





The Economic Development along the Belt and Road

2017



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Foreword I

Adopted by all 193 UN member states in 2015, the 17 Sustainable Development Goals (SDGs) call for a shift of the world's economy to a sustainable path by 2030. The SDGs are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. The world requires strong leadership to simultaneously deliver poverty reduction, economic growth and environmental sustainability, issues which matter to everyone. All stakeholders, including governments, citizens and businesses need to act to bring about the changes necessary for the goals to be realised.

Launched by China in 2013, the Belt and Road Initiative (BRI) is set to connect over half of the global population spanning Asia, Europe and Africa, and a quarter of the world's goods and services on land and at sea. While it has generated some early-term benefits, especially infrastructure-wise, the BRI's potential to generate development dividends and serve as an accelerator for achieving the SDGs is still to be further explored.

On the margins of the UN General Assembly session in September 2016, UNDP and the Government of China signed a Memorandum of Understanding (MoU) followed by an Action Plan in May 2017 at the Belt and Road Forum. The China Development Bank (CDB) was designated as an implementing partner of the Action Plan and a Joint Statement was signed in May 2017 to formalise this cooperation. This strategic partnership framework indicates the firm commitment of UNDP to facilitating the sustainable development of the BRI and putting the 2030 Agenda into action.

As a joint research product of UNDP, CDB, and the School of Economics at Peking University, the Economic Development along the Belt and Road 2017 report addresses the need for a framework to assess and analyse the BRI's complexity and its effects on national and regional development. One of its key assumptions is that with a shared vision, the Belt and Road can create a viable model for long-term, sustainable growth by giving the SDGs a central role in the initiative's quest for economic prosperity.

Our analysis specifically investigates the economic structures of the countries and regions along the Belt and Road and the potential for their cooperation in areas such as production capacity, financing, and human capital development. The report suggests that, despite their vast diversity in levels of economic development, the countries and regions along the Belt and Road can jointly benefit through socio-economic cooperation under the BRI. Such cooperation has significant implications for global governance as well as to the advancement of sustainable development.

Fully recognising the importance of connectivity in global development, we jointly present this report to offer in-depth insight into the initiative. We take pride in our mutual commitment to the success of Belt and Road based around sustainable outcomes. Our report targets individual and institutional stakeholders, seeking to inspire discussion and collaboration. It is our hope that the analysis provides a useful reference for policy makers along the Belt and Road routes and beyond.

Nicholas Rosellini

UN Resident Coordinator UNDP Resident Representative

Foreword II

Jointly authored by China Development Bank (CDB), United Nations Development Programme (UNDP) and Peking University (PKU), the Economic Development along the Belt and Road 2017 report demonstrates CDB's enduring support towards the Belt and Road Initiative (BRI). This report highlights the cooperation between domestic and international top-tier research institutions, aiming to strengthen China's research capabilities and knowledge sharing.

On behalf of the Government of China, the National Development and Reform Commission (NDRC) signed a Memorandum of Understanding (MoU) on the BRI with UNDP in September 2016. This is the first MoU on the BRI that has been signed between the Government of China and an international organisation, initiating an innovative form of collaboration to jointly establish the Belt and Road. Building upon the MoU, the two parties further signed an Action Plan on the margins of the Belt and Road Forum for International Cooperation on 15th May 2017.

As an important knowledge product of the Action Plan, this report offers an overview of the economic development of countries and regions along the Belt and Road, including specific research on law, policies, infrastructure, planning, projects, finance, trade and international relations. Furthermore, this report explores the internal connections between Global Value Chains (GVC) and the economic development of countries and regions along the Belt and Road. Focusing on the GVC's transition from a single "centre-edge" circulation model towards a "double circulation" model, this report analyses the economic logic behind the BRI from a theoretical perspective.

With its increasingly extensive international cooperation, China is emerging as a central hub linking the developed world with developing countries, in particular those in Asia, Africa and Latin America. China is thus playing a key role in international trade flows, especially where intermediates and final goods are concerned. China's position is possible largely due to the utilisation of its significant manufacturing capacity and industrial supporting ability, its moderate technical standards and levels, its large foreign reserves and its ability to mobilise resources, all of which have enabled China to strengthen its economic cooperation and industrial planning. In today's global value chain system, the BRI is well positioned to support the joint development of countries and regions along the routes with different development patterns and industrial gradients. With China at the centre of this double circulation model, the BRI can promote the comparative advantages of countries and regions at different development stages, as well as furthering regional economic and trade cooperation on a wide range of issues to maximise multilateral interests.

During the Belt and Road Forum for International Cooperation, President Xi Jinping announced that CDB would offer special loans to the amount of RMB 250 billion to support Belt and Road projects, highlighting the essential role of development finance. As China's largest bank for overseas financing and investment, CDB plays a leading role in infrastructure construction and regional economic development. By drawing on national credits to ensure stable and long-term funding, CDB assists key projects under the Belt and Road framework to meet their medium and long-term financing needs. As of June 2017, the Bank had pledged USD 227.7 billion to support countries and regions along the Belt and Road, in addition to offering USD 168.2 billion in loans, with its international balance of loans amounting to USD 113.8 billion. These loans together account for 35% of CDB's international balance of loans.

As a crucial bridge between governments and the market, development finance plays an important role in bridging economic and social development, alleviating bottlenecks in socio-economic development, maintaining financial stability and enhancing self-sustainability and economic competitiveness in host countries and regions. CDB is committed to facilitating the BRI while upholding its principles of broad consultation, joint contributions and shared benefits at an international level.

Regarding the sharing of ideas and the development think tanks, we have innovatively embedded the "planning first" vision into our international business. This is evident in our active alignment with development plans, incubation programmes and development projects in participating countries and regions. In terms of bilateral and multilateral financial cooperation, CDB has established strong ties with the World Bank, the Long-Term Investors Club, UNDP and other international organisations in building think tank alliances and sharing knowledge. Such linkages facilitate our aim to showcase and share China's experience with countries and regions along the Belt and Road.

In the second half of 2016, we launched our research work regarding this report. Guided by the NDRC, the Research Institute of CDB has set up a research team together with relevant departments of CDB headquarters and branches. Working closely with PKU and UNDP for a full year, we have now completed this report. We hope this report will provide the BRI with the necessary and effective support, both theoretically and intellectually. We deeply believe that knowledge inspires development and we will continue to foster our collaboration with international organizations in areas such as policy consultation and mechanism coordination. Through the sharing of knowledge products and concrete project cooperation, CDB is committed to supporting the successful implementation of the BRI and creating a shared brighter future hand-in-hand with countries and regions along the Belt and Road.

Hu Huaibang

Chairman of China Development Bank

Executive Summary

Economic development along the Belt and Road

The report offers an overview of the economic situations along the Belt and Road and the initiative's growth prospects, opportunities and challenges. The report draws on latest economic data, including those on trade, investment, industrial cooperation, financial integration and potentials for people-to-people exchanges. This report is inspired by a vision of creating prosperous regions where physical, economic and financial integrations go beyond borders and facilitate the movement of people, goods, services, capital, knowledge and ideas. Furthermore, this report aims to provide stakeholders with references for policy-making and prospective engagement, by identifying some challenges and opportunities for the countries and regions along the Belt and Road.

As a China-led initiative, the Belt and Road Initiative (BRI) is built upon China's strategy and international vision. With continuous reforms and opening-up over the past 30 years, China is now the world's second-largest economy, contributing to 39% of the global growth in 2016, a 14.2% year-on-year rise. More importantly, the country is seeking to play an even more prominent role in the global economy. Against this backdrop, the BRI has attracted worldwide attention from policymakers, market players and economists, among others, prompting extensive discussions on the initiative's possible benefits, costs, preconditions and implications for the international economy. Over the long haul, the initiative has the potential to bring about positive change for developing and developed economies involved. Fulfilling this vision, however, requires us to address pressing development bottlenecks and constraints in the participating economies for the promotion of regional connectivity.

In terms of methodology, analyses were conducted using secondary publicly available data sources. Best available evidence was used to build a comprehensive database on the BRI economic aspects while some key social indicators enriched the understanding of the potential of the BRI in terms of socio-economic impact and human development. This data is used in the first part of the report which is in nature descriptive. The second part of the report aims at going deep into the analytical aspects of the economic synergies and complementarities between China and countries and regions along the Belt and Road and within the global economy using as a research method the double circulation of global value chains. Building on previous assumptions as well as other primary sources of data, the third part suggests ways on how cooperation could move forward especially in areas such as finance, industrial and human capital development.

Regarding the countries and regions included in the analysis, the report takes into consideration those officially participating in the BRI as well as those considered relevant to the initiative even though not officially engaged. As an expanding initiative, the number of participating countries will certainly change in the future. This report presents an analysis of data available up to April 2017, the time the report was drafted. The analysis will be the first of its type and will be annually conducted with the aim of being an up to date and reliable source.

Economic highlights

- ✓ The BRI, comprising the "Silk Road Economic Belt" and the "21st Century Maritime Silk Road", can become an effective tool for the 2030 Agenda's implementation.
- China's social-economic development trajectory can be used as a reference by other developing countries. The BRI is underpinned by the idea that countries should exchange experiences, discuss policy measures, and jointly formulate strategic plans for long-term sustainable development and global governance.
- Structural adjustments are part of China's economic development. The country's supply-side reform is imperative to the development of its advanced manufacturing sector. Such a reform can also optimise the allocation of production factors to become more environmentally sustainable.
- Countries and regions along the Belt and Road contribute significantly to the world economy. Each of them, including China, has its distinct industrialisation, GDP growth and trade dependency.
- ✓ The trade relations between China and countries and regions along the Belt and Road have been tightened. The share of the volume of trade between them rose from 16.5% of China's total in 2001 to 25.1% in 2015. China enjoys advantages in producing manufactured products while most countries' industrial structures are rather weak and undiversified, resulting in many countries' trade deficit with China. However, industrial transfer and cooperation under the BRI can improve the situation.
- ✓ International capacity cooperation is a major modality and countries and regions along the Belt and Road have made significant progress in that regard. Infrastructure in many countries is below international standards in both quality and quantity, placing salient constraints on their industrialisation. China is the largest export destination and import source of most countries and regions along the Belt and Road. However, China's exports to and imports from these countries merely make up a modest proportion of the total volume of China's international trade.
- ✓ Foreign direct investment (FDI) from China in countries and regions along the Belt and Road is on the rise with distinct features, but in modest scale. Investment projects are mainly from large and medium-sized state-owned enterprises, especially central state-owned enterprises, while local enterprises often left in supplementary roles. The FDI from China concentrates on its geographical neighbours. Many countries and regions along Belt and Road encounter various investment obstacles, such as weak governance, political unrest and financial build-ups. Conversely, Chinese companies often lack sufficient experience and understanding of local working environment, laws, market conditions, culture and customs. This can lead to conflicts and mistakes in operation decisions.

Strategic insights

- ✓ Progressing in industrial cooperation. China's SOEs, along with private enterprises, are active players in fields of cross-border cooperation such as textile, home appliances, steel and cement, high-speed railways and communication equipment. Such cooperation is often realised via public-private partnerships (PPP) and/or special economic zones.
- Encouraging the developing countries' participation in the global value chain is an effective strategy for their industrialisation. The share of developing countries in the global value-added trade rose by 10% since 1990, and exceeded 40% of the world's total in 2012. However, developing countries tend to fall into a locking trap at the later stage of industrialisation. The trapped countries remain in the developing stage of utilising primary factors of resources and labour force, while they risk the deterioration of trade benefit. This report proposes a double circulation framework, i.e., North-South cooperation and South-South cooperation, where the BRI is embedded to accelerate global trade and industrial upgrading by international cooperation in industries, technology transfer, management capacity building and the streamlining of procedures. This framework accounts for the current production situation of most countries over the world, in terms of China's and their decisive roles in the international division of labour. This links the economic development of most developing countries, including those along the Belt and Road, to that of developed countries. Under the double circulation framework of the global value chains, China can bridge the two cycles of flows of goods and capital. Drawing on its relatively complete industrial system, China can improve the manufacturing sectors of countries along the Belt and Road by cooperating with countries in an earlier stage of development.
- ✓ Financial integration in the BRI has shown progress, as reflected in financial supervision cooperation, the creation of international multilateral financial institutions (e.g., the Asian Infrastructure Investment Bank, the New Development Bank) and the internationalisation of the RMB. Indirect financing has become a key driver of economic growth in most countries along Belt and Road, while China and other countries along the Belt and Road have made joint achievements in this aspect.
- Cooperation under the BRI to enhance partner countries' own capacities; to ease social tensions; and to foster environmental sustainability are critical aspects of cooperation that help all partner countries to reach the SDGs.
- Educational cooperation. Cultural exchange has seen preliminary results as more and more education cooperation, technical training and exchange programmes take place. Education, especially vocational training and higher education, is a vital means to people-to-people exchange and cross-cultural interaction, making it essential to the BRI and the creation of the "community of shared destiny for the mankind" proposed by the Chinese government.



Prospects

Boosting the BRI's economic prospects

Anchoring the BRI to a sustainability-guided agenda to expand the connectivity of BRI projects in spheres such as public utilities, transportation and internet connectivity.

Accelerating the economic structural reform of countries along the Belt and Road via industrial capacity cooperation.

Optimising the environment of countries along the Belt and Road to boost economic growth, cultivate localised industrial cluster and industrial projects with local linkages.

Facilitating the connectivity of the infrastructure to optimise the allocation of the trade and production factors along the Belt and Road, to promote regional integration.

Building cooperation zones in countries along the Belt and Road to support the integrative development of industries such as manufacturing, services and agriculture.

Increasing infrastructure investment in areas such as energy, transportation and Internet connectivity to support industrialisation.

Industrialisation as opportunity along the Belt and Road

Implementing effective financing

Strengthening the mid-term to long-term advantages of development financing.

Encouraging China-funded financial institutions to set up branches in countries along the Belt and Road.

Building a financial monitoring legal system.

Improving regional mechanisms to strengthen the communication and coordination among authorities and other stakeholders of financing projects.

Structure of the Report

PART 1 – THE POTENTIAL OF THE BELT AND ROAD INITIATIVE

Chapter 1

The Belt and Road Initiative as an opportunity for sustainable global growth

Chapter 1 elaborates on the BRI and its role in the global economic governance architecture with a focus on its potential in SDGs implementation and development financing. This chapter highlights the linkages between the BRI and the Agenda 2030 that can represent the path for the initiative to become a provider of global public goods.

Chapter 2

A social outlook into the Belt and Road potential

Chapter 2 provides a social outlook of the Belt and Road, stressing on the potential of the BRI in socio-economic development. The chapter takes stock of the social indicators relevant to demographic data, education, employment, poverty and inequality, assessing the most recent developments.

Chapter 3

An overview of the economic development along the Belt and Road

Chapter 3 provides an economic outlook of the countries and regions along the Belt and Road based on country-level as well as indicator review. This part will provide the basis to highlight the great economic potential of the BRI in terms of GDP, trade and investment, assessing the most recent developments. Furthermore, this chapter reviews the features of China's outward investment in these countries and regions.

PART 2 – THE BELT AND ROAD IN THE GLOBAL VALUE CHAIN

Chapter 4

Trade complementarities along the Belt and Road

Chapter 4 shows how data analysis is the key to understanding trade relations between China and the countries and regions along the Belt and Road. The chapter provides an in-depth analysis of the trade complementarities of import of primary commodities and export of manufactured products between China and the countries and regions along the Belt and Road.

Chapter 5

The double circulation of the global value chain and the Belt and Road

Chapter 5 analyses the structure of intermediate and final goods, as well as the trend of trade in the global value chain, elaborating on the double circulation framework. Based on the trade of final and intermediate goods, this framework highlights how China stands in the middle of the world's trading and production system, linking developed and developing countries.

PART 3 – OPPORTUNITIES FOR FINANCIAL, INDUSTRIAL AND HUMAN CAPITAL DEVELOPMENT ACROSS THE BELT AND ROAD

Chapter 6

Financial cooperation and integration

Chapter 6 shows that financial integration is a principal driver of economic growth, and the role of indirect financing is increasingly salient. It demonstrates that regional financial stability and multilateral cooperation, especially those of China and the countries and regions along the Belt and Road, have been fortified in recent years. This positive development helps countries better fill policy gaps and seize cooperation opportunities, of which some are identified.

Chapter 7

International capacity cooperation

Chapter 7 pays attention to the BRI's potential for international industrial capacity cooperation. It shows that such cooperation can accelerate industrialisation and is beneficial to countries at different stages of development, suggesting that the inadequacy of infrastructure in many countries and regions along the Belt and Road has created many challenges but can generate opportunities for industrial cooperation.

Chapter 8

Human capital development for stronger people-to people bonds

Chapter 8 discusses how China and the countries and regions along the Belt and Road can cooperate to foster their human capital development. It focuses on both the impacts of human capital stocks on economies and education cooperation. The chapter also explores the potential of UNDP's human development approach for driving economic growth and productive employment. While the focus is on the education contribution to human capital development, it also acknowledges the significant role played by further factors such as effective healthcare provision and net migration of skilled and unskilled workers.

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Abbreviations

AAAA Addis Ababa Action Agenda

ADB Asian Development Bank

AEC ASEAN Economic Community

AFIR Asian Forum of Insurance Regulators

AIIB Asian Infrastructure Investment Bank

AMRO ASEAN+3 Macroeconomic Research Office

APEC Asia-Pacific Economic Cooperation

ASEAN Association of Southeast Asian Nations

BOC Bank of China

BOO Build Own Operate
BOT Build Operate Transfer
BRI Belt and Road Initiative

BRICS Brazil, Russia, India, China and South Africa

CAFSA China Association for International Education

CBRC China Banking Regulatory Commission

CCB (Asia) China Construction Bank (Asia) Corporation Limited
 CCCC China Communication Construction Company Limited
 CCIEE China Center for International Economic Exchanges

CDB China Development Bank

CEINEX China Europe International Exchange AG

CGTN China Global Television Network

CIRC China Insurance Regulatory Commission
CIS Commonwealth of Independent States

CLMV Cambodia, Lao PDR, Myanmar and Viet Nam

CMIM Chiang Mai Initiative Multilateralisation

CPC Communist Party of China

CPI Consumer Price Index

CSRC China Securities Regulatory Commission

CSSD China-Singapore Suzhou Industrial Park Development Co., Ltd

DR Dividend Right

ECOSOC The United Nations Economic and Social Council

China EximBank Export-Import Bank of China

EMEAP Executives' Meeting of East Asia and Pacific Central Banks

EP Engineering Purchase

EPC Engineering Purchase Construction

ETF Exchange Traded Funds

EU European Union

FDI Foreign Direct Investment

G20 The members include 19 individual countries: Argentina, Australia,

Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, South Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the United Kingdom, the United States along with the European Union (EU).

GBP Great Britain Pound

GDP Gross Domestic Product

GFDI Global Foreign Direct Investment

GVC Global Value Chain

IAIS International Association of Insurance Supervisors

ICBC Industrial and Commercial Bank of China

IFDI Inward Foreign Direct Investment
IIF Institute of International Finance

IMF International Monetary Fund

IPP Independent Power Plant

ISID Inclusive and Sustainable Industrial Development

JPY Japanese Yen

KRW South Korean Won
KZT Kazakhstani Tenge

LAK Lao Kip

MAPS Mainstreaming, Acceleration and Policy Support

MDGs Millennium Development Goals
MRIO Multi-zone Input-Output Table

MYR Malaysian Ringgit

NAFTA North American Free Trade Agreement

NDB New Development Bank

NDRC National Development and Reform Commission

NBSC National Bureau of Statistics of China

ODI Overseas Direct Investment

OECD Organisation for Economic Co-operation and Development

OEM Original Equipment Manufacturer
OFDI Outward Foreign Direct Investment

OJK Indonesian Financial Services Authority

P2P Peer-to-Peer

PBC People's Bank of China

PPPs Public-private partnerships

R&D Research and Development

RCA Revealed Comparative Advantage

REITs Real Estate Investment Trusts

RQFII RMB Qualified Foreign Institutional Investor

RMB Renminbi

RUB Russian Ruble

SCIO The State Council Information Office of the People's Republic of China

SCO Shanghai Cooperation Organization

SDGs Sustainable Development Goals

SDR Special Drawing Right

SEACEN The South-East Asian Central Banks

SIIS Shanghai Institute for International Studies

SWIFT Society for Worldwide Interbank Financial Telecommunications

TCI Trade Competitiveness Index

TI Trade Intensity

TVET Technical and vocational education and training

UNCTAD United Nations Conference on Trade and Development

UNDG United Nations Development Group
UNGA United Nations General Assembly

UNIDO United Nations Industrial Development Organization

US United States

USD United States DollarVND Vietnamese Dong

WB World Bank

WDI World Bank Database

WTO World Trade Organization

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Introduction

The Belt and Road Initiative (BRI) is gaining momentum as a promising China-led economic development strategy. Increasingly recognised throughout various countries and regions and with cooperation frameworks being signed, expectations are high. Overall, the BRI covers a geographically vast area of the world economy and a considerable portion of the world population across many different countries and regions that are for the majority developing countries. While auspicious in its reach and scope, the BRI requires international cooperation, institutional set-ups and policy domains to be used as strategic sites in defining the direct and indirect BRI outcomes envisioned. Getting investment, financing and infrastructure connectivity right is not entirely a technical issue; rather, it will deepen platforms, create governance mechanisms and strengthen partnerships. The effective implementation of the BRI can have far-reaching effects on national and regional development, promote the crossnational transfer of technology, ideas, skills, knowledge and learning, and potentially imply greater opportunities for reaching welfare dividends. But it also brings challenges.

The Economic Development along Belt and Road report offers an outlook of the initiative looking at its growth prospects, opportunities and challenges. The report draws on latest data available, including economic figures especially on trade and investment trends and patterns, industrial cooperation, financial integration as well as social indicators and potential for human capital development.

China's experience in economic development provides a useful avenue to explore the possibilities industrial diversification in economies along the Belt and Road Initiative can bring. To best prevent the many potential pitfalls on the road to industrial diversification and economic growth, the countries and regions along the Belt and Road should base their engagement on the sustainable development goals (SDGs) as a guiding overall framework. The assumption the report explores is that the aggregate economy of the countries and regions along the Belt and Road can promote global economic growth. Therefore, the initiative can provide participating countries with opportunities to achieve higher gains from trade and investment, entering foreign markets, diversify their exports, and most importantly to acquire skills, knowledge and technology—all considered as key factors for productivity enhancement and growth. Countries can create capabilities, by improving macroeconomic and business conditions, improve physical infrastructure and utilities, and create a more business-friendly environment. Once a participating country starts reaping the benefits from these opportunities, social benefits can arise and contribute to improving livelihoods.

While this report provides a most updated snapshot of the aggregate economies along the Belt and Road, one question that remains is: how can regions and particularly developing economies manage to leverage the opportunities emerging from this initiative? Our hope is that the analysis provided is timely and useful. We further hope that inputs can turn into actionable measures and that China's leaders, as well as others along the Belt and Road and globally, will continue to aspire to eradicate poverty and promote sustainable development in the coming decades.





PART 1 – THE POTENTIAL OF THE BELT AND ROAD INITIATIVE

In the wake of the global economic change, renewed interest in the importance of the role of socio-economic development for economic growth ushered debates on the solutions in global economic governance. With hindsight, the Belt and Road Initiative emerged as connectivity forging linkages between China and the countries and regions along the Belt and Road, thereby proposing to leverage multiple development dividends. While the BRI has spurred substantial interest among policymakers seeking to exploit the opportunities for "joining and upgrading" in the value chain, understanding the economic



and social development along the Belt and Road is central to being able to shape institutional and policy responses within the BRI cooperation. The Initiative comes at a critical moment when China, as the advocate of the BRI, is at the centre of several changes itself.

The bigger picture of the BRI portrays an enormous diversity amongst countries, national economies and productive structures. If this potential is to be used beneficially, generating revenues and quality of life, economic opportunities for countries involved should be projected based on the globally adhered sustainable development agenda, comprising the SDGs. On that basis, the first part takes stock of socioeconomic data and thereby assessing the current global economic outlook of the countries along the Belt and Road. The 2030 Agenda creates a common basis to sufficiently leverage development results in the countries along the Belt and Road.

Chapter 1

The Belt and Road Initiative as an opportunity for sustainable global growth

Chapter 1 elaborates on the BRI and its role in the global economic governance architecture with a focus on its potential in SDGs implementation and development financing. This chapter highlights the linkages between the BRI and the Agenda 2030 that can represent the path for the initiative to become a provider of global public goods.

Chapter 2

A social outlook into the Belt and Road potential

Chapter 2 provides a social outlook of the Belt and Road, stressing on the potential of the BRI in socioeconomic development. The chapter takes stock of the social indicators relevant to demographic data, education, employment, poverty and inequality, assessing the most recent developments.

Chapter 3

An overview of the economic development along the Belt and Road

Chapter 3 provides an economic outlook of the countries and regions along the Belt and Road based on country-level as well as indicator review. This part will provide the basis to highlight the great economic potential of the BRI in terms of GDP, trade and investment, assessing the most recent developments. Furthermore, this chapter reviews the features of China's outward investment in these countries and regions.

Chapter 1- The Belt and Road Initiative as an opportunity for sustainable global growth



The Belt and Road Initiative as an opportunity for sustainable global growth

The Belt and Road Initiative (BRI) is formed upon China's national aspiration for balancing the economic development of regions within the country and overcoming difficulties under the 'new normal' of its economy. China's ambition for the BRI is far beyond its borders. The region, spanning Asia, Africa and Europe, is a market with the greatest potentials in the world. Given that many countries and regions along the Belt and Road are emerging and developing economies, the initiative aims to promote inclusiveness, win-win cooperation and economic development.

Alignment between the BRI and the 2030 Agenda can support the BRI become a provider of global public goods

Ensuring that development outcomes are sustainable and building on the principles of inclusive growth is fundamental for ensuring security and stability throughout the region. The SDGs can unleash developmental benefits and confer to the BRI an emblematic position as enabler for the SDGs and their expansion of global public goods. Ensuring that the BRI meets the principles for the 2030 Agenda enhances China's credibility and reputation as a responsible player in global governance.

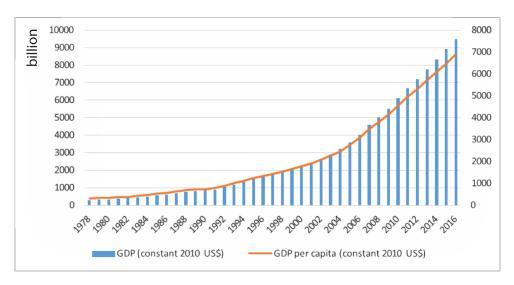
Integrating SDGs national plan and BRI engagement

SDGs mainstreaming practices can become a road map for countries' engagement in the BRI. Within the overall sustainable development agenda, the BRI comparative advantage lies in its collective ability to adopt and support initiatives at the national and regional level, including macroeconomic frameworks, and to create a wide-ranging enabling environment. SDGs-integrated planning and policy making at national level represent the basis for the implementation of a successful BRI.

1.1 China's rise and adjustment to the new normal

1.1.1 China as an emerging economy

Since the beginning of China's 'Reform and Opening up' in 1978, the country has been transitioning from a planned to a market economy, with rapid economic and social developments. During the 1978-2015 "miracle of growth" era, China's average annual GDP growth rate was 9.71%, while its annual GDP per capita growth rate stood at about 9%. In the same period, the world economy merely expanded 2.94% per year.¹



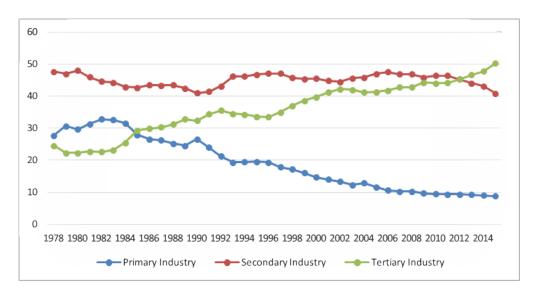
Graph 1.1 China's GDP and GDP per capita

Source: National Bureau of Statistics of China

China's rapid economic growth was longer and higher than those of Japan and the "Four Asian Tigers" during their peak growth periods. Ranked the tenth by economic size in 1978 (NBSC, 2013), China was the second largest economy in 2015. The share of its aggregate economic activities surged from 1.8% of the world's total in 1978 to 15.5% in 2015. China was, especially in the 2008 financial crisis, a significant driver of the global economic recovery, generating over 20% of the world's growth.

Meanwhile, China has transformed itself from a low-income to a middle-income country, which has substantially modernised its agricultural sector, among other achievements. Its agricultural modernisation reached the level of middle-income countries, with its agricultural labour force dropping from 70.5% of the working population in 1978 to 29.5% in 2015 (the average share is 30% in middle-income countries and 72% in low-income countries) (Liu, 2015). Compared with other industrialised nations, China has moved quickly from the initial phase of industrialisation starting in 1978 to the mid- and post-industrialised phase, achieving almost 70% of its industrialisation goals.

^{1.} Calculated according to World Bank data.



Graph 1.2 Changes in the shares of primary, secondary and tertiary industries in China's GDP

Source: Wind Information EDB Database

The share of the output value of primary industries declined from 19.6% in 1995 to 8.9% in 2014. In contrast, tertiary industries' share jumped from 33.7% to 50.2% in the same period, reflecting the continuous improvement of China's industrial structure. The proportion of secondary industries also steadily declined, standing at 46.8% in 1995 and 40.9% in 2014. These changes serve as a proof of the Chinese industrial structure's speedy restructuring and upgrading.

1.1.2 Adjustment to the new normal

Confronting a structural transformation, the Chinese economy has entered the new normal. China's industrial structure has been consistently optimised and upgraded in the past three decades. In the process, it has faced certain obstacles, chiefly reflected in the following aspects.

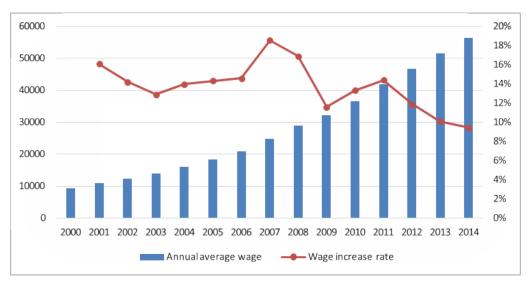
I. Relatively weak capability to innovate in the manufacturing sector and poor capacity to improve product quality

Consumers in China are turning to foreign goods because the domestic industrial structure does not fully meet their demands. Many Chinese "small and scattered" manufacturing enterprises fail to produce quality goods with advanced designs, a result of their lack of research and innovation capacity (Zhang J., 2016).

II. A gap between the financial sector and the real economy

China's average M2 growth rate in the past two decades was 17.4% per year, far higher than its annual GDP growth rate (9.56%). Its consumer price index (CPI) was low, standing at just 3% per year, with some years recording negative rates. China's money supply was growing much faster than its economic size and price level, creating a "myth of currency" phenomenon. It refers to a situation where money supply and economic growth do not grow correspondingly while monetary funds in the financial system are not sufficiently utilised. Since 2002 there has not been any significant increase in China's money supply, except in 2009 when the government introduced a 4 trillion-RMB stimulus package. It is reflected by the scale of China's social financing, which indicates the total amount of funds obtained from the financial system in a certain period.

The scale of China's social financing jumped from 2.01 trillion RMB in 2002 to 17.32 trillion RMB in 2013. However, in terms of social financing scale, the share of RMB loans showed a downward trend. At the same time, the share of entrusted loans and trust loans were rising, suggesting that many financial products were distributed. China's nominal GDP grew by 7.4% in 2014 as compared with 2013, while the scale of wealth management products marked a 50% surge to 15.02 trillion RMB from 10.24 trillion RMB. With a scale in financial products growing much faster than the real economic growth, it is difficult for the real economy to benefit from the monetary supply. A gap between the financial sector and the real economy exists as it is hard to transfer financial resources to the real economy (Ran & Zhang, 2016).

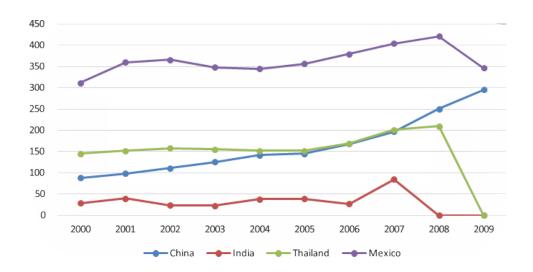


Graph 1.3 Annual average wage in China

Source: National Bureau of Statistics of China

III. The gradually shrinking demographic dividend

China's abundant labour force used to be a competitive advantage enabling its economy to grow rapidly with labour-intensive industries. However, the labour cost in China has risen sharply for some years. Since 2000 the average annual wage in China has been growing by over 10% per year, as Graph 1.3 indicates. Compared with India, Thailand, Mexico and other developing economies (see Graph 1.4), the average wage of China's manufacturing workers surpassed that of India in 2000 and Thailand in 2007. Although manufacturing workers in China still earned less than their counterparts in Mexico as of 2009, the Central American country's figure showed a stable but downward trend, in sharp contrast to China's upward trend. Moreover, many low-end manufacturing companies in China have been moving to Southeast Asian countries like Vietnam, Cambodia, Myanmar, and Bangladesh, after the 2008 global financial crisis. In sum, China's demographic dividend is gradually shrinking.



Graph 1.4 Labour cost in China, India, Thailand and Mexico

Source: World Bank Database Development Index

1.2 The BRI as it develops in China

1.2.1 The BRI as an economic growth driver

The Belt and Road Initiative (BRI) is formed upon China's national aspiration for balancing the economic development of regions within the country and overcoming difficulties under the 'new normal' of its economy. Such challenges include an economic slowdown and a reduction in overseas direct investments (ODI) and foreign direct investments (FDI). The BRI is underpinned by the idea that China should upgrade and optimise its domestic industrial system and expand overseas investment and trade, to adjust to the 'new normal' and to avoid the middle-income trap.

China's aspiration for the BRI surpasses its national borders. The region, spanning Asia, Africa and Europe, comprises a market with the great global potentials. With many countries along the Belt and Road being emerging and developing economies, the initiative implicitly aims to promote inclusiveness, win-win cooperation and economic development.

As a backdrop, the Chinese government holds that industrialisation and moving upward on the economic development ladder are linked to the strategic interaction between development at the national and regional levels. The BRI reflects China's commitment to putting this idea into actions. Other initiatives also reflect this effort, such as the introduction of the Made in China 2025 strategy in 2015. This initiative aims to optimise and modernise China's industrial systems, create an environment favourable to the emergence of new strategic industries, promote the use of advanced technologies and services, and upgrade China to a high value-added manufacturing system. The policy mentions the BRI thereby pointing to the huge potential the initiative can have on industrial development.

Overall, China's 13th Five Year Plan places an unprecedented emphasis on innovation, human capital, education and technology. In 2015, the State Council released a guideline on boosting "mass entrepreneurship and innovation". Measures outlined in the document cover the deepening of reform, the creation of a dynamic environment for start-ups, meeting business demands and stimulating entrepreneurship. It also offers policy support for implementation, opening, resource-sharing and innovation of business models.

An outlook at China's contribution to the multilateral system in the past decade shows the country's rise in and commitments to global governance, as anchored in the 13th Five-Year Plan (Xinhua, 2016). With an increasingly outward-facing approach, today's China is a major actor in global investment and finance. It aims to become an advanced economy, promote technological catch-up, and adopt a leapfrogging approach to development. Linking its domestic, regional and global outreach, China has the potential to become a pillar in the consolidation of mutually beneficial international cooperation. Launched in 2013, the BRI, which comprises the land-based Silk Road Economic Belt and the 21st Century Maritime Silk Road, has been conceived as a framework for development on both domestic and international levels.

1.2.2 Implementation of the strategy

The BRI was introduced by President Xi Jinping during his visit to Central Asia and Southeast Asia in September and October 2013. Since then the initiative has gained widespread attention across the world. On November 12, 2013, the Communist Party of China (CPC) adopted the Belt and Road strategy as a major party decision for the first time, in the Decision of the Central Committee of the Communist Party of China on Some Major Issues Concerning Comprehensively Deepening the Reform. The document was passed during the Third Plenary Session of the 18th CPC Central Committee. On November 4, 2014, the Central Leading Group for Financial and Economic Affairs, chaired by President Xi, held a meeting on the BRI. The initiative was identified in the Central Economic Work Conference on 9-11 December 2014 as a key 2015 strategy for regional economic development (Renmin University of China, 2016).

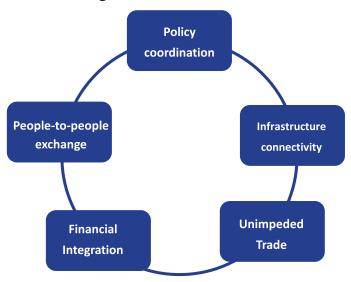
On February 1, 2015, the Leading Group set up an office devoted to overseeing the BRI's coordination and implementation. The office, placed at the National Development and Reform Commission (NDRC), coordinates its work with the Ministry of Foreign Affairs and the Ministry of Commerce. At the end of March 2015, the Chinese government issued a "Vision and Actions" document defining the guiding principles, routes and cooperation priorities of the BRI (Xinhuanet, 2015).

With its key theme of connectivity, the BRI aims at physical (e.g. transport, energy and/or communication infrastructure), social and institutional connectivity. It entails trade facilitation policies in the forms of aligned border and customs procedures which facilitate the flow of people, services and goods across countries. The BRI engages bilaterally with regional blocs and mechanisms, such as those on economic integration, trade facilitation, transport and energy infrastructure (UNDP, 2017).

The BRI objectives

Embracing openness and inclusiveness, the BRI is designed to integrate the interests of all the countries along the routes. Responding to their economic needs, the BRI aims at building a community with shared interests, responsibilities and destiny where countries can enhance their mutual political trust, economic integration, cultural acceptance and interconnectivity. The initiative is positioned to uphold peace, cooperation, openness, tolerance, mutual learning and mutual benefit. It states that its principles are in line with the values enshrined in the UN Charter. It defines its engagement to be inclusive harmonious, and open to all countries and organisations at both international and regional levels.

Figure 1.1 Pillars of the BRI



The scope and impact of the BRI are strategically boosted through economic corridors which promote connectivity, with investment and trade facilitation as core components.² Multidimensional economic development and the links among the region's geographical, physical and socio-commerce features can, directly and indirectly, benefit participating countries at the BRI's various stages. The direct and indirect impacts of the BRI can be leveraged via policy coordination. As a core priority of the BRI, policy coordination comprises multilevel intergovernmental macro policy exchange and communication mechanisms, with the objective of streamlining economic development strategies and policies across countries and regions. The initiative follows market rules and has five pillars: policy coordination, infrastructure connectivity, unimpeded trade, financial integration, and people-to-people exchange.

1.3 Linking the BRI to the 2030 Agenda for Sustainable Development

1.3.1 Global economic governance and the quest for sustainable development

2015 was the year when the implementation of Millennium Development Goals (MDGs) was reviewed. For the past 15 years, the global development has made great progress because of the joint efforts by countries and regions. The lives and living standards of millions of people have been significantly improved in many respects. From 1990 to 2015, the global extreme poverty rate (people living on less than \$1.25 per day) fell by 33%, and the under five mortality declined by over 50% These changes can be partly attributed to the global governance system developed after the World War II (WWII) – when the United Nations as well as the Bretton Woods Institutions (such as the International Monetary Fund (IMF) and the World Bank) were established.

^{2.} The BRI promotes the spanning of corridors through an array of different regions, including (1) The New Eurasia Land Bridge Economic Corridor, (2) The China-Mongolia-Russia Economic Corridor; (3) China-Central Asia-West Asia Economic Corridor; (4) China-Indochina Peninsula Economic Corridor; (5) China-Pakistan Economic Corridor and (6) Bangladesh-China-India-Myanmar Economic Corridor. Regional building blocks include the ASEAN, the Russian-led Eurasian Economic Union, CAREC, the Shanghai Cooperation Organization, the EU, the South Asian Association for Regional Cooperation (SAARC), and the Organization of Islamic Cooperation.

Globalisation and the international system: a historical backdrop

The creation of every international system is against a historical backdrop. While there is no universally agreed definition of globalisation, economists typically use the term to refer to international integration in commodity, capital and labour markets (Bordo et al., 2003). Globalisation is not a new phenomenon especially if we consider integration as the benchmark of these markets. According to historians, the evolution of globalisation may be traced back to the expansion of capitalism in the mid-19th century. Since then, the world has witnessed at least three waves of globalisation which we could summarise in:

- A first episode 1870s-1930s, usually taking the form of colonialism. This period was
 marked by a high degree of capital and labour mobility, together with trade boom
 an essential result of reduced transport cost, rather than free trade.
- A second stage 1945-73, characterised, inter alia, by the emergence of post-colonial independent economies, the disintegration of the macroeconomic regulation regime established through the Bretton Woods institutions, the first oil crisis, increasing the mobility of private capital, and end of the "golden age" of growth of the industrialised countries.
- A third phase 1973-present, coinciding with the intensive spurt of economic deregulation as well as privatization, financial and trade liberalization, coupled with the revolution in the sphere of information and communication technology.

All different periods are characterized by increased integration in trade, capital flows and movement of labour, although there are differences in the importance that each of these elements played over the years (UN, 2004) (WTO, 2008) (UNDP, 2015). The apex of the global trade, under the impetus of information and communication technology, has gradually shifted from final goods to intermediate goods because the production cost is reducing. This reduction helps reconfigure the production process by allowing capital, technology, labour and other key factors of production to flow more freely worldwide, thus creating the global value chain.

Countries and regions became increasingly dependent on each other via the global value chain. Since 1980, the volume of the global trade has increased by five times (Tsinghua University, 2016). The proportion of world exports relative to production jumped from 20% in 1995 to 30% in 2008. The "spillover analysis" by the International Monetary Fund (IMF) in 2016 illustrates the importance of the interaction (IMF European Department, 2016). The study suggests that the global GDP would increase by around 3% if the world's five major economies make joint efforts in taking more stringent, comprehensive and compatible steps like monitoring and managing the financial system's potential risks and frangibility.

Many developing economies have been seizing opportunities in globalisation. They participate in global value and supply chains based on their resource endowments and comparative advantages. From the post-World War II period to the end of the Financial Crisis in 2008, thirteen economies, including South Korea, Japan, Singapore, Taiwan and Hong Kong, grew to reach a high-income level (Lin, 2017), by following this pattern of

development. China's economic miracle since the launch of the 'Reform and Opening up' policy in 1978 has benefited significantly from the country's robust and in-depth integration with the world economy.

