The Belt and Road Initiative: Implications for China and East Asian Economies

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Abstract

The China-led Belt and Road Initiative (BRI) is set to become a formidable development programme and its implications will be far reaching for East Asia, including ASEAN and China. It will provide further momentum for intra-Asian investment and trade flows and the implementation of such a strategy will also help to accelerate China's mergers and acquisitions activities in infrastructure, logistics and tourism. The BRI is expected to raise the Renminbi's international use in trade settlement and financing. A considerable amount of financing is estimated to come from Chinese institutions, particularly policy banks such as China Development Bank and a range of government-linked institutions. This article discusses China's funding support and investment to improve regional connectivity and analyses the repercussions of China's financial commitments under the Belt and Road Initiative for East Asia as well as its own economy.

Keywords: *China, Belt and Road Initiative, infrastructure, ASEAN, connectivity*

Introduction

The Belt and Road Forum (BRF) for International Cooperation was held in Beijing on 14-15 May 2017. It was attended by more than a thousand delegates from over 130 countries and international organizations. China's President Xi Jinping delivered a keynote speech[1] and outlined action plans to stimulate investment and trade in the Belt and Road economic corridors.[2] As part of China's renewed support for the Belt and Road Initiative (BRI),[3] China will scale up funding support by contributing an additional RMB 100 billion to the Silk Road Fund, encouraging overseas Renminbi (RMB) fund business, and setting aside a total of RMB380 billion additional lending to fund infrastructure projects in the region.

Further, China calls for enhanced policy cooperation to offer long-term, sustainable financial support to facilitate the BRI. It signed business and trade cooperation agreements with more than thirty countries at the inaugural forum, as well as memoranda of understanding with a dozen multilateral financial organisations, including the Asian Infrastructure Investment Bank (AIIB), World Bank and New Development Bank (NDB). These efforts are building blocks that will help create a China-led global development framework.

By linking countries and regions that account for about 60 per cent of the world's population and 30 per cent of global trade, President Xi Jinping has billed the BRI as a 'project of the century' to integrate the Chinese economy with the development of Asia, Europe, Africa and beyond. As shown in Table 1, China and the Belt and Road countries are an economic force to be reckoned with; their combined sizes are equivalent or even larger than some of the existing trade blocs. For comparison purposes, while the BRI region is not a trade bloc, its economic size is equivalent to that of the Trans-Pacific Partnership (TPP) at 40 per cent of global GDP, though with the US' withdrawal, it will be larger than the TPP in terms of economic weight. Further, the Belt and Road countries' population currently stands at 4.5 billion, which is the largest of the other potential trading blocs. This implies that with infrastructure, especially transportation and communications networks being built up, the BRI will present ample opportunities for commercial and people-to-people exchanges.

TABLE 1. Comparison between BRI region and RCEP and TPP regions

Indicator	TPP	TPP (ex-US)	One Belt, One Road	One Belt, One Road (except China)	RCEP	FTAAP
No. of economies	12	11	65	64	16	21
Population	800 million	490 million	4.5 billion	3.2 billion	3.5 billion	2.9 billion
Nominal GDP (US$ trillion)	27.5	9.4	29.8	12.0	22.6	43.8
% of Global GDP	40	13	40	16.0	30	60
% Share of Global Trade	26	15	34	22	29	50

Note: RCEP refers to Regional Comprehensive Economic Partnership. It comprises ASEAN's ten members plus China, Japan, South Korea, India, Australia and New Zealand. FTAAP refers to Free Trade Area of the Asia-Pacific and comprise the 21 members of APEC. Sources: IMF, WTO, UOB Bank.

Chinese investments related to the BRI have totalled US$ 60 billion since 2013 and are expected to pick up, with US$ 600-800 billion worth of investments planned for the following five years – equivalent to US$ 120-130 billion per year over this period.[4] Although the amount is large, it dwarfs in comparison with the Asian Development Bank's (ADB) estimates that Asia Pacific will need to invest US$ 1.7 trillion per year in infrastructure from 2016 until 2030 to maintain its growth momentum.[5] The importance of infrastructure to national or regional economic development is well documented in several studies (Barro 1990; Futagami et al. 1993; World Bank 1994; Canning 1999; Esfahani and Ramirez 2003; Canning and Pedroni 2008; Calderón et al. 2015). Whether measured in terms of physical stock (for example, road density and telephone lines penetration rates) or social aspects (human capital, health services, etc.), improving the quantity and quality of infrastructure is vital to increasing the productivity and competitiveness of an economy. In a regional context, infrastructural connectivity helps facilitate trade and investment flows among countries and therefore enhances economic integration in the region.

Due to the crucial role that infrastructure plays in economic development and integration, many countries have invested to develop infrastructure. However, domestic resources are typically insufficient to meet financing needs since infrastructure is a long-term investment with high up-front capital investment (Henckel and McKibbin 2010; Bank for International Settlements 2014).[6] Rapid urbanization has also contributed to funding needs in meeting infrastructure demand (McKinsey Global Institute 2016).[7] The costs of meeting infrastructural needs can be monumental (OECD 2015).[8] Official development assistance (ODA) is clearly insufficient to address the huge requirements for infrastructure while there are fiscal and resource constraints (for instance, lack of government or public revenue) to plug the infrastructure gap.

To date, there have been few studies that explore the financing mechanisms or infrastructure financing for the BRI. Most of the literature surveys the various methods of financing infrastructure in general (Llanto et al. 2015; OECD 2015;[9] ADB 2017), while Bhattacharyay (2012) suggests that the existing financing mechanisms and instruments, as well as institutions in Asia as a whole, are not adequate to meet this magnitude and type of infrastructure financing need. Bank syndicated loans and tax revenue are insufficient to fund infrastructure, while the ability of existing institutions such as Multilateral Development Banks (MDBs) are limited given the scale of investment needs. Although Asia has many overlapping sub-regional and regional institutions involved in national and regional energy, transport, water and telecommunications infrastructure connectivity projects, the fragmented institutional arrangements suggest the need for increased collaboration among such international/regional/bilateral infrastructure financing institutions to address the infrastructure gaps in many developing economies in the region (Bhattacharyay and Bhattacharyay 2017).[10]

This article aims to contribute to the existing literature on infrastructure financing through two key discussions. First, it discusses the various financing methods under the framework of the BRI initiative and examines China's initiatives in the context of the financing mechanism and institutional architecture. There have been few studies on BRI-related infrastructure financing to date. Second, the article analyses the impact on East Asia of China-funded projects under the BRI framework. While it may be too early to assess the impact of this ambitious project, the BRI has the potential to facilitate deeper regional integration via increased trade and investment as well as accelerating China's mergers and acquisitions activities in infrastructure, logistics and tourism. However, China's BRI-related support may also bring significant risks and uncertainty to the Chinese economy, such as the increased burden of servicing more debt when cross-country projects become financially unsustainable due to external geopolitical risks and inadequate risk evaluation by Chinese investors.

