PwC | B&RWatch

China and Belt & Road Infrastructure

2016 review and outlook

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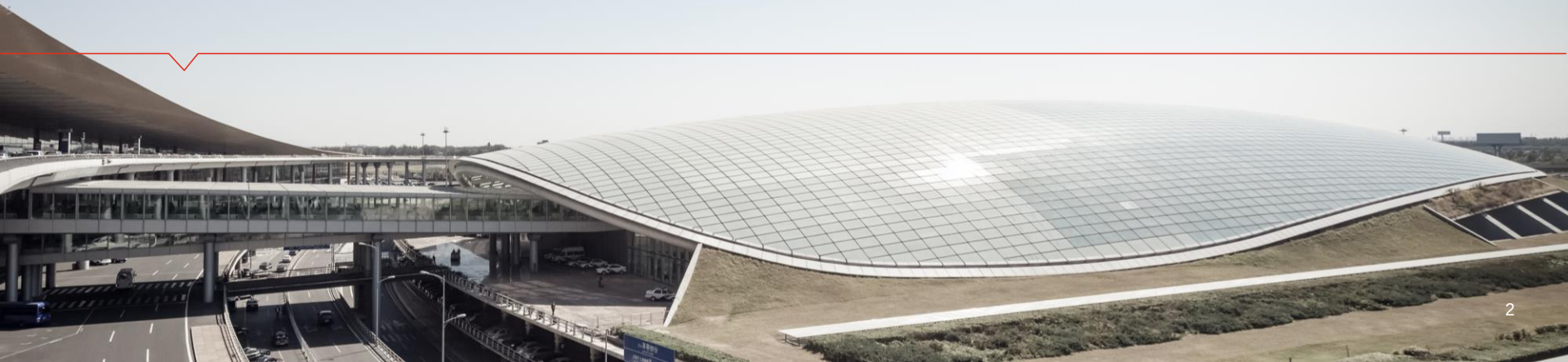


A word on assumptions, definitions and data compilation methodology

Our analysis relies on data from proprietary and publicly available data sources

Corporate disclosures are not an exact science. Statistics contained in this presentation may differ from previous PwC press releases and external data sources, as data is constantly updated and as deals / projects are confirmed and disclosed. Sometimes at a considerable lag

Our analysis should be viewed as a 'best-effort' synthesis of trends and available data points, at a particular moment in time

- We have reconciled, supplemented and enriched our analysis with deals and project datasets from Thomson ONE, Bloomberg and BMI
- We consider only deals that are completed in any given year. We consider only projects that are announced in any given year
- We consider all deals and projects in the B&R geographical grouping and exclude outbound flows to non-B&R countries
- All prices series are in nominal terms unless stated otherwise

Our in-house definition of infrastructure and industry classification standards

Our in-house project definition comprises four key sectors (utilities, transport, construction and social). Our deals definition includes a further three sectors (telecommunications, energy and environmental)

We group all project and deals sub-sectors according to the Global Industry Classification Standard (GICS)

Utilities	Transport	Construction	Social
Electric utilities	Airport services	Construction	Education
Gas utilities	Highway & rail	Real estate	Healthcare
Water utilities	Marine ports		Government

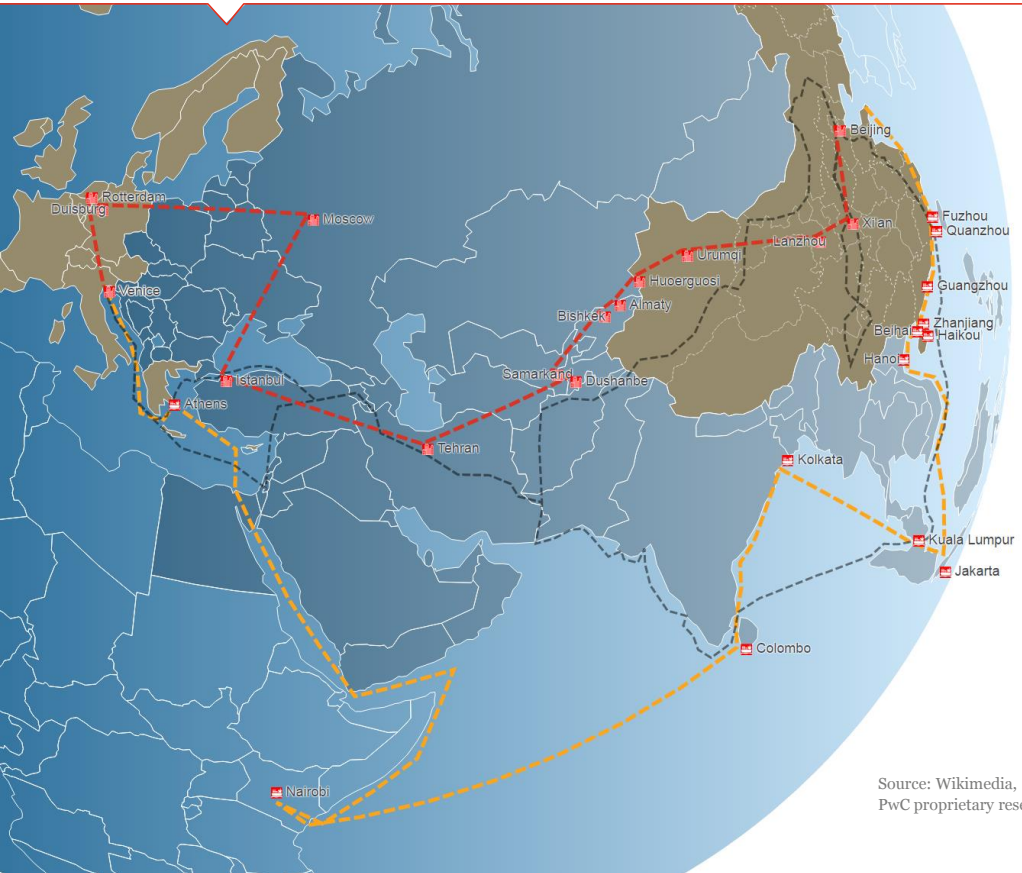
Telecoms	Energy	Environment
Alternative carriers	Storage	Waste management
Integrated services	Transportation	