China is only one among many emerging economies which have gained weight in the world economy, as shown in the rise of the BRICS (Brazil, Russia, India, China, and South Africa). The bloc accounts for 42.6% of the global population, 26.5% of the world's territory, and 13.3%-14.9% of the voting power in the World Bank (WB) and the IMF. Furthermore, they have generated over half of the global economic growth in the past decade. Now, the group makes up 23% of global GDP and 13% of the world trade volume. Their average actual GDP growth rate stood between 7% and 11.5% from 2005 to 2016, 2-5% higher than the global rate, according to IMF data. Trade and investment are the engines of the BRICS's economic growth. The share of their imports and exports in the world's total jumped from 5.2% to 16.4% between 1990 and 2013, when China's share sharply increased from 1.1% to 10.1% (UNDP,CCIEE and SIIS, 2014). A group of leading emerging markets, the BRICS is playing an increasingly irreplaceable role worldwide.

However, the neoliberal globalisation in the past three decades is a "double-edged sword". The vigorous economic development is not able to compensate for the loss induced by the lack of effective financial supervision. The outbreak of the international financial crisis in 2008 was the best case that made the international community reflect on the global governance system. Since the crisis, the global economic growth has been slowing down, causing a severe decline in the global trade volume. As predicted by WTO, global trade growth in 2016 would be only 1.7%, slower than the global economic growth for the first time in 15 years. Meanwhile, the Global Foreign Direct Investment (GFDI) was predicted to decline by 10-15% in 2016. Although the GFDI will grow in 2017 and 2018, it is unlikely to rebound to the level prior to the financial crisis in the medium term. In addition, the existing global governance system has had a profound impact on income distribution. Oxfam shows that the wealth owned by the richest 1% of the population exceeds the total wealth of the remaining 99% in 2016. Therefore, it is imperative to distribute wealth (and income) more evenly, so that all people share the benefits of economic growth.

With the intention of tackling global challenges in an integrated manner, in 2015, all 193 member states adopted the 2030 Agenda for Sustainable Development at the United Nations General Assembly (UNGA). The Agenda can be seen as a response to the international community's demand for an inclusive and sustainable global governance system. It outlines 17 SDGs and 169 targets in achieving social, environmental and economic sustainability with peace and without poverty in the next 15 years.

The SDGs integrate the social, environmental and economic dimensions and have three principles, derived from the lessons learned in the implementation of the MDGs:

- First, the goals are universal and applicable to all countries regardless of their levels of development. Their implementation is flexible so that countries can take steps based on their national conditions to fulfil their responsibilities.
- Second, the goals adopt a holistic approach which considers potential synergies and trade-offs among goals and targets. This approach aims to ensure that inter-sectoral coordination is in place to maximise development dividends at large, rather than pursuing individual goals or targets.

• Third, the goals aim to leave no one behind, which means that their realisation should benefit everyone, especially women, children, the elderly and other vulnerable groups.

To fully implement the 2030 Agenda and attain the SDGs, countries should join hands and take effective steps with strong leadership. They should strengthen global and regional cooperation, and use all available resources from governments, the private sector and the public to finance such cooperation. Attaining the SDGs also requires countries to incorporate the 2030 Agenda into their national and local budgeting and planning for economic and social development. The sharing and exchange of knowledge, technology and development experience, especially via South-South Cooperation, will also have a key role to play.

1.3.2 The BRI and the 2030 Agenda

The possible impact of the BRI has generated global interest and goodwill due to its potential as a compelling platform for economic growth and regional cooperation. Such growth and cooperation are envisioned to involve more than a significant portion of the population living in the Asia, Europe and Africa, and in countries that are for the most part emerging and developing. Within this framework, the BRI can be regarded as a complementary framework to the existing global governance system (UNDP, 2017).

The BRI can maximise its positive impacts by closely aligning its objectives and outcomes with the implementation of the SDGs. This implies that the BRI will not solely aim to contribute to the achievement of the goals of participating countries in the areas of basic infrastructure, regional development, connectivity and industrialisation – as per its stated goals - but also to expand the initiative to aim for a sustainable transformation

of the countries along the Belt and Road, with a focus on poverty reduction, environmental sustainability and inclusive social development, all key elements for the success of the initiative in the long run. In this way, the BRI could serve as an accelerator, an active 'vehicle' for realising the SDGs. Aligning with the SDGs will enable the BRI to advance the common goods provision.



Why linking the BRI to the 2030 Agenda?

Linking the BRI to the 2030 Agenda can be seen as a necessity that arises from the scale of the BRI, whose direct and indirect impact is unprecedented, incorporating almost 70 countries across different regions in different development stages.

1) Ensuring development outcomes that are sustainable and built on the principles of inclusive growth is fundamental for guaranteeing security and stability throughout the region. When it comes to rethinking the economic coordination of markets and investment and how to achieve sustainable growth, the BRI could contribute in several ways: increase industrial capacity building and transfer; address social and physical infrastructure demands; create regional/global public goods that the private sector tends to undersupply; help countries capture gains; and foster lucrative interventions and innovative activities while enhancing social stability and environmental sustainability. This can be promoted through developing SDGs investment and implementation approaches and strategies, to guarantee that projects within the BRI are aligned with the Agenda 2030. This approach would also ensure the BRI is properly positioned to ensure inclusiveness as a core principle. Although there is a strong emphasis on inclusiveness in the BRI, the initiative as such is no conditio sine qua non for mutual benefits since it is, after all, profit-oriented. The 2030 Agenda, as a guiding framework for the BRI, would support the positioning of the BRI as the

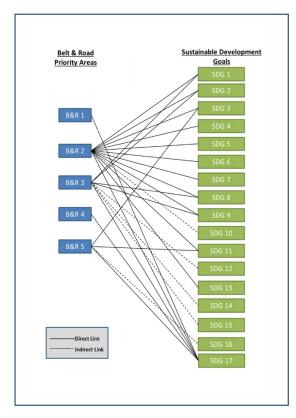
framework for many countries seeking to respond to the 'new normal': developing through adapting their structures of production to more effective models of efficiency and productivity, but in a sustainable manner (Horvath, 2016).

- 2) The SDGs can unleash developmental benefits and confer to the BRI an emblematic position as an enabler for the SDGs and their expansion of global public goods. Linking the BRI to the SDGs is a win-win strategy in terms of reinforcing international cooperation. It holds the promise of filling the SDGs with local content and enhancing their coordination, paving the way for the BRI to positively affect critical social issues such as inequality and inclusiveness. This linkage can also move the BRI towards gaining critical mass by incorporating all aspects of human development, ensuring that it is seen by all partners to transcend short-term economic or political interests, thereby enabling it to 'win the hearts and minds' of other countries. Implemented in this way, the BRI would enhance China's image as a leading country in South-South cooperation, one that puts partner countries' development above other considerations. The BRI could serve as a financing vehicle for the SDGs which, considering the shifting patterns of multilateral development financing, could play a vital role (Horvath, 2016).
- 3) Ensuring that the BRI meets the principles for the 2030 Agenda heightens China's credibility and reputation as a responsible player in the global governance arena. In its 2016 SDGs implementation launch, China addressed linkages explicitly. China's national SDGs implementation plan specifically regards the 2030 Agenda as an orienting principle, one that contributes not only to China's impact on sustainable development nationally but also in its engagement overseas, particularly throughout the BRI. China has sustained its commitment and recognised the 2030 Agenda as a pivotal defining component for recognising the success of the BRI (China National Plan for SDGs, 2016). Apparently, while the 2030 Agenda should be viewed as an overarching framework to be applied to the BRI, articulating a governance structure will help ensure the compatibility of both (Horvath, 2016).

In which areas can the BRI concretely contribute to the SDGs?

As shown in Figure 1.2, the five connectivity areas in the BRI can be keen to the realisation of the SDGs. Take infrastructure connectivity as an example: infrastructure construction has direct contributions to SDG 9 (building disaster-resilient infrastructure). Such connectivity would also help realise SDG 8 (promoting inclusive and sustainable economic growth) as an improved infrastructure can reduce trade cost, improve labour productivity, and promote domestic economic growth. Meanwhile, infrastructure connectivity can provide the poor and women with more opportunities and time to participate in activities with higher economic returns. It can increase their income and afford them more and better choices of education and medical services. It would contribute to the realisation SDG 1 (eliminating all forms of poverty) and SDG 5 (achieving gender equality) to some extent. Green, less carbon-intensive infrastructure will play a critical role in realising SDG 11 (making urban and human habitat sustainable) and SDG 13 (tackling climate change).





Graph 1.5 The relationship between the BRI and the SDGs

Unimpeded trade and financial integration can also help achieve the SDGs. They involve the facilitation of investment and trade, the elimination of investment and trade barriers. and the implementation of the "Trade Facilitation Agreement" of the WTO. It also involves investment in renewable energy, information technology, biotechnology, new materials and other emerging industries. Financial integration involves the operation of Asian Infrastructure Investment Bank (AIIB), the New Development Bank (NDB), the Silk Road Fund, commercial equity investment funds and private funds, all of which help construct key projects of the BRI. These aspects are highly aligned with SDG 17 (strengthening the means of implementation and revitalising the global partnership for sustainable development). The goal is about promoting North-South, South-South and triangular regional and international cooperation related to science, technology and innovation. Stronger cooperation on these aspects will pave the

way for a universal, open, non-discriminatory and equitable multilateral trading system under WTO, and significantly increase exports in developing economies.

Finally, people-to-people exchange and policy coordination involve extensive exchange programmes on culture, the training of talents, science, technology, and the coordination and coherence of policies. They present a valid path to the realisation of SDG 16 (creating a peaceful and inclusive society).

The "Addis Ababa Action Agenda (AAAA)", an essential part of the 2030 Agenda, envisages investment in infrastructure, transport and energy. It highlights the mobilisation of domestic and international resources to meet the enormous demand for development financing. In addition to traditional international assistance, multilateral developmental financial institutions will also play a vital role in leveraging and raising capital.

The SDGs and BRI alignment will generate scalability of impact and cross-regional reach, making the initiative significantly and positively contribute to global governance. While the public goods provision may differ over time, along with its contribution to economic growth and sustainable social and environmental development, its fundamental significance will endure. To ensure sustainability, commitments are essential to protect resources and communities. This can help make globalisation more manageable:

 \checkmark

Advanced economies can benefit from replacing or restructuring the physical infrastructure assets in place, thereby improving efficiency, or by upgrading them to be low-carbon and sustainable.



Developing countries face an urgent need. They require resilient infrastructure to contribute to the social and economic development necessities of the country, particularly related to basic services, including sanitation and education. They also need risk management related to natural resources.



Middle-income countries require increased access to basic services to meet increasing urbanisation and governance dilemmas. Faced with increasing urbanisation and other domestic issues, including a growing middle class, countries like China and India should respond to a set of diverse social and economic issues, by closely interlinking both domestic and global policy domains. The BRI caters to these diverging demands by meeting the different needs of those involved in it.

1.3.3 The BRI as a global public goods provider

The BRI comes at a moment of transition in global governance, for both the industrialised countries in the Global North and their developing counterparts in the Global South. Linking the BRI to the 2030 Agenda is a win-win solution not merely for realising the Agenda 2030 but also for scaling up the BRI and making real deliverables, especially as a provider of global public goods.

The BRI has tremendous potential for offering public goods to the world population if the initiative adopts a development-oriented agenda and commits itself to high social and environmental values. To this end, the spillover effect of various BRI projects should be coordinated and managed with local and international contexts taken into consideration.

Before seeking to transform the benefits of the BRI into global public goods, we should recognise that growth is not inclusive per se. We should start with a rethinking of the way in which economic growth is obtained. Stiglitz contends that part of the international agenda for inclusive and sustainable growth is rewriting the rules of the global market economy (Stiglitz J., 2016). This process would include exercising political power and exploiting deficiencies in corporate governance to diminish rent-seeking at the top.

Conversely, the potential of the BRI's global public goods provision is linked to a multi-level process where policy actions are taken at national, regional and global levels. Combining the BRI to the provision of global public goods can produce cross-regional benefits and improve the well-being of future generations, including those not directly involved in of the initiative. Global public goods provision is integral to bilateral and multilateral cooperation.

A significant advantage of linking the BRI to public goods provision touches on globalisation itself. The BRI, if properly managed, can become a device for ensuring not only the provision of global public goods but also an inclusive globalisation. This possible impact and the BRI's cross-regional reach would make a remarkably positive contribution to global governance. While public goods provision may differ from time to time, depending on its contribution to economic growth and social and environmental sustainability, its fundamental importance would be likely to endure. Linking the BRI to global public goods provision can also foster opportunities for sustainable growth across development levels and financing development across in different economic development stages and regions.

1.3.4 National implementation of the SDGs as the basis for BRI engagement

BRI-related economic cooperation with member countries is not equal in terms of the benefits it may provide for the host countries. Factors such as the local economy, firm-level capabilities, the learning and innovation infrastructure, and the underlying local institutions and government policies may also constrain positive spillovers. Therefore, an assessment of the conditions and premises under which BRI-related engagement takes place should be considered. Furthermore, to ensure mutually beneficial outcomes, BRI-related cooperation should cater to the needs of the national development agenda.

Making the BRI green and sustainable is a challenging mission requiring countries to take environmental and social issues seriously when designing and implementing their strategies and principles. They must make sure local communities at various levels are sufficiently engaged in all projects under the BRI framework. Countries along the Belt and Road could get the most out of the initiative positivity in the interest of the global population by integrating their BRI-related plans and projects with the SDGs. The BRI, if proactively combined with efforts taken by countries in their quests for sustainability, would profoundly accelerate the realisation of the international goals.

It is entirely possible to achieve sustainable growth via the coordination of markets, a core focus of the BRI. As discussed, the initiative does not only seek to build up participating countries' industrial capacity but also try to transfer such capacity from industrialised nations to those in acute need of social and physical infrastructure. Such cooperation has vast potentials for enhancing social stability and environmental sustainability.

But how can countries guarantee leadership and ownership during BRI engagement? For the implementation of the 2030 Agenda, countries must consider their national realities and circumstances. The SDGs can be integrated into policy objectives and commitments articulated within a variety of national and sectoral strategies and plans, as well as in commitments to international agreements, by considering the institutional structures at the national level to encourage policy coherence and SDGs mainstreaming. Political commitments and leadership are necessary ingredients for the fulfilment of such efforts.

Box 1.1 The MAPS approach

MAPS stands for Mainstreaming, Acceleration and Policy Support. The UNDG adopted the MAPS in October 2015 as a common approach to its support for the implementation of the 2030 Agenda for Sustainable Development at the country level.

The MAPS approach captures the core components of the UNDG's upstream support for the SDGs:

1. Mainstreaming work to raise public awareness about the 2030 Agenda and ensure that the principles and goals of sustainable development found in the 2030 Agenda

are fully integrated into national and sub-national policy formulation, planning and budgetary processes.

- 2. Analytical work that informs policymakers of the drivers and bottlenecks to sustainable development at the country level and that contributes to the design of policy interventions that have the potential to accelerate progress towards achieving national SDGs outcomes by 2030.
- 3. Policy support, in terms of joint approaches, that will enable the UN to deploy its technical expertise and advice to the Member States in support of a coherent and integrated SDGs implementation strategy.

Source: (ECOSOC, 2016)

The SDGs mainstreaming practice can serve as a roadmap for each country's engagement in the BRI. Entry points for aligning the strategies for a recipient country's BRI engagement should draw from the efforts made by national SDGs mainstreaming efforts and prioritisation. A country's cooperation on the BRI should rely on the premise of their implementation of the SDGs at the national level and their integration into policies, plans and strategies. While investment, trade, industrial policies and regulations will be key to determining the BRI supply chain spillovers, recipient countries should ensure sound policy and institutional structures.

Each country's efforts to engage in the BRI will be most effective when oriented by strong alignment with the national strategies of the 2030 Agenda. This is particularly important for developing countries' effective participation in the BRI framework to support their development.

Box 1.2 National SDG plans as basis for BRI engagement				
First phase Positioning	Gradually integrate the SDGs framework into country's BRI engagement in terms of policy making and planning			
Second phase Governance and alignment	Ensure BRI engagement is in line with an inclusive planning process through a coordinated and coherent governance environment; allocate responsibilities for government stakeholders.			
Third phase Implementation	Engage with relevant stakeholders, and draw on the processes of planning, sector implementation, and local level implementation.			

SDGs-integrated planning and policymaking at the country level represent the basis for BRI engagement and its effective implementation. However, the cross-border nature of many BRI investments demand a common understanding about how these investments should be governed beyond national borders; in other words, domestic policy and institutional environment must be supported by strong coordination at the regional and international levels. The coordination and strategic alignment of BRI-related governance should further draw on regional mechanisms to channel development demands and develop cross-border synergies in trade, investment and financing.

Chapter 2 – A social outlook into the Belt and Road potential



High proportion of working age population

Around 3.2 billion people live in countries and regions along the Belt and Road apart from China, which is home to over 1.3 billion. The population of Central Asia and West Asia is growing rapidly while most European countries along the Belt and Road have recorded a decline. In three-quarters of countries along the Belt and Road, over 65% of their total population is made up by those of working age (16-64). In general, population ageing has yet to be a severe issue outside Europe.

Education gap to be bridged

Huge disparities in education exist among the countries and regions along the routes. For instance, European countries score high in the education index while South Asia is ranked low. The gender gap in education is still wide in several countries. The enrolment rate in primary education is high in most countries, but the figures for secondary education are generally lower and vary greatly among countries. In most countries outside of Europe, less than half of students at entrance age are enrolled in tertiary institutes.

Lack of data in employment in poorest areas and leading role of service sectors in wealthier countries

Considering the lack of data in 17 countries, among the available data in at least 40 countries and regions along the Belt and Road, the service sector employs more people than the other two industries. The agriculture sector is the biggest employer in 7 of the 49 countries of which data is available. Only in Qatar, most people work in the industrial sector. The GINI Coefficients of over half of countries and regions along the Belt and Road stand between 0.2 and 0.3. The vast majority of those with high-income equality are in Europe.

2.1 The countries and regions along the Belt and Road

The Belt and Road Initiative has attracted interest from many countries along the routes. Regarding the countries and regions included in the analysis, the report takes into consideration 66 countries and regions, plus China. Those countries and regions comprise of those officially participating in the BRI as well as those considered relevant to the initiative even though not officially engaged.

As an expanding initiative, the number of participating and/or relevant countries and regions will certainly change in the future. This report presents an analysis of data available up to April 2017, the time the report was drafted.

Figure 2.1 List of countries and regions considered for this report

Region	Countries
Southeast Asia	Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, Timor-Leste, Viet Nam
South Asia	Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka
East Asia	Mongolia
Central Asia	Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan
West Asia	Armenia, Azerbaijan, Bahrain, Georgia, Iran, Iraq, Israel, Jordan, Lebanon, Kuwait, Oman, Qatar, Saudi Arabia, Palestine , Syria, Turkey, United Arab Emirates, Yemen
Africa	Egypt
Europe	Albania, Bosnia and Herzegovina, Croatia, Belarus, Bulgaria, Cyprus, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Macedonia, Moldova, Montenegro, Poland, Romania, Russia, Serbia, Slovenia, Slovakia, Ukraine

For easy reference, the report will address this group of countries as "countries and regions along the Belt and Road". For easy reference, in graphs and tables they are occasionally referred to as "BRI countries".

2.2 Socioeconomic development in generating growth

The recent global economic development has renewed people's interest in the key role of socioeconomic development in generating growth. The levels of people' skills and the quality of employment are determining factors in positioning national comparative advantages in global production. In other words, opportunities and challenges introduced by global value chains (GCVs) are depending on skills. When it comes to jobs, positioning countries in GCVs can affect the number of jobs on different levels and wages in production sectors; the returns of jobs, both job-specific wages and upgrading potential as well as the distributional impacts of jobs and wage effects.

 $^{{\}it 3. The term Palestine used in the report refers to the occupied Palestinian territories.}$

To appreciate the impact of GCVs, we should look at the big picture. Trade perspective, investment, development, growth and jobs are all factors which deserve attention. Recent global labour division dynamics mirror cyclical factors and structural factors - e.g. widening income inequality as well as low productivity growth. Academics and policy-practitioners argue that the expansion of educational opportunities will improve income distribution and bring about economic growth, while others emphasise that labour markets and institutions can create economic prospects.

Such multifaceted aspects make supply-chain deepening a powerful tool for the exploitation of technology spillovers, skills development to develop an adaptable labour force to maximise the GCVs potential. The BRI has spurred substantial interest among policymakers who seek opportunities for "joining and upgrading" in the GCV. At the same time, we should realise that understanding the social outlook of the countries and regions along the Belt and Road is an essential step in our attempts to shape institutional and policy responses under the BRI framework.

This chapter's emphasis on the social outlook for economic prospects in emerging and developing countries and regions along the Belt and Road is largely attributable to the initiative's potential for an improvement of decision-making processes and, consequently, the realisation of win-win outcomes. Socio-demographic data directly relevant to the topics covered in the report is employed, in addition to our assessment of the global and national labour markets.

This chapter is structured to contextualise the diversity of these countries, with the goal of shedding light on the scale and nature of socio-demographic indicators at a transnational level. Within this framework, recent population developments have been analysed while giving an overview of the poverty and equality indicators. A glance at relevant educational indicators has been given together with an outlook for labour market indicators.

2.3 Population

This report employs indicators like total population, population growth, as well as population distribution by age and gender, to illustrate the demographic situations in countries along the Belt and Road. Their proportion of rural population is also investigated to demonstrate the countries' diverse levels of development. Developing countries can take advantage of the population dividend.

Figure 2.2 Population of the countries and regions along the Belt and Road in 2016

Region	Country	Total (Million)	Annual growth (%)	Female population (% of tot)	Rural population (% of tot) ²
Southeast	Brunei	0.4	1.4	48.5	22.5
Asia	Cambodia	15.8	1.6	51.2	79.1
	Indonesia	261.1	1.1	49.7	45.5
	Laos	6.8	1.4	50.2	60.4
	Malaysia	31.2	1.5	48.40 (2015)	24.6
	Myanmar	52.9	0.9	51.1	65.4
	Philippines	103.3	1.6	49.6	55.7
	Singapore	5.6	1.3	50.7	0.0

	Thailand	68.9	0.3	50.7	48.5
	Timor-Leste				
		1.3	2.2	49.2	66.6
c .1 a .	Viet Nam	92.7	1.1	50.5	65.8
South Asia	Afghanistan	34.7	2.7	48.4	72.9
	Bangladesh	163.0	1.1	49.5	65.0
	Bhutan	0.8	1.3	46.3	60.6
	India	1324.2	1.2	48.2	66.9
	Maldives	0.4	2.0	49.9	53.5
	Nepal	29.0	1.1	51.5	81.0
	Pakistan	193.2	2.0	48.6	60.8
	Sri Lanka	21.2	1.1	51.9	81.6
East Asia	China	1378.7	0.5	48.5	43.2
	Mongolia	3.0	1.7	50.5	27.2
Central Asia		17.8	1.4	51.7	46.8
	Kyrgyzstan	6.1	2.1	50.5	64.2
	Tajikistan	8.7	2.2	49.4	73.1
	Turkmenistan	5.7	1.7	50.9	49.6
	Uzbekistan	31.8	1.7	50.8	63.5
West Asia	Armenia	2.9	0.3	54.1	37.4
	Azerbaijan	9.8	1.2	50.2	45.1
	Bahrain	1.4	3.8	38.1	11.2
	Georgia	3.7	0.1	52.3	46.2
	Iran	80.3	1.2	49.7	26.1
	Iraq	37.2	3.0	49.4	30.4
	Israel	8.5	2.0	50.4	7.8
	Jordan	9.5	3.2	48.8	16.1
	Lebanon	6.0	2.6	49.8	12.1
	Kuwait	4.1	2.9	43.8	1.6
	Oman	4.4	5.2	33.5	21.9
	Qatar	2.6	3.5	27.8	0.7
	Saudi Arabia	32.3	2.3	43.5	16.7
	Syria	18.4	-1.6	49.4	41.9
	Turkey	79.5	1.6	50.8	26.1
	United Arab Emirates	9.3	1.3	27.1	14.2
	Yemen	27.6	2.5	49.5	64.8
Africa	Egypt	95.7	2.0	49.5	56.8
Europe	Albania	2.9	-0.2	50.5	41.6
	Bosnia and Herzegovina	3.5	-0.5	50.2	60.1
	Croatia	4.2	-0.8	51.8	40.7
	Belarus	9.5	0.2	53.5	23.0
	Bulgaria	7.1	-0.7	51.4	25.7
	Czech Republic	10.6	0.2	50.9	27.0

Estonia	1.3	0.1	53.2	32.5
Hungary	9.8	-0.3	52.4	28.3
Latvia	2.0	-0.9	54.1	32.6
Lithuania	2.9	-1.1	54.0	33.5
Macedonia	2.1	0.1	50.2	42.8
Moldova	3.6	-0.1	52.0	54.9
Montenegro	0.6	0.1	50.6	35.8
Poland	37.9	-0.1	51.6	39.5
Romania	19.7	-0.6	51.6	45.3
Russia	144.3	0.2	53.5	25.9
Serbia	7.1	-0.5	51.2	44.3
Slovenia	2.1	0.1	50.4	50.4
Slovakia	5.4	0.1	51.5	46.5
Ukraine	45.0	-0.3	53.7	30.1

¹ Population refers to residents regardless of their legal status.

2 In World Bank Data, rural population refers to people living in rural areas as defined by national statistical entities.

Source: World Bank Database

Around 4.6 billion people live in countries and regions along the Belt and Road, and the figure stands at 3.2 billion not counting China. The annual growth rates of the population of all countries in 2016 stand between 5.22% (Oman) and -1.64% (Syria). In contrast to the decline in Europe, notable growth rates are recorded in both Central Asia and West Asia, a region demonstrating the greatest gender imbalance. China, India and Indonesia are the most populous, while Timor-Leste, Bhutan and Montenegro are the least. In two-thirds of all countries, most people live in urban areas. South Asian and Southeast Asian countries, unlike those in other regions, have a rather high proportion of rural population, except Singapore (0%) and Malaysia (24.63%). Also in Asia, Sri Lanka (81.59%), Nepal (81.01%) and Cambodia (79.06%) are ranked the three least urbanised countries.

Figure 2.3 Population distribution in the countries and regions along the Belt and Road by age in 2016

Region	Country	Ages 0-14 (% of tot)	Ages 15-64 (% of tot)	Ages 65+ (% of tot) ¹
Southeast Asia	Brunei	22.9	72.4	4.7
	Cambodia	31.4	64.4	4.3
	Indonesia	27.5	67.2	5.3
	Laos	34.4	61.7	3.9
	Malaysia	25.0	69.1	5.9
	Myanmar	27.00 (2015)	67.46 (2015)	5.54 (2015)
	Philippines	31.7	63.6	4.7
	Singapore	15.3	72.4	12.3
	Thailand	17.4	71.7	10.9

	Timor-Leste	42.8	51.7	5.5
	Viet Nam	23.1	70.0	6.9
South Asia	Afghanistan	43.3	54.2	2.5
	Bangladesh	28.9	66.1	5.0
	Bhutan	26.3	68.5	5.2
	India	28.4	65.9	5.8
	Maldives	27.4	67.9	4.7
	Nepal	31.8	62.5	5.7
	Pakistan	34.9	60.6	4.5
	Sri Lanka	24.3	66.0	9.7
East Asia	China	17.3	72.7	10.0
	Mongolia	28.6	67.3	4.1
Central Asia	Kazakhstan	27.3	65.9	6.8
	Kyrgyzstan	31.9	63.8	4.3
	Tajikistan	35.0	62.0	3.1
	Turkmenistan	28.1	67.7	4.3
	Uzbekistan	28.6	66.7	4.7
West Asia	Armenia	18.6	70.4	11.1
	Azerbaijan	22.5	71.7	5.8
	Bahrain	21.4	76.2	2.5
	Georgia	17.6	68.3	14.1
	Iran	23.6	71.1	5.2
	Iraq	40.9	56.0	3.1
	Israel	27.9	60.6	11.5
	Jordan	35.3	60.9	3.8
	Lebanon	23.5	68.1	8.3
	Kuwait	22.6	75.4	2.0
	Oman	21.1	76.2	2.7
	Qatar	15.6	83.1	1.3
	Saudi Arabia	28.3	68.7	3.0
	Syria	36.1	59.8	4.1
	Turkey	25.4	66.9	7.7
	United Arab Emirates	14.1	84.7	1.3
	Yemen	39.9	57.2	2.9
Africa	Egypt	33.5	61.2	5.3
Europe	Albania	18.4	68.9	12.7
	Bosnia and Herzegovina	13.4	70.7	16.0

	Croatia	14.8	65.9	19.3			
	Belarus	16.5	69.4	14.2			
	Bulgaria	14.2	65.4	20.4			
	Czech Republic	15.1	66.3	18.6			
	Estonia	16.2	64.8	19.0			
	Hungary	14.5	67.3	18.2			
	Latvia	15.0	65.5	19.5			
	Lithuania	14.7	66.5	18.8			
	Macedonia	16.9	70.4	12.7			
	Moldova	15.7	73.9	10.3			
	Montenegro	18.4	67.5	14.1			
	Poland	15.0	68.9	16.1			
	Romania	15.4	66.9	17.8			
	Russia	17.2	69.2	13.7			
	Serbia	16.2	66.3	17.6			
	Slovenia	14.9	66.6	18.4			
	Slovakia	15.2	70.5	14.3			
	Ukraine	15.1	69.3	15.6			
1 Depulation refers	1 Deputation refers to recidents regardless of their legal status						

Source: World Bank Database

1 Population refers to residents regardless of their legal status.

A population's changing age structure can provide a powerful stimulus to economic growth. Since people of different ages have different consumption needs and engage in different kinds of productive activities a changing age structure can have massive implications for economic growth (Bloom et al. 2003). In three-quarters of the countries, over 65% of the total population is made up by those of working age (16-64). Distinct from the general pattern, one-fifth of the nations have more than 30% of their population under the age of 15, with the three youngest countries being Afghanistan (43.3%), Timor-Leste (42.8%) and Iraq (40.9%). The rates stand between 20-30% in 23 countries, and between 10-20% in the remaining 28. In general, population ageing has yet to be a severe issue in countries along the Belt and Road outside Europe, as the elderly comprise merely up to 10% of the total population in twothirds of the countries. "Countries with heavy concentrations of populations in the working ages have an inherent advantage to produce high levels of per capita income" (Manson, 2007). This assumes that wise government policies that create jobs can help reach substantial dividends. If a country fails to implement policies appropriate to its population situation, the country may struggle with the social unrest of millions of unemployed citizens. Accordingly, the figure illustrates that most countries along the Belt and Road can enjoy working age group dividends that can be competitive in labour-intensive production and possess comparative advantages within international trade. However, to realise these comparative advantages, they need to improve their education standards.

2.4 Education

Education cooperation is a key component of the BRI because such cooperation does not merely foster people-to-people exchange between participating countries serving to consolidate the cultural foundation of the initiative itself but also support the socio-economic development of the initiative and its long-term sustainability with high-level impact on human development. In this regard, the report studies the literacy rates, enrollment ratios, gender parity figures and official spending on education in countries along the Belt and Road.

Figure 2.4 Literacy rates in the countries and regions along the Belt and Road in 2015¹

Region	Country	Adult female (% of females ages 15 and above)	Adult male (% of males ages 15 and above)	Youth female (% of females ages 15-24)	Youth male (% of males ages 15-24)
Southeast	Brunei	95.4	97.8	99.7	99.5
Asia	Cambodia	72.3	85.0	92.0	91.1
	Indonesia	93.8	97.1	99.7	99.7
	Laos	72.8	87.2	87.3	93.1
	Malaysia	93.1	96.2	98.5	98.3
	Myanmar	91.2	95.2	96.3	96.3
	Philippines	97.0	96.2	98.9	97.6
	Singapore	95.0	98.6	99.9	99.9
	Thailand	92.6	95.4	99.0	98.3
	Timor-Leste	59.5	68.5	82.7	81.8
	Viet Nam	92.8	96.3	98.0	98.2
South Asia	Afghanistan	23.9	51.5	46.1	69.4
	Bangladesh	58.3	64.6	85.9	80.6
	Bhutan	55.1	71.2	90.5	93.6
	India	63.0	80.9	87.3	91.8
	Maldives	98.9	99.8	99.5	100.0
	Nepal	54.8	75.8	87.4	92.6
	Pakistan	42.7	69.6	66.8	80.2
	Sri Lanka	91.7	93.6	99.2	98.4
East Asia	China	94.5	98.2	99.7	99.7
	Mongolia	98.6	98.2	99.0	98.1
Central Asia	Kazakhstan	99.8	99.8	99.9	99.8
	Kyrgyzstan	99.4	99.6	99.8	99.7
	Tajikistan	99.7	99.8	99.9	99.9
	Turkmenistan	99.6	99.8	99.9	99.8
	Uzbekistan	100.0	100.0	100.0	100.0

West Asia	Armenia	99.7	99.8	99.9	99.8
	Azerbaijan	99.7	99.9	99.9	100.0
	Bahrain	93.4	97.0	99.7	99.8
	Georgia	99.7	99.8	99.9	99.7
	Iran	83.2	91.1	97.8	98.3
	Iraq	73.8	85.6	80.6	82.4
	Israel*	N/A	N/A	N/A	N/A
	Jordan	97.5	98.5	99.4	99.1
	Lebanon	92.0	96.0	99.3	98.9
	Kuwait	95.2	96.8	99.4	99.6
	Oman	89.7	95.8	99.1	99.1
	Qatar	97.5	97.8	99.7	98.3
	Saudi Arabia	91.8	97.0	99.3	99.4
	Syria	80.7	91.8	95.6	97.1
	Turkey	92.9	98.7	99.2	99.8
	United Arab Emirates	95.1	92.4	99.1	99.6
	Yemen	54.9	85.0	82.7	97.6
Africa	Egypt	68.1	83.6	92.1	94.5
Europe	Albania	96.8	98.4	99.1	99.0
	Bosnia and Herzegovina	97.4	99.6	99.7	99.7
	Croatia	98.9	99.7	99.8	99.7
	Belarus	99.7	99.8	99.9	99.8
	Bulgaria	98.1	98.7	97.8	98.2
	Czech Republic*	N/A	N/A	N/A	N/A
	Estonia	99.8	99.9	100.0	100.0
	Hungary	99.4	99.4	99.5	99.3
	Latvia	99.9	99.9	99.9	99.8
	Lithuania	99.8	99.8	99.9	99.9
	Macedonia	96.9	98.8	98.5	98.7
	Moldova	99.1	99.4	99.4	99.2
	Montenegro	98.0	99.5	99.0	99.3
	Poland	99.7	99.9	100.0	100.0
	Romania	98.5	99.1	99.3	99.3
	Russia	99.7	99.7	99.8	99.7
	Serbia	97.0	99.1	98.4	98.6
	cı .	00.7	99.7	99.9	99.8
	Slovenia	99.7	99.7	99.9	99.0

Slovakia*	N/A	N/A	N/A	N/A
Ukraine	99.7	99.8	99.8	99.7

¹ Adult literacy rate refers to the percentage of people aged 15 and above who can both read and write with understanding a short simple statement about their everyday life.

Source: UNESCO Institute for Statistics

In three-quarters of the countries, over 90% of the population aged 15 or above can read and write. The adult literacy rates in South Asian countries are generally lower than those in other regions, among which Europe achieves the highest overall rate. Generally, the adult male literacy is higher. The gender gap is notably wide in Yemen (30.12%), Afghanistan (27.60%), Pakistan (26.84%) and Nepal (21.06%).

Meanwhile, the literacy rates of the youth in most countries are higher than those of adults, except in 12 countries where the rate of youth males is lower.

Figure 2.5 Gross enrolment ratio (GER) in the countries and regions along the Belt and Road in 2015

Region	Country	Pre-primary (%)	Primary (%)	Secondary (%)	Tertiary (%)	Gender parity index on primary and secondary enrolment ²
Southeast	Brunei	72.00	108.14	96.08	30.84	1.00
Asia	Cambodia	17.94	116.66	N/A	13.09	N/A
	Indonesia	58.16 (2014)	105.85	85.84	24.25	0.99
	Laos	35.35	111.35	61.70	16.91	0.94
	Malaysia	93.95	101.79	77.57	26.07	1.04
	Myanmar	23.46 (2013)	99.66 (2014)	51.30 (2014)	N/A	0.99 (2014)
	Philippines	N/A	116.82 (2013)	N/A	35.75 (2014)	1.03 (2013)
	Singapore	N/A	N/A	N/A	N/A	N/A
	Thailand	69.11	102.73	129.00	48.86	0.94
	Timor-Leste	18.87	136.84	76.76	N/A	1.02
	Viet Nam	83.13	108.88	N/A	28.84	N/A
South Asia	Afghanistan	N/A	111.88	55.64	8.66 (2014)	0.65
	Bangladesh	31.22	120.43	63.52	13.44 (2014)	1.10
	Bhutan	25.80 (2016)	96.75 (2016)	84.20 (2014)	10.93 (2013)	1.04 (2014)

^{*}Data for those countries were not available in the database used as reference for this table and therefore not comparable.

	India	12.21	108.60	73.97	26.87	1.07
	Maldives	101.50	97.92	N/A	16.23	N/A
	Walarves	(2016)	(2016)	IN//X	(2014)	14//
	Nepal	85.42	135.43	67.17	14.94	1.08
	Pakistan	72.32	92.71	44.53	9.93	0.83
	Sri Lanka	93.04	101.68	99.72 (2013)	19.80	1.02 (2013)
East Asia	China	83.62	104.13	94.30	43.39	1.01
	Mongolia	N/A	100.90	91.46	68.57	1.00
Central	Kazakhstan	60.37	110.56	109.11	46.04	1.02
Asia	Kyrgyzstan	27.59	107.36	92.05	46.90	1.00
	Tajikistan	10.65	98.19	87.89 (2013)	26.37	0.93 (2013)
	Turkmenistan	62.85 (2014)	89.37 (2014)	85.34 (2014)	7.98 (2014)	0.97 (2014)
	Uzbekistan	26.02	102.09	95.64	8.79	0.98
West Asia	Armenia	52.40	98.47	88.50	44.31	1.01
	Azerbaijan	23.88	106.60	N/A	25.48	N/A
	Bahrain	55.86	101.17	102.13	43.26	1.00
	Georgia	N/A	116.78	103.68	43.42	1.01
	Iran	50.78	108.92	89.17	71.88	1.03
	Iraq	N/A	N/A	N/A	N/A	N/A
	Israel	111.10	104.78	102.48	64.75	1.01
	Jordan	32.20	97.34 (2014)	82.45 (2014)	44.87	1.03 (2014)
	Lebanon	77.60	92.41	61.21	38.48	0.94
	Kuwait	N/A	102.68 (2014)	94.97	27.03 (2013)	1.06 (2014)
	Oman	55.55	109.28	104.23	N/A	1.05
	Qatar	58.78	103.00	91.17	14.52	1.12
	Saudi Arabia	17.35	109.48	108.29 (2014)	63.07	0.88 (2014)
	Syria	5.88 (2013)	80.10 (2013)	50.49 (2013)	44.05	0.99 (2013)
	Turkey	28.93	102.49	102.49	94.73	0.98
	United Arab Emirates	83.67	116.35	N/A	N/A	N/A
	Yemen	1.34 (2013)	97.49 (2013)	48.62 (2013)	N/A	0.79 (2013)
Africa	Egypt	30.32 (2014)	103.93 (2013)	86.10 (2014)	36.23	1.00 (2014)

	1			1		
Europe	Albania	88.60	113.70	95.77	58.11	0.95
	Bosnia and Herzegovina	N/A	N/A	N/A	N/A	N/A
	Croatia	62.73	97.96	98.22	69.05	1.03
	Belarus	103.23	101.34	107.12	87.94	0.99
	Bulgaria	82.91	97.22	99.02	73.93	0.98
	Czech Republic	105.90	99.75	105.56	64.97	1.01
	Estonia	N/A	98.41	115.18	69.55	1.00
	Hungary	79.36	101.62	105.20	50.86	1.00
	Latvia	88.19	99.67	119.49	67.04 (2014)	0.99
	Lithuania	91.31	103.44	108.26	68.53 (2014)	0.97
	Macedonia	36.35	93.22	79.29	42.06	0.98
	Moldova	83.90	92.41	86.11	41.21	1.00
	Montenegro	55.35	94.31	90.34	N/A	0.99
	Poland	79.19 (2014)	100.57 (2013)	108.10 (2014)	68.11 (2014)	0.98 (2014)
	Romania	90.98	89.78	92.25	53.22	0.99
	Russia	86.97	100.52	104.48	80.39	0.99
	Serbia	58.17	101.34	96.67	58.29	1.01
	Slovenia	93.42 (2014)	99.30 (2013)	110.67 (2014)	82.93 (2014)	1.00 (2014)
	Slovakia	93.64	99.73	92.47	52.92 (2014)	1.00
	Ukraine	84.66 (2013)	103.91	99.24 (2014)	82.31 (2014)	1.00 (2014)

¹ GER can exceed 100% due to the inclusion of over-aged and under-aged students because of early or late school entrance and grade repetition.

Source: UNESCO Institute for Statistics

Less than 10% of the young people at the entrance age in Turkmenistan (7.98%), Afghanistan (8.66%) Uzbekistan (8.79%) and Pakistan (9.93%) are enrolled in tertiary institutes. Among the 56 countries with data available, 10 statistically attain absolute gender equality in primary and secondary education. In 21 countries, the number of girls enrolled in education is larger than that of boys, but these gaps are modest and considerably smaller than the disparity in another 24 countries, where girls lack equal opportunities to the two levels of education. Afghanistan (0.65), Yemen (0.79), Pakistan (0.83) have their gender parity index rates furthest from 1 when compared with other countries, a situation implying a significant education disparity.

² Gender parity index for gross enrolment ratio in primary and secondary education is the ratio of girls to boys enrolled at primary and secondary levels in public and private schools.