The article is organized as follows: Section 2 discusses China's investment and financing efforts to improve regional connectivity, while Section 3 analyses the economic impact on the region, particularly ASEAN, of China's financial commitments under the BRI initiative, and for China's own economy. It concludes with a note on policy implications.

Filling the Infrastructure Gap to Improve Regional Connectivity

In 2013, China's President Xi Jinping mooted the idea of a New Silk Road, or Maritime Silk Road, that starts from Fujian province and links all the littoral countries of the region. Shortly after outlining his new Silk Road ideas, Xi Jinping put up the Silk Road Fund of US$ 40 billion that was officially unveiled at the APEC Summit in Beijing in November 2014. Many relevant ministries and departments in China had also worked out action plans that were eventually crystallized into the Belt and Road strategy.

Infrastructural connectivity remains the key focal point of the BRI. Much of the BRI development activity will be initially geared to building basic infrastructure and improving physical connectivity. At the inaugural Belt and Road Forum (BRF) on 14-15 May 2017, China reiterated that it will promote investment in key passageways, cities and projects, and in connecting networks of highways, railways and sea ports. This will lead to strong demand for cross-border financing services, with financial integration as one of the key components aiding the network build-up. To facilitate infrastructure investment, President Xi Jinping encouraged greater cooperation between government and private capital in building a diversified financing system for infrastructure.[11] Further, the governor of the People's Bank of China (PBOC), Zhou Xiaochuan, stated that the funding of the projects related to the BRI should be raised through a market-oriented, sustainable and mutually beneficial investment and financing system.[12] As such, mutual efforts from countries involved in the BRI are necessary to provide long-term, sustainable funding support to meet infrastructure needs.

A considerable amount of financing is estimated to come from Chinese institutions, in particular policy banks such as China Development Bank (CDB) and a broader array of government-linked institutions (see Appendix 1). As part of its renewed support for the BRI, the Chinese government plans to scale up funding by contributing an additional RMB 100 billion to the state-owned Silk Road Fund,[13] encouraging overseas RMB fund businesses as well as increasing special overseas loans for two key development financial institutions – the CDB and the Export and Import Bank (EXIM) of China – by RMB 250 billion and RMB 130 billion respectively (Table 2).

In addition to financial support for the BRI, China signed a series of business and trade cooperation agreements with over 30 countries during the BRF. As the BRI is meant to be a mutual cooperation project, financing is expected to come from various sources, including multilateral agencies such as the Asian Infrastructure Investment Bank (AIIB), Asian Development Bank (ADB), World Bank, as well as private sector participation. To enhance policy coordination, China signed a series of memoranda of understanding with these multilateral organizations at the BRF, leveraging on their strength and expertise in infrastructure to further boost investment in the area.[14]

The financial commitments pledged to the BRI underscore the funding gap with regard to Asia's infrastructure needs. According to the ADB, the US$ 1.7 trillion estimate that developing Asia needs to invest

TABLE 2. Increased financial support from Beijing to BRI

Items	Amount
Silk Road Fund (additional injection)	RMB100 billion
Overseas Fund Business in RMB for promotion of RMB usage	RMB300 billion
China-Russia Regional Cooperation Development Investment Fund	Initial capital of RMB10 billion; total size RMB100 billion
CDB to establish Belt and Road (B&R) Multi-currency Special Lending Scheme for Infrastructure Development	RMB 100 billion equivalent
CDB to establish B&R Multi-currency Special Lending Scheme for Industrial Cooperation	RMB 100 billion equivalent
CDB to establish B&R Multi-currency Special Credit Lines for Overseas Financial Institutions	RMB 50 billion equivalent
EXIM to set up B&R Multi-currency Special Lending Scheme	RMB 100 billion equivalent
EXIM to set up B&R Multi-currency Special Lending Scheme for Infra-structure Development	RMB 30 billion equivalent
Increased assistance to developing countries along the B&R	At least RMB60 billion from 2017-2020
Emergency food aid to countries along the B&R	RMB2 billion
Replenishment of the South-South Cooperation Assistance Fund	US$1 billion

Source: yidaiyilu.gov.cn

in infrastructure every year is more than double the US$ 750 billion that ADB previously estimated in 2009. Infrastructure investment needs vary considerably by sector (Figure 1), with power and transport comprising the two largest sectors, accounting for 52 per cent and 35 per cent respectively. Among the Asian countries, China, India and Indonesia require the most infrastructure investment, with China accounting for more than half (58.1 per cent) (Figure 2). Other Belt and Road countries also need to bridge the infrastructure investment gap since they are rapidly urbanizing like China, generating significant demand for infrastructure.

FIGURE 1. Asian infrastructure demand by sector

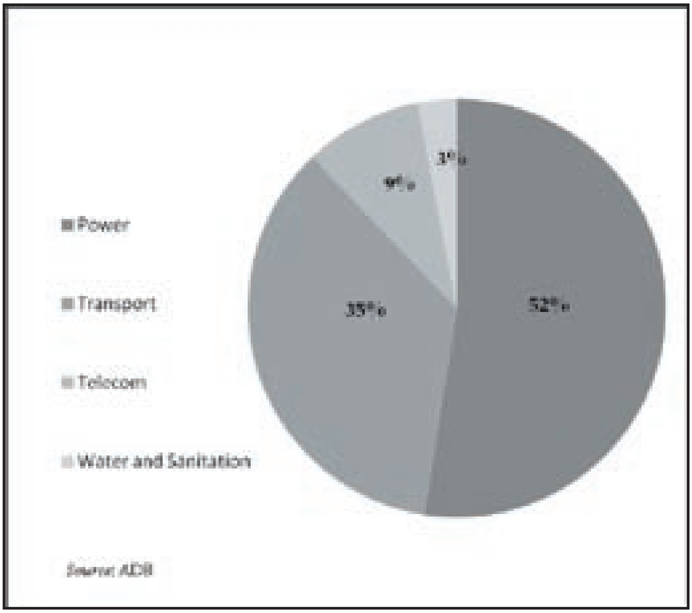
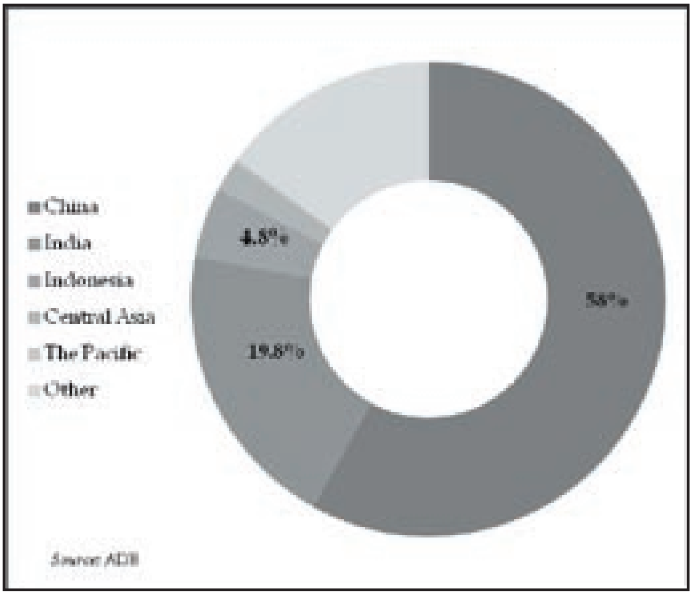