01
Introduction

Belt & Road: resurrecting the ancient silk route

The B&R region spans four continents and includes a total of 66 countries… from Lithuania to Indonesia

Belt & Road: resurrecting the ancient silk route



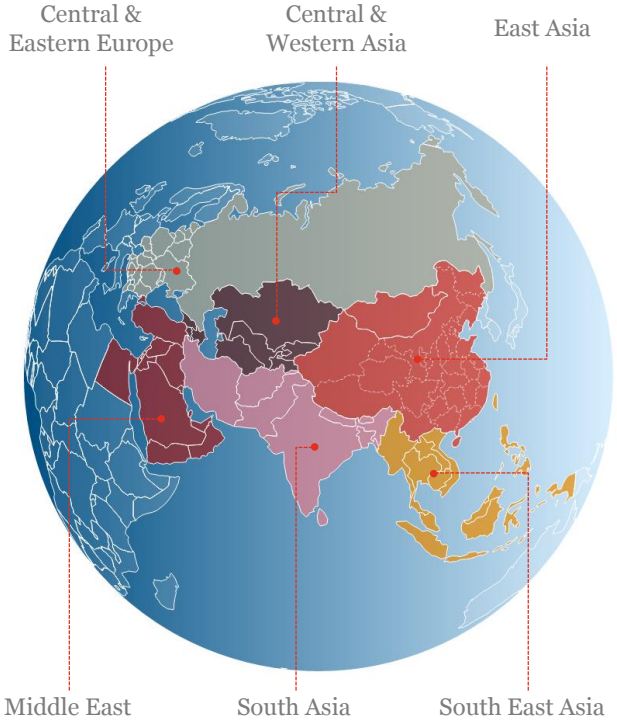
Source: Wikimedia,
PwC proprietary research

Unveiled in October 2013, the Belt & Road (B&R) initiative is a development framework promoting Eurasian trade and integration

- Includes two complementary components : a terrestrial 'Silk Road Economic Belt' and a 'Maritime Silk Road'
- Underscores China's drive to play a greater role in global affairs. Institutions supporting the initiative include Asia Infrastructure Investment Bank (AIIB)
- A cornerstone of the proposed initiative is a vast infrastructural network connecting China to Europe via South, Central Asia and the Middle East
- Seeks to unlock investments for priority projects in a number of 'economic corridors'

Silk Road Economic Belt (SREB)	
Maritime Silk Road (MSR)	
The travels of Marco Polo (1276-1291)	

The B&R region spans three continents and includes a total of 66 countries… from Lithuania to Indonesia



Central & Western Asia

Armenia
Azerbaijan
Georgia
Kazakhstan
Kyrgyzstan
Tajikistan
Turkmenistan
Uzbekistan

East Asia

China (incl. Hong Kong and Macau)
Mongolia

South Asia

Afghanistan
Bangladesh
Bhutan
India
Iran
Maldives
Nepal
Pakistan
Sri Lanka

Central & Eastern Europe

Albania
Belarus
Bosnia
Bulgaria
Croatia
Czech Republic
Estonia
Hungary
Latvia
Lithuania
Macedonia
Moldova
Montenegro
Poland
Romania
Russia
Serbia
Slovakia
Slovenia
Ukraine

South East Asia

Brunei
Cambodia
Indonesia
Laos
Malaysia
Myanmar
Philippines
Singapore
Taiwan
Thailand
Vietnam

Middle East

Bahrain
Egypt
Iraq
Israel
Jordan
Kuwait
Lebanon
Oman
Palestine
Qatar
Saudi Arabia
Syria
Turkey
UAE
Yemen

02

2016 in review

Projects and deals generated a combined $494bn in value in 2016

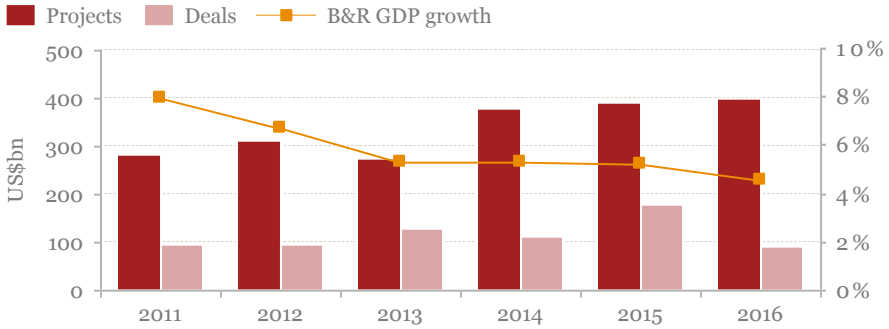
A third of B&R project and deal value generated in 2016 was in China

