies can leverage their technology and management expertise in the big data field to offer consulting services to Chinese authorities and businesses, join in the cultivation of an industry and marketplace for big data in China, and partner with Chinese authorities and businesses to develop information security products.

The e-commerce industry is likely to continue experiencing rapid development thanks to enormous growth potential in the rural e-commerce market. Forecasts estimate that by 2020, China will become the largest e-commerce market in the world, with gross merchandise volume (GMV) of nearly RMB 50 trillion.⁴⁰ Chinese firms are likely to expand their overseas e-commerce businesses through equity investment or cross-border acquisition, while consolidating their operations in China's sprawling domestic market to build a truly global network of e-commerce services.



³⁶ 'State Council releases Broadband China strategy and implementation measures', State Council, 17 August 2013, http://www.gov.cn/zwgk/2013-08/17/content_2468348.htm

³⁷ The convergence of telecommunications, internet access and television networks

³⁸ 'Guiding Opinions on Promoting the Healthy Development of Internet Finance', People's Bank of China and 9 other departments, 18 July 2015, http://www.gov.cn/xinwen/2015-07/18/content_2899360.htm

³⁹ 'State Council Notice on Issuing an Action Framework to Advance the Development of Big Data', State Council, 5 September 2015, http://www.gov.cn/zhengce/content/2015-09/05/content_10137.htm

⁴⁰ 'China could become the world's largest e-commerce market by 2020', Xinhua News, 6 August 2014, http://news.xinhuanet.com/fortune/2014-08/06/c_1111966552.htm

2.5 Technology services: Technology finance bursts to the forefront of the industry

Technology services represent a knowledge-intensive, high value-added component of the modern producer services sector. This industry is critical to China's mass entrepreneurship and innovation initiative, and plays an important role in the development of an innovation-driven economy.

The technology services industry has been developing in terms of speed, volume and quality, with a special focus on technology finance

While growth in value-added from scientific research and technical services⁴¹ has slowed somewhat in recent years, the average annual rate of growth from 2006-2015 remains at almost 20 percent, and the value-added is expected to exceed RMB 1.3 trillion in 2015 (Graph 2-6). Technology finance – including venture capital, private equity and angel investment – has grown at an even faster rate. Chinese venture capital investments reached over USD 127 billion in 2014, up 2.4 times from 2008.⁴² The structure of venture capital itself has experienced a positive evolution as well, with an increasing proportion of funding going to start-up and growth-stage companies (Graph 2-7), thereby enabling innovation and entrepreneurship in emerging fields. Technology services are also seeing improved quality and capacity thanks to a rush of new models and institutions including technology transfer schemes, crowdfunding and crowdsourcing models, 'incubate + invest' services, innovation incubators, and industrial technology institutes. This progress is inseparable from China's larger push to develop an innovation-driven economy.

In 2014, the State Council published *Several Opinions of the State Council on Accelerating the Development of the Science and Technology Service Industry*,⁴³ consolidating a strong consensus on the need to develop the technology

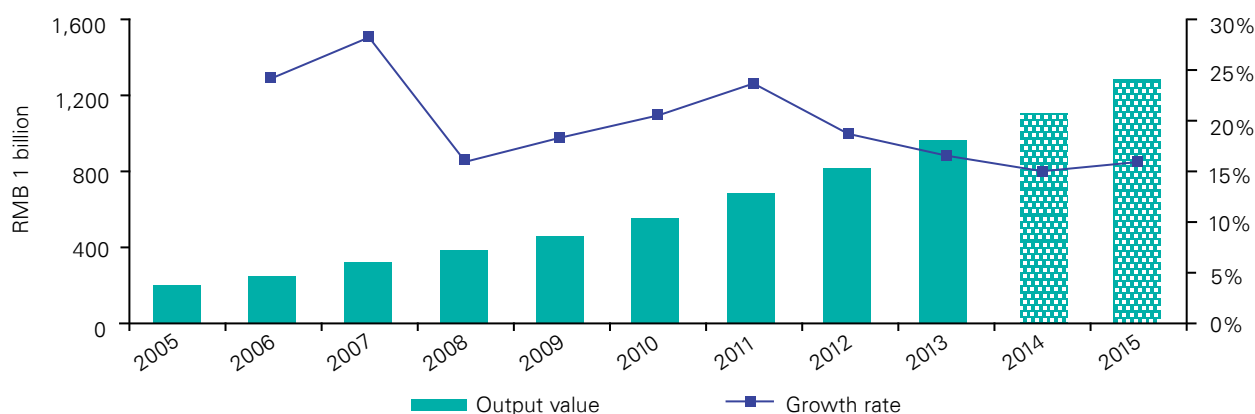
services sector. Currently, however, China's technology services sector is still in a nascent stage and suffers from a lack of competent corporations, professionalism, high-value business, growth fundamentals and interdisciplinary talent. Only by deepening reforms can these issues be resolved.

The 13th FYP period will focus on creating an institutional and policy climate that is conducive to the development of the technology services sector, pushing the industry towards the high end of the value chain, and encouraging professionalism and clustering

The state aims to craft a positive institutional and policy climate. Further progress will be made with regard to replacing the business tax with a value-added tax (VAT), and additional measures such as lowering the VAT rate and expanding input VAT deductibles will help ensure that the tax burden on industry is reduced rather than enlarged. These changes can also incentivise companies to outsource services, raising the degree of professionalism in the sector.

Reforms to China's rigid science and technology institutions will help allow scientific resources that have traditionally been within the government structure to better serve both the public and private sector. The state will also encourage linkages between technology services and finance by supporting the development of a professional venture capital industry, exploring new models of financing technology services, and creating technology finance systems that meet the needs of the broader innovation cluster and nudge the industry towards high-end development. A new series of regional technology service pilot programmes will also be established (in addition to the 65 pilot programmes currently in operation)⁴⁴ to encourage more concentrated development in the sector and highlight the international competitiveness of technology service clusters.

Graph 2-6 Output value (RMB 1 billion) and growth rate (%) of scientific research and technical services in China



Source: 'China Statistical Yearbook'; 2014-2015 data represents forecasts

41 According to the 'Statistical Classification for the National Science and Technology Services (2015)', the science and technology industry includes seven main types of services: R&D, specialised technical services, the promotion of science and technology and related services, information services, financial services, popularisation and education dissemination, and integrated science and technology services. As these statistics are not yet official, we are temporarily using prior information and explanations from scientific research and the technical services industry.

42 Data pulled from CEIC Data and China Venture

43 'Several Opinions of the State Council on Accelerating the Development of the Science and Technology Service Industry', State Council, 28 October 2014, http://www.gov.cn/zhengce/content/2014-10/28/content_9173.htm

44 According to the two lists released by the Ministry of Science and Technology, the first list contains 25 pilot programmes and the second contains 40 pilot programmes. 'General Office of the Ministry of Science and Technology issues the first batch of technology service pilot programmes', Ministry of Science and Technology, 8 April 2015, http://www.most.gov.cn/mostinfo/xinxifenlei/fgzc/gfxwj/gfxwj2015/201504/t20150413_118974.htm; 'General Office of the Ministry of Science and Technology issues the second batch of technology service pilot programmes', Ministry of Science and Technology, 7 March 2016, http://www.most.gov.cn/fggw/zfwj/zfwj2016/201603/t20160307_124537.htm

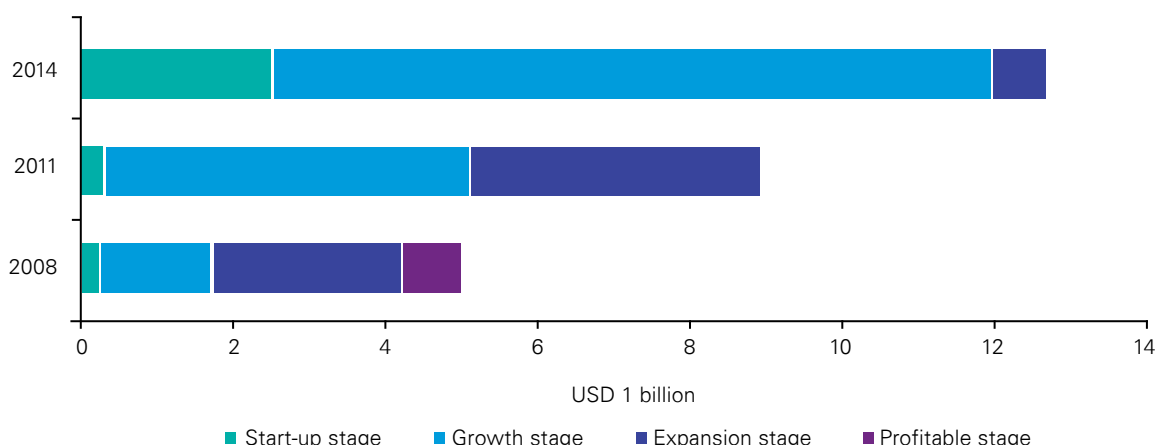
Investment will focus on new business models integrating technology and finance

It is estimated that China’s technology services industry will be worth RMB 8 trillion by 2020.⁴⁵ Deepened integration between technology services and the internet sector can help enable cloud computing and big data technologies to widen the reach of these services, and encourage the outsourcing of R&D and the crowdsourcing and platform-sourcing of product design. The technology services sector will also undergo a process of fragmentation and differentiation, with technology consultancy and technical service companies addressing industry verticals such as health, education, energy and environment.

The Chinese venture capital industry is still in an early stage of development, and a high demand for capital suggests there are many sectors and opportunities that remain open

for investment. From a long-term perspective, domestic consumers of technology will likely continue to show strong demand for platform crowdsourcing and vertical industry sectors, generating additional opportunities for local and foreign companies with technology assets to invest in the technology services sector in China. Strong local players should take advantage of the enormous domestic market and work to form joint ventures and partnerships with multinational firms to enhance their competitiveness and win market share at home and abroad. Foreign businesses should fully leverage their capital and experience, and take advantage of the Chinese Government’s universal policies that encourage venture capital, innovation and entrepreneurship. Foreign investors can establish venture capital operations in China and take the initiative in identifying outstanding entrepreneurs and capturing investment opportunities.

Graph 2-7 Venture capital investment by target company stage of growth



Source: CEIC Data; China Venture



⁴⁵ See footnote 43

Chapter 3

Intensive industry and industrial transformation: Opportunities in the traditional industrial and services sectors



China is rapidly promoting supply-side structural reform in answer to the increasingly serious challenges of industrial overcapacity and mismatched supply and demand. China's efforts to promote industrial transformation and upgrade, and the development of an intensive industrial sector are aimed at overhauling the economy's traditional comparative advantages and expanding effective supply. Trends in energy conservation and waste reduction, technological upgrades, and initiatives to 'shut, suspend, merge and reposition'⁴⁶ production and industry convergence are empowering the market to decide which companies thrive and which fail. These trends are also incentivising the traditional industrial sector (heavy industry and chemicals) and the traditional services sector to optimise structures, models and technologies across the board. This stimulus can encourage improvements in both the quality and efficiency of traditional industries.

3.1 Natural resources: Clean utilisation and market access

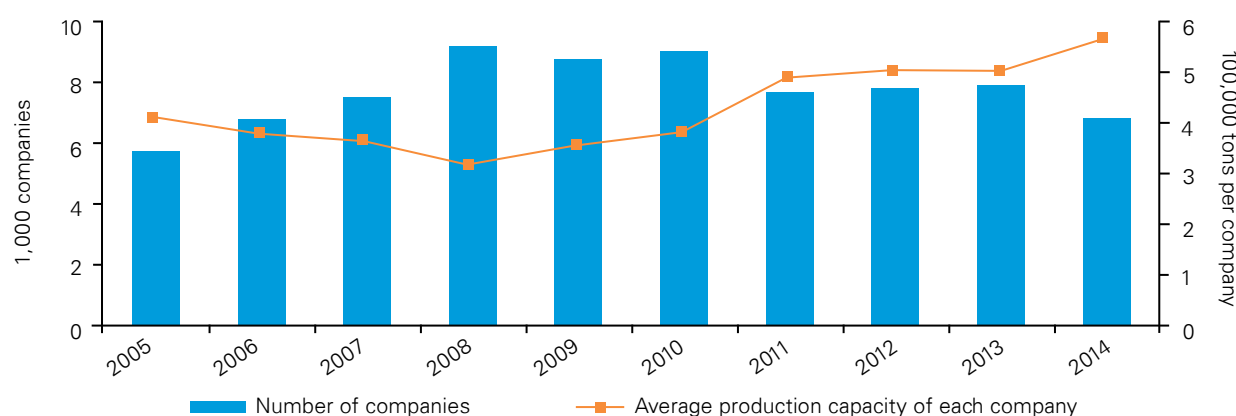
The natural resources industry made an enormous contribution to China's fast-paced growth under the past investment- and input-heavy model of development. As pressure on the environment builds, however, the economy is trending towards a more intensive model of growth, and an urgent transformation is required in the natural resources industry.

A period of deep readjustment is at hand as the industry struggles with weak prices and operating losses

Over the past few years, large amounts of investment were directed at the upstream industrial sector, causing widespread overdevelopment and low efficiency. The number of players in the coal sector, for example, hit a peak between 2008 and 2010 when a rush of private, small-scale coal operators entered the market. Many of these operations were unable to ensure production safety, and often engaged in unlicensed and destructive mining practices. Since 2010, market consolidation and an overall decline in the coal sector has led to a reduction in the number of operators and an increase in average scale (Graph 3-1).

China has long been dependent on foreign markets for mineral resources such as iron, copper and aluminium. As growth has slowed and production capacity has increased, however, there has been a structural shift in the supply and demand of natural resources, with excess capacity appearing in many market segments that had previously been undersupplied. The resulting drop in commodity prices has led to a steep decline in earnings in the natural resources industry. In 2014, a full 28 percent of coal companies (1,919 out of 6,850) posted losses totalling RMB 70 billion.⁴⁷ Adjustments in the natural resources sector are partially being caused by macroeconomic forces such as the slowdown of the Chinese economy and downward pressure on commodity prices, but also by China's promotion of environmental stewardship, energy conservation and emissions reductions, and a transformation towards quality growth. As the economy and commodity prices bottom out and rebound, markets continue to consolidate and restructure, and technology advances, the natural resources industry is poised to achieve a gradual and positive readjustment.

Graph 3-1 The number and production scale of coal mining and coal-washing companies in China



Source: Calculated based on data from the China Economic Information Network (<http://db.cei.gov.cn/page/Login.aspx>)

⁴⁶ This is an initiative to optimise industrial structure by shutting down, suspending, merging or liquidating bankrupt, unviable, low-quality and high-polluting production, or shifting to different lines of production. 'The State Council: Strictly control investment in industries with excessive production capacity', Xinhua News, 10 December 2015, http://news.xinhuanet.com/fortune/2015-12/10/c_128515810.htm

⁴⁷ Data pulled from the China Economic Information Network (<http://db.cei.gov.cn/page/Login.aspx>)

The transformation of the natural resources industry in the 13th FYP period will be accelerated by the clean utilisation of coal, reduction of excess capacity, reform of property ownership regimes, and strengthening of ecological compensation mechanisms

The *Outline* calls for the development of hydroelectric resources and clean coal mining and processing, and encourages the use of new technologies in coal-fired generation to achieve a high-efficiency, clean coal sector. During the 13th FYP period, the coal industry will carefully control production increases, eliminate inefficient producers, and scale back excess production in line with the *Opinions of the State Council on Reducing Overcapacity in the Coal Industry*.⁴⁸ This document lays out support measures for laid-off workers, incentives and subsidies, as well as 11 tasks for the industry to achieve in order to alleviate the burden of excess capacity.

Additionally, the *Decision of the Central Committee of the Communist Party of China on Some Major Issues Concerning Comprehensively Deepening the Reform*⁴⁹ calls for natural resource assets to be governed by stronger property ownership and regulatory systems, including the authentication and registration of resource rights. There must also be price reforms connected to natural resources and derivative products, including payments for resource use and ecological compensation schemes. The reform of state-owned forestry assets will continue during the

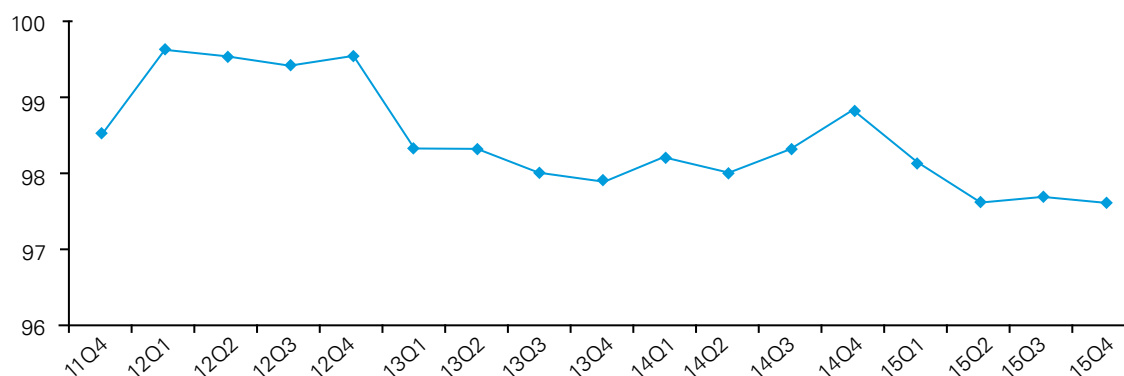
13th FYP period, with the aim of achieving a better balance between conservation needs and the reasonable use of forest resources. These policies and mechanisms will play a positive role in guiding the natural resources industry's development, while advancing China's vision of an 'ecological civilisation'.

Promoting clean utilisation and lifting restrictions on private capital will help bring new opportunities to invest

Promoting the clean and efficient use of coal resources not only facilitates China's industrial transformation by improving the quality and efficiency of growth, but it also helps achieve national energy conservation and emissions reduction targets. In the 13th FYP period, China is expected to increase its support for the development and promulgation of technology in this field. Additionally, as market entry restrictions are gradually lifted, private capital will gain access to the natural resources industry through mixed-ownership reforms in the state sector.

On the whole, foreign companies can leverage their technology assets as China develops and deploys advanced technology to achieve clean and efficient resource use, as well as their capital and management expertise to operate in some of the newly opened fields. Chinese companies can take advantage of weak international market demand and low commodities prices to invest in overseas mineral assets and other natural resources, and engage in commercial and technical cooperation with multinational partners in order to jointly develop third-party markets.

Graph 3-2 Composite index of production in China's chemical industry (production in 2003 is set to 100 as the base year value)



Source: 'Industry Growth Index 2015 Annual Report', China Economic Information Network

48 'Opinions of the State Council on Reducing Overcapacity in the Coal Industry', State Council, 5 February 2016, http://www.gov.cn/zhengce/content/2016-02/05/content_5039686.htm

49 'CPC Central Committee Decision on Major Issues Concerning Comprehensively Deepening of Reforms', Xinhua News, 15 November 2013, http://news.xinhuanet.com/politics/2013-11/15/c_118164235.htm

3.2 Chemicals: Higher safety and environmental standards

The chemical industry – including petrochemicals, agrochemicals, plastics and rubbers – touches nearly every corner of the economy and society at large. Due to external factors and industry competition, the chemical industry has begun to fragment internally; chemical businesses looking to transform could consider shifting towards the high value-added segment of the industry's value chain.

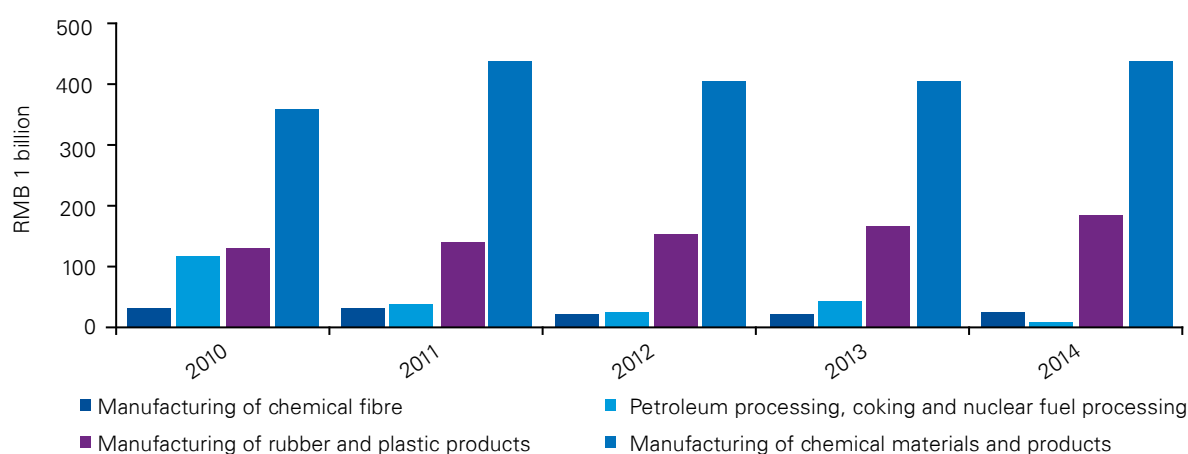
The industry is experiencing a steady decline in economic efficiency and growth, while pressure mounts from excess capacity and safety concerns

Since 2012, weak market demand and sinking crude oil prices have slowed growth in the chemical industry. YOY value-added in the sector grew only 9.3 percent in 2015, down 1.2 percentage points from 2014.⁵⁰ Production has been dropping since 2012, hitting a new low in 2015 (Graph 3-2). Prices for most chemical products in China have been falling, leaving traditional chemical businesses with excess capacity and inventory.

Profit growth is low across almost all market segments. Petroleum processing in particular has experienced substantial negative growth (Graph 3-3). Petrochemical companies' core business revenues and profits dropped by 6.1 percent and 18.3 percent respectively in 2015.⁵¹ The total valuation of the chemical industry is based on a 35.1x multiple (compared to that of the Shanghai Shenzhen CSI 300 Index), trading at an uncompetitive premium of 217.07 percent.⁵²

While the industry has made recent gains in energy efficiency, it still suffers from structural supply and demand problems, homogenous competition, and production safety concerns. The sector's excess capacity primarily stems from past overexpansion, as well as from a sharp decline in demand for traditional bulk chemicals and a lack of innovation capacity. Recently, patchy oversight and poor management in the production of hazardous chemicals have led to a series of major safety and environmental incidents, raising intense public awareness and concern.

Graph 3-3 Profits by segment in China's chemical industry



Source: China Economic Information Network



⁵⁰ 'Chemical industry value added grows 9.3 percent year-on-year', China Chemical Industry News, 28 January 2016, <http://www.ccin.com.cn/ccin/news/2016/01/28/328787.shtml>

⁵¹ 'Petrochemical and Chemical Industry Operations in 2015', Ministry of Industry and Information Technology, 5 February 2016, <http://wap.miit.gov.cn/n4417404/n4417471/n4417493/c4636130/content.html>

⁵² 'The chemical industry: Commodity prices soar', Beijing Morning Post, 10 March 2016, http://bjcb.morningpost.com.cn/html/2016-03/10/content_390629.htm

Heightened pollution control and production safety will help foster the healthy and balanced development of the chemical industry during the 13th FYP period

The *Outline* calls for the effective control of pollutants from the chemical industry, as well as remedial efforts including the treatment of phosphorous contamination in river basins. A chemical industry relocation initiative is designed to enhance safety and environmental sustainability in the production and storage of hazardous materials. It is estimated that within the 13th FYP period, the government will complete and implement the *Proposal for the Relocation and Upgrade of Manufacturing Facilities of High-risk Chemical Products in Densely Populated Urban Areas*, continuing efforts to relocate eligible facilities and establish an optimised geographical location distribution of chemical producers.

Supervisory inspections will be conducted at industrial parks with high concentrations of chemical producers, and the Ministry of Industry and Information Technology's *Guiding Opinions*⁵³ offer a mandate to retrofit industrial parks to meet higher industry, safety and environmental standards. The State Council's *Guiding Opinions*⁵⁴ encourage foreign investment in key areas of the chemical industry in order to meet local market demand, and call for the development of precision downstream processing, an extended industrial value chain and green production facilities in order to boost China's exports of finished chemical equipment. In addition, the government will establish pilot programmes to

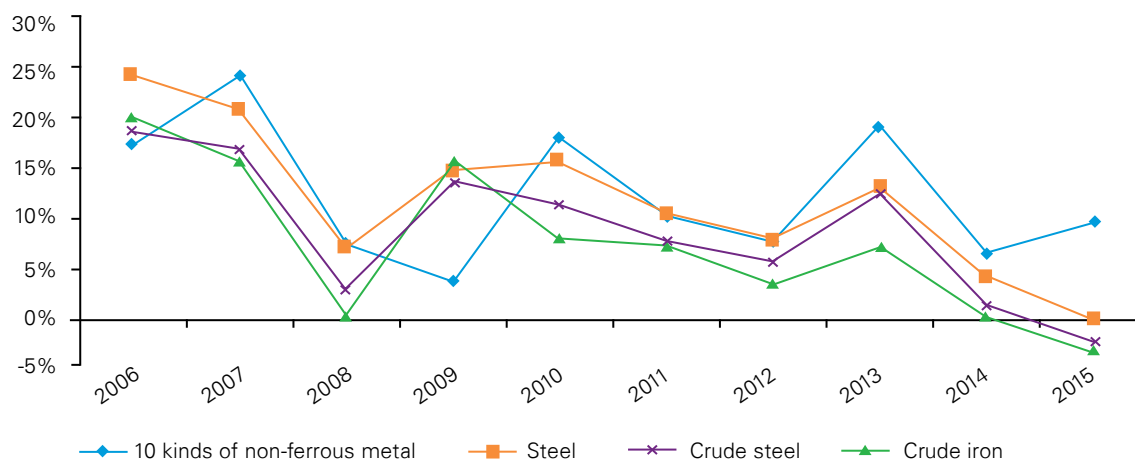
demonstrate smart manufacturing in the chemical industry, integrating the forces of industrialisation and information technology to secure a strong foundation for the sector's future development.

Safety and environmental issues reveal investment opportunities

Since 2016, a minor rebound in energy prices, the continued appreciation of the US dollar, and China's elimination of outdated production capacity in key industrial segments have led to somewhat higher price expectations in certain chemical product markets, signalling a potential rise in the industry's fortunes. As the macroeconomy bottoms out and stabilises, the chemical industry is faced with a turnaround opportunity. Smart companies will take stock of future trends and will likely invest in safety- and environment-related opportunities.

On the product front, special attention should be paid to specialty chemicals, fine chemicals and environmentally friendly chemicals. Foreign companies' first-mover advantages grant them a natural market position in the technologies, products and services used for moving chemical production in a safe and environmentally sound manner. Leading domestic companies should promote the export of technology, standards and services, and seek to expand their overseas market presence through cross-border investment, project contracting, technical cooperation and equipment export.

Graph 3-4 Growth in production of China's major metallurgical products



Source: Calculated based on data from the China Economic Information Network

53 'Guiding Opinions on Promoting the Normative Development of Chemical Industrial Parks', Ministry of Industry and Information Technology, 10 December 2015, <http://www.miit.gov.cn/newweb/n1146295/n1652858/n1652930/n4509650/c4533643/content.html>

54 'Guiding Opinions of the State Council on Promoting Cooperation in International Capacity and Equipment Manufacturing', State Council, 16 May 2015, http://www.gov.cn/zhengce/content/2015-05/16/content_9771.htm

3.3 Metallurgy: The upgrade of local industry

Metallurgy was the focus of intense state investment in the era of China's planned economy. Following the transformation to a market economy, sub-sectors such as steel and non-ferrous metallurgy became increasingly market-oriented, forcing traditional companies to embark on transformation and upgrading programmes to adapt to and compete in the modern economy.

The metallurgy industry is faced with excess capacity and falling profits, with little hope of a turnaround in the short term

The YOY production growth of major metallurgical products has decelerated sharply (Graph 3-4). Consumption has fallen two years in a row; apparent consumption of crude steel dropped 5.4 percent YOY in 2015, steepening a decline that was 4 percent YOY in 2014.⁵⁵ The price of steel and non-ferrous metals has experienced significant downward pressure, and Chinese metallurgical companies are facing big losses. According to the China Iron and Steel Association, member steelmakers have posted operating losses in their core businesses for 12 months running, with yearly cumulative losses in excess of RMB 100 billion, a loss 24 times larger than the previous year, making 2015 the steel industry's worst year on record.⁵⁶ Large-scale non-ferrous metal companies saw profits fall 13.2 percent YOY, with nearly 21 percent of companies posting losses.⁵⁷

A deep-freeze is settling upon the industry. Aside from inaccurate forecasts and poorly planned, inefficient production, the root cause of the industry's woes lies in institutional wrongdoing. With insufficient innovation and bloated payrolls, many companies turn in desperation to expanding production, exacerbating the imbalance and impeding any attempt to reduce excess capacity in the short term. Offered an ongoing financial lifeline by state-owned banks and local governments, many of these distressed businesses become 'zombie companies'.