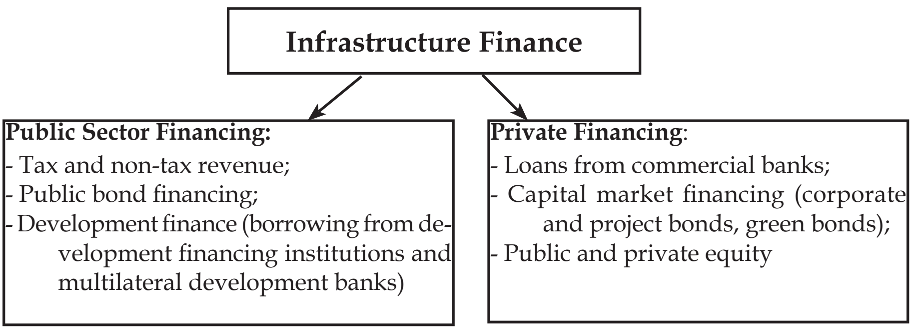
FIGURE 2. Asian infrastructure demand by country



While funding availability is an issue, one challenge in developing infrastructure in the Belt and Road region is the difficulty in identifying investible projects. Only a very small share of global pension and insurance funds (10-15 per cent in OECD countries) is invested in infrastructure projects. Long-term and capital-intensive by nature, a structured risk-sharing arrangement is therefore crucial for infrastructure projects to attract private investors (Ehlers et al. 2014).[15] It is expected that governments should shoulder risks associated with land acquisition, environmental clearances and changes in the legal and regulatory environment, while the private sector assumes the rest of the market risks and undertakes the necessary investment (International Monetary Fund 2016). It is important that contracts are based on incentive-driven risks and returns (Deutsche Bank Research 2016).[16] To channel available resources into infrastructure finance, an overall regulatory, legal, institutional and financing framework is needed to help support efficient infrastructure project implementation. Conducive regulatory frameworks and effective institutions are essential to help mitigate risks and attract private sectors to commit large scale, long-term financing in infrastructure.

It is well known that given huge infrastructure demand, the financing requirements would require multiple sources and mechanisms of funding, such as direct budget investment from fiscal resources, borrowing and market-based financing. A market-oriented, multi-tier system of financing is the only feasible way to provide sustainable funding for cross-border infrastructure projects. This was the key message echoed by the PBOC governor, Zhou Xiaochuan, at the recent BRF. Such a multi-layered system should include public funding, development finance and private financing through both domestic and international financial markets (Figure 3).

FIGURE 3. Possible sources of infrastructure funding



Source: ADB, author

Traditionally, the public sector finances infrastructure through the budget appropriation process (through tax revenue) which is common to many countries, though there can be constraints on infrastructure investment such as fiscal rules (i.e. debt or deficit limits). Since domestic resource mobilisation (taxation) can be insufficient, development finance aims to meet funding demands that serve long-term strategic objectives. Such lending, which is market-driven, independent and based on sound credit analysis, has a longer investment horizon and does not rely on subsidies; it focuses on capital preservation and a sustainable financial model. The public status of development institutions allows them to make longer maturity loans at good interest rates, advantageous guarantees and undertake high-risk equity investment to fund infrastructure (OECD 2015).[17]

In China, the CDB and the EXIM Bank of China are two key development financial institutions that have provided crucial funding support for the 'going out' strategy of Chinese state-owned enterprises since 2008. Equipped with an increased fund allocation from Beijing, the CDB and the EXIM Bank of China are expected to increase investment in BRI-related infrastructure projects. The CDB has a list of more than 500 pipeline projects for Belt and Road countries, with planned investment totalling US$ 350 billion. EXIM Bank of China has loaned out about US$ 700 billion for the BRI as of end-2016.[18]

China's national development banks are also setting up special investment funds with foreign governments or sovereign funds to invest in strategic development projects. In 2015, EXIM Bank of China and Buttonwood Investments, the State Administration of Foreign Exchange's investment affiliate, jointly established the China-Africa Industrial Cooperation Fund with a total capital of US$ 10 billion. The China-Africa Industrial Cooperation Fund has approved six projects totalling US$ 542 million of investment as of April 2017. For instance, it invested in an oil and gas project in Ethiopia, which has become a high-profile BRI investment project, involving a total investment of US$ 3.68 billion.[19]

Further, China set up separate funds with the Middle East, Brazil, Eurasia (Central and Eastern European countries and Asia), Latin America and the Caribbean, Russia and Kazakhstan for regional investment cooperation. An investment fund with the European Union is under discussion in 2017. The total capital of all China-led international investment funds probably exceeded US$ 70 billion as of May 2017 (see Table 3). Apart from the China-led AIIB and the New Development Bank, China is also working with the European Bank for Reconstruction and Development. Working with multilateral development banks is a useful way to address the infrastructure gap problem since such institutions have in-depth expertise in infrastructure design and implementation tools to make the projects more bankable and attractive to private investors.