Figure 2.6 Government expenditure on education (% of GDP) between 2013 and 2016 and Education Index in the countries and regions along the Belt and Road

Region	Country	Government expenditure on education, tot (% of GDP)	Education Index (2013) ¹
Southeast Asia	Brunei	4.43 (2016)	0.69
	Cambodia	1.90 (2014)	0.50
	Indonesia	3.59 (2015)	0.60
	Laos	3.32 (2014)	0.44
	Malaysia	4.97 (2015)	0.67
	Myanmar	N/A	0.37
	Philippines	N/A	0.61
	Singapore	2.92 (2013)	0.77
	Thailand	4.13 (2013)	0.61
	Timor-Leste	7.78 (2014)	0.47
	Viet Nam	5.66 (2013)	0.51
South Asia	Afghanistan	3.32 (2015)	0.37
	Bangladesh	1.93 (2013)	0.45
	Bhutan	7.36 (2015)	0.42
	India	3.84 (2013)	0.47
	Maldives	5.22 (2015)	0.55
	Nepal	3.71 (2015)	0.45
	Pakistan	2.65 (2015)	0.37
	Sri Lanka	2.18 (2015)	0.74
East Asia	China	4.26 (2015)	0.61
	Mongolia	N/A	0.69
Central Asia	Kazakhstan	2.79 (2015)	0.76
	Kyrgyzstan	5.53 (2014)	0.66
	Tajikistan	5.23 (2015)	0.64
	Turkmenistan	N/A	0.68
	Uzbekistan	N/A	0.65
West Asia	Armenia	2.81 (2015)	0.70
	Azerbaijan	2.63 (2014)	0.70
	Bahrain	2.67 (2015)	0.71
	Georgia	N/A	0.77
	Iran	2.93 (2015)	0.68
	Iraq	N/A	0.47
	Israel	5.76 (2014)	0.85
	Jordan	N/A	0.70

	Lebanon	2.57 (2013)	0.63
	Kuwait	N/A	0.65
	Oman	4.96 (2013)	0.60
	Qatar	3.61 (2014)	0.69
	Saudi Arabia	N/A	0.72
	Syria	N/A	0.55
	Turkey	4.77 (2013)	0.65
	United Arab Emirates	N/A	0.67
	Yemen	N/A	0.34
Africa	Egypt	N/A	0.57
Europe	Albania	3.54 (2013)	0.61
	Bosnia and Herzegovina	N/A	0.66
	Croatia	4.58 (2013)	0.77
	Belarus	4.95 (2015)	0.82
	Bulgaria	4.06 (2013)	0.75
	Czech Republic	4.09 (2015)	0.87
	Estonia	5.48 (2014)	0.86
	Hungary	4.66 (2014)	0.80
	Latvia	5.29 (2014)	0.81
	Lithuania	4.61 (2013)	0.88
	Macedonia	N/A	0.64
	Moldova	7.47 (2014)	0.65
	Montenegro	N/A	0.77
	Poland	4.91 (2014)	0.82
	Romania	3.13 (2013)	0.75
	Russia	N/A	0.78
	Serbia	4.18 (2014)	0.70
	Slovenia	5.49 (2013)	0.86
	Slovakia	4.24 (2014)	0.80
	Ukraine	5.8 (2014)	0.80
1 Education Index	vis calculated using the Mean	years of schooling (MYS) and the	ovposted years of

1 Education Index is calculated using the Mean years of schooling (MYS) and the expected years of schooling (EYS).

Sources: UNESCO Institute for Statistics, PRC Ministry of Education and UNDP

The governments of the 44 countries with available data spend between 1.90% (Cambodia in 2014) and 7.78% (Timor-Leste in 2014) of their annual GDP on education. In terms of the level of such expenditure, Southeast Asian countries as a bloc exhibit great diversity, while most European countries have a higher proposition of GDP going to education. Meanwhile, China, which spent 4.26% of its annual GDP in 2015 on the category, occupies a middle place on the list.

Among all the regions covered, Europe scored the highest in the 2013 Education Index while South Asia was ranked the lowest. Of all countries along the Belt and Road, Israel (0.85), Estonia (0.86), Slovenia (0.86), Czech Republic (0.87) and Lithuania (0.88) are the top five, yet Yemen (0.34), Myanmar (0.37), Afghanistan (0.37), Pakistan (0.37) and Bhutan (0.42) are at the bottom.

2.5 Social protection and labour

The figure below shows the countries' employment situation. Considering the lack of data in 17 countries, among those available in at least 40 countries, the service sector employs more people than the other two industries do. The agriculture sector is the biggest employer in 7 of the 49 countries of which data is available. Only in Qatar, most people work in the industrial sector. Regionally, South Asia's employment is driven by agriculture-related works. All European countries examined, apart from Albania, Romania and Bosnia and Herzegovina, have over half of the working population are hired in the service industry.

Figure 2.7 Employment in services, agriculture and industry of the countries and regions along the Belt and Road in 2015

Region	Country	Agriculture (% of tot)	Industry (% of tot)	Services (% of tot)	Employment to population ratio, 15+, tot (%)1
	China	28.3	29.3	42.4	67.51
Southeast	Brunei	N/A	N/A	N/A	62.09
Asia	Cambodia (2012)	51	18.6	30.4	80.74
	Indonesia	32.9	22.2	44.9	63.56
	Laos	N/A	N/A	N/A	76.46
	Malaysia	12.5	27.5	60.0	61.26
	Myanmar	N/A	N/A	N/A	77.21
	Philippines	29.1	16.2	54.7	60.93
	Singapore	0	16.25	82.7	65.73
	Thailand	32.3	23.7	43.9	70.76
	Timor-Leste	N/A	N/A	N/A	39.71
	Viet Nam	43.6	23.1	33.3	76.72
South	Afghanistan	N/A	N/A	N/A	48.05
Asia	Bangladesh (2010)	47.48	17.71	35.1	59.68
	Bhutan	58.0	9.7	32.3	65.18
	India (2013)	49.7	21.5	28.7	51.91
	Maldives	N/A	N/A	N/A	66.09
	Nepal	N/A	N/A	N/A	80.34
	Pakistan (2014)	43.5	22.5	34	50.92
	Sri Lanka	28.2	26.0	45.2	49.08
East Asia	Mongolia	28.5	20.3	51.3	58.54

Central	Kazakhstan	18.0	20.6	61.4	67.71
Asia	Kyrgyzstan	29.3	20.9	49.8	58.24
	Tajikistan	N/A	N/A	N/A	61.23
	Turkmenistan	N/A	N/A	N/A	56.71
	Uzbekistan	N/A	N/A	N/A	56.47
West Asia	Armenia	35.3	15.9	48.8	52.90
	Azerbaijan	36.4	14.1	49.6	61.89
	Bahrain	N/A	N/A	N/A	67.96
	Georgia	N/A	N/A	N/A	59.65
	Iran	18.0	32.5	49.4	39.65
	Iraq (2008)	23.4	18.2	58.3	35.73
	Israel	1.0	17.4	79.8	60.25
	Jordan (2014)	1.8	18.5	79.6	34.75
	Lebanon (2009)	6.3	21	72.6	43.96
	Kuwait	N/A	N/A	N/A	67.06
	Oman	N/A	N/A	N/A	57.07
	Qatar	1.2	54.1	44.6	83.87
	Saudi Arabia	6.1	22.7	71.2	51.50
	Syria (2011)	13.2	31.4	55.3	35.69
	Turkey	20.4	27.2	52.4	45.08
	United Arab Emirates	N/A	N/A	N/A	76.54
	Yemen	N/A	N/A	N/A	41.30
Africa	Egypt	25.8	25.1	49.1	43.62
Europe	Albania	41.3	18.6	39.9	42.11
	Bosnia and Herzegovina	17.9	7.4	44.6	34.13
	Croatia	9.2	26.8	63.9	45.13
	Belarus	9.7	31.1	59.2	60.24
	Bulgaria	6.9	29.9	63.3	49.79
	Czech Republic	2.9	38.0	59.0	57.00
	Estonia	3.9	30.6	65.3	57.65
	Hungary	4.9	30.3	64.7	51.21
	Latvia	7.9	23.6	68.4	54.49
	Lithuania	9.1	25.1	65.9	53.87
	Macedonia	17.9	30.5	51.6	40.90
	Moldova	31.7	17.8	50.5	40.22
	Montenegro	7.7	17.5	74.2	40.25
	Poland	11.5	30.4	57.8	53.24
	Romania	25.6	28.5	46.0	52.13

Russia	6.7	27.2	66.1	59.72
Serbia	19.4	24.5	56.1	42.92
Slovenia	7.0	31.6	60.2	52.26
Slovakia	3.2	36.1	60.7	53.49
Ukraine	15.3	24.7	60.0	53.89

^{*}Data for years other than 2015 are sourced from STATISTA.

1 Modelled ILO estimate (2016)

Source: World Bank Database

Figure 2.8 Unemployment of the countries and regions along the Belt and Road in 2016

Region	Country	Unemployment, female (% of female labour force) (modelled ILO estimate)	Unemployment, male (% of male labour force) (modelled ILO estimate)	Unemployment, tot (% of tot labour force) (modelled ILO estimate)
	China	3.72	5.29	4.61
Southeast	Brunei	2.19	1.87	2.00
Asia	Cambodia	0.21	0.32	0.26
	Indonesia	6.34	5.15	5.60
	Laos	1.28	1.70	1.48
	Malaysia	3.59	3.11	3.30
	Myanmar	0.86	0.76	0.81
	Philippines	5.80	5.92	5.88
	Singapore	1.93	1.75	1.83
	Thailand	0.60	0.65	0.63
	Timor-Leste	5.59	3.28	4.02
	Viet Nam	2.11	2.24	2.18
South Asia	Afghanistan	12.37	7.72	8.54
	Bangladesh	4.73	3.71	4.07
	Bhutan	3.12	1.89	2.38
	India	3.81	3.34	3.46
	Maldives	4.32	2.43	3.23
	Nepal	2.83	3.61	3.21
	Pakistan	10.55	4.53	5.87
	Sri Lanka	8.52	3.40	4.98
East Asia	Mongolia	6.09	7.21	6.69
Central Asia	Kazakhstan	6.11	4.38	5.23
	Kyrgyzstan	9.14	6.70	7.69

	Tajikistan	9.86	11.55	10.82
	Turkmenistan	8.43	8.74	8.62
	Uzbekistan	8.74	9.00	8.90
West Asia	Armenia	18.66	15.01	16.76
	Azerbaijan	5.92	4.27	5.07
	Bahrain	4.29	0.54	1.28
	Georgia	10.04	12.86	11.58
	Iran	18.90	9.58	11.27
	Iraq	26.77	13.72	16.05
	Israel	5.78	5.45	5.61
	Jordan	23.87	10.99	13.24
	Lebanon	10.98	5.39	6.78
	Kuwait	2.07	2.60	2.44
	Oman	36.75	14.69	17.52
	Qatar	0.98	0.09	0.23
	Saudi Arabia	21.17	2.72	5.53
	Syria	32.97	11.10	14.31
	Turkey	12.14	9.51	10.33
	United Arab Emirates	9.65	2.85	3.69
	Yemen	28.37	13.07	17.06
Africa	Egypt	23.89	8.45	12.01
Europe	Albania	16.14	16.47	16.33
	Bosnia and Herzegovina	22.27	27.88	25.76
	Croatia	14.21	12.84	13.48
	Belarus	0.52	0.54	0.53
	Bulgaria	7.49	8.44	8.00
	Czech Republic	4.97	3.31	4.05
	Estonia	6.75	7.06	6.91
	Hungary	5.29	5.07	5.17
	Latvia	8.93	10.82	9.88
	Lithuania	8.24	10.13	9.19
	Macedonia	25.99	27.21	26.73
	Moldova	3.78	6.11	4.98
	Montenegro	17.14	17.77	17.49
	Poland	6.45	5.97	6.18
	Romania	5.51	7.15	6.42
	Russia	5.47	5.97	5.72

	Serbia	17.91	15.47	16.53
	Slovenia	9.56	7.95	8.69
	Slovakia	11.23	8.98	9.99
	Ukraine	7.76	9.91	8.87

Source: World Bank Database

The unemployment rates range from 0.26% (Qatar) to 26.73% (Macedonia). Of the 10 countries with highest rates, half are in West Asia while another in Europe. Overall, the unemployment rates in Southeast Asian nations are lower than most other countries along the Belt and Road. For instance, the Philippines faces the highest unemployment rate (5.88%) in its region, but it is still better off than most other countries. The unemployment rates for men in 38 countries are lower than those for women, while the situations in the remaining 27 are the quite opposite.

2.6 Poverty and equality

Poverty and inequality are two key obstacles to sustainable growth in countries along the Belt and Road. An overview of the GINI Coefficient and the Human Development Index (HDI) can serve as a yardstick of the region's socioeconomic development. Since countries along the Belt and Road are at very different development stages, the three types of data can help us better identify the patterns and priorities of their national development.

Figure 2.9 GINI Coefficient of the countries and regions along the Belt and Road in 2013

Region	Country	GINI Coefficient ¹	HDI
	China	0.42	0.74
Southeast Asia	Brunei	N/A	0.87
	Cambodia	0.36	0.56
	Indonesia	0.38	0.69
	Laos	0.37	0.59
	Malaysia	0.46	0.79
	Myanmar	N/A	0.56
	Philippines	0.43	0.68
	Singapore	N/A	0.93
	Thailand	0.39	0.74
	Timor-Leste	N/A	0.61
	Viet Nam	0.36	0.68
	Afghanistan	0.28	0.48
	Bangladesh	0.32	0.58
	Bhutan	0.38	0.61
	India	0.34	0.62

South Asia	Maldives	0.37	0.70
	Nepal	0.33	0.56
	Pakistan	0.3	0.55
	Sri Lanka	0.36	0.77
East Asia	Mongolia	0.37	0.74
	Kazakhstan	0.39	0.79
	Kyrgyzstan	0.33	0.66
Central Asia	Tajikistan	0.31	0.63
	Turkmenistan	N/A	0.69
	Uzbekistan	0.37	0.70
	Armenia	0.31	0.74
	Azerbaijan	0.34	0.76
	Bahrain	N/A	0.82
	Georgia	0.42	0.77
	Iran	0.38	0.77
	Iraq	0.39	0.65
	Israel	0.39	0.90
West Asia	Jordan	0.35	0.74
	Lebanon	N/A	0.76
	Kuwait	N/A	0.80
	Oman	N/A	0.80
	Qatar	0.41	0.86
	Saudi Arabia	N/A	0.85
	Syria	0.36	0.54
	Turkey	0.4	0.77
	United Arab Emirates	N/A	0.84
	Yemen	0.38	0.48
Africa	Egypt	0.31	0.69
	Albania	0.35	0.76
	Bosnia and Herzegovina	0.36	0.75
	Croatia	0.34	0.83
	Belarus	0.27	0.80
	Bulgaria	0.28	0.79
	Czech Republic	N/A	0.88
	Estonia	0.36	0.87
	Hungary	0.31	0.84
	Latvia	0.35	0.83
	Lithuania	0.38	0.85

	Macedonia	0.44	0.75
	Moldova	0.33	0.70
Europe	Montenegro	0.29	0.81
	Poland	0.33	0.86
	Romania	0.27	0.80
	Russia	0.4	0.80
	Serbia	0.3	0.78
	Slovenia	0.31	0.89
	Slovakia	0.26	0.85
	Ukraine	0.26	0.74

1 Gini Coefficient measures the deviation of the distribution of income among individuals or households within a country from a perfectly equal distribution. A value of 0 represents absolute equality, a value of 1 absolute inequality.

Source: Human Development Reports

Of the 52 countries with data available, the lowest GINI coefficients are seen in Ukraine (0.26), Slovakia (0.26) and Belarus (0.27), while Malaysia (0.46), Macedonia (0.44) and the Philippines (0.43) hold the highest. The figures of over half of the countries along the Belt and Road stand between 0.2 and 0.3. All countries with relatively high-income equality (GINI Coefficient < 30) are in Europe, with the sole exception of Afghanistan.

Created by UNDP, the Human Development Index (HDI) provides a comprehensive picture of social and economic developments at the national level. It is calculated by using life expectancy, mean years of schooling, expected years of schooling and gross national income per capita.

The countries along the Belt and Road exhibit a vast diversity in human developments. More developed than most other countries, European nations have their HDI rates standing between 0.70 and 0.89, in sharp contrast to the performance of South Asia (0.48-0.77). Among all the countries investigated, Singapore (0.93), Israel (0.9) and Slovenia (0.89) stand out as the most developed. On the other hand, suffering from wars and severe internal conflicts, Afghanistan (0.48), Yemen (0.48) Syria (0.54) sit at the bottom.

Chapter 3 – An overview of the economic development along the Belt and Road



Economic outlook of the countries and regions along the Belt and Road

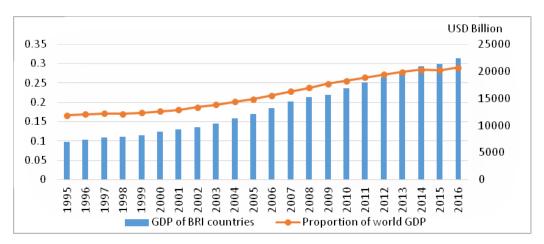
The aggregate economy of the countries along the Belt and Road contributes significantly to the world economy. However, each country has different levels of development in terms of industrialisation, GDP growth, trade dependency, etc. Most countries feature a high reliance on primary industry, an export-driven economy, and high inflation. Impacted by the globally stagnant economy, the countries were sluggish in 2015 with marked asymmetric development patterns in the past decade.

China's investment in economies along the Belt and Road

China's direct investment flows into the countries along the Belt and Road saw a rapid increase from 2005 to 2015. However, the scale was still small compared to the total foreign investments in these countries. The investment enterprises are mainly large and medium-sized state-owned enterprises (SOEs), which cover sectors such as energy, transportation, mineral products, technology, finance and real estate. Chinese SOEs are the main force investing in the BRI while the local enterprises appear to play a supplementary role.

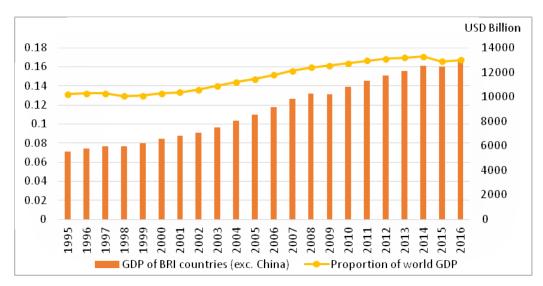
3.1 Economic outlook of the countries and regions along the Belt and Road

In 2016, the countries and regions along the Belt and Road including China accumulated about USD 22.4 trillion in total GDP⁴ (in constant USD 2010), accounting for 29% of the world's GDP, surpassing the United States, the European Union, and Japan. The total volume of GDP reflects a rising trend in the last two decades, with a tripled volume of total GDP.



Graph 3.1 Overview of countries' and regions' GDP (including China)

Source: World Bank Database⁵



Graph 3.2 Overview of countries' and regions' GDP (excluding China)

Source: World Bank Database

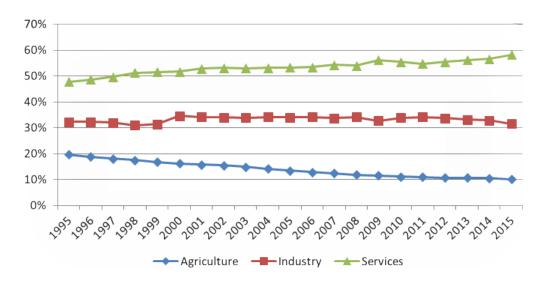
^{4.} The report applies GDP related indicators in real value with the constant price at 2010 (hereinafter).

^{5.} Some countries are missing data in certain years, but the main conclusions will not be affected; similarly hereinafter.

With the absence of China's contribution (Graph 3.2), the GDP of the countries and regions along the Belt and Road, in general, remains a gently upward trend, reaching USD 12.9 trillion, accounting for 16.7% of the world's total GDP.

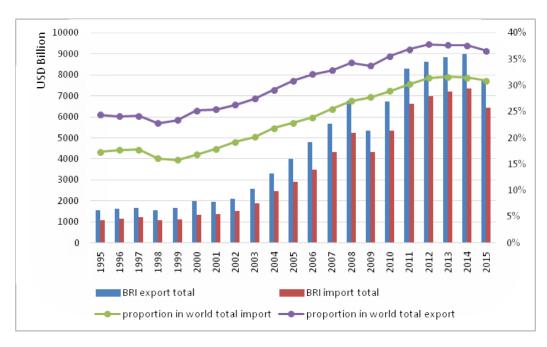
As for industrial structure, the ratio of the three tiers of industries in the countries along the Belt and Road was 10:32:58 in 2015. Compared to the ratio in 1995 (19.5: 32.4: 47.9), agriculture continued to shrink in size. While the secondary industry remained constant in size, service industry substantially grew. Compared to the ratio of industries of the world in the same period (3.9: 27.7: 68.4), the countries and regions along the Belt and Road have a higher potential for incremental growth in the service industry, since they have still a comparatively higher share of agriculture.

The proportion of economy along the Belt and Road devoted to services grew steadily from 1995 to 2015. The growth of services industry is a normal transition as countries and regions develop. As technology allows a smaller workforce to produce more tangible goods, the service functions of distribution, management, finance and sales become more and more significant. It is also a result of a large increase in government employment. The industrial sector remained steady throughout the years. The agricultural sector has seen a steady decrease in the past decade. Advanced economies have shifted toward a larger modern service sector and industrial sector, which tend to have higher productivity and better wages compared to traditional agricultural activities.



Graph 3.3 Structure of industries of the countries and regions along the Belt and Road

Source: World Bank Database; weighted average



Graph 3.4 Import and export of the countries and regions along the Belt and Road

Source: World Bank Database

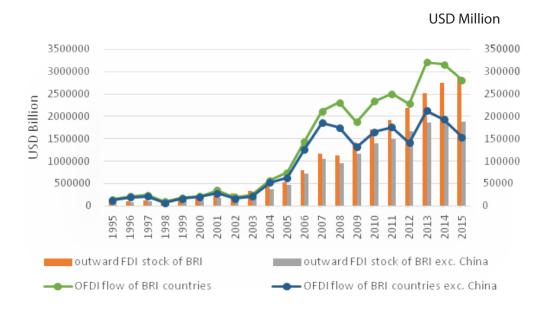
In terms of export and imports, the volume of imported goods and services of the countries and regions along the Belt and Road reached about USD 6.53 trillion in 2015, and the volume of exports reached USD 7.12 trillion. The volume of imports and exports enjoyed a high growth rate from 2002 to 2008 but declined sharply in 2009 due to the financial crisis. After a tenuous recovery from 2010 to 2014, the total volume of trade declined again in 2015 due to the international economic situation. As for the share of trade, total imports and exports of the countries and regions along the Belt and Road equalled 40.6% of total GDP, of which the volume of imports was 19.4%, and volume of exports was 21.2%. At the international level, the total volume of imports and exports of the countries and regions along the Belt and Road made up about 33.7% of the total volume of trade in the world in 2015. Specifically, the volume of exports and imports make up 31.5% and 33.5% respectively in the total volume of exports of imports.

For income distribution, the average Gini coefficient of the countries and regions along the Belt and Road was 0.33, lower than the 0.4 warning line and that of the United States (0.41). It is noteworthy that the Gini coefficient in the Philippines, China and Turkey were relatively high among the countries and regions along the Belt and Road.

In terms of outward Foreign Direct Investments (FDI)⁶ from countries and regions along the Belt and Road, the stock of OFDI shows a dramatic growth after 2007. The proportion of China in total OFDI stock is expanding. While the OFDI flow of countries and regions along the Belt and Road increased sharply between 2004 and 2007, afterwards the flow experiences a

^{6.} Foreign direct investment (FDI) refers an investment made by a company or individual in one country to another country, in the form of either establishing business operations or acquiring business assets in the other country, such as ownership or controlling interest in a foreign company. Foreign direct investments are distinguished from portfolio investments in which an investor merely purchases equities of foreign-based companies.

fluctuated growth. Although the total flows of countries and regions along the Belt and Road indicate a rising trend, taking off China from the volume, the flows dropped and fluctuated without significant growth.

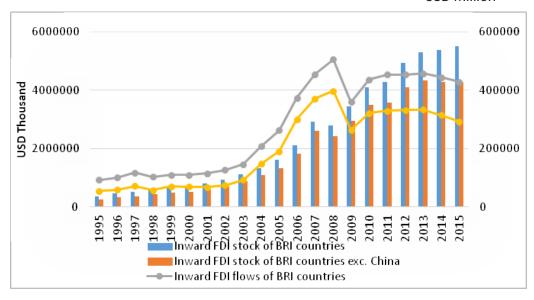


Graph 3.5 Outward Investment of the countries and regions along the Belt and Road

Source: World Bank Database

Like the outward investment, the total inward FDI flow of the countries and regions along the Belt and Road (including China) increased substantially from the 90s and exponentially since 2004 until it reached its peak in 2008 at around USD 5 billion (see the grey line). The flows dropped significantly beginning 2008 and plateaued after a slight rebound in 2010 to 2011 up till 2015. Meanwhile, the inward FDI stock of the countries and regions along the Belt and Road rose substantially overall.

In terms of energy reserves, countries and regions along the Belt and Road are rich in energy and mineral reserves and high in production capacity, since they include countries from West Asia, Russia, and China. In 2015, extractable oil reserves in countries and regions along the Belt and Road made up 58% of total reserves of the world, and the production capacity accounted for 56.9% of that of the world; natural gas reserves and its production capacity made up 78.9% and 53.2% of the total reserves in the world; the coal reserves and its production capacity made up 52.9% and 73.9% of the total reserves of the world. Oil and gas resources in West Asia, natural gas resources in Russia, and coal resources in China contribute significantly to the world energy resources.



Graph 3.6 Inward Investment of the countries and regions along the Belt and Road

Source: World Bank Database

Figure 3.1 Reserves and production capacity of energy resources in the countries and regions along the Belt and Road

			1995	2005	2015	2016
Crude oil	Reserves (Billion barrels)	Proved reserves in the countries along the Belt and Road	823.1	916.8	985.2	1020.5
		Total proved reserves of the world	1126.2	1374.4	1697.6	1706.7
		Proportion	73.10%	66.70%	58.00%	59.8%
	Production capacity (Thousand	Production capacity in the countries along the Belt and Road	34839.9	44917.1	52176.6	55346
	barrels per day) Reserves (1000 billion cubic metres) Production capacity (Billion cubic	Total production capacity of the world	67995	81896.4	91670.3	92150
		Proportion	51.20%	54.80%	56.90%	60%
Natural gas		Proved reserves in the countries along the Belt and Road	86.1	123.1	147.4	152.6
		Total proved reserves of the world	119.9	157.3	186.9	186.6
		Proportion	71.80%	78.20%	78.90%	81.77%
		Production capacity in the countries along the Belt and Road	987.2	1428.9	1882.8	1888
	metres)	Total production capacity of the world	2109.8	2790.9	3538.6	3551.6
		Proportion	46.80%	51.20%	53.20%	53.16%

Coal	Reserves (Million tonnes)	Proved reserves in the countries along the Belt and Road	-	-	471446	597982
		Total reserves of the world	-	-	891531	1139331
		Proportion	-	-	52.90%	52.5%
	Production capacity (Million	Production capacity in the countries along the Belt and Road	2639.8	3899.3	5807.4	2602.4
	tonnes oil equivalent)	Total production capacity of the world	4640.9	6103.4	7861.1	3656.4
		Proportion	56.90%	63.90%	73.90%	71.2%

Source: BP Statistical Review of World Energy; the lack of data for some of the countries along the Belt and Road would cause the underestimate of the proportion, but would not affect the main conclusion.

3.2 Overview of China's direct investment in the framework of the BRI

As shown in Graph 3.50, China's direct investment⁷ stock in the countries and regions along the Belt and Road jumped from USD 3.59 billion in 2005 to USD 115.33 billion in 2015. It maintained a high growth rate (over 20%) throughout the period.

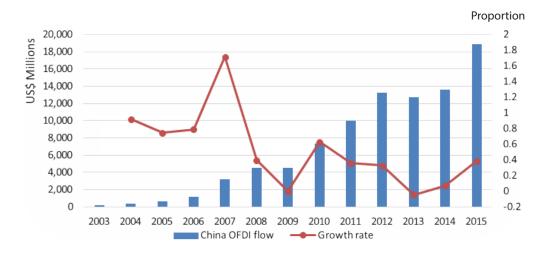


Graph 3.7 China's outward investment (stock) in countries and regions along the Belt and Road

Source: 2016 Statistical Bulletin of China's Outward Foreign Direct Investment

As shown in Graph 3.51, China's direct investment flow in the countries and regions along the Belt and Road increased from USD 910 million in 2005 to USD 19.56 billion in 2015, a 20.5-time increase. The growth rate of foreign direct investment flows fluctuated significantly between 2011 and 2015. The rate dropped from 12.46% in 2013 to 5.27% in 2014 but then climbed to 10.22% in 2015. This indicates that the BRI, officially introduced in late 2013, stimulated the foreign direct investment in the countries.

7. China foreign investment here refers to China Foreign direct investment excluded financial investment



Graph 3.8 China's OFDI in countries and regions along the Belt and Road

Source: 2016 Statistical Bulletin of China's Outward Foreign Direct Investment

Despite China's rapidly growing direct investment in the countries and regions along the Belt and Road, such investment merely up a modest proportion of the total foreign investments in the countries. By the end of 2015, the FDI stock from China to the countries and regions along the Belt and Road only accounted for 2.61% of their national FDI stock, and the FDI flow from China was 6.62% of their total. This shows China's potential for investing more in these countries. Nevertheless, the share of BRI-related FDI has been high in some countries.

Figure 3.2 China's proportion in the FDI Stock of countries and regions along the Belt and Road (2005-2015) (Unit: USD Billion)

	FDI Stock of countries and regions along the Belt and Road other than China	FDI Stock from China in countries and regions along the Belt and Road	Proportion of China's Investment in the countries' and regions' FDI Stock (%)
2005	1379	34	0.25%
2006	1871	52	0.28%
2007	2677	96	0.36%
2008	2636	15	0.56%
2009	3190	20	0.63%
2010	3749	29	0.77%
2011	3793	41	1.09%
2012	4302	57	1.32%
2013	4540	72	1.59%
2014	4467	93	2.07%
2015	4434	12	2.61%

Source: The data of FDI in the Belt and Road countries are from UNCTADstat, and the data of direct investment in China in countries along the Belt and Road are from Wind.

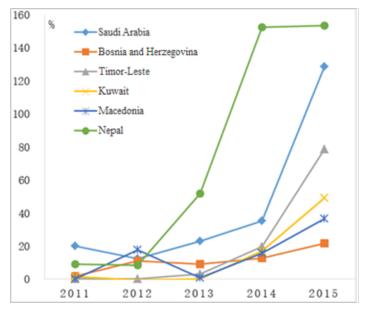
As shown in Tables 3.52 and 3.53, China's share of the recipient countries' FDI has increased steadily in terms of both flow and capital stock. The growth of FDI flow was faster than that of capital stock between 2005 and 2015. There is considerable room for further growth.

Figure 3.3 FDI flow introduced by the countries and regions along the Belt and Road (2005-2015) (Unit: USD Billion)

	FDI Flow introduced by the countries and regions along the Belt and Road	FDI Flow of China to the countries and regions along the Belt and Road	Share of Chinese investment in the countries and regions along the Belt and Road (%)
2005	190	1	0.48%
2006	306	1	0.42%
2007	375	5	1.35%
2008	403	10	2.38%
2009	267	6	2.13%
2010	358	10	2.93%
2011	305	14	4.60%
2012	337	19	5.55%
2013	322	17	5.17%
2014	316	18	5.57%
2015	295	20	6.62%

Source: Data of FDI in the Belt and Road countries are from UNCTADstat. Data of Chinese direct investment in the countries are sourced from Win.

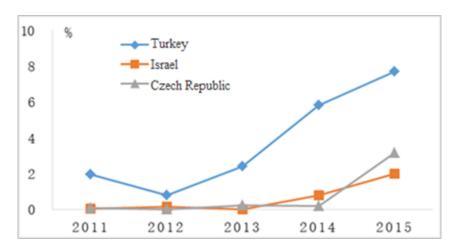
As shown in figures 3.54 and 3.55, the share of direct investment flows from China grew year by year at a faster rate in nine countries along the Belt and Road between 2013 and 2015. The countries are Nepal, Saudi Arabia, Timor-Leste, Kuwait, Macedonia, Bosnia and Herzegovina, Turkey, Israel and the Czech Republic. The largest increase of proportion in 2014 is Nepal. The most substantial increase in percentage terms in 2015 is Saudi Arabia and Timor-Leste.



Graph 3.9 Countries with a rapid growth in proportion of FDI flow from China (2011-2015)

Part I

Source: UNCTAD



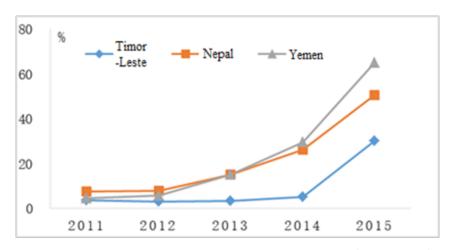
Graph 3.10 Countries with a rapid growth in proportion of FDI flow from China (2011-2015)

Part II

Source: UNCTAD

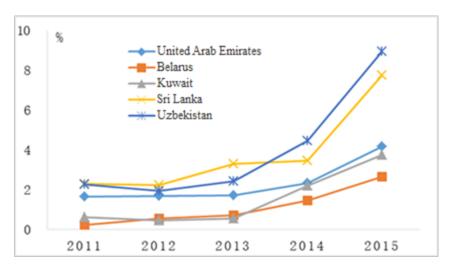
The Czech Republic is at the heart of Europe. Geographical advantage contributes to its status as a major strategic junction on the Eurasian Continent. Currently, major Eurasian railways pass through or go directly to the Czech Republic. Economic and geographical factors determine its important role as the starting point of BRI route to promote economic and trade cooperation among China, Central and Eastern Europe.

As shown in figures 3.51 and 3.52, the proportion of direct investment stock from China in the eight countries along the Belt and Road witnessed a faster increase between 2013 and 2015. The eight countries are Yemen, Nepal, Timor-Leste, Uzbekistan, Sri Lanka, United Arab Emirates, Kuwait and Belarus. Among the countries, Nepal, Timor-Leste and Kuwait saw the most rapid increase in its FDI flow from China.



Graph 3.11 Countries with a rapid growth in the proportion of FDI stock from China (2011-2015) Part I

Source: UNCTAD



Graph 3.12 Countries with a rapid growth in proportion of FDI stock from China (2011-2015) Part II

Source: UNCTAD

To sum up, China mainly invested in its neighbours in the past. However, the priority of investment has been gradually expanded to other regions, such as West Asia and Europe, since the implementation of the BRI.

3.3 Structural features of China's direct investment in the Belt and Road

In general, China's direct investment in countries and regions along the Belt and Road is increasing with distinct structural features.

3.3.1 Distribution of investment along the Belt and Road

In 2015, countries in Southeast Asia account for the largest proportion of China's FDI stock with the an amount of USD 47.653 billion, which takes up 53.0% of the total FDI stock. Singapore has the largest Chinese FDI stock with the a value of USD 20.64 billion, accounting for 22.3% of the total.

The FDI stock from China in countries in West Asia and North Africa is USD 11.413 billion, which accounts for 12.7% of total FDI stock. Iran, United Arab Emirates and Saudi Arabia are the top 3 countries with the highest FDI from China in the region, with an investment amount of USD 3.484 million, USD 2.333 billion and USD 1.987 billion respectively. In general, countries in West Asia and North Africa are rich in petroleum and mineral resources, which leads to investment cooperation on natural resource exploitation. The investment from China in this region mainly concentrates on oil exploration and development as well as infrastructure construction. However, the development of FDI in this region is limited by the conflicts in some countries.

In Europe, China has invested in USD 11.55 billion which accounts for 12.86% of total direct investment stock, in which Russia enjoys the most investment, with an amount of USD 8.695 billion.

The direct investment stock in Central Asia reaches USD 10.094 billion, accounting for 11.2% of total direct investment stock. Among these countries, Kazakhstan has received the largest proportion of FDI from China. It is the third largest destination country for OFDI from China,

with direct investment stock of USD 7.541 billion. And it is the third country with the highest amount of China-invested business: 2945 China-invested enterprises have registered in Kazakhstan up to 2014 (MOFCOM, 2014).

The direct investment stock in South Asia is USD 5.364 billion, accounting for 6.0% of total direct investment stock. Among the countries, Pakistan enjoys the most direct investment from China, with an amount of USD 3.737 billion, accounting for 69.7% of China's direct investment in South Asia. Pakistan has a large population but a relatively less developed economy. The investment mainly concentrates on fields of hydropower, minerals, energy, manufacturing industry and construction industry.

The scale of Chinese FDI stock in Southern Europe is small with just USD 0.627 billion, accounting for 0.7% of the total figure. Mongolia enjoys the seventh largest direct investment from China with USD 3.762 billion, accounting for 4.2% of total direct investment stock. Overall, the focus of China in countries along the Belt and Road lies in countries with emerging economies and large potential for cooperation.⁸

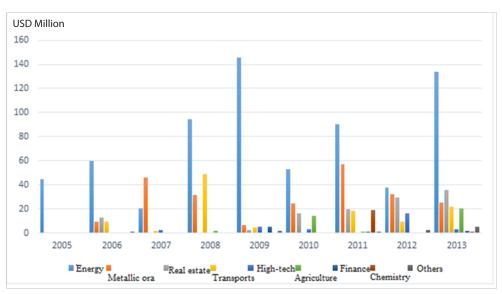
Figure 3.4 Distribution of China's direct investment stock in countries and regions along the Belt and Road in 2015

	Direct Investment	Proportion in the total FDI stock
Southeast Asia (Malaysia, Indonesia, Thailand, Philippines, Singapore, Brunei Darussalam, Timor-Leste, Viet Nam, Lao PDR, Myanmar and Cambodia)	4,765,330	53.004%
South Asia (India, Pakistan, Bangladesh, Sri Lanka, Nepal, Bhutan, Maldives, Afghanistan)	536,381	5.97%
Central Asia (Turkmenistan, Kyrgyz Republic, Uzbekistan, Tajikistan, Kazakhstan)	1,009,400	11.24%
West Asia and North Africa (Iran, Iraq, Turkey, Syrian Arab Republic, Jordan, Lebanon, Israel, Palestine, Saudi Arabia, Yemen, Rep., Oman, United Arab Emirates, Qatar, Kuwait, Bahrain, Egypt)	1,141,272	12.70%
Europe (Poland, Lithuania, Estonia, Latvia, Czech Republic, Slovak Republic, Hungary, Slovenia, Croatia, Bosnia and Herzegovina, Russian Federation, Ukraine, Belarus, Georgia, Azerbaijan, Armenia, Moldova Montenegro, Macedonia, Bulgaria, Albania, Romania, Serbia, Greece, Cyprus,)	1,155,237	12.86%
East Asia (Mongolia)	376,200	4.19%

3.3.2 Industrial investments in the Belt and Road

In 2015, according to the nonfinancial industry statistics of FDI from China, 29.9% of investment went to renting and business service sector, the first among all industries. The manufacturing sector, wholesale and retailing sector, mining and real estate followed with 16.5%, 15.8%, 9.3% and 6.4% respectively. China's FDI in countries and regions along the Belt and Road covers investment in energy, transportation, mineral products, technology, finance and real estate. For Middle East countries, which are generally rich in petroleum, natural gas resources and mineral resources, at the same time have gaps in communication and in some cases basic infrastructure, China mainly invests in their energy, minerals, communication and infrastructure construction. For Southeast Asia, the investment mainly focuses on energy, minerals and infrastructure as the region is rich in petroleum and natural gas resources but 20% of the population are living with a shortage of electricity, and China happens to be a country with advanced technology in the fields of hydropower and thermal power. By 2013, the investment from China in the generation and supply of electrical power and heating power accounted for 17% of the total investment. Overall, the OFDI from China to countries and regions along the Belt and Road mainly focuses on cooperation on production capacity and infrastructure.

Since 2005, the OFDI has shown its tendency of diversification in different industries of the countries and regions along the Belt and Road. It started with the energy sector and gradually expands to other areas, such as metallic ore, transport, high technology, agriculture, finance and chemistry. In 2005, the energy industry was the only industry that China involved along the Belt and Road. Since 2016, it has extended to sectors of metallic ores, transports and so on. Specifically, the transportation industry covers the manufacturing of aeroplane, ship, automobile and. During 2009-2013, the investment of Chinese enterprises extended to sectors of high technology, agriculture, finance, chemistry and so on. It reflects the steady improvement in the investment capacity of Chinese businesses in countries along the Belt and Road.



Graph 3.13 Industrial structure of large investment projects in countries and regions along the Belt and Road

Source: DRCNET statistics database system

3.3.3 Characteristics of Chinese enterprises investing overseas

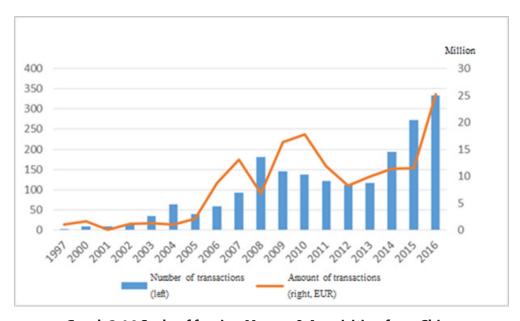
In the countries along the Belt and Road, the number of Chinese enterprises has increased rapidly. By 2015, the number of Chinese companies involving foreign investment has reached 30,000 and covered 188 countries (regions) with a coverage rate of 80.7%. The investment enterprises are mainly large and medium-sized state-owned companies with diversified investment formats. For example, equity investment emerged in the implementation of large engineering contracting projects and cooperative development of resources, and some other investment projects are operated in the mode of BOT. In general, the investment of Chinese enterprises in regions along the Belt and Road is growing rapidly with a broad range of investment models.

3.3.4 Models of investment

I. Analysis of China's merger and acquisition along the Belt and Road

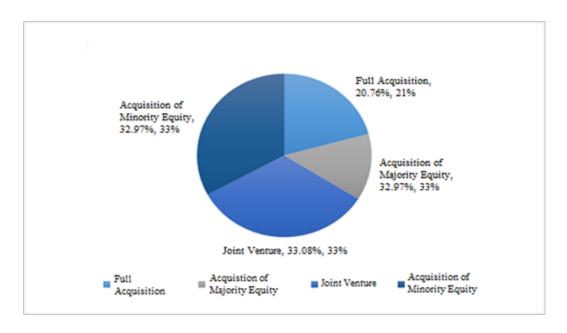
Cross-border merger & acquisition (M&A) is one of the important means adopted by FDI enterprises. The characteristics of China's investment in other countries along the Belt and Road can be observed from the 5,623 cross-border transactions conducted by China as the acquirer since 1997 which is recorded by Zephyr Global M&A database.

According to the records, the scale of China's M&A has grown rapidly since 1997, as seen in graph 3.57. The development of cross-border M&A from Chinese enterprises witnessed a steady growth before it slowed down due to the financial crisis in 2008, and it increased rapidly again from 2013 even with the expectation of RMB devaluation. According to statistics from China's Ministry of Commerce, the rapid growth momentum of overseas M&A by Chinese enterprises continued in 2015. In the first eight months of 2015, Chinese companies completed 486 cross-border M&A projects, involving 16 major industries in 67 countries and regions. It has an actual transaction amount of USD 61.7 billion, which exceeded the total amount of M&A in 2014.