The industry will focus on eliminating redundant capacity and promoting industrial upgrading during the 13th FYP period, with the goal of resolving capacity and alleviating distressed operations

The *Opinions of the State Council on Reducing Overcapacity in the Iron and Steel Industry*⁵⁸ strictly forbids the registration of any new production capacity in any form or under any pretence, and demands that any production that does not meet environmental, energy consumption, quality, safety or technical standards be taken offline in accordance with relevant laws and regulations. This stance applies pressure on industry to reduce capacity through external means such as consolidation and restructuring, refitting and relocation, and international cooperation.

The state has established a dedicated fund to support structural rebalancing in the industrial sector, including reimbursing the costs of transforming businesses and workers, and is also promoting the upgrade of industry through smart manufacturing, high-value R&D and consumption stimulus. The State Council's *Guiding Opinions*⁵⁹ calls for the development of production bases specialising in iron and steelmaking in order to boost steel equipment exports. Integration of overseas mineral resources with downstream smelting and processing of non-ferrous metals such as copper, aluminium, lead and zinc will also help boost China's exports of finished equipment goods. This will help match China's supply with other countries' demand, boosting the cross-border transfer of production capacity.

Opportunities to invest in the upgrade of local industry

China's intent to upgrade the metallurgical industry's technology, products and consumption creates opportunities for foreign investors. Foreign companies can leverage their management experience and cutting-edge technology to offer technical consulting and R&D services to China's steel industry. Of particular interest would be R&D collaboration around high-end steel products required by high-speed rail, nuclear, automotive, shipbuilding and ocean engineering projects. Local Chinese companies should seek to establish overseas R&D, production and service centres in countries with the right combination of resources, market potential and capacity to provide auxiliary materials. They can achieve this through equipment export, investment, acquisition and project contracting. Foreign companies can work closely with Chinese partners as they 'go out' and jointly develop third-party markets.



55 '2015 Steel Industry Operations and 2016 Outlook', Ministry of Industry and Information Technology, 6 February 2016, <http://www.miit.gov.cn/n1146285/n1146352/n3054355/n3057569/n3057572/c4636541/content.html>

56 'CISA: Main iron and steel businesses sustain losses of over RMB 100 billion', China Securities Journal Network, 7 April 2016, http://www.cnstock.com/v_news/sns_bwxk/201604/3757506.htm

57 '2015 Non-ferrous Metals Industry Operations and 2016 Outlook', Ministry of Industry and Information Technology, 6 February 2016, <http://www.miit.gov.cn/n1146285/n1146352/n3054355/n3057569/n3057572/c4636604/content.html>

58 'State Council Guiding Opinions on Reducing Overcapacity in the Iron and Steel Industry', State Council, 4 February 2016, http://www.gov.cn/zhengce/content/2016-02/04/content_5039353.htm

59 'Guiding Opinions of the State Council on Promoting Cooperation in International Capacity and Equipment Manufacturing', State Council, 16 May 2015, http://www.gov.cn/zhengce/content/2015-05/16/content_9771.htm

3.4 Traditional equipment: Smart manufacturing and service-oriented manufacturing

Traditional equipment manufacturing represents a weak point in China's manufacturing industry as a whole. As the industry shifts towards the high end of the value chain, it will be necessary to refit and upgrade the traditional equipment segment, and encourage outbound growth to enhance the industry's competitiveness.

A number of factors, including a macroeconomic slowdown and a lack of competitiveness in the industry, has led to a drop in production and profits among traditional equipment manufacturers

In addition to a broad production drop across product categories and a deceleration in sector-wide growth, there are also signs of structural overcapacity. There has been a significant decline in the output of mining equipment, metal-cutting tools, generators and passenger automobiles (Graph 3-5). These trends reflect how most downstream industries have faced sharp demand cuts in recent years. Weak sales and high costs have left many industry segments with sluggish revenue growth. In 2014, 2,544 of 24,619 general equipment manufacturers posted losses totalling RMB 18.01 billion, up 150 percent from 2011.⁶⁰ In 2015, the growth rate of revenues from the core businesses of the manufacturers of electronic machinery and equipment fell again YOY to about 4.8 percent (Graph 3-6).

In addition to domestic and global macroeconomic pressure, the traditional equipment manufacturing industry in China also struggles with weak innovation capacity, a low-end product catalogue, and homogenous competition. In particular, the industry's tendency to bring manufacturing services in-house in a superficial attempt to achieve scale has led to resource inefficiencies and an inability to meet the market's demand for higher-grade products.

During the 13th FYP period, the industry will focus on the revitalisation of equipment manufacturing in north-east China, the integration of industrialisation and information technology, and the automation and introduction of smart technology into traditional equipment manufacturing

The *Outline* calls for efforts to revitalise the old north-eastern industrial bases through the creation of pilot areas that showcase industrial transformation and upgrading, and the development of centres of advanced equipment manufacturing and strategic bases for crucial high-tech equipment. In accordance with the *Several Opinions*,⁶¹ the Export-Import Bank of China is providing lines of credit, financing, guarantees and other financial services to support companies to upgrade and industrialise, import and deploy technology, as well as in their efforts to 'go out'.

China is also working to implement the *Made in China 2025* initiative, stepping up R&D efforts on the crucial high-tech equipment needed to power domestic growth and alleviate the development bottleneck caused by limited access to critical parts and components. The broad application of advanced manufacturing systems and equipment, and the introduction of smart facilities and smart products can help yield increased synergy across China's manufacturing sector.

Chinese and foreign investors should be able to find opportunities in the upgrading of the traditional equipment manufacturing sector

In China today, the following problems are pervasive in the traditional equipment manufacturing industry: some products have relatively low technological content; Chinese companies are still only able to manufacture some of the products in particular categories, and some products are lacking in 'intelligent' functionality; and there is a lack of supply of core components and urgently needed manufacturing machinery. In 2014, 54 percent of industrial companies in China used digital tools to conduct research, development and design; and 30 percent of large-scale companies used numerical control machines on their production lines. It is estimated that these usage rates will reach 80 percent and 50 percent respectively by 2020.⁶²

This not only provides multinationals with an enormous market for high-end equipment, but also offers foreign companies M&A and other opportunities to participate in China's transformation towards smart manufacturing and service manufacturing by leveraging their capital, technology and management expertise. By offering financing and leasing services, local companies can lay the grounds for investment in overseas production facilities to obtain technology and develop new markets. Chinese companies should seek to collaborate with established foreign partners with strong brands, technology and market share, establish R&D centres in developed nations, and elevate the brand and technology profile associated with their machine products.



⁶⁰ Data pulled from the China Economic Information Network (<http://db.cei.gov.cn/page/Login.aspx>)

⁶¹ 'Several Opinions of the Ministry of Industry and Information Technology and the Export-Import Bank of China on Increasing Financial Support for Crucial High-tech Equipment', Ministry of Industry and Information Technology, 4 January 2015, <http://www.miit.gov.cn/n1146295/n1652858/n1652930/n3757018/c3763335/content.html>

⁶² 'Rapid maturing of the high-tech industry', Economic Daily News, 30 April 2015, http://www.ce.cn/xwzx/gnsz/gdxw/201504/30/t20150430_5246958.shtml

3.5 Traditional services: Commercial logistics and ‘Internet Plus’

The internet and other information technology have disrupted the traditional services sector with a range of innovative business models. These disruptions have largely led to positive changes in the delivery of services, with more intensive, higher quality development in traditional services and a string of derivative investment opportunities that benefit consumers and industry.

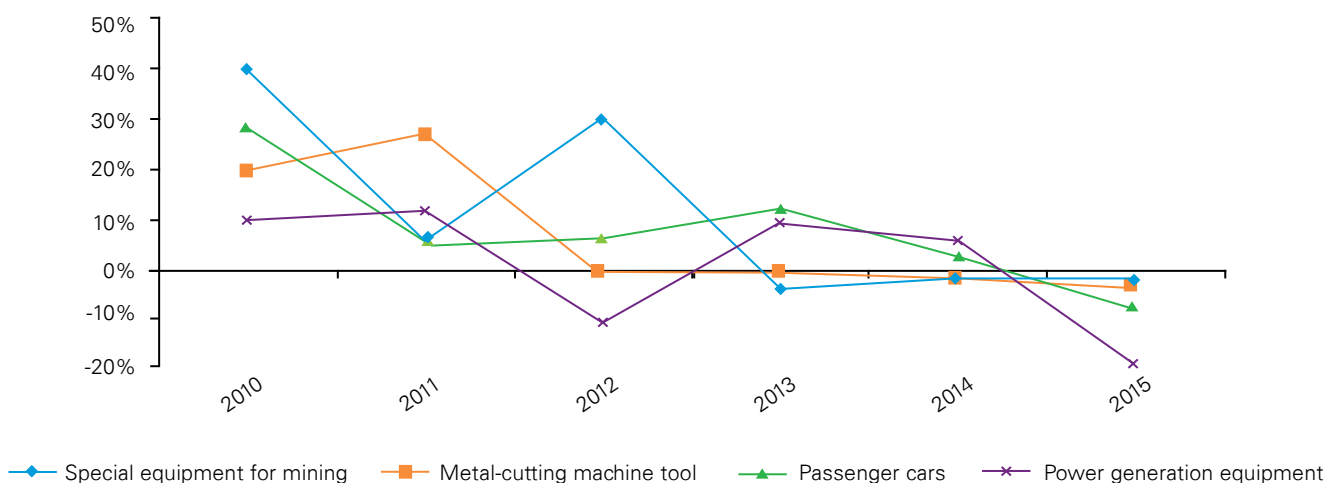
Growth is slowing, but quality is improving

Trends such as the rise of the modern services sector and an overall economic slowdown have caused the traditional services sector’s share of the economy to shrink in recent years. In 2015, traditional services such as transport and logistics, warehousing, postal and telecommunications, wholesale and retail trade, and catering accounted for 31.8 percent of the value-added in the tertiary sector, down 2.7 percentage points from 2010.⁶³ Structurally speaking, wholesale and retail continue to account for the lion’s share of the sector as a whole (Graph 3-7).

Thanks to sub-sectoral innovation and expansion, however, there has been an improvement in the quality and level of service in the traditional services sector. The mainstream in the catering sector, for example, has moved towards mass-market, well-proportioned, high-quality goods and services, with a ‘consumer-friendly’ approach, helping the industry return to a culture of balanced consumption. This approach also encourages caterers to use internet platforms to better integrate product, service and customer experience. While emerging industries such as e-commerce and ride-hailing services have disrupted traditional services, they also pressure companies to move towards new business models and develop operations that fully integrate online and offline services.

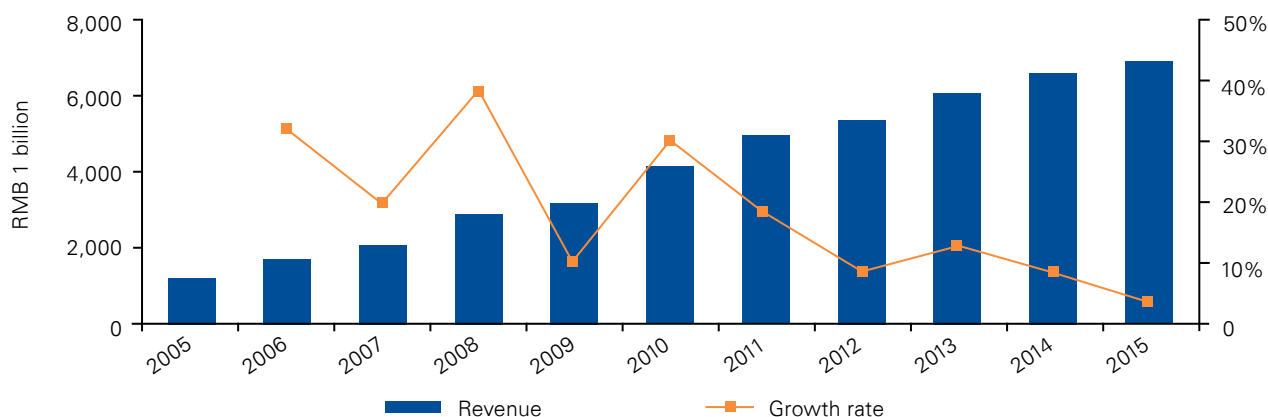
Development of the traditional services sector is still constrained, however, by a lack of openness, insufficient staff training, the fact that the industry is still relatively small, and a lack of professionalism.

Graph 3-5 Production growth of equipment by product category



Source: China Economic Information Network; 2015 data on mining equipment and metal-cutting tool production are forecast numbers

Graph 3-6 Revenue and growth from core business among Chinese electronic machinery and equipment manufacturers



Data: National Bureau of Statistics

63 Calculated based on the data from ‘China Statistical Yearbook 2015’ (<http://data.stats.gov.cn/english/publish.htm?sort=1>)

During the 13th FYP period, development of traditional services will focus on commercial logistics and the integration of online and offline services

The logistics industry has a direct impact on import and export trade, as well as commercial services such as wholesale, retail, lodging, catering and household services. Reducing the cost of logistics therefore enables development across the entire traditional services sector. The *Outline* calls for China's commercial logistics industry to be opened to foreign capital, and for a nationwide modern logistics base to be built in Hebei province.

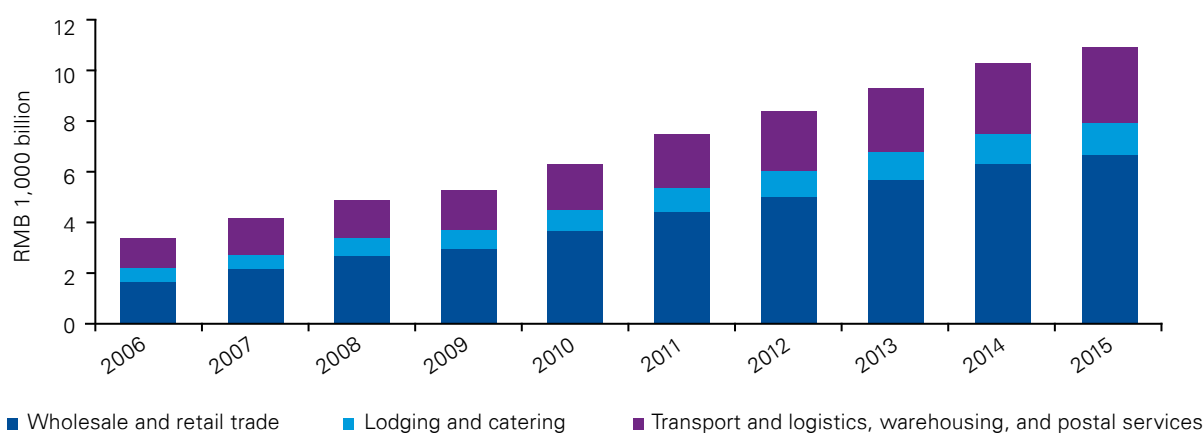
The Ministry of Commerce's *Implementation Opinions*⁶⁴ calls for increased linkages between commercial logistics operators and other traditional service providers through common delivery, e-commerce and information-sharing, and encourages sector growth through the integration of online and offline services. The General Office of the State Council's *Opinions*⁶⁵ and the State Council's *Guiding Opinions*⁶⁶ incentivise bricks-and-mortar retailers to build interactive online-to-offline (O2O) platforms and leverage the internet to improve offline customer experience, delivery and after-sales services. The development of a sharing economy – including new models such as networked car rental and online housing rental services – will raise competitiveness, efficiency and quality in the traditional services sector.

Many investment opportunities exist in the context of commercial logistics and 'Internet Plus'

Commercial logistics has a great impact on the traditional services sector, and has the potential for substantial development in coming years. China's commercial logistics sector currently remains at an embryonic stage, with significant room for development in terms of accessibility, commercialisation, professionalism and cross-border connectivity. As the state lifts market access restrictions on foreign capital (except in sectors linked to national security or major public interest), overseas investment will be encouraged in the development of urban transport and logistics systems.

In addition to investment capital, foreign enterprises can lend their professionalism and expertise to help develop urban commercial logistics, and build international and regional partnerships around the major domestic and cross-border 'Belt and Road' transport nodes and ports. Large global internet firms can take advantage of opportunities in the traditional services sector's move towards O2O integration, organically or inorganically developing 'Internet Plus' ecosystems that encompass key segments of the traditional services sector. Accelerated integration and the implementation of 'Internet Plus' can help expand the traditional services sector and create new cross-sectoral potential. Local wholesalers, retailers and caterers can seek out partnerships with Chinese and foreign logistics companies to establish strong brands capable of 'going out' and developing overseas markets.

Graph 3-7 Value-added in China's traditional services by segment



Source: China Economic Information Network

64 'Implementation Opinions on Promoting Commercial Logistics Development', Ministry of Commerce, 24 September 2014, <http://www.mofcom.gov.cn/article/b/fwzj/201409/20140900742047.shtml>

65 'Opinions of General Office of the State Council on Promoting Online-Offline Interaction to Expedite Innovative Development, Transformation and Upgrading of Commercial Circulation', General Office of the State Council, 29 September 2015, http://www.gov.cn/zhengce/content/2015-09/29/content_10204.htm

66 'Guiding Opinions of the State Council on Actively Promoting the "Internet Plus" Initiative', State Council, 4 July 2015, http://www.gov.cn/zhengce/content/2015-07/04/content_10002.htm



Chapter 4

Coordinated regional systems and geospatial optimisation: Opportunities in trans-regional infrastructure, city cluster connectivity and urban-rural development



During the 13th FYP period, a coordinated regional system will be formed, primarily using three approaches: implementing regional strategies, creating city clusters and driving new types of urbanisation. This will help create foreign investment opportunities in the development of trans-regional and city cluster infrastructure, as well as in rural and urban development.

Table 4-1 Infrastructure projects and programmes with regard to coordinated regional development in the 13th FYP period

Strategic area	Administrative level	Major projects and programmes
Cross-regional strategy	Beijing-Tianjin-Hebei	<ul style="list-style-type: none"> • Beijing's new airport • International trade and shipping centre in Tianjin • High-efficiency, high-density rail network • Arterial railway lines • Intercity and metropolitan railway networks • Motorway networks • Port cluster coordination
	Yangtze River Economic Zone	<ul style="list-style-type: none"> • Yangtze River Delta city cluster transportation zone • The middle reaches of the Yangtze River city cluster transportation zone • Chengdu and Chongqing city cluster transportation zone • The 12.5m deep-water channel extending up to Nanjing in the Yangtze River • Overhaul of the Yichang to Anqing waterway • The new Three Gorges waterway • Three Gorges integrated transport system • Wuhan and Chongqing Yangtze Upper Reaches Shipping Centre • Regional shipping and logistics centre in Nanjing • River-sea intermodal transportation service centre in Zhoushan • Programme of standardising ship classes on the Yangtze River • Aviation hubs capability improvement • Yangtze River oil and gas pipeline
	Pan-Pearl River Delta	<ul style="list-style-type: none"> • Pearl River Delta city cluster transportation zone • Gulf of Tonkin city cluster transportation zone • Haixi (West Coast of Taiwan Straits) city cluster transportation zone • Railway from Haikou to Lanzhou via Nanning and Guiyang • Various railway lines including Ganzhou-Shenzhen, Chongqing-Kunming, Fuling-Kaili-Liuzhou, Liuzhou-Shaoguan, Xi'an-Chongqing-Changsha-Xiamen, Ji'an-Wuyishan, Guiyang-Zhangjiajie, Xingyi-Yongzhou-Chenzhou-Ganzhou, and Lincang-Qingshuihe • Construction and upgrading of national motorways, as well as national and provincial arterial highways • High-grade shipping channel development along the Pearl River and its tributaries • Waterway development projects including Youjiang River, Beipan River-Hongshui River, Liujiang River-Qianjiang River and the Hunan-Guangxi canal • The Qiongzhou Strait railway tunnel project • Preliminary research of the Zhanjiang-Hai'an railway expansion project • Development of international aviation hubs and gateway airports • Development of Pan-Pearl River Delta international logistics core network

Table 4-1 Infrastructure projects and programmes with regard to coordinated regional development in the 13th FYP period (Continued)

Strategic area	Administrative level	Major projects and programmes
New types of urbanisation Strategy	New cities	<ul style="list-style-type: none"> • The three '100 Million People' urbanisation programmes⁶⁷ • Emerging small and mid-sized city development programmes • Small towns with their own distinctive characteristics • Smart cities • Green cities, ecological garden cities and forest cities • 'Sponge cities'⁶⁸ • Underground pipeline corridors and networks
	'Beautiful countryside'	<ul style="list-style-type: none"> • Improvement of broadband networks, unsafe buildings, drinking water, lighting, sanitation, fire prevention and other facilities in rural areas • Upgrading of 1 million km of rural roads • Upgrading the rural power grid • Rural drinking water consolidation and improvement projects

Source: Compiled from the '13th Five Year Plan for National Economic and Social Development of the People's Republic of China Outline' and related national government documents regarding regional development and new-type urbanisation



⁶⁷ The three '100 Million People' urbanisation projects are: to promote the settlement of about 100 million rural migrants and other long-term residents in cities and towns; to promote the renovation of shanty towns and urban ghettos that house about 100 million people; and to guide urbanisation in central and western China for the 100 million people who live in the vicinity.

⁶⁸ A sponge city is a city that acts as a sponge; the urban environment is constructed to soak up almost every raindrop and capture that water for reuse.

4.1 Major trans-regional infrastructure: The '3+1' regional strategy

The 13th FYP period will have four primary trans-regional development strategies. Taken together, the first three (Coordinated Development of the Beijing-Tianjin-Hebei Region, the Yangtze River Economic Zone, and 'Belt and Road')⁶⁹ and the fourth (the Pan-Pearl River Delta Economic Zone) strategies are collectively known as the '3+1 trans-regional strategy'. These projects will help provide more investment opportunities in major trans-regional infrastructure projects for both Chinese and foreign businesses.

There is plenty of room for investment in intercity transportation infrastructure as the Coordinated Development of the Beijing-Tianjin-Hebei Region Strategy is implemented across the board

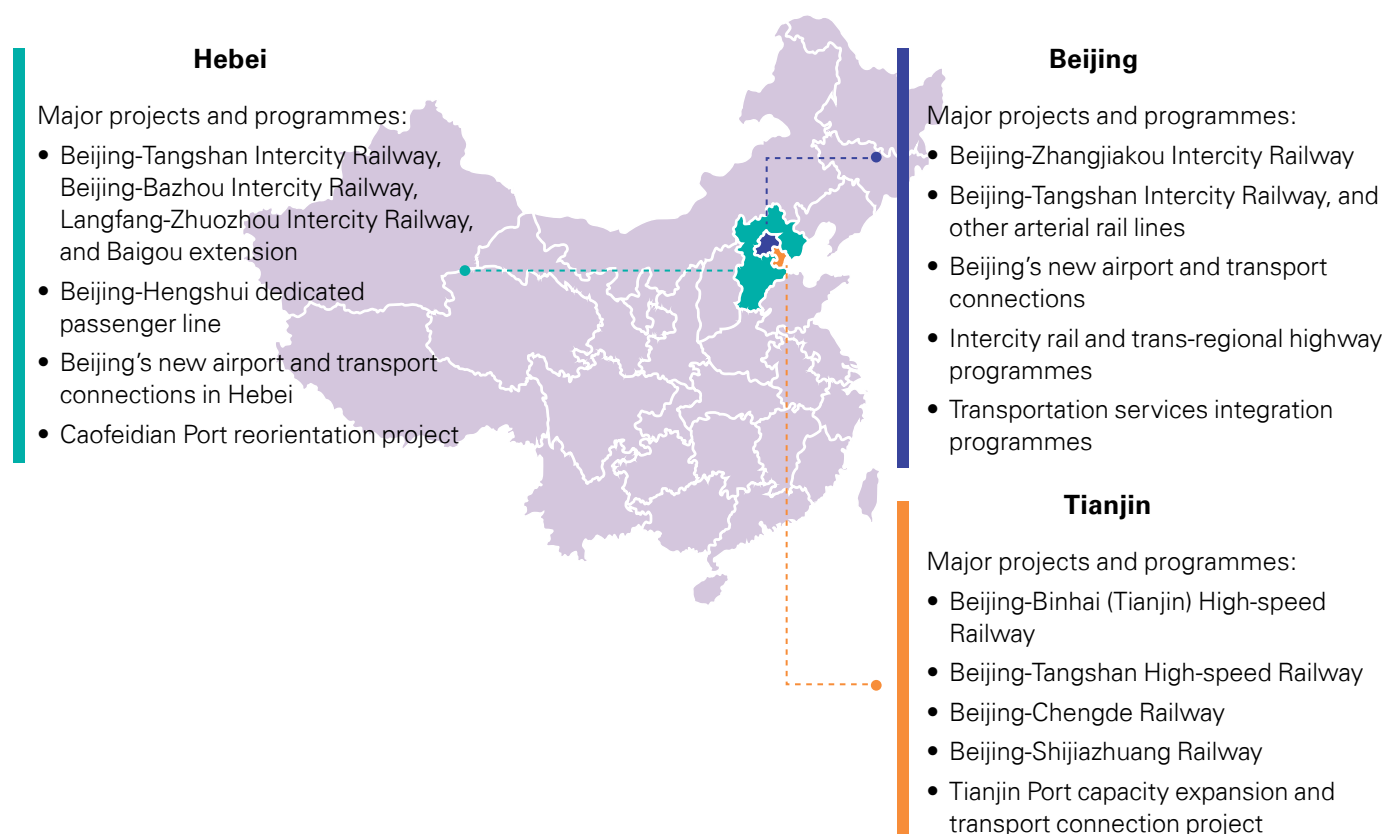
Promoting coordinated development within the Beijing-Tianjin-Hebei region is the key component of the 13th FYP trans-regional strategy. The *Outline* calls for the development of a world-class city cluster with Beijing as its core, stimulating development of the Bohai Economic Rim and the central part of the northern regions. The largest roadblock for this strategy is limited integration of transportation. As a result, the most significant investment opportunities in the development of the Beijing-Tianjin-Hebei region are in the construction of intercity infrastructure and facilities.⁷⁰

The *Outline* calls for transportation integration initiatives that include:

- Building high-efficiency, high-density rail networks; intensifying the construction of arterial railway lines; and accelerating the development of networks of intercity and metropolitan railways, improving intercity and metropolitan services using existing capability, and achieving full coverage of cities at and above the prefecture level with dedicated passenger lines
- Improving motorway networks and the technical specifications of national and provincial highways
- Developing port clusters with internally differentiated and coordinated functions, improving port cargo distribution facilities, and setting up a new holistic maritime affairs supervisory model
- Creating world-class international aviation hubs and building an air transport cooperation mechanism.

By 2020, a 'one hour by rail' zone will be formed with a 50- to 70km radius around Beijing, covering parts of Tianjin and Hebei.

Figure 4-1 Major trans-regional infrastructure projects in the Beijing-Tianjin-Hebei region in the 13th FYP period



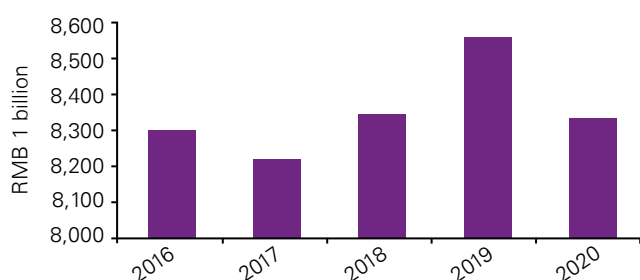
Source: Obtained from the 13th FYP programme lists of Beijing, Tianjin and Hebei

⁶⁹ The 'Belt and Road' strategy will help bring investment opportunities, primarily in the open economic structure. For more details, please see chapter 7.

⁷⁰ Environmental management and protection is also an important part of the Coordinated Development of the Beijing-Tianjin-Hebei Region Strategy. However, this section focuses on the investment opportunities associated with the construction of intercity transportation infrastructure in the region. For investment opportunities in eco-industries, please see chapter 5.