As an increasing number of Chinese firms venture abroad to invest in overseas markets, commercial banks are being encouraged to get more involved; a wide variety of banking products and services are needed, including syndicated financing, cross-border settlement and

TABLE 3. China-led regional development investment funds

Fund Name	**Time**	**Key Chinese stakeholders**	**Capital**	**Investment type**
China-Eurasia Economic Cooperation Fund	Sep-15	EXIM, BOC	US$5 billion	Equity
China-LatAM and Carribbean Industrial Cooperation Fund	Sep-15	PBOC, SAFE, CDB	US$10 billion	Debt
China-Africa Industrial Cooperation Fund	Dec-15	Buttonwood, EXIM	US$10 billion	Equity and debt
China-Kazakhstan Industrial Capacity Cooperation Fund	Dec-15	Silk Road Fund	US$2 billion	Equity and debt
China-UAE Joint Investment Fund	Dec-15	CDB	US$10 billion	Equity
China-ASEAN Investment Cooperation Fund	Nov-14	N/A	US$10 billion	Equity
China-Africa Development Fund	2006	CDB	US$10 billion	Equity
Brazil-China Cooperation Fund	Oct-16	CDB	US$20 bn (Brazil, US$5 billion, China US$15 billion)	Equity
China-Russia Regional Cooperation Development Investment Fund	May-17	-	RMB100 billion	Equity
China-EU Joint Investment Fund	On-going	-	N/A	

Source: Xinhua News, HSBC. Note: 'NA' - not applicable.

risk management. The Industrial and Commercial Bank of China (ICBC) and Bank of China (BOC) are the leading state banks in the Belt and Road expansion. ICBC's BRI-related projects in the pipeline totalled US$ 337.2 billion and it has cumulatively provided US$ 67.4 billion for 212 investment projects. BOC has so far provided credit lines of US$ 68 billion to 460 BRI projects.[20]

Beijing is also working with regulators in the Belt and Road countries to reduce market access barriers and promote an open and fair regulatory environment for the international expansion of financial institutions. For instance, the Silk Road International Bank, initiated by three Chinese companies, including Izptec, a big data company, and Djibouti's Ministry of Finance, was set up in January 2017 to support Chinese enterprises' investment in Africa.[21] There are likely to be more new financial institutions going forward as markets in the Belt and Road countries continue to open up.

From a project finance perspective, a major requirement of infrastructure project financeability is the availability of sufficient long-term debt capital. As such, the capital market can be an efficient way to raise funding and develop risk-sharing structures, as financial instruments such as bonds allow for a better diversification of risks. However, debt markets are much smaller, less liquid and have a narrower investor base in many emerging market economies. Efforts to improve the liquidity of local bond markets would require the removal of regulatory and tax constraints that have impeded the development of secondary trading in private debt instruments, as well measures to enhance the attractiveness of local currency bonds to private investors (Dailami and Leipziger 1998).

Whether through debt or equity finance, successful fund raising and project completion will depend on various factors, such as governance standards. Conflicting regulations, unclear investment procedures (for instance, inefficient procurement policies), the changing tax regime, underdeveloped capital market, absence of arbitration facilities and weak contract enforcement are all considerable risks faced by private investors committing to long-term financing in infrastructure (Inderst and Stewart 2014).

The potential for bond financing is enormous. In the case of the BRI, countries could benefit from China's large and increasingly open bond market, which already accounts for 8.7 per cent of the global bond market in terms of bonds outstanding. For example, Panda bond issuance (i.e. RMB-denominated bonds from a non-Chinese issuer) is expected to exceed US$ 50 billion by 2020, up from RMB 148 billion (or US$ 22 billion) at the end of 2016.[22] In Asia, bond financing has outpaced syndicated loans in the past five years and provided more support to infrastructure investment, with corporate bonds in China playing a leading role.[23]

Silk Road Bonds are becoming an internationally recognized asset class, which can be scaled to provide the necessary funding requirements for BRI-related infrastructure. Such bonds have gained support from government authorities in China and the Belt and Road countries, as well as regulatory bodies, multilateral development banks and industrial experts. The International Capital Market Association and Dagong Global Credit Rating have set up a Silk Road Bond Working Group in Hong Kong to help drive the development of Silk Road bonds. In June 2015, Bank of China issued the first Silk Road Bond totalling US$ 3.55 billion in four currencies (USD, EUR, SGD and CNY).[24] In April 2017, it issued another multi-currency Silk Road Bond.

Reflecting a rising global appetite to combat climate change, green bond[25] issuance has been growing rapidly in the past few years. The NDB sold RMB 3 billion (US$ 440 million) of RMB-denominated green bonds in China's interbank market on 18 July 2016.[26] This was the first five-year tenor green bond by a multilateral development bank in China. China's green bond issuance exceeded RMB 200 billion in 2016, making it the world's largest green bond market due to the policy support from the PBOC and the National Development and Reform Commission.

Regional Spillover and Effect: Sizing up the Impact

As the BRI was only initiated in 2013, it may be too early to assess the likely outcome of the OBOR strategy. To date, there are very few quantitative studies investigating the potential economic impact of this ambitious initiative. One study estimated that improving the transport network and trade facilitation in countries along the OBOR route could raise the GDP growth in Central, West and South Asia ranging from 0.1 to 0.7 percentage points (Villafuerte, Corong and Zhuang 2016).[27] It also suggested that the PRC would gain a lot from the BRI but some countries, such as Mongolia or Pakistan as well as sub-regions such as Central Asia and Southeast Asia, stand to benefit significantly as well.

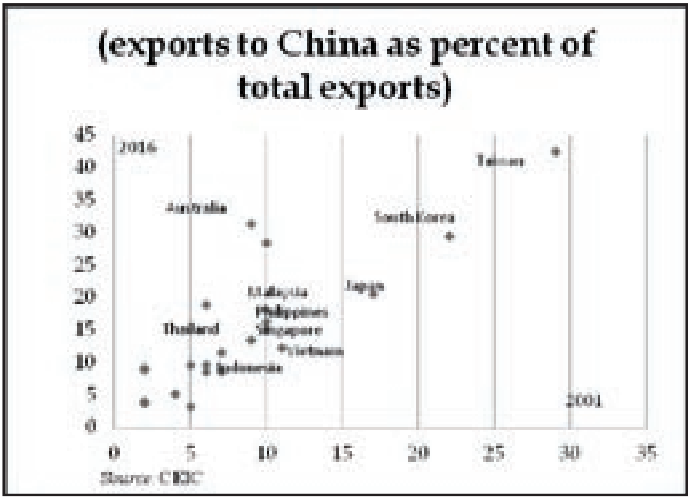
The BRI is set to become a formidable development programme and its implications will be far reaching for Asia in the long term. It will provide further momentum for intra-Asian investment and trade flows and its implementation is expected to accelerate China's mergers and acquisitions activities in infrastructure and logistics development.

China is not only well-equipped in providing the necessary engineering skills and construction experiences, it also has an ample supply of the necessary machinery and equipment as well as raw materials like cement and steel products. China's BRI is thus expected to bolster regional integration between China and ASEAN by developing physical infrastructure in the region and deepening regional interconnectivity among the countries. Improved infrastructure will increase trade flow and volume along the belt, and along with the free trade agreement between China and ASEAN, give further impetus to economic integration between ASEAN and China. A study by Roberts and Deichmann (2011) showed that transport and telecommunications infrastructure plays a significant role in promoting spillovers when it interacts with regional trade integration. Hence, China's investment in infrastructure, along with its formalized trading agreements with neighbouring countries, is expected to promote positive spillovers for the Chinese economy as well as that of its ASEAN neighbours.