Graph 3.14 Scale of foreign Merger & Acquisition from China

Source: Zephyr



Graph 3.15 Forms of acquisition from China in regions along the Belt and Road

Source: Zephyr

The graph above illustrates the preferences of Chinese enterprises for joint ventures and minority investment when they conduct acquisitions in an M&A deal along the Belt and Road.

Figure 3.5 Data on acquisition forms from China in the regions along the Belt and Road

	Southeast Asia	South Asia	Central Asia	West Asia and North Africa	Central and Eastern Europe	South Europe
Full acquisition	25%	10%	14%	18%	20%	25%
Acquisition of majority equity	10%	15%	18%	11%	17%	22%
Joint venture	29%	49%	58%	24%	30%	22%
Acquisition of minority equity	36%	27%	10%	47%	32%	31%

Source: Zephyr

II. Analysis of China's Greenfield investment along the Belt and Road

China's foreign direct investment is shifting from net inflow to net outflow, ranking first in Asia and the Pacific in 2015⁹, and in the first four months of 2016, China surpassed the United States as the world's largest source of Greenfield investment. According to the Xinhua News Agency (Xinhuanet, 2016), from January to April 2016 Chinese enterprises in overseas Greenfield investment projects amounted to 126, a total investment of 29.48 billion US dollars. Although US companies launched 661 Greenfield projects over the same period, their total volume was 22.81 billion US dollars. In terms of the amount of investment, China ranked first in the world. According to data from the Greenfield Investment Monitoring Agency FDI Markets, China announced a total number of 315 Greenfield projects invested in the countries and regions along Belt and Road, within one and half years by June 2016, with a total value of USD 75.9 billion.

3.4 Risks associated with investment along the Belt and Road

According to the risk analysis report on countries and regions along the Belt and Road, 14 countries had their country risk levels decreased and reference ratings upgraded in 2015, which accounts of 7.3%. The risk levels of 159 countries remained unchanged and reference ratings stable, which accounts for 82.8%; 19 countries had their country risk levels raised and reference ratings lowered, which accounts for 9.9% (China Export & Credit Insurance Corporation, 2016).

I. Political stability

With reference to the - Report on the Globalisation of Chinese Enterprises, 25% out of 120 cases failed due to political reasons (Wang, 2014). Among these, 17% of the cases suffered losses from political unrest and alternation of leaders at the host countries. The following tables indicate the political stability of each region in 2015 with descending order, with reference to the WGI of the World Bank.

Figure 3.6 Political Stability Indicators of countries and regions covered by the BRI in 2013 and 2015

•	2013 2015 Region Country 2013 20	1.08 1.21 Armenia 0.07 -0.2	-0.17 -0.41 -0.6	-0.6 Bahrain -1.35 -1.(0.06 0.48 Georgia -0.43 -0.	0.05 0.19 Iran -1.26 -0.5	-1.15 -1.17 Iraq -2.02 -2.2	-1.06 -0.84 Israel -1.09 -1.	1.34 1.24 Jordan -0.62 -0.5	Kuwait 0.14	-0.39 -0.22 Lebanon -1.69 -1.7	0.22 0.01 Oman 0.45 0.6	-2.5 Saudi Arabia -0.41 -0.5	-1.63 -1.15 Syria -2.68 -2.5	1.1 Turkey -1.2 -1.2	-1.18 -0.92 United Arab Emirates 0.89 0.7	
•	2015 Region	-0.29 Belarus	-0.69 Bosni	-1.08 Bulgaria	-0.4 Croatia	-0.91 Cyprus	-2.29 Czech	-1.12 Estonia	-0.58 Greece	-0.11 Hungary	-1.72 Latvia	0.69 Lithuania	-0.54 Mace	-2.94 Moldova	-1.28 Monte	0.76 Poland	
	Country 2013	-0.04	Bosnia And Herzegovina -0.38	aria 0.15	tia 0.61	us 0.55	Czech Republic 1.05	0.73	ce -0.17	gary 0.78	a 0.59	lania 0.94	Macedonia -0.37	lova -0.02	Montenegro 0.46	96.0 pu	
	3 2015	4 0	8 -0.45	5 0.02	1 0.58	5 0.54	96.0	3 0.62	7 -0.23	3 0.73	9 0.45	4 0.7	7 -0.2	2 -0.39	5 0.13	5 0.87	

	Nepal	-1.11	-0.93		Kazakhstan	-0.38	-0.1	Russia	-0.74	-1.05
	Pakistan	-2.6	-2.54	Central	Kyrgyzstan	-0.91	-0.87	Serbia	-0.08	0.23
	Sri Lanka	-0.59	-0.03	Asia	Tajikistan	-1.13	-0.87	Slovakia	1.1	96.0
Asia	East Asia Mongolia				Turkmenistan	0.17	-0.11	Slovenia	0.87	0.92
Africa	Egypt	-1.65 -1.34	-1.34		Uzbekistan	-0.55	-0.42	Ukraine	-0.76	-1.93

Source: World Bank Database

10. "The composite measures of governance generated by the UCM are in units of a standard normal distribution, with mean zero, standard deviation of one, and running from approximately -2.5 to 2.5, with higher values corresponding to better governance" (WGI Aggregation Methodology).

The economic cooperation and investments among the countries will inevitably confront with factors of regional instability. Therefore, the cost of infrastructure construction and development in the countries and regions along the Belt and Road with huge uncertainties will remain high and can become a barrier for the effective development of the initiative. However, it's certainly worth considering that the economic development of the countries, and especially a shared-benefits policy that would favour inclusive economic growth, would certainly support the stability of fragile environments.

II. Governance

The country risk indicators published by the World Bank evaluate a country's government management through four aspects: administrative efficiency, regulatory quality, control of corruption, laws and regulations. Government efficiency, also known as the performance of public management, refers to the level and capability of the government to realise optimal results and reach the predetermined administrative goals with lower cost and fewer resources. On the other hand, the regulatory quality indicator reflects whether the government is capable of formulating and implementing sound policies and regulations, at the same time permitting and promoting the development of private sector. The smaller the indicators, the lower the efficiency of the country's government management is. While this not necessarily means a threat to investment, investors should thoroughly assess the governance environment and engage with preparedness.

III. Environmental and social issues

The infrastructure investment is the prerequisite for the future practical operation of the BRI. With well-constructed infrastructure, the regions along the Belt and Road can take advantage of its strength and achieve positive outcomes. Conversely, poor infrastructure development and management can cause waste and adversely affect the environment and local communities. Therefore, both investors and governments have to upgrade the management and construction of infrastructure to sustainable levels that reduce environmental and social risks and bring major benefits to local communities.

IV. Policy issues

Exception clauses in bilateral investment agreements can serve as a "safely valve" which can balance and coordinate investors and protect national security and public interest, as well as reduce the risks associated with being a foreign company in a host country.

Based on the deep-rooted concern that the survival of domestic industries may be impacted by foreign enterprises, host countries tend to intervene in the market to protect local industries. For instance, governments may limit the proportion of local raw materials and components which a foreign enterprise can use, adopt policies to restrict out flow of foreign capital or enforce particular laws to penalise pollution. These restrictions can increase the risks borne by overseas enterprises. Meanwhile, other factors such as high tariffs on cross-border trade, low efficiency and even corruption of the authorities can severely hinder the effectiveness of the initiative.

Box 3.1 Chinese companies' major challenges

Compared to the local businesses with brand awareness, customer resources and business relationship, foreign enterprises are regarded as disadvantaged when they enter a new market. They may confront a counterattack from the market leaders in the industry and have to bear losses in terms of competition costs or market share once these strategies have failed. As the major actors of the BRI, it's worth reflecting on the major weaknesses of Chinese companies investing overseas in order to better tackle challenges and guarantee sustainable investments.

The Chinese enterprises investing overseas often lack international management skills and cross-border expertise. Most of the middle and senior managers are appointed by the company in China, without sufficient experience and understanding of local working environment, laws, market conditions, culture and customs. This uses conflicts and mistakes in operation decisions.

In addition, Chinese companies are often not aware of recipient countries' risks due to a shortage of strategic risk management mechanism, lack of connection the host country, the limited channel of acquiring information and low efficiency of data collection. Since the legal requirements of business operation and investment vary in different countries, companies lack sufficient information and precautions. In addition, lack of talent in international management adds to the possibility of mishandling emergencies and slow countermeasures.





PART 2 – THE BELT AND ROAD IN THE GLOBAL VALUE CHAIN

Globalisation makes production activities increasingly concentrated. The ways production have changed in the past three decades exerted profound impacts on the global economic system. As a central node of the world's "Double Circulation" system, China plays a vital role in the global value chain. The imports and exports data of both developed and developing countries indicate that China is an essential intermediate and final goods trading partner, which reflects its enormous trade volume and far-reaching network.

How can countries derive benefits from the current economic system and China's rise? Part 2 aims to show that the BRI builds on and bolsters China's position in the double circulation system as this initiative plays a significant role in connecting China and the world. *Under the BRI, China increasingly seeks to take all parties' interests into account to generate common prosperity and mutual benefits. Under the double circulation framework of the global value chain, the countries and regions along the Belt and Road have great potential for gains from economic cooperation. The industrialisation path travelled by most countries shows that the initiative can drive their economic growth, making their industrial structures complementary to each other's, and realise the industrial synergy of the double circulation. The industrial upgrade of countries at the primary industry gradient will lead to the upgrade of those at the secondary industry gradient, which will inevitably lead to the corresponding upgrade of countries at the tertiary industry gradient.*

Chapter 4

Trade complementarities along the Belt and Road

Chapter 4 shows that data analysis is the key to understanding trade relations between China and the countries and regions along the Belt and Road. The chapter provides an in-depth analysis of the trade complementarities of import of the primary commodities and the export of manufactured products between China and the countries and regions along the Belt and Road.

Chapter 5

The double circulation of the global value chain and the Belt and Road

Chapter 5 analyses the structure of intermediate and final goods, as well as the trend of trade in the global value chain, elaborating on the double circulation framework. Based on the trade of final and intermediate goods, this framework highlights how China stands in the middle of the world's trading and production system, linking developed and developing countries.

Chapter 4 - Trade complementarities along the Belt and Road



Production capacity can ensure the industrial development of the economies along the Belt and Road

China's production capacity ensures sufficient products for the industrial development of most developing economies along the Belt and Road. Most countries (except Singapore, Oman and Kazakhstan) have a trade deficit with China in part owing their large imports of Chinese industrial products. However, transfers of industrial production capacities and cooperation under the BRI framework can serve to rebalance.

Trade complementarity implies feasibility to accomplish BRI industrial synergy via trade integration in industrial classes

Overall, the trade complementarity between countries and regions along the Belt and Road and China is high, mainly reflected in China's imports of primary commodities and exports of manufactured products. The preceding analysis show that it is feasible to realise the BRI's targeted industrial synergy via an integration of trade in different industrial classes.

Reverting economic declines

Opportunities can arise if the countries and regions along the Belt and Road manage to cooperate in a complementary manner by drawing on their comparative advantageous positions as measured by indexes of revealed comparative advantages and revealed comparative disadvantages. This will help reduce the economic decline resulting from the lack of industrial diversification.

4.1 Trade outlook of the countries and regions along the Belt and Road¹¹

China remains the world's top importer and exporter as of 2015. The volume of trade between China and other countries along the Belt and Road was 16.5% of China's total in 2001, rising to 25.1% in 2015, indicating closer trade relations.

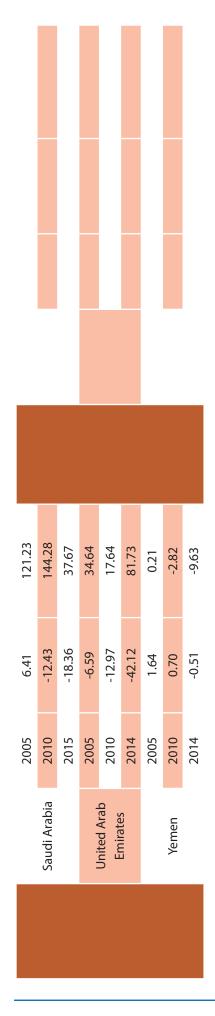
Figure 4.1 Trend of international trade in the countries and regions along the Belt and Road

Region	Country	Year	ina	Trade Surplus and Deficit (Unit: USD billion) With the World Region Co	ficit (Unit: USD bi Region	llion) Country	Year	With China	With the World
	Indonesia	2005	0.82	27.96		Poland	2005	-4.91	-12.16
		2014	-13.02	-2.14			2015	-20.36	4.77
		2005	-2.02	-8.05			2005	-1.43	-12.73
	Thailand	2010	-2.77	12.92		Romania	2010	-2.97	-12.59
		2015	-17.61	8.86			2015	-2.62	-9.25
4000		2005	-3.89	27.33			2005	-3.63	1.68
Soutneast Asia	Malaysia	2010	4.38	34.20	Europe	Czech Republic	2010	-14.12	6.45
BIGU		2015	-7.18	24.04			2015	-16.59	18.19
		2005	-0.76	29.60			2005	-0.99	-2.37
	Singapore	2010	2.69	41.08		Slovakia	2010	-2.72	-0.38
		2015	5.57	49.89			2015	-5.09	2.11
		2005	0.94	-8.23			2005	-3.19	-3.65
	Philippines	2010	0.77	-6.97		Hungary	2010	-4.64	7.32
		2015	-5.09	-11.51			2015	-3.41	9.79

11. Indicators employed in this chapter originate from Economic Comparison Analysis of Countries along Belt and Road Initiative, published by Peking University Press. The researchers who calculated the indicators participate in the writing of this report. (Zhang, Tang, Yi, & Yan, 2017)

-3.47	-2.29	-2.39	-3.63	-2.56	-2.67	-2.77	-0.39	-1.75	-9.79	-8.26	-7.74	-1.89	-9.31	0.61	-0.72	-9.60	-3.18	-1.20	-2.31	-2.02	142.74	168.16	161.13	-1.96	-3.05	-2.39
-0.12	-0.25	-0.34	-0.37	-0.53	-0.69	-0.58	-0.77	-1.09	-0.86	-1.40	-0.50	-1.10	-3.38	-1.37	0.15	-1.21	-1.28	-0.07	-0.32	-0.36	5.78	-19.18	-6.86	-0.17	-0.21	-0.32
2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015
	Latvia			Lithuania			Estonia			Croatia			Ukraine			Belarus			Moldova			Russia			Albania	
0.47	0.69	-2.13	-40.51	-129.62	-126.36	-9.05	-16.12	-21.90	-2.15	-4.05	-8.53	-0.59	-1.02	-1.77	-2.48	-4.77	-7.15	10.51	33.22	22.41	-0.44	-1.73	-2.63	-43.30	-71.56	-63.36
-0.41	-1.12	-3.52	-2.98	-23.81	-52.03	-1.91	-3.81	-9.08	-0.60	-1.15	-3.42	-0.02	-0.03	-0.14	-0.43	-0.69	-1.03	1.17	6.16	0.40	-0.08	-0.64	-0.99	-6.34	-14.92	-22.46
2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015
	Cambodia			India			Pakistan			Sri Lanka			Maldives			Afghanistan			Kazakhstan			Kyrgyzstan			Turkey	
	South Asia																	Central Asia								

-5.98	-6.94	-4.85	-1.19	-2.12	-1.91	-4.67	-4.42	-3.90	-1.29	-1.75	-1.70	-1.73	-2.16	0.85	-6.42	-4.75	-3.49	-37.46	-38.87	-18.98	-4.84	-7.14	-3.74	-9.17	-26.67	-44.53
-0.51	-1.20	-1.52	-0.11	-0.20	-0.25	-0.24	-0.44	-0.60	-0.07	-0.12	-0.20	-0.54	-1.36	-1.50	-0.63	-0.40	-0.46	-2.02	-3.38	-2.58	-0.23	-0.43	-0.22	-0.81	-4.47	-7.73
2005	2010	2015	2005	2010	2015	2005	2010	2015	2006	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2014
	Serbia			Macedonia			Bosnia and	1161269041118		Montenegro			Slovenia			Bulgaria			Greece			Cyprus			Egypt	
																									Africa	
0.14	14.68	12.57	-0.76	-2.77	-1.77	06:0	90:0	-2.53	-1.62	-3.51	-5.52	-2.26	-0.78	1.99	-6.28	-8.24	-12.64	-7.45	-13.72	-17.18	9.72	16.83	2.92	15.70	51.73	45.36
-0.08	-0.25	-0.63	-0.02	-0.37	-0.15	-0.34	-1.01	-1.53	-0.04	-0.31	-0.46	-1.14	-2.69	-2.52	-1.16	-1.54	-2.43	-0.71	-1.59	-2.47	4.86	8.39	12.61	-0.14	0.12	1.47
2005	2010	2014	2005	2010	2015	2002	2010	2015	2005	2010	2015	2002	2010	2015	2006	2010	2015	2005	2010	2014	2005	2010	2015	2005	2010	2015
	Azerbaijan			Armenia			Bahrain			Georgia			Israel			Jordan			Lebanon			Oman			Qatar	



Source: UN Comtrade; Calculation result is drawn from Belt and Road Initiative: Industrial and Spatial Coordinated Development

China's production capacity ensures sufficient products for the industrial development of most developing economies along the Belt and Road. Most countries (except Singapore, Oman and Kazakhstan) have a trade deficit with China in part owing to large imports of Chinese industrial products. However, transfers of industrial capacity and cooperation under the BRI framework can be a solution. For instance, the production lines of products relying on import can be transferred to countries where they will enhance the efficiency of the production and improve the trade balance. Such transfers can be driven from China's side by rising wage cost as the country develops.

4.2 Trade between China and the countries and regions along the Belt and Road

Figure 4.2 The share (%) of countries' and regions' (along the Belt and Road) import from and export to China

0.5%	1.2%	1.2%	2.1%	2.6%	6.3%	2.7%	1.9%	2.9%	5.4%	5.0%	8.2%	0.1%	0.2%	0.4%	%9.0	1.2%	2.4%	0.3%	0.5%	%9.0	0.1%	0.3%	%9.0	0.5%	5.5%
5.7%	7.0%	8.0%	2.0%	7.7%	10.1%	1.7%	4.8%	%6'9	7.4%	17.0%	19.3%	3.2%	8.3%	9.2%	3.9%	2.6%	3.7%	3.0%	2.6%	6.5%	4.7%	7.2%	2.8%	%9.9	6.3%
2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010
	Estonia			Ukraine			Belarus			Russia			Moldova			Bulgaria			Slovenia			Croatia		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Alballa
2.3%	2.7%	1.5%	7.2%	7.9%	3.6%	2.7%	%2'9	8.8%	0.7%	1.6%	0.5%	1.1%	2.9%	0.4%	3.0%	1.8%	3.4%	1.6%	1.7%	0.1%	0.4%	%0.0	%0.0	0.1%	%0.0
7.9%	11.4%	10.4%	7.2%	11.8%	15.8%	9.4%	14.0%	25.1%	15.9%	8.8%	7.6%	10.1%	19.7%	14.2%	13.7%	13.5%	8.4%	11.0%	13.9%	2.2%	2.9%	7.3%	1.1%	3.6%	2.5%
2006	2012	2015	2005	2010	2015	2005	2010	2015	2005	2011	2005	2010	2015	2008	2010	2015	2003	2010	2015	2005	2010	2015	2005	2008	2012
	Brunei			India			Pakistan			bangladesn		Sri Lanka			Afghanistan			Nepal			Maldives			Bhutan	
														South Asia											

2.7%	0.1%	0.1%	0.2%	0.5%	2.7%	3.2%	0.1%	0.1%	0.3%	%0:0	0.1%	2.5%	%9.0	1.5%	%6.0	1.0%	1.4%	2.2%	8.7%	17.7%	13.1%	4.0%	1.9%	2.5%	48.1%
8.6%	4.9%	7.2%	8.5%	3.6%	5.3%	6.1%	3.4%	4.8%	%6.9	4.9%	5.4%	10.3%	3.9%	5.7%	%0.9	3.8%	5.3%	4.7%	7.2%	16.5%	26.2%	9.3%	20.7%	25.3%	25.0%
2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2007	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005
		Serbia			Macedonia			Bosnia and Herzegovina			Montenegro			Greece			Cyprus			Kazakhstan			Kyrgyzstan		Mongolia
																					Cit A Louter O	Central Asia			East Asia
%0.9	1	2.8%	0.3%	0.3%	0.8%	27.1%	25.6%	44.1%	0.8%	4.1%	0.8%	2.0%	1.7%	1.8%	3.5%	5.1%	1.0%	1.6%	1.2%	0.5%	%6.0	1.5%	1.5%	3.0%	6.7%
%																									
7.4%	11.6%	14.6%	8.5%	7.5%	15.1%	2.4%	4.8%	2.0%	6.1%	10.3%	2.9%	9.3%	12.0%	4.2%	8.0%	9.3%	4.6%	9.3%	11.3%	9.3%	13.5%	16.0%	5.2%	9.1%	11.6%
2005 7.4	2010 11.6%	2015 14.6%	2005 8.5%	2010 7.5%	2014 15.1%	2005 2.4%	2010 4.8%	2015 5.0%	2005 6.1%	2011 10.3%	2005 5.9%	2010 9.3%	2015 12.0%	2005 4.2%	2010 8.0%	2015 9.3%	2005 4.6%	2010 9.3%	2014 11.3%	2006 9.3%	2013 13.5%	2015 16.0%	2005 5.2%	2010 9.1%	2015 11.6%
									2005																

2010 28.1%	2015 35.8%																								
1.0%	1.6%	2.8%	1.4%	1.2%	0.4%	0.4%	1.1%	0.3%	35.2%	22.2%	35.6%	0.3%	0.7%	0.0%	%0.0	%0.0	0.7%	1.5%	5.7%	2.3%	1.6%	0.3%	1.0%	3.1%	11 10/
8.4%	10.9%	12.9%	7.9%	9.1%	12.1%	4.1%	7.4%	%9.6	6.2%	7.9%	11.4%	8.1%	8.8%	4.6%	4.6%	2.0%	1.9%	%9:9	7.6%	4.1%	8.9%	7.6%	1.6%	10.6%	702.0
2004	2010	2015	2005	2010	2014	2005	2010	2015	2002	2010	2014	2005	2010	2007	2010	2014	2005	2010	2015	2005	2010	2014	2005	2010	2015
	Jordan			Lebanon			Bahrain			Yemen			Jylid		Palestine			Georgia			Azerbaijan			Armenia	

Source: UN Comtrade; Calculation is drawn from Belt and Road Initiative: Industrial and Spatial Coordinated Development.

In line with the gravity model of trade, countries and regions along the Belt and Road in Southeast Asia, Central Asia, South Asia and West Asia have closer import and export relations with China than those in Europe. Southeast Asian countries have similar import and export structures compared to China's. The two sides are highly complementary, in view of their geographical proximity and long shared history of trade.

China's economic development dictates its sharply growing demand for oil, gas and mineral resources. Its mineral commodities trade with Ukraine and Kazakhstan, along with oil and gas cooperation with Kazakhstan and Egypt, reflects a strong complementarity which makes closer economic and trade relations possible. Among such ties, energy cooperation covers areas like infrastructure construction and environmental governance.

Trade intensity (tightness) index (TI) measures trade interdependence between two countries. Trade intensity refers to the share of a country's exports to a partner divided by the share of world exports going to the partner (World Bank, 2010). $TI_{ij} \ge 1$ shows a strong trade relationship between countries i and j, while $TI_{ij} \le 1$ indicates a weak tie. Trade intensity is calculated by:

$$TI_{ij} = \frac{X_{ij}/X_i}{M_j/M_w}$$

In this chapter, country j refers to China.

4.3 Trade competitiveness of the countries and regions along the Belt and Road

4.3.1 Trade Competitiveness Index

The Trade Competitiveness Index (TCI) measures the relative value of the total volume of trade, without considering economic expansion, inflation and other macro factors. The value is between -1 and 1. The closer the value to 1, the more competitive it is.

^{12.} X_{ij} : the exports of country i to country j / X_i : the gross export of country i / X_{ij} / X_i : the proportion of export of country i to country j in the gross export of country / M_{ij} : the gross imports of country / M_{ij} : the world's gross imports of country j in the world's gross imports, which represents the import capacity of country j

Figure 4.3 Trade Competitiveness Index in 2005, 2010 and 2015¹³

Region	Country	Year	TCI	Region	Country	Year	TCI
		2005	0.072			2005	-0.064
	China	2010	0.061		Poland	2010	-0.052
		2015	0.151			2015	0.012
		2005	0.195			2005	-0.187
	Indonesia*	2010	0.075		Romania	2010	-0.113
		2014	-0.006			2015	-0.071
		2005	-0.035			2005	0.011
		2010	0.034			2010	0.025
	Thailand	2015	0.021		Czech Republic	2015	0.062
		2010	0.094			2010	-0.003
		2015	0.064			2015	0.014
Southeast Asia		2005	690.0			2005	-0.215
	Singapore	2010	0.062		Bulgaria	2010	-0.103
		2015	0.078			2015	-0.063
		2005	-0.091			2005	-0.028
	Philippines	2010	-0.063		Hungary	2010	0.04
		2015	-0.089			2015	0.051
		2005	0.084			2005	-0.246
	Cambodia	2010	990:0		Latvia	2010	-0.115
		2015	-0.111			2015	-0.094

13. Due to the absence of data in selection year, in some cases, the available data of the nearest years of 2005, 2010, 2015 is selected.

-0.168 -0.131	-0.227 Lithuania 2010 -0.058	-0.193 -0.05	-0.22 -0.046	-0.274 Slovenia 2010 -0.042	-0.331 2015 0.016	-0.148 -0.144	-0.196 Estonia 2010 -0.015	-0.29	-0.657 2005 -0.358	-0.873 Croatia 2010 -0.259	-0.86	-0.697 2005 -0.598	-0.86 Albania 2010 -0.496	-0.862 -0.382	0.233	0.409 Serbia 2010 -0.262	0.366 -0.154	-0.245 -0.225	-0.368 Macedonia 2010 -0.241	-0.477 -0.175	0.505	0.403 2010 -0.315	0.103 2015 -0.276	0.176 2006 -0.536	0.047 Montenegro* 2010 -0.667	0.12
2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2014
	India			Pakistan			Sri Lanka			Maldives			Afghanistan			Kazakhstan			Kyrgyzstan			Saudi Arabia			United Arab Emirates*	רוווומובי
							South Asia										(:00	Central Asia					Most Asia	rest Asia		

-0.027	-0.083	0.008	-0.022	-0.16	-0.056	-0.355	-0.429	-0.339	0.42	0.269	0.306															
2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015															
	Ukraine			Belarus			Moldova			Russia																
0.351	0.298	0.048	-0.228	-0.239	-0.18	-0.026	-0.007	0.016	-0.484	-0.526	-0.556	0.016	0.527	0.406	-0.287	-0.578	-0.374	0.438	0.527	0.41	-0.378	-0.37	-0.447	-0.665	-0.617	-0.722
2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2014	2005	2010	2015	2005	2010	2015	2006	2010	2015	2005	2010	2014
	Oman			Turkey			Israel			Georgia			Azerbaijan*			Armenia			Qatar			Jordan*			Lebanon*	

0.046	0.002	-0.084	0.019	-0.18	-0.666	-0.301
2005	2010	2015	2005	2010	2014	2005
	Bahrain			Yemen		Egypt*
						Africa

Source: UN Comtrade; Calculation result is drawn from Belt and Road Initiative: Industrial and Spatial Coordinated Development

Apart from Kazakhstan, Saudi Arabia, Qatar, Russia and other resource-rich economies, the countries and regions along the Belt and Road are not highly competitive in trade. Among them, Southeast Asian nations are relatively competitive. China has a slight advantage experiencing a rising trend in overall trade competitiveness among the countries and regions along the Belt and Road.

The following section will calculate countries' and regions' (along the Belt and Road) competitiveness in the trade of industrial products, as grouped in the "Standard International Trade Classification of the United Nations" ¹⁴. Countries relying on agriculture, animal husbandry or resource exports are competitive in the trade of primary commodities, while those with a higher share of the secondary industry are more competitive in general.

As shown in Figure 4.5, China has a relatively low degree of competitiveness in the trade of primary commodities except for agricultural products (Class 0). The situations in Southeast Asia and South Asia are similar. As an exception, Thailand is highly competitive in primary commodities trade apart from those in Class 3. The Philippines is competitive in trading Class 1 and Class 4 primary commodities, especially vegetable and animal oils. Malaysia is also strong in trading the two kinds of commodities. The rest of the countries in this region are less competitive in primary commodities trade.

Most countries in West Asia and North Africa, Central Asia and Europe are competitive in trading primary commodities, largely thanks to their natural resource endowment. Among them, oil producers such as Saudi Arabia, Oman, Kazakhstan, Russia and Qatar are highly competitive in energy products trade (Class 3).

^{14.} Goods of Class 0 - Class 4 are treated as primary products: Class 0: foods and animals, Class 1: tobacco and beverage, Class 2: non-fuel and non-edible raw materials, Class 3: mineral raw materials, lubricants and other related products, and Class 4: animal and vegetable oils. Manufactured products spread across Class 5 to Class 9: Class 5: Chemical products and other related products, Class 6: finished industrial products classified according to production materials, Class 7: machinery and Transport Equipment, Class 8: mixed products, and Class 9: all other products.

Figure 4.4 Trade Competitiveness Index of primary commodities in China and selected countries along the Belt and Road

Trade competitiveness index indicates the proportion of trade balance accounting for the total volume of import and export, where X and M respectively mean export and import, respectively, i can be a country, an industry or a product.

Class 4	2010 2015	-0.92 -0.84	0.20 0.02	0.74 0.31	-0.19 -0.62	0.77 0.73	0.35 0.03	-0.79 -0.82	-0.91 -0.93	-0.97	-0.81 -0.19	-1.00	1-	96.0- 66.0-	-0.95 -0.74	-0.76 -0.65	-0.82 -0.91	700-
58.3	2015	-0.75	-0.57	-0.83	-0.19	0.20	-1.00	-0.54	-0.95	-1.00	-0.87	-0.98	-0.76	0.1	-0.8	-0.87	-0.99	0.71
Class 3	2010	-0.75	-0.53	-0.81	-0.18	0.32	-1.00	-0.49	-0.81	-1.00	-0.99	-1.00	-0.88	0.31	-0.86	-0.91	-0.96	0 89
Class 2	2015	-0.88	0.24	0.45	0.03	-0.03	-0.15	-0.40	-0.70	-0.85	-0.28	0.91	99.0	-0.42	-0.02	-0.2	0.27	-0.27
Cla	2010	06:0-	0.33	-0.21	-0.03	-0.01	0.13	-0.04	-0.63	-0.63	0.20	0.88	0.64	-0.31	0.34	-0.08	0.28	-0.4
Class 1	2015	-0.27	0.48	0.13	0.03	0.01	-0.86	-0.40	-0.23	-0.57	-0.10	-1.00	0.36	-0.32	0.19	-0.82	-0.29	-0.38
Cla	2010	-0.12	0.29	0.25	0.03	60.0	-0.83	89.0	0.18	-0.27	0.14	-1.00	-0.06	-0.77	0.04	-0.84	-0.22	-0.34
Class 0	2015	0.07	0.43	-0.42	-0.15	-0.25	-0.10	0.48	0.22	-0.69	0.05	-0.61	-0.65	-0.68	-0.43	-0.43	-0.41	-0.44
Cla	2010	0.31	0.54	-0.47	-0.26	-0.25	-0.52	0.48	0.17	-0.47	0.11	-0.58	-0.85	-0.56	-0.63	-0.33	-0.37	-0.47
SITC Rev.3	Country	China	Thailand	Philippines	Singapore	Malaysia	Cambodia	India	Pakistan	Nepal	Sri Lanka	Afghanistan	Armenia	Bahrain	Georgia	Israel	Jordan	Oman
	Region				Southeast Asia					South Asia					West Asi	West Asid		

Qatar -1 -0.9 Saudi Arabia -0.69 -0.72 Turkey 0.4 0.38 Kazakhstan -0.03 0.11 Kyrgyzstan -0.44 -0.58 Czech Republic -0.19 -0.04 Estonia -0.19 -0.04 Hungary 0.26 0.26 Latvia -0.11 0.01 Moldova -0.13 0.13 Moldova -0.13 0.05 Poland -0.13 0.05 Romania -0.05 -0.15 Russia -0.62 -0.15 Slovakia -0.18 -0.16 Ukraine -0.18 -0.18 Ukraine -0.18 -0.16 Bosnia and Herzegovina -0.64 -0.58 Belarus -0.06 -0.10 Croatia -0.28 -0.27 Montenegro -0.39 -0.37 Serbia -0.37 -0.37 Slovenia -	-1 -0.99 -0.61 -0.5 0.99 0.99	-0.62 -0.5 -0.8 -0.5 1 0.98 -0.59 -0.51	0.33 -0.54 -0.64 -0.54 -0.72 -0.54 -0.5 -0.38	-0.58 -0.22 0.81 0.53 0.89 0.97 -0.45 0.12	-0.48 -0.53 -0.02 -0.01 -0.76 -0.82 -1.00 -0.99	0.08 0.18 0.09 0.06 -0.42 -0.33 0.02 0.16	-0.23 -0.27 0.46 0.35 -0.04 -0.15 0.37 0.28	-0.11 -0.13 0.12 0.00 -0.57 -0.52 0.09 0.47	0.20 0.06 0.57 0.50 -0.56 -0.38 -0.49 -0.49	0.01 0.06 0.09 0.07 -0.21 -0.16 -0.54 -0.25	0.20 0.26 0.25 0.37 -0.98 -0.96 0.69 0.78	0.31 0.39 -0.19 -0.17 -0.49 -0.38 -0.32 -0.14	0.23 0.12 0.26 0.12 -0.41 -0.24 -0.21 0.08	-0.70 0.27 0.43 0.27 0.98 0.97 -0.45 0.24	-0.66 -0.09 -0.15 -0.09 -0.45 -0.36 -0.33 -0.16	-0.08 0.60 0.41 0.60 -0.69 -0.91 0.73 0.90	-0.94 -0.93 0.13 0.29 -0.39 -0.42 -0.96 -1.00	-0.79 -0.74 0.31 0.36 -0.42 -0.55 -0.23 -0.13	0.16 0.07 -0.09 -0.19 -0.34 -0.25 0.07 0.45	-0.73 -0.29 -0.34 -0.14 -0.26 -0.08 -0.50 -0.09	0.16 -0.11 0.40 0.45 -0.44 -0.38 -0.54	-0.50 -0.43 -0.22 0.17 -0.73 -0.62 -0.81 -0.91	0.33 -0.23 -0.16 -0.23 -0.71 -0.69 0.56 0.52	-0.39 -0.19 -0.26 -0.19 -0.54 -0.31 -0.70 -0.50	
Qatar Saudi Arabia Turkey Kazakhstan Kyrgyzstan Czech Republic Estonia Hungary Latvia Lithuania Moldova Poland Romania Russia Slovakia Ukraine Albania Bosnia and Herzegovina Bulgaria Belarus Croatia Montenegro Serbia																									
	Qatar	Saudi Arabia	Turkey	Kazakhstan	Kyrgyzstan	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Moldova	Poland	Romania	Russia	Slovakia	Ukraine	Albania	Bosnia and Herzegovina	Bulgaria	Belarus	Croatia	Montenegro	Serbia	Slovenia	

Source: UN Comtrade; Calculation result is drawn from Belt and Road Initiative: Industrial and Spatial Coordinated Development

As shown in Figure 4.6, China enjoys advantages in the trade of manufactured products. The trade patterns and industrial structures between China and resource-based countries focusing on special farming products are highly complementary. Given other countries' low competitiveness in such trade, a space for win-win cooperation can be identified.

On manufactured products trade, Singapore, Pakistan, Israel, the Czech Republic and Slovenia are the most competitive economies in their respective regions, of which Europe tops the list. Israel, Saudi Arabia and Singapore are highly competitive in the trade of Class 5 products, while Pakistan, Bahrain, Ukraine, Kazakhstan, and Israel in Class 6 products.

Slovakia, Hungary, the Czech Republic, Singapore, and Thailand are competitive in the trade of Class 7 products. On Class 8 products, Cambodia, Sri Lanka, and Pakistan are highly competitive, as are Bosnia and Herzegovina, Qatar, Kyrgyzstan, Egypt and the Philippines in Class 9.

Figure 4.5 Trade Competitiveness Index of manufactured products in China and selected countries along the Belt and Road

	SITC Rev.3	Class 5	s 5	Class 6	9 8:	Cla	Class 7	Clas	Class 8	Class 9	689
Region	Country	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
	China	-0.26	-0.14	0.31	0.49	0.17	0.22	0.54	0.63	-0.85	-0.95
	Thailand	-0.08	-0.03	-0.16	-0.13	0.12	0.11	0.24	0.13	-0.09	-0.31
	Philippines	-0.56	-0.62	-0.17	-0.20	-0.09	0.05	60.0	0.24	0.94	0.33
Southeast Asia	Singapore	0.31	0.36	-0.17	-0.18	0.11	0.11	90.0	0.08	0.40	0.47
	Malaysia	-0.08	-0.10	-0.08	-0.09	0.03	0.05	0.31	0.25	-0.37	-0.56
	Cambodia	-0.91	-0.82	-0.97	-0.87	-0.58	-0.56	0.87	0.77	-0.96	-0.89
	India	-0.19	-0.13	0.07	0.10	-0.33	-0.30	0.45	0.45	-0.82	-0.71
	Pakistan	-0.76	-0.79	0.40	0.23	-0.86	-0.94	99.0	0.59	-0.98	-0.86
South Asia	Nepal	-0.87	-0.92	-0.41	99.0-	-0.97	-0.99	-0.39	-0.54	-1.00	-1.00
	Sri Lanka	-0.87	-0.86	-0.49	-0.58	-0.71	-0.77	92.0	0.68	0.20	-1.00
	Afghanistan	-1.00	-1.00	-0.70	-0.74	-1.00	-1.00	-1.00	-1.00	-0.91	-0.94
	Saudi Arabia	0.34	0.29	-0.64	-0.66	-0.81	-0.82	-0.76	-0.87	-0.74	-0.87
	Oman	0.18	-0.05	-0.46	-0.39	-0.83	-0.79	-0.57	-0.84	0.87	-0.05
	Bahrain	-0.72	-0.36	0.23	0.29	-0.74	-0.38	-0.54	0.11	09.0	-0.52
	Israel	0.40	0.34	0.16	0.22	-0.07	-0.05	-0.04	-0.10	-0.42	0.13
	Jordan	0.16	0.02	-0.54	-0.64	-0.65	-0.73	0.08	0.12	-0.10	-0.91
West Asia	Qatar	-0.12	-0.45	-0.98	-0.76	-1.00	-0.76	-0.98	-0.88	0.83	0.94
	Turkey	-0.61	-0.55	0.02	0.01	-0.26	-0.25	0.26	0.32	-0.61	-0.50
	Armenia	-0.93	-0.89	-0.26	-0.30	-0.93	-0.91	-0.80	-0.35	-0.61	0.65
	Georgia	-0.61	-0.60	-0.40	-0.56	-0.57	-0.73	-0.83	-0.69	99.0	0.23
	Azerbaijan	-0.64	-0.63	-0.79	-0.86	-0.85	-0.97	-0.89	-0.91	-0.55	-0.43
	Palestine	-0.75	-0.83	-0.57	-0.49	-0.89	-0.92	-0.30	-0.17	-0.29	-1.00

Central Asia	Kazakhstan	-0.07	-0.04	0.26	0.23	-0.93	-0.90	-0.95	-0.91	0.96	0.03
	Kyrgyzstan	-0.95	-0.93	-0.80	-0.84	-0.78	-0.62	-0.32	-0.65	0.95	0.72
Africa	Egypt	-0.28	-0.50	-0.33	-0.51	-0.84	-0.08	-0.09	-0.23	0.91	0.54
	Czech Republic	-0.21	-0.25	0.02	0.02	0.14	0.16	0.07	0.11	-0.11	0.11
	Estonia	-0.33	-0.36	-0.05	-0.05	-0.03	-0.08	0.19	0.20	-0.10	-0.19
	Hungary	-0.03	0.00	-0.10	-0.09	0.15	0.14	0.17	0.12	-0.23	-0.28
	Latvia	-0.33	-0.29	0.07	0.02	-0.20	-0.21	-0.08	-0.10	-0.48	-0.22
	Lithuania	-0.08	-0.06	-0.12	-0.13	-0.10	-0.19	0.33	0.28	-0.25	-0.31
	Moldova	-0.74	-0.65	-0.73	-0.71	-0.61	-0.45	0.00	0.08	-0.70	-1.00
	Poland	-0.30	-0.21	0.01	90:0	0.04	0.04	90.0	0.13	-0.95	-0.79
	Romania	-0.48	-0.53	-0.22	-0.18	-0.02	0.03	0.18	0.16	-0.29	-0.12
	Russia	-0.29	-0.16	-0.24	0.32	-0.78	-0.61	-0.83	-0.58	0.39	0.85
() () ()	Slovakia	-0.29	-0.30	0.11	0.07	0.12	0.13	-0.03	-0.12	-0.17	-0.11
FullOpe	Ukraine	-0.43	-0.56	0.37	0.36	-0.14	-0.27	-0.34	-0.13	-0.24	-0.23
	Albania	-0.97	-0.95	-0.53	-0.50	-0.86	-0.87	0.05	0.15	0.24	-0.17
	Bosnia and Herzegovina	-0.64	-0.53	-0.21	-0.27	-0.51	-0.43	0.07	0.20	0.88	0.88
	Bulgaria	-0.29	-0.23	90.0	60.0	-0.24	-0.16	0.25	0.25	-0.13	-0.16
	Belarus	0.02	0.18	-0.17	-0.05	-0.22	-0.28	0.07	-0.06	-0.28	-0.11
	Croatia	-0.36	-0.31	-0.37	-0.30	-0.16	-0.23	-0.21	-0.15	0.20	0.84
	Montenegro	-0.85	-0.88	-0.26	-0.49	-0.85	-0.86	-0.92	-0.90		-1.00
	Serbia	-0.41	-0.41	-0.03	-0.07	-0.31	-0.13	0.00	0.14	-0.90	-0.76
	Slovenia	0.05	60.0	0.03	0.07	0.08	0.10	0.00	90.0	-0.40	90.0
	Macedonia	-0.27	0.15	-0.17	-0.48	-0.70	-0.80	0.30	0.29	-0.52	-0.60
East Asia	Mongolia		-0.98		-0.73		-0.88		-0.78		1.00

Source: UN Comtrade; Calculation result is drawn from Belt and Road Initiative: Industrial and Spatial Coordinated Development

4.3.2 Trade competitiveness based on Revealed Comparative Advantage

Revealed Comparative Advantage (RCA) index measures the competitiveness of a given country's products or industries. Designed to quantitatively present the performance of each industry's exports, the index identifies which industries are more competitive in exports. It is calculated as¹⁵:

$$RCA_{xik} = (\frac{X_{ik}}{X_i})/(\frac{W_k}{W})$$

When a country's RCA is 1 that means it has neither relative advantages nor relative disadvantages in the production and exports of the examined commodity. A figure lower than 1 means that the share of the country's export value of the commodity is higher than the global average and of relative international competitiveness, and vice versa.