In the next five years, Beijing aims to have created a world-class aviation hub, thereby facilitating infrastructure development for the Winter Olympic Games and rapidly establishing convenient transportation connections with Tianjin and Hebei. As Tianjin and Hebei continue to strengthen their transport links with the capital, they will also speed up improvements to infrastructure and service at each of their ports that will contribute to the establishment of a modern Tianjin-Hebei port cluster. Based on the *National Economic and Social Development Plan of Beijing-Tianjin-Hebei Region for the Period of the 13th FYP*, investment of more than RMB 40 trillion will be needed for the Beijing-Tianjin-Hebei infrastructure integration (Graph 4-1).⁷¹ The key projects for each of these regions are listed in Figure 4-1. Chinese and foreign investors, financing providers, construction firms, and project operators can use their competitive advantages in capital, technology and construction to play active roles in the construction of major Beijing-Tianjin-Hebei trans-regional infrastructure projects, and at the same time seek desirable investment opportunities.

Graph 4-1 13th FYP: Investment projections for the Coordinated Development of the Beijing-Tianjin-Hebei Region Strategy



Source: Calculated from the key projects and programmes in the 'National Economic and Social Development Plan of Beijing-Tianjin-Hebei Region for the Period of the 13th Five-Year Plan'

The Yangtze River Economic Zone Strategy to help create investment opportunities associated with the development of an integrated multimodal transportation corridor along the river

Establishing this zone is a major strategy in the 13th FYP period, with ecological development and interconnection of infrastructure at its core.⁷² Infrastructure interconnectivity is lacking in the transportation network of the Yangtze River Economic Zone in several ways: shipping potential along the Yangtze River is not yet fully realised; the railways and highways linking Western and Eastern China have insufficient capacity; transportation networks are lacking; intermodal connections are inefficient; and the construction of intercity railways is lagging.⁷³

The *Outline* calls for the following initiatives to address the problems mentioned above:

- Construction of the 12.5m deep-water channel extending up to Nanjing in the Yangtze River
- Overhaul of the Yichang to Anqing waterway
- Construction of the new Three Gorges waterway
- Improving the Three Gorges integrated transport system
- Accelerating the development of the upper and middle reaches of the Yangtze River shipping centre in Wuhan and Chongqing, and the regional shipping and logistics centre in Nanjing; improving port cargo distribution facilities
- Promoting river-sea and rail-river intermodal transportation
- Building the river-sea intermodal transportation service centre in Zhoushan
- Standardising the ship classes on the Yangtze River and improving intelligent safety systems
- Accelerating the construction of high-speed railways and high-grade highways
- Strengthening the capabilities of aviation hubs and enhancing the network of regional airports.

The scale of the construction projects under the Yangtze River Economic Zone multimodal transportation corridor initiative is significant. There is ample opportunity for investment in the construction of waterways, railways, highways, metropolitan rail, airports, bridges and tunnels (as shown in Table 4-2). Calculations indicate that by 2020, total project investment will exceed RMB 45 trillion (Graph 4-2). High-speed and metropolitan rail lines within the region will total 9,000km and 3,900km respectively, while newly added lines will require 480 new electric multiple unit (EMU) trains and 2,500 metro trains.⁷⁴ As the volume of commuters using existing rail lines increases, this will also drive the need for more railway equipment. In this eventuality, foreign enterprises engaged in infrastructure construction and operations, transportation management and design, construction, and the operation of intelligent transportation facilities are well-positioned to find investment opportunities.

71 'Beijing-Tianjin-Hebei development was discussed at the meeting of the Central Political Bureau; investment in the next six years in the region could reach RMB 42 trillion', Xinhua News, 6 May 2015, http://news.xinhuanet.com/fortune/2015-05/06/c_127769930.htm

72 Developing the Yangtze River Economic Zone requires prioritising the environment, as eco-industry is an important investment opportunity for the area. However, the focus of this section is an intensive discussion of investment opportunities related to the construction of an integrated, three-dimensional transportation corridor in the Yangtze River Economic Zone. For information regarding investment opportunities related to eco-industry, please refer to chapter 5.

73 'Yangtze River Economic Zone integrated Three-Dimensional Transportation Corridor Plan', NDRC, People's Daily, 25 September 2014, <http://leaders.people.com.cn/n/2014/0925/c58278-25733885.html>

74 'The Outline of Strategic Plans of the Yangtze River Economic Zone Development will bring trillions in investment', Xinhua News, 29 September 2015, http://news.xinhuanet.com/fortune/2015-09/29/c_128277048.htm

Table 4-2 Yangtze River Economic Zone multimodal transportation network development targets in the 13th FYP period

Target	Unit	2013	2020
Length of inland waterways	1,000km	89	89
• Length of high-grade waterways	1,000km	6.7	12
Length of operational railways	1,000km	29.6	40
• Length of high-speed railways	1,000km	4	9
• Proportion of multiple-track railways	%	49.8	60.7
• Proportion of electrified railways	%	69.7	88.5
Length of completed highways	1,000km	1,888	2,000
• Length of national highways	1,000km	32	42
• Proportion of country towns connected by paved roads	%	97.9	100
• Proportion of administrative villages connected by paved roads	%	84.7	100
Length of oil and gas pipelines	1,000km	44	70
Length of operating metropolitan railways	km	1,089	3,600
Number of civil airports	#	74	100
Number of arterial line bridges (and tunnels) across the mainstream of the Yangtze River	#	89	180

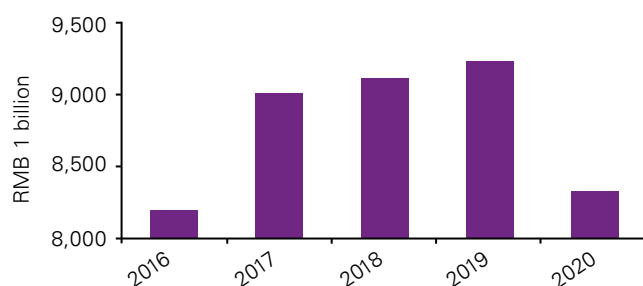
Source: 'Guiding Opinions of the State Council on Promoting the Development of the Yangtze River Economic Zone by Relying on the Golden Waterway', State Council, 25 September 2014, http://www.gov.cn/zhengce/content/2014-09/25/content_9092.htm

As cooperation within the Pan-Pearl River Delta (PRD) Economic Zone increases, there will be numerous opportunities to invest in the interconnectivity of the infrastructure network

Pan-PRD cooperation is a significant trans-regional strategy for China's south central regions in the 13th FYP. The geographical coverage is broad, and opportunities abound for both Chinese and foreign businesses. The *Outline* points out the need to support the region's efforts to regain leadership in economic openness, innovation, transformation and upgrading. It calls for the accelerated development of the high-tech and industrial innovation centres in Shenzhen, the deepening of the Pan-PRD regional cooperation, and the

accelerated development of the Pearl River-Xijiang River Economic Zone.

The interconnectivity of infrastructure – especially transportation infrastructure – within the region is a focal point of cooperative efforts. According to the State Council's *Guiding Opinions*,⁷⁵ there is a need to build a modern, integrated, safe, convenient and low-carbon transportation system that boasts strong intermodal connections and an efficient hub in order to effectively support the region's development. Such a network will help improve interconnectivity within the region, as well as between the region and its neighbouring provinces, cities and countries. Connecting the infrastructure network within the Pan-PRD zone can help generate tremendous opportunities for investment into large projects in areas including railways, roads, waterways, ports, aviation and transportation services (Table 4-3).

Graph 4-2 Investment forecast of the Yangtze River Economic Zone Strategy for the 13th FYP period

Source: Calculated from the key projects and programmes in 'Guiding Opinions of the State Council on Promoting the Development of the Yangtze River Economic Zone by Relying on the Golden Waterway' and other relevant government documents



⁷⁵ 'Guiding Opinions of the State Council on Deepening the Cooperation within the Pan-Pearl-River Delta Region', State Council, 15 March 2016, http://www.gov.cn/zhengce/content/2016-03/15/content_5053647.htm

Table 4-3 Pan-PRD Economic Zone transportation infrastructure programmes and projects during the 13th FYP period**Rail**

- Railway from Haikou to Lanzhou via Nanning and Guiyang
- The Qiongzhou Strait railway tunnel project
- Zhanjiang-Hai'an railway expansion project
- Various railway lines including Ganzhou-Shenzhen, Chongqing-Kunming, Fuling-Kaili-Liuzhou, Liuzhou-Shaoguan, Xi'an-Chongqing-Changsha-Xiamen, Ji'an-Wuyishan, Guiyang-Zhangjiajie, Xingyi-Yongzhou-Chenzhou-Ganzhou, and Lincang-Qingshuihe

**Highway**

- Improvement of national highways and national and provincial arterial highways
- Improvement of highway technical standards and safety features
- Clearing of dead-ends and bottlenecks on inter-provincial highways
- General improvement of highway safety

**Ports and channels**

- High-grade waterway development along the mainstream and major tributaries of the Pearl River
- Xijiang River arterial shipping line capacity expansion project
- Waterway development projects including those on the Youjiang River, Beipanjiang River-Hongshui River and Liujiang River-Qianjiang River
- The Hunan-Guangxi canal
- The south-western waterways with sea access project
- Establishment of the coordinated development mechanism of water transportation on the Pearl River
- Construction of water transportation projects to achieve coordinated development on the Pearl River
- New wharves for roll-on/roll-off passenger and cargo ships on the north and south shores of the Qiongzhou Strait

**Aviation**

- Development of international aviation hubs and gateway airports
- Development of regional airports
- Increasing routes and frequency for intra-regional flights

**Transportation services**

- Development of intermodal freight hubs and logistics parks
- Development of cargo collection and distribution systems in major transportation hubs
- Development of a Pan-PRD drop-and-pull transport network
- Development of intelligent logistics networks
- Development of a public information platform for transport, shipping and logistics for cross-border logistics covering Southeast Asia and South Asia
- Development of the Pan-PRD international logistics core network
- Development of the Chengdu-Europe Express project and other international logistics channels

Source: 'Guiding Opinions of the State Council on Promoting Cooperation within the Pan-Pearl-River Delta', State Council, 15 March 2016, http://www.gov.cn/zhengce/content/2016-03/15/content_5053647.htm

4.2 Inter-city infrastructure: The '20+1' city clusters

City clusters have a principal strategic role to play in the promotion of a new type of urbanisation for regional development under the 13th FYP. The *Outline* calls for the optimal distribution and coordinated development of cities of varied sizes and small towns along the 'two-horizontal and three-vertical' corridors. The 'two horizontals' are the Land Bridge Corridor⁷⁶ and the Yangtze River Corridor; the 'three verticals' are the Coastal Corridor, the Harbin-Beijing-Guangzhou Railway Corridor and the Baotou-Kunming Railway Corridor.

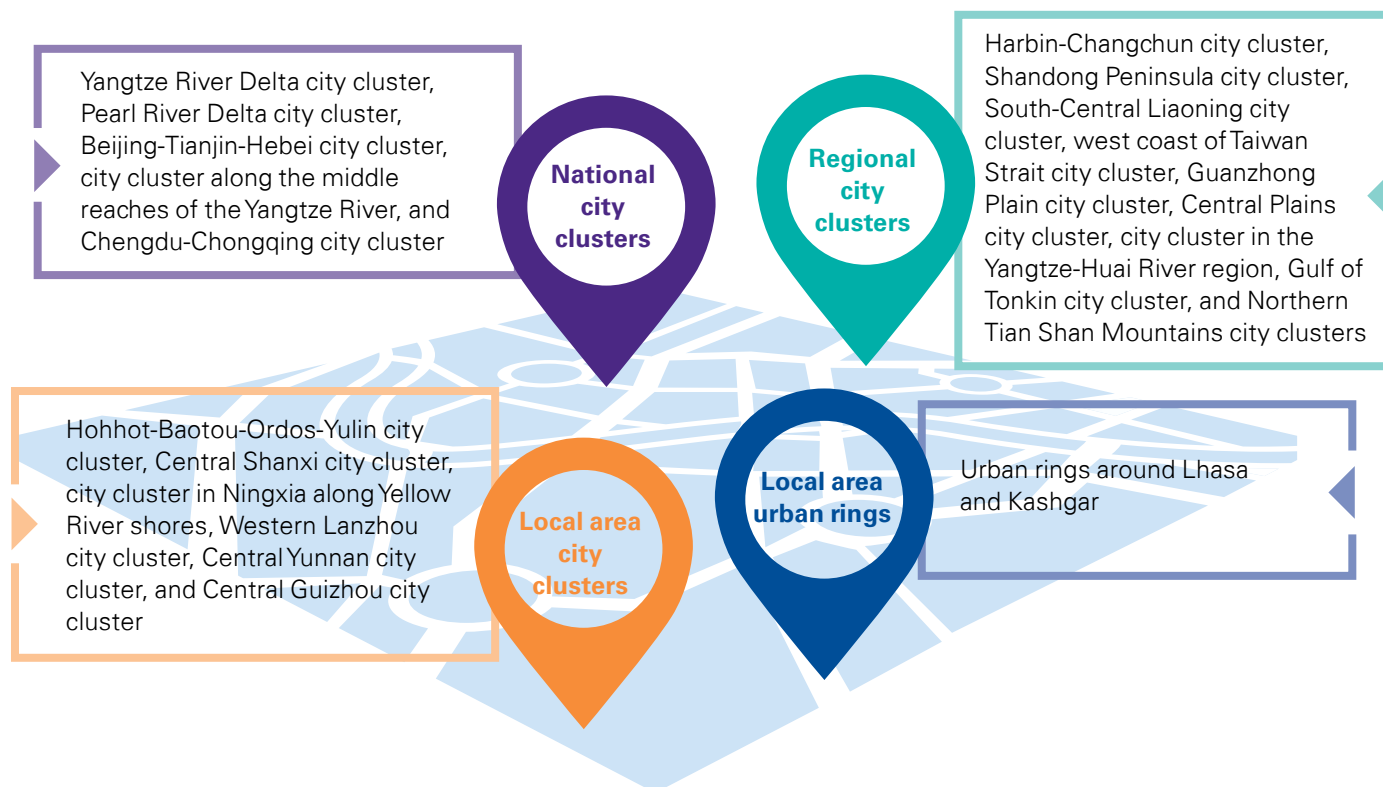
In the 13th FYP period, the overarching strategy for the development of city clusters is to build world-class city clusters in the Beijing-Tianjin-Hebei, Yangtze River Delta and PRD regions to elevate the level of openness and competitiveness of the city clusters on the Shandong Peninsula and the west coast of the Taiwan Strait. Other city clusters that are to undergo further development include: those in the north-east regions, on the Central Plains, along the middle reaches of the Yangtze River, in the Chengdu-Chongqing regions, on the Guanzhong Plain, around the Gulf

of Tonkin, in central Shanxi, in the Hohhot-Baotou-Ordos-Yulin areas, in central Guizhou and Yunnan, between Lanzhou and Xining, along the Yellow River in Ningxia, on the Northern Tian Shan Mountains, and around Lhasa and Kashgar (Figure 4-2).

Opportunities exist for foreign investors in intra-cluster transportation infrastructure projects

In the next five years, and starting from weak links in transport infrastructure, China plans to quickly build transportation networks in city cluster areas, with the total operational length of urban rail growing by 3,000km by 2020.⁷⁷ There are five primary areas of infrastructure development and investment opportunities: linking highways, joining inter-city railways and passenger dedicated railways, connecting waterways, linking flight routes, and integrating transportation services. The 13th FYP period will see the publication of development plans for the main city clusters, and investment in interconnected infrastructure is therefore likely to increase rapidly. Foreign investors will have the opportunity to increase participation in infrastructure development by investing in and operating projects in the above areas.

Figure 4-2 '20+1' primary city clusters under the 13th FYP



Source: Compiled from the '13th Five Year Plan for National Economic and Social Development of the People's Republic of China Outline' and related national government documents regarding city clusters.

⁷⁶ The Land Bridge Corridor connects the east coast with the west inland of China. It starts from the port city of Lianyungang in Jiangsu province, through Lanzhou in Gansu province, and all the way to Alataw Pass in the Xinjiang Uygur Autonomous Region.

⁷⁷ 'The 13th Five Year Plan (Full Text)', Xinhua News, 18 March 2016, http://sh.xinhuanet.com/2016-03/18/c_135200400.htm

4.3 New city infrastructure: New urbanisation and the birth of new small and medium-sized cities

Pursuing new urbanisation is one of the key strategic areas in the 13th FYP. According to the *Outline*, China will nurture the development of a number of emerging small and medium-sized cities that are self-contained and each have their own distinctive features; develop small towns in desirable geographic locations with convenient transportation, unique natural resources and rich cultural heritage; improve municipal infrastructure and public service facilities; and strive to build cities that are harmonious, liveable, vibrant and distinct. During the 13th FYP period, opportunities for both Chinese and foreign businesses to invest in these new forms of urbanisation lie predominantly in the areas of new 'distinctive cities' and the construction of underground utility pipeline corridors.

China will enter a period of significantly increased investment in smart city development

The *Outline* calls for enhanced modern information technology infrastructure, the continued development of big data and the IoT, and the building of smart cities. The Ministry of Housing and Urban-Rural Development is now in the process of putting together a 13th FYP smart cities planning forecast, and during the next five years, the overall scope of investment in China's smart cities will likely exceed RMB 500 billion.⁷⁸

In 2014, China's National Development and Reform Commission (NDRC) released the *Notice on the Guiding Opinions on Promoting the Healthy Development of Smart Cities*,⁷⁹ clearly pointing out that China needs to attract private capital to participate in the building of intelligent cities through the granting of concessions, service procurement and other mechanisms. The NDRC notice also encourages eligible businesses to issue debt and raise capital to start

smart city construction projects. Foreign companies have the opportunity to leverage technological, operational and management advantages to participate in smart city construction, in areas such as smart governance, smart industry and smart public services.

'Sponge cities' will likely release a wave of investment opportunities

The *Outline* points out that for the 13th FYP period, China will need to support the development of 'sponge cities' by strengthening flood control, drainage and temporary reservoirs, as well as ecological infrastructure such as parks and green spaces. Through a set of *Guiding Opinions* issued in 2015,⁸⁰ the State Council set China's objectives for the development of water management capabilities in cities. The objectives require that by 2020, over one-fifth of the area in each of the 658 urban centres will achieve a rainwater absorption and utilisation rate of 70 percent. Initial calculations suggest that reaching this goal would require investments of more than RMB 400 billion every year, which means a total of RMB 2 trillion over five years.⁸¹

The *Guiding Opinions* indicates that sponge city construction will require cooperative mechanisms to share risks and rewards between the government and private capital. Clarification of rights to operating income, governmental procurement of services, governmental subsidies and other measures will help encourage private sector participation in the investment in and development and management of sponge cities. Foreign investors can participate in building China's sponge cities in the areas of Low Impact Development (LID) storm water systems, storm water drainage systems, construction of parks and green spaces, and ecological restoration.

Figure 4-3 Road map for the construction of sponge cities



Source: Compiled from related documents and literature

⁷⁸ 'China to invest over RMB 500 billion in building smart cities during the 13th FYP period', China Times, 19 December 2015, <http://www.chinatimes.cc/article/52563.html>

⁷⁹ 'Notice on the Guiding Opinions on Promoting the Healthy Development of Smart Cities', NDRC, 27 August 2014, http://www.sdpc.gov.cn/gzdt/201408/t20140829_624003.html

⁸⁰ 'Guiding Opinions of the General Office of the State Council on Promoting the Construction of Sponge Cities', General Office of the State Council, 16 October 2015, http://www.gov.cn/zhengce/content/2015-10/16/content_10228.htm

⁸¹ 'Sponge cities require an annual investment boost of RMB 400 billion over the next 5 years', Economic Information Daily, 26 November 2015, http://jckb.xinhuanet.com/2015-11/26/c_134855418.htm

Construction of underground pipeline corridors will help provide an open stage for investment

The *Outline* calls for efforts to overhaul and expand municipal pipeline and cable networks and other underground infrastructure, and advance the building of pipeline corridors. In 2015, in the form of the *Guiding Opinions of the General Office of the State Council on Promoting the Urban Underground Utility Tunnel Construction*, the State Council pointed to a number of goals to be met by 2020:

- Completion of a significant number of world-class underground integrated pipeline corridors
- Marked progress in eliminating the problem of 'zipper roads' (repeated digging up and re-paving of streets)
- Clear improvement of the safety standards and natural disaster resilience of pipes and cables
- Progressive removal of the cobweb-like overhead cabling along main roads, and improvement of the urban landscape.⁸²

There are two components of the integrated underground pipeline: the corridor, and pipes and cables. It is estimated that each kilometre of corridor requires an investment of about RMB 80 million, and laying pipes and cables within the corridors requires about RMB 40 million per kilometre – a total construction cost of RMB 120 million per kilometre. At the present rate of urbanisation, the investment required over the next five years is expected to be about RMB 5 trillion, at RMB 1 trillion a year.⁸³ If the private sector contributes 50 percent of the investment into underground corridors, that would mean investment opportunities for Chinese and foreign businesses worth RMB 2.5 trillion.

The NDRC and the Ministry of Housing and Urban-Rural Development issued joint *Guiding Opinions*⁸⁴ on paid use pipeline corridors in 2015, providing an important basis for the development of mechanisms and institutional assurances for private capital to reap returns from their participation in these projects. Foreign capital will be an important force in the development of China's underground pipeline networks, and opportunities exist for them to invest in areas such as the

construction and operation of underground urban pipeline networks and the supply of equipment.

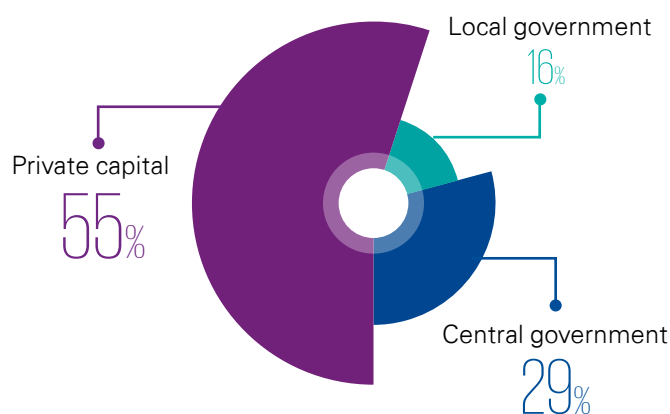
Development of other urban infrastructure will also likely accelerate

The *Outline* also calls for the:

- Accelerated improvement and expansion of urban water supply systems
- Intensified building of city roads, car parks and road safety features, as well as facilities for pedestrians and cyclists
- Continued installation of barrier-free facilities
- Building of kindergartens and schools to support new residential areas
- Provision of parking spaces and charging poles for electric cars in residential compounds.

Foreign investors may also find opportunities in the development of infrastructure and the provision of public services in these areas.

Graph 4-3 Investment sources for the construction of China's underground pipeline corridors during the 13th FYP period



Source: Consolidated data from surveys, studies and related documents



⁸² 'Guiding Opinions of the General Office of the State Council on Promoting the Urban Underground Utility Tunnel Construction', General Office of the State Council, 10 August 2015, http://www.gov.cn/zhengce/content/2015-08/10/content_10063.htm

⁸³ 'China to build an underground integrated pipeline, starting an "underground pipeline revolution"', Xinhua News, 31 July 2015, http://news.xinhuanet.com/politics/2015-07/31/c_11116107711.htm

⁸⁴ 'Guiding Opinions of the National Development and Reform Commission and Ministry of Housing and Urban-Rural Development on the Implementation of a Tolling Mechanism for the Urban Underground Integrated Pipeline Corridor System', NDRC, Ministry of Housing and Urban-Rural Development, 26 November 2015, http://www.sdpc.gov.cn/zcfb/zcfbtz/201512/t20151209_761935.html

4.4 Agricultural infrastructure: The 'beautiful countryside' and 'new countryside'

During the 13th FYP period, China will accelerate urban-rural integration, and reduce the gap between the two. The most important aspect of urban-rural integration is strengthening the weak link that is rural infrastructure. As China works to elevate the level of rural development to build the 'new socialist countryside', we expect there to be plenty of investment opportunities for Chinese and foreign businesses in rural infrastructure.

Poor rural infrastructure continues to be the weak link in urban-rural development

Come 2020, China's urbanisation rate will likely reach 60 percent, leaving 40 percent of the population still living in rural areas.⁸⁵ Based on investigation and research, 40 percent of China's administrative villages lack a centralised water supply; the majority of internal roads are unpaved; only 35 percent of villages have domestic waste disposal facilities; and only 9 percent of administrative villages have sewage systems.⁸⁶ Rural living conditions are in urgent need of improvement.

The development of a 'beautiful countryside' involves many types of infrastructure construction

The *Outline* calls for the acceleration of the development of a beautiful and liveable countryside. Many types of rural facilities, such as broadband, roads, unsafe buildings, drinking water, lighting, sanitation and fire prevention systems will need to be transformed at a faster pace. Rural beautification will also require renewed efforts to overhaul and upgrade the rural power grid and to improve rural drinking water safety. Model villages and towns will be developed to promote 'ecological civilisation'⁸⁷ initiatives and comprehensive measures taken to improve the rural living environment and working conditions.

Through a set of 2014 *Guiding Opinions*,⁸⁸ the State Council has set the key objectives for a 'beautiful countryside' during the 13th FYP: by 2020, basic living conditions such as housing, drinking water and transportation should have improved markedly; the living environment should achieve basic levels of cleanliness and convenience; and a number of attractive and liveable rural villages, each with their own distinctive features, should have been developed.

The development of a 'beautiful countryside' will help kick-start substantial investment in infrastructure, providing opportunities for Chinese and foreign businesses

China has over 570,000 villages, and based on average investment in the development of a 'beautiful countryside', it is estimated that every small village will require investment of roughly RMB 2 million every year. In the next five years, government investment will likely leverage private capital investment of tens of trillions of renminbi,⁸⁹ bringing significant opportunities for foreign investment participation.

Meanwhile, the abovementioned *Guiding Opinions* put special emphasis on encouraging the participation of private capital in construction. The government – by way of commissioning, contracting, procurement and other methods – can pay the private sector for public services including village planning and construction, waste and sewage treatment, and water channel management.

In fact, in recent years, foreign investors have already been participating in rural development. According to the Chinese Government's incomplete statistics, such foreign investment has exceeded USD 30 billion. In the 13th FYP period, foreign investment will find new and additional investment opportunities in the development, operation and maintenance of public facilities, in such areas as rural power grids, village roads, water supply and drainage, waste and sewage treatment, methane utilisation, and waterways. Ecological protection and tourism development will also bring investment opportunities.

⁸⁵ 'China's urbanisation rate will likely reach 60% by 2020', Xinhua News, 17 March 2014, http://news.xinhuanet.com/house/nj/2014-03-17/c_119792678.htm

⁸⁶ 'Interpretation of "Guiding Opinions of the General Office of the State Council on Improving the Rural Human Settlement Environment"', General Office of the State Council, 5 June 2014, http://www.gov.cn/xinwen/2014-06/05/content_2694296.htm

⁸⁷ A term introduced into China's development discourse by the then President Hu Jintao in response to concerns over environmental degradation; it promotes the ideas of frugality, environmental protection and sustainability.

⁸⁸ 'Guiding Opinions of the General Office of the State Council on Improving the Rural Human Settlement Environment', General Office of the State Council, 29 May 2014, http://www.gov.cn/zhengce/content/2014-05/29/content_8835.htm

⁸⁹ 'Foreign investment interest in China rural settlement improvement is a RMB 1 trillion market', Xinhua News, 8 November 2015, http://news.xinhuanet.com/finance/2015-11/08/c_1117073527.htm



Chapter 5

Green development and 'ecology first': Opportunities in environmental services, green finance and green technology



Green development and the advancement of 'ecological civilisation' are important strategies and tasks of the 13th FYP. The *Outline* calls for:

- 1. Accelerated allocation and definition of ecological rights and interests, and the introduction of trading in ecological rights**
- 2. The participation of private capital in the green development strategy, implementation of market-based ecological protection and development methods, and provision of high-quality ecological goods to China and the world.**

Preliminary estimates show that the green industry will need at least RMB 2 trillion in annual investment during the 13th FYP period⁹⁰ – nearly three times that during the 12th FYP period – and will provide a prime opportunity for Chinese and foreign businesses to participate in the industry.