Average project size in China rose by 14% in 2016

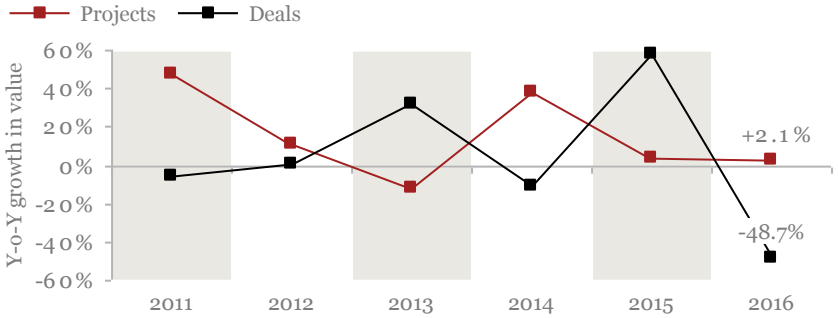
2016 saw a rise in project dollar value, as governments battled to revive growth. Available data points to a drop in M&A

- Regional growth moderated in 2016 on the back of weaker Chinese demand
- Rising oil and commodity prices fed into construction costs, heaping further pressure on sector profitability
- Public expenditure on projects remained strong, however. China's 'silk road' is materializing and driving investments across B&R
- Available data suggests infrastructure project spend tends to be counter-cyclical, correlating negatively with economic activity. M&A activity is driven by investor confidence and is typically pro-cyclical
- M&A activity points to a decline in volume and dollar value. Disclosures for 2016 are however still trickling in, meaning that there is still (limited) scope for more upside

Deals and project dollar value vs. B&R GDP growth



Deals and projects tend to move against one another



Source: BMI, Thomson ONE, Bloomberg, PwC proprietary research

Focus on new projects saw value rising 2.1% at the expense of M&A activity

Projects: countercyclical strength

- Provisional numbers for 2016 see total new announced project value rising 2.1% to roughly US$400bn
- Final numbers could see 2016 value rising by as much as 10%

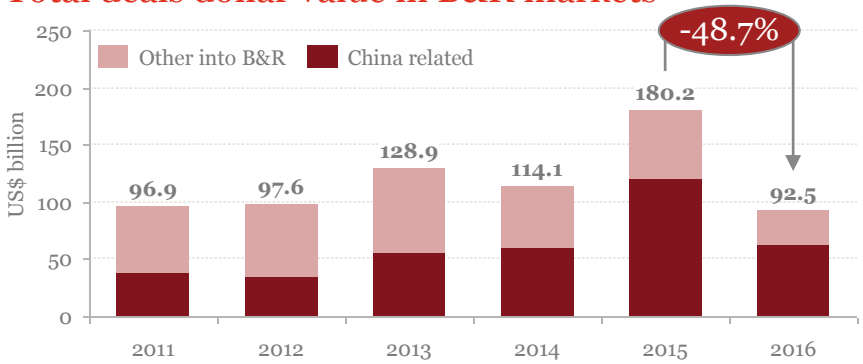
Deals: pro-cyclical weakness

- Economic headwinds were not as kind to deal activity, with available data pointing to a 49% fall in dollar value
- The drop partly reflects peak levels reached in 2015, when deal activity rose to a record $180bn
- China domestic deal value is also down, according to available data, but up 15% from 2014

Total project dollar value in B&R markets

Source: BMI, Thomson ONE, Bloomberg, PwC proprietary research

Total deals dollar value in B&R markets

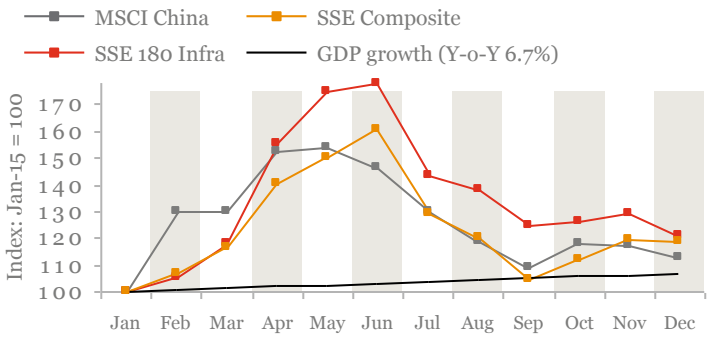


Equity infrastructure underperformance reflects downward M&A trend

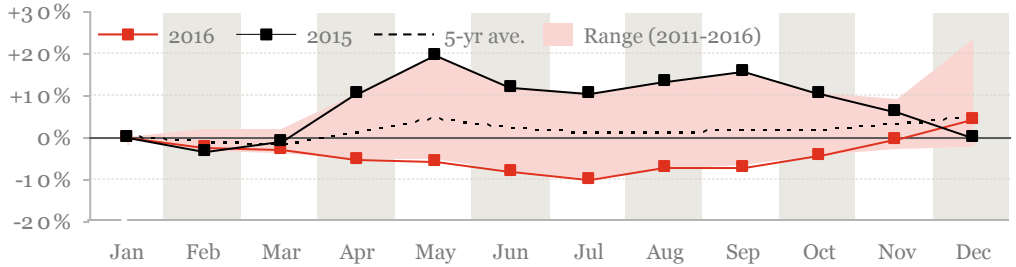
A subdued performance

- After two bumper years that saw the Shanghai infrastructure index surge by 85% between 2014-2015, the index rose only by a modest 9.9% in 2016
- Infrastructure equities trended at an average 4.1 percentage point (pp) discount to the Shanghai composite index, an average 6.9 pp discount to GDP, and a 12 pp discount to the MSCI China Index