As analysed, China's TCI exceeds 0 in Class 0 products, representing its status as a net Class 0 products exporter with a competitive advantage. Typical energy-resource-based countries and important agricultural countries perform relatively well on the RCA table. Figure 4.7 shows that countries in Europe, except Albania and Slovenia, have their RCA exceeding 1 in Class 0 products. The RCA of most countries in Central Asia and Europe is over 1 in Class 1 or 2 products. Meanwhile, Nations in Western Asian have a relatively strong comparative advantage in minerals and mineral resource products (Class 3) trade.

^{15.} X_{ik} is the value of country i's export of product k, X_i the value of country i's total exports; W_k the value of the global export of product k and W the value of the global exports. RCA compares a country's average level with the global.

Figure 4.6 Revealed Comparative Advantage Index of primary commodities in China and selected countries along the Belt and Road

		Class 0	0 55	Class 1	s 1	Class 2	ss 2	Clas	Class 3	Clas	Class 4
Region	Country	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
	China	0.459	0.405	0.157	0.171	0.182	0.177	0.118	0.125	0.047	0.073
	Thailand	2.158	2.008	0.446	0.831	1.411	1.239	0.344	0.401	0.364	0.389
	Philippines	0.739	0.792	0.799	0.798	0.642	1.326	0.143	0.135	4.711	4.976
Southeast Asia	Singapore	0.200	0.274	0.886	0.880	0.144	0.217	1.123	1.284	0.252	0.140
	Malaysia	0.501	0.557	0.574	0.695	0.739	0.792	1.104	1.679	16.139	16.234
	Cambodia	0.165	0.677	0.365	0.398	0.605	0.645	0.000	0.000	0.338	0.377
	India	1.238	1.580	0.594	4.131	1.731	1.020	1.200	1.210	0.673	0.971
	Pakistan	2.794	3.048	0.197	0.071	0.814	0.888	0.390	0.122	0.752	0.691
South Asia	Nepal	2.953	3.941	3.945	2.205	1.298	0.937	0.000	0.000	0.703	0.310
	Sri Lanka	4.563	3.618	0.940	1.251	1.114	0.814	0.011	0.180	0.275	2.898
	Afghanistan	5.936	6.934	0.000	0.049	4.294	5.980	0.000	0.352	0.000	0.000
	Saudi Arabia	0.190	0.256	0.103	0.632	0.033	0.156	5.970	7.739	0.138	0.299
	Oman	0.353	0.570	0.373	0.634	0.155	0.514	4.716	6.321	0.729	1.541
	Bahrain	0.311	0.335	0.183	1.300	1.906	0.956	4.999	3.795	0.002	0.016
	Israel	0.521	0.419	0.070	0.088	0.456	0.374	090'0	0.081	0.082	0.139
West Asia	Jordan	2.527	2.878	1.665	1.698	1.734	2.391	0.066	0.013	0.339	0.235
	Qatar	0.001	0.032	0.000	0.003	0.067	0.207	6.275	8.439	0.002	9000
	Turkey	1.623	1.582	1.027	3.040	0.735	0.750	0.269	0.305	0.571	1.435
	Armenia	0.684	1.074	15.088	22.179	6.472	7.596	0.281	0.635	0.005	90000
	Georgia	1.839	2.358	11.572	14.470	4.148	4.352	0.307	0.628	0.154	0.874
Control Acia	Kazakhstan	0.553	0.786	0.145	0.299	1.333	0.720	4.993	7.297	0.135	0.231
	Kyrgyzstan	1.902	1.220	2.640	2.492	0.884	1.301	0.550	0.532	0.001	0.048

Czech Republic	0.515	0.578	0.833	1.014	0.716	0.640	0.256	0.303	0.321	0.771
Estonia	1.352	1.312	1.931	1.538	1.971	2.070	1.098	1.126	0.853	0.786
Hungary	1.116	1.050	0.413	0.417	0.498	0.479	0.185	0.237	0.589	1.257
Latvia	2.089	1.956	4.862	4.712	4.150	3.900	0.370	0.630	0.533	0.527
Lithuania	2.527	2.278	2.618	3.081	1.086	1.405	1.627	1.663	0.326	1.025
Moldova	4.426	3.945	17.337	10.020	2.322	3.242	0.035	0.052	5.825	8.850
Poland	1.613	1.699	1.724	1.942	0.557	0.631	0.289	0.337	0.389	0.668
Romania	0.875	1.063	1.564	4.693	1.577	1.158	0.369	0.455	0.706	0.838
Russia	0.276	0.587	0.199	4.170	0.775	1.029	4.573	6.407	0.279	1.216
Slovakia	0.630	0.518	0.197	2.117	0.678	0.522	0.336	0.380	0.300	0.481
Ukraine	1.936	3.837	1.613	17.192	2.564	4.243	0.496	0.131	9.344	20.777
Albania	0.715	0.867	0.495	0.214	3.370	2.418	1.251	0.898	0.127	0.001
Bosnia and Herzegovina	1.028	1.042	0.946	908.0	3.105	3.186	1.051	0.715	1.402	3.025
Bulgaria	1.833	1.658	2.879	2.154	2.132	1.884	0.926	1.082	1.238	2.519
Belarus	2.142	2.281	0.258	9290	0.619	0.698	1.933	2.971	0.407	0.945
Croatia	1.508	1.675	2.751	1.794	1.667	2.259	0.868	1.112	0.446	0.598
Montenegro	1.276	1.320	8.326	096.6	3.343	5.821	0.702	1.510	0.733	0.467
Serbia	3.179	2.475	3.084	3.944	1.172	0.974	0.356	0.290	2.817	2.880
Slovenia	0.570	0.593	0.516	4.356	0.980	1.075	0.295	0.542	0.111	0.223
Macedonia	1.727	1.197	7.874	5.675	1.916	1.401	0.535	0.119	0.641	1.130

Source: UN Comtrade; Calculation result is drawn from Belt and Road Initiative: Industrial and Spatial Coordinated Development

On the trade of manufactured products, Figure 4.8 shows that only certain Southeast Asian and European nations have industrial structures like China's and have a comparative advantage in over two classes of products. China's intra-industry trade with such countries is quite remarkable. On the other hand, energy-resource-based countries and agricultural producing countries show no salient comparative advantage in manufactured products trade.

Figure 4.7 Revealed comparative advantage index of manufactured products in China and selected countries along the Belt and Road

		Class 0	0 50	Class 1	s 1	Class 2	s 2	Class 3	58.3	Class 4	554
Region	Country	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
	China	0.276	0.489	0.228	0.411	3.379	3.171	0.879	1.031	1.250	0.927
	Thailand	0.694	0.855	0.264	0.313	0.689	0.691	1.128	1.304	0.265	0.314
	Philippines	1.816	1.661	0.428	0.527	0.776	0.366	1.101	1.032	0.647	1.774
Southeast Asia	Singapore	0.391	0.444	0.948	1.280	0.156	0.208	1.696	1.899	0.432	0.568
	Malaysia	1.021	1.079	0.583	0.794	0.818	0.830	0.647	1.078	2.638	2.338
	Cambodia	0.609	0.683	4.644	4.329	0.480	0.612	0.459	0.069	0.189	0.228
	India	0.277	0.384	0.071	0.138	1.074	1.401	2.057	2.337	3.672	5.303
	Pakistan	1.156	1.010	0.079	0.058	1.850	2.177	1.973	1.990	9.636	8.268
South Asia	Nepal	1.410	2.210	1.187	0.817	0.890	1.003	1.139	1.163	7.377	5.135
	Sri Lanka	2.476	1.848	0.478	0.862	0.453	0.692	1.086	1.221	1.837	1.865
	Afghanistan	1.716	2.172	2.300	1.664	0.018	0.018	1.355	1.851	4.479	8.705
	Saudi Arabia	2.484	1.965	1.046	1.039	0.617	0.497	0.015	0.065	1.298	0.911
	Oman	1.824	1.653	1.413	1.578	0.597	0.852	0.478	1.010	1.529	1.472
	Bahrain	1.126	1.544	1.403	2.172	3.304	1.743	2.469	2.234	0.359	0.554
	Israel	1.042	1.115	0.802	0.928	0.481	0.504	1.146	1.039	0.607	0.546
West Asia	Jordan	2.535	2.729	1.215	1.198	0.404	0.454	1.433	1.506	1.617	1.548
	Qatar	1.298	1.444	1.199	1.036	0.801	1.296	0.058	0.102	0.551	0.545
	Turkey	0.433	0.511	0.317	0.439	1.846	1.536	0.935	0.607	1.092	1.778
	Armenia	2.292	2.376	4.575	4.869	0.341	0.619	1.137	1.805	1.859	1.715
	Georgia	2.586	1.728	3.353	2.860	0.578	1.125	1.186	1.404	2.034	1.341
Control Acia	Kazakhstan	1.422	1.398	1.316	1.028	0.294	0.418	0.644	0.212	0.873	0.311
	Kyrgyzstan	2.261	1.650	3.499	2.924	0.386	0.412	1.722	1.669	2.901	2.600

	Czech Republic	0.811	0.810	0.754	0.815	0.569	0.556	0.619	0.580	0.337	0.507
	Estonia	1.563	1.306	2.984	2.403	0.634	0.779	1.079	1.151	0.392	0.315
	Hungary	0.726	0.699	0.560	0.612	0.381	0.459	0.691	0.717	0.548	0.407
	Latvia	2.098	1.634	2.602	3.483	0.818	0.928	0.958	0.994	1.268	1.032
	Lithuania	1.772	1.647	2.285	2.519	0.723	0.954	2.082	1.758	0.997	1.244
	Moldova	1.897	1.758	4.626	2.981	0.499	0.633	1.333	1.003	0.440	0.437
	Poland	1.163	1.178	0.819	0.897	999:0	0.789	0.708	0.656	0.701	0.734
	Romania	1.110	1.192	0.780	1.054	0.660	0.689	0.651	0.556	0.882	0.493
	Russia	2.073	1.788	1.966	1.897	0.485	0.958	0.079	0.143	1.328	1.119
() () () () () () () () () ()	Slovakia	0.913	0.753	0.954	0.815	0.819	0.560	0.826	0.704	0.611	0.548
Europe	Ukraine	1.269	1.038	1.596	2.036	0.812	0.939	2.097	2.531	1.271	0.882
	Albania	2.262	1.877	5.361	2.523	0.786	0.515	0.897	0.837	2.245	1.631
	Bosnia and Herzegovina	2.436	2.267	4.231	3.136	0.773	0.738	1.254	1.180	1.212	1.780
	Bulgaria	1.340	1.214	1.715	1.669	1.864	2.136	1.440	1.359	0.894	0.674
	Belarus	1.137	2.062	1.214	1.089	0.811	0.685	2.246	2.654	0.920	0.805
	Croatia	1.600	1.858	1.188	1.410	0.375	0.461	1.224	1.326	0.747	1.006
	Montenegro	3.483	3.358	5.044	4.333	0.945	0.617	0.823	0.944	1.472	1.431
	Serbia	0.825	1.021	0.911	1.479	0.861	1.036	1.157	1.005	0.473	0.579
	Slovenia	1.154	1.212	1.090	1.030	1.390	1.400	0.837	0.929	0.602	0.549
	Macedonia	1.821	1.554	1.376	1.244	1.176	0.823	1.147	0.949	1.833	1.770

Source: UN Comtrade; Calculation result is drawn from Belt and Road Initiative: Industrial and Spatial Coordinated Development

We can find out the Revealed Comparative Disadvantage index of product k by replacing the export data in the numerator and denominator with import

$$RCA_{xjk} = \left(\frac{M_{jk}}{M_i}\right) / \left(\frac{W_k}{W}\right)$$

The consumption of that product in the country relying on imports and the production of that product is relatively weak.

Figure 4.8 Revealed Comparative Disadvantage Index of primary commodities in China and selected countries along the Belt and Road

		Class 0	0 88	Cla	Class 1	Clas	Class 2	Clas	Class 3	Cla	Class 4
Region	Country	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
	China	0.276	0.489	0.228	0.411	3.379	3.171	0.879	1.031	1.250	0.927
	Thailand	0.694	0.855	0.264	0.313	0.689	0.691	1.128	1.304	0.265	0.314
	Philippines	1.816	1.661	0.428	0.527	0.776	0.366	1.101	1.032	0.647	1.774
Southeast Asia	Singapore	0.391	0.444	0.948	1.280	0.156	0.208	1.696	1.899	0.432	0.568
	Malaysia	1.021	1.079	0.583	0.794	0.818	0.830	0.647	1.078	2.638	2.338
	Cambodia	0.609	0.683	4.644	4.329	0.480	0.612	0.459	0.069	0.189	0.228
	India	0.277	0.384	0.071	0.138	1.074	1.401	2.057	2.337	3.672	5.303
	Pakistan	1.156	1.010	0.079	0.058	1.850	2.177	1.973	1.990	9.636	8.268
South Asia	Nepal	1.410	2.210	1.187	0.817	0.890	1.003	1.139	1.163	7.377	5.135
	Sri Lanka	2.476	1.848	0.478	0.862	0.453	0.692	1.086	1.221	1.837	1.865
	Afghanistan	1.716	2.172	2.300	1.664	0.018	0.018	1.355	1.851	4.479	8.705

16. In this way, we can get the country's RCA in international trade by calculating the ratio of the proportion of a country's export value of a commodity in its total export value divided by the proportion of world export value that is of that Class in global total (Yu, 2003).

17. M_k is the import value of product k of country j, M_j total export value of country j and W world import value. Compared with international import level of that product, the bigger the index is, the more significant the production disadvantage of a certain product of the country is.

Saudi Arabia	2.484	1.965	1.046	1.039	0.617	0.497	0.015	0.065	1.298	0.911
Oman	1.824	1.653	1.413	1.578	0.597	0.852	0.478	1.010	1.529	1.472
Bahrain	1.126	1.544	1.403	2.172	3.304	1.743	2.469	2.234	0.359	0.554
Israel	1.042	1.115	0.802	0.928	0.481	0.504	1.146	1.039	0.607	0.546
Jordan	2.535	2.729	1.215	1.198	0.404	0.454	1.433	1.506	1.617	1.548
Qatar	1.298	1.444	1.199	1.036	0.801	1.296	0.058	0.102	0.551	0.545
Turkey	0.433	0.511	0.317	0.439	1.846	1.536	0.935	0.607	1.092	1.778
Armenia	2.292	2.376	4.575	4.869	0.341	0.619	1.137	1.805	1.859	1.715
Georgia	2.586	1.728	3.353	2.860	0.578	1.125	1.186	1.404	2.034	1.341
Kazakhstan	1.422	1.398	1.316	1.028	0.294	0.418	0.644	0.212	0.873	0.311
Kyrgyzstan	2.261	1.650	3.499	2.924	0.386	0.412	1.722	1.669	2.901	2.600
Czech Republic	0.811	0.810	0.754	0.815	0.569	0.556	0.619	0.580	0.337	0.507
Estonia	1.563	1.306	2.984	2.403	0.634	0.779	1.079	1.151	0.392	0.315
Hungary	0.726	0.699	0.560	0.612	0.381	0.459	0.691	0.717	0.548	0.407
Latvia	2.098	1.634	2.602	3.483	0.818	0.928	0.958	0.994	1.268	1.032
Lithuania	1.772	1.647	2.285	2.519	0.723	0.954	2.082	1.758	0.997	1.244
Moldova	1.897	1.758	4.626	2.981	0.499	0.633	1.333	1.003	0.440	0.437
Poland	1.163	1.178	0.819	0.897	999.0	0.789	0.708	0.656	0.701	0.734
Romania	1.110	1.192	0.780	1.054	0.660	0.689	0.651	0.556	0.882	0.493
Russia	2.073	1.788	1.966	1.897	0.485	0.958	0.079	0.143	1.328	1.119
Slovakia	0.913	0.753	0.954	0.815	0.819	0.560	0.826	0.704	0.611	0.548
Ukraine	1.269	1.038	1.596	2.036	0.812	0.939	2.097	2.531	1.271	0.882
Albania	2.262	1.877	5.361	2.523	0.786	0.515	0.897	0.837	2.245	1.631
Bosnia and Herzegovina	2.436	2.267	4.231	3.136	0.773	0.738	1.254	1.180	1.212	1.780
Bulgaria	1.340	1.214	1.715	1.669	1.864	2.136	1.440	1.359	0.894	0.674
Belarus	1.137	2.062	1.214	1.089	0.811	0.685	2.246	2.654	0.920	0.805
Croatia	1.600	1.858	1.188	1.410	0.375	0.461	1.224	1.326	0.747	1.006

Montenegro	3.483	3.358	5.044	4.333	0.945	0.617	0.823	0.944	1.472	1.431
Serbia	0.825	1.021	0.911	1.479	0.861	1.036	1.157	1.005	0.473	0.579
Slovenia	1.154	1.212	1.090	1.030	1.390	1.400	0.837	0.929	0.602	0.549
Macedonia	1.821	1.554	1.376	1.244	1.176	0.823	1.147	0.949	1.833	1.770

Source: UN Comtrade; Calculation result is drawn from Belt and Road Initiative: Industrial and Spatial Coordinated Development

commodities. East Asian and Central Asian nations have a relatively salient comparative disadvantage in primary agricultural commodities (Class 0 and Class 1). Most European nations have a comparative disadvantage because of their lack of diversity of primary agricultural commodities as well as geographical Figure 4.9 shows that China has a comparative disadvantage in the trade of raw materials (Class 2), fuels and lubricants (Class 3) and other primary mineral constraints.

Figure 4.9 Revealed Comparative Disadvantage Index of manufactured products in China and selected countries along the Belt and Road

		Class 5	5 5	Class 6	9 8 9	Class 7	5 7	Clas	Class 8	Class 9	6 53
Region	Country	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
	China	0.935	0.862	0.747	0.676	1.147	1.095	0.753	0.657	0.325	1.189
	Thailand	0.953	0.910	1.444	1.442	1.027	1.010	0.619	0.622	1.058	0.885
	Philippines	0.834	0.860	0.636	0.903	1.371	1.310	0.306	0.418	0.197	0.080
Southeast Asia	Singapore	0.582	0.641	0.486	0.580	1.349	1.272	0.650	0.728	0.972	0.640
	Malaysia	0.795	0.849	0.986	1.101	1.442	1.160	0.559	0.611	0.440	0.518
	Cambodia	0.549	0.571	3.650	3.909	0.604	0.591	0.682	0.682	0.836	1.345
	India	0.859	1.016	1.234	1.207	0.530	0.551	0.274	0.320	3.312	2.913
	Pakistan	1.345	1.432	0.839	1.140	0.597	0.639	0.277	0.299	0.084	0.037
South Asia	Nepal	0.983	1.097	1.741	1.919	0.686	0.598	0.514	0.465	0.876	0.528
	Sri Lanka	0.977	0.981	2.261	2.190	0.624	0.726	0.396	0.438	0.176	0.062
	Afghanistan	0.140	0.105	0.668	999.0	0.192	0.074	0.250	0.399	11.334	10.624
	Saudi Arabia	0.883	0.845	1.466	1.320	1.236	1.224	0.768	0.779	0.570	0.773
	Oman	0.770	0.862	1.311	1.454	1.305	0.572	0.529	0.663	0.501	3.985
	Bahrain	0.373	0.583	0.664	0.874	0.654	0.769	0.415	0.664	0.003	0.479
	Israel	0.998	1.035	1.941	1.846	0.824	0.871	0.807	0.890	0.141	0.204
West Asia	Jordan	0.986	0.898	1.363	1.305	0.670	0.615	0.651	0.600	0.416	1.519
	Qatar	0.679	0.652	1.554	1.401	1.380	1.217	0.933	1.087	0.556	0.203
	Turkey	1.180	1.174	1.362	1.406	0.846	0.845	0.575	0.556	2.014	3.413
	Armenia	0.816	0.965	1.528	1.574	0.645	0.484	0.710	0.699	1.295	0.184
	Georgia	0.912	1.410	1.257	1.248	0.705	0.656	0.947	0.770	0.087	0.138
Control Acia	Kazakhstan	1.041	1.103	1.436	1.556	1.172	1.153	0.836	0.967	0.017	0.029
	Kyrgyzstan	0.873	0.933	1.129	1.810	0.628	0.524	0.785	0.833	0.170	0.800

0.057	1.128 2.139	2.107 1.172	1.888 1.624	0.569 0.909	0.009 1.656	0.543 0.372	0.677 0.912	2.005 0.140	0.094 0.091	0.244 0.181	0.015 3.624	0.022 0.029	0.809 1.200	1.286 1.052	0.008 0.015	#N/A 0.000	4.172 2.059	0.102 0.093	
0.916	0.755	0.636	0.824	0.672	0.761	0.982	0.772	0.981	1.052	0.450	0.988	0.811	0.595	0.465	1.132	1.138	0.607	0.803	
0.906	0.900	0.564	0.834	0.570	0.855	0.936	0.788	1.022	0.968	0.555	1.053	0.873	0.646	0.370	1.062	1.154	9/9/0	0.911	
1.214	0.876	1.260	0.775	0.645	0.554	0.979	0.962	1.118	1.266	0.571	0.475	0.550	0.669	0.519	0.643	0.594	0.747	0.838	
1.234	0.827	1.339	0.635	0.566	0.610	1.004	1.003	1.135	1.251	0.569	0.553	0.541	0.642	0.563	0.747	0.600	0.521	0.878	
1.457	1.128	1.146	1.212	1.049	1.707	1.447	1.712	1.034	1.262	1.137	1.675	1.901	1.367	1.069	1.524	1.294	1.524	1.588	
1.356	1.292	0.986	1.236	0.891	1.521	1.400	1.681	0.944	1.209	1.142	1.924	1.557	1.308	1.201	1.429	1.276	1.441	1.525	
0.960	0.823	1.009	0.989	1.265	1.332	1.180	1.119	1.273	0.749	1.507	0.828	1.111	1.149	0:630	1.194	0.891	1.270	1.273	
0.884	0.904	0.859	1.148	1.170	1.179	1.240	1.126	1.116	0.739	1.241	0.881	1.052	0.998	0.901	1.230	0.860	1.089	1.193	
Czech Republic	Estonia	Hungary	Latvia	Lithuania	Moldova	Poland	Romania	Russia	Slovakia	Ukraine	Albania	Bosnia and Herzegovina	Bulgaria	Belarus	Croatia	Montenegro	Serbia	Slovenia	
								edouna											

Source: UN Comtrade; Calculation result is drawn from Belt and Road Initiative: Industrial and Spatial Coordinated Development.

On comparative disadvantages in the trade of manufactured products (Figure 4.10), all indices for China are low and declining, except that on manufacturing equipment. This shows that China imports much less manufacturing products in relative terms than most countries. At the late stage of industrialisation, China is demanding more and more high-end technical equipment as the country is upgrading its manufacturing sectors. Having a rather salient comparative disadvantage in Class 7 products, China has seen its imports of such equipment growing exponentially. Meanwhile, the countries along the Belt and Road are at a comparative disadvantage in the trade of Class 6 products, relying on the international market.

4.3.3 Trade complementarity between China and the countries and regions along the Belt and Road

We can calculate the possibility of the countries and regions along the Belt and Road managing to cooperate to stop economic disadvantages resulting from the lack of industrial diversification, by drawing on their revealed comparative advantages and disadvantages. If country i has a distinct comparative advantage in product k while country j relies on importing product k, their trade of product can be seen as complementary. The degree of complementarity can be calculated with this formula:

$$C_{ijk} = RCA_{xik} \times RCA_{mjk}$$

 RCA_{xik} refers to country i with a comparative advantage and RCA_{mjk} means that country j is at a comparative disadvantage.

As demonstrated, China's comparative advantage in the trade of primary commodities is relatively weak. Thus, it imports primary commodities massively from the countries along the Belt and Road.

Figure 4.11 shows the complementarity between China and other countries along the Belt and Road in the trade of primary commodities. The figures are high except for Southeast Asian countries. China is highly complementary to countries in South Asia, Central Asia, West Asia and Europe in its import of primary commodities. These countries fall into two categories: (i) Resource-based countries highly complementary to China in Class 3 products, with Oman, Russia and Saudi Arabia as examples; (ii) Countries complementary to China in Class 2 and Class 4 commodities. This group mostly includes European countries.

Figure 4.10 Complementarity of selected countries' primary commodities exported to China

		Class 0	0 8:	Class 1	s 1	Class 2	is 2	Class 3	SS 3	Class 4	ss 4
Region	Country	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
	Thailand	0.595	0.982	0.102	0.342	4.765	3.935	0.302	0.413	0.455	0.360
	Philippines	0.204	0.387	0.182	0.328	2.166	4.210	0.126	0.139	5.888	4.611
Southeast Asia	Singapore	0.055	0.134	0.202	0.362	0.485	0.690	0.988	1.323	0.315	0.130
	Malaysia	0.138	0.272	0.131	0.285	2.495	2.514	0.971	1.731	20.172	15.045
	Cambodia	0.046	0.331	0.083	0.164	2.044	2.048	0.000	0.000	0.422	0.349
	India	0.341	0.772	0.135	1.697	5.846	3.237	1.055	1.248	0.841	0.900
	Pakistan	0.770	1.490	0.045	0.029	2.749	2.820	0.343	0.126	0.940	0.640
South Asia	Nepal	0.814	1.926	0.898	906.0	4.382	2.974	0.000	0.000	0.879	0.287
	Sri Lanka	1.258	1.769	0.214	0.514	3.763	2.586	0.010	0.186	0.344	2.685
	Afghanistan	1.636	3.389	0.000	0.020	14.499	18.985	0.000	0.363	0.000	0.000
	Armenia	0.189	0.525	3.434	9.113	21.855	24.118	0.247	0.655	0.007	90000
	Bahrain	0.086	0.164	N.A.	0.534	6.435	3.036	4.396	3.913	0.002	0.015
	Georgia	0.507	1.152	2.634	5.946	14.008	13.817	0.27	0.648	0.192	0.81
	Israel	0.143	0.205	0.016	0.036	1.54	1.188	0.053	0.083	0.102	0.129
West Asia	Jordan	0.697	1.407	0.379	0.698	5.854	7.592	0.058	0.014	0.424	0.218
	Oman	0.097	0.279	0.085	0.261	0.523	1.633	4.147	6.517	0.911	1.429
	Qatar	0	0.016	0	0.001	0.228	0.656	5.518	8.701	0.002	900.0
	Saudi Arabia	0.052	0.125	0.023	0.259	0.111	0.495	5.25	7.978	0.173	0.278
	Turkey	0.447	0.773	0.234	1.249	2.482	2.383	0.237	0.314	0.714	1.33
cis A leature	Kazakhstan	0.152	0.384	0.033	0.123	4.502	2.285	4.391	7.524	0.168	0.214
Cellulai Asia	Kyrgyzstan	0.524	0.596	0.601	1.024	2.984	4.131	0.483	0.549	0.002	0.045

Source: UN Comtrade; Calculation result is drawn from Belt and Road Initiative: Industrial and Spatial Coordinated Development.

China has a strong comparative advantage in the trade of manufactured products, while the industrial products imported from China to other countries along the Belt and Road are highly complementary. It is essential that the countries along the Belt and Road import from China a significant amount of Class 6 and Class 8 industrial products, which can be used without further processing. This is proof of the high complementarity between the two sides in the trade of these two classes of products.

Figure 4.11 Complementarity of manufactured products imported from China to selected countries along the Belt and Road

		Class 5	.s 5	Class 6	s 6	Class 7	.s 7	Class 8	8 8 8	Class 9	6 53
Region	Country	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
	Thailand	0.477	0.450	1.758	1.964	1.478	1.255	1.345	1.264	0.019	0.016
	Philippines	0.418	0.425	0.775	1.230	1.973	1.628	0.665	0.849	0.004	0.001
Southeast Asia	Singapore	0.292	0.317	0.591	0.790	1.941	1.581	1.411	1.478	0.017	0.012
	Malaysia	0.398	0.420	1.201	1.500	2.075	1.441	1.213	1.240	0.008	0.010
	Cambodia	0.275	0.282	4.445	5.327	0.870	0.734	1.480	1.386	0.015	0.025
	India	0.431	0.503	1.503	1.644	0.764	0.684	0.596	0.649	0.059	0.054
	Pakistan	0.674	0.708	1.022	1.554	0.860	0.795	0.601	0.608	0.002	0.001
South Asia	Nepal	0.492	0.543	2.121	2.616	0.988	0.743	1.116	0.945	0.016	0.010
	Sri Lanka	0.489	0.485	2.754	2.984	0.898	0.903	0.861	0.890	0.003	0.001
	Afghanistan	0.070	0.052	0.813	0.907	0.276	0.092	0.543	0.810	0.203	0.198
	Saudi Arabia	0.442	0.418	1.786	1.799	1.779	1.522	1.669	1.582	0.010	0.014
	Oman	0.386	0.426	1.597	1.982	1.878	0.711	1.150	1.346	0.009	0.074
	Bahrain	0.187	0.288	0.809	1.191	0.942	0.956	0.901	1.350	0.000	0.009
	Israel	0.500	0.512	2.365	2.516	1.186	1.082	1.753	1.809	0.003	0.004
West Asia	Jordan	0.494	0.444	1.660	1.778	0.964	0.764	1.415	1.218	0.007	0.028
	Qatar	0.340	0.322	1.893	1.909	1.986	1.512	2.027	2.209	0.010	0.004
	Turkey	0.591	0.581	1.659	1.916	1.217	1.050	1.249	1.129	0.036	0.064
	Armenia	0.409	0.477	1.861	2.145	0.929	0.602	1.543	1.420	0.023	0.003
	Georgia	0.457	0.697	1.531	1.701	1.015	0.815	2.056	1.564	0.002	0.003
cio A Icatao)	Kazakhstan	0.522	0.546	1.749	2.120	1.688	1.432	1.816	1.965	0.000	0.001
	Kyrgyzstan	0.438	0.461	1.375	2.467	0.903	0.651	1.706	1.692	0.003	0.015

0.015 0.001	0.020 0.040	0.038 0.022	0.034 0.030	0.010 0.017	0.000 0.031	0.010 0.007	0.012 0.017	0.036 0.003	0.002 0.002	0.004 0.003	0000 0000	0.000 0.001	0.014 0.022	0.023 0.020	0.000 0.000	- 0.000	0.075 0.038	0.002 0.002	
1.861	1.534	1.292	1.674	1.365	1.547	1.994	1.569	1.992	2.138	0.915	2.008	1.647	1.208	0.944	2.299	2.311	1.233	1.631	,
1.968	1.955	1.225	1.811	1.238	1.857	2.034	1.711	2.220	2.104	1.205	2.288	1.895	1.404	0.804	2.306	2.506	1.467	1.979	,
1.509	1.089	1.566	0.963	0.802	0.688	1.217	1.196	1.389	1.573	0.709	0.590	0.683	0.832	0.645	0.799	0.739	0.928	1.042	1
1.776	1.190	1.927	0.914	0.815	0.878	1.446	1.443	1.634	1.800	0.819	0.797	0.778	0.924	0.811	1.076	0.863	0.750	1.264	
1.986	1.537	1.562	1.651	1.429	2.326	1.972	2.332	1.409	1.719	1.550	2.283	2.591	1.863	1.456	2.076	1.763	2.076	2.163	010
1.652	1.573	1.201	1.506	1.086	1.852	1.705	2.048	1.149	1.472	1.391	2.344	1.897	1.593	1.463	1.741	1.554	1.756	1.858	0,10
0.475	0.407	0.499	0.489	0.625	0.659	0.583	0.553	0.630	0.370	0.745	0.410	0.550	0.568	0.460	0.590	0.440	0.628	0.630	001
0.443	0.453	0.431	0.575	0.586	0.591	0.621	0.564	0.559	0.370	0.622	0.442	0.527	0.500	0.452	0.616	0.431	0.546	0.598	
Czech Republic	Estonia	Hungary	Latvia	Lithuania	Moldova	Poland	Romania	Russia	Slovakia	Ukraine	Albania	Bosnia and Herzegovina	Bulgaria	Belarus	Croatia	Montenegro	Serbia	Slovenia	
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Source: UN Comtrade; Calculation result is drawn from Belt and Road Initiative: Industrial and Spatial Coordinated Development.

Overall, the trade complementarity between China and other countries along the Belt and Road is high, mainly reflected in China's imports of primary commodities and exports of manufactured products. The preceding analyses show that it is feasible to realise the BRI's targeted industrial synergy via an integration of trade in different industrial classes.

Chapter 5 - The double circulation of the global value chain and the Belt and Road



Outlook for long-term, inclusive and sustainable growth

Globalisation makes production activities increasingly deconcentrated. Changes in ways of production over the past three decades have been profound. At a central point of the world's "double circulation" system, China plays a vital role in the global value chain. The imports and exports data of both developed and developing countries indicate that China is an essential intermediate and final goods trading partner, which reflects its enormous trade volume and far-reaching network.

China's role in the global value chain

China's emergence has presented the GVC with opportunities. Within it, China can bridge two cycles of flows of goods and capitals, upgrading and adjusting its industries while pushing countries and regions along the Belt and Road to take advantages of their locations. In addition, China can stimulate the exports of nations in the lower circulation through trade while providing products for countries in the upper circulation by processing the primary commodities exported from the lower.

Opportunities for the Belt and Road in the global value chain

Under the double circulation of global value framework, countries and regions along the Belt and Road have great potentials for economic cooperation. The industrialisation of most countries shows that the initiative can drive their economic growth, making their industrial structures complementary to each other's, and realising the industrial synergy of the double circulation. The industrial upgrade of countries at the primary industry gradient will lead to the upgrade of those at the secondary industry gradient, which will inevitably lead to the corresponding upgrade of countries at the tertiary industry gradient.

5.1 Developing countries in the global value chain

Globalisation, of which the most important form is international trade, drives the world economy. Countries use their comparative advantages in the production trade of final goods. Progress in transportation and information technology has remarkably changed international trade, as seen in the decline in transaction costs. Given the increasing magnitude and sophistication of international value chains, trade among nations tends to be increasingly intra-industry. The increase in FDI, meanwhile, reflects specialisation of production.

Intermediate goods is a key part of international trade, which has resulted in an international division of labour within industries and fragmented production, now following the logic of the GVC. Countries stand in different positions in the GVC, depending on their resource endowment, economic development, national trade policies (such as whether it is export-oriented) and other social and economic factors.

This chapter seeks to analyse the structure of intermediate and final goods, as well as trends in trade in the GVC dimension. China's role will be assessed since it has surpassed the US as the world's top trader.

Globalisation makes production activities increasingly concentrated. Changes in ways of production over the past three decades have been remarkable. For instance, 70% of the intra-regional trade in East Asia was supply chain trade. Japan, Korea and other rapidly developing economies provide high-end parts, which are then delivered to China for assembly and sales. Inseparable from the GVC theory, the supply chain trade was recorded as the fastest growth among different kinds of international trade over the last three decades.

The theory of the GVC originated from the value chain theory developed by international business researchers in the 1980s (Elms & Low, 2013). In development studies, the concept of a value chain has been used to analyse international trade in global value chains which comprises "the full range of activities that are required to bring a product from its conception, through its design, its sourced raw materials and intermediate inputs, its marketing, its distribution and its support to the final consumer". Specifically, when activities must be coordinated across geographies, the term global value chain is used in the development literature.

While all the links in the GVC can be continuous processes, the complete and continuous value chain is separated by (fragmented) segments in globalisation. The segments are generally distributed unevenly, both "scattered in large areas and aggregated in small areas". 50% of the global imports of manufactured products and 70% of imported services are intermediate goods inputs. The share of developing nations in the global value-added trade rose from 20% in 1990 to 30% in 2000 and exceeded 40% in 2012. The benefits for a country to enter the GVC are obvious, especially for the developing world. Figure 5.1 reveals that the rate of contribution of value-added trade to GDP of developing countries had reached about 30% by 2013, while the rate of developed countries was 18%. Participation in the GVC is positively correlated to the growth in GDP per capita. In economies with the most extensive participation in the GVC, the growth rate of GDP per capita is about 2% higher than average. Participation in the GVC can help developing countries create jobs and thus drive their unemployment rate down.

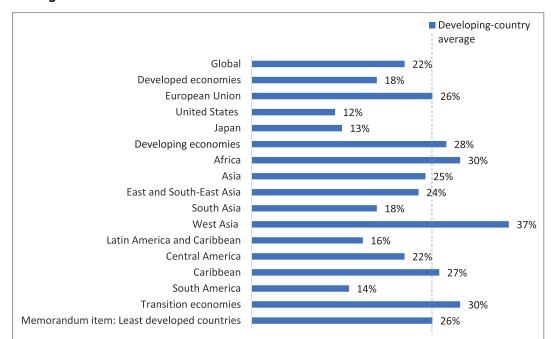


Figure 5.1 Contribution of value-added trade to GDP in selected economies

Source: UNCTAD-Eora GVC Database

5.2 Double circulation of globalisation — based on the GVC theory¹⁸

While the developing world actively participates in and benefits from the current GVC, the global trade has presented characteristics which may entail serious implications for the world economy's long-term, inclusive and sustainable growth. This section will measure the proportion of imports and exports of both intermediate and final goods of 188 countries/regions, aiming to tentatively explore the locations of countries in the GVC and their opportunities. We conducted this analysis through data formation and calculation on the EORA Input-Output Table¹⁹.

As the centre of the world's "double circulation" system, China plays a vital role in the GVC. The imports and exports data of both developed and developing countries indicate that China is an essential intermediate and final goods trading partner, as reflected by its enormous trade volume and far-reaching network.

^{18.} This double circulation framework mainly draws from the study of "Belt and Road" Initiative: Dual Circulation of GVC Model analysis (Zhang, Yi, & Tang, "Belt and Road" Initiative: Dual Circulation of GVC Model Analysis, 2017). The authors are from Peking University who are also the main contributors to this report.

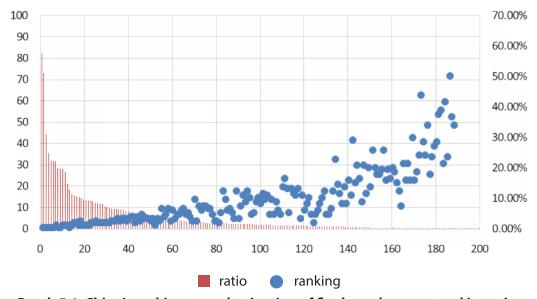
^{19.} The report only looks at data in the primary and secondary sectors. It does not include data in the tertiary sector, which are highly scattered.

5.2.1 Analysis on the imports of intermediate and final goods in the GVC

5.2.1.1 Trade volume of final goods

i) Export of final goods to China

China is a destination of final goods export from most countries/regions. Graph 5.1 shows China's rankings as a destination of final goods export and its ratios. 178 countries/regions export up to 15% of their final goods to China, which ranks within the top 15 destinations of 121 countries/regions' final goods exports. While the ratio under 15% for the majority of countries/regions, China ranks mostly among the top 20 within these countries/regions and plays a significant role in their exporting structures.



Graph 5.1 China's rankings as a destination of final goods export and its ratios

Figure 5.2 shows the 60 countries/regions, or one-third of the 188 sampling countries/regions, where China is among their top 5 destinations of final goods export. China ranks the first in 9 countries/regions, the second in 11, the third in 13, the fourth in 15, and the fifth in 12. This also shows China's importance as a destination of final goods export.

Figure 5.2 China's rankings as a destination of final goods export

Rank	Numbers	Countries/regions (Ratio of export)
1	9	Angola (57.86%); Mongolia (51.15%); Gabon (31.25%); Myanmar (25.01%); North Korea (22.56%); Cuba (22.26%); South Korea (19.97%); Hong Kong (19.65%); Finland (12.92%)
2	11	Congo (22.15%); Yemen (19.62%); Oman (18.66%); Japan (14.66%); Laos (11.46%); Australia (10.53%); Kazakhstan (9.63%); Cameroon (9.29%); Israel (9.29%); New Zealand (9.19%); Canada (3.99%)
3	13	Malaysia (11.08%); Mauritania (10.66%); Singapore (9.06%); Switzerland (8.50%); Russia (8.23%); Vietnam (8.15%); Pakistan (7.45%); Sweden (7.20%); Germany (6.76%); Thailand (6.62%); Uruguay (5.06%); Liechtenstein (1.76%); Russia (0.79%)

4	15	Iraq (10.25%); Indonesia (8.46%); Macao (6.61%); Philippines (6.54%); America (6.33%); Greenland (6.26%); Peru (5.59%); Taiwan (4.70%); Papua New Guinea (4.35%); Israel (3.29%); South Sudan (2.86%); Monaco (2.11%); San Marino (1.97%); Eritrea (1.85%); Sao Tome and Principe (1.84%);
5	12	Iran (6.31%); Norway (5.78%); Italy (5.71%); Austria (5.47%); Luxembourg (4.62%); Great Britain (4.37%); Liberia (4.31%); Qatar (3.72%); Rwanda (2.74%); Serbia (1.62%); Djibouti (1.59%); Tajikistan (0.94%);

ii) Imports of final goods from China

China is a major origin of final goods in the world. Among 168 of the sample countries/regions, Chinese products account for up to 15% of the final goods imports. China is also among the top 15 origins of final goods in 182 countries/regions.

Figure 5.3 shows 123 countries/regions, or two-third of the samples, where China is among their top origins of final goods. It ranks the first in 17, the second in 29, the third 26, the fourth in another 26, and the fifth in 25. This shows China's essential function as a major exporter of final goods in the international market.