Table 5-1 Green development projects, programmes and policies in the 13th FYP period

Environmental governance



Major projects, programmes and policies:

- Enforce strict protection of headstreams of rivers and 378 rivers, lakes and reservoirs where water quality ratings are at or above Category III⁹¹
- Launch the rehabilitation of 10 million mu (6,667km²) and hazard controls for 40 million mu (26,670km²) of polluted cultivated land
- Build five disposal sites for low- to mid-level radioactive waste, and one underground disposal laboratory for highly radioactive waste
- Promote ecological rehabilitation in regions crucial to China's ecological security, such as the Qinghai-Tibet Plateau and Loess Plateau
- Build large-scale ecological protection areas and green corridors that connect these areas
- Advance comprehensive development, protection and rehabilitation of domestic frontier regions
- Add 270,000km² of land to soil erosion control programmes

Green finance



Major projects, programmes and policies:

- Establish a green finance system
- Develop green credit and bonds
- Set up green development funds

Green technology industry



Major projects, programmes and policies:

- Implement plans to promote new energy vehicles
- Achieve breakthroughs in crucial technologies such as increasing battery energy density and tolerance of high and low temperatures
- Build infrastructure for a battery recharging network
- Strengthen the mechanism for used auto battery recycling

Source: Compiled from the '13th Five Year Plan for National Economic and Social Development of the People's Republic of China Outline' and related national government documents regarding green development

⁹⁰ 'In the 13th Five Year Plan, green industry requires a minimum of RMB 2 trillion of investment each year', Sina Finance, 5 November 2015, <http://finance.sina.com.cn/changjing/cyxw/20151105/022423681029.shtml>

⁹¹ According to the Environmental Quality Standards for Surface Water issued by the Ministry of Environmental Protection in 2002, the water bodies are divided into five classes based on the utilisation purposes and protection objectives, of which Class III is mainly applicable to the second class of protected surface water sources for the centralised provision of drinking water, wintering grounds and migration channels of fish and shrimp, aquaculture areas, as well as swimming areas.

5.1 Third-party environmental governance: Water, air and soil

Accelerating comprehensive environmental governance is a key move to achieve green development over the 13th FYP period. The *Outline* calls for:

- Creating innovative concepts and methods for environmental governance
- Implementing the strictest environmental protection system
- Increasing accountability for polluters
- Forming a system that facilitates joint governance efforts by government bodies, businesses and the public
- Improving overall environmental quality.

All these measures will help gradually open up investment opportunities in the third-party environmental governance industry.

Investment in environmental governance should grow rapidly in the 13th FYP period

From 2001 to 2015, total investment increased relatively quickly, from RMB 110.7 billion in 2001 to RMB 957.6 billion in 2015. The average annual investment growth rate surpassed 15 percent – faster than the real growth rate of fixed asset investments.⁹²

However, despite the Chinese Government's efforts, ecosystem degradation has continued. In 2014, only 8 of the 74 major Chinese cities met annual average air quality standards.⁹³ About 10 percent of surface water across the country measured below Grade V in quality,⁹⁴ and the proportion that met Grade I and II standards decreased by 5.7 percent from the previous year. Therefore, the Chinese Government will tighten protection standards and increase investment.⁹⁵ Forecasts show investment will grow by over 20 percent per annum over

the 13th FYP period, with annual investment totalling RMB 2.4 trillion by 2020 – 2.5 times the amount invested in 2015.⁹⁶ Clearly, the scope for investment in China's environmental governance is set to expand rapidly.

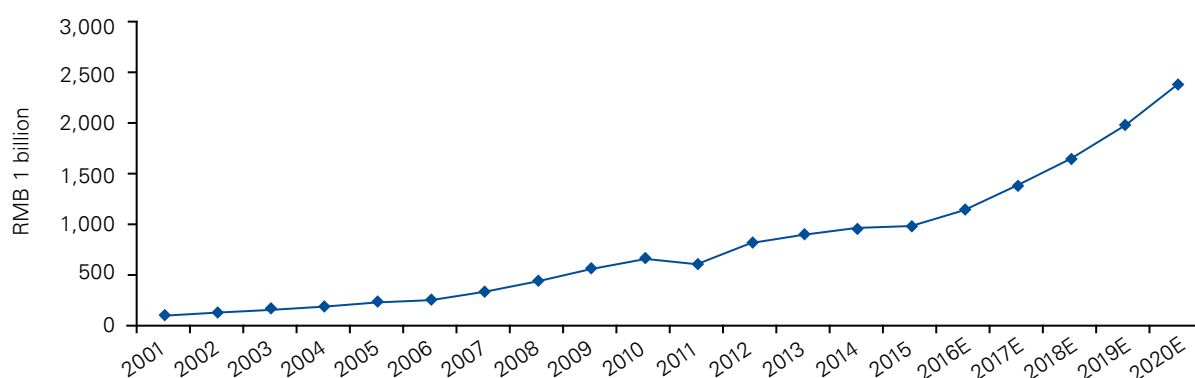
Third-party participation in environmental governance compensates for deficiencies in government investment

Over the past few years, Chinese investment in environmental protection and treatment has increased by over RMB 100 billion annually. However, this still hardly meets demand; government contributions have accounted for only 30-40 percent of total investment.⁹⁷ During the 13th FYP period, to achieve growth of 20 percent or more in environmental governance investment, rising government contributions alone will be insufficient. For this reason, in 2014 the General Office of the State Council issued *Guiding Opinions*,⁹⁸ which states that to improve environmental pollution control/treatment, China needs to:

- Encourage professional, commercial and market-based clean-up services
- Build a nurturing market and policy environment
- Improve government administration and services
- Establish a third-party clean-up services marketplace with unified standards, healthy competition and powerful oversight
- Attract and expand private capital investment
- Create a new mechanism where polluters pay, and clean-up is carried out by third parties.

In this way, China's third-party environmental governance industry should develop more quickly in the 13th FYP period.

Graph 5-1 Environmental governance investment and 13th FYP forecast



Source: For calendar years 2001-2015, data is from the 'Annual Statistic Report on Environment in China' issued by the Ministry of Environmental Protection; for calendar years 2016-2020, data is estimated based on investment in environmental governance over the past five years, as well as from environmental protection and clean-up projects listed in the 13th FYP.

92 'China Environment Status Bulletin 2001', China News, 12 January 2006, http://www.china.com.cn/zhuanqi2005/txt/2006-01/12/content_6090902.htm

93 'Development status of China's environmental protection industry in 2015', China Industrial Information Network, 15 January 2016, <http://www.chyxx.com/industry/201601/380396.html>

94 'Only 8 of the 74 major cities met air quality standards in 2014', Xinhua News, 22 February 2015, http://news.xinhuanet.com/local/2015-02/22/c_127510536.htm

95 Grade V is the lowest water quality.

96 'Environmental governance efforts continue to increase during the 13th FYP period', Xinhua News, 30 November 2015, http://news.xinhuanet.com/fortune/2015-11/30/c_128482139.htm

97 KPMG China's estimation based on 2015 investment and forecast annual growth rate in the 13th FYP period

98 'The economics of environmental governance: Three big initiatives are expected to result in RMB 10 trillion investment', Sina Finance, 13 March 2015, <http://finance.sina.com.cn/china/20150313/005921709924.shtml>

'Development status of China's environmental protection industry in 2015', China Industrial Information Network, 15 January 2016, <http://www.chyxx.com/industry/201601/380396.html>

98 'General Office of the State Council Guiding Opinions on Carrying Out Third-party Environmental Governance', General Office of the State Council, 14 January 2015, http://www.gov.cn/zhengce/content/2015-01/14/content_9392.htm

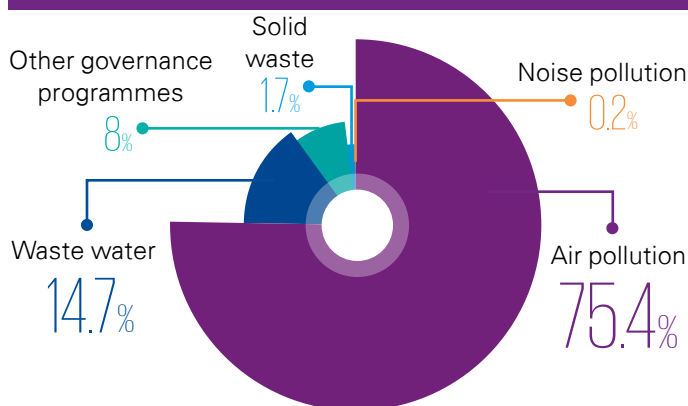
Foreign capital should find promising opportunities in water, air and soil treatment, as well as joint regional environmental governance

Chinese third-party environmental governance will focus on water, air and soil. According to the *Action Plan on Air Pollution Prevention and Control* released in 2013,⁹⁹ the *Action Plan on Water Pollution Prevention and Control* released in 2015¹⁰⁰ and the *Action Plan on Soil Pollution Prevention and Control* released in 2016,¹⁰¹ China should promote diversified financing, broaden investment and financing channels, and encourage private capital – including foreign capital – to enter the industry. Currently, the largest portions of capital investment are directed to waste water and air pollution treatment, at 14.7 percent and 75.4 percent respectively (Graph 5-2). Experts estimate that in the 13th FYP period, implementation of the ‘Ten Measures for Air Pollution Prevention and Control’,¹⁰² ‘Ten Measures for Water Pollution and Control’,¹⁰³ and ‘Ten Measures for Soil Pollution Prevention and Control’¹⁰⁴ will require additional investment of RMB 1.84 trillion, RMB 4-5 trillion and over RMB 2 trillion respectively¹⁰⁵ – equivalent to average annual investment growth of 15 percent, 5 percent and 15-20 percent respectively, with investment in soil and air treatment/pollution control growing the fastest.

Looking at the regions, Beijing-Tianjin-Hebei and the Yangtze River Economic Zone will be focus areas for environmental governance investment during the 13th FYP period. The

Outline points out that coordinated development of the Beijing-Tianjin-Hebei region will require stronger measures for joint prevention and control of air pollution, and implementation of gasification projects in key areas. In the Yangtze River Economic Zone, China will build a green ecological corridor, which will require the protection of water resources and the control of water pollution along the entire river basin. Foreign businesses will find more investment opportunities in third-party governance across water, air and soil in both these as well as other regions.

Graph 5-2 Composition of investment in Chinese environmental governance



Source: Data calculated based on the ‘Annual Statistic Report on Environment in China’ issued by the Ministry of Environmental Protection



99 ‘Notice of the State Council on Implementation of the Action Plan on Air Pollution Prevention and Control’, State Council, 12 September 2013, http://www.gov.cn/zwgc/2013-09/12/content_2486773.htm

100 ‘Notice of the State Council on Implementation of the Action Plan on Water Pollution Prevention and Control’, State Council, 16 April 2015, http://www.gov.cn/zhengce/content/2015-04/16/content_9613.htm

101 ‘Notice of the State Council on Implementation of the Action Plan on Soil Pollution Prevention’, State Council, 31 May 2016, http://www.gov.cn/zhengce/content/2016-05/31/content_5078377.htm

102 See footnote 99

103 See footnote 100

104 See footnote 101

105 ‘Air pollution prevention and control requires RMB 1.84 trillion’, Sina News, 23 November 2015, <http://news.sina.com.cn/green/2015-11-23/doc-ifxkxfvn8977093.shtml>

‘China will invest RMB 4-5 trillion to treat water pollution’, Sina News, 16 April 2015, <http://finance.sina.com.cn/chanjing/cywx/20150416/113821971148.shtml>

‘“Action Plan for Soil Pollution and Control” has been launched; how companies can grab the trillions of investment opportunities’, NetEase News, 1 June 2016, <http://news.163.com/16/0601/18/B0GE46M60014JB5.html>

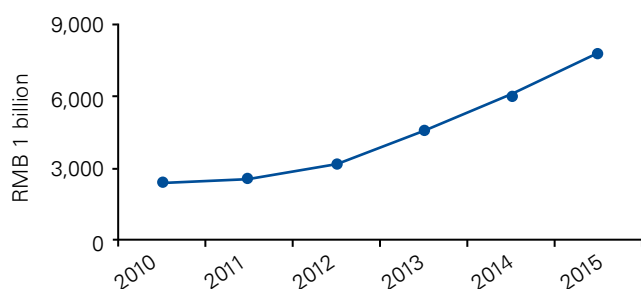
5.2 Green finance: Green lending, bonds, insurance and funds

Developing green finance is an important and creative proposal for ecological protection during the 13th FYP period. The *Outline* calls for a green finance system, and further development of green credit, green bonds and green development funds. Green finance is expected to become the next investment focus for overseas financial institutions.

The green finance industry is taking shape

During the 12th FYP period, China's green finance industry started to develop, with green credit growing most rapidly. By the end of 2015, the outstanding balance of green credit issued by China's 21 major banks had totalled RMB 7.59 trillion – 2.25 times the 2010 amount, registering an annual average growth rate of 27 percent, and a high growth rate of over 30 percent for 2013-2015 (Graph 5-3). However, green finance in China relies largely on indirect financing, while direct financing such as bonds, stocks and insurance is still rarely used, keeping costs high. Nevertheless, China's green finance industry is taking shape and is becoming a new high-growth industry within the financial sector.

Graph 5-3 Outstanding balance of green credit issued by China's 21 major banks



Source: Data calculated based on 'Almanac of China's Finance and Banking' compiled and published by the Financial Research Institute of The People's Bank of China

Accelerated development of green finance during the 13th FYP period

According to the 'low' investment scenario where existing plans and standards would be implemented, demand for green financing will total around RMB 14.6 trillion across five areas:¹⁰⁶

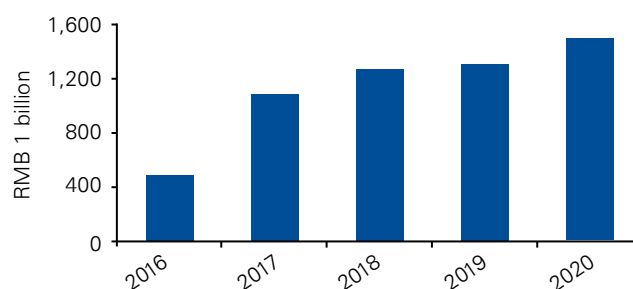
1. Industrial pollution control
2. Environmental restoration
3. Sustainable energy
4. Environmental infrastructure
5. Energy and resource conservation.

Under the 'high' scenario, which aims to have no environmental degradation, investment will likely reach RMB 30 trillion.¹⁰⁷ At the start of 2016, the People's Bank of China began to accelerate the issuance of green bonds, in addition to its current development of green credit. On 27 January 2016, Shanghai Pudong Development Bank successfully issued the first green financial bond in China, for an amount of RMB 20 billion.¹⁰⁸ During the 13th FYP period, China will strive to issue more green bonds, to be used mainly for projects related to green and circular development, as well as low carbon growth, including:

- Updating of energy-saving and emissions reduction technologies
- Green urbanisation
- Effective utilisation of clean energy
- Development and utilisation of new energy
- Development of a circular economy¹⁰⁹
- Water saving, development and utilisation of unconventional water resources
- Pollution prevention and treatment
- Ecological farming and forestry
- Energy saving, environmental protection and low-carbon industries
- Piloting and demonstration programme on 'ecological civilisation' initiatives
- Low-carbon pilot projects.¹¹⁰

It is estimated that by 2020, the outstanding balance of China's green bonds is set to reach RMB 5.7 trillion.¹¹¹

Graph 5-4 Forecast Chinese green bond issuances during the 13th FYP period



Source: Calculated from the People's Bank of China documents and forecasts of China's green finance market

¹⁰⁶ 'Accelerating the building of the green finance system and boosting green development during the 13th FYP period', China High-Tech Industry Herald, 19 October 2015, http://paper.chinahightech.com/html/2015-10/19/content_16385.htm

¹⁰⁷ See footnote 106

¹⁰⁸ 'Shanghai Pudong Development Bank has successfully made China's first green bond offer', Xinhua News, 27 January 2016, http://news.xinhuanet.com/fortune/2016-01/27/c_128676217.htm

¹⁰⁹ According to the *Several Opinions of the State Council on Speeding up the Development of the Circular Economy*: in light of the principle of 'reduce, reuse and recycle', 'circular economy' refers to taking various effective measures to obtain maximum economic output and minimum waste discharge by reducing resource consumption and environmental cost, in order to build a resource-saving and environmentally friendly society.

¹¹⁰ 'Green Credit Issuance Guidelines', NDRC, 31 December 2015, http://www.sdpc.gov.cn/zcfb/zcfbtz/201601/t20160108_770871.html

¹¹¹ 'Green bonds issued in China will reach RMB 5.7 trillion by 2020', China Financial and Economic News, 2 February 2016, http://www.cfen.com.cn/dzb/dzb/page_7/201602/t20160202_1662578.html

Foreign businesses will find investment opportunities in expanding green finance product lines and innovative business models

During the 13th FYP period, China will establish a green finance system to encourage and guide private capital engaging in this industry. According to government plans, over the next years China will:

- Develop green bond markets and green guarantee mechanisms more rapidly
- Develop green industry funds
- Develop green stock indices
- Promote asset securitisation in green projects
- Establish a mandatory green insurance system for areas with high environmental risks.¹¹²

Foreign businesses and institutions are permitted to participate in these areas – foreign commercial and investment banks, as well as insurance companies will likely find many opportunities to invest and operate in China.¹¹³ Chinese financial institutions can also capitalise on these opportunities to internationalise China's green finance industry and to raise funds abroad. In fact, the Chinese Government has already started inter-country cooperation on green finance with Chinese and foreign businesses.

For example, in the 2015 UK-China Economic and Financial Dialogue, both countries committed to encouraging Chinese companies and financial institutions issuing green bonds in the UK. The Agricultural Bank of China became the first Chinese financial institution to successfully issue green bonds on the London Stock Exchange. China also attracts more international 'green investors' through various arrangements, which will undoubtedly provide Chinese and foreign businesses with valuable opportunities in this industry.



¹¹² 'Chief economist at the PBOC points out 10 main areas of green finance development in the 13th FYP period', Sina Finance, 5 February 2016, http://finance.sina.com.cn/money/bank/bank_hydt/20160205/143824273161.shtml

¹¹³ 'People's Bank of China Notice on Green Bond Issuance-related Matters', People's Bank of China, 22 December 2015, <http://www.pbc.gov.cn/zhengwugongkai/127924/128038/128109/2997296/2015122918355461250.pdf>
'Green Projects Catalogue (2015 Version)', People's Bank of China, 22 December 2015, <http://www.pbc.gov.cn/zhengwugongkai/127924/128038/128109/2997296/2015122918450210643.pdf>

5.3 Green technology: New energy vehicles and green building materials

The 13th FYP marks an important period for China to accelerate its energy consumption revolution. The *Outline* points out that China must transform how energy is used, strengthen full-cycle conservation supervision, significantly increase overall return on energy utilisation, and adopt a 'green lifestyle'. Based on the current trends, new energy vehicles and green building materials may become the two fastest growing markets in green technology and, as such, are set to become key sectors for Chinese and foreign businesses in terms of investment and market development.

China's green technology industry has developed quickly in recent years

During the 12th FYP period, China fostered the development of new energy vehicles and promoted energy-saving buildings, resulting in the rapid development of the new energy vehicle and green building materials industries. Annual sales of new energy vehicles rose from 7,200 in 2010 to 330,000 in 2015 – a 45-fold increase (Graph 5-5). At the same time, annual sales for green building materials also rose from RMB 183.7 billion in 2010 to RMB 669.8 billion in 2015 – a 260 percent increase (Graph 5-6).

The green technology industry is expected to skyrocket during the 13th FYP period

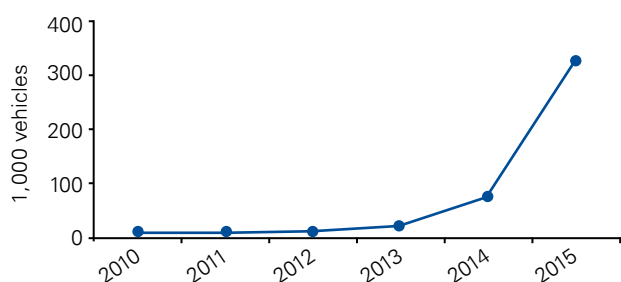
The *Outline* calls for a plan to popularise new energy vehicles, and broadly improve energy conservation in industrial buildings. According to the *2012 State Council Notice*, production capacity for fully electric vehicles and plug-in hybrid electric vehicles will reach 2 million per year by 2020, with accumulated production and sales of over 5 million.¹¹⁴ Our estimate shows that by 2020, the overall sales of new energy vehicles should surpass 5 million (Graph 5-7).

Meanwhile, China has released sets of policies and standards, such as the *Evaluation Standards for Green Building (2014 edition)* and the *Green Building Product Selection Guide Directory 2012*. The State Council's *2013 Action Plan on Green Building* indicates that by 2020, China will essentially complete the energy-efficient remodelling of residential buildings that are suitable for retrofitting in northern China where centralised heating is provided. According to this plan, by then, green buildings would account for more than 30 percent of newly built structures, and other actions will have been taken to move towards a green construction industry.¹¹⁵ Estimates suggest that during the 13th FYP period, the total sales of China's green building materials will reach over RMB 3.5 trillion, signifying vast prospects for the market (Graph 5-8).

Chinese and foreign businesses will participate in China's environmental protection industry through green technology sectors such as new energy vehicles and green building materials

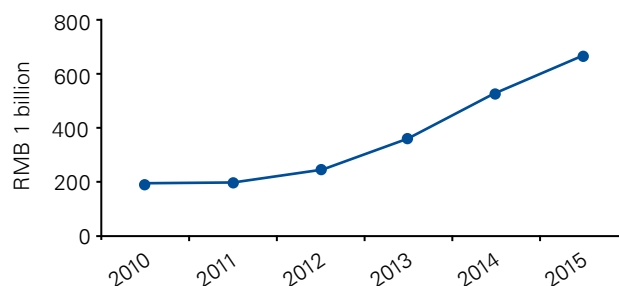
The *Catalogue for the Guidance of Foreign Investment Industries (Amended in 2015)* lists "key components for new energy vehicles" under the 'encouraged' category, which also includes "the development and production of energy-saving, environment-protecting, recycling, lightweight and high-intensity, high-performance and multi-functional architecture materials."¹¹⁶ This would help foreign businesses benefit from the rapid growth of new energy vehicles and green building materials, and thus enter the Chinese market. At the same time, as China's technology is lagging behind in these two areas, Chinese businesses will also benefit from 'going out' to acquire overseas companies with a competitive edge in green technology, which in turn can be deployed to accelerate the development of their domestic market.

Graph 5-5 New energy vehicle sales in China



Source: Calculated based on statistics from the China Association of Automobile Manufacturers (<http://www.caam.org.cn/>)

Graph 5-6 Green building materials sales in China



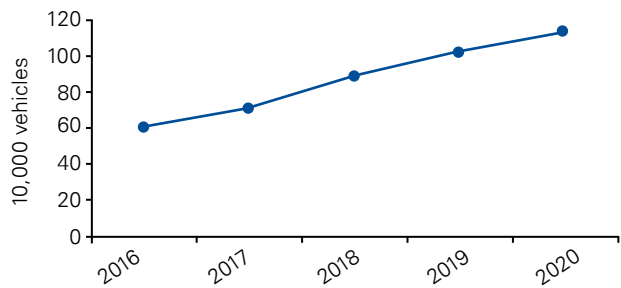
Source: Calculated based on statistics from the China Building Materials Federation (<http://www.ccement.com/zhuanti/cjhh/>)

114 'Notice of the State Council on Issuing the Planning for the Development of the Energy-saving and New Energy Automobile Industry', State Council, 28 June 2012, http://www.gov.cn/gongbao/content/2012/content_2182749.htm

115 'Action Plan on Green Building', State Council, 6 January 2013, http://www.gov.cn/zwqk/2013-01/06/content_2305793.htm

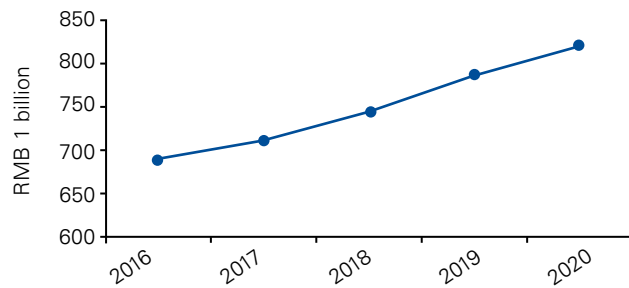
116 'Catalogue for the Guidance of Foreign Investment Industries (Amended in 2015)', NDRC, Ministry of Commerce, 10 March 2015, http://www.sdpc.gov.cn/zcfb/zcfbl/201503/t20150313_667332.html

Graph 5-7 New energy vehicle sales forecast in China for the 13th FYP period



Source: Recent sales data for China’s new energy vehicles and government planning targets and forecasts

Graph 5-8 China’s green building materials market forecast



Source: Recent data of China’s green building materials sales and government planning targets and forecasts



Chapter 6

An inclusive society and a better quality of life: Opportunities in high-end, 'safe' consumption and public services



Inclusiveness is one of the five tenets of development in the 13th FYP. In the final push towards a 'moderately prosperous society', China will increase the efficacy of institutional design, improve the structure of consumption, and provide high-quality public services to form an inclusive society and improve quality of life. Remedying shortcomings in people's quality of life will help offer citizens a greater sense of achievement derived from working together to build a well-off society.

6.1 High-end consumer goods: E-commerce and the revitalisation of luxury consumption

Luxury goods not only represent purchasing power and social status – they also reflect consumers' pursuit of quality and style. As the Chinese market for luxury goods develops and consumers mature, high-end consumers have been moving away from a herd mentality and are spending their money on trusted brands and high-quality products and services.

In recent years, growth in the high-end consumer industry has slowed, and some international luxury brands have seen sales decline in China

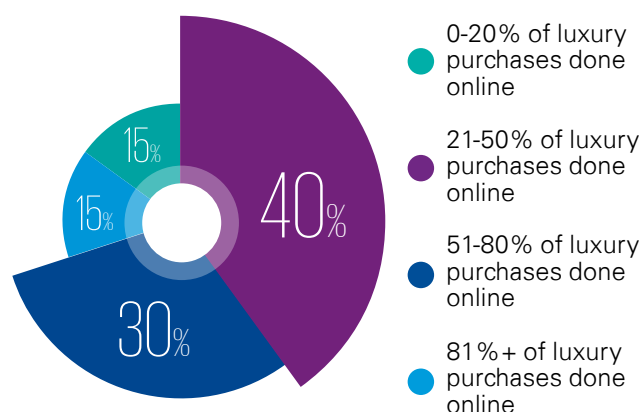
After a period of extraordinary growth, the industry has begun to stagnate. Statistics show that in 2015, China's luxury goods market was worth approximately RMB 113 billion, representing a 2 percent drop – one percentage point larger than the decrease over the previous year,¹¹⁷ when a decline was recorded for the first time ever. Since 2015, certain top international luxury brands have closed some of their stores in China, and others have lowered prices amidst falling demand. We are starting to see strategic adjustments within the industry and a partial withdrawal from this market.

The slowdown may be attributed to the slowing growth of the overall economy, a common preference for overseas travel and cross-border e-commerce, increasingly more pragmatic and younger consumers, and the government's firm stance on corruption.

According to statistics from the Fortune Character Institute, increasing purchases abroad led to a drop of RMB 25 billion in the domestic consumption of luxury goods in 2014, a YOY decrease of 11 percent.¹¹⁸ In the past few years, as overseas travel has gained popularity and parallel import policies have become favourable, large numbers of cross-border e-commerce platforms and overseas purchasing agents have led many consumers to go online for their luxury goods purchases (Graph 6-1).

At present, the industry is becoming more sophisticated, but some problems persist: there is still a relatively small number of Chinese high-end brands, the market itself lacks order and standardisation, and counterfeit goods continue to abound. Moreover, high-end consumption infrastructure shortfalls are constraining further development of the industry.

Graph 6-1 Survey: What percentage of their luxury goods do people purchase online?



Source: 'China's Connected Consumers', KPMG China, 2015



¹¹⁷ 'Mainland China's luxury spending continued its decline in 2015, however, emerging signs signal a reversal in 2016', Bain & Company, 20 January 2016, <http://www.bain.com/about/press/press-releases/China-Luxury-Report-2016-press-release.aspx>

¹¹⁸ '76 percent of Chinese luxury goods were purchased overseas', Huanqiu News, 2 February 2015, <http://finance.huanqiu.com/roll/2015-02/5568111.html>

Over the 13th FYP period, efforts will be directed towards promoting new forms of consumption, improving product quality and 're-shoring' overseas consumption, making high-end consumption the champion of 'new consumption'

The *Outline* points out that expanding the consumption of services will help make overall consumption models more sophisticated. It calls for support for new forms of consumption in several areas, including information, 'green' products, fashion and lifestyle, and high-quality goods. New consumption models such as O2O commerce should also be developed.