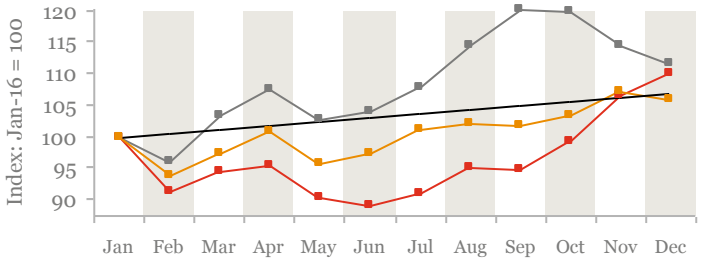
After a bumper year in 2015…



SSE 180 infrastructure index vs SSE composite



…infra equities underperformed in 2016



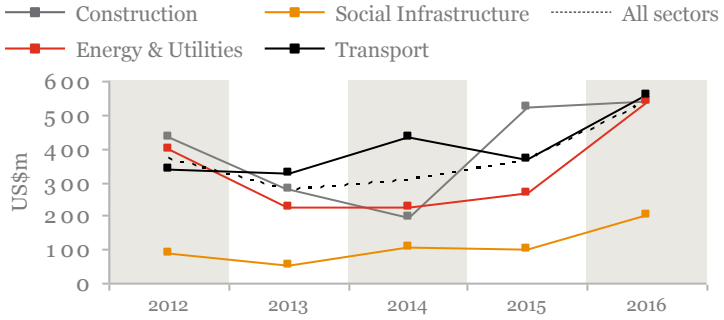
Source: IMF, MSCI, National Interbank Funding Center, Bloomberg, PwC proprietary research

Rising average project value points to a ‘flight to quality’

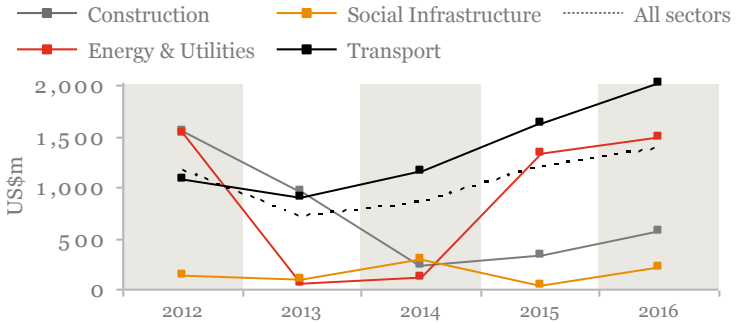
A multi-year trend of rising value

- Available data sees average project value rising 47% in B&R and 14% in China, and suggests more value was generated despite an absolute drop in projects
- The trend was at play in all sub-sectors, with noteworthy rises in utilities and transportation
- Available data suggests average value has been on the rise since 2013, with a CAGR of 33% for B&R and 27% for China
- Rising average project value is the flipside of growing uncertainty and feeble growth in regional markets, with investors and public authorities pooling investments away from riskier, non-essential ventures

Average B&R project value by sector

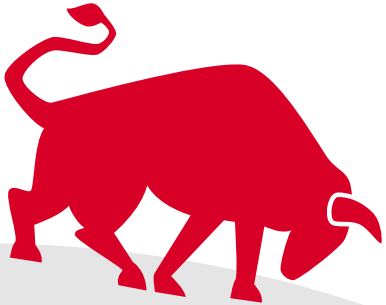


Average China project value by sector



The macro picture

Government policy across B&R was bullish for projects but bearish for deals



M&A bears

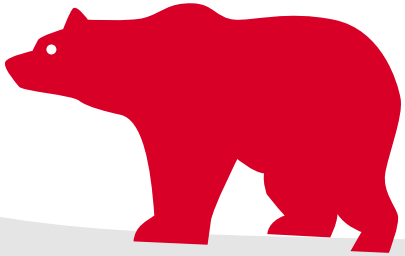
- Monetary policy is fuelling lending and likely generating a real estate bubble. This weighed on investor sentiment
- Real lending rates fell but were high for much of 2016
- The yuan weakened in 2016, moderating China's appetite for foreign acquisitions. This was compounded by lengthy regulatory approvals

Sagging fundamentals

- Construction costs bounced back on rising crude and steel. This was bearish as reflected global markets and domestic production cuts more than rising domestic demand
- Loosening fundamentals. Freight volumes, port throughput and industrial power demand fell. Overcapacity drove down fixed asset investments
- Sovereign debts suffered a couple of downgrades in 2016 (although the picture is broadly stable)

Project bulls

- Monetary policy in China remained accommodative. Base rates hovered at their lowest level in two decades. New loans reached record highs
- Fiscal policy continued to fuel growth in China and B&R
- GDP growth rates soften across the region. This was a bullish driver for projects in 2016 as governments scrambled investments to offset declines



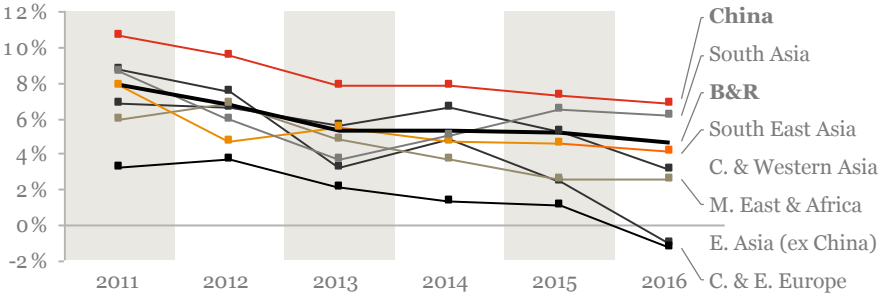
B&R GDP growth moderated in 2016 but trended high above global output. China exceeded expectations in Q4

A challenging growth environment

B&R GDP growth decelerated in 2016, expanding by 4.6% against 5.2% in 2015 and a 5-year average at 6.1%