Figure 5.3 China's rankings as an origin of final goods

Rank	Numbers	Countries/regions (Ratio of export)
1	17	Hong Kong (48.74%); Macao (43.37%); North Korea (35.34%); Mongolia (28.72%); Japan (28.00%); Pakistan (23.93%); Yemen (21.65%); South Korea (19.82%); Cambodia (19.80%); Nepal (18.99%); America (17.49%); Lesotho (16.64%); Jordan (15.81%); Thailand (15.51%); Syria (15.41%); Nigeria (14.91%); Egypt (14.88%)
2	29	Madagascar(23.52%); Bangladesh(22.58%); Djibouti(18.40%); Iraq(15.11%); Australia (14.63%); Cuba (13.94%); Ghana(13.91%); United Arab Emirates (13.55%); Peru(12.15%); Singapore(11.96%); Lebanon(11.50%); Indonesia(11.34%); Canada(10.22%); India(9.97%); Laos(9.86%); Ivory Coast (9.82%); Sierra Leone(9.53%); South Africa(9.49%); Trinidad and Tobago(9.33%); Colombia(9.32%); Senegal(9.03%); Benin (8.66%); Niger(8.61%); Cameroon (8.31%); Germany(8.08%); Mexico(6.67%); Jamaica(6.66%); Zimbabwe (5.43%); Myanmar (4.15%)
3	26	Palestine(15.86%); Paraguay(12.48%); Ethiopia(12.40%); Suriname(12.05%); Vietnam(11.71%); Chile(10.69%); Saudi Arabia(10.60%); Argentina(9.49%); New Zealand(9.40%); French Polynesia(8.54%); Mali(8.37%); Guinea(8.32%); Russia(8.13%); Gambia(7.78%); Iran(7.30%); Poland(7.21%); Netherlands(6.97%); Uruguay(6.70%); Romania (6.48%); Papua New Guinea(5.62%); Kazakhstan (5.52%); Costa Rica(5.45%); Haiti(4.85%); Austria(4.00%); Namibia(1.56%); Botswana(1.03%)
4	26	Algeria (9.62%); Malaysia (9.03%); Tanzania(8.97%); Mauritius (8.16%); Morocco(8.14%); Kyrgyzstan(7.73%); Great Britain(7.41%); Philippines(7.26%); Azerbaijan(7.22%); Turkey(7.06%); Spain(6.56%); Togo(6.52%); El Salvador (6.29%); DR Congo (5.75%); Finland(5.68%); Czech Republic(5.58%); Fiji(5.33%); Barbados(5.26%); Hungary(5.07%); Slovakia (5.00%); Dominican Republic(4.96%); Vanuatu(4.81%); Eritrea(4.66%); Malawi(4.63%); Mozambique(3.53%); Liberia(3.42%)
5	25	Bolivia(9.15%); Qatar(7.29%); Kuwait(7.07%); Cyprus (6.90%); Ukraine (6.27%); Brazil (6.26%); Ecuador (6.18%); Italy(5.75%); Lithuania (5.52%); Norway(5.42%); Guyana (5.33%); Bulgaria (5.23%); Tunisia (4.95%); Greece (4.95%); KEN(4.84%); Malta (4.77%); Burundi (4.73%); Taiwan(4.70%); Albania (4.64%); Aruba (3.89%); Zambia (3.37%); Belize (3.14%); Moldova (2.66%); Russia(2.56%); Liechtenstein(2.51%)

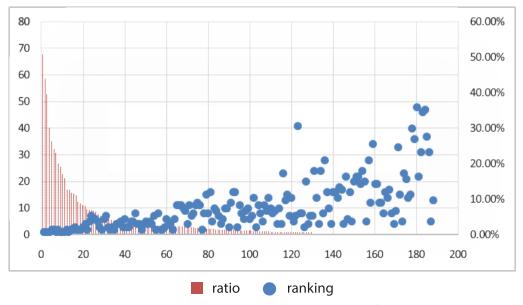
iii. Comparison between China's imports and export of final goods

Although China is significant in both the global export and import structures, a comparison between its international imports and exports highlights the prominence of its role as an exporter. In other words, China is a destination of goods export from most of the countries/regions. It is among the top five importing partners in 123 countries/regions and the top five exporting partners in 60. This shows the vital position China occupies as an exporter with a trade surplus.

5.2.1.2 Trade volume of intermediate goods

I) Export of intermediate goods to China

China is a partner of most intermediate goods exporting countries/regions. Graph 5.3 shows that 177 of the 188 countries/regions in the sample export up to 15% of their intermediate goods to China. Angola has the highest proportion of its goods exported to China, accounting for 50.86%, while Haiti is at the bottom of the list, with just 0.01% of its exporting going to China. 148 countries/regions have China as one of their top 15 exports partners. Albeit the trade opponents and diversification of commodities, China remains a globally vital destination of the exports of intermediate goods.



Graph 5.2 China's rankings as a destination of the exports of intermediate goods and its ratios

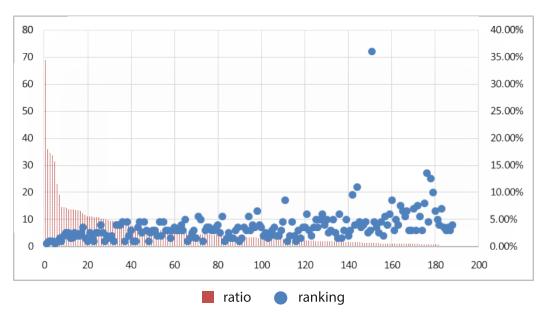
Figure 5.4 lists the 74 countries/regions where China is among their top 5 exporting destinations for intermediate goods. China ranks the first in 9 countries/regions, the second in 19, the third in 13, the fourth in 19 and the fifth in 14.

Figure 5.4 China's rankings as a destination of intermediate goods export

Rank	Numbers	Countries/regions (Ratio of export)
1	9	Angola (50.86%); Republic of the Congo (43.90%); Yemen (39.46%); Vietnam (30.07%); Zambia (22.90%); Singapore (19.04%); Cambodia (17.07%); Rwanda (15.98%); Russia (12.61%)
2	19	Gabon (26.15%); Hungary (24.09%); Australia (19.96%); Brazil (12.75%); Panama (11.67%); Morocco (11.44%); South Africa (9.28%); South Sudan (8.68%); Oman (8.18%); Bolivia (6.95%); Canada (4.77%); Jordan (3.93%); Trinidad and Tobago (3.51%); Iraq (2.91%); Ghana (2.50%); Cyprus (2.39%); Papua New Guinea (2.39%); Poland (2.33%); Madagascar (1.61%)
3	13	Chile (11.06%); Maldives (8.05%); Austria (4.90%); San Marino (4.04%); Fiji (3.89%); Kenya (3.28%); Sao Tome and Principe (3.25%); Latvia (3.22%); Niger (2.38%); Nepal (1.23%); Indonesia (1.16%); Macedonia (0.84%); Thailand (0.49%)
4	19	Cameroon (7.02%); Syria (3.43%); Iran (3.30%); Serbia (3.14%); Cape Verde (3.10%); Somalia (2.78%); Laos (2.66%); Switzerland (2.55%); Peru (2.35%); Moldova (2.33%); Belarus (1.95%); Bhutan (1.35%); America (0.67%); Uruguay (0.65%); DR Congo (0.45%); Namibia (0.41%); El Salvador (0.27%); Mozambique (0.21%); Lithuania (0.08%)
5	14	Estonia (6.82%); Portugal (5.36%); Gambia (3.29%); Argentina (3.21%); Brunei (3.18%); Mauritania (2.72%); Samoa (2.61%); Jamaica (1.43%); Greece (0.76%); Monaco (0.58%); Antigua and Barbuda (0.19%); Montenegro (0.14%); Georgia (0.07%); Suriname (0.01%)

ii) Imports of intermediate goods from China

Graph 5.4 shows China's ratios and rankings as an import source of intermediate good. 183 countries/regions imported up to 15% of their intermediate goods from China, which among 179 countries/regions' top 15 origins of intermediate goods, showing that China is a significant origin of intermediate goods to most countries/regions.



Graph 5.3 China's rankings as an origin of intermediate goods and its ratios

Figure 5.5 lists the 73 countries/regions with China as their top 5 importers of intermediate goods. As shown in Figure 5.5, China ranks the first in 2 countries/regions, the second in 19, the third in 17, the fourth in 17 respectively, and the fifth in 18. This signifies China's leading status as a global importer of intermediate goods.

Figure 5.5 China's rankings as an origin of intermediate goods

Rank	Numbers	Countries/regions (Ratio of export)
1	2	Hong Kong (34.48%); Yemen (15.63%)
2	19	Bangladesh (17.99%); Vietnam (17.23%); Cambodia (16.76%); Australia (11.56%); Canada (7.27%); Benin (5.53%); Macao (5.38%); Mongolia (4.82%); Lesotho (4.58%); Zimbabwe (3.93%); Thailand (3.70%); South Korea (3.68%); Burundi (3.24%); Nepal (2.32%); Japan (2.13%); North Korea (1.79%); Iraq (1.65%); India (1.15%); Pakistan (1.03%)
3	17	Singapore (9.59%); Saudi Arabia (6.82%); Colombia (6.74%); Gambia (5.53%); Senegal (5.43%); Sierra Leone (4.66%); Madagascar (2.55%); Mexico (2.26%); Jordan (2.19%); Indonesia (1.78%); Djibouti (1.72%); Cuba (1.72%); United Arab Emirates (1.64%); Ghana (1.31%); America (1.00%); Ivory Coast (0.74%); Laos (0.74%)
4	17	South Africa (7.26%); Argentina (6.60%); Brazil (6.57%); Mauritius (4.69%); Malaysia (4.64%); Bhutan (3.75%); Palestine (2.89%); Nigeria (2.83%); Suriname (1.34%); Poland (1.30%); Egypt (1.27%); Syria (1.24%); New Zealand (1.13%); Iran (1.03%); Paraguay (0.94%); Mali (0.65%); Kazakhstan (0.46%)
5	18	Ethiopia (7.04%); Algeria (6.86%); Bolivia (6.64%); Chile (6.15%); Russia (5.52%); Cameroon (5.36%); French Polynesia (5.11%); Romania (4.91%); Costa Rica (3.31%); Hungary (3.14%); Lebanon (2.25%); Kyrgyzstan (1.84%); Germany (1.75%); Guinea (1.33%); Uruguay (0.80%); Fiji (0.76%); Malawi (0.54%); Papua New Guinea (0.48%)

iii) Comparison between China's imports and exports of final and intermediate goods

Overall, China plays a vital role as both an importer and exporter of intermediate and final goods. The country's massive trade and extensive network provide a sound basis for it to act as the centre of the double circulation system in the GVC.

Figure 5.6 China as an importer and exporter of intermediate and final goods

		Chin	ia as	
Ranking	Intermediate	Intermediate	Final goods	Final goods
	goods importer	goods exporter	importer	exporter
1	9	2	9	17
2	19	19	11	29
3	13	17	13	26
4	19	17	15	26
5	14	18	12	25
Total	74	73	60	123

5.2.2 Empirical analysis of double circulation model

Data in this section came from the World Bank Database (WDI) and the EORA Multi-Zone Input-Output Table (MRIO). Materials in international trade are divided into intermediate and final goods. The former, including raw materials and fuels, are used to reprocessing or reselling of other products. Final goods are produced within a certain period but no longer processed in the same period, or for the final consumption.

At least four indicators are of interests, namely China's imports of intermediate goods/China's exports of intermediate goods; China's imports of final goods/China's exports of final goods; exports of intermediate goods / imports of intermediate goods to China; exports of final goods / imports of final goods to China.

5.2.3 Methodology

The GVC has shown new features. The world economic structure has gradually changed from a single-cycle model, dominated by the developed world's "centre-periphery", to a more complex double circulation. On the one hand, China and other emerging Asian nations maintain traditional economic relations with European and American developed countries, forming the upper circulation of the value chain. On the other hand, due to rapid economic growth, China and other emerging economies have become industrial areas and global manufacturing centres. They also have economic cooperation with Asian and African resource-rich developing nations, but their industrialisation level is relatively low. As the development of industrialisation is promoted through direct investment, the local market is expanded through trade and an under circulation has been formed.

To validate the Double Circulation Model, this report will analyse the data model from two perspectives, which can serve as a mutual verification. The content can be illustrated from two angles based on various perspectives:

i) Double circulation model I

From the Chinese perspective, the world trade flow is depicted as: China imports intermediate goods from the developing world and exports final goods to the developing countries. Similar circulations also occur between China and the developed world. As shown in the following figure, China plays a key role in international trade flows.

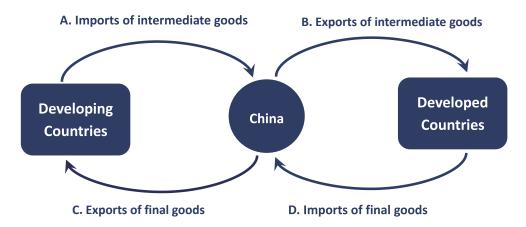
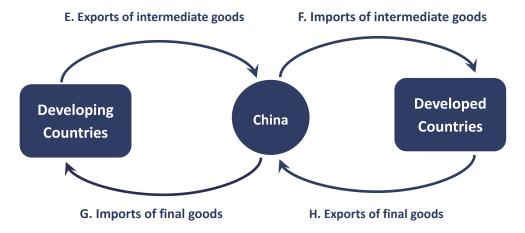


Figure 5.7 Double Circulation Model from the Chinese perspective

ii) Double circulation model II

From the perspective of other countries, trade flows are characterised by the fact that other developing countries are net intermediate goods exporters to China but import final goods from the country. The circulations also occur between China and developed countries. Likewise, China plays a major role in the flow of international trade.

Figure 5.8 Double Circulation Model from other countries' perspective



Data on the flow (a-h) of the resources in the constructed Double Circulation Model based on the above two perspectives will be analysed and verified by evaluating data.

Description of the ratio

This report builds four indicators to validate the Double Circulation Model at the data level:

Two ratios were constructed from the Chinese perspective, respectively, C_1, C_2

$$C_1 = \frac{\text{China's imported intermediate goods}}{\text{China's exported intermediate goods}} \; ;$$

$$C_2 = \frac{\text{China's imported final goods}}{\text{China's exported final goods}}$$

Constructing two ratios from the rest of the world's perspective, namely W₁, W₂

$$W_1 = \frac{\text{Exports of intermediate goods to China}}{\text{Exports of final goods to China}}\;;$$

$$W_2 = \frac{\text{Imports of intermediate goods from China}}{\text{Imports of final goods from China}}$$

Based on the indicators above, the report adopts the international trade data of the 188 countries to perform a validation.

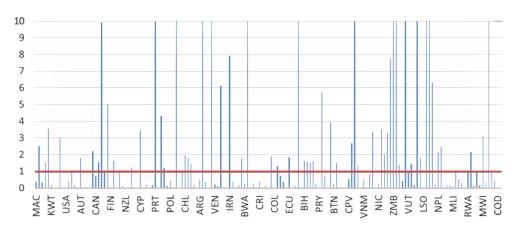
5.2.4 Empirical study

This paper uses the data from the Chinese perspective and other nations to verify the Global Value Chain Double Circulation model. The two methods are similar in terms of internal thinking but they differentiate from each other in terms of the angle of calculation. This feature can serve mutual confirmation purposes.

5.2.4.1 The Chinese perspective

Starting from the Chinese perspective, this section shows statistics on international trade. First, it analyses China's trade with foreign nations on the "imports and exports of intermediate goods". To better characterise the net flow direction of China's "imports and exports" in each country, this paper builds the C_1 index. A number greater than 1 indicates China's net imports of intermediate goods from the country examined. If it is less than 1, it shows China's net exports to the country.

The figure below shows the calculation results of the C_1 index. The countries' GDP per capita, sourced from the World Bank Database (WDI) 2013, is ranked from high to low. The left side represents the more developed countries, while the right is mostly for developing countries. The horizontal in Graph 5.6, Graph 5.7, and Graph 5.8 are all in this format.

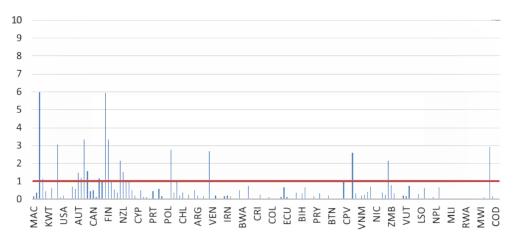


Graph 5.4 China's ratio of imports/exports of intermediate goods

We can identify two principles in the graph above. First, in terms of the standard line y = 1, the horizontal direction of the right side compared to the left, more countries' sample ratios are greater than 1. Therefore, China is a net importer of intermediate goods from developing countries (the right side of the horizontal axis). This principle verifies the arrow A in Figure 5.7, the intermediate goods trade between China and other developing countries is performed as net inflow to the country.

Secondly, a comparison between the left of the horizontal axis and the right shows that more countries' sample ratios are less than 1. Therefore, China is a net exporter of intermediate goods to the developed world. This principle verifies the arrow B in Figure 5.7, the intermediate goods trade between China and developed economies is performed as net inflow to the developed world.

This chapter also looks at China's trade of final goods as compared with that of foreign countries. The C_2 index is constructed to describe the net flow of the final goods. If the number is greater than 1, it indicates China is a net final goods importer of the country. If it is less than 1, that represents China is a net exporter of the country. The figure below shows the calculation of C_2 indicator.



Graph 5.5 China's imports and exports of final goods

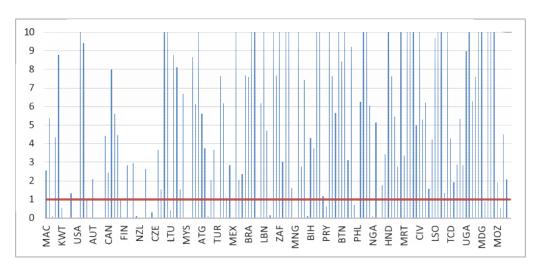
The figure reveals another two principles. First, in terms of the standard line y = 1, to compare the horizontal direction of the left side to the right, more countries on the left side with the ratio greater than 1. Therefore, China is a net final goods importer of developed countries (the left side of the horizontal axis). This principle verifies the arrow D in Figure 5.7, the final goods trade between developed countries and China, is performed as net inflow to China.

Comparing the right side of the horizontal axis to the left side, more countries' sample ratios are less than 1. Therefore, China is a net final goods exporter of other developing countries (the right side of the horizontal axis). This principle verifies the arrow C in Figure 5.7. The final goods trade between China and developing countries is performed as net inflow to developing countries.

Our discussion on the above two bar charts on four aspects above has verified arrows A-D, implying that from the Chinese perspective, the Global Value Chain Double Circulation is consistent with the actual data.

5.2.4.2 The perspective of the rest of world

This section provides statistics on international trade from the perspective of countries other than China. First, it analyses the proportional relationship between "intermediate goods exported to China" and "final goods exported to China". To properly evaluate the net flow direction and the relationship between "intermediate goods" and "final goods", this paper builds the W_1 index. If the number is greater than 1, it indicates that the country examined is a net intermediate exporter of China. If it is less than 1, the country is a net final goods exporter of China. The following figure is based on W_1 .

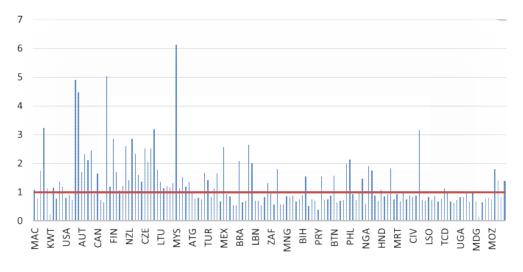


Graph 5.6 The ratio of intermediate and final goods export to China

Two principles can be identified here. First, in terms of the standard line y = 1, to compare the horizontal direction of the right side to the left, there are more countries on the right side with the ratio greater than 1. Therefore, these countries are net intermediate goods exporters to China (the right side of the horizontal axis). This principle verifies the arrow E in Figure 5.8.

Second, the comparison between the left side of the horizontal axis and the right side shows that more countries' sample ratios are less than 1. Therefore, developed countries are net final goods exporters of China (the left side of the horizontal axis). This principle verifies the arrow H in Figure 5.8.

This report, moreover, analyses the proportional relationship between "imports from China" and "imports of final goods from China". We construct the W2 index to estimate the net flow direction and relationship of "intermediate goods" or "final goods". If the number is greater than 1, it indicates the country's intermediate goods imported to China from other countries are net inflow. If it is less than 1, the examined country's final goods imported from China is net inflow. The following figure shows the calculation results of W2.



Graph 5.7 Intermediate and final goods imported from China

The figure is characterised by two principles. First, in terms of the standard line y = 1, comparing the horizontal direction from the left side to the right side, there are more countries from the left side with the ratio greater than 1. Therefore, it can be considered that developed countries mainly import intermediate goods from China (the right side of the horizontal axis). This principle verifies the arrow F in Figure 5.8.

Second, in the comparison between the right side of the horizontal axis and the left side, more countries' sample ratios are less than 1. Therefore, developing countries (the right side of the horizontal axis) import final goods from China. This principle verifies the arrow G in Figure 5.8.

The section has verified E to H in Figure 5.8 through an analysis from the point of view of the rest of the world. It shows that from the perspective of other countries, the "Global Value Chain Double Circulation Model" is consistent with the actual data.

The input-output analysis on global trade indicates that the world economy has a double circulation on goods exchanges. In general, developed countries have a higher proportion of intermediate goods imports and final goods exports in industries with higher added value. This reflects their mature position in the international fragmentation of production.²⁰ They also consume final goods imported from external markets in primary sectors.

Meanwhile, developing countries rely on their internal market on primary commodities but have a high proportion of final imports of higher value-added products. China has actively cooperated with its developed partners in aspects of intermediate and final goods, drawing on its relatively comprehensive industrial system. In other words, an intensive economic circulation exists between China and developed countries. There is a big portion of intermediate goods import, mainly machinery goods, and final goods in most industrial sectors. Exports of final goods in secondary industries are lower than the average in developed countries and slightly higher in intermediate good.

5.3 Double circulation of the GVC

In the global governance system, as assumed by the GVC theory, many developing countries participate in the GVC as the OEM (original equipment manufacturer). It is an effective strategy for such countries to industrialise. However, this development based on the OEM system is only conducive to industrialisation at the initial stage.

At the later stage of industrialisation, developing countries tend to fall into a trap, which means they would be locked at the lower end of the GVC (Schmitz, 2004). Several factors account for this phenomenon. First, the production and manufacturing structure in developing countries are defined by their comparative advantages in cheap labour and natural resource, given their weak industrial base. Therefore, the value added to goods they trade is relatively low. Second, it is difficult for them to continue to upgrade and enhance their comparative advantage to the higher end of the value chain, which has been dominated by multinational companies based in developed countries.

20. In economics, production fragmentation means the organisation of production in which different stages of production are divided among suppliers in different countries. Products traded between firms in different countries are components instead of final goods.

The World Investment Report: Investment and Trade Development by the UNCTAD indicates that developed countries obtain more benefits from the GVC than developing countries. The report shows that the proportion of relative value-added trade (ratio of global value-added trade share to global exports share of a country) of the following countries is higher than 1: Russia (1.25), India (1.23), the US (1.22), Australia (1.20), Brazil (1.20), Saudi Arabia (1.18), Japan (1.13), and Italy (1.00), while China's proportion is 0.98. Countries carrying significant economic weight have a high domestic value-added rate (domestic added value/ GDP, which can be used to measure the contribution of a country's trade to economic growth), but China is an exception. After deducting foreign added value during exporting, China's domestic value-added rate is 72%, considerably lower than developed countries like the US (89%) and Japan (82%). In general, such countries would have a longer domestic value chain. Domestic production contributes to higher added values in the final goods exporting, thereby a high domestic value-added rate. However, China, Germany and the UK are exceptions. China does not merely have an extended domestic supply chain, but also many processing trades.

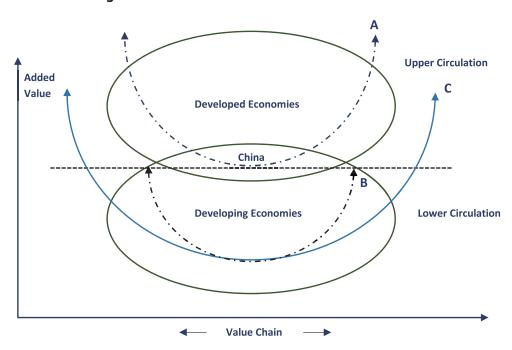


Figure 5.9 Curves of double circulation of the GVC

Source: Belt and Road Initiative: Industrial and Spatial Coordinated Development

China's emergence has presented the GVC with opportunities. Essentially, the country can bridge two cycles of flows of goods and capital. On the one hand, the circulation system with the carriers of industrial division of labour, trade, investment, and capital indirect flows can be formed between China and the developed world. On the other hand, the circulation system with the carriers of trade and direct investment can be articulated between China and its developing partners in Asia, Africa and Latin America.

From an economic cooperation perspective, in the upper circulation A, developed countries transfer most of their processing and manufacturing industries and production services to emerging countries like China, through the output of production elements including capital and technology. Meanwhile, emerging countries export high-end intermediate goods and productive services to developed countries. This process provokes foreign exchange reserves brought by trade surpluses and capital inflows to flow back to developed countries in the forms of debt and indirect investment.

The lower circulation B refers to the economic circulation among developing countries. China and other developing countries with rapid economic growth and advanced manufacturing sectors set a trade flow of resources and manufactured products through direct investment in resource-rich developing countries, importing necessary resources and primary commodities, and exporting manufactured products. At the same time, they transfer some industries to other developing countries in Asia, Africa and Latin America, thus forming a flow of investment and other production elements. China and other emerging countries drive the industrialisation and economic growth of developing countries through the imports of resources, product and capital output and industrial transfer, which can be mutually beneficial.

The lower cycle is particularly beneficial to developing countries with a weak industrial base, as it expands their opportunities to join the GVC. The chain was previously inaccessible to such countries due to their inability to produce quality intermediate goods meeting the standards set by developed countries. Thus, the lower cycle has provided them with greater access to markets like China, which can absorb a wider range of goods.

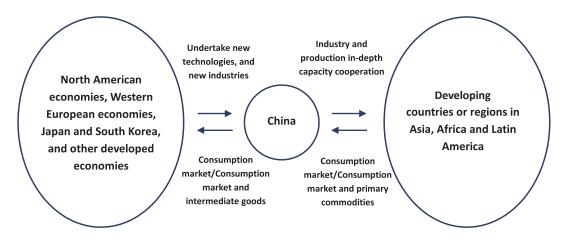


Figure 5.10 Economic cooperation pattern under double circulation of global value chain

Source: Belt and Road Initiative: Industrial and Spatial Coordinated Development

5.4 Double circulation of GVC and the BRI

Under the double circulation of global value framework, countries and regions along the Belt and Road have great potentials for economic cooperation. They have different economic profiles, stages of industrialisation and three types of competitive industries: (i) technology-intensive, high value-added industries (late- industrialisation countries), (ii) capital-intensive industries (mid-industrialisation countries) and (iii) labour-intensive industries (early-industrialisation countries).

China's rising labour cost pushes its labour-intensive industries to early industrialisation countries like some Southeast Asian nations. Similarly, resource-intensive industries (such as energy products, chemical products, and metal products) can be transferred to fossil-fuel-rich countries like Russia and mineral resource-rich nations such as those in Central Asia. China can expand its exports of capital, technology and high value-added products to these countries. Some technology-intensive and high value-added industries (such as mechanical and electrical products, and some equipment manufacturing products) can be transferred to countries at the late industrialisation like Russia.

Therefore, the industrial upgrade of countries at higher value-added production stage (late-industrialisation) will lead to the upgrade of those at the middle stage of industrialisation (capital intensive) stage, which will also inevitably lead to the corresponding upgrading of countries at the lower stage of industrialisation. Thus, this could make the transfer of value chain within countries and regions along the Belt and Road easier so that they can establish a production network and a cooperation model in the lower circulation.

5.5 Comparative analysis of industrial development under the double circulation framework

5.5.1. Height of industrial development of most countries and regions along the Belt and Road

China has a relatively comprehensive industrial system, while some countries and regions along the Belt and Road are less industrialised. China can cooperate with them to improve its manufacturing sectors. Moreover, the rather small gap between China and highly industrialised countries enables higher level intra-trade in upper circulation. China exports more value-added manufactured products, technologies, and knowledge to countries in low circulation and shares its experience on industrialisation with them.

The section below will employ the Industrial Structure Height to measure industrialisation using the Chenery et al (1986) standardised index. We will apply the ratio between the changes in industrial proportion and change of GDP per capital regarded as the index of industrial structure to indicate industrialisation of countries along the Belt and Road'. As such, the relationship between the increase in GDP per capita in the entire industrialisation and the ratio of industrial production to the total economic output can be seen through multiplication. Thus, the industrial development height is

$$GDPpc_{t}^{n} = \frac{GDPpc_{t} - GDPpc_{begin}}{GDPpc_{finished} - GDPpc_{begin}}$$

Where $GDPpc_t^n$ is the index of change in GDP per capita within time t in economies N, $GDPpc_{begin}$ is the GDP per capita in the beginning of industrialisation, $GDPpc_{finished}$ is the GDP per capita when countries complete industrialisation²¹, $GDPpc_t$ is the GDP per capita at the time. When H=0, the country starts industrialisation; H=1 represents countries N complete the industrialisation. In other words, the closer the index to 1, the higher industrial structure the country has.

China's industrial development has internal similarity with that in other countries along the Belt and Road, especially those in lower circulation in Southeast Asia, South Asia and Central Asia with underdeveloped industries. China and those countries are tackling challenges arising in their industrial structure upgrading. This internal similarity has complementary and interacting effects on China and these countries. China could upgrade and adjust its

21. The figure on industrialisation was standardised by Chenery's Model with GDP per capita constant at 2005.

industries while pushing countries along the Belt and Road to take advantages of their locations. It can stimulate the exports of nations in the lower circulation through trade while China can provide products for countries in the upper circulation by processing the primary commodities exported from the lower. Consequently, this economic circle promotes the urbanisation and industrial production in countries in the lower circulation. The industrialisation of most countries along the Belt and Road (as shown in Figure 5.11) shows that the initiative can drive their economic growth, making their industrial structures complementary to each other's, and realising the industrial synergy of the double circulation.

Most countries along the Belt and Road in Southeast Asia and South Asia are at the initial stage of industrialisation, while those in the latter region are at the tail of the stage. Most nations in Europe and West Asia, as well as resource-intensive countries in West Asia, are at the late stage of industrialisation.

Figure 5.11 Industrial development height of selected countries (by region)

Region	Country	2010	2014	Region	Country	2010	2014
	China	0.351	0.657		Albania	0.186	0.193
	Singapore	3.078	3.972		Belarus	0.45	0.666
	Malaysia	0.288	0.374		Bosnia and Herzegovina	0.202	0.223
	Thailand	0.253			Bulgaria	0.355	0.424
Southeast Asia	Philippines	0.061	0.117		Croatia	0.785	0.76
	Laos	-0.008	0.02		Cyprus	1.156	0.651
	Cambodia	-0.034	-0.019		Czech Republic	1.62	1.648
	Maldives	0.29	0.381		Estonia	0.888	1.27
	Sri Lanka	0.101	0.185		Greece	0.955	0.76
	Pakistan	-0.027	-0.005	Europe	Hungary	0.837	0.941
South Asia	Bangladesh	-0.039	-0.02	Europe	Latvia	0.379	0.595
Jouth Asia	Afghanistan	-0.043	-0.04		Lithuania	0.606	0.851
	Nepal	-0.122	-0.107		Moldova	0.009	0.041
	India	0.0002	0.0142		Montenegro	0.471	0.502
	Kazakhstan	0.798	1.036		Poland	1.831	2.115
	Turkmenistan	0.199	0.459		Poland	0.351	0.657
Central Asia	Uzbekistan	0	0.056		Romania	0.576	0.668
	Kyrgyzstan	-0.036	-0.006		Russia	1.31	1.742
	Tajikistan	-0.074			Serbia	0.34	0.389
	Armenia	0.268	0.352		Slovakia	1.112	1.36
	Bahrain	2.04	2.637				
	Georgia	0.085	0.178				
	Iran	0.491	0.373				
	Jordan	0.197	0.248				
West Asia	Kuwait	5.293	6.484				
West Asia	Lebanon	0.525	0.497				
	Oman	0.915	0.898				
	Qatar	5.203	6.454				
	Saudi Arabia	1.149	1.381				
	Turkey	0.655	0.542				
	United Arab Emirates	2.906	2.907				
Africa	Egypt	0.117	0.189				

5.5.2. Complementarity analysis on China's industrial development and the countries and regions along the Belt and Road

China's industrial structure has changed tremendously since the 1990s. With investment and technology transferred from the developed world, the country has gained certain advantages in labour-intensive industries and experience in technology-intensive industries.

Productivity in China's different regions varies vastly due to their resource endowments. However, the country has created a diversified and rather comprehensive industrial structure, which is part of the international division of labour. The structure, which maintains some level of independence and integrity, enables China to possess its own labour-intensive and capital-intensive industries under the vertical system on the division of labour, and to build up modern technology industries under the horizontal system on the division of labour. Thus, China is in the middle of the global industrial chain, connecting various stages of development.

Figure 5.12 Industrial development height of the countries and regions along the Belt and Road (by per capita income)

Income Level	Country	2010	2015
	Kuwait	5.293	6.484
	Qatar	5.203	6.454
	Singapore	3.078	3.972
	United Arab Emirates	2.906	2.907
	Bahrain	2.04	2.713
	Czech Republic	1.62	1.386
Lligh Income Countries	Saudi Arabia	1.149	1.381
High-Income Countries	Slovakia	1.112	1.148
	Poland	1.831	0.866
	Estonia	0.888	0.977
	Hungary	0.837	0.941
	Oman	0.915	0.898
	Croatia	0.785	0.613
	Bulgaria	0.355	0.356
	Russia	1.31	0.585
	Kazakhstan	0.798	0.713
	Lithuania	0.606	0.000
	Romania	0.576	0.480
	Belarus	0.45	0.420
Medium- and High-	China	0.351	0.644
Income Countries	Latvia	0.379	0.000
	Turkey	0.655	0.477
	Montenegro	0.471	0.243
	Lebanon	0.525	0.323
	Turkmenistan	0.199	0.000
	Serbia	0.34	0.273

	Maldives	0.29	0.000
	Malaysia	0.288	0.765
	Iran	0.491	0.000
	Armenia	0.268	0.155
	Mongolia	0.125	0.226
	Jordan	0.197	0.257
	Bosnia and Herzegovina	0.202	0.188
	Thailand	0.253	n/a
	Albania	0.186	0.167
	Egypt	0.117	0.282
	Sri Lanka	0.101	0.198
	Georgia	0.085	0.150
	Ukraine	0.125	0.574
	Philippines	0.061	0.125
Medium- and Low- Income Countries	Uzbekistan	0	0.826
Income Countries	Moldova	0.009	0.296
	Laos	-0.008	0.575
	Pakistan	-0.027	0.134
	Kyrgyzstan	-0.036	-0.731
	Syria	-0.133	-0.123
	Tajikistan	-0.074	n/a
	Cambodia	-0.034	0.317
Low-Income Countries	Bangladesh	-0.039	-0.02
Low-income Countries	Afghanistan	-0.043	-0.267
	Nepal	-0.122	-0.136

Source: World Bank Database. Ranked by calculated values in 2015.

The figure reveals that China' industrialisation accelerated between 2010 and 2015. The overall height of its industrial structure rose by 83%, standing at the upper middle level among countries along the Belt and Road. The global double circulations of GVC suggests that China acts as a hub linking up the economic development of countries and regions along the Belt and Road. China can transfer labour-intensive and capital-intensive industries to some less industrialised countries and thus drive their industrial upgrading. It can also absorb technology-intensive industries from developed countries to optimise the Chinese industrial structure. Meanwhile, in the post-financial crisis era, the Western developed world's capability in absorbing raw materials and primary commodities has been declining. Developing countries, therefore, turn to seek markets in China, an emerging hub connecting developed and developing countries.





PART 3 – OPPORTUNITIES FOR FINANCIAL, INDUSTRIAL AND HUMAN CAPITAL DEVELOPMENT ACROSS THE BELT AND ROAD

The BRI is primarily an economic statecraft, but it is impossible to get a complete picture of the initiative's evolution only by digging into hard economic data. The initiative does not fit quite well into any standard economic policy categories as it touches on various distinct but interrelated areas. Given the initiative's wide scope, the outcomes of financial, industrial and human capital development cooperation among countries along the Belt and Road can serve as critical indicators of the BRI's effectiveness. BRI-related capabilities are reinforced through investment in human capital, institutions, improving innovation systems and upgrading in industrial and global value chains.

China's engagements with countries and regions along the Belt and Road in the three areas underline certain types of opportunities the initiative is generating for the economic development at global and national levels. Assessing partnerships in the three fields and exploring their prospects, the chapters ahead explain why such cooperations are issues which no serious BRI stakeholders could afford to overlook. The three chapters also reveal links to be consolidated between the three cooperation areas under the BRI and national efforts in realising the 17 SDGs. For instance, international capacity cooperation can help achieve a set of SDGs in human development, while the Agenda 2030 can pave the way for all the three areas of cooperation, ensure the long-term effectiveness of such cooperation, and consequently contribute to the overall realisation of the BRI's ambitious but attainable goals.

Chapter 6

Financial cooperation and integration

Chapter 6 shows that financial integration is a principal driver of economic growth, and the role of indirect financing is increasingly salient. It demonstrates that regional financial stability and multilateral cooperation, especially those of China and the countries and regions along the Belt and Road, have been fortified in recent years. This positive development helps countries better fill policy gaps and seize cooperation opportunities, of which some are identified.

Chapter 7

International capacity cooperation

Chapter 7 pays attention to the BRI's potential for international industrial capacity cooperation. It shows that such cooperation can accelerate industrialisation and is beneficial to countries at different stages of development, suggesting that the inadequacy of infrastructure in many countries and regions along the Belt and Road has created many challenges but can generate opportunities for industrial cooperation.

Chapter 8

Human capital development for stronger people-to people bonds

Chapter 8 discusses how China and the countries and regions along the Belt and Road can cooperate to foster their human capital development. It focuses on both the impacts of human capital stocks on economies and education cooperation. The chapter also explores the potential of UNDP's human development approach for driving economic growth and productive employment. While the focus is on the education contribution to human capital development, it also acknowledges the significant role played by further factors such as effective healthcare provision and net migration of skilled and unskilled workers.

Chapter 6 - Financial cooperation and integration



Progress in the BRI financial integration

China carried out multi-level cooperation with countries and regions along the Belt and Road, jointly organising numerous regional and multilateral financial cooperation platforms including the establishment of new financing institutions such as the Asian Infrastructure Investment Bank. The strengthening of the international financial architecture helps improve regional mechanisms to strengthen the communication and coordination among authorities and other stakeholders of financing projects.

Main challenges due to large disparities among countries

Despite the progress in financial integration along the Belt and Road, challenges exist considering several interlinked economic and social-political factors. These include a major difference in the capacity of infrastructure for financing; a mismatch between project demands and financial services; inconsistency in mechanisms of financial market operation; and incompatibility of cross-border financial information technology.

Strengthening financial integration key to BRI success

Looking ahead, strengthening financial integration is the key to the successful implementation of the BRI. The exchange of ideas and communication should be realised through existing and new regional cooperation mechanisms and platforms. Mutual coordination among countries and regions along the Belt and Road should be promoted while the overall financial market should be upgraded. Cooperation on financial supervision and regulation should be strengthened to set up a robust financial system.

6.1 Enhancing financial cooperation along the Belt and Road

Since the beginning of the 21st century, financial integration among countries and regions along the Belt and Road has become one of the key drivers of economic growth, with an increasing demand for capital. It has provided a broad development space for deepening financial cooperation and promoting economic integration.

6.1.1 Progress in the financial sector

The overall scale of foreign exchange reserves is growing rapidly. Between 2000 and 2013, foreign exchange reserves of countries along the Belt and Road increased rapidly from USD 760.8 billion to USD 7.55 trillion. It has been highly concentrated in the top ten countries (Graph 6.1) and has fluctuated around 80% over the last ten years. In 2015, these countries (excluding China) accounted for 78.5% of the foreign exchange reserve (Economist Intelligence Unit, 2015).

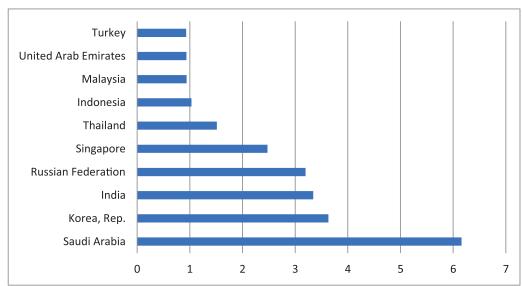


Figure 6.1 Top 10 countries along the Belt and Road with the largest amount of foreign exchange reserves in 2015 (USD 10 billion) (Excluding China)

Source: EIU

The net inflow of capital has been growing rapidly and has been further concentrated in several countries. Between 2000 and 2013, the net inflow of foreign capital in countries along the Belt and Road increased from USD 352.3 billion to USD 762.8 billion. In 2000, the five countries and regions with most capital inflows were China, Hong Kong (China), Singapore, Russia and Saudi Arabia. The inflow capital totalled USD 197.9 billion and accounted for about 56% of countries and regions along the Belt and Road. In 2013, China, Hong Kong (China), Russia, Singapore and India absorbed the most foreign capital with a total of USD 587 billion, and jointly accounted for 77% of countries and regions along the Belt and Road.

Most countries and regions along the Belt and Road adopt indirect financing, which has become an important driving force of economic growth. In 2000, the overall scale of funding was USD 5.36 trillion. The figure increased to USD 31 trillion in 2013 with a cumulative growth of 477% within 13 years, which is faster than the 405% GDP growth rate of these countries. It indicates that economic growth is to a significant extent financially driven. In 2000, loans accounted for 60.7% of the overall financing, while the total market capitalisation of listed companies accounted for 39.3%. The situation reversed only in Singapore, Saudi Arabia and

Bahrain. In 2013, the proportion of loans increased further to 65.3% of the overall financing. The total market capitalisation of listed companies decreased to 34.7%. On the other hand, in Singapore, Malaysia, Indonesia, Russia, the Philippines, Kuwait and Montenegro, the total market capitalisation of listed companies exceeded the loan scale.

6.1.2 Strengthening the banking industry

Driven by high credit demand, credit has been growing rapidly. The loan interest rate has fallen sharply, and the spread continues narrowing. Meanwhile, the capital adequacy ratio has been increasing steadily, and the quality of bank assets has improved substantially.

There is a rapid growth of credit supply. Since 2000, the credit amount of countries and regions along the Belt and Road has increased rapidly. The number of countries and regions with credit supply over 40% of GDP rose sharply from 24 to 41 between 2000 and 2013. In 2015, 16 countries have experienced more than 15% of domestic credit growth (Economist Intelligence Unit, 2015).