According to the State Council's *Guiding Opinions*,¹¹⁹ new forms of consumption include cross-regional and cross-border shopping, online and offline integrated shopping, and experience sharing. Lifestyle consumption includes branded fashion goods and services, as well as conventional forms of high-end consumption such as general aviation and cruise holidays. High-quality goods consumption generally refers to purchases of brand-name merchandise.

Meanwhile, China will also implement programmes to improve the quality of goods, strengthen consumer rights protection, empower consumer associations, and build a convenient consumer environment where customers have confidence in their purchases. Collectively, lower taxes, streamlined supply chains and logistics, plus better price regulation will help 're-shore' overseas consumption. By strategically locating duty-free stores in cities that are popular tourist destinations, China can promote the formation of international consumption hubs, and support the growth of the high-end consumer industry.

E-commerce is reviving the luxury goods industry and creating new opportunities for companies

Some forecasts predict that by 2020, China will surpass the US as the world's largest luxury goods market, valued at close to EUR 170 billion.¹²⁰ More and more consumers may move online: a 2015 KPMG survey of 10,150 people showed that one-third of consumers purchased luxury goods online, and this proportion is expected to increase to 50 percent by 2020.¹²¹ Foreign companies should adopt more varied strategies and proactively build out e-commerce channels to align with changing consumer preferences and behaviour. Companies should also reposition themselves so that they no longer cater exclusively to a high-end clientele but to a broader consumer base, while using more contemporary designs and marketing methods to attract younger consumers.



¹¹⁹ See footnote 15

¹²⁰ 'The 10 most worthwhile sectors in China for investment in the future', BWCHINESE, 28 October 2014, <http://www.bwchinese.com/article/1063289.html>

¹²¹ 'China's connected consumers', KPMG China, 7 October 2015, <https://home.kpmg.com/cn/en/home/insights/2010/03/china-connected-consumers-201510.html>

6.2 Food safety: Inspections and traceability

The production and supply of safe food is fundamental to ensuring people's quality of life. Food safety scandals in recent years have led to growing public concern. As a food safety industry develops, the adoption of new technologies, production techniques and equipment will help ensure better food safety.

The food safety industry has been developing rapidly, and an industrial complex has begun to take shape

The past few years have been a period of crisis for food safety in China, evidenced by a string of incidents including excessive plasticiser in food and beverages, cadmium rice, growth hormone-fed chicken, toxic capsules, 'leather jelly', and excessive levels of E. coli in duck wings and necks. In response, China has improved food safety legislation and strengthened standard setting.

From this base, the food safety industry has developed rapidly. Taking the testing and inspection sector as an example, the total value of food inspection services reached RMB 26 billion in 2013, and this number was projected to reach RMB 40.6 billion in 2015 – five times the value in 2008 (Graph 6-2). China has basically already formed a system to

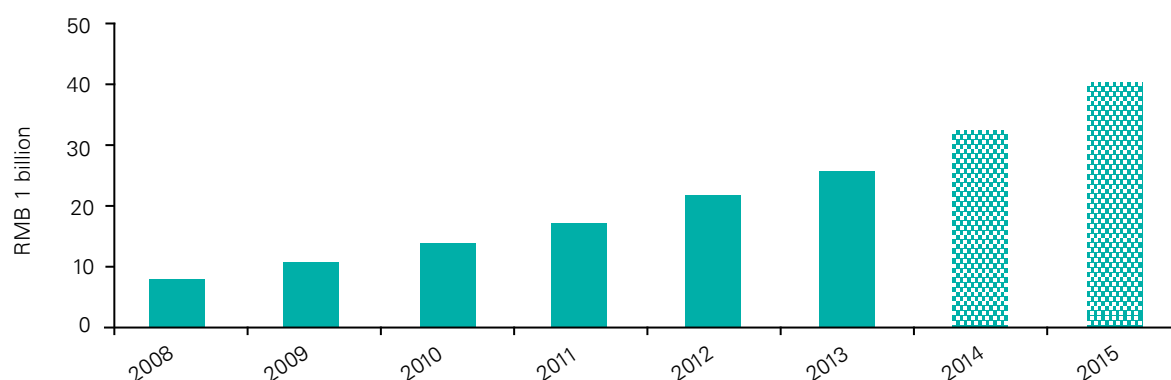
trace food, inspect it and develop safe substitutes. In these three areas, food traceability covers the entire supply chain; inspection is mainly concentrated downstream, and the development of safe substitutes, including new pesticides, fertilisers and food additives, is concentrated upstream.

Meanwhile, the industry faces a number of technological, market and institutional obstacles:

- Low inspection efficiency and a lack of advanced inspection technologies
- Geographically dispersed upstream raw material production for food products that hinder oversight
- Inefficient government regulation and lack of coordination between agencies
- Sluggish enforcement that weakens the impact of penalties and undermines deterrence.

These problems are a stumbling block for food traceability, inspections and other efforts, which could in turn hinder the development of the food safety sector as a whole.

Graph 6-2 Size of China's food safety inspection industry



Source: 'Market Analysis and Investment Strategy Report of China's Food Security Testing Instruments (2014-2018)', China Industrial Information Network; 2014 and 2015 are forecasted estimates.



Improved legislation and strengthened oversight will help develop the food safety industry during the 13th FYP period

The *Outline* describes the food safety implementation strategy as follows:

- Laws and regulations
 - Improve laws and regulations governing food safety
 - Raise food safety standards
- Oversight
 - Draw up grid-like inspection precincts
 - Increase checks and inspections
 - Extend random sampling coverage
 - Establish traceability throughout the supply chain

The food and drug safety governance system needs to be enhanced, and everyone (including governing bodies, food and drug producers, and consumers) should play a role to ensure its robustness and effectiveness. Emphasis should be put on more oversight of food consumed in rural areas, food sold online and imported food.

The State Council has called for the establishment of a coordinated tracing mechanism that extends across the entire agricultural food products value chain.¹²² By making traceability a condition of market entry and adopting the use of codes for tracing purposes, full traceability of agricultural food from farm to table can be achieved. Strengthening regulation and traceability will help promote fast growth in the inspection, tracing and related segments, and accelerate development of the food safety industry as a whole.

The development of the food safety industry presents valuable investment opportunities

Considering the enormous potential demand in China for food traceability and inspection, as well as safe substitutes, and since the domestic industry as a whole still suffers from outdated technology, foreign investors will be able to take advantage of their technological strengths to operate third-party tracing, inspection and related businesses in China, as well as to manufacture laboratory equipment and rapid diagnostic instruments and materials. Also, through public-private partnerships, foreign companies can tap into the emerging tracing services industry to develop third-party platforms and cloud-based systems.

Chinese businesses can work with leading overseas food safety companies to co-develop technologies and services. By encouraging the agricultural sector to 'go out' and by launching agricultural production in favourable natural environments, China's food safety can benefit from the importation of traceable foods produced in these locations.



122 'Opinions of the General Office of the State Council on Accelerating the Construction of Traceability Systems for Important Products', General Office of the State Council, 12 January 2016, http://www.gov.cn/zhengce/content/2016-01/12/content_10584.htm

6.3 Healthcare: The 'Healthy China' action plan

As Chinese people have become more affluent, subtle changes have taken place in their approach to health. There is growing demand for a whole range of services, from conventional basic medical care to fully personalised healthcare service packages. The development of the healthcare industry is already a main factor behind people's increasing quality of life and sense of achievement, as well as the formation of an inclusive society.

Five sectors have emerged in the rapidly growing healthcare industry

The industry is already experiencing a period of high-speed development – it has grown to RMB 2 trillion and is set to reach nearly RMB 3 trillion in 2016.¹²³

The five main sectors that have emerged within the industry are:

1. Medical treatment
2. Pharmaceuticals
3. Health supplements
4. Health management services
5. Aged care.

At the same time, medical tourism; research, development and manufacturing of health supplements; and the R&D of high-end medical equipment are also growing. In terms of industry structure, the pharmaceutical sector still occupies the largest share, but this may decline gradually as the aged care sector experiences fast growth.

China's healthcare industry has developed rapidly, benefiting from a change in people's mindsets and philosophy towards health, which has accompanied a sustained improvement in the economy. An older and more urbanised society also generates demand for healthcare services.

That said, China's healthcare industry is still in a nascent stage, making up only 4-5 percent of GDP – a proportion well below the US's 15 percent, and also below countries such as Canada and Japan where the healthcare industry makes up more than 10 percent of GDP.¹²⁴ Laws, regulations and standards are still lacking, and existing regulatory frameworks and capabilities are ill-suited to an industry which covers so many fields. This has resulted in a market that lacks order and sophistication for an industry which is experiencing a fast pace and strong momentum of development. Serious problems exist within the health supplements and pharmaceutical sectors, such as exaggerated claims of medicinal efficacy, imitation, and counterfeiting. These issues are hindering the sound development of the industry.

The 'Healthy China Action Plan' will lead industry development during the 13th FYP period

The *Outline* proposes an Action Plan which comprises eight components, including 'smart healthcare' and 'fitness for all'. A number of initiatives have been called for, and will provide valuable opportunities for the development of the healthcare services industry:

- Deepening healthcare reform
- Strong efforts to develop advanced medical equipment
- The development of traditional Chinese medicine (TCM) healthcare services
- The implementation of a 'fitness for all' strategy
- Encouraging non-governmental participation in the healthcare services industry
- Granting non-profit private hospitals the same status as public hospitals.

According to the State Council's *Opinions*,¹²⁵ China will continue to develop a diversified approach for medical service delivery, permitting China-foreign joint ventures and medical partnerships.¹²⁶ This will help accelerate the development of aged care, primary care and other diversified healthcare services.

According to the *Development Plan of Traditional Chinese Medicine Healthcare Services (2015-2020)*,¹²⁷ China will also work to develop TCM-based healthcare services such as healthy living, medical care, rehabilitation and aged care. The development plan calls for further opening of the TCM sector, pointing out that "all TCM service areas that are open to local capital need to be open to capital in other parts of the country". The government will facilitate the establishment of a healthcare industry investment fund with contributions from the industry and financial investors, as well as make use of budgetary and tax policies to support TCM.

The State Council's *Guiding Opinions*¹²⁸ states that China will spur rapid industry growth by driving innovation in and upgrading of pharmaceuticals and medical device technologies, optimising the organisational structure of the industry, and cultivating new, more intelligent development approaches.

¹²³ 'The scale of China's healthcare industry has already reached RMB 2 trillion', Xinhua News, 28 July 2015, http://news.xinhuanet.com/local/2015-07/28/c_128064713.htm

¹²⁴ "'Healthy China' looks to the national strategy, a flourishing RMB 10 trillion start", Shanghai Securities News, 22 October 2015, http://www.cnstock.com/v_industry/sid_rdj/201510/3596919.htm

¹²⁵ 'Several Opinions of the State Council on Promoting the Development of the Healthcare Service Industry', State Council, 28 September 2013, http://www.gov.cn/jxgk/pub/govpublic/mrlm/201310/t20131018_66502.html

¹²⁶ The *Opinion* also states that the government aims to "move towards relaxing restrictions on China-foreign joint ventures and medical organisations jointly established by the public hospitals and the private sector, and gradually increase the number of qualifying pilot projects for foreign capital to establish wholly-owned medical treatment organisations." However, according to the *Catalogue for the Guidance of Foreign Investment Industries (Amended in 2015)*, foreign investment in medical treatment organisations is still limited to partnerships and collaborations.

¹²⁷ 'Notice of the General Office of the State Council on Issuing the Development Plan of Traditional Chinese Medicine Healthcare Services (2015-2020)', General Office of the State Council, 7 May 2015, http://www.gov.cn/zhengce/content/2015-05/07/content_9704.htm

¹²⁸ 'Guiding Opinions of the General Office of the State Council on Promoting the Sound Development of the Medical Industry', General Office of the State Council, 11 March 2016, http://www.gov.cn/zhengce/content/2016-03/11/content_5052267.htm

The 'Healthy China' movement is expected to create a series of investment hotspots in the healthcare industry

The healthcare industry is primed to become an important driver of China's move up the consumption value chain, impacting households far and wide. As China promotes the 'Healthy China' strategic plan, both the medical services sector and the wider healthcare industry as a whole are set to flourish. Given China's immense and fast-growing ageing population, recent technological breakthroughs, the 'Internet Plus' movement and healthcare system reform, estimates show that the value of the country's healthcare industry will top RMB 8 trillion by 2020.¹²⁹ This would make China one of the largest healthcare services markets in the world.

As 'Healthy China' is elevated to a national strategy, China will develop and open the industry to satisfy a multi-tiered and

diverse set of service needs. Foreign investors can capitalise on favourable policies and enter markets for medical services, health insurance, aged care and internet-based healthcare services. According to the *Catalogue for the Guidance of Foreign Investment Industries (Amended in 2015)*, the range of medical equipment under the 'encouraged' category has been broadened. 'R&D in genetically modified organisms' has been removed from the category 'prohibited' from foreign investment. Foreign investors can also leverage superior capabilities in health information services and big data applications, and invest in remote healthcare and 'smart' healthcare. Domestic businesses can make use of their home advantage and collaborate with leading international companies in areas such as technology and operations, and thereby increase their competitive strength.



129 See footnote 125

6.4 Education: Private capital and the future of education

Recent years have seen an increasing acute undersupply of educational resources in China, with conventional educational institutions unable to satisfy rising demand. To increase the provision of resources and allow more people the opportunity to access high-quality educational services, the industry must be proactively developed and private capital should be introduced to education services.

China’s education industry has begun to take shape, and the quality of service has been steadily improving

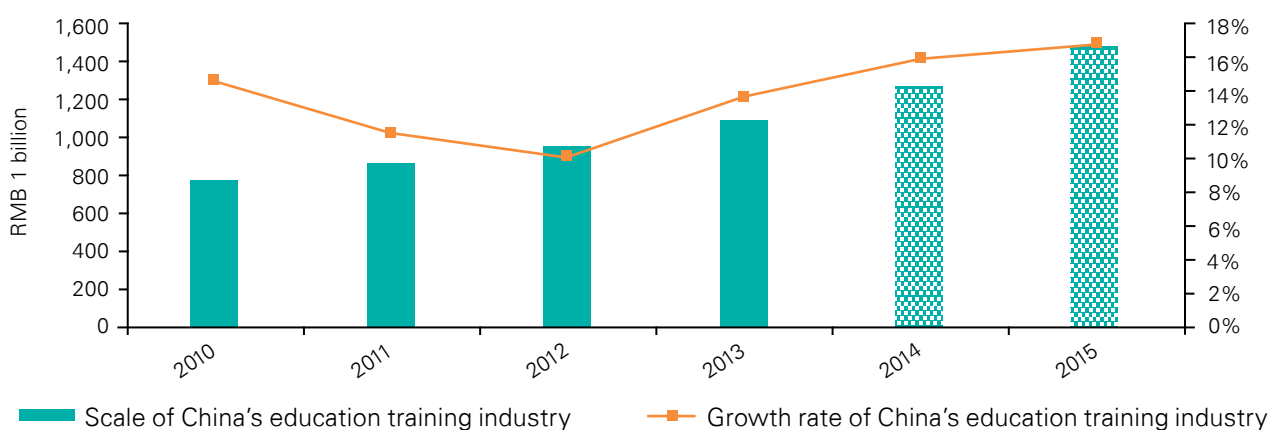
Over the past few years, the industry has grown rapidly. Take educational training as an example: in 2013, market scale topped RMB 1 trillion, and from 2010-2013 the average annual growth rate reached 12.6 percent (Graph 6-3). The 2014-2015 growth rate is forecast to be around 14 percent. The make-up of training providers has gone from schools and employers in the early days to include training companies and individuals.

As an increasing number of foreign companies have entered the Chinese education market, and as the number of students

going overseas has steadily risen, the industry has expanded. In particular, language training programmes have seen unprecedented growth, and a number of leading education companies, such as New Oriental Education & Technology Group, have emerged, lifting the standard of the industry at large. Different types of training organisations operate in foreign language training, information network education, early childhood education, secondary and tertiary education, IT training, and electronic entertainment education. Research and development of educational products covers language services, electronic reading and teaching materials, and educational games and entertainment.

As internet use increases, an online education ecosystem has rapidly taken shape, with content and platform providers as the mainstays of the industry. Meanwhile, there remain a few problems that have restricted the healthy development of the industry: the quality of educational businesses is mixed, the market is disorderly, and a lack of differentiation exists among industry players.

Graph 6-3 Increase in scale of China’s education training industry



Source: 2010-2013 data from the Qianzhan Industry Research Institute; 2014 and 2015 numbers are estimates



During the 13th FYP period, restrictions on private capital participation in education will be eased and favourable policies launched

The *Outline* calls for a body of policies for differentiated regulation and support, so that private capital and other non-governmental forces can be encouraged to provide a diversified range of educational services.

According to the State Council's *Guiding Opinions*,¹³⁰ China will encourage non-governmental players, including foreign investors, to participate in the education industry through independent investment, joint ventures, partnerships, contracted management and other arrangements. The implication is that innovative overseas education companies will have the opportunity to enter the Chinese market. Another set of *Guiding Opinions* by the State Council¹³¹ states that educational training services are a key component of China's service consumption. As China seeks to upgrade the quality of consumption, it will look to educational fields – such as vocational training and cultural and artistic training – as important paths going forward. These initiatives provide a policy basis to ease restrictions and remove obstacles for private capital, and make it easier for investors to reap returns.

As China encourages private capital to enter education services, Chinese and foreign companies will have opportunities to invest

In the next five years, the industry can expect surging growth. In view of the large and increasing demand for sophisticated education services, foreign companies can leverage their competitive advantages to enter the Chinese market and set up occupational training organisations outside the formal education system. Foreign firms can also collaborate with local companies and take advantage of cutting-edge ideas to develop educational products tailored to local needs.

Domestic private companies can leverage favourable policies to collaborate with the world's leading educational training organisations. These companies can employ advanced concepts, methodology and technology through these partnerships while continually building their core competitive advantages. They can also target community-based education projects across China to provide educational services in culture and arts, science and technology, early childhood, aged care and healthy living, lifestyle and recreation, vocational skills, and other areas.



130 'Guiding Opinions of the State Council on Innovation in Key Areas of Investment and Financing Mechanisms to Encourage Social Investment', State Council, 26 November 2014, http://www.gov.cn/zhengce/content/2014-11/26/content_9260.htm

131 'Guiding Opinions of the General Office of the State Council on Accelerating the Development of Consumer Services and Promoting the Upgrading of Consumption Structure', State Council, 22 November 2015, http://www.gov.cn/zhengce/content/2015-11/22/content_10336.htm

6.5 The coming wave of investment in senior care

As China becomes an increasingly ageing society, properly caring for and supporting the elderly has become an important aspect of a harmonious society and shared prosperity. Drawing support from non-governmental sectors will help enhance the aged care system, improve quality of life for the elderly, and raise the level of sophistication across the industry.

The aged care industry is developing quickly, and a service delivery system has emerged

In recent years, the elderly population has grown steadily, causing a booming demand for aged care and driving rapid growth in the industry. Statistics indicate that by the end of 2014, over 137 million people in China were 65 years or older (2.4 percentage point increase on 2005 figures), accounting for over 10 percent of China's total population for the first time in history.¹³²

Between 2010 and 2030, the number of people employed in China's elderly care industry will increase sharply from 20 million to 78 million.¹³³ The framework of an aged care system has taken form, featuring home-based care and support by communities and professional providers. A market of 'senior consumption' has also emerged. However, as the industry has had a late start, it remains primarily government-led, with a relatively low level of commercialisation and a mismatch between supply and demand. Every link along the value chain lacks maturity, and the industry remains fragmented.

During the 13th FYP period, China will accelerate the development of the industry by strengthening aged care services, improving social security for the elderly, and drawing private capital to the industry

The *Outline* calls for the implementation of action plans that improve welfare for senior citizens, and the building of more and better aged care facilities such as nursing homes. Information service platforms will need to be developed to support community- and home-based care, and efforts should be made to promote 'smart' aged care and expand service coverage.

In particular, the *Outline* clearly points out the need to open the market to create conditions for private capital investment through service procurement, equity partnerships and other arrangements that support all types of market participants to provide aged care services and goods. In 2014, the NDRC said through a *Notice*¹³⁴ that the government should encourage the participation of private capital in medical services, aged care and sports facilities, as well as the reform of public institutions through arrangements such as independent investment, joint ventures, partnerships, and contracted management public-private partnerships. That same year, the Ministry of Commerce and the Ministry of Civil Affairs announced that

foreign investors are encouraged to invest in for-profit aged care providers.¹³⁵ They can do that through wholly-owned subsidiaries, or joint ventures with Chinese companies or other entities. The announcement also provided guidance on the conditions and procedures for the establishment of aged care providers with foreign investment.

The State Council's *Guiding Opinions*¹³⁶ suggests that China will:

- Encourage integrated, innovative development of elderly care services and related industries
- Promote the development of elderly care services such as basic care, rehabilitation, psychological care, cultural services, emergency care and palliative care
- Encourage non-governmental aged care providers
- Encourage private capital to enter the industry by operating government-built facilities or through other arrangements
- Encourage foreign capital investment in the industry.

These initiatives provide the market framework and institutional assurances for foreign investors to participate in the development of the industry.

Private capital may find significant opportunities in a fully open aged care market

The next five years are an important window for China to build institutions that respond to the challenges of an ageing society. Forecasts show that by around 2025, over 20 percent of China's population will be aged 60 or older, and about 14 percent of the total population will be 65 or older. These figures suggest that China will become an aged society within only about 25 years, a process that took Western developed countries over 100 years.¹³⁷ Research shows that by around 2040, China could become a 'super-aged' society.¹³⁸ According to the *National Development Plan for the Aged Care Industry* issued by the National Committee on Ageing, from 2014 to 2050, the consumption potential of China's elderly population will rise from roughly RMB 4 trillion to around RMB 106 trillion – or from about 8 to 33 percent of GDP.¹³⁹

With such enormous market potential, the Chinese Government is pushing for across-the-board opening of the aged care market. *Catalogue for the Guidance of Foreign Investment Industries (Amended in 2015)* explicitly encourages investment in aged care institutions, which will provide major opportunities for all kinds of private capital – especially foreign investment – in the aged care industry. Foreign businesses can also leverage the national 'Internet Plus' initiative to launch innovative business models, such as 'smart' aged care.

132 '2014 Statistical Bulletin for the National Economic and Social Development', National Bureau of Statistics, 26 February 2015, http://www.stats.gov.cn/tjsj/zxfb/201502/t20150226_685799.html

133 'CCID Consulting: The scale of China's elderly care industry will surpass RMB 10 trillion in the next 10 years', China Business Journal, 3 December 2014, http://www.cb.com.cn/info/2014_1203/1099343.html

134 'Notice on Accelerating the Construction of Projects Relating to Healthcare and Care Services for the Aged', Ministry of Civil Affairs, 18 September 2014, <http://www.mca.gov.cn/article/zwgk/fvfg/shflhshsw/201409/20140900701503.shtml>

135 'Announcement on Foreign Investment Establishing For-profit Elderly Care Mechanisms and Related Programs', Ministry of Commerce, 9 December 2014, <http://www.mofcom.gov.cn/article/hzongzhi/201412/20141200825168.shtml>

136 See footnote 131

137 'Proactively responding to population ageing', Sina Finance, 7 April 2016, <http://finance.sina.com.cn/roll/2016-04-07/doc-ifxrcxae7573647.shtml>

138 'China's Ageing Society and Pension Development Report (2014)', Tsinghua University Employment and Social Security Center, Published by Tsinghua University Press, October 2015

139 'China's aged care industry expected to be worth RMB 10 trillion by 2030', Sina News, 15 February 2016, <http://finance.sina.com.cn/chanjing/cywx/2016-02-15/doc-ifxpmppqr4377809.shtml>

6.6 Maternal & infant care: The 'two-child policy'

In order to overcome the challenges posed by a declining working-age population, China has progressively relaxed its family planning policy, moving from a selective to a universal two-child policy. As more children are born, demand for maternal and infant products may very well flourish and provide investment opportunities.

The maternal and infant care market in China continues to grow, with diverging online and offline sales

The market has remained unaffected by the economic growth slowdown of the past few years. Those surveyed in the '2015 CBME China Child, Baby, and Maternity Consumer Market Survey' had an average monthly income of RMB 9,606 and they spent an average of RMB 1,012 per month on child-rearing, accounting for 11 percent of family income. These figures align with those from 2014.¹⁴⁰ Economic growth has slowed, but the proportion of child-related expenditure to overall income has remained unchanged, indicating inelasticity in demand.

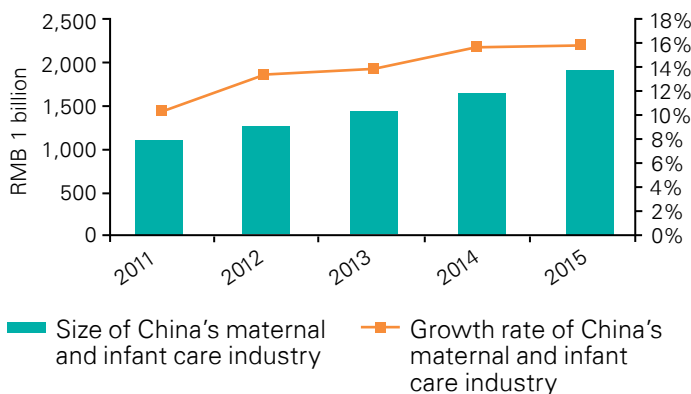
The market has maintained double-digit growth since 2011 (Graph 6-4). Although online market growth has exceeded that of the offline market, the online growth rate has dropped significantly YOY (Graph 6-5), reflecting the many issues that face the maternal and infant care e-retailers. Since the family planning policy was relaxed, entrepreneurs and investors have

pursued the maternal and infant product e-commerce space. Many entrepreneurs have started businesses by selling disposable diapers, infant foods and maternal care products online, given the low barriers to entry and the promotion of 'Internet Plus' in China. A high level of replication in a crowded market means a lack of differentiation, mixed quality in products, and a lack of sophistication in services.

Since foreign maternal and infant care brands dominate the Chinese market, relaxation of the family planning policy can benefit international companies. Among different market segments, the universal two-child policy will likely push up consumption of infant formula and other infant foods, disposable nappies, milk bottles, childcare equipment, and other infant-related supplies, as well as children's medicine, clothing and toys.

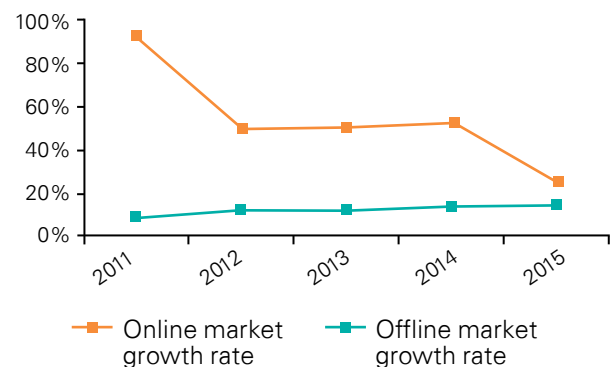
Foreign companies should take advantage of trade agreements between China and their home countries, and expand their market in China with a combination of products and services. By 'going out', Chinese firms can increase the technological sophistication and quality of their products through joint ventures with leading international companies and brands, or by establishing product R&D and manufacturing centres abroad, as well as by sourcing raw materials overseas.

Graph 6-4 Size and growth rate of China's maternal and infant care industry



Source: Analysys International

Graph 6-5 Growth rate of China's online and offline markets for maternal and infant care



Source: Analysys International



140 'Launch of "2015 CBME China Child, Baby, and Maternity Consumer Market Survey"', PR Newswire, 11 November 2015, <http://www.prnasia.com/story/135875-1.shtml>

6.7 Community services: Smart community ecosystems and service sector innovation

The community services industry is deeply intertwined with the lives of average citizens across China, and the quality of these services directly affects the level of convenience and comfort in everyday life. As internet use becomes increasingly widespread, this industry will not only be able to utilise 'smart' platforms to provide a multitude of services, but also make these services more precise and efficient to enhance quality of life.

Having been through long but slow development, China's community services industry is now taking off under the 'Internet + Community Services' initiative

In the 1990s, the state called for the development of an industry for community services. However, lack of knowledge and experience meant rudimentary community governance, slow development, and an inefficient and primitive industry. Only with the release of the *Opinions on Accelerating the Development of the Community Services Industry* in 1993 did there start to be widespread establishment of community service centres, occupational training, job information, and senior citizen activity centres. Due to institutional obstacles, community services were still primarily led by the government, hindering the participation of civil groups and corporations. This situation resulted in several widespread issues, including an unclear delineation of powers and responsibilities, a poorly qualified and ageing workforce, overreliance on government funding, and misalignment between service programmes and the real needs of community members.