In part due to geographic proximity and historic relations with China, ASEAN's economic linkages with the mainland via trade, investment and tourism have increased significantly over the past decade. With its emergence as a global manufacturing powerhouse, China plays a crucial role in integrating the region's economies; it is home to many regional and global production networks which operate to trade parts and components in a kind of vertical integration. Accordingly, the ASEAN economies have already developed a fairly high level of intra-regional trade with China. Figure 4 shows that countries in the region are increasingly integrated with China through direct trade expansion. In the last decade or so, exports to China have risen as a share of total exports for many ASEAN countries, reflecting their strengthening trade linkages with China as a global manufacturing base. Indeed, the contribution of China to ASEAN's export growth has become important in the last few years, accounting for about 3 to 7 percentage points of total export growth for Singapore, Malaysia and Philippines between 2010 and 2015.

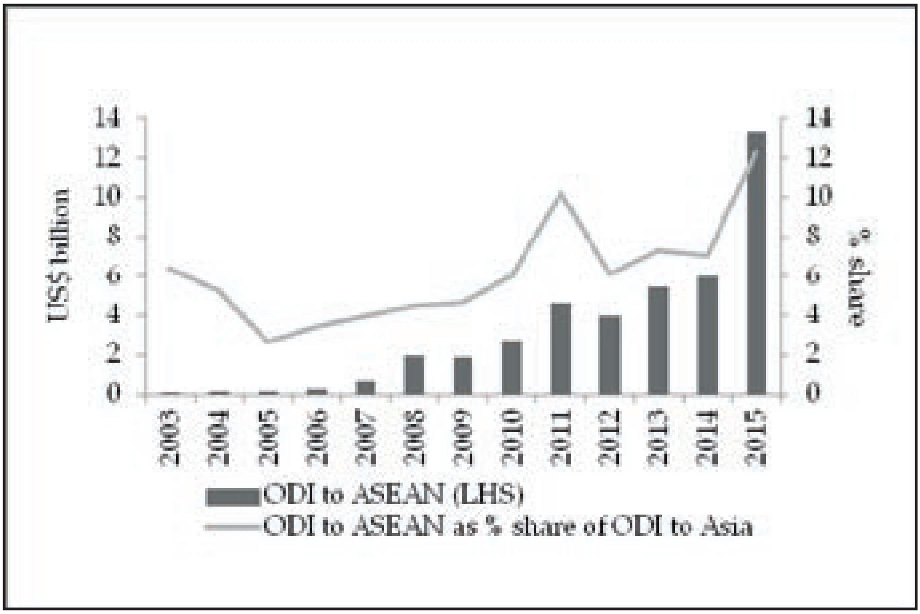
Along with the rise in trade, China's outward direct investment (ODI) to ASEAN has also increased over the years, with its share rising to 12 per cent of its total ODI to Asia in 2015 from 6 per cent in 2003 (Figure 5). Although, according to UNCTAD data, China's ODI still accounts for less than 5 per cent of total inflows across ASEAN, this is expected to increase in future years under the BRI as the infrastructure investment boom is likely to lead to tangible increases in the trade of goods and services and investment across the region.

FIGURE 4. China as a destination for exports, 2001 and 2016



ASEAN is expected to benefit as activities pick up in the Belt and Road region. Appendix 2 outlines the major BRI projects in selected economies. China's BRI efforts have already resulted in some practical achievements. Thailand, Laos and Indonesia have joint Belt and Road deals with China, mainly in railway construction, while there will be a new high-speed rail line running from southern China through Laos

FIGURE 5. China's outward investment to ASEAN*



* refers to Singapore, Indonesia, Malaysia, Thailand, Philippines and Vietnam. Source: CEIC.

to Thailand's industrial eastern coast.[28] Further, Beijing has reportedly won the contract to build Indonesia's first national high-speed rail link: a US$ 5.1 billion, 150 km rail project connecting the capital Jakarta to Bandung, Indonesia's third-largest city.

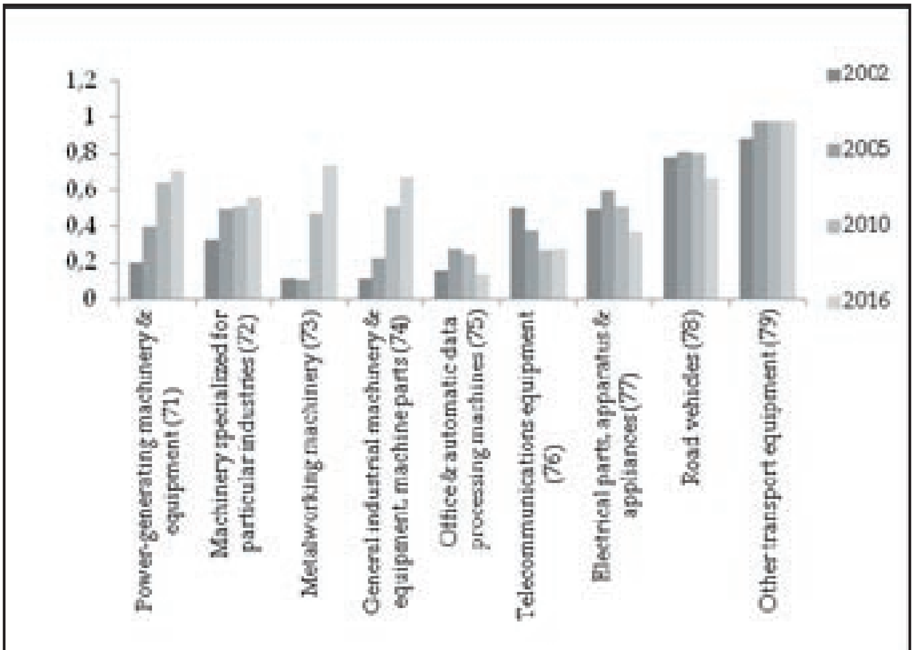
Increasing trade and economic connections implies a greater demand for complex financial services, such as cash flow management, foreign exchange, cross-border payments, and risk and liability management. International financial centres such as Hong Kong can provide professional project finance and risk management services for BRI projects and enhance operational efficiency and reduce currency risk. Singapore, whose infrastructure is already highly developed and does not face a pressing funding gap compared to other ASEAN countries, will be an important hub for raising and distributing equity and debt capital to facilitate investment across Southeast Asia. Even without projects in its own backyard, Singapore is already benefiting from its status as a financial hub; the Bank of China has reportedly turned to the Singapore bond market to raise US$ 3.55 billion via a multi-currency bond to support the BRI.[29]

On the whole, while the BRI is expected to yield positive benefit to China and Asia, there are risks and challenges to be watched closely. First, given the scale of China's lending to Belt and Road countries for infrastructure projects, financial risk could increase if projects are not well conceived or thoroughly planned. Government subsidies offered through policy banks are likely to cause Chinese enterprises participating in the BRI to underestimate risks and over-stretch their overseas investment. According to Fitch, such rapid expansion in overseas infrastructure lending could create a new set of asset-quality problems for the Chinese banking system, potentially worsening China's corporate debt problem.[30] For instance, China Petrol Zhongda, a state-owned enterprise, built a huge oil refinery in Kyrgyzstan, only to discover that it could not purchase enough crude oil to run it at more than 6 per cent of capacity.[31] The construction of the plant or facility has been ridiculed and encountered local protests against its environmental impact.