- In 2016 South Asian output fell for the first time in three years. The IMF downgraded India on the back of Modi's rupee note ban
- Countries with trade exposures to China have seen cooling demand for exports

B&R growth rates by key regions



Source: IMF, PwC proprietary research

China is slowly bottoming out of its multi-year decline

B&R growth outstripped global output (3.1%) and that of advanced and emerging groupings at 3.4% and 3.6% respectively

- China's GDP for 2016 came in at 6.7%, within the government 6.5-7% target range. Growth outperformed expectations in Q4
- IMF forecasts have been firming up since Oct-15
- The Caixin PMI registered its fastest rise in 3 years in December

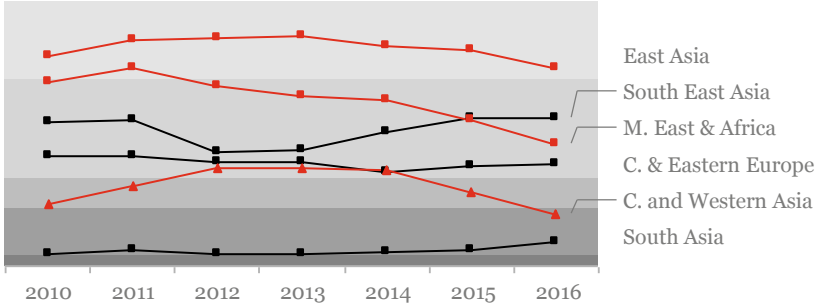
Trending GDP forecasts for China

Source: IMF

A few downgrades did not destabilize the B&R sovereign debt environment

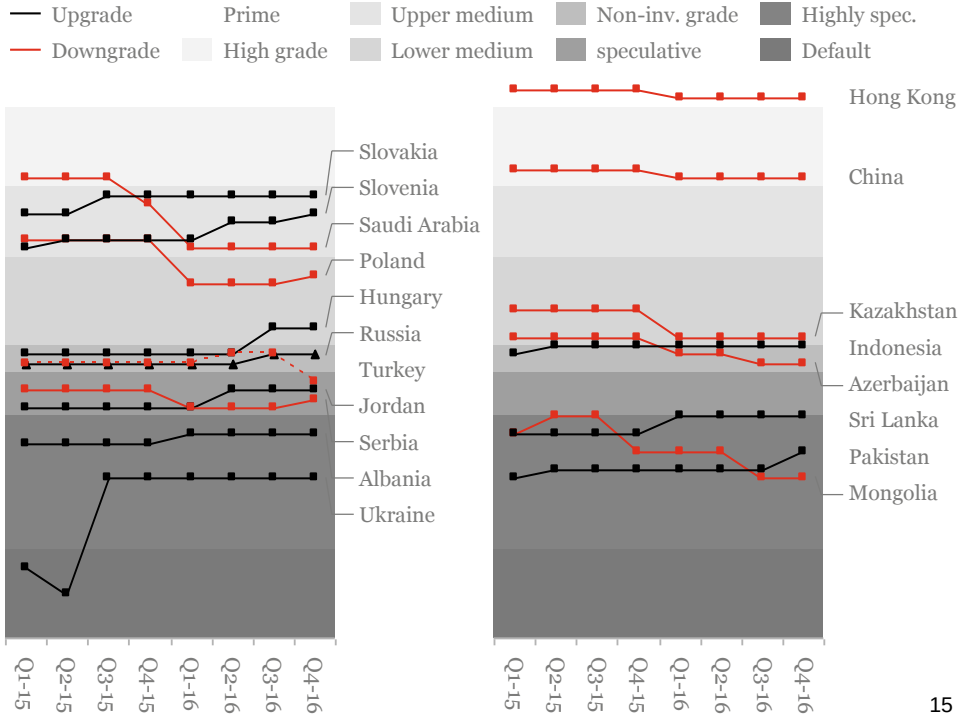
- Europe and MENA saw some downgrades on the back of political instability (e.g. Turkey and Poland) but was more upbeat overall. Russia was upgraded from BB+ negative to stable in September (S&P)
- Asia saw some downgrades in Central Asia, but the credit environment was otherwise stable

B&R regional ratings crude average (S&P)



Source: Standard & Poor's, PwC proprietary research

Sovereign rating reassessments: Europe & MENA vs. Asia (S&P)



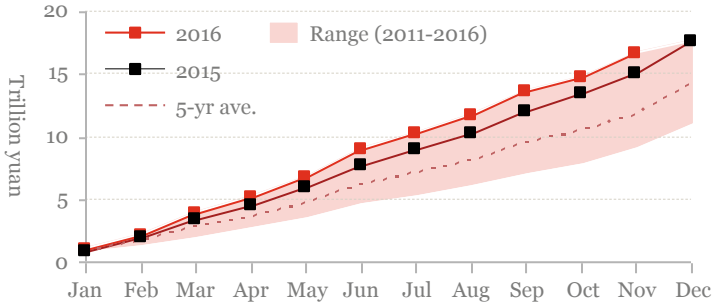
China's fiscal stimulus announcements and infrastructure spending had another bumper year in 2016

Infrastructure remained a policy lever of choice

Total spending is expected to reach 20 trillion yuan this year, which is more than 10% over that of 2015 and 40% more than the 5-yr average