However, as internet use has expanded, the community services industry has been undergoing a makeover. Using O2O platforms, today's industry is working to offer more modern community services and to advance resident and household services, logistics and distribution, community medical care, community education, and community businesses, and to make these services more integrated, greener and smarter.



The 13th FYP period will see significantly improved service management platforms and enhanced infrastructure, which will create a favourable environment for private capital participation in the development of the industry

The *Outline* calls for the following measures:

- Strengthen integrated community service management platforms in both urban and rural areas
- Strengthen organic links between public services, neighbourhood services and volunteer services, and implement a one-stop service model
- Achieve complete coverage of integrated community service facilities in urban areas and develop similar facilities in rural areas.

According to the State Council's *Guiding Opinions*,¹⁴¹ China will also develop a common delivery network in urban communities and villages to improve the efficiency of 'last mile' logistics. Another set of *Guiding Opinions*¹⁴² calls for the development of the industry in several focus areas (Table 6-1), in order to strengthen community service capabilities and improve quality of life.

Modern community services, such as the development of 'smart communities', hold significant investment opportunities

China is in a historic period of rapid urbanisation. The *Outline* indicates that during the 13th FYP period, the urbanisation rate will be based on the urban registered population, rather than the urban resident population¹⁴³ as in past plans. China has also set the three '100 Million People' urbanisation targets, meaning that long-term residents will increasingly be able to settle down in urban areas with an urban household registration, thereby further increasing demand for community services.

Meanwhile, numerous old and dilapidated neighbourhoods need to be rejuvenated. The development of 'smart' communities is the future of the community service industry, and significant investment opportunities exist, whether in support of new growth or updating existing neighbourhoods. By helping to build 'smart' communities, private capital can secure long-term and stable returns while connecting these communities with 'smart cities'.

¹⁴¹ See footnote 15

¹⁴² See footnote 131

¹⁴³ The 'resident population' refers to people who live and work in a given area for more than six months of the year, whereas the 'registered population' is those officially recognised by the Public Security Bureau as *hukou* (household registration record) holders in the given area.

Table 6-1 Community services industry development focus areas**Focus area****Main initiatives****Residential and household services**

- Improve community service networks
- Provide multifaceted lifestyle services
- Regulate and standardise services including real estate brokerage, property rentals, property management, moving and cleaning, and car maintenance and repairs

Community aged care

- Encourage professional aged care providers to leverage their advantages and provide training and guidance to community aged care organisations and personnel
- Promote cooperation between medical institutions and aged care providers, and develop community aged care

Rural & urban community education

- Provide community members with educational services in fields including culture and arts, science and technology, preschool education, aged care and healthy living, lifestyle and recreation, and vocational skills

Community businesses

- Introduce convenience stores and other suitable businesses to community locations
- Regulate and expand payment and delivery collection agencies, as well as other neighbourhood services

Source: 'Guiding Opinions of the General Office of the State Council on Accelerating the Development of Consumer Services and Promoting the Upgrading of Consumption Structure', State Council, 22 November 2015, http://www.gov.cn/zhengce/content/2015-11/22/content_10336.htm



6.8 Insurance: Reform and opportunity

Developing a modern insurance services industry helps to weave a social safety net, effectively manage risk, deliver financial compensation, and better support agriculture and rural communities. This can lead to the introduction of new social governance methods, assurance for social stability, a heightened sense of security and improved quality of life.

China's insurance industry has developed rapidly in recent years and is now the world's third largest insurance market

The industry has continued to grow despite the economic slowdown. The government has indicated that China's insurance industry is the most rapidly growing in the world, and is only smaller than the US and Japan.¹⁴⁴ While maintaining this growth rate, the industry has also managed to secure healthy profits. Industry data shows that net profits in 2015 increased by nearly 73 percent,¹⁴⁵ whereas net profits in the banking industry increased only 2.43 percent over the same period.¹⁴⁶

Life insurance holds the largest share of total premium income, while income from health insurance has grown most quickly and the rate of increase is still on the rise (Graph 6-6).¹⁴⁷ The insurance industry expanded and improved its service offerings by promoting 'Internet Plus', linking insurance and financial services, as well as supporting the real economy with insurance services. The industry's rapid growth can be attributed to its emphasis on optimising investment returns, expanding the scope and capabilities of services, and strengthening self-driven reform.



During the 13th FYP period, more effort will be made to develop a modern insurance services industry by improving markets, supporting agriculture and making access easier

The *Outline* proposes to:

- Explore the establishment of trading mechanisms for insurance assets
- Improve the dispersion of risks from natural disasters in relation to agriculture insurance products
- Implement mandatory environmental pollution liability insurance
- Develop export credit insurance
- Open up access to the insurance market
- Support the Chinese insurance industry 'going out'
- Encourage commercial insurance organisations to administer public health insurance
- Encourage the development of supplementary medical insurance and commercial health insurance.

This means that the Chinese insurance industry will be better positioned to address the needs arising from socioeconomic development, and the modern insurance services industry is primed to enter a 'golden period' of development. Additionally, according to the State Council's *Opinions*,¹⁴⁸ commercial insurance will be an important pillar of the social security system. Critical illness insurance, catastrophe insurance and other mechanisms need to be established, while products such as liability insurance and credit insurance will be promoted. Another set of *Opinions*¹⁴⁹ from the State Council proposes using public tendering and other methods to encourage qualified commercial insurance companies to participate in the administration and processing of public health insurance. They will also be encouraged to start new businesses in medical care, community aged care, physical examinations and other services through investment in new facilities or other arrangements, and provide services covered by commercial insurance.

144 'The 2015 counter-trend rise of the insurance industry', *People's Daily*, 4 January 2016, http://paper.people.com.cn/gjjrb/html/2016-01/04/content_1644698.htm

145 '2015 national insurance industry net profit growth reaches nearly 73%', *China Securities Journal Network*, 13 January 2016, http://www.cnstock.com/v_news/sns_bwxj/201601/3680895.htm

146 'China Banking Regulatory Commission issues 2015 fourth quarter data on main regulatory indicators', *China Banking Regulatory Commission*, 15 February 2016, <http://www.cbrc.gov.cn/chinese/home/docView/3534208F5F74422199B6B6AFC3F10EFD.html>

147 Data from *China Insurance Regulatory Commission*, (<http://www.circ.gov.cn/web/site0/tab5179/>)

148 'Several Opinions of the State Council on Accelerating the Development of the Modern Insurance Industry', *State Council*, 13 August 2014, http://www.gov.cn/zhengce/content/2014-08/13/content_8977.htm

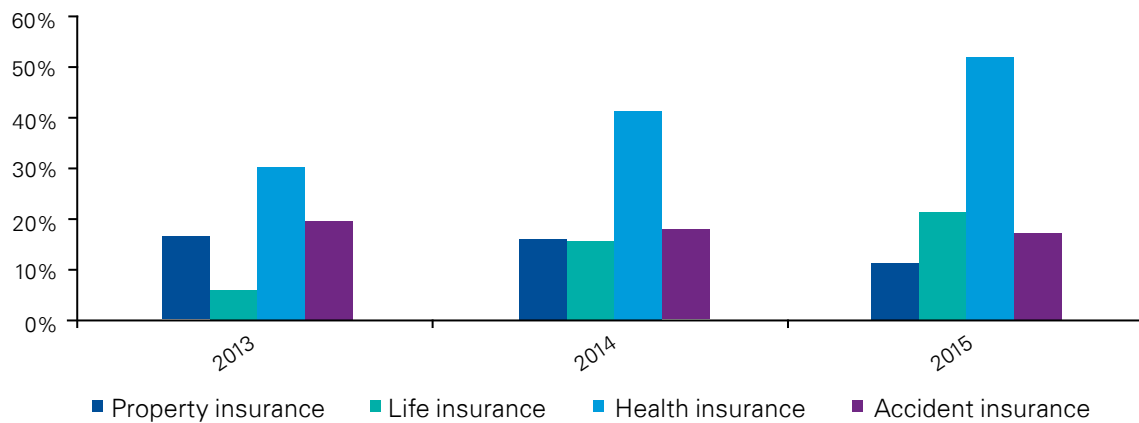
149 'Several Opinions of the General Office of the State Council on Accelerating the Development of the Commercial Health Insurance Industry', *General Office of the State Council*, 17 November 2014, http://www.gov.cn/zhengce/content/2014-11/17/content_9210.htm

Permitting commercial insurance companies to participate in the administration of public health insurance and the development of commercial health insurance creates opportunities for businesses

Forecasts indicate that by 2020, commercial health insurance premiums could reach RMB 0.7 trillion to RMB 1 trillion, making this one of China's three largest insurance segments alongside property and life insurance.¹⁵⁰ China is creating opportunities for foreign investors by allowing companies to participate in the administration of public health insurance, and by developing commercial health insurance.

Foreign health insurance companies and other types of private capital can set up specialised health insurance companies in China. In agricultural catastrophe insurance, foreign insurance companies can expand into China's central and western provinces as well as rural villages. Chinese insurance companies can provide risk mitigation for Chinese businesses operating overseas. At the same time, Chinese players can raise funds in international capital markets, enter overseas markets through various channels, and work to increase the exports of insurance services. Collaboration with foreign insurance companies will help bring the most relevant experience and the latest technology into the Chinese market.

Graph 6-6 YOY growth rate of insurance premium income in selected Chinese insurance markets



Source: Statistical Data of the China Insurance Regulatory Commission (<http://www.circ.gov.cn/web/site0/tab5179/>)



150 '2020 commercial health insurance premiums will reach RMB 1 trillion', Shanghai Securities News, 18 November 2014, http://caifu.cnstock.com/fortune/sft_bx/201411/3245907.htm



Chapter 7

An open outlook and global integration:
Opportunities in traditional equipment
manufacturing, natural resources, project
contracting and cross-border agriculture



The 'Belt and Road' initiative, along with further integration with the global community and the development of a more sophisticated and open economy, forms a key strategy of the 13th FYP. According to the *Outline*, China will focus on the 'Belt and Road' initiative and:

- **Enrich the range of approaches to 'opening up' and increase the sophistication of openness**
- **Collaboratively promote strategic mutual trust, cooperation in trade and investment, and cultural exchange**
- **Build deeply integrated and mutually beneficial cooperation**
- **Create a new era of opening up.**

With more sophisticated approaches to attracting foreign investment and 'going out', domestic and foreign businesses should seek investment opportunities in traditional equipment manufacturing, natural resources, project contracting and agriculture, leveraging policies that encourage international production capacity cooperation, relaxed control on foreign investment, and more sophisticated outbound investment.

7.1 Traditional manufacturing: International production capacity cooperation

International production capacity cooperation is an important task in China's opening up during the 13th FYP period. The *Outline* points out that China will:

- Focus on industries such as iron and steel, non-ferrous metals, building materials, railways, electric power, chemicals, textiles, automobiles, telecommunications, engineering machinery, aviation and aerospace, shipbuilding, and ocean engineering
- Engage in outbound investment, project contracting, technical cooperation and equipment exports
- Embrace international cooperation in production capacity and equipment manufacturing
- Promote the 'going out' of equipment, technology, standards and services.

These activities will provide both Chinese and foreign businesses with opportunities to increase investment and strengthen cooperation in the traditional equipment manufacturing industry.

China's International Production Capacity Cooperation initiative is gradually taking off

Since the State Council's 2015 *Guiding Opinions*,¹⁵¹ China has sped up its international capacity cooperation efforts. China is progressively forming a 'One Axis and Two Wings' approach to implement this strategy, where key neighbouring countries form the 'Axis'; key African, Middle Eastern, and Central and Eastern European countries form the 'Western Wing'; and key Latin American countries form the 'Eastern Wing'. Collaboration in these regions will expand development potential for China and help bring win-win results to all countries involved.

In 2015, China's non-financial ODI reached USD 118 billion, an increase of 14.7 percent over the previous year. Of this amount, investment in the equipment manufacturing sector totalled USD 7.04 billion, an increase of 154.2 percent over 2014.¹⁵² International capacity cooperation has achieved significant early-stage success.

Scope of China's international capacity cooperation set to grow rapidly during the 13th FYP period

The 2015 State Council's *Guiding Opinions*¹⁵³ calls for China to achieve the following by 2020:

- Establish a capacity cooperation mechanism with key countries
- Make marked progress on key projects of capacity cooperation
- Establish a number of demonstration zones abroad
- Nurture a number of industry champions with international competitiveness and marketing capabilities
- Obtain better societal and economic returns from international cooperation in industrial capacity and equipment manufacturing
- Stimulate domestic economic growth and industry restructuring.

Outbound investment from China's equipment manufacturing industry is estimated to grow more than 40 percent annually during the 13th FYP period, amounting to over USD 122 billion in total (Graph 7-1).¹⁵⁴ Growth prospects in international production capacity cooperation and equipment manufacturing are extremely promising.

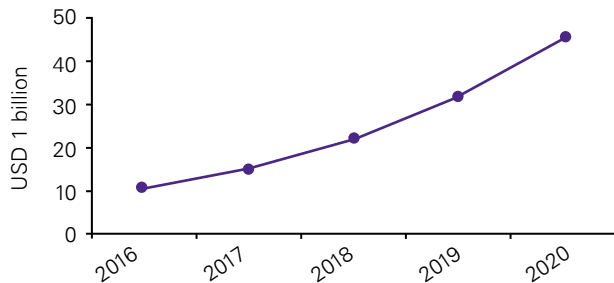
151 'Guiding Opinions of the State Council on Promoting International Cooperation in Industrial Capacity and Equipment Manufacturing', State Council, 16 May 2015, http://www.gov.cn/zhengce/content/2015-05/16/content_9771.htm

152 'China's Outward Investment and Cooperation in 2015', Ministry of Commerce, 15 January 2016, <http://www.mofcom.gov.cn/article/ae/ai/201601/20160101235603.shtml>

153 See footnote 151

154 Calculated based on 2015 data and forecast annual growth; 'The Regular Press Conference of the Ministry of Commerce (January 20, 2016)', Ministry of Commerce, 22 January 2016, <http://english.mofcom.gov.cn/article/newsrelease/press/201601/20160101244116.shtml>

Graph 7-1 Projected non-financial ODI from China in equipment manufacturing during the 13th FYP period



Source: Calculated based on 2015 data and forecast annual growth rate

Chinese and foreign businesses to increase participation in China’s international capacity cooperation

Cooperation in international production capacity and equipment manufacturing is an important and innovative aspect of China’s opening up during the 13th FYP period, incentivising and facilitating outbound investment. Meanwhile, according to the *Outline*, China needs to expand its multilateral and bilateral mechanisms for capacity cooperation, and proactively work with developed countries to jointly develop third-country markets. The 2015 *Guiding Opinions* clearly indicates that in this cooperation process, domestic companies are encouraged to work with foreign counterparts that have advantageous branding, technology and market positions.¹⁵⁵ This would also allow foreign businesses to participate in the internationalisation of the traditional Chinese manufacturing industry, thus capturing attractive business opportunities.

Figure 7-1 Global deployment and key areas of cooperation: China’s International Industrial Capacity Cooperation initiative during the 13th FYP period

Europe

Key areas of cooperation and investment:

Combine China’s competitive capacity with key technologies from developed European countries to meet demand from third countries and carry out third country-based cooperation

Strengthen China-European cooperation and the ‘16+1’ cooperation mechanism between China and Central and Eastern European countries, facilitating the introduction of Chinese equipment and production capacity to European markets

Bordering regions

Key areas of cooperation and investment:

Kazakhstan: Develop the seventh round of ‘early harvest projects’ list, including 52 projects with a value of USD 24.1 billion; set up a replicable and scalable model for bilateral capacity cooperation

Russia, Pakistan, Indonesia, Malaysia, Thailand, Laos and Myanmar: Leverage the construction of economic corridors under the ‘Belt and Road’ initiative, and promote the concept of international capacity cooperation in neighbouring countries

Latin America

Key areas of cooperation and investment:

On the basis of the new ‘3x3’ China-Latin America capacity cooperation model, use major projects in logistics, electricity, information and other areas as opportunities to mobilise industry, society and government, and establish unimpeded financing channels for investment funds, loans and insurance

Focus on key countries such as Brazil and Peru to promote broader capacity cooperation in the region

Africa

Key areas of cooperation and investment:

Develop Ethiopia into a demonstration zone for Sino-African capacity cooperation; focus on Kenya, Tanzania, Egypt, South Africa and other key countries to jointly build the ‘three major networks’ of railways, highways and aviation

Take Africa’s industrialisation as an opportunity to develop industrial clusters, and promote collective ‘going out’ of equipment and capacity businesses

Source: Compiled from Chinese Government documents and public materials

155 See footnote 151

7.2 Natural resources: ODI and overseas commodity bases

The natural resources industry is one of the key cooperation areas highlighted in the 'Belt and Road' initiative. According to *Vision and Actions on Jointly Building the Silk Road Economic Belt and the 21st Century Maritime Silk Road*, China needs to:

- Strengthen global cooperation in natural resources
- Promote collaboration in on-site or local processing and conversion of energy resources
- Form integrated energy resource supply chains and have cooperation activities which cover both the upstream and downstream.¹⁵⁶

During the 13th FYP period, Chinese and foreign companies will have opportunities to collaborate in the development of China's overseas natural resources base.

China's investment in overseas natural resources has somewhat declined in recent years, but individual transaction value has increased progressively

Beginning in 2007, China's overseas investment in natural resources has seen rapid increases. In 2013, the net total ODI from China's mining industry reached USD 24.8 billion, five times larger than in 2007. A decline started after 2013, yet total investment still stayed above USD 10 billion each year (Graph 7-2).¹⁵⁷

However, while China's total overseas investment in natural resources may be declining, the value of individual transactions has been increasing. Over the past years, a number of M&A deals reached or surpassed USD 1 billion in value. For example, in 2014:

- A consortium of mining companies led by China Minmetals Corporation acquired the Las Bambas copper mine in Peru from Glencore Xstrata PLC for USD 5.85 billion.

- Baosteel Resources Australia Pty Ltd. and Australian rail freight operator Aurizon formed a coalition to fully acquire iron ore producer Aquila for AUD 1.14 billion.
- Guangdong Rising Nonferrous Metals Group acquired a 50.1 percent stake in the Australian resources company PanAust for AUD 1.46 billion.¹⁵⁸

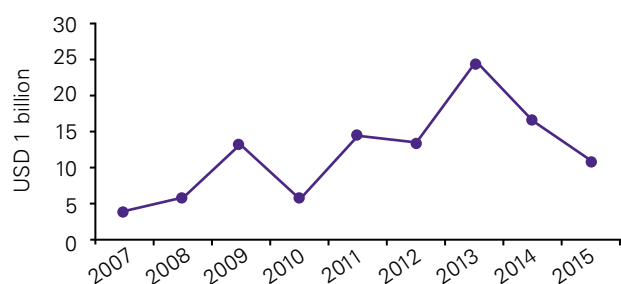
The uptick in deal size shows that Chinese outbound investment has started to make more outright takeovers and equity acquisitions, while also indicating that the targets of overseas natural resources acquisitions are becoming bigger. From this perspective, China is transforming away from an expansionary phase and entering a more mature phase where more consideration is given to the quality of acquisitions.

During the 13th FYP period, the Chinese Government will encourage the establishment of natural resources production bases abroad

As the *Outline* points out, in the next five years, China will build a number of overseas bulk commodity production bases and joint venture industrial parks, accelerate collaboration in the processing and conversion of energy resources at or near extraction sites, and form complete overseas resource supply chains.

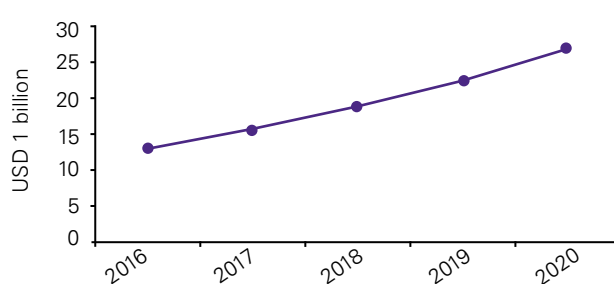
According to forecasts by KPMG China, during the period of the 13th FYP, ODI by the Chinese mining and mineral processing industry might see an average annual increase of 20 percent. By 2020, the net value of annual ODI may reach USD 27 billion, with total ODI volume over the 13th FYP period reaching USD 100 billion. This would create significant opportunities for cooperation and investment.

Graph 7-2 Outbound direct investment from the Chinese mining industry



Source: 2007-2014 yearly data from the 'China Statistical Yearbook' (<http://data.stats.gov.cn/english/publish.htm?sort=1>); 2015 data from the '2015 National Economic and Social Development Statistics Bulletin'

Graph 7-3 Net value of ODI projections for the Chinese mining and mineral processing industry



Source: Calculated based on recent data from the 'China Statistical Yearbook' and forecast annual growth rate

¹⁵⁶ 'Vision and Actions on Jointly Building the Silk Road Economic Belt and the 21st Century Maritime Silk Road', NDRC, Ministry of Foreign Affairs and Ministry of Commerce, 28 March 2015, http://news.xinhuanet.com/2015-03/28/c_1114793986.htm

¹⁵⁷ '2014 Statistical Bulletin of China's Outward Foreign Direct Investment', Ministry of Commerce, National Bureau of Statistics, State Administration of Foreign Exchange, Published by China Statistics Press, September 2015

¹⁵⁸ '2014 statistics of Chinese investment in the overseas resources industry', China Mining Association, 13 November 2014, <http://www.chinamining.org.cn/index.php?m=content&c=index&a=show&catid=6&id=10788>

Chinese and foreign companies can jointly build overseas natural resource extraction and processing bases

During the 13th FYP period, the Chinese Government will encourage Chinese investors to 'go out' and develop natural resource bases abroad. This will not only create significant opportunities for expanded investment in extraction projects overseas, but also provide support to those companies looking to extend their offshore natural resource value chains. At the same time, the Chinese Government has clearly indicated the need to work with leading foreign companies to promote the development of foreign natural resource bases

and jointly develop third-country markets. This approach will create important opportunities for businesses from all over the world to participate in China's development of overseas resource bases.

Chinese and foreign businesses can cooperate in areas such as steel, non-ferrous metals, petrochemicals, building materials, light manufacturing and textiles, in the form of joint development of raw material extraction and processing bases, as well as international marketing efforts. They can thus jointly develop offshore resource bases and develop third-country markets.

Table 7-1 Development of China's overseas natural resource bases and opportunities during the 13th FYP period

Industry	Key areas
Steel & non-ferrous metals	<ul style="list-style-type: none"> Accelerate the development of mineral resource extraction bases Build iron and steel production bases and stimulate steel-making equipment export Together with the development of overseas mineral resources, extend the downstream production chain, and develop smelting and advanced processing of copper, aluminium, lead, zinc and other non-ferrous metals
Petrochemicals	<ul style="list-style-type: none"> Enhance development across various resource categories and increase industrial investment Build production lines for petrochemicals, fertilisers, agricultural chemicals, tyres, coal chemicals, and other products Develop advanced chemical-based manufacturing and extend the value chain downstream Establish green production bases
Building materials	<ul style="list-style-type: none"> Accelerate the development of overseas extraction bases for natural resources used in construction materials By supplying design, engineering and construction, or equipment, develop production lines for cement, plate glass, ceramic tiles and sanitary ware, innovative building materials, and innovative buildings, to improve the manufacturing capability of the host countries and increase local supply
Light industry & textiles	<ul style="list-style-type: none"> Accelerate the development of agricultural and livestock bases overseas Establish processing plants for cotton, synthetic fibre, home appliances, food processing and other light industries, and form clustered processing bases for textiles and other light industrial goods that cover both the upstream and downstream

Source: Compiled from Chinese Government documents and publicly available resources

7.3 Project contracting: 'Belt and Road' and outbound infrastructure development

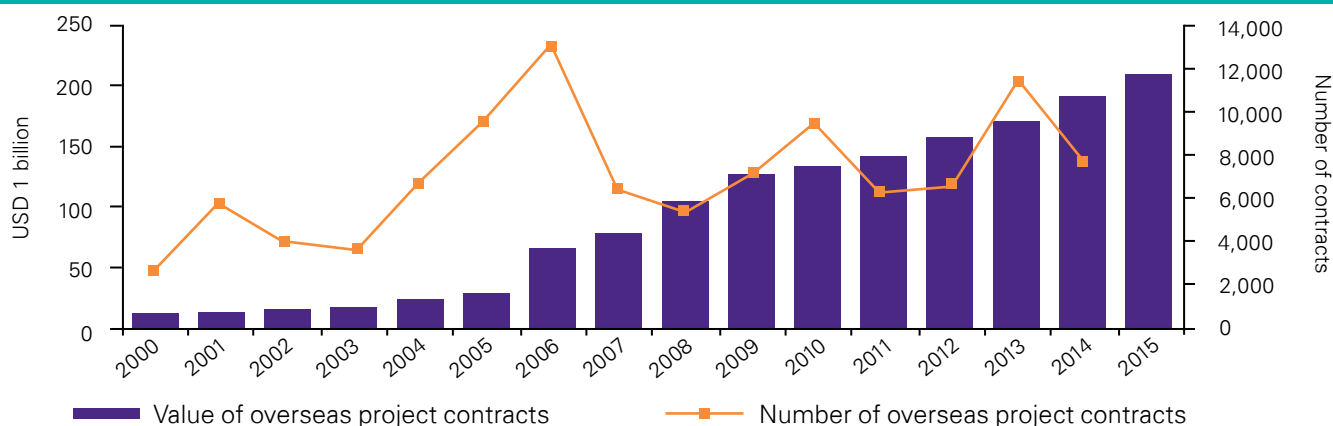
The 'Belt and Road' initiative prioritises infrastructure connectivity, and for Chinese businesses 'going out', project contracting is an area of great importance. As the 'Belt and Road' initiative advances over the course of the 13th FYP, Chinese construction companies will have more impetus to look globally and collaborate with leading overseas businesses.

China's overseas project contracting industry has been steadily growing, both in scale and value – from USD 66 billion in 2006 to USD 210 billion in 2015 in terms of value of newly signed contracts, with an annual average increase of over 14 percent (Graph 7-4). Since 2015, infrastructure construction in countries along the 'Belt and Road' corridors has become a significant driving force for the industry. In 2015, new contracts for overseas projects totalled USD 210.07 billion, of which over USD 92.64 billion (44.1 percent) came from projects in 60 countries covered by the 'Belt and Road'. Realised revenue earned from projects in these countries totalled USD 69.26 billion, representing 45 percent of the total for the same period.¹⁵⁹ In the near future, as China moves forward with the 'Belt and Road' initiative, the overseas project contracting industry is expected to grow steadily.

'Belt and Road' initiative to drive the growth of China's overseas project contracting industry

The 13th FYP period will be a time when China advances its implementation of the 'Belt and Road' initiative. The *Outline* calls for advancing infrastructure connectivity with neighbouring countries, and joint development of an infrastructure network linking Asian sub-regions, and connecting Europe, Asia and Africa. *Vision and Actions on Jointly Building the Silk Road Economic Belt and the 21st Century Maritime Silk Road* also points out that China should promote the coordination of infrastructure development plans, and the harmonisation of technological standards among countries in the 'Belt and Road' regions so as to jointly develop a transnational arterial corridor.¹⁶⁰ In the next five years, the 'Belt and Road' initiative should trigger rapid development of the project contracting industry, with an average annual increase of more than 14 percent in the value of newly signed overseas contracts (Graph 7-5).