In addition, the 60-odd countries in the Belt and Road region have a very rich mix of political regimes and economic systems. Given that it is difficult to run a project in a foreign country with different cultures, legal systems, institutions and policies, let alone managing cross-border projects running through so many countries with different political systems and social beliefs, the financial sustainability of cross-country projects may be difficult to achieve (Huang Y 2016; Ferrari, Giovannini and Massimo 2016). Furthermore, China's export of its surplus steel, cement, aluminium and other construction materials may encounter resistance from some countries that fear the move will marginalise domestic producers and workers in these raw material industries.

Despite the risks and challenges of BRI financing, the initiative brings ample opportunities for urbanisation and economic growth. Just as importantly, it will have an impact on regional supply chains and logistics. The ASEAN economies are expected to benefit on the whole from Chinese-funded projects which will provide further momentum for regional investment and trade flows. There are indications that new supply chains are being crafted between ASEAN and China. Chinese firms have invested significantly in Vietnam, Myanmar and Cambodia to transfer low value-added manufacturing production, and the increasing ability of China to produce sophisticated inputs at home implies a reconfiguration of supply chain networks in the region. The Grubel-Lloyd index, used as a measure to assess levels of integration between China and ASEAN in intra-industry trade, suggests there has been a shift towards more vertical trade in sectors such as capital goods machinery and equipment (i.e. power-generating machinery, metalworking and other general industrial machinery) (Figure 6). On

FIGURE 6. Intra-industry indices: China and ASEAN economies



Source: UN Comtrade. Figures in parentheses denote SITC code. ASEAN -- Singapore, Malaysia, Thailand, Indonesia, Philippines and Vietnam.

the contrary, electrical machinery and parts witnessed a decline, suggesting China's increasing ability to produce sophisticated inputs and components. With the nascent infrastructure boom in the region and ongoing structural changes in China, regional production networks will undergo reorganisation and consolidation simultaneously.

Conclusion and Policy Implications

Since infrastructural connectivity remains the key focal point of the BRI, many of the BRI-related development activities will be initially geared towards building basic infrastructure and improving physical connectivity. Given that the BRI is China-led, China is expected to fill a large part of the infrastructure investment gap to improve regional connectivity, and its financing initiatives and efforts are expected to have significant implications for the region, including its own economy.

First, it is expected that RMB settlement and investment will continue to increase in tandem with the expansion in China's trade and investment in the Belt and Road region in the next few years. Although RMB internationalization still depends on progress in financial reforms and capital account liberalization, the BRI will boost the use of RMB in trade settlements and international financing. Second, the BRI will help address Asia's infrastructure deficit and lift economic and social development in the region. The ASEAN member nations are struggling to fund major infrastructural projects themselves and unless they mobilize the finance and expertise needed to tackle their infrastructure problems, intra-regional trade and growth could suffer due to declining productivity as a result of underdevelopment.

Increasing infrastructure spending is a positive development, particularly in a period of slower global growth. However, the challenges in meeting infrastructural needs are manifold. Governments across the region need to be much more aggressive by instituting the necessary reforms to attract private infrastructural financing and deepen their capital markets. Countries like the Philippines and Indonesia have increased their infrastructure budgets but bureaucratic hurdles and red tape have prevented the effective disbursement of full budgets.[32] Further, the option of accessing capital market financing may be limited since ASEAN countries with the largest funding gaps (such as Indonesia, Philippines and Vietnam) have the smallest corporate bond markets. The Asian Bond Market Initiative, which hopes to promote bond market integration and development across the region, could ideally improve the domestic financing mix for infrastructure but underdeveloped financial markets in some ASEAN economies are an inhibiting factor.

PBOC Governor Zhou Xiaochuan has suggested that BRI projects should utilize local currency borrowing to support large infrastructure projects to minimise potential currency mismatch.[33] China's efforts to sign local currency swap agreements with other countries, promote the direct exchange of RMB with various currencies, appoint RMB clearing banks offshore and set up the cross-border payment settlement system, give it the experience needed to help Belt and Road countries expand the use of domestic currencies in infrastructure financing.

Under the BRI, China has a series of arrangements and agreements with its Asian neighbours, including the China-Indochina Peninsula Economic Corridor (as one of the six Belt and Road economic corridors), ASEAN and China Production Capacity Cooperation, and in areas such as maritime and port development, connectivity, tourism, health and environment, among others. Linkages between China and ASEAN are already flourishing on multiple fronts via trade, investment and tourism. The BRI is expected to alter the regional economic landscape by further enhancing development and connectivity in the future.

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NOTES

1 Chinese President Xi Jinping noted that Belt and Road Initiative is about building partnership and not forming alliances, suggesting the initiative is leaning largely towards a trade and commerce approach rather than from political angle. The approach that China adopted towards the BRI is one that is more open, inclusive and embracing globalized trade, investment, commercial, cultural, and people- to-people exchanges, compared to the inward looking, protectionist and populist policies adopted by some major economies.

2 The six international economic co-operation corridors have been identified as the New Eurasia Land Bridge, China-Mongolia-Russia, China-Central Asia-West Asia, China-Indochina Peninsula, China-Pakistan, and Bangladesh-China-India-Myanmar.

3 Also known as the New Silk Road, Maritime Silk Road, or One Belt, One Road(OBOR) initiative.

4 UOB, 'China: Belt And Road Initiative And What It Means,' 18 May 2017.

5 Currently, the Asian economies invest US$ 881 billion annually in infrastructure, so the estimated funding gap is approximately 2.4 per cent of projected GDP for

2016-2020. Asian Development Bank (2017).

6 See Bank for International Settlements 2014. *Understanding the Challenges for Infrastructure Finance*. BIS Working Papers No. 454. Basel: BIS. Available at http://www.bis.org/publ/work454.pdf.

7 McKinsey Global Institute 2016. *Bridging Global Infrastructure Gaps*. Available at http://www.un.org/pga/71/wp-content/uploads/sites/40/2017/06/Bridging-Global-Infrastructure-Gaps-Full-report-June-2016.pdf.

8 See Organisation for Economic Co-operation and Development (OECD) 2015. *Infrastructure Financing Instruments and Incentives*. Paris: OECD. Available at http://www.oecd.org/finance/private-pensions/Infrastructure-Financing-Instruments-and-Incentives.pdf.