Figure 6.2 Top 20 economies along the Belt and Road with the highest growth rate of domestic credit in 2015

Ranking	Countries	Growth rate of domestic Credit % (SODD)
1	Saudi Arabia	187.6
2	Tajikistan	137.5
3	Azerbaijan	137.5
4	Poland	137.5
5	Estonia	137.5
6	Malaysia	29.5
7	Egypt	25.6
8	Cambodia	24.0
9	Lithuania	22.0
10	Viet Nam	19.4
11	Myanmar	19.0
12	Russia	18.7
13	Turkey	17.9
14	Georgia	17.7
15	Iran	16.5
16	Nepal	15.0
17	Belarus	14.8
18	Macedonia	14.8
19	Syria	14.8
20	Lebanon	14.8

Source: EIU

Loan rates have fallen sharply, and spreads have continued to narrow. The average interest rate of countries and regions along the Belt and Road has decreased from 17% to 10% between 2000 and 2013 (Economist Intelligence Unit, 2015). The proportion of countries and regions with a loan interest rate higher than 10% fell from 73% to 52%. Meanwhile, the simple average interest spread of various countries and regions along the Belt and Road

narrowed from 9.1% in 2000 down to 6.3% in 2006 and further to 5.2% in 2013. The number of countries and regions with an interest spread higher than 10% decreased from 11 in 2000 to 3 in 2013. The proportion of countries with interest spread lower than 5% increased from 36% in 2000 to 50% in 2013 (Economist Intelligence Unit, 2015).

In 2015, 21 countries, or 32% of all the countries investigated, had a loan interest rate of over 10%. The average interest spread of all the 65 countries analysed was 4.23%. 7 countries have an interest spread of over 10%. 50 countries, of 75% of the countries, have an interest spread below 5%.

Figure 6.3 Countries and regions along the Belt and Road with interest rate spread of domestic credit over 4% in 2015

Ranking	Countries along the Belt and Road	Interest spread (%)
1	Lao	15.6
2	Tajikistan	14.2
3	Azerbaijan	14.2
4	Poland	14.2
5	Estonia	14.2
6	Cambodia	10.3
7	Bhutan	9.5
8	Turkmenistan	9.0
9	Ukraine	8.8
10	Bulgaria	6.8
11	Mongolia	6.6
12	Russia	6.5
13	Nepal	5.8
14	Saudi Arabia	5.7
15	Singapore	5.2
16	Myanmar	5.0
17	Bahrain	4.9
18	Egypt	4.7
19	Malaysia	4.7
20	Latvia	4.5
21	Indonesia	4.3
22	Greece	4.3
23	Pakistan	4.3
24	United Arab Emirates	4.0

Source: EIU

In 2000, countries and regions along the Belt and Road with a non-performing loan ratio over 10% accounted for more than 66%, and this proportion declined to 30% in 2013. At the same time, the share of countries and regions with a non-performing loan ratio lower than 5% rose from 11% in 2000 to 45% in 2013. At the end of 2013, the reported non-performing loan ratio of Uzbekistan, Singapore and China was lower than 1%. The quality of bank assets in countries and regions along the Belt and Road has significantly improved.

The level of capital adequacy ratio has improved steadily. Between 2000 and 2006, the capital adequacy ratio of banking industry increased slightly. The proportion of countries with a capital adequacy ratio lower than 8% dropped from 39% to 30%. Since 2006, the capital adequacy ratio of the banking industry has increased substantially, and the proportion of countries with a capital adequacy ratio above 10% increased from 49% to 67% at the end of 2013.

6.2 Progress in financial integration along the Belt and Road

Over last three years since the BRI was proposed, China and other countries and regions along the Belt and Road have made progress in many aspects, including maintaining

regional financial stability through multilateral cooperation, promoting the establishment of regional investment and financing institutions, local currency swaps and settlement, direct investment, cross-border payments, mutual establishment of branches, business cooperation of financing institutions, project financing cooperation, financial market cooperation, and innovation in the regional financing cooperation mechanisms.



6.2.1 Multilateral financing cooperation mechanisms

In recent years, through an active participation in various regional cooperation mechanisms (such as the Executives' Meeting of East Asia and Pacific Central Banks (EMEAP), the financial cooperation mechanism of ASEAN and China, Japan and South Korea (10+3), the Conference of Governors of South-East Asian Central Bank (SEACEN), the Meeting of the Central Bank Governors' Club of Central Asia, the Black Sea Region and Balkan Countries, and the Meeting of the Finance Ministers and



Central Bank Governors of Shanghai Cooperation Organization (SCO)), China has increased its communication and exchanges with countries and regions along the Belt and Road and deepened its participation in regional financial cooperation. Based on the Chiang Mai Initiative adopted under the 10+3 mechanism, the network of the multilateral currency swap agreement (CMIM) has been established. It had a capital size of 240 billion USD and serves as a crisis prevention mechanism. Also, the ASEAN+3 Macroeconomic Research Office (AMRO), founded by the 10+3 mechanism, was officially launched and upgraded into an international organisation in February 2016. It further demonstrates the firm commitment of the 10+3 parties to support regional financial cooperation. It is of great significance for strengthening the regional financial safety net of East and South-East Asia and improving the status of its members in global economic governance.

6.2.2 Strengthened cooperation in financial regulation

The People's Bank of China has started recently to actively participate in the work of international organisations such as the Financial Stability Board, the Basel Committee on Banking Supervision and their working groups (Hong Kong Monetary Authority, 2014). It also continued to strengthen regional economic and fiscal monitoring, improving the



crisis management and the disposition framework under the organisation mechanism of the Executives' Meeting of East Asia-Pacific Central Banks. As of August 20, 2016, the People's Bank of China had officially signed a Memorandum of Understanding (MoU) on Financial Information Exchange and Cooperation with 39 foreign anti-money laundering institutions.

- China Banking Regulatory Commission (CBRC) has signed a MoU on bilateral cooperation on regulation and regulatory agreements with 31 regulatory authorities of countries along the Belt and Road (Friends of the Earth, 2016). The Czech Republic is one of the first EU members to sign a MoU with the CBRC. In 2015, the multilateral and regional cooperation mechanisms of the CBRC included: the International Monetary Fund (IMF), the World Bank, the Group of Twenty (G20), the Organisation for Economic Co-operation and Development (OECD), the Asia-Pacific Economic Cooperation (APEC), the Executives' Meeting of East Asia and Pacific Central Banks (EMEAP), the Institute of International Finance (IIF), the China—16 Central and East European countries, the Forum on China—Africa Cooperation, the SCO, the BRICS and the Asian Infrastructure Investment Bank (AIIB).
- ✓ The CBRC participated in consultations with the World Bank and other international organisations to define new policies and strategies. It participated in the EMEAP banking regulatory working group meetings and the IMF work consultation, as well as some cross-ministerial organisations to coordinate the work and the various responses. The CBRC also coordinated with ministries and commissions and provided responses to various departments at different levels. In 2015, the CBRC and the Monetary Authority of Singapore established a working-level consultation mechanism and held the first working-level consultation meeting to exchange information on bank operations, risks and regulatory concerns of Singaporean banks in China. The CBRC also conducted the first exchange with the delegation of the Indonesian Financial Services Authority (OJK) on information technology regulation of the banking industry (CDB, 2017).

Figure 6.4 List of bilateral MoUs and agreements on regulation cooperation signed by the CBRC

No	Name of Institution	Country/Region	Effective Date
1	Monetary Authority of Singapore	Singapore	May 14, 2004
2	National Bank of the Kyrgyz Republic	Kyrgyzstan	September 21, 2004
3	State Bank of Pakistan	Pakistan	October 15, 2004
4	Commission for Banking Supervision of the Republic of Poland	Poland	February 27, 2005
5	Bangkok Sentral ng Pilipinas	Philippines	October 18, 2005
6	Central Bank of the Russian Federation	Russia	November 3, 2005
7	Banking Regulation and Supervision Agency of Turkey	Turkey	July 11, 2006
8	Bank of Thailand	Thailand	September 18, 2006
9	National Bank of Ukraine	Ukraine	January 30, 2007
10	National Bank of the Republic of Belarus	Belarus	April 23, 2007
11	Qatar Financial Centre Regulatory Authority	Qatar	May 11, 2007
12	Dubai Financial Services Authority	Dubai	September 24, 2007
13	State Bank of Vietnam	Vietnam	May 5, 2008
14	Bank Negara Malaysia	Malaysia	November 11, 2009
15	The Czech National Bank	Czech Republic	January 5, 2010
16	Bank of Indonesia	Indonesia	July 15, 2010
17	The Otoritas Jasa Keuangan Republic of Indonesia	Indonesia	June 4, 2015
18	National Bank of Tajikistan	Tajikistan	November 25, 2010

19	Reserve Bank of India	India	December 16, 2010
20	The Central Bank of Cyprus	Cyprus	July 15, 2011
21	National Bank of Cambodia	Cambodia	April 8, 2013
22	The Supervisor of Banks at the Bank of Israel	Israel	May 27, 2013
23	The Central Bank of Bahrain	Bahrain	September 16, 2013
24	The National Bank of Kazakhstan	Kazakhstan	September 25, 2013
25	The Bank of Mongolia	Mongolia	August 21, 2014
26	Qatar Central Bank	Qatar	November 3, 2014
27	Central Bank of Kuwait	Kuwait	March 28, 2015
28	The Bank of Lithuania	Lithuania	June 12, 2015
29	Nepal Rastra Bank	Nepal	March 21, 2016
30	The Central Bank of Hungary	Hungary	March 31, 2016
31	Abu Dhabi Global Market Financial Services Regulatory Authority	Abu Dhabi	April 28, 2016
32	Bank Al-Maghrib	Morocco	June 10, 2016

Source: Official website of China Banking Regulatory Commission (2016)

The China Securities Regulatory Commission (CSRC) has successively signed 64 MoUs on regulatory cooperation with securities and future regulators in 59 countries and regions (CBRC, 2016). Also, China Insurance Regulatory Commission (CIRC) has strengthened ties with the International Association of Insurance Supervisors (IAIS) and actively promoted the establishment of insurance regulatory cooperation system in countries and regions along the Belt and Road. The Asian Forum of Insurance Regulators (AFIR) decided to place its Permanent Secretariat in China, to strengthen the exchanges and cooperation in insurance regulation in Asia.

The developments in the regulation of China's banking industry has provided substantial financial support for the implementation of the BRI. Data shows that as of the end of 2015, nine Chinese-funded banks had established 56 first-tier branches in 24 countries along the Belt and Road. At the same time, China banking industry further extended the scope of opening up. As of the end of 2015, 56 commercial banks from 20 countries had established seven subsidiary banks, 18 branch banks and 42 representative offices in China (The State Council Information Office, 2017).

Box 6.1 China's banking industry progress in support of the BRI

Chinese banking industry strategy in support of the BRI

In March 2016, the Chinese banking sector jointly agreed on the Proposal on Supporting the Construction of the Belt and Road Initiative. Banks committed to giving full play to the role of China's banking industry and provided sustainable medium-term and long-term support for the development of the initiative.

In particular, the banking sector is committed to:

- $\sqrt{}$ Optimise the overseas structure of Chinese-funded banks and appropriately accelerate the establishment of branches in countries and regions along the Belt and Road;
- √ Strengthen the coordination and cooperation in the banking industry with innovative service, products and mechanisms and apply diversified channels to promote its comprehensive financial service capability;
- $\sqrt{\ }$ Provide high-quality financial facilities for the Chinese enterprises to "go global" and participate in the implementation of the BRI.
- √ Leverage the diversified cross-border financing opportunities to opening up and increase the sources of long-term, low-cost capital through multiple channels.

With this agreement, the banking sector should optimise their credit structure, strengthen their credit support to meet diversified capital demands. The idea is to promote a close integration of financial capital and industrial capital in support of the industrial development of the countries and regions along the Belt and Road. This should help deepen the cooperation in the industrial projects while promoting the integration and convergence of industrial chains through industrial upgrading. Further, the industry sector would in this way strengthen cooperation, communication and exchanges with international multilateral financial institutions like the World Bank, the Asian Development Bank and AllB, as well as the national financial institutions of the various countries along the Belt and Road.

Major financial institutions in support of the BRI

China Development Bank (CDB)

As of June 30, 2016, CDB had built a project pool related to the Belt and Road covering more than 900 projects in over 60 countries and regions. The fields involve transportation, energy, resources and so on. The CDB supported the internationalisation of the RMB and support the strengthening of regional financial cooperation. It had issued RMB 130 billion of cross-border loans and issued RMB 28 billion of offshore bonds. CDB supported the financial cooperation with the SCO Interbank Consortium and China-ASEAN Interbank Consortium. It also carried out cooperation with international financial institutions like the World Bank and AllB to build a platform for regional economic cooperation.

Export-Import Bank of China (China EximBank)

Since 2014, China EximBank has signed over 900 projects in countries and regions along the Belt and Road, with an amount of over 600 billion RMB. China EximBank issued loans of over 450 billion RMB and supported commercial contracts amounting to over 360 billion USD. The projects were distributed in 50 countries and regions along the Belt and Road, especially in infrastructure connectivity, economic and trade cooperation, industrial investment and cooperation in energy resources. As of the end of 2015, the loan balance of the China EximBank in countries and regions along the Belt and Road had exceeded 520 billion RMB. Over 1,000 projects in 49 countries and regions along the

Belt and Road had a loan balance, covering numerous fields including highway, railway, harbour, electric power and communication.

Bank of China (BOC)

As of the end of 2015, overseas institutions of the BOC had covered 18 countries and regions along the Belt and Road. BOC put in credits about USD 28.6 billion. It followed around 330 major projects, with an intended supporting amount of about USD 87 billion, and issued the first Belt and Road bond in the international market.

Industrial and Commercial Bank of China (ICBC)

The ICBC has 123 branches in 18 countries along the Belt and Road regions. It has 208 reserved projects and a total investment of 220.8 billion USD.

Agricultural Bank of China (ABC)

The ABC has seven institutions in countries and regions along the Belt and Road. In Xinjing and Inner Mongolia, ABC has established regional cross-border business centres to explore markets in Mongolia and West Asian countries. It has realised direct transaction between eight national currencies and RMB, with a monetary transaction volume of 30 billion RMB.

China Construction Bank (CCB)

The CCB has reserved 195 projects related to the Belt and Road and credit demands for USD 270 billion. In November 2015, the first "Maritime Silk Road" offshore RMB bond in the world was issued by CCB Asia Corporation Limited (CCB Asia) and launched at the Kuala Lumpur Stock Exchange of Malaysia. This bond is the first RMB bond in Malaysia. It was the first time that a Chinese-funded issuer landed in the bond market of Malaysia. The capital raised from this issuance will be used for the financing of BRI projects, and to support the Chinese enterprises primarily for the construction of major projects along the 21st-Century Maritime Silk Road.

China Export & Credit Insurance Corporation (SINOSURE)

As of the end of November of 2016, SINOSURE had underwritten an amount up to USD 383.4 billion for countries and regions along the Belt and Road. It ensured a series of demonstration projects, including Central Asia natural gas pipeline, the transformation of the universal rolling mill in Chelyabinsk Steel Mill of Russia and QAM chip electrified railway tunnel of Angren-Pap railway.

Source: CDB internal working paper (2017)

6.2.3 New regional investment and financing institutions

The establishment of regional investment and funding institutions has facilitated the infrastructure construction both in China and in countries and regions along the Belt and Road, as well as the process of connectivity development and economic integration in Asia. In 2013, China initiated the establishment of the AIIB. Entered in operation in 2016, AIIB has become the first multilateral development financial institution focusing on infrastructure



construction and green financing. In December 2014, China established the Silk Road Fund that became an important channel to support the building of the Belt and Road. In July 2015, the BRICS—China, Russia, Brazil, India and South Africa—initiated and founded the New Development Bank (NDB). Headquartered in Shanghai, NDB is the first international multilateral development bank independently founded and led by emerging market economies. The establishment of the AIIB and the NDB indicates progress in the reform of the traditional global economic governance architecture, where emerging economies like China are playing a pivotal role in enhancing financial cooperation.

Asian Infrastructure Investment Bank (AIIB)

The members of the AIIB cover five continents and major economies of the world. The AIIB has become one of the most important multilateral financial cooperation platforms for the implementation of the BRI. It was formally established on January 16 2016 with 57 founding members and 20 other countries having applied for membership. The AIIB is expected to reach 85 members by the end of 2017 (CRI, 2017).²²

Up to April 2017 when this report has been drafted, AIIB has approved 12 projects and offered loans totalling about USD 2 billion (AIIB, 2017). All projects are in Asia, and most of them involve energy, transportation and infrastructure construction. The AIIB plans to expand its scale of operation gradually. It is expected that the loan amount of each year may reach USD 10 to 15 billion in the coming 5 to 6 years (Xinhua, 2016). AIIB is currently expanding its strategic partnerships with other MDBs to gradually perfect its investment and financing and global assistance function. AIIB role is indeed key to cover the huge funding shortfall of Asian developing countries in the field of infrastructure investment.

Silk Road Fund

The Silk Road Fund operates based on the principles of "marketisation, internationalisation and professionalisation", and mainly invests in large projects in fields such as infrastructure, resource development, industrial cooperation and financial assistance. Since 2015, it has supported projects advanced by the China Three Gorges Corporation in investing in the construction of hydropower stations and other energy infrastructure projects in South Asian countries like Pakistan. It also supported companies like CHEMCHINA or the Yamal LNG integration project (Xinhua, 2015). The first batch of investment projects reflects the business model and investment philosophy of the Silk Road Fund. Through diversified investment

^{22.} The members of AIIB include four of the five permanent members of the UN Security Council (China, Britain, France and Russia), 15 of the G20 countries (China, Britain, France, India, Indonesia, Saudi Arabia, Germany, Italy, Australia, Turkey, Republic of Korea, Brazil, South Africa, Russia and Canada), five of the G7 countries (Britain, France, Germany, Italy and Canada) as well as all the BRICS countries (China, Russia, India, Brazil and South Africa).

and financing modalities like equity plus creditor's rights, these projects aim at providing: ongoing support to the internationalisation of Chinese enterprises, support the introduction of world leading technologies and management, promote the adjustment and industrial upgrading and the international cooperation on energy infrastructure.

Silk Road Fund investments give primary consideration to their integration into the development strategy and industry planning of countries and regions along the Belt and Road. Typical examples include the integration with the European "Juncker Plan", the innovative development plan of Russia, and the Bright Road project of Kazakhstan. Silk Road Fund investments usually support the development of the real economy with a focus on industrialisation, urbanisation and economic structural adjustments.

New Development Bank

The New Development Bank has made substantial breakthroughs with major projects and financing bond insurance. In terms of project selection, the NDB mainly focuses on sustainable development projects and infrastructure construction. As the development level of the BRICS countries gradually increases, urban transportation, railways, highways and other infrastructure have become the key fields that the governments would like to invest in and reform. In April 2016, the NDB announced the first batch of loans totalling 811 million USD, which were used to support green energy projects in Brazil, India, China and South Africa (Xinhua, 2016); in July 2016, the NDB issued two loans totalling 100 million USD used for hydraulic power generating projects in Russia.

In the aspect of financing tools, the NDB issued the first green financial bond in Shanghai in July 2016, with a bond size of 3 billion RMB and a maturity of 5 years (China Daily, 2016). It was the first time that the NDB was approved to issue RMB green financial bonds in the China interbank bond market, and the first operation of the NDB in the capital market. The NDB will also issue hybrid bonds denominated in local currencies and limited hard currencies of the members, to reduce the financing cost of members.

6.2.4 The internationalisation of the RMB and its potential

Since 2015, the international use of RMB has developed rapidly together with the rising of its international status. In 2015, the proportion of revenue and expenditure in RMB in cross-border income and expense in RMB and foreign currencies rose to 28.7%. According to the statistics of the Society for Worldwide Interbank Financial Telecommunications (SWIFT), the RMB is the third largest currency in trade financing, the fifth largest payment currency and the fifth largest currency in foreign exchange transactions in December 2015 (PBOC, 2016).

The use of RMB in cross-border trade and direct investment continued to rise. In 2015, the receipt and payment amount in RMB of current accounts were 7.23 trillion RMB (People's Bank of China, 2016), having increased by 10.4% on a year-on-year basis. The receipt and payment amount in RMB of Overseas Direct Investment (ODI) were 736.17 billion RMB, having increased by 228.1% on a year-on-year basis. The receipt and payment amount in RMB of foreign direct investment (FDI) in China was 1.59 trillion RMB, having increased by 65.2% on a year-on-year basis.

At the end of 2015, the deposit balance in RMB of primary offshore markets was about 1.45 trillion RMB, and the outstanding balance of international bonds in RMB was 590.07 billion RMB. According to incomplete statistics, as of the end of 2015, the balance of assets in RMB, like bonds, stocks and deposits held by overseas central banks and monetary authorities in

the domestic and foreign markets, was 864.7 billion RMB. 16 countries and regions, including the United Arab Emirates, Malaysia, Hungary, Germany and Britain, had obtained the amount for the RMB Qualified Foreign Institutional Investor (RQFII), totalling 1.21 trillion RMB (The People's Bank of China, 2016).

The monetary cooperation between the People's Bank of China and other central banks continued to deepen. As of August 15, 2016, the People's Bank of China had signed bilateral currency swap agreements with central banks or other monetary authorities of 35 countries and regions, with the total amount exceeding 3.12 trillion RMB (excluding expired or not renewed ones). Among these 21 states and regions are countries and areas along the Belt and Road. The People's Bank of China has set up RMB clearing arrangements in 20 countries and territories, including the Southeast Asia, Western Europe, Central Europe, Middle East, North America, South America, Oceania and Africa, to support the use of RMB as a currency for quoting price and settling accounts.

On November 30, 2015, the IMF Executive Board decided to include RMB into its Special Drawing Right (SDR) currency basket, a decision that was put into force on October 1, 2016. Thus, the SDR currency basket was expanded to USD, EURO, RMB, JPY and GBP, and the weight of RMB in the SDR currency basket was 10.92% (IMF, 2016). The inclusion of RMB into the SDR is the recognition of China's reform of the monetary and financial system and represents a significant milestone in the integration of the Chinese economy into the global financial system.

The expansion of the use of RMB in cross-border trade and investment²³ as well as the establishment of cross-border payment, settlement and clearing system in RMB²⁴ along the Belt and Road were accelerated.

At present, in addition to major offshore RMB deposit and loan markets in Hong Kong, Taiwan and Singapore, some European countries, such as Brain and Germany, are also accelerating the development of offshore RMB markets. Europe is expected to become the largest offshore RMB market besides Asia (CDB, 2017).

23. As of June 30, 2016, the cross-border settlement amount in RMB under current accounts of China and the countries and regions along the Belt and Road had exceeded 2.63 trillion RMB. As of June 30, 2016, China interbank foreign exchange market had successively realised direct transactions in 11 currencies. During the first eight months of 2016, the actual cross-border receipt and payment amount in RMB of China and countries and regions along the Belt and Road reached 860 billion RMB. China had founded RMB clearing banks in five countries, and launched the RMB to THB and RMB to KZT interbank market regional monetary transactions, to reduce the operation cost of market participants. 24. As of August 20, 2016, China had signed agreements on settlement in local currency in general trade with central banks of many countries, including Russia and Belarus, signed agreements on settlement in local currency in border trade with central banks of countries including the Kyrgyzstan and Kazakhstan. As of June 30, 2016, RMB business clearing banks had expanded to 20, of which seven banks were in countries and regions along the Belt and Road. On June 7 and June 25, 2016, the People's Bank of China respectively signed the MoU on establishing RMB clearing arrangement in America and Russia with the Federal Reserve and Central Banks of Russia. Singapore and the Philippines successively declared to include RMB in their official foreign exchange reserve in June and October of 2016, which is the recognition the steady opening of the financial market in China and reflects that the acceptance of assets in RMB by institutional investors in their global portfolios is increasing.

6.2.5 Enhancing a regularised and more transparent cooperation in the financial market

In terms of opening the interbank bond market, it is more convenient for foreign institutions to issue bonds in RMB when in China. Central banks of many countries and regions along the Belt and Road, like Mongolia, Malaysia, Singapore, Thailand and Indonesia, have been approved to invest in the interbank bond market. Regarding the opening up of the Asian bond market, the People's Bank of China actively participated in the issuance and management work of the Asian Bond Fund under the EMEAP mechanism. They jointly



put forward the proposal on Asian bond market under the 10 + 3 financial cooperation mechanisms, and jointly initiated the Regional Credit Guarantee and Investment Fund. This can provide a guarantee for companies from the 10+3 countries to issue investment-grade bonds in local currency and promote the development of the corporate bond market in local currency. Also, relevant parties are discussing problems such as establishing multi-currency bond issuance framework and clearing intermediaries of regional obligations. The Shanghai-Hong Kong Stock Connect was successfully launched, and foreign exchange control over capital accounts was further simplified.

Besides, the trade of RMB to MYR and RMB to RUB was listed in the National Interbank Foreign Exchange Market. Yunnan Province conducted an interbank market regional trade of RMB to THB, and Shandong, Jilin, Guangxi and Xinjiang carried out a direct listing business on bank counter of RMB to currencies of surrounding countries, including KRW, VND, LAK and KZT.

The integration of China capital market with that of the surrounding countries has also improved. In August 2015, the CSRC expressed that it would further open the securities industry to foreign-funded companies. It also pointed out that it would actively promote the opening up of the market through modes such as the cross-border trade of products and connectivity, encourage the stock exchanges to integrate the market resources and support the cooperation with overseas stock exchanges in such aspects as cross-shareholding, product interoperability and intercommunication of market participants. On November 19, 2015, the China Europe International Exchange AG (CEINEX) jointly founded by Shanghai Stock Exchange, the German Stock Exchange and the China Financial Futures Exchange was officially opened in Frankfurt, Germany. The three stock exchanges together contributed 200 million RMB in a contribution ratio of 40%, 40% and 20% respectively (CEINEX, 2015). Its scope of business and products include ETF, bonds, DR and so on. It will actively launch more trading varieties to build this joint-stock trading platform into an offshore centre for RMB securities trading.

On December 22, 2016, the Moscow Stock Exchange, the CITIC Securities and China Galaxy Securities signed a MoU on strengthening Russian-Chinese cooperation in the field of cross-border investment. The signing of this MoU is an integral part of the initiative on enhancing bilateral cooperation between Russia and China in the fields of capital and investment. The two Chinese security companies are expected to provide services related to various trading securities of the Moscow Stock Exchange for their customers. The MoU also requires that assistance shall be provided for Chinese companies to be listed on the Moscow Stock Exchange.

On December 30, 2016, Chinese financial institutions completed their first overseas stock acquisition of a stock exchange. The Chinese consortium is composed of the China Financial Futures Exchange, the Shanghai Stock Exchange and the Shenzhen Stock Exchange, which

will hold 30% stock of Pakistan Stock Exchange. Also, Pak-China Investment Company Limited and Habib Bank Limited will respectively hold 5% of the remaining 10% of the stock (The Times of India, 2017). Established by an amalgamation of the stock exchanges in Lahore, in January this year, Karachi and Islamabad, Pakistan Stock Exchange is the only stock exchange in Pakistan and has trading products including stocks, bonds, stock futures, stock index futures, REITS and so on. This investment is conducive to expanding the economic and financial cooperation fields between China and Pakistan, implementing the BRI and the construction planning of the China-Pakistan Economic Corridor. (CDB, 2017)

6.2.6 Strengthening financial cooperation mechanisms

China carried out multi-level cooperation with countries and regions along the Belt and Road and jointly organised numerous regional financial cooperation platforms. These include the China-India Financial Dialogue, Bangladesh–China–India–Myanmar Forum for Regional Cooperation, CHINA-ASEAN Exposition, China-South Asia Expo, China-Eurasia Expo, China-Arab States Expo, Central Asia Regional Economic Cooperation, Boao Forum for Asia, China-ASEAN Credit Research Center and Pak-China Investment Company Limited.

China also actively built the financial cooperation platform with neighbouring countries and regions along the Belt and Road, to promote the regional financial cooperation. For example, China-Kazakhstan Horgos International Frontier Cooperation Center was established in Xinjiang to innovate the cross-border RMB business. China and Laos signed the Joint General Schee of China-Laos Mohan-Boten Economic Cooperation Zone and General Planning for Joint Development of China-Laos Mohan-Boten Economic Cooperation Zone in succession, to construct the "China-Laos Mohan-Boten Economic Cooperation Zone" in Yunnan Province of China and Namtha of Laos, inaugurated on December 18, 2016.

In addition, it's worth mentioning that, CDB initiated the establishment of the ASEAN Interbank Consortium and SCO Interbank Consortium and is preparing for establishing the China-Central and Eastern Europe Interbank Consortium (CDB, 2017).

Box 6.2 Suzhou Industrial Park: A China-Singapore joint project

China-Singapore Suzhou Industrial Park ("the Park"), as the largest cooperation project between the governments of China and Singapore, has become the model of China-Singapore cooperation. It has brought benefits for both parties and has become a science and technology industrial park able to compete at international level.

From 1994 to 2006, the major economic indicators of the Park increased by about 40% on average each year. The Park had paid a total amount of taxes at the central, provincial and municipal level of 52 billion RMB accumulatively and created over 400,000 jobs. The per capita income of rural residents was 10,698 RMB, and the per capita wage of urban dwellers exceeded 27,800 RMB. At the same time, the water consumption per ten thousand RMB of GDP was 5.8 tonnes and the energy consumed was 0.43-ton conventional coal. Each kilowatt-hour of power generated GDP of 25 RMB and industrial output value of 100 RMB, reaching the advanced world level in the 1990s. Thus, the Park opened a new path of industrialisation with high-output, low-energy consumption and no direct pollution and was selected as the No. 1 development zone with the most investment value for multinational companies.

How it operates

The two governments have specially set up the China-Singapore Joint Steering Council and create the China-Singapore Suzhou Industrial Park Development Co., Ltd. (CSSD) to coordinate and advance the development of the Park. The Park has three levels of leading and working mechanisms so that the operation and development of the construction zone can be guaranteed by the firm support of all levels of governments. The first level is the national governmental Joint Steering Council, which is constituted by relevant national ministries and commissions. It is responsible for coordinating significant problems in the development and construction of the zone and gives full play to the functions of the government in legislation, coordination and regulation. The second level is the Bilateral Working Committee, which is constituted by relevant departments of the local government and responsible for discussing and cooperating in specific matters, reporting them to the Council. The third level is the contact agency, which is responsible for regular communication, experience exchanges and training.

The financial setting

The government has set up a commercial lending institution, the Suzhou Industrial Park Real Estate Operation and Management Co., a commercial financing platform led by the government that oversees the borrowers' portfolio and operations from internal/external cash flow to financial compensation mechanisms.

Under this, there is the Suzhou Industrial Park Land Reserve Centre, which performs the functions of land auction and granting the Real Estate Operation Company to accept loans from the CDB to develop and construct the Park, and take the future income from land appreciation as the guarantee for repayment, thus realising the integration of "borrowing, use and repayment" of an infrastructure project.

China-Singapore Joint Steering Council

China

<u>Vice Premier Wang Qishan</u> Ministry of Commerce

Ministry of Foreign Affairs
National Development and Reform

Commission

Ministry of Housing and Urban-Rural

Development

Ministry of Finance

Ministry of Land and Resources

Ministry of Science and Technology General Administration of Customs

State Administration of Taxation

State Administration for Quality Supervision

and Inspection and Quarantine

People's Government of Jiangsu Province

People's Government of Suzhou Municipality

<u>Singapore</u>

Deputy Prime Minister Teo Chee Hean

Ministry of Trade & Industry Ministry of Foreign Affairs Prime Minister's Office

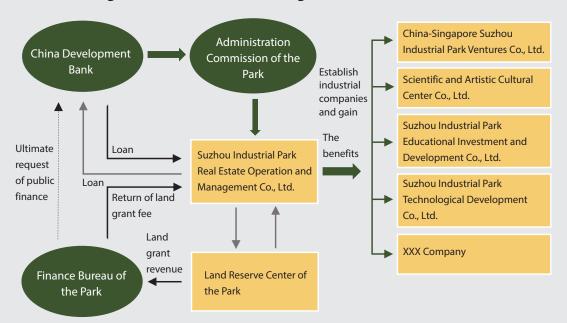
Ministry of National Development

Ministry of Education

China-Singapore Bilateral Working Committee



Schematic Diagram of Commercial Financing Platform



In the new round of cooperation between the CDB and the Park, the Real Estate Operation Company reflects innovation. It actively supports improvements in governance structure, legal person, cash flow and credit, and promotes the Park to build an effective investment and financing platform. This innovation has established the legal entity system in infrastructure construction projects of District II and III of Suzhou Industrial Park. The Park takes the Real Estate Company as an example of how to comprehensively promote institutional improvement. It has successively established eight major subjects of investment and financing based on the construction industry, thus greatly alleviating the difficulty in financing.

Source: China-Singapore Suzhou Industrial Park Development, as per CDB internal working paper (CDB, 2017).

6.3 Challenges for financial integration along the Belt and Road



Despite the notable progress in financial integration along the Belt and Road, challenges exist considering the net of interlinked economic and social-political factors as briefly underlined below:

i) Major differences in the capacity of infrastructure for financing

Most countries and regions along the Belt and Road are developing countries and emerging economies with a considerably uneven development of infrastructure. Modern financial cooperation is highly based on ICT infrastructure. The weakness of capacity of infrastructure has caused difficulties for regional financial cooperation. For instance, only 24 countries have over 60 Internet subscribers per hundred persons²⁵, which means that financial communication facilities are unable to be widely covered countries along the Belt and Road.

ii) Mismatch between project demands and financial services

The financial services for the BRI involve infrastructure financing, trade financing, insurance services and RMB settlement services. The investment in infrastructure includes the construction of railways, highways, ports, oil and gas pipe transportation, upgrading and rebuilding of telecom fixed network and broadband, and intelligent power grids. Trade financing is mainly reflected in providing services of investment under export credit and service business, credit insurance funding of equipment, and cross-border supply chain finance. The high risks in the financial cooperation within countries and regions along the Belt and Road generate demand for insurance services, such as policy insurances like overseas investment insurance and export credit insurance introduced in the export financing of large-sized complete equipment. The extensive cross-border financial cooperation of multiple currencies along the Belt and Road involves currency exchange, connectivity of financial infrastructure, regulation coordination and the design of cross-border monetary and financial cooperation framework at bilateral and multilateral levels. At present, there are huge financing demands for infrastructure construction and energy projects in the early stage of project development. Due to its long investment cycle and high risks, it is difficult to provide the innovative financial services required by trade financing, insurance and RMB internationalisation. Therefore, a mismatch between project supply and the financial services existed at the early stage of cooperation.

iii) Inconsistency in mechanisms of financial market operation

The mechanisms of financial market operation vary widely among countries and regions along the Belt and Road. Eurasian countries as for instance Russia are gradually strengthening their competition and risk regulation mechanisms. Among the ASEAN countries, Singapore, Malaysia, Indonesia, the Philippines, Thailand and Brunei Darussalam have more mature competition mechanisms, price mechanisms and risk management mechanisms due to the early financial marketisation reform. The favourable financial environment enables the net inflow of capitals. The new members of the ASEAN, i.e. Viet Nam, Lao PDR, Cambodia and Myanmar, are still in the period of financial market transition. In Europe, the financial market is relatively developed, with fully developed operation mechanisms.

^{25.} According to the Database of the Belt and Road published by the Chinese Academy of Social Sciences, as per CDB internal working paper (2017).

iv) Incompatibility of cross-border financial information technologies

The financial information technology of China is incomparable to that of many countries and regions along the Belt and Road. The cross-border payments of RMB have limits. The traditional financial networking has not realised regional integration. The networking of traditional commercial business means that traditional financial institutions, such as major banks, security companies and insurance companies, recognise online transfer, online investing and financing, online lending, online safety and insurance trading. They provide relevant information services and other traditional financial business, by establishing online banking, online security and online insurance platforms. Due to different levels of financial development, countries and regions along the Belt and Road are not able at present to realise the full networking of traditional commercial business. Further, innovative financial models that emerged from Internet finance, such as the third-party payment, big data banking, P2P lending, crowd funding and the third party financial platform, can't yet be used simultaneously in many of the countries and regions along the Belt and Road.

Box 6.3 How to strengthen financial integration along the Belt and Road

Exchange ideas and enhance communication

Strengthen regional cooperation mechanism and existing platforms

Mutual coordination

Strengthen medium-term to long-term advantages of development finance

- Enhance cooperation among the AIIB, the ADB and the World Bank and the Silk Road Fund and other financial institutions participating in the initiative
- Provide medium- and long-term investment and financing services for selected largesized infrastructure construction projects

Accelerate the distribution of financial institutions along the Belt and Road

- Build a network of branch offices along the BRI
- Develop competitive international financial products
- Lead economic cooperation such as trans-regional equity cooperation, syndicated loan and financing agency

Improve the financial market

Encourage the building of a deep and liquid Asian Bond Market

- Develop bond market in local currency for rising trade and investment
- Accelerate the development of the intra-regional bond market within Asian countries

Construct a bulk commodity trading market with RMB

- RMB can be used as the currency for payment and settlement in the upper-tier, middle-tier and lower-tier of oil and gas resource development and cooperation
- Suggest AIIB to take RMB into the basket of one of the future settlement currencies
- Develop cooperation with offshore financial markets
- · Promote the scale of local currency swap
- Establish the interaction mechanism between offshore and onshore RMB markets
- Guide the pricing of RMB financial products

Setting up a robust financial system

Expedite the development of green finance along the Belt and Road

Advocate innovative changes in the international monetary and financial system

Establish and complete the legal and regulatory system of financial supervision

Strengthening cooperation on financial supervision and regulation

Stricter supervision and monitoring of the financial institutions, financial products and financial market (including hedge funds, credit rating agencies and remuneration for enterprise executives) could ensure transparent, efficient, and open transactions

Improve the regional regulatory coordination mechanism of the BRI and strengthen the communication and coordination with the regulatory authorities of countries along the Belt and Road.

Make use of the increasingly developed modern financial tools (e.g. internet finance)

Chapter 7 - International capacity cooperation



BRI progress on international capacity cooperation

The BRI aims to build a new global value chain and a transnational capacity cooperation system. As the progress of the BRI unfolds, international capacity cooperation has become a key to strengthening international cooperation between countries and regions along the Belt and Road. Since the BRI inception in 2013, some progress can be observed. Those include strengthened cooperation mechanisms, diversified cooperation fields and modalities, implemented cooperative projects and expanded regions of cooperation.

Challenges in international capacity cooperation

At present, countries and regions along the Belt and Road are facing diverse challenges in their economic development giving ground to promote a new round of cooperation. For instance, the development of infrastructure is still stagnant and doesn't meet the international standard in either quality or quantity. Infrastructure investment remains a constraint in the division of labour and cooperation in value chains. Trade cooperation still remains at a low level. Most countries and regions along the Belt and Road are at risk of "middle- and low-end locking" in the global value chain.

Strengthening international capacity cooperation towards sustainable development

The BRI can create new opportunity for countries and regions along the Belt and Road to realise industrialisation. The connectivity of infrastructure and energy trade under the BRI framework can be key to promoting regional industrial and trade cooperation. Tackling global economic depression requires the strengthening of innovative multilateral cooperation mechanisms which can also help promote the BRI in its process.

7.1 The role of sustainable industrialisation

There are many pathways to industrialisation. To boost infrastructure, industrialisation and innovation along the Belt and Road and achieve mutually beneficial industrial development, countries and regions should maximise sustainable practices at the national level and with value chain actors. No concept fits all, and the challenge is to find a way based on the national realities while aligning supply chains with sustainable development.



In the achievement of the proposed SDGs – and for this section specifically Goal 9: "Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation" - the imperative of greener economic transformations, inclusive and sustainable industrial development (ISID) relates to:

- Long-term and sustained industrialisation as a driver for economic development.
- Socially inclusive industrial development and society, offering equal opportunities and an equitable distribution of benefits.
- Environmental sustainability, decoupling the prosperity generated by industrial activities from excessive natural resource use and negative environmental impact (UNIDO, 2016).

Box 7.1 SDG 9 Industry, Innovation and Infrastructure

What: To build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation.

Why: Economic growth, social development and climate action are heavily dependent on investments in infrastructure, sustainable industrial development and technological progress. In the face of a rapidly changing global economic landscape and increasing inequalities, sustained growth must include industrialisation that first, makes opportunities accessible to all people, and second, is supported by innovation and resilient infrastructure.

Source: UN 2017

Effective international cooperation can help improve value chains which themselves can exert positive impact and create offspring for country-level development. The following table introduces a schematic illustration of how the various dimensions for improvement in a value chain could affect a given set of development goals. However, the categories are generic and the magnitudes are illustrated.

Figure 7.1 Relationship between value chain dimensions and development goals

Value Chain Development Dimensions	Poverty Reduction	Employment and income	Economic growth	Firm development	Cleaner production and environmental sustainability
Improved sourcing of inputs and supplies	+++	++	+++	++	-
Improved production capacity and technology	+	++	+	++	++
End-markets and trade			+	+	
Improved governance of value chain	++	+	+	++	
Improved sustainable production and energy use	-	+	++	-	++
Value chain finance	++	++	++	+++	+
Improved business environment and socio-political context	+	+	+++	++	+
+ Slightly positive ++ Positive +++ Very positive effect - Slightly negative Negative Very negative effect					

Source: http://www.unido.org/fileadmin/user_media/MDGs/IVC_Diagnostic_Tool.pdf

7.1.1 The role of international capacity cooperation in accelerating industrialisation

International capacity cooperation can accelerate industrialisation, which in turn expand the opportunities for the former (African Development Bank, Development Centre of the Orgnisation for Economic Co-operation and Development, United Nations Development Programme, 2014). In this two-way process, industrialising economies can gain access to networks overseas and engage in industrial upgrading.

Cooperation in industrial capacity typically takes place between developed and developing economies. For instance, after becoming the world's prime industrial power, the United States exported its technology and industries countries in the second half of last century to some developing countries, including Japan and West Germany. Since China launched its economic

reform in the late 1970s, the country has seen its industrial capacity growing dramatically, partly due to its industrial cooperation with advanced economies (Fu, 2015).

Despite its status as a developing economy, China has also been significantly exporting its industries to industrialising countries, which makes it a unique case in industrial cooperation (Li, 2016). In 2014, Chinese Premier Li Keqiang began to promote the concept of international capacity cooperation, which refers to the supply of some production capacity of one or more economies to others in need of it (The State Council, 2017). It presents a chance for industrialising countries at different development levels to speed up their industrialisation and to overcome structural obstacles arising in the process. Industrialisation is, meanwhile, the structural transformation of an agricultural or natural-resource-based economy into one driven by high-productivity activities in manufacturing, aiming to lift people from poverty and raise their living standards (Szirmai, A., Naudé, W., & Alcorta, L., 2013). Nevertheless, changing an economic structure is often challenging. Among the most common types of constraints are inadequate infrastructure, the lack of human capital and weak technological capacities (UNIDO, 2016). Some countries thus succeed in nurturing a few high-tech industries, but fail to build a high-tech economy (ADB, 2015).