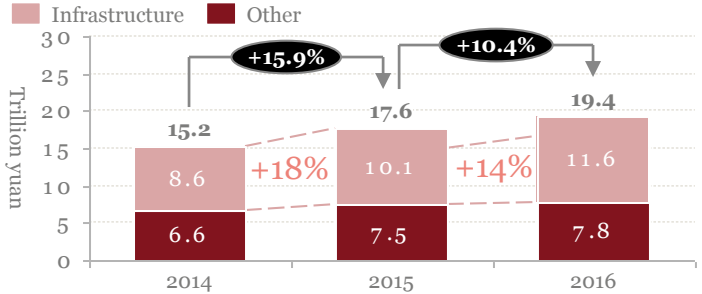
- Beijing announced a series of fiscal stimulus measures in infrastructure, including 4.7 trillion yuan package for transportation in June
- In December, the Government announced plans to invest 3.5 trillion yuan in railway networks from 2017-2020 to connect 80% of China's major cities
- We believe infrastructure spending growth will come in at 14% for 2016, which is down slightly from an average five-year growth rate at 14.5%
- Infrastructure spending will continue to grow robustly, however we expect its relative share to decelerate over time

Cumulative Government expenditure



Source: National Bureau of Statistics of China, PwC proprietary research

Infra spending growth remains robust



Source: CEIC, PwC proprietary research

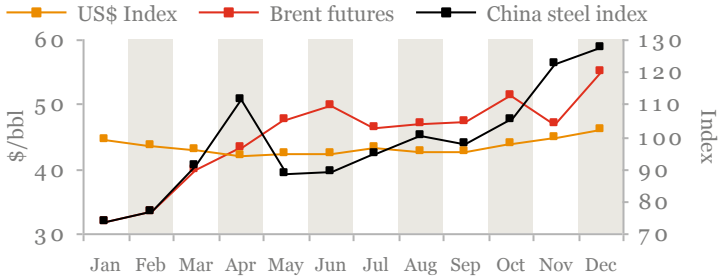
Construction costs rise on the back of materials and wage inflation

Input costs recover from multi-year declines

Rising input prices increased pressure points on the infrastructure value chain

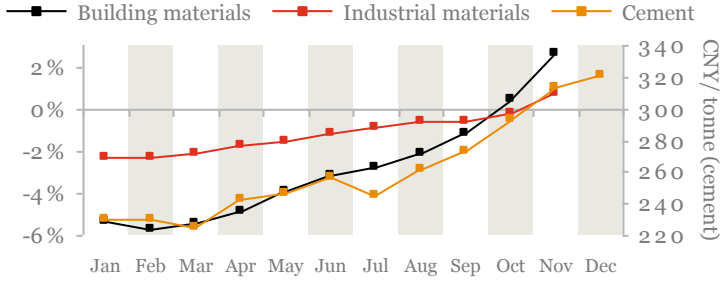
- Crude prices rebounded on the back of global tightening fundamentals and the US dollar trended low up until the December Fed rate hike
- Domestic steel prices surged on construction demand, shrinking inventories and Beijing removing 45 million tonnes in capacity. Rebar prices rose higher still on Beijing moving to close coal mines
- Indices for industrial and building materials bottomed out in 2016 and expanded for the first time in five and three years respectively
- Nine provincial regions raised minimum wages in 2016. Construction wages will have risen somewhere between 5-8% in 2016

Crude and steel are up 70% since January



Source: Bloomberg, ICE, MyspiC steel index

Key construction costs are rising



Source: National Bureau of Statistics of China, Bloomberg, PwC proprietary research

03 Outlook

We see potential for significant growth in power, rail and healthcare in a number of middle-income B&R countries

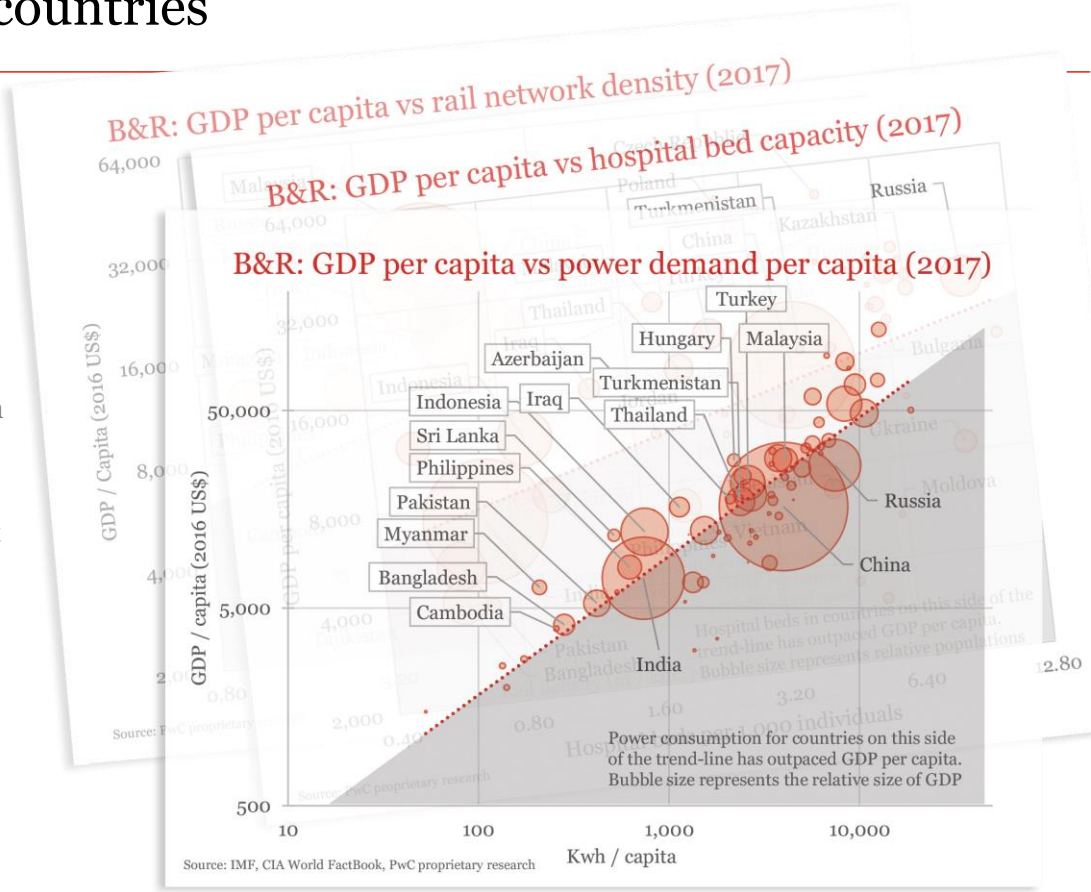
M&A infrastructure could rebound in 2017