9 See OECD 2015.

10 Bhattacharyay B and Bhattacharyay M 2017. Institutional Architecture for Financing Pan-Asian Infrastructure Connectivity. CESifo Working Paper Series No. 6422, 6 April 2017. Available at SSRN: https://ssrn.com/abstract=2965362.

11 'Full Text of President Xi's Speech at Opening of Belt and Road Forum', *Xinhua*, 14 May 2017. http://news.xinhuanet.com/english/2017-05/14/c_136282982.htm.

12 'Chinese financial watchdogs vow support for Belt and Road Initiative', *Xinhua News*, 7 May 2017. Available at http://news.xinhuanet.com/english/2017-05/07/c_136263130.htm.

13 The Silk Road Fund tends to use a combination of equity (70 per cent) and debt instruments (30 per cent) to provide support in four key areas – infrastructure, energy, industrial and financial cooperation. As of May 2017, the Silk Road Fund has initiated fifteen investment projects totalling US$ 6 billion. See '*Lianhe Zaobao*, '*yi dai yi hongli he fengxian*' (Risks and Dividends in One Belt, One Road), Singapore: SPH Holdings, 14 May 2017.

14 Multilateral development banks have contributed an average of US$ 30-50 billion to infrastructure in developing countries in the past decade. They have global expertise in infrastructure policy and design to help countries attract private investment. McKinsey Global Institute (2016). 'Bridging Global Infrastructure Gaps'. Available at http://www.un.org/pga/71/wp-content/uploads/sites/40/2017/06/Bridging-Global-Infrastructure-Gaps-Full-report-June-2016.pdf.

15 Ehlers, T, F Packer and Eli Remolona 2014. 'Infrastructure and Corporate Bond Markets in Asia', conference volume of the 2014 RBA Annual Conference on 'Financial Flows and Infrastructure Financing'. Available at https://www.rba.gov.au/publications/confs/2014/pdf/ehlers-packer-remolona.pdf.

16 Deutsche Bank Research (2016). *Asia Infrastructure Financing*. Available at https://www.dbresearch.com/PROD/DBR_INTERNET_EN-PROD/PROD0000000000380319/Asia_infrastructure_financing%3A_Getting_it_right_wo.pdf.

17 See OECD 2015.

18 HSBC, 'On the New Silk Road VI: Financing the BRI – where the money is coming from', 31 May 2017.

19 HSBC, 'On the New Silk Road VI: Financing the BRI – where the money is coming from', 31 May 2017.

20 HSBC, 'On the New Silk Road VI: Financing the BRI – where the money is coming from', 31 May 2017.

21 'Chinese-funded Silkroad international bank opens in Djibouti', *Xinhua*, 18 January 2017. Available at http://news.xinhuanet.com/english/2017-01/18/c_135994459.htm.

22 HSBC, 'On the New Silk Road VI: Financing the BRI – where the money is coming

from', 31 May 2017.

23 HSBC, 'On the New Silk Road VI: Financing the BRI – where the money is coming from', 31 May 2017.

24 'Bank of China Raises US$3.55 billion for Silk Road Push', *Reuters*, 25 June 2017.

25 Green bonds are corporate bonds, project bonds, and sub-sovereign bonds that finance investment in green infrastructure assets such as clean energy. The bonds can be issued by development banks, governments, corporations, banks or special purpose vehicles as project finance and asset-backed instruments.

26 HSBC, 'On the New Silk Road VI: Financing the BRI – where the money is coming from', 31 May 2017.

27 Villafuerte J, Corong E and Zhuang J 2016. *The One Belt, One Road Initiative: Impact on Trade and Growth*. Presented at the 19th Annual Conference on Global Economic Analysis, Washington DC, USA. Paper Available at https://www.gtap.agecon.purdue.edu/resources/download/8280.pdf.

28 China has also reportedly given a new pledge to cash-starved Laos for the construction of a US$ 6 billion railway project linking Laos' capital Vientiane to China's southern Yunnan province by 2020. Once operational, the railway will be Laos' longest and fastest line, with an average speed of 160km/h and 60 per cent of the line being bridges and tunnels. 'China to widen its economic influence by 'One Belt, One Road'', 8 June 2015. Available at http://www.about.hsbc.com.hk/news-and-media/media-coverage-pw-op-ed-bri-asean-scmp-eng.

29 'Bank of China raises USD3.55bn for Silk Road push', *Reuters*, 25 June 2015. Available at http://www.reuters.com/article/china-bonds-silk-road/update-1-bank-of-china-raises-usd3-55bn-for-silk-road-push-idUSL3N0ZB2JK20150625.

30 'Fitch warns on expected returns from One Belt, One Road', *Financial Times*, 26 Jan 2017. Available at https://www.ft.com/content/c67b0c05-8f3f-3ba5-8219-e957a90646d1.

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32 'Filling the infrastructure pothole', HSBC Research, 29 April 2016.

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Appendix 1

An Overview of Chinese Financing for BRI-related Projects

Institution	Role	ASEAN Projects
Asian Infrastructure Investment Bank (AIIB)	All 10 ASEAN member nations are members of AIIB. President Xi Jinping has personally encouraged AIIB to "take part in the building of the Silk Road Economic Belt and 21st Century Maritime Silk Road" Asian Infrastructure Investment Bank	Committed to funding for Chinese-led projects in Indonesia
Chinese Policy Banks		
China Development Bank	A policy bank providing medium- to long term financing facilities that "assist in the development of a robust economy and a healthy, prosperous community". Active across the world in many One Belt, One Road (OBOR) projects.	Indonesia, Malaysia
China Exim Bank	A policy bank with the mission to facilitate export and import of Chinese products and equipment, assist Chinese companies' overseas investment and promote international economic cooperation and trade. Active across the world. Has pledged more than RMB700 billion to 1,200 OBOR projects.	
Agricultural Bank of China (ABC)	A policy bank with the mission to promote the development of agriculture and rural areas. Much less active overseas than the other policy banks but there are indications that the bank may support OBOR projects	

Big four SOE banks		
Bank of China	Bank president stated in 2015 that it would focus overseas activities in ASEAN in order to push forward the OBOR. The bank has a target of channeling US$100 billion to OBOR between 2015-18.	Committed funding for the Philippines
ICBC	Bank co-financed flagship projects in Pakistan alongside other banks and the Silk Road Fund. In 2014, the bank signed an agreement with China Export & Credit Insurance Corporation to jointly promote OBOR investment, including within the Bangladesh-China-India-Myanmar Economic Corridor	Provided US$800 million of bridge loans for acquisition of Malaysian power assets
ABC	Less active overseas than the other major banks but its presence is growing. The bank has stated that one of its priorities in the coming years will be to promote Chinese companies going out under OBOR.	
China Construction Bank	Bank signed an MOU with Singapore's overseas investment agency to invest over US$22.2 billion in Singapore to channel the OBOR projects	
Funds		
Silk Road Fund	US$40 billion investment fund established to support investment along the OBOR. Capitalized by SAFE (65%), China Investment Corporation (15%), China Exim Bank (15%) and CDB (5%).	
China Insurance Investment Fund	Approved by the State Council in July 2015. US$48 billion fund will be capitalized by Chinese insurance companies and will invest in China and overseas. According to the State Council, it will actively invest in OBOR projects.	