Graph 7-4 Chinese overseas project contracting: Value and number of newly signed contracts over recent years



Source: 'China Statistical Yearbook'; 'Going Out' public information database of the Ministry of Commerce (<http://fec.mofcom.gov.cn/article/tjsj/tjgb/>)



¹⁵⁹ 'Cooperation between China and countries along the "Belt and Road" on trade and economy in 2015', Department of Outward Investment and Economic Cooperation of the Ministry of Commerce, 21 January 2016, <http://fec.mofcom.gov.cn/article/fwydy/tjsj/201601/20160101239838.shtml>

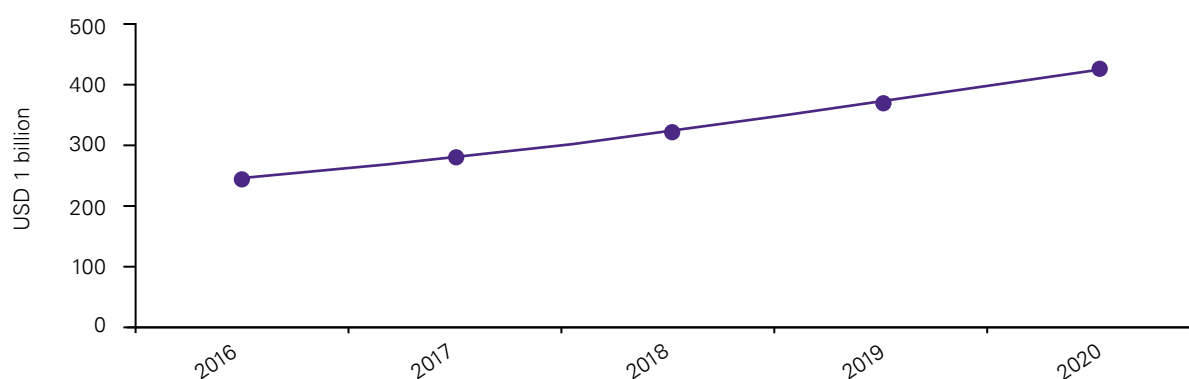
¹⁶⁰ See footnote 156

China’s overseas project contracting industry to see new opportunities for overseas business development and international cooperation

The objective of building an interconnected infrastructure network is to gradually connect sub-regions in Asia, as well as Africa, Europe and Asia. In the 13th FYP period, China will focus on speeding up the formation of six economic corridors: the China-Mongolia-Russia Economic Corridor, New Eurasian Land Bridge, China-Central Asia-West Asia Economic Corridor, China-Pakistan Economic Corridor, Bangladesh-China-India-Myanmar Economic Corridor, and China-Indochina Peninsula

Economic Corridor (Table 7-2). Chinese outbound project contracting companies can capitalise on these projects to expand operations into countries in these regions. Foreign companies can also use this opportunity to participate in ‘Belt and Road’ infrastructure construction projects by supplying equipment, design services, operating services and financing. Moreover, Chinese and foreign companies can take this opportunity to continue collaborating in African and South American countries with underdeveloped infrastructure, further expanding the global infrastructure market.

Graph 7-5 Projected value of China’s newly signed overseas project contracts for the 13th FYP period



Source: Based on a synthesis of recent data trends and an estimated forecast of construction projects along the ‘Belt and Road’ economic corridor

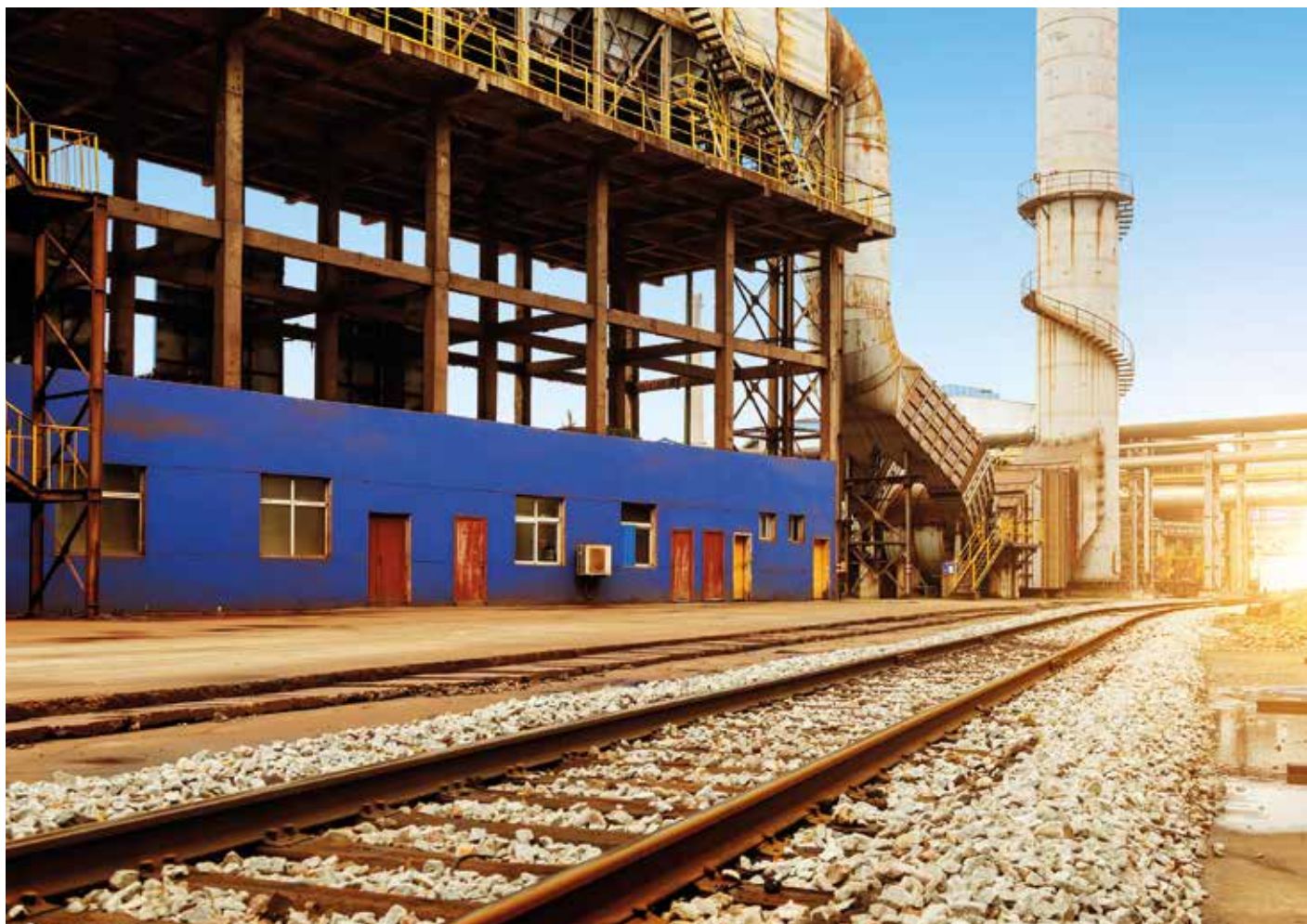


Table 7-2 'Belt and Road': Six economic corridors and passageway construction

Economic corridor	Passageway construction
China-Mongolia-Russia Economic Corridor	<p>There will be two major corridors through China, Mongolia and Russia:</p> <ol style="list-style-type: none"> 1. From Beijing, Tianjin and Hebei to Hohhot; from the border city of Erenhot, to Ulaanbaatar, Mongolia; and then converging with Russia's Far Eastern Railway network 2. Along the old Chinese Eastern Railway starting from Dalian, going through Shenyang, Changchun and Harbin to Manzhouli and Chita, Russia.
New Eurasian Land Bridge	<p>A 10,900km international railway from Lianyungang, Jiangsu in eastern China to Rotterdam, The Netherlands, connecting over 30 countries and regions. Currently, countries including China, Russia and Belarus have already reached an agreement on the coordination of development plans for the Silk Road Economic Belt and the Eurasian Economic Union.</p>
China-Central Asia-West Asia Economic Corridor	<p>Overlapping the New Eurasian Land Bridge, but after crossing China's border at Khorgos-Alataw Pass, the corridor passes through Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan, Iran, Iraq and Turkey, and extends to other countries in Western Asia as well as North Africa.</p>
China-Pakistan Economic Corridor	<p>Setting out from Kashgar in southern Xinjiang, the corridor will cross the Karakorum mountain range, enter Pakistan, and continue on to Gwadar Port, creating a north-south economic artery. This jointly developed corridor will encompass road, railway, oil and gas pipelines, and fibre optic cables.</p>
Bangladesh-China-India-Myanmar Economic Corridor	<p>This corridor starts in Kunming, Yunnan, and crosses the border through points such as Ruili and Tengchong, primarily through roads and railways, supporting multimodal transportation. There will be three main routes:</p> <ol style="list-style-type: none"> 1. Kunming-Mandalay-Kyaukpyu 2. Kunming-Mandalay-Dhaka-Calcutta 3. Kunming-Baoshan-Myitkyina-Guwahati
China-Indochina Peninsula Economic Corridor	<p>This corridor will link the PRD economic ring and countries in the Indochina Peninsula, starting at the east end in the PRD economic region, following the Nanning-Guangzhou Expressway and the Guilin-Guangzhou High Speed Railway, passing through Nanning, Pingxiang, Hanoi, and on to Singapore.</p>

Source: Relevant Chinese Government documents and public information



7.4 Agriculture and food: Overseas M&A, foreign equity investment, and the future of China’s agricultural industry

The opening up of the agriculture sector is an important element of China’s overall strategy to develop and open up to the world. The *Outline* calls for international cooperation leading to deeper interconnection and complimentary development between China and other countries in agriculture. During the 13th FYP period, outbound agricultural investors will quicken their pace of ‘going out’, while foreign businesses will also find investment opportunities in China’s agriculture sector.

Overseas M&A is growing rapidly, and though foreign investment in China’s agriculture industry has somewhat declined, the volume remains relatively large

In recent years, as the government provides policy incentives for the agriculture industry to ‘go out’, ODI in agriculture has grown quickly. In 2014, the agriculture, forestry, livestock and fishery industries invested over USD 2.04 billion overseas – 6.5 times the 2009 amount. These industries have had very high outbound investment growth rates since 2009, in some years even surpassing 50 percent. At the same time, the actual utilisation of foreign investment in these industries has decreased, but is still at the relatively high level of over USD 1.5 billion per year (Graph 7-6).¹⁶¹ As such, momentum of FDI in agriculture remains strong.

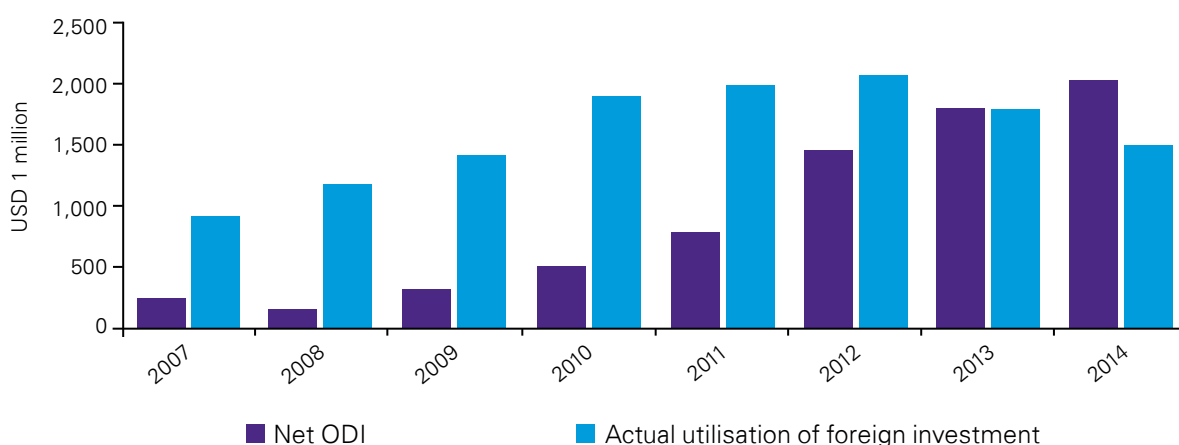
In the 13th FYP period, Chinese businesses will ‘go out’ more rapidly, while foreign investors will accelerate investment in China’s agriculture sector

The *Outline* clearly calls for China to:

- Actively pursue agricultural cooperation overseas and establish scaled-up bases of production, processing, storage and transportation overseas
- Nurture transnational agricultural corporations to become internationally competitive
- Expand the scope of international cooperation in agriculture
- Support the development of bilateral and multilateral technical cooperation in the sector.

It is expected that there will be more scope for FDI in the agriculture sector during the 13th FYP period than during the 12th FYP period. FDI in the agriculture, forestry, livestock and fishery industries is forecast to grow at an average annual growth rate of more than 5 percent. This may reverse the recent decline in FDI in these sectors. Meanwhile, outbound investment in these industries is also set to grow rapidly, with average annual growth of more than 15 percent (Graph 7-7).¹⁶² The 13th FYP period will therefore likely see a further acceleration in both outbound and inbound investment across the sector.

Graph 7-6 China’s FDI and ODI in agriculture, forestry, livestock and fishery



Source: ‘China Statistical Yearbook’

¹⁶¹ Historical data in ‘China Statistical Yearbook’ (<http://data.stats.gov.cn/english/publish.htm?sort=1>)

¹⁶² KPMG China estimates

Chinese and foreign agricultural businesses to find investment opportunities while pursuing outbound and inbound strategies

During the 13th FYP period, agricultural production and agricultural products are key areas for both Chinese and foreign businesses.

There are two main ODI channels for Chinese investors:

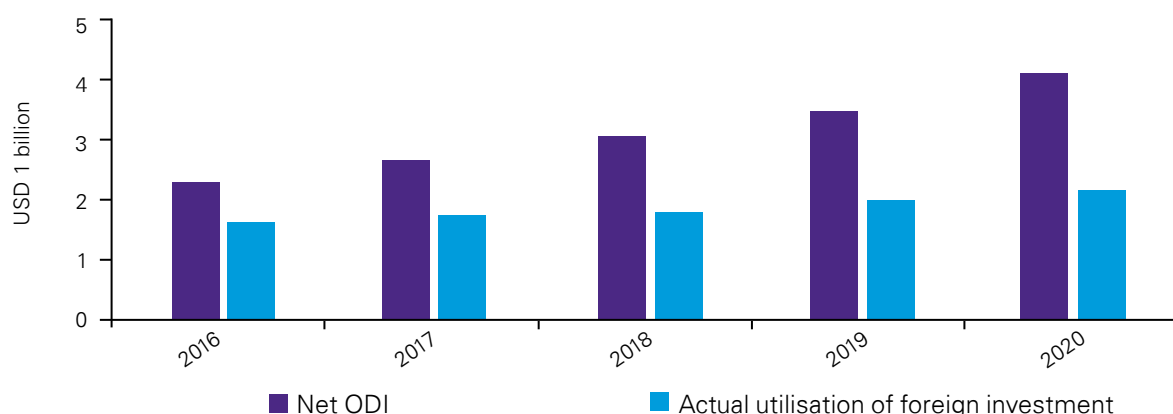
1. With the aim of implementing the ‘Belt and Road’ strategy, enhance agricultural aid and joint development of agricultural resources in developing countries and regions, and raise the level of self-sufficiency and export capabilities.
2. Develop collaborative trade and investment activities with developed countries that have rich agricultural resources. Participate in the development of the broader agricultural sectors in those countries and the building of global supply chains in order to increase the effective supply of safe and green agricultural products to China.

There are two primary inbound paths for foreign investors:

1. Use investment as a substitute for trade, and invest in the scaling up of the production of agricultural products that are in short supply (for example, soya beans).
2. Accelerate technical cooperation with the Chinese agricultural sector. Using technological advantages, foreign companies can expand their business in China through M&A.

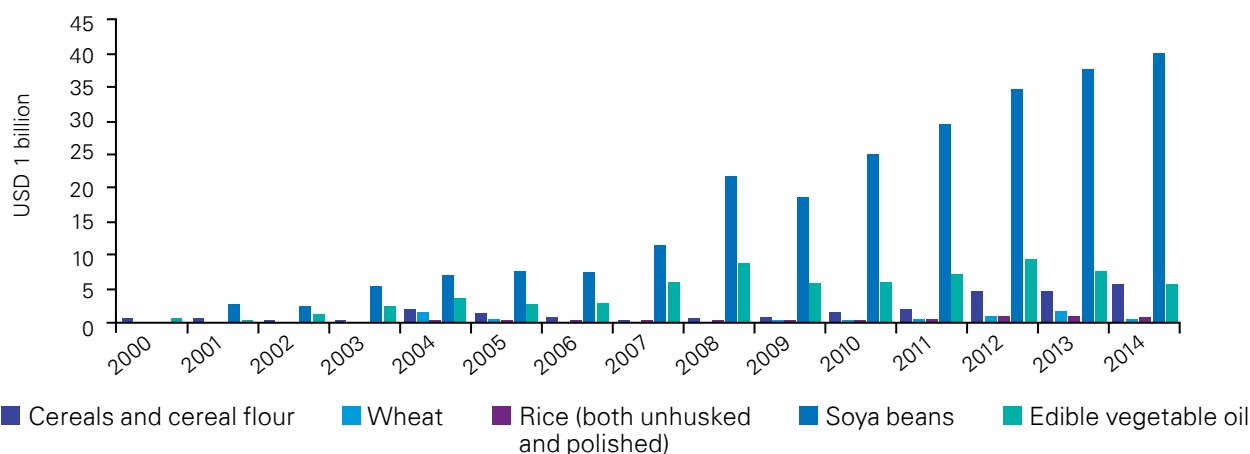
As such, over the next five years, Chinese and foreign agricultural businesses will increasingly connect with one another, creating a significant number of opportunities for investment and collaboration.

Graph 7-7 Projections of China’s FDI and ODI in the agriculture, forestry, livestock and fishery industries in the 13th FYP period



Source: Estimated based on recent FDI and ODI data, and forecast growth rate

Graph 7-8 Value of primary agricultural products imported by China



Source: ‘China Statistical Yearbook’

Chapter 8

Mature economic institutions and institutional reform: Opportunities in monopoly industries, strategic sectors and modern services



The 13th FYP period represents a critical window of opportunity in which decisive progress can be achieved by deepening market-oriented reforms. Economic institutional reform should continue to play a leading role in China's development, keeping at its core the correct alignment of government and market functions. The accelerated reform of monopolies and strategic industries will help yield significant breakthroughs in key sectors, forming a mature economic system in which the market plays a decisive role in the allocation of resources.

8.1 Natural gas: Upstream and downstream reforms

Natural gas enjoys a unique position as a low-carbon fossil fuel. Promoting reform in competitive areas of the natural gas industry will help unleash the vitality of the private sector and increase the industry's overall efficiency.

Production growth has slowed, but breakthroughs are being made in both upstream and downstream reform

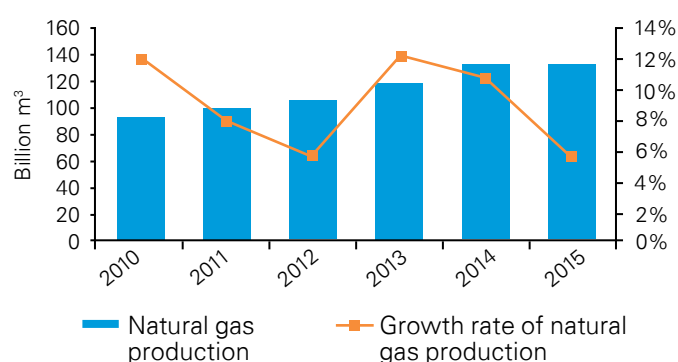
The Chinese Government has always firmly supported the development and utilisation of natural gas resources. In recent years, a drop in oil prices and a macroeconomic slowdown has left the natural gas industry with weak growth in downstream consumption. While overall supply was greater than demand, the industry did maintain small growth in production. In 2015, the production of natural gas rose 5.6 percent YOY to 135 billion m³, ending a streak of ultra fast-paced development and returning to a more stable growth rate (Graph 8-1).¹⁶³

In the same year, breakthrough reform was achieved in both the upstream and downstream segments of the natural gas market. These reforms have become major highlights of the industry's development:

- 1) Effective 1 April 2015, the price ceiling of incremental gas was lowered by RMB 0.44 per m³, while the corresponding ceiling for stock gas was raised by RMB 0.04 per m³, effectively harmonising prices between the two.¹⁶⁴
- 2) On 7 July 2015, the Ministry of Land and Resources kicked off a pilot reform in the upstream oil and gas sector by announcing a public request for tenders to conduct resource surveys on a plot of land in Xinjiang. These reforms would spell the end of the traditional monopoly that state-owned oil companies have enjoyed on upstream oil and gas resources.¹⁶⁵

If these developments continue, the future of the natural gas industry could be reshaped by free competition in the upstream exploration and downstream distribution and sale of gas; the mid-stream transmission of gas through pipelines, however, would continue to be operated as a monopoly under strict government regulation.

Graph 8-1 Natural gas production and growth in China



Source: Statistical Data of the NDRC (<http://yxj.ndrc.gov.cn/mtzhgl/>)



¹⁶³ '2015 Natural Gas Operations Briefing', Bureau of Economic Operations Adjustment of the NDRC, January 2016, http://yxj.ndrc.gov.cn/gjyx/201601/t20160122_776235.html

¹⁶⁴ 'NDRC cuts the price ceiling of incremental gas, reducing the cost burden for companies', Xinhua News, 2 March 2015, http://news.xinhuanet.com/environment/2015-03/02/c_1114480426.htm

¹⁶⁵ 'Xinjiang's pilot reform for oil and gas exploration begins', Ministry of Land and Resources, 7 July 2015, http://www.mlr.gov.cn/xwdt/jrxw/201507/t20150707_1358076.htm

During the 13th FYP period, China will continue to develop natural gas, implement price reforms and expand market access, and create the necessary conditions for private investment into the industry

The *Outline* calls for prices to be liberalised in competitive links of the value chain, for market access to be expanded to the private sector, and for competitive business segments to be developed across the natural gas industry. The *Opinions on Key Work for Deepening the Reform of the Economic System in 2016*¹⁶⁶ calls upon state-owned enterprises to begin pilot reforms to promote mixed-ownership structures, and encourages group corporations to list on stock exchanges as single entities and introduce qualified strategic investors to take positions as shareholders. These steps will help magnify the power of state capital by increasing the allocation and operating efficiency of that capital; additional policies and incentives to deepen institutional reform in the oil and gas sector will likely follow.

The NDRC points to the natural gas market exchange that has been established in Shanghai as offering a path towards market-oriented reform in the industry. The exchange acts

as a transmission mechanism that allows the liberalisation of pricing in certain competitive links to be translated into tradable commodities that are essentially priced by the market. The further relaxation of price controls will be informed by future market developments.

As reforms continue upstream and downstream, there will be a number of channels for private investment into the natural gas industry

As a low-carbon resource, natural gas will have a substantial market in the future. The *National Plan on Climate Change (2014-2020)* calls for over 10 percent of primary energy consumption to come from natural gas by 2020, with expected usage of 360 billion m³.¹⁶⁷ Upstream and downstream markets are therefore likely to attract private capital. According to the *Opinions on Carrying out Public-Private Partnerships (PPP)*,¹⁶⁸ PPP models can be leveraged to facilitate private sector investment into natural gas-related infrastructure projects. According to the *Opinions of the State Council on Developing the Mixed Ownership Economy by State-owned Enterprises*,¹⁶⁹ the private sector is also encouraged to participate in mixed-ownership reforms of state-owned natural gas companies.



¹⁶⁶ 'Notice of the State Council on Approving and Relaying the Opinions of the NDRC on Key Work for Deepening the Reform of the Economic System in 2016', State Council, 31 March 2016, http://www.gov.cn/zhengce/content/2016-03/31/content_5060062.htm

¹⁶⁷ 'National Plan on Climate Change (2014-2020)', State Council Information Office, 25 November 2014, <http://www.scio.gov.cn/xwfbh/xwfbh/wqfbh/2014/20141125/xgzc32142/Document/1387125/1387125.htm>

¹⁶⁸ 'Guiding Opinions on the Development of Public-Private Partnerships', NDRC, 2 December 2014, http://www.sdpc.gov.cn/gzdt/201412/t20141204_651014.html

¹⁶⁹ 'Guiding Opinions of the State Council on Developing the Mixed Ownership Economy by State-owned Enterprises', State Council, 24 September 2015, http://www.gov.cn/zhengce/content/2015-09/24/content_10177.htm

8.2 Oil and petrochemicals: Price reforms and market access

The oil and petrochemicals sector has a special strategic significance, and has long been monopolised by the three large state-owned oil companies (the 'Three Barrels of Oil', i.e. China National Petroleum Corporation, Sinopec Group and China National Offshore Oil Corporation). As mixed-ownership reforms begin to take root in the state-owned sector, the oil and petrochemicals industry faces a new period of transformation.

Overall profits are down, but some progress has been made on institutional reform

Due to macroeconomic pressure and a decrease in commodity prices worldwide, the oil and petrochemical industry continues to increase production; however, profits are down significantly and the industry as a whole has dipped. In 2015, the supply of oil was more abundant, growth in consumption was relatively slow, and the rate of dependence on imports for the first time exceeded 60 percent. Value-added from the petrochemical industry grew 7.2 percent YOY, while revenue from core business dropped 20.53 percent and total profits fell 50.99 percent.¹⁷⁰ At the same time, the industry has begun eliminating outdated production capacity, and net exports of refined oil products saw major growth for a third consecutive year.¹⁷¹

Progress was also achieved on the reform agenda in the oil and petrochemical industry:

- i) On 6 March 2015, Sinopec announced that a consortium of 25 investors had completed a capital increase directed at one of the group's subsidiary sales units, marking a step forward in the restructuring and refinancing of the oil sales business.¹⁷²

- ii) On 12 October 2015, the *Several Opinions of the CPC Central Committee and the State Council on Advancing the Pricing Mechanism Reform*¹⁷³ was released, calling for the accelerated liberalisation of energy pricing mechanisms, and the lifting of price controls on finished oil products and sale of natural gas at the appropriate time.

These reforms encourage competition between various market players, and will gradually reduce cross-subsidisation and reaffirm the status of energy as an economic commodity.

Efforts to be made during the 13th FYP period to promote mixed-ownership structures among state-owned enterprises in the oil and petrochemical industry, liberalise pricing mechanisms for refined oil products, and deepen the industry's institutional reforms

The *Outline* calls for the lifting of price controls in competitive links of the value chain to accelerate competition in sectors such as oil resources. NDRC Chairman Xu Shaoshi has stated publicly that government interference in pricing mechanisms should be reduced during the 13th FYP period, allowing refined oil product prices to be set entirely by market forces.¹⁷⁴ There is a plan to liberalise competitive links of the value chain by 2017, and to have in place an effective mechanism for markets to set prices by 2020. This suggests that price reforms on finished oil products will have been fully completed by the end of the 13th FYP period.

Reforms to the oil and petrochemical industry allow private capital to operate in certain areas

As reforms of the oil and gas sector unfold upstream and downstream, private capital can step in to address corporate needs by consolidating or restructuring assets and other projects in the resources and sales units of oil and gas companies. Equity investment can also be used to promote the restructuring of China's state-owned oil and gas conglomerates.



170 'Petrochemical Industry Operations in 2015', Ministry of Industry and Information Technology, 5 February 2016, <http://wap.miit.gov.cn/n4417404/n4417471/n4417493/c4636130/content.html>

171 '2015 Oil and Gas Industry Development Overview and 2016 Outlook', China National Petroleum Corporation, 26 January 2016, <http://news.cnpc.com.cn/system/2016/01/26/001577225.shtml>

172 'Sinopec announcement on introducing investors', Sinopec, 6 March 2015, http://file.finance.sina.com.cn/211.154.219.97:9494/MRGG/CNESH_STOCK/2015/2015-3/2015-03-07/1644359.PDF

173 'Several Opinions of the CPC Central Committee and the State Council on Advancing the Pricing Mechanism Reform', CPC Central Committee, State Council, 15 October 2015, http://www.gov.cn/xinwen/2015-10/15/content_2947548.htm

174 'The market will dictate oil price by 2020', Beijing Business Today, 5 January 2016, <http://www.bbtnews.com.cn/2016/0105/135328.shtml>

8.3 Electricity: Rebooting the reform agenda

The price of electricity has always been at the centre of reform in the power sector. In 2015, a new round of reforms was launched, addressing much more central issues than the previous round 13 years before, making it a truly substantive and ambitious endeavour.

The industry is facing an overall abundance of supply and a new round of institutional reforms

A decline in demand and a boost in capacity left the power sector facing an overall easing of supply in 2014. According to the China Electricity Council, both installed capacity and total capacity are on the rise, though growth has slowed somewhat (Table 8-1). A new round of reforms was launched in 2015, 13 years after the last reform.

On 22 March 2015, the State Council issued *Several Opinions on Further Deepening the Reform of the Electric Power System*,¹⁷⁵ which targets reform on critical issues such as electricity pricing, separation of generation and transmission, and open markets. It plans to lift controls on electricity prices in operations (excluding transmission and distribution); liberalise power generation while protecting the accessibility of power as a public good; and ensure the relative independence of markets and exchange mechanisms for new power distribution and transmission. As these reforms touch on vested interests in the power sector, a more pragmatic and actionable approach is being taken to allow the price of power transmission and distribution to more closely reflect market demand. These reforms are regarded as being very substantive, and seven pilots have already been launched in six provincial power grids.