More broadly, we see five key themes shaping the outcome for 2017

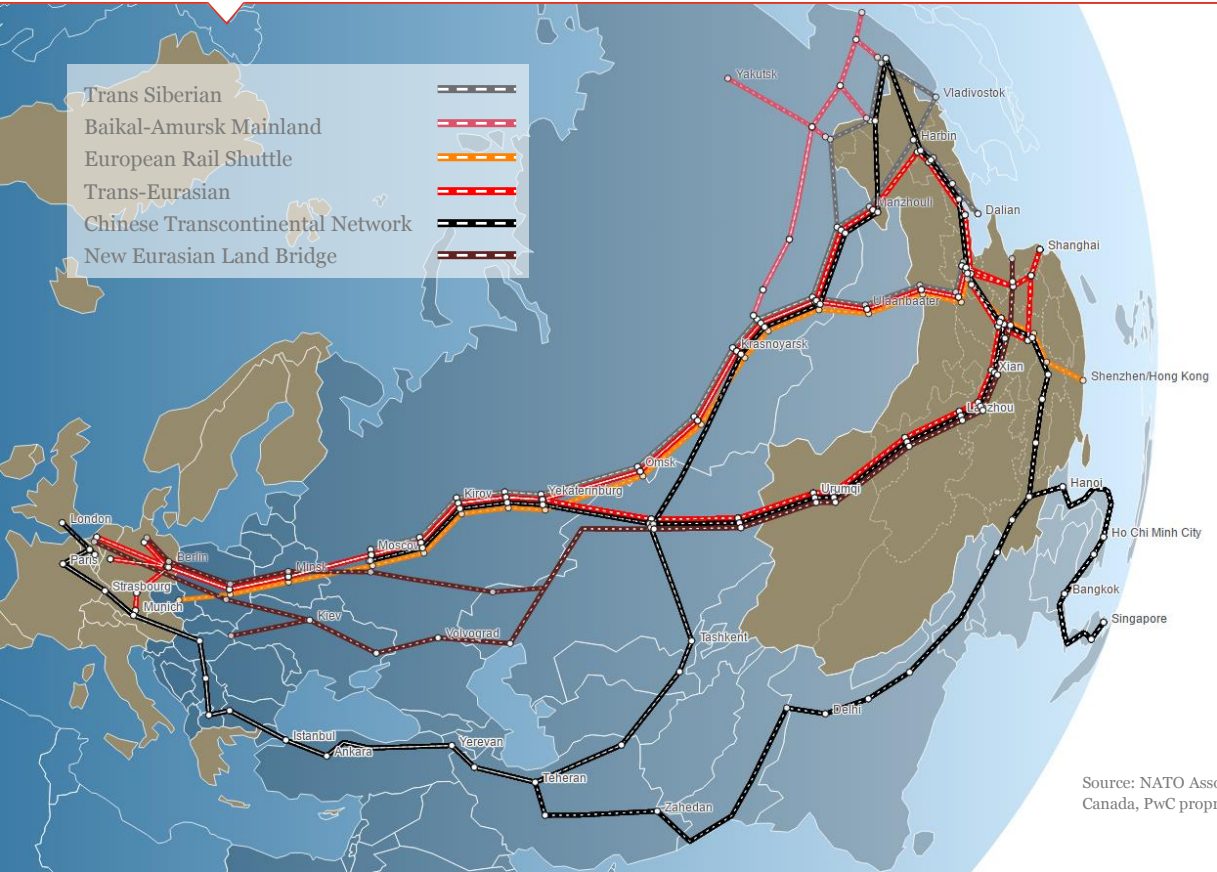
We see potential for significant growth in power, rail and healthcare in a number of middle-income B&R countries

A developmental sweet-spot

- Power consumption is trailing GDP per capita in a number of key B&R middle-income countries. We see a significant ramp-up in power projects in 2017 and beyond as Governments seek to bridge the supply gap
- A number of B&R countries are lagging behind in rail network density, and some have incentives to integrate their large territories via rail (e.g. China). Countries such as Kazakhstan and Mongolia that are located in B&R corridors and will see a ramp-up in projects
- Likewise, a number of B&R countries have ageing or fast growing populations that have not been matched by hospital capacity additions. We expect significant healthcare investments in these countries



Trans-Eurasian rail networks will dramatically reduce the time between China and European consumer markets



At the heart of China's Belt & Road initiative is a planned network of railways connecting China to Western Europe

- Beijing hopes to complete this project within a decade
- The planned rail network will deepen economic integration in some of the word's most densely populated regions
- Once completed, it will provide a high capacity alternative for bulk-consumer good transportation. It will offer valuable freight time savings over ship transport
- In January this year a freight train arrived in London after completing a 12,000 km fro Yiwu, China, via Kazakhstan and Russia and France