China-ASEAN Investment Cooperation Fund	US$1 billion fund targeting investment in infrastructure, energy, minerals and agriculture in ASEAN countries. The fund was set up prior to OBOR is likely to invest in various projects.	
Silk Road Gold Fund	Aims to raise US$16 billion within 5-7 years to invest in gold-related business and mining companies along the Silk Road. The majority of the fund is owned by Shandong Gold Group (35%) and Shaanxi Gold Group (25%) with the rest owned by financial institutions.	
Green Ecological Silk Road Investment Fund	US$4.8 billion equity fund established by a group of private Chinese enterprises. Will focus on solar panel construction, clean energy and "ecological remediation" in China and other countries along the Silk Road Economic Belt.	
Investment Companies		
CITIC Ltd	SOE holding company with diversified investments across the globe. Reportedly will invest US$112 billion alongside OBOR in the next decade.	
China Investment Corporation	Subsidiary of sovereign wealth fund. Plans to raise US$50-100 billion for overseas investment, with a key focus on OBOR countries. Contributed 15% of Silk Road Fund's original capital.	
China Minsheng Investment Corporation	Private financial investment group. Established CMI International Holdings in Singapore with initial capital of US$5.1 billion to implement the OBOR agenda.	

Source: **HSBC.**

Appendix 2

Major BRI-related projects in selected ASEAN countries

Project	Location	Sector	Value, US$ bn	Chinese firm involved
The Philippines				
Cabling manufacturing facilities		Telecom	3.0	Suli Group Ltd.
Railway project (MOU)		Infra-Transport	2.5	China Railway Engineering Corp
Pulangi-5 Hydro Project		Infra-Energy	1.0	Power China Guizhou Engineering Corp
Nationwide Island Provinces bridges		Infra-Transport	0.8	Power China, Sino Hydro
Davao Coastline Port Development Project	Mindanao	Infra-Transport	0.8	
Steel plant		Heavy industry	0.7	Bayin International Investment Ltd
Pasig River-Marikina River Manggahan Floodway Bridges Project		Infra-Transport	0.6	Sino Hydro
Cebu International and Bulk Terminal Project	Cebu	Infra-Transport	0.3	CCCC Dredging Company
Ambal Simuay Sub-river basin flood control		Infra-Transport	0.3	Sino Hydro
Manufacturing Facility		Heavy industry	0.3	Zhuhai Granton Bus and Coach Company
Steel Manufacturing plant		Heavy industry	0.2	SIIC Shanghai International Trade
Hybrid rice protection for two million hectares		Agriculture	0.2	Jiangsu Hongqi Seed Co
Manila Harbour Center Reclamation Project	Manila	Infra-Transport	0.1	China Harbour Engineering Co.
EDSA bus program	Manila	Infra-Transport	0.1	Yangtse Motor Group Ltd., ,Minmetals
Reneweable energy, other infra projects		Infra-Energy	0.1	China CAMCE Engineering
Banana Plantation Project		Agriculture	0.1	Shanghai Xinwo Agriculture Development

Reneweable energy projects		Infra-Energy	0.3	TBEA Xinjing Sunoasis;
Subic-Clark railway project	Subic	Infra-Transport	0.2	China Harbour Engineering
BGC-NAII segment of Rapid Bus Transit		Infra-Transport	0.1	China Road and Bridge Corp
Real Estate project		Other infra/ real estate	0.1	China Fortune Land
Safe and Smart City Projects		Other infra/ real estate	0.1	Huawei Technologies
Transportation and logistics infrastructure at Sangley Point		Infra-Transport	0.0	China Harbour Engineering
North Negros biomass and South Negros biomass project	North Negros	Agriculture	0.0	Wuxi Huaguang Electric Power
Hotel room capacity expansion		Other infra/ real estate	0.0	
Manila Flood Management Project	Manila	Infra-Transport	0.5	
Total			12.4	
Indonesia				
Jakarta-Bandung Rail	Java	Infra-Transport	5.1	China Railway International (40% stake)
Cement plant	South Sulawesi	Heavy industry	0.3	Anhui Conch Cement Company
Cisumdawu Toll Road	Java	Infra-Transport	0.3	
Manado-Bitung Toll Road	North Sulawesi	Infra-Transport	0.4	
Samarinda-Balikpapan Toll road	Kalimantan	Infra-Transport	0.9	
Hydropower plant (7,000 MW)	Kalimantan	Infra-Energy	17.0	China Power Investment Corporation
National Slum Upgrading Project		Infra-Transport	1.7	
Dam operational improvement safety project		Infra-Energy	0.1	
Regional Infrastructure Development Fund Project		Infra-Transport	0.4	
Total			26.2	
Malaysia				
East Coast Rail Line (ECRL)	West Malaysia	Infra-Transport	17.7	China Communications Company Limited

Melaka Gateway Project	Malacca	Other infra/ real estate	10.8	Powerchina
Melaka Gateway Port	Malacca	Infra-Transport	2.0	PowerChina, Shenzhen Yantian Port, Rizhao Port
Sarawak Steel Plant	Bintulu, Sarawak	Heavy industry	3.3	Hebei Xinwuan Steel Group
Solar Ingots Plant	Sarawak	Heavy industry	0.3	Comtec Solar Systems Group Ltd.
Power Plant Deal	Sarawak	Infra-Energy	0.1	China Machinery Engineering Corp
Malaysia-China Kuantan Industrial Park	Kuantan	Manufacturing	3.8	Wuxi Suntech; Guangxi Investment Group; LJ Hightech Material
Kuantan Port	Kuantan	Infra-Transport	0.3	Guangxi Beibu Gulf International Port Group (40%)
Green Technology Park	Pekan	Manufacturing	0.5	China Nuclear Industry Huaxing Construction
Trans-Sabah gas pipeline	Sabah	Infra-Energy	0.1	China Petroleum Pipeline Bureau
Petrochemical plant	Sabah	Heavy industry	0.3	Complant, Sichuan Chemical Industry Holding, China Chengda Engineering
Robotic Future City	Johor Bahru	Manufacturing	3.5	
Total			42.7	

Source: Public sources, HSBC.