During the 13th FYP period, the power sector will work to strengthen infrastructure and market mechanisms

The *Outline* calls for the lifting of price controls in certain segments of the power industry to encourage business competition in this natural monopoly sector. There will be measures to accommodate distributed energy generation and user diversification, improve demand-side management, accelerate the development of smart grids, and enhance interaction between grid and supply side as well as between grid and demand side. Deepened institutional reforms are called for in the *NDRC Circular on Implementing Document Zhong Fa 2015 No. 9 to Accelerate the Pricing Reform of Power Transmission and Distribution*¹⁷⁶ and the *NDRC Circular on Improving the Pricing Mechanism of Cross-province and Cross-region Electric Power Transactions*.¹⁷⁷ In addition, the National Energy Administration's *Guiding Opinions*¹⁷⁸ offers guidance and support to private investment in hydropower through a system of policies that covers project development, management, taxation, pricing and investor returns.

Institutional reforms in the power sector make the 'Internet of Energy' of particular interest

Plans for institutional reform call for certain areas of the sector to be open to competition by 2017, with the scope of government-set pricing limited to major public utilities, non-profit services, and network-based natural monopolies. A full market pricing mechanism will be in place by 2020, meaning that – as with the pricing of finished oil products – a full lifting of price controls on the transmission and distribution of electricity will be achieved by the end of the 13th FYP period. The price of electricity will primarily be set by the market, creating the conditions necessary for the development of distributed power generation. With deepening reforms and the effective implementation of price controls, generation liberalisation, and independent market mechanisms, China's 'Internet of Energy' is poised to experience rapid development, making it a point of particular interest for the private sector.

Table 8-1 Installed capacity and total capacity in China

Year	Installed capacity (100 GW)	YOY growth (%)	Total capacity (10 MWh)	YOY growth (%)
2010	9.62	10.07	4.23	14.95
2011	10.56	9.77	4.72	11.58
2012	11.44	8.33	4.98	5.51
2013	12.47	9.00	5.35	7.43
2014	13.60	9.06	5.54	3.55
2015	14.60	7.35	5.73	3.43

Source: China Electricity Council (<http://english.cec.org.cn/No.123.index.htm>); 2015 data is an estimation

¹⁷⁵ 'Several Opinions on Further Deepening the Reform of the Electric Power System', China Energy Storage Network, 23 March 2015, <http://www.esnc.com.cn/news/show-225983.html>

¹⁷⁶ 'NDRC Circular on Implementing Document Zhong Fa 2015 No. 9 to Accelerate the Pricing Reform of Power Transmission and Distribution', NDRC, 13 April 2015, http://www.sdpc.gov.cn/fzgggz/jggj/zcfg/201504/t20150416_688234.html

¹⁷⁷ 'NDRC Circular on Improving the Pricing Mechanism of Cross-province and Cross-region Electric Power Transactions', NDRC, 5 May 2015, http://www.sdpc.gov.cn/gzdt/201505/t20150507_691137.html

¹⁷⁸ 'Guiding Opinions on Encouraging Private Capital to Invest in Hydroelectric Power Plants', National Energy Administration, 12 January 2015, http://zfxgk.nea.gov.cn/auto87/201501/t20150116_1881.htm

8.4 Telecommunications: Basic telecoms services and private sector investment

Currently, there remains a state-owned monopoly in China's telecommunications industry. Market-oriented reforms are necessary to unlock the industry's potential and raise the efficiency of resource allocation.

Telecoms industry stable overall, but the reform agenda has been uninspiring

In 2015, the move from sales tax to VAT, the initiative to increase connection speeds with lower fees, and the popularisation of rollover data plans took a toll on telecoms operators' revenues. According to 2015 annual reports from China's Big Three operators (China Mobile, China Telecom, China Unicom), profits grew only slightly YOY, staying more or less flat compared to 2014. Revenue growth stemmed primarily from new businesses such as streaming and data centres, which helped ease the disruptive impact of the internet and changes in regulatory policy. Overall, however, reforms have been progressing slowly in the telecommunications industry, and have stalled in some areas.

Reform will help spur faster growth in the telecoms industry, with a focus on major initiatives such as 'Broadband China', price reforms, market access, and the increasing speed of internet connections with lower fees during the 13th FYP period

The *Outline* calls for the implementation of 'Broadband China' and other major information technology strategies, with the deployment of 4G and constantly evolving technologies to

help achieve full coverage across all regions with demand. In terms of the reform agenda, there will be a focus on lifting price controls in competitive segments of the industry, allowing private investment in basic telecommunications services and other competitive business segments, and creating the market conditions for infrastructure sharing and competition in business services. Additional efforts will be made to offer faster network speeds at a lower cost, simplify fee structures, and increase value for consumers.

Key opportunities for investment lie in value-added and basic telecoms services

According to the *Catalogue for the Guidance of Foreign Investment Industries (Amended in 2015)*, foreign investment in telecommunications falls under the 'restricted' category and is limited to value-added services and basic telecoms services. However, the former (with the exception of e-commerce services) is restricted to no more than 50 percent foreign capital, while the latter is capped at 49 percent. The terms for domestic private capital are moderately looser, with a focus on the broadband connectivity market. All foreign and domestic private investors are eligible to take equity positions in state-owned telecommunications businesses as part of the mixed-ownership reforms.



8.5 Rail: Market-oriented reforms and new interest from private capital

In recent years, the rail industry has sought to balance growth and reform, and there have been striking results in the industry's market-oriented reforms in particular. Efforts to strengthen operational and management systems have helped the rail industry better adapt to the needs of the market economy moving forward.

Significant development in the rail industry, and market-oriented reforms progressing smoothly

Positive trends continue in the development of the rail industry, and most major indicators confirm China's continued leadership in the sector globally. China set two historical records under the 12th FYP by completing RMB 3.58 trillion of fixed asset investment into the rail system (up 47.3 percent over the 11th FYP period) and bringing 30,500km of new track into operation (up 109 percent). A matrix of four vertical and four horizontal high-speed rail lines has begun to take form. China boasts the most expansive high-speed rail network in the world, with its 19,000km of tracks accounting for more than 60 percent of the global total.¹⁷⁹

The rail industry underwent an important transformation during the 12th FYP period. Market-oriented reforms progressed smoothly with the establishment of rail management and operations systems that better reflected the needs of a market economy. For example, the founding of China Railway Corporation marked a clear distinction between government and enterprise, and promoted the development of modern logistics through the reform of both passenger and freight transportation. Other reforms – including those covering rail financing and investment, rail area land development, and private sector involvement – helped stimulate productivity and properly align incentives in the industry.

According to the *Opinions of the State Council on Reforming the Railway Investment and Financing System and Accelerating Railway Construction*,¹⁸⁰ the central government plans to offer local governments and private investors access to the ownership and operating rights of inter-city, municipal and suburban rail, extractive industry rail, and branch railway

lines. Private investment (including foreign investment) will be encouraged in the development of the rail sector. There has been preliminary research into the establishment of a rail development fund that would be led by fiscal investments from the central government and would help attract co-investment from private (and foreign) investors.

Market-oriented reform will continue over the course of the 13th FYP period, with a focus on attracting private investment into the rail sector

The *Outline* calls for market-oriented reforms that stimulate competition in industries such as rail. Freight rates and passenger ticket prices are an unavoidable issue on the institutional reform agenda. In 2014, the NDRC issued the *Notice on Decontrolling the Prices of Some Railway Transportation Products*, calling for two reforms:

- i) The reform of certain cargo rates; i.e. a market mechanism to set the express rates for bulk cargo and parcel transportation by rail
- ii) The reform of all freight rates on privately operated rail lines; i.e. a market mechanism to set freight rates and passenger ticket prices on new rail lines with private ownership structures.¹⁸¹

It is expected that during the 13th FYP, further market-oriented reforms will be advanced on top of this freight rate liberalisation, touching on core issues such as flexible mechanisms for ticket pricing.

Market-oriented reforms offer an opportunity for private capital to enter the rail industry. China's promotion of urbanisation and the development of city clusters will help generate significant traction for social and economic development. According to the *Opinions on Carrying out Public-Private Partnership*,¹⁸² private capital (including foreign investment) can enter the transportation infrastructure sector, including railroad and urban rail transit projects. The market will have a strong demand for investment in transportation infrastructure, including inter-city rail, municipal and suburban rail, extractive industry rail, and branch railway lines.



179 'Seven key words on China's railways', People's Rail Newspaper Network, 18 January 2016, <http://www.peoplerail.com/rail/show-456-252444-1.html>

180 'Guiding Opinions of the State Council on Reforming the Railway Investment and Financing System and Accelerating Railway Construction', State Council, 16 August 2013, http://www.gov.cn/zhengce/content/2013-08/16/content_3712.htm

181 'Notice on Decontrolling the Prices of Some Railway Transportation Products', NDRC, 23 December 2014, http://www.sdpc.gov.cn/zcfb/zcfbtz/201501/t20150104_659292.html

182 See footnote 168

8.6 Finance: Financial system reforms and new space for private capital

In recent years, the finance industry has experienced volatile swings in capital markets, an accumulation of potential risk, and a misallocation of resources. There is a strong public consensus on the need for financial system reform.

The finance industry has developed rapidly, and there have been breakthroughs in key reforms

Despite an ongoing macroeconomic decline, value-added in the finance industry continues to grow. Value-added from the finance industry grew 23.2 percent YOY in 2015, up 10 percentage points from the previous year's growth. Finance contributed almost 8.5 percent of GDP in 2015 (Graph 8-2). During the 12th FYP period, there was rapid development of a multi-tiered capital market, and a sizeable increase in direct financing. As emerging technologies such as big data and cloud computing continue to develop, there has been a corresponding breakthrough in financial innovation, most notably in internet finance. These innovations are driving the industry towards a new phase of rapid growth and transformation.

Over the course of the 12th FYP period, there were significant breakthroughs in the development of a market-based financial system, with the establishment of privately owned banks, interest rate liberalisation and RMB exchange rate mechanisms, and a multi-tiered capital market. The finance industry has opened up to private capital by allowing the formation of private banks, and by promoting mixed-ownership reform that allows private investors to hold shares in state-owned banks. The liberalisation of interest rates has been largely completed with the establishment of an interest rate corridor. Exchange rate liberalisation is still underway, as an RMB middle rate is being used to ensure the Chinese renminbi remains stable against a basket of global currencies.

Overall, these measures are aligned with the direction of market-based reform, and have played a positive role in promoting the healthy development of the finance industry.

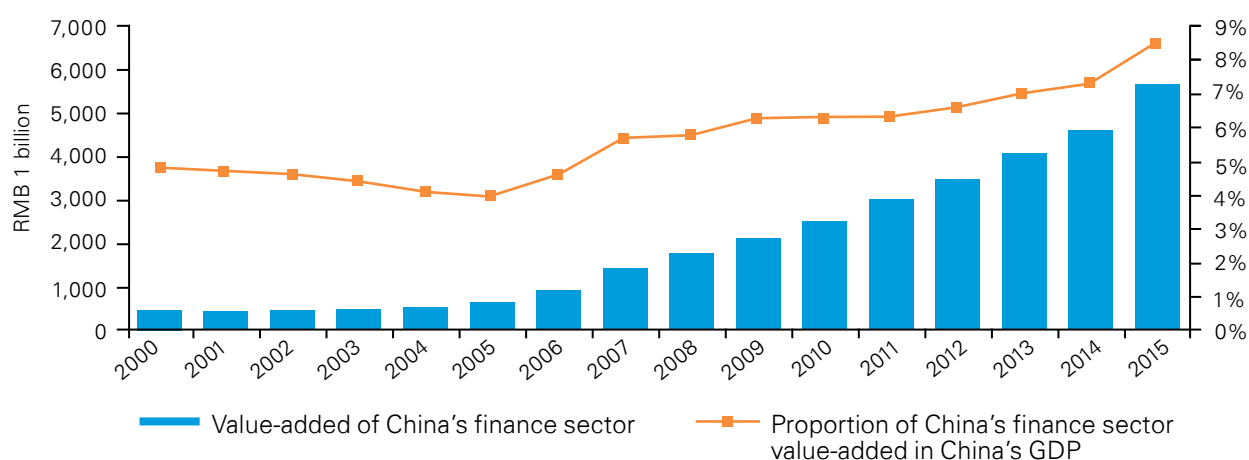
Financial system reform will help promote the healthy development of the industry during the 13th FYP period, with a build-up of financial institutions, a strengthening of the financial markets system, and reforms in the financial regulatory framework

The *Outline* describes the development of a modern financial system as a major task consisting of five aspects, including but not limited to supply-side structural reforms of the financial market, financial control mechanisms, and a macro-prudential regulatory framework. China will also need a multi-tiered, broadly encompassing, differentiated banking system with an expanded role for private ownership and a greater focus on financial inclusion.

Financial market reform offers foreign financial institutions an opportunity to do business in China

China has gradually and progressively opened its domestic market through channels such as Qualified Foreign Institutional Investors (QFII) and Shanghai-Hong Kong Stock Connect, offering non-mainland and foreign professional investment vehicles a path to invest in Chinese markets. The State Council has also issued the *Decision on Amending the Regulations of the People's Republic of China on the Administration of Foreign-funded Banks*,¹⁸³ dropping the requirements for foreign financial institutions to establish operating entities. This makes it easier for foreign investors applying for a licence to operate in China, and creates positive conditions for foreign financial institutions seeking to do business in the China market.

Graph 8-2 The share of China's finance sector in GDP



Source: China Economic Information Network

183 'Decision on Amending the Regulations of the People's Republic of China on the Administration of Foreign-funded Banks', State Council, 20 December 2014, http://www.gov.cn/zhengce/2014-12/20/content_2795314.htm

Chapter 9

Conclusion: A new beginning, a new plan, a new vision



The 13th FYP period will be a decisive phase in China's drive to achieve a comprehensive 'moderately prosperous society', and a critical phase in which foundations will be laid for the 'Chinese dream' of achieving the two centennial goals and realising the 'great rejuvenation' of the Chinese nation. The 13th FYP *Outline* communicates to the people of the world a vision for China's future economy that is more inclusive, open and mature. Domestic and foreign businesses should find greater opportunities to invest as China deepens its reforms and expands the openness of its economy. These companies will have the chance to be a part of the 'Chinese dream' and a second 30-year 'Chinese miracle' of development. The result should be a 'triple win' of national prosperity, well-being of the people and business growth.

9.1 A new beginning: The first five years of the next phase of China's development

China's development cannot stall in the 13th FYP period – to do so would not only hamper China's move towards a high-income economy, but could also negatively affect the 'post-crisis' recovery of the world economy. The Chinese Government recognises the importance of the 13th FYP period to China's development, and that China's continued, stable, healthy and sustainable development during this period will be conducive to the growth of the global economy as well. Therefore, the information released in the *Outline* emphasises that the Chinese economy is embarking on a new journey in the 13th FYP period, and that the next five years will see China set off from a new starting point: the achievement of medium-high growth, a shift to the middle to high end of the value chain, and a progression towards becoming a high-income nation. As such, the Chinese Government sees this as the first five years of a second 30-year 'China miracle'.

Medium-high growth

After over 30 years of high-speed growth, China's economy has now decelerated from the '10 percent era' during the 11th FYP period to the '6 percent era' at the end of the 12th FYP period. Although China experienced almost four decades of high-speed growth, that growth started from a fairly low base – China's per capita GDP stood at USD 8,016 in 2015,¹⁸⁴ roughly 14 percent of the per capita GDP of the US.¹⁸⁵ China still has a significant gap to close when compared with the developed world.

During the 13th FYP period, China should maintain a relatively high growth rate, and not seek to constrain growth. To that end, the *Outline* calls for China to maintain growth in the 6.5-7 percent range over the course of the 13th FYP period – which, given the sluggishness of the global economy, is still a very high growth rate in relative terms. This suggests that while China will enter a phase of medium-high growth over the next five years, it will continue to be a main driver of global growth and generate enormous investment opportunities for businesses from around the world.

The middle to high end of the value chain

China's development has shifted gears in recent years. Emerging sectors such as services and high technology have taken the lead as the primary engines of growth; consumption has become the primary driver of growth; and outbound investment has become the primary vehicle for growth. China has been gradually transforming to become an economic model defined by services, emerging industry, consumption and capital export, illustrating a national shift towards the middle to high end of the value chain. Over the course of this process, however, China must overcome challenges related to its relatively outdated technology, traditional business models, and lack of experience investing overseas. This creates many opportunities for collaboration between Chinese and foreign companies.

On the one hand, Chinese companies can 'go out' to acquire technology and business models for reintroduction into the domestic market, thereby pushing China to the middle to high end of the value chain. On the other hand, foreign investors can leverage their production technologies, business models and operational experience to accelerate the pace of China's transformation, providing important support for the economy's move towards the middle to high end. Chinese and foreign companies may find many mutually beneficial partnerships over the course of this process, and will contribute significant impetus to the economy's push towards the middle to high end of the value chain.

High income status

China's per capita GDP was about USD 8,000 in 2015, and is currently on track to break the USD 10,000 mark by 2020.¹⁸⁶ Barring unexpected disruptions, China will have developed into a medium-high income country by around 2022. In recent years, growth in household income has outpaced GDP growth, with the Chinese people experiencing one of the most rapid rises of income in the world. China has the largest middle class in the world, consisting of 109 million people in 2015, compared to 92 million in the US.¹⁸⁷ Along with the rapid rise in income and the ongoing expansion of the middle class, the Chinese market has become increasingly open, offering a broader market landscape for both Chinese and foreign companies. The expansive growth of China's market in the 13th FYP period will be a new starting point, and both foreign and local businesses must search for opportunities in what remains the world's largest market.

¹⁸⁴ 'Lin Yifu: China is likely to be among the high-income countries by 2020', The Beijing News, 22 March 2016, <http://www.bjnews.com.cn/finance/2016/03/22/397801.html>

¹⁸⁵ According to data from the International Monetary Fund (IMF), the per capita GDP in the US in 2015 was USD 55,805.

¹⁸⁶ See footnote 184

¹⁸⁷ 'Global Wealth Report 2015', Credit Suisse Research Institute, 13 October 2015, <https://publications.credit-suisse.com/tasks/render/file/?fileID=F2425415-DCA7-80B8-EAD989AF9341D47E>

9.2 A New plan: Accelerating transformation, deepening reform and comprehensively opening up

For China to achieve medium-high growth, shift to the middle to high end of the value chain, and progress towards becoming a high-income nation, it is necessary to accelerate the process of transforming the economy and to proceed to the next stage of reform. A more open and inclusive approach will also be critical in achieving new momentum and avoiding what academics refer to as the 'middle income trap'. It was with this in mind that the 13th FYP did not take a conservative approach to defending China's legacy economic model, but rather took a progressive approach to promoting transformation, deepening reform and expanding openness. It is, in essence, a plan of transformation, reform and openness.

The 13th FYP is a plan to accelerate transformation

'Transformation' is the soul of the 13th FYP. The *Outline* states that maintaining development is the nation's primary task, and that China must firmly establish and implement the tenets of development: innovation, coordination, greenness, openness and inclusion. Improving the quality and efficiency of development is central to this plan. The transformation and upgrade of traditional industry will help spur the development of new and emerging industries; coordinated regional development will help promote the integration of urban and rural areas; ecological development will help build the environmental industry; and ensuring social welfare will help drive the development of the public services sector. These trends not only represent transformation that is encouraged by the Chinese Government, but also investment opportunities for Chinese and foreign businesses.

The 13th FYP is a plan to deepen reform

'Reform' is the central axis of the 13th FYP. The *Outline* describes supply-side structural reform as the main line of approach, and calls for institutions, mechanisms and modes of development that can lead the economy to a 'new normal'. Over the next five years, the Chinese Government has said that it will continue to promote a direction of reform that is market-oriented and will not regress to the era of a planned economy. China will accelerate institutional reforms around the major factors of production – including labour, land, technology and finance – while bolstering market systems and gradually raising the profile of the market in the economy. These initiatives will not only be beneficial to foreign companies doing business in China, but will also make it easier for Chinese companies seeking to 'go out'.

The 13th FYP is a plan for comprehensive openness

'Openness' is an important dimension of the 13th FYP. The *Outline* calls for alignment with the overall trend of China's deep integration with the world economy, and for the development of a higher level of open economy. Over the next five years, China will develop rules that encourage the orderly flow of inputs, the effective allocation of resources, and a deepened integration of markets internationally and domestically. The 'Belt and Road' initiative will help generate substantive and mutually beneficial cooperation with countries and regional partners in a range of areas. This will create more opportunities for foreign businesses to participate in the development of China's economy, and will help create a positive institutional environment for Chinese businesses looking to accelerate their outbound activity. An 'Open China' in which businesses can collaborate and commodities and inputs can flow across borders will certainly open up new investment and partnership opportunities to companies both locally and overseas.



9.3 A New vision: Market-driven, rules-based, global integration

We believe that the 13th FYP is a plan for transformation, reform and openness. It will likely have a powerful impact on the Chinese economy over the next five years and beyond. From an FDI and ODI perspective, the 13th FYP signals that the government will strive to better serve businesses, that markets will adhere more to rules, and that China will be more deeply integrated with the world.

Government serves the market

The *Outline* calls for the rapid recalibration of the role of government. The government should exercise its authority comprehensively and in accordance with the law, while continuing to promote streamlined governance, decentralisation and deregulation, better government service, and improved administrative efficiency. The function of government should shift from managing the economy to providing innovative services, unleashing the vitality of the market and the creativity of society at large.

In the future, the government will put a greater emphasis on the fairness and consistency of fiscal subsidies, the provision of infrastructure and public services, regulation and supervision of the market, and the provision of services to the market. With this recalibration, the Chinese Government will move to implement a law-based regulatory approach and seek to provide high-quality public services to Chinese and foreign businesses, thereby promoting the healthy development of industries and the economy as a whole.

Market's adherence to rules

The *Outline* calls for an open and competitive market system, with measures and mechanisms to ensure fair competition, break up regional and sectoral monopolies, remove market barriers, and promote the free and orderly flow and fair exchange of products and inputs. With a robust market system governing the factors of production, ensuring fair competition, and promoting reform to pricing mechanisms,

the private sector will have much easier access to a range of sectors and industries. The disruption of monopolies and the stricter enforcement of industry standards will help raise safety and environmental standards as well. The Chinese Government has said that it is dedicated to building a market regime that enhances the business climate for foreign enterprises in China, and that offers institutional support for Chinese companies 'going out'.

China's global integration

The *Outline* calls for a holistic view of the domestic and international landscapes, and affirms that development must be undertaken with an 'open door'. China's resources, markets and systems can be leveraged with an eye towards generating synergy between the domestic and international economy. The integration of these 'two markets' and 'two resources' can yield mutual benefit and common development. Over the course of China's global integration, it will be easier for Chinese and foreign businesses to communicate, invest and collaborate. This will lead to high-quality FDI flows into China and high-quality ODI out into the world, and will provide a broader platform for investment cooperation between outstanding Chinese and foreign businesses.

Over the next five years, China will continue to be an important engine of global economic growth and commercial development. The healthy and balanced development of the Chinese economy will offer more opportunities to businesses from China and around the world. The 13th FYP is not only a national strategy, but is, in an even greater sense, a 'call to development' that focuses on 'transformation, reform and openness'. It brings new hope for the prospects of global economic recovery and the development of countries around the world, creates new investment opportunities for Chinese and foreign companies, and provides a new platform for cooperation between them.



Appendix: Overview of sectoral opportunities arising from policy shifts relating to China's transformation, industry upgrading and regional development

Development priorities/ Sectors and industries		Policy changes	Direct fiscal subsidy	Increased investment in industry infrastructure	Looser market access	Improved market regulation and supervision
Innovative economic structure	Biopharmaceuticals			√		
	New materials		√	√		
	High-end equipment			√		√
	Internet			√		
	Technology services		√	√		
Intensive industry	Natural resources				√	√
	Chemicals					√
	Metallurgy					√
	Traditional equipment			√		√
	Traditional services			√		√
Coordinated regional systems	Trans-regional infrastructure		√			
	Inter-city infrastructure		√			
	Smart cities		√	√	√	
	Sponge cities		√	√	√	
	Underground pipeline corridors		√	√	√	
	Municipal utilities		√		√	
	Rural infrastructure		√			
Green development	Third-party environmental governance		√		√	
	Green finance				√	
	Green technology		√			
Inclusive society	High-end consumer goods					
	Food safety			√		
	Healthcare			√		√
	Education			√	√	√
	Senior care		√	√	√	
	Maternal & infant care					
	Community services		√	√	√	
	Insurance			√	√	
Open outlook	Traditional manufacturing		√			
	Natural resources		√			
	Project contracting					
	Agriculture & food		√			
Mature economic institutions	Natural gas				√	√
	Oil & petrochemicals				√	
	Electricity				√	
	Telecommunications			√	√	√
	Rail			√	√	
	Finance			√	√	√

Source: Interviews with the Chinese Government; KPMG analysis

Elimination of pricing monopoly	Breakthroughs in core technology or business models	Heightened quality and consistency standards	Mitigation of excess production capacity and financial distress	Improved safety & environmental standards	Export incentives	Relaxation of import controls	Encouraged to 'go out'
	√			√		√	
	√			√		√	
	√	√		√		√	
	√					√	
	√		√			√	√
	√		√	√		√	√
	√		√			√	√
	√	√	√	√		√	
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√	√						
√	√						

About KPMG

KPMG China operates from 17 offices across China, with around 10,000 partners and staff. The offices include Beijing, Beijing Zhongguancun, Chengdu, Chongqing, Foshan, Fuzhou, Guangzhou, Hangzhou, Nanjing, Qingdao, Shanghai, Shenyang, Shenzhen, Tianjin, Xiamen, Hong Kong SAR and Macau SAR. With a single management structure across all these offices, KPMG China can deploy experienced professionals efficiently, wherever our client is located.

KPMG is a global network of professional services firms providing Audit, Tax and Advisory services. We operate in 155 countries and regions, and have 174,000 people working in member firms around the world. The independent member firms of the KPMG network are affiliated with KPMG International Cooperative (“KPMG International”), a Swiss entity. Each KPMG firm is a legally distinct and separate entity and describes itself as such.

In 1992, KPMG became the first international accounting network to be granted a joint venture licence in mainland China. KPMG China was also the first among the Big Four in mainland China to convert from a joint venture to a special general partnership, as of 1 August 2012. Additionally, the Hong Kong office can trace its origins to 1945. This early commitment to the China market, together with an unwavering focus on quality, has been the foundation for accumulated industry experience, and is reflected in the Chinese member firm’s appointment by some of China’s most prestigious companies.



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KPMG's Global China Practice

Helping chart your path to success



KPMG's Global China Practice, headquartered in Beijing, plays a leading role in 'bringing China to the world' and 'bringing the world to China'. Given the increasing importance of China's outward direct investment (ODI) to China and host countries around the world, KPMG established the Global China Practice, with dedicated teams in nearly 60 locations around the world, including countries and regions along the 'Belt and Road'. Our experts are very proud to have worked on many of China's landmark outbound transactions. We are also passionate about guiding and facilitating Chinese ODI in other meaningful ways, including by helping Chinese companies integrate into local business communities, and introducing them to potential partners in key overseas markets.

Equally, the Global China Practice enhances KPMG's ability to serve foreign companies as they enter and grow in China. While many of our clients have been active in China for decades, the 13th Five-Year Plan marks a new era of potential Sino-foreign cooperation in China. The plan charts an ambitious course for China's economic and social development over the next five years, and represents an important turning point in the Chinese Government's attitude towards the utilisation of inward foreign direct investment (FDI). As market participants manoeuvre to succeed in the 'new normal' in China, foreign companies should review what contribution they can make to China's ongoing economic transformation, align their value proposition and business strategies accordingly, and prepare for a shifting landscape of risks.

Through the Global China Practice, KPMG stands shoulder to shoulder with Chinese and foreign companies alike as they seek to understand complex and dynamic business environments, shape crucial business partnerships, and build platforms to achieve long-term and sustainable market positions. This work is underpinned by market-leading thought leadership from the Global China Practice, produced in conjunction with leading government and industry bodies in China.

So whether you are a Chinese company looking to 'go out' or a foreign company assessing the evolving opportunities for your business to grow in and with China, KPMG and its Global China Practice have the insights, experience and resources to support you as you chart your path to success.



You can access the Global China Practice report – *China Outlook 2016* – via the QR code or at: kpmg.com/cn/chinaoutlook2016



You can access the first Global China Practice report on the 13th Five-Year Plan via the QR code or at: kpmg.com/cn/13fyp-report1-en

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Publication number: HK-GCP16-0003

Publication date: October 2016