Source: NATO Association of Canada, PwC proprietary research

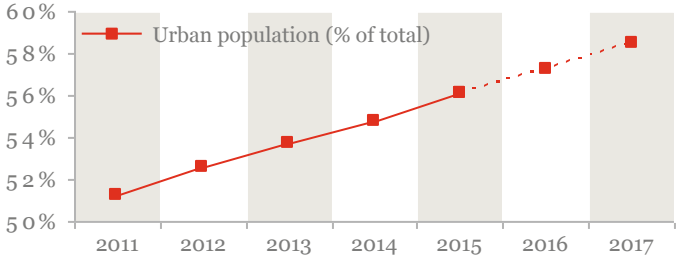
Urbanisation and population growth will spur continued demand for high-capacity transportation infrastructure

Powerful demographic trends

Twice as many individuals in China now live in cities than only twenty years ago. This is remarkable when you consider it took the United States 60 years to accomplish the equivalent demographic shift

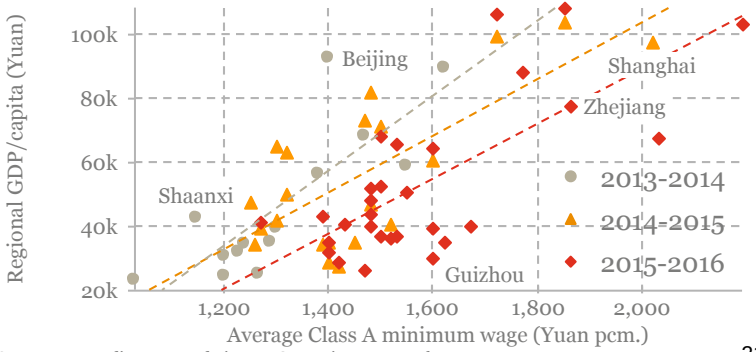
- Population mobility will continue to rise across China as unequal economic development leads to greater disparities in regional employment and wages
- Over the last six years the variance in regional minimum wages has risen across China which should lead to higher inter-provincial population flows
- The Government has announced plans to reform the 'huko' household registration system. This should allow workers to move between provinces
- These trends bode well for infrastructure demand as authorities work to achieve greater regional integration, absorb rising population flows and build added capacity in mass-transit transportation systems
- We see increased opportunities in intra / inter-city railway

China to be almost 60% urbanised by 2017



Source: National Bureau of Statistics of China, PwC proprietary research

Regional GDP/capita vs. class A min. wages



Source: WageIndicator Foundation, PwC proprietary research

M&A infrastructure could rebound in 2017

China: domestic and inbound

We see potential for a rebound in domestic activity driven by a maturing and consolidation of the Chinese economy

- Infrastructure will outperform on countercyclical spending and as investors shun manufacturing and industrial sectors with lower potential for organic growth
- We do not expect a sharp rise in inbound M&A given rising interest rates and the accumulation of risks in overseas markets. Outbound restrictions will boost domestic M&A
- Key signpost for 2017 is the Communist Party 19th Congress. Investors will weigh up the risk of new regulations

B&R and China outbound deals

New regulation and capital controls will act as a drag on overall China M&A outbound transactions

- The infrastructure sector is considered strategic. Transactions will not be subject to inhibitive levels of scrutiny
- Outbound investments that dovetail with strategic objectives will instead be encouraged. Chinese investors with dollar reserves will have an advantage over pure Yuan players

B&R markets will continue to offer riskier but more attractive returns with higher potential for organic growth

- B&R region remains politically volatile, however, and subject to adjustments to external pressures, current account imbalances and currency movements
- Should the risks dashboard deteriorate we could see more sovereign downgrades affecting project economics

We see five key themes shaping the outcome for 2017

Investors broadening their horizons

To increase their returns, Investors will tackle a broader range of opportunities and risks, including

- Developing and 'frontier' markets with greater levels of country risk
- Greenfield projects, with heightened development and construction risks

This transition from pure-play, low risk infrastructure requires new skill sets and capabilities in deal sourcing, evaluation and asset management

Political leadership unveiling ambitious goals

We see more project announcements across B&R in 2017 as governments continue to tackle economic slowdown

Many of these will come from China, as Beijing will need to supplement current announced packages to keep up the pace of investment and drive momentum behind its silk road ambitions

Ambitious infrastructure goals bring new challenges for policymakers. Spending will likely run up against budgetary constraints, and, even with the influx of private capital, there may not be enough to meet needs

Future-proofing against obsolescence

Rapid urbanisation, climate change, shifts in global economic power, demographic changes, and technological breakthroughs – can cause even traditional assets to lose relevance quickly

As a result of these trends, infrastructure (which was traditionally seen as a conservative asset class) now faces new risks. To future-proof their infrastructure spending, governments and investors will need new assessments and skills to prepare for emerging opportunities and challenges

Sustainable infrastructure for the long term

We see a growing push to decarbonise economies, implement green construction methods, and make cities more ecologically sustainable

Conflicts will of course arise between the green agenda and concerns about costs to consumers. These conflicts will be most apparent in countries where pressures from fast rising populations and urbanisation are the highest

The key question is whether governments prioritise short-term cost savings over longer-term benefits that come with sustainable development

Commodity-rich regions prioritize infrastructure

B&R Countries rich in natural resources have suffered from the fall in commodity prices, with government budgets taking a hit.

Many of these countries however see infrastructure as a way to maintain growth, support vulnerable sectors of the economy, and eventually transition away from commodity-dependent growth models

We think governments will increasingly consider innovative private financing options and turn to the private sector to support these plans