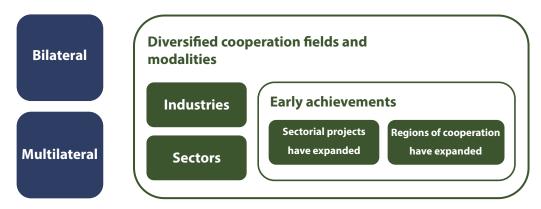
Industrialisation projects of both the exporters and importers of production capacity can benefit from their cooperation. While less industrialised countries can ensure industrial upgrading, particularly by constructing and improving infrastructure and factories, countries processing huge capacity can direct their economic growth patterns more effectively by tackling excess capacity, one of the goals of Beijing's "Made in China 2025" strategy (CGTN, 2017). Via international capacity cooperation, countries can develop their comparative advantages without taking an excessively narrow scope of industrialisation. The process can also tighten their economic ties to each other and facilitate their access to foreign expertise and markets, thus consolidating the foundation for their industrialisation and prevention of economic crises. Industrialisation projects of different economies may proceed individually, but capacity cooperation would bring about strengthened coordination.

7.2 Progress on international capacity cooperation along the Belt and Road

The advancement of regional economic integration and the adjustment of international trade and investment structure lead countries and regions along the Belt and Road to a critical stage of development and transformation. The Belt and Road is not only an initiative connecting Asia and Europe for a mutually beneficial and win-win relationship but also promoting a new round of globalisation. As connectivity is the basis of the value chain and international capacity cooperation of the Belt and Road, a double circulation development model - described in the previous analysis in chapter 4 and 5 of this report - might help explain how this process is unfolding with reference on the industrial transfer of agriculture, industry and services under the framework of the BRI. The model can provide a theoretical basis for economic and trade cooperation zones at points of major cross-border connections and ports along the Belt and Road, and partnerships in the global value chain.

The BRI aims to build a new global value chain and a transnational capacity cooperation system. As the progress of the BRI unfolds, international capacity cooperation has become a key to strengthening international cooperation between countries and regions along the Belt and Road. Since the BRI's inception in 2013, some progress can be observed.

Figure 7.2 Progress on international capacity cooperation along the Belt and Road



I. Cooperation mechanisms

Bilaterally, China has established institutionalised capacity cooperation with more than 20 countries such as Kazakhstan, Indonesia, Brazil and Peru. Multilaterally, China has signed a MoU with the African Union to strengthen the cooperation on railway networks, highway networks, regional airline networks and industrialisation, and has founded the China-Africa Fund for Industrial Cooperation. In addition, China has established the China-EU Mutual Investment Fund to match the European investment plan and reach multiple consensuses with ASEAN, Central and Eastern European countries in terms of international capacity cooperation (CDB, 2017).

II. Diversified cooperation fields and modalities

At present, different types of industries in countries and regions along the Belt and Road carry out transnational capacity cooperation. These industries include traditional top-tier industries (such as light industry, household appliances, textile and garment), superior industries with spare production capacity (such as steel, electrolytic aluminium, cement and sheet glass), as well as superior equipment manufacturing industries (such as electrical equipment, engineering machinery, communication equipment, high-speed railway and rail transportation) (CDB, 2017).

III. Cooperative projects' early achievements

Cooperative projects on railway such as the Djakarta-Bandung High-speed Rail, the China-Laos Railway, the China-Thailand Railway and the Hungary and Serbia Railway have marked in China's cooperation with other countries early achievements.

In the **energy transmission and generation** sector, the British government approved a nuclear power plant, jointly invested by China and France with USD 18 billion of total investment. This project aims to create 25,000 jobs during the construction and satisfy 7% of Britain's power demand after completion. It is not only an important progress achieved in the field of international nuclear power cooperation but also an example of international capacity cooperation between China and the countries and regions along the Belt and Road. In 2015, the Silk Road Fund invested USD 1.65 billion in Pakistan, aiming at building the Karot Hydropower Station to help resolve the local problem on power shortage. This project will also play a complementary role in promoting the process of industrialisation.

Industrial park construction is another key sector. Most countries and regions along the Belt and Road are at the early stage of the industrialisation process and have great market potential and strong will to attract foreign investment. The construction of cooperation zones can support the industrialisation process of the host country and the development and upgrading of a network of industries (such as light textile, household appliances, steel, construction materials, chemical engineering, automobile, machinery and minerals). At present, China is building 56 cooperation zones in 20 countries along the Belt and Road, accounting for 73% of the total number of cooperation zones under construction. With an accumulative investment of USD 18.55 billion, 1,082 enterprises and a total output value of USD 50.69 billion, these cooperation zones will pay taxes and dues equivalent to USD 1.07 billion to the host countries and aim at creating 177,000 jobs. Among the cooperation zones, some key projects worth mentioning are as the China-Belarus Industrial Park, China-Egypt Suez Free Trade Zone and Malaysia-China Kuantan Industrial Park (CDB, 2017).

IV. Regions of cooperation

Beyond Asia and Europe, China's ties with Africa have also been strengthened. China announced a USD 60 billion investment to support China-Africa capacity cooperation along with key some pilot projects as for instance the Ethiopia capacity cooperation project. Other cooperation examples to be mentioned are the pilot projects in Kenya, Tanzania, Egypt and South Africa, for building the African "three networks and industrialisation". The "China-Africa Industrialization Cooperation Plan" announced by President Xi Jinping at the Forum on China-Africa Cooperation in 2015 is linked to African industrialisation efforts and aims to support the construction of various industrial districts to promote international cooperation in terms of equipment and production capacity (FOCAC, 2015).

Cooperation among China and countries in the Middle East has also been strengthened. China will provide a loan of USD 15 billion for the industrialisation of the Middle East, as well as commercial loans of USD 10 billion and concessional loans of USD 10 billion to support the capacity cooperation with the Middle East with a special focus on the energy sector (CDB, 2017).

Box 7.2 China-Egypt Suez Economic & Trade Cooperation Zone

Overview

China-Egypt Suez Economic & Trade Cooperation Zone is one of the national overseas economic and trade cooperation zones approved by the Chinese government. It is located in the North-West Economic Zone of the Suez Bay in Egypt, 120 km from the capital Cairo, 40 km from Suez, and only 2 km from the most modern port of Egypt, Port of El Sokhna.

Since its construction and expansion in 2008, the area has become the gathering place and the cluster development platform of Chinese enterprises investing overseas as well as other foreign enterprises.

a. Construction scale

Initial area. The cooperation zone has a planning area of 9.12 km², and its initial area counts 1.34 km² with an accumulative investment of USD 93.42 million completed in 2013. This area was initially divided into five districts: 1) the petroleum equipment industrial park led by Honghua Drilling Rig and International Drilling Material Manufacturing Company, 2) the high and low voltage electrical equipment industrial park led by XD-EGEMAC High Voltage Electrical Equipment Co. Ltd. 3) the textile and garment industrial park led by Egypt CTMC Nonwovens Co., Ltd., 4) the new building material industrial park led by Jushi Egypt Fiberglass Co., Ltd., and the machinery manufacturing industrial park led by Muyang Storage Engineering Co., Ltd. By 2015, there were 32 manufacturing enterprises and 38 enterprises of other types, with a total investment of USD 460 million.

Expansion area. Covering an area of 6 km² and with an officially effective land contract, the expansion area is about to carry out investment for the construction of the first development phase. The expansion area of the cooperation zone will be developed and constructed gradually according to market demands in three phases, to be completed within 10 years. After completion, it aims to attract 150 enterprises and USD 1.5 billion investment and create 30,000-40,000 jobs.

b. Industrial planning

The cooperation zone will be divided into four functional divisions: business, industrial, warehouse logistics and residential. This implies that the area aims at becoming a modern industrial town integrating production and residential areas.

The initial area will focus on the development of four industrial clusters: petroleum equipment, textile and garment, new building material and high and low voltage electrical equipment. The expansion area will comprise three leading industries (such as export processing, advanced manufacturing and modern warehouse logistics), three kinds of auxiliary services (exhibition, transaction and technological R & D of bond commodities, service outsourcing and business work) and one supporting facility (residential and services area). The plan is to develop the following types of industry: transportation equipment, textile and garment, petroleum equipment, high and low electrical equipment, chemical engineering, new building materials, high-tech, R&D services and warehouse logistics business services.

Development mode

a. Investors and investment model

The China-Egypt Suez Economic & Trade Cooperation Zone is one of the second batch of national overseas economic and trade cooperation zones approved by the government of China and comprises of national resources for development and construction. It is jointly established by the two governments of China and Egypt and the land operators TEDA Investment Holding Co., Ltd.

In July 2008, TEDA Investment Holding Co., Ltd.²⁶ (holding 75% shares), TEDA Suez International Cooperation Co., Ltd. (holding 5% shares) and the Egypt-China Joint Venture Company²⁷ (holding 20% shares) jointly established Egypt TEDA Investment Co., Ltd. with a registered capital of USD 800 million, of which 80% shares were held by China and 20% by Egypt.

In October 2008, TEDA Investment Holding and China-Africa Development Fund Co., Ltd.²⁸ established the China-Africa TEDA Investment Co., Ltd., with a registered capital of RMB 420 million, of which 60% shares were held by TEDA Investment Holding Co., Ltd. and 40% by China-Africa TEDA Investment Co., Ltd. After being approved by the Ministry of Commerce (SBHZQBH [2009] No. 2) in 2009, China-Africa TEDA Investment replaced TEDA Investment Holding to hold 75% shares of Egypt TEDA Investment and became the major domestic investor of Egypt Suez Economic & Trade Cooperation Zone.

As for the investment mode, the investors of the cooperation zone are established through a joint investment of China and Egypt, thus forming an "interest binding" mechanism between both parties. This investment model can support the financial strength of the enterprises in the cooperation zone while enabling China and Egypt to share the operation risks.

b. Operator

Egypt TEDA Investment Co., Ltd. is a China-Egypt joint venture enterprise registered in Egypt. The company mainly undertakes the development, construction, management and investment facilitation in the Egypt Suez Economic & Trade Cooperation Zone. The operating purpose of Egypt TEDA is to provide all-around, high-quality and sustainable investment services for the enterprises (mainly Chinese enterprises) in the Egypt Suez Economic & Trade Cooperation Zone. It furthermore aims to build a modern industrial pilot zone along the Egypt Suez Economic Zone.

26. TEDA Investment Holding Co., Ltd. was founded in December 1984. Its business mainly covers regional development and real estate, public utilities, manufacturing industry, finance and modern service industry. TEDA Investment Holding Co., Ltd. led the regional construction and management of the Tianjin Economic-Technological Development Area developing a region with optimal investment environment and highest return on foreign investment in China (CDB, 2017).

27. The Egypt-China Joint Venture Company incorporated five enterprises appointed by the governments of China and Egypt with a joint contribution of USD 70 million. The four most powerful state-owned enterprises of Egypt, Banque Misr, National Bank of Egypt, Arab Contractors and Suez Canal Authority, contributed USD 15.75 million respectively, and held 22.5% shares of the joint venture company respectively. TEDA Suez International Cooperation Co., Ltd. of China contributed USD 7 million and held 10% shares of the joint venture company (CDB, 2017).

28. China-Africa Development Fund is one of the eight policy measures of cooperation with Africa raised by President Hu Jintao in the Beijing Summit of the Forum on China-Africa Cooperation in November 2006. It is a special fund established to support Chinese enterprises to cooperate with Africa and explore the African market. It is the first fund declared to be founded by the President of China and unveiled for opening by leaders of the State Council, the largest private equity fund in China at present and the first equity investment fund focusing on the investment in Africa. The establishment of China-Africa Development Fund was duly approved by the State Council. The first-phase capital of USD 1 billion was contributed by China Development Bank and finally reached USD 5 billion. Egypt Suez Economic & Trade Cooperation Zone is the first overseas economic and trade cooperation zone project invested by China-Africa Development Fund.

c. Business model

Given Egypt's condition and capacity and the experience of TEDA, China-Africa TEDA Investment Co., Ltd. followed the following procedures in the development and construction of the cooperation zone: 1)purchase of land; 2) realise connections of municipal roads, water supply, electricity, heating, drainage, sewerage, telecommunications (broadband), and levelling of land; 3) build usable industrial factory buildings and incubation parks; 4) build regional ecological landscape; 5) build the comprehensive service supporting facilities. These measures were included to facilitate the integration of the cooperation zone into a modern sustainable industrial town that could help fill the gap of weak infrastructure in Egypt's investment environment thus enhancing its regional value. After finalising the development of the supporting facilities, China-Africa TEDA Investment Co., Ltd. invites investment²⁹ by leasing the factories and office buildings and selling the industrial land, so that the enterprise intending to invest in the zone can immediately enter the zone and carry out their activities.

In the operation of the initial area, the cooperation zone can increase the income of the park through increasing the space of operational assets and obtaining the hotel revenue and rent of the plants and apartments of the residential area. In 2013, Egypt TEDA Investment realised net profit sharing bonus of RMB 9 million and the earnings of the hotel that year reached EGP 7.53 million.

Source: China Communication Construction Company Limited as per CDB internal working paper 2017 (CDB, 2017).

7.3 Challenges in international capacity cooperation

At present, countries and regions along the Belt and Road are facing diverse challenges in their economic development. This can give ground to promote a new round of cooperation.

I. Infrastructure investment: a constraint in the division of labour and cooperation in value chains

It is estimated that Asia needs approximately USD 8 trillion on infrastructure between 2010 and 2020 (Bhattacharyay, 2010). The development of infrastructure in many countries and regions along the Belt and Road is still stagnant, as the infrastructures do not meet international standards in either quality or quantity. This has become the largest obstacle to the economic and trade cooperation in these regions. For example, the new Eurasia Railway goes through many countries, however, containers must be offloaded from one train and loaded onto another using different wheel gauges; a cooperation mechanism among the ports of the countries has not been established, thus leading to insufficient and higher cost

^{29.} The cooperation zone mainly invites the investment through multiple channels including promotion conference, visiting, point-to-point investment invitation, investment invitation via public praise and intermediary investment.

of transit, and the backward port facilities in some countries make commodity transfer and service circulation more difficult.

II. Trade cooperation in regions along the Belt and Road is still at a low level

EU, NAFTA and ASEAN have achieved substantial progress in regional integration, however, countries and regions along the Belt and Road account for a low proportion of the total foreign trade and their economic and trade cooperation is still at the early stage.

As economic globalisation remains the general global economic trend, the world economy pattern has transferred from a "core-periphery" single circulation system to a "double circulation" system. Trade synergy brings new adjustment in trade growth patterns. For example, there will be integration and interaction between trade and direct investment and industrial transfer, a transformation from inter-industry trade into intra-industry trade, readjustment of the trade structure and trade conditions, as well as a synergetic development of the relationship between trade and FDI promoted by institutional arrangement.

III. Most countries along the Belt and Road at risk of "middle- and low-end locking" in the global value chain

Although emerging economies have increased their participation in the division of labour of the value chain, and have seen economic growth, they are still at the developing stage of utilising primary resources and labour force and face the risk of achieving limited gains from trade. For example, most countries with a resource-oriented trade structure have an undiversified economic structure and heavily rely on overseas market demands. Therefore, they are inevitably facing high international market risk. The stagnant international market, slow growth of world economy and fluctuation of international energy prices and other factors will impact on their domestic economy.

For countries with manufacturing-oriented participation mode, which engages in the labour-intensive links in the global value chain with low labour cost, they rely greatly on foreign technologies and capital, likely to form the locking effect of the division of labour in low-end trade links. They will face competition from the low labour cost of developing countries, therefore their international trade benefit will be further squeezed. Besides, the highly energy-consuming and high-polluted manufacturing industry will bring negative effects such as resource exhaustion and environmental deterioration to the country. Countries mainly undertaking labour-intensive outsourcing services face the risks of backward domestic industrial development, low-end locking of outsourcing links and lower gains from trade, etc. As for countries of agriculture-oriented trade benefit structure, the short domestic value chain will bring such problems as a low export capability of domestic value added and low industrial employability. They also face the risks of natural disaster, price fluctuation and change in market demand structure among others.

7.4 Strengthening international capacity cooperation towards sustainable development

As regional economic integration advances and the international trade and investment structure are under profound adjustment, countries and regions along the Belt and Road are at a critical stage of development and transformation, with the goal of accelerating their development. International capacity cooperation can play a pivotal role in the long-term

success of the initiative if several considerations will be taken into account and properly implemented:



China acts as a bridge player to boost international capacity cooperation towards sustainable development in the global value chain

As the industrial structure in China moves away from secondary production, the past pattern of industrial division of labour in Asia led by Japan has gradually shifted. Countries and regions along the Belt and Road are at different stages of industrialisation, and they possess natural resources and comparative advantages in industry. The labour cost and relative comparative advantages in natural resource endowment of each country could make the labour-intensive industries and capital-intensive industries of China transfer to countries around and along the Belt and Road in the next 5 years. This will drive the industrial upgrading and promote the industrial level of these countries, as well as strengthen a "double circulation" model, where China acts as a bridge player. If this pattern is properly implemented and risks well-managed, it could be used to boost international capacity cooperation to favour sustainable development.



Promote a larger participation of countries in the global value chain

The BRI cooperation framework should especially support and encourage developing countries along the Belt and Road to join the global value chain network system. With the development of new information technology and the internet, countries and regions along the Belt and Road could accelerate and deepen their cooperation in terms of emerging industries and technologies like digital trade, service trade, intelligent manufacturing, green manufacturing and new information technology. The cooperation framework of the Belt and Road should, for instance, accelerate and promote the implementation of "digital trade agreements"; promote small and medium-sized enterprises (SMEs); promote the standardisation of the rules and regulations in information, trade and industry, through a series of new policies to address various issues, including minimum customs threshold, responsibilities of intermediary agent, privacy right, intellectual property, protection of consumer rights, electronic signature and dispute resolution.



Strengthen cross-border cooperation

With extensive land border and maritime border touching many neighbouring countries, effective cross-border economic cooperation zones and regional economic cooperation zones are critical for the implementation of the BRI and its connectivity. The BRI cooperation framework could, therefore, work to attract enterprises to invest in industrial pilot zones and industrial parks; promote integrative development of related industries (including modern manufacturing industry, service industry and modern agriculture through the construction of high-quality manufactured equipment). It could also combine the construction of economic cooperation zones with that of border cooperation zones to build a cross-border industrial chains; streamline and improve the supply chains, value chains and industrial chains of regional cooperation; and adopt various strategies such as franchise rights to promote overseas investment and operation of large enterprises that focus on energy and infrastructure; promote the construction of cross-border parks and incentivize investment cooperation.



Combine the development of hard and soft infrastructure

The connectivity of infrastructure and energy trade under the framework of the BRI is of great significance for promoting regional industrial and trade cooperation. The Belt and Road will rely on the connectivity of the infrastructure to optimise the allocation of the trade and production in countries and regions along the Belt and Road, to promote the development of regional integration. This will include the construction of facilities in the border ports such as airports, seaports, expressways and high-speed railways. However, as a multidimensional platform, it should be not limited to the construction of hard infrastructure but should also encourage full integration of soft infrastructure into its strategy. The synergies and complementarities between the BRI and SDGs can help create a win-win outcome by furthering sustainable human development across a range of countries. The five priorities of the BRI have a marked overlap with the global sustainable development framework and the associated set of SDGs. The credibility of the initiative would be boosted further by filling SDGs with local content and enhancing their coordination. The BRI can attain a critical mass by encompassing all key aspects of human development—including critical social issues such as inequality and inclusiveness, and environmental risks—ensuring that it is seen by all partners to transcend short-term commercial or political interests, helping it 'win the hearts and minds' of other countries.

Chapter 8 - Human capital development for stronger people-to people bonds



Human capital should be managed and invested to ensure returns

With China's rise in the global arena, the BRI calls for more win-win opportunities and people-to-people exchange. Education can be a powerful people-to-people enabler and simultaneously create opportunities for balanced human development across the countries and regions along the Belt and Road, greatly contributing to achieving growth and social well-being. The BRI can generate opportunities for inclusive growth and profoundly improve participating countries' human capital development if investments are well-channelled.

Human capital development across the Belt and Road for strengthening people to people bonds

It is in the context of the BRI that human capital development can be harnessed to develop economic growth across countries and regions. Skills play a key role in determining countries' comparative advantages in global value chains. Many of the opportunities and challenges brought about by global value chains are being affected by the workforce's skill set in countries.

Educational cooperation in countries and regions along the Belt and Road is a pillar for mutual trust and understanding

Educational cooperation is a key instrument to enhance mutual trust and understanding. Education, from vocational training to higher education, could make the difference and serve the purpose of achieving win-win outcomes along the Belt and Road. The BRI could encourage a joint development system in which countries become effective partners reinforcing each other's development. Strengthen research on major common challenges and feasible solutions will be essential.

8.1 Macro and micro economic levels of human capital

Human capital refers to the acquisition and deployment of skills, talent, knowledge and experiences of individuals and/or populations, as well as their values attached to their organisations, economies and societies (World Economic Forum, 2015). Nations should develop their human capital for sustainable macroeconomic growth (Barro R. , 1991) (Barro & Lee, 1993) (Bartel & Lichtenberg, 1987) (Gintis, 1971). Education, workforce and employment are all critical factors to consider. At the national level, education underpins sustainable growth and development. To emerging economies, skills and knowledge are their greatest assets.

China has transformed itself from a predominantly rural and command economy into a market economy over the past 35 years. Its economic expansion can be partly attributed to its effective uses of human resources, in addition to market reform and outward-oriented policies. China has built up its stock of human capital in terms of education and skills development, which in turn stimulates its manufacturing and services sectors. The country's fruitful participation in GVCs mirrors its structural changes in trade, investment, development, growth and job markets (Ong & Chan, 2012).

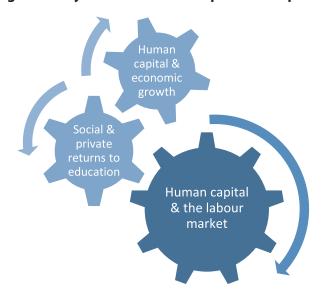
Some academics and policy practitioners contend that better education and training improve income distribution and drive economic growth, while others emphasise on labour markets which, in their views, create economic prospects (Hanushek, Woessmann, & Zhang, 2011) (Hanushek E., 2013) (Paulsen, 2001). These factors make supply-chain deepening a powerful tool for exploitation of technology spillover, skills development and the nurture of an adaptable labour force, unleashing the full potentials of the GVC.

Value-creation chains gradually cover inputs from multiple countries, thus accelerating new forms of cooperation and site policies. With China's rise in the global arena, the BRI calls for more win-win opportunities and people-to-people exchange. The key question is: What can the BRI contribute to education and how should it drive economic growth? Work does not merely improve economic security and livelihoods, but also enhance capabilities, skills and knowledge (UNDP, 2015).

Education and economic development are linked via the labour market. It is a key determinant of economic growth (Riley, 2012) because it exerts decisive influences on labour productivity, innovation, technological diffusion and the deepening of the competitive advantage of nations (Mankiw, Romer, & Weil, 1992) (Pistorious, 2004) (Horwitz, 2005).³⁰ These factors make supply-chain deepening a powerful tool for the exploitation of technology spillover and skills development, which nurtures an adaptable labour force to maximise the potentials of the GVC.

^{30.} While the empirical constraints on tracing relations between education and economic growth are subject to debate, they nevertheless point to education's systematic effect on productivity and growth.

Figure 8.1 Dynamics of human capital development



Skills acquired from education should be applied to the production of goods and services so that as workers' productivity rises, and salaries can increase commensurately. Without this link, the economy would not reap investments in education through higher productivity and higher salaries would not be sustainable.

Figure 8.2 Human capital at macro and micro levels

Macroeconomic level	Microeconomic level
Human capital is a key factor of production in the economy-wide production function.	Education raises the probability of getting employed and improves earnings capacity.
The accumlation of human capital improves labour productivity and facilitates technological innovations.	Human capital is a key component of education and firm production, contributing to an individuals' productivity and earnings.
It also increases returns to capital and make growth more sustainable, which, in turn, supports poverty reduction.	Human capital refers to people's ability to transform raw materials and capital into goods and services, as well as their efficiency. It is a consensus that these skills can be significantly increased through education.

The link between human capital and human development is subject to various conditions, including the quality and societal values of work. This link is synergistic and varies in forms according to workers' opportunities to voice their views and participate in decision-making, and on whether discrimination or violence is common at work (UNDP, 2015). Human development, with such dimensions as health, knowledge, skills and awareness, expands human capital and opportunities.

Box 8.1 The human development approach

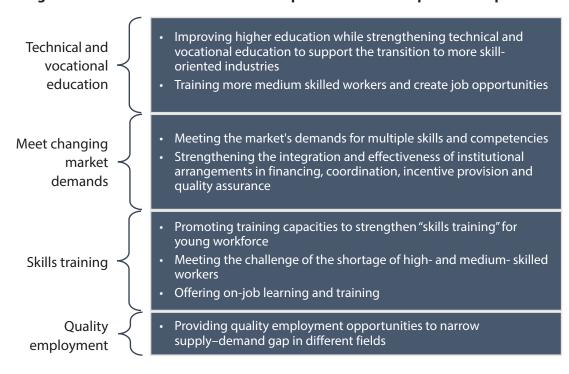
i. Seeks improvements in humans' well-being as an explicit development objective, using them as indicators of progress.

ii. Focuses on 'people power' — what people can do to achieve improvements? They can be individual and collective actions leading to policy and political changes and better livelihoods. This is based on the idea that development should improve human lives not only by rising income but also by expanding choices regarding what one can become, do and get. Such choices include better nutrition and health services, greater access to knowledge, a secure livelihood, better working conditions, security against crime, protection against physical violence and injustice, access to leisure and a sense of participation in their communities' economic, cultural and political activities. World leaders are increasingly willing to adopt this approach to reduce poverty, pursue sustainable development, promote gender equity, response to the globalisation, and tackle other challenges.

Source: UNDP (2011)

Thus, if consciously preparing the ground for innovation and markets, by linking skills and resources in the context of GVCs and local needs and requirements, people and economic growth can be linked through a sustainable approach.

Figure 8.3 How to connect human development to human capital development?



Taking human development into consideration can effectively increase the opportunities and prospects of the initiative, promoting social cohesion and inclusion, and gaining broad acceptance of the initiative's approach in countries and regions along the Belt and Road.

8.2 Human capital development in the BRI

Opportunities and challenges brought about by GVCs are being affected by the people's skills. The World Economic Forum's Human Capital Index³¹ ranks countries on how well they are developing and deploying their talent, taking a life-course approach to human capital, evaluating the levels of education, skills and employment available to people. As evidenced in figure 8.4, the human capital development index of the countries and regions along the Belt and Road shows great diversity, underscoring the importance of progress in technology, innovation and physical capital formation. Such a snapshot of where countries along the Belt and Road stand at each stage of human capital development allows for more targeted policy intervention and human resource planning both for companies and policy makers.

BRI-related capabilities are reinforced by investing in human capital, institutions, improving innovation systems and upgrading in industrial and global value chains. The overall human capital development of the countries and regions along the Belt and Road is dependent on their development stages, evidencing discrepancies also within the different regions (East Asia, West Asia and Africa, Europe, Central Asia, South Asia, Southeast Asia). With different human capital levels, countries and regions along the Belt and Road need specific occupational skills - in professional, managerial and technical jobs. Therefore, human capital should be carefully managed and properly invested in to ensure social and economic returns. In the context of the BRI, human capital development can drive economic growth across countries and be a fundamental contributor to deliver the desired BRI results at scale thereby allowing countries to reap substantial gains from their comparative advantages in GVCs.

Here, particularly opportunities for developing countries can arise, as their economies need better and more human capital as they shift from low to high value-added industries and undergo technological changes (Heckman & Yi, 2012).

^{31.} The index ranks 130 countries in total. For this report, we took into consideration the countries analysed throughout all the previous chapters. Overall, the Human Capital Index aims to accommodate the conceptual diversity around human capital related concepts and takes a holistic approach. The Human Capital Index contains two horizontal themes—Learning and Employment—running across five vertical age group pillars of the Index (0–14; 15–24; 25–54; 55–64; and 65 and Over). The two cross-cutting themes assess countries' success in developing people's skills and competences through learning and in deploying this acquired knowledge through productive employment. Thus, the Index help assess the size of a country's human capital investment gap and deployment gap. In total, the Human Capital Index covers 46 indicators. Exactly half of these are the result of disaggregating by education age indicators (primary, secondary and tertiary enrolment and attainment) and labour market indicators (labour force participation rate, unemployment rate and underemployment rate. It is important to take into account that the index takes into account the average numbers and therefore doesn't define the detailed proportions of the skill/unskilled population. (World Economic Forum, 2016).

Figure 8.4 Human Capital Development Index of countries and regions along the Belt and Road

Nail Ju	Score Re	Region	Country	Rank	Score	Region	Country	Rank	Score
	n/a		Armenia	37	75.4		Albania	70	68.23
58.88			Azerbaijan	54	70.7		Belarus	n/a	n/a
67.61			Bahrain	46	72.7		Bulgaria	43	73.66
57.66			Georgia	n/a	n/a		Bosnia and Herzegovina	n/a	n/a
74.26			Iran	85	64.2		Cyprus	31	76.97
56.52			Iraq	n/a	n/a		Czech Republic	25	78.45
71.75			Israel	23	79		Estonia	15	80.63
80.94			Jordan	81	64.7		Greece	44	73.64
71.86	W	Most Acia	Lebanon	n/a	n/a		Hungary	33	76.36
n/a	8	St Asid	Palestine	n/a	n/a	Europe	Latvia	27	78.13
68.39			Kuwait	26	60.3		Lithuania	21	79.34
n/a			Oman	n/a	n/a		Moldova	63	29.69
57.84			Qatar	99	9.89		Poland	30	77.34
61.83			Syria	n/a	n/a		Romania	38	74.99
57.73			Saudi Arabia	87	63.7		Russia	28	77.86
n/a			Turkey	73	9.79		Serbia	27	70.54
57.35			Yemen	129	43		Slovakia	n/a	n/a
53.1			United Arab Emirates	69	68.3		Slovenia	16	80.33
71.69	A	Africa	Egypt	98	63.7		Ukraine	56	78.42
77.57									
n/a									
70.53									
n/a									
n/a									

Source: World Economic Forum

8.3 People-to-people bonds: promoting education and training in the BRI

In terms of human capital development, people-to-people bonds in the BRI may be best promoted through the supply of specific skills. Countries and regions increasingly need to adapt to fast-changing needs and sustain one of the most important pillars of the economic competitiveness and innovation capacity of their national economies: their education and training systems. These are essential, for example, to guarantee sound transitions for young people from education and training to employment. For sustainable economic development, qualified and skilled employees in the countries and regions along the Belt and Road are an essential precondition. Long-term availability of skills and knowledge can promote social development and stabilise societies across the BRI through the promotion of productivity and growth. Thus, education has a unique role to play in the BRI and the formation of the "a community of shared future for mankind".

On March 28, 2015, the Ministry of Commerce, the NDRC and the Ministry of Foreign Affairs jointly issued the Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road, outlining the background, principles, framework, priorities, mechanisms, actions taken by the Chinese government and the country's regional opening progress. The planning on education exchange in the document is as follows:

- Expanding the scale of student exchange and promoting education cooperation; providing 10,000 government scholarships to countries along the Belt and Road every year;
- Intensifying personnel exchange and cooperation among countries along the Belt and Road;
- Integrating resources already in place to foster cooperation on youth employment, entrepreneurship training, vocational skills development, social security management, public administration and management and other relevant areas among countries along the Belt and Road.

Institutionally, the 'The Education Action Plan for Jointly Building the Belt and Road', released by the Ministry of Education in July 2016 indicates efforts to be made.

Box 8.2 The Education Action Plan for Jointly Building the BRI

The action plan calls for a BRI education community, where China and countries and regions along the Belt and Road cooperate to deepen people-to-people ties, develop human resources and make the region's education sectors more influential.

^{32.} Term utilized by the Chinese government. In 2017, the United Nations Security Council (UNSC) through Resolution 2344 backed the relevance of regional cooperation initiatives such as the BRI as a win-win approach to promote safety, stability and development. Together with the BRI, the resolution quotes the Chinese principle of creating "a community of shared future for mankind".

The Chinese government highlights how an education information sharing mechanism and international treaties are essential to education exchange along the Belt and Road. Objectives to be fulfilled include higher education credit transfer and accumulation, region-wide recognition of academic qualifications, and coordination on the teaching of the different foreign languages, which will be aided to open language programmes on Chinese campuses. At the same time, Confucius Institutes and Confucius Classrooms will also step up their works in countries and regions along the Belt and Road.

The government will offer scholarships to selected students who wish to study in China, in the hope of having these students to assume leading roles in various sectors. In parallel with this measure, more Chinese students will be sent to the other countries and regions along the Belt and Road for education. Domestic vocational education institutes are encouraged to partner with enterprises investing abroad especially in sectors like high-speed railway and telecommunication. In addition, they are called to partner with foreign entities to set up vocational schools and training centres in countries and regions along the Belt and Road where projects have to be implemented. Actions will be taken to boost the exchange among teachers, and to encourage their tertiary institutions to launch joint education programmes in areas of essential to the countries' development.

The government aims at coordinating countries to create bilateral and multilateral mechanisms on education cooperation, education quality assurance and monitoring cross-border education markets. More efforts will be made to support education in other countries and regions along the Belt and Road. Measures include the nurturing and training of teachers, scholars and skilled labour, and support to the design of teaching programmes and the acquisition of teaching equipment.

Various ministries and local authorities are invited to exercise greater coordination to ensure that education exchange between China and countries and regions along the Belt and Road will be implemented properly. For this purpose, the Ministry of Education will closely work with the BRI Leading Working Group. Local governments should establish sister province/state relations with their counterparts in other countries and regions along the Belt and Road. Local education sectors will be guided and supported by officials to cooperate with the countries.

In 2016, provincial and municipal authorities were called to formulate their individual education action plans for the BRI. Joint actions among countries along the Belt and Road in the sphere of education are to be launched in 2017. In the next three years, the Chinese government will send 2,500 publicly-funded students annually to other countries along the Belt and Road. 10 overseas science and education base will be opened over the next five years, and every year during the period 10,000 new students from these countries will be funded to come to China for education or research.

Source: (Ministry of Education, PRC, 2016)

8.3.1 Education to make countries future-proof: the case of China

By itself, education can become a powerful people-to-people enabler and simultaneously create opportunities for balanced human development. A glance at China shows that continued economic development is closely related to human development and education.

Since 1978, when China initiated its opening up and reform process, international communication and cooperation in education resulted in growing student numbers of outgoing Chinese students, as well as incoming foreign students. Since its entry into the World Trade Organization (WTO) in 2001, China's efforts in opening its education system has been relatively robust as compared with other major economies. According to OECD (2016), China's educational appropriations reflect the fact that education is a national priority. The country has focused significant resources on improving education quality and reducing inequalities in recent years.

China's government initiated Project 211 and the Project 985 to boost the competitiveness and innovation of the country's universities so that they would meet advanced international standards (China Education Center, 2017) (See Box 8.3). China's public expenditure on regular higher education institutions was 196.3 billion RMB in 1996-2000 and 428.6 billion RMB in 2001-2005. "Project 211" accounted for 9.5% of the government's higher education expenditure in 1996-2000, a figure that later fell to 4.4% from 2001 to 2005. While the financial incentives of "Project 211" have been diminishing, it is still attractive to Chinese universities as they see inclusion in the scheme as a proof of their important status.

Box 8.3 Project 211 and Project 985

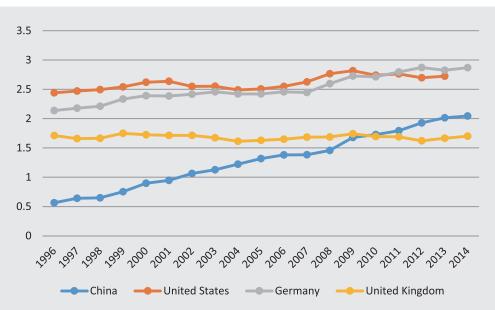
Project 211 aims at strengthening about 100 institutions of higher education and key disciplinary areas as a national priority for the 21st century. There are 112 universities in Project 211. Primarily aiming at training high-level professional manpower to implement the national strategy for social and economic development, the project has great significance in improving higher education, accelerating the national economic progress, pushing forward the development of science, technology and culture, enhancing China's overall capacity and international competitiveness, and laying the foundation of training high-level professional manpower mainly within the educational institutions at home.

Project 985 is a project for founding world-class universities in the 21st century conducted by the Chinese government. On May 4, 1998, President Jiang Zemin declared that "China must have a number of first-class universities of international advanced level". This led to the launch of Project 985. In the initial phase, 9 universities were included in the project. The second phase, launched in 2004, expanded the program, which by now has reached 39 universities.

Sources: (Zhao & Zhu, 2010), (China Education Center, 2017)

Box 8.4 China's human capital development and R&D output

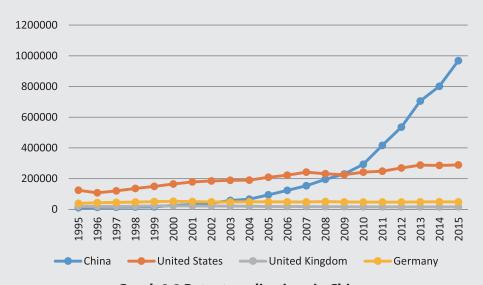
An important indicator of China's human capital development is its gross domestic spending on research and development (R&D), defined as the money spent on R&D by all resident companies, research institutes, universities, government laboratories and similar entities (OECD, 2017).



Graph 8.1 Research and development expenditure of China (% of GDP)

The share of China's R&D expenditure in its GDP has risen gradually, standing at 1.7% in 2010 when it exceeded that of the United Kingdom for the first time (World Bank, 2017). China's figure is still lower than that of the United States and Germany as of 2014, but it shows potential to catch up in the decades ahead.

Patent application is another key indicator of research and education. China's applications have been surging since 2004, surpassing that of the US since 2009 when the number reached 229,096 (World Bank, 2017).



Graph 8.2 Patent applications in China

Source: World Bank Database

8.4 Higher education cooperation in the BRI

The role of higher education in human capital development has been extensively discussed (Varghese, 2008) (Dee, 2010) (Perna, Jumakulov, & K., 2013). In cross-country contexts, cooperation on higher education serves as an entry point for further institutional, regional and inter-regional collaborations. Tertiary institutions can facilitate human resources development and international cooperation. With experience gained overseas, such as language skills, intercultural communication and other relevant soft skills, students would be better prepared for the labour market and can make a greater contribution.

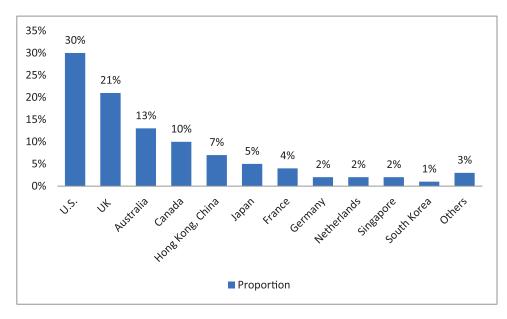
China's commitment to internationalisation can be read in its various policy documents. A recent example is the National Program for Medium and Long Term Educational Reforms and Development 2010-2020 issued by the State Council. This Plan aims to strengthen the international exchanges between China and other countries, to advance the internationalisation of education in China and to enhance its attractiveness to international students.

Under the BRI framework, Chinese leaders see the importance of education in maintaining economic growth and addressing social disparities. This generates opportunities for education cooperation, helping China adopt foreign practices and exchange knowledge with partners overseas (Overholt, 2005). Institutional, regional and interregional cooperation is substantiated by both their instant results and repercussions. Exchange activities take place at all stages: higher, secondary, primary and pre-school education. Those between China and its neighbouring countries chiefly focus on higher education. Visible progress has been made in language teaching, student exchange, joint education and principal exchange, while exchange at other levels is emerging as well. There are various forms of secondary vocational education exchanges like international student training programmes and teacher exchange programmes.

8.4.1 Students' mobility

The Report on Trends of Studying Abroad 2013 suggests that China had around 413,900 students studying abroad that year, a 3.58% year-on-year rise. 74% of them studied in the US, the UK, Canada and Australia, showing these countries' competitive advantages in education.

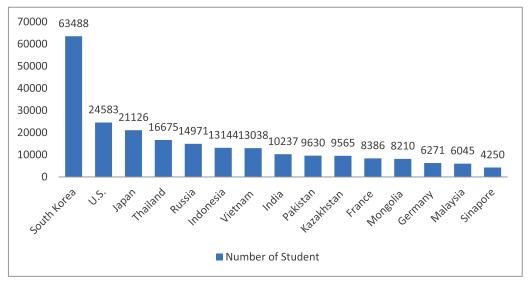
Official statistics indicate that 523,700 Chinese students studied abroad in 2015, a 13.9% year-on-year growth. In that year, 409,100 Chinese students who studied abroad returned to the country, a 12.1% surge as compared with that in 2014. The gap between the number of Chinese students studying abroad and those return to China upon graduation has been narrowed considerably, with the ratio down to 1.28:1 in 2015 from 3.15:1 in 2006 (State Council, 2016).



Graph 8.3 Regional distribution of students studying outside of mainland China in 2013

The numbers of international students in China is increasing as well. In 2015, there were 397,635 foreign students in the country, a 5.5 percent increase from 377,054 in 2014. The number of Asian and African students witnessed a 6.5 percent and a 19.5 percent surge respectively (Ministry of Education, 2016).

Figures from the China Association for International Education (CAFSA) indicate that 328,000 international students from over 200 countries and regions studied in China. Most came from Asia, while a proportion was from developed countries such as South Korea, Japan, the US and Russia. The distribution is shown in the following figure.



Graph 8.4 Distribution of foreign students in China in 2012

Source: China Association for International Education (CAFSA)

The BRI can serve as an opportunity to ease China's surplus in students going abroad versus incoming international students (Wende & Zhu, 2016). Thus, increasing student mobility for incoming and outgoing students can further create meaningful opportunities to maximize national human capital across countries and regions along the Belt and Road.

8.4.2 Chinese-foreign education cooperation

China proactively uses international exchange and cooperation as a means to exert soft power, as seen in China's mounting education cooperation with countries and regions along the Belt and Road. Most Chinese tertiary institutions engaging in international education are based in the country's central and eastern parts. As seen in the following figure, showing the situation in 2011, the institutions mainly partner with institutions in English-speaking countries, including the US, the UK, Australia, and Canada. Economics and management are the most popular major areas of study among Chinese students, while medical science, agriculture and engineering took a smaller part.

Figure 8.5 Regional and level distribution of higher education institutions with Chinaforeign cooperation in running schools in China

	Undergraduate	Undergraduate, graduate and above	Undergraduate, graduate and above	Total
Beijing	1	1	1	3
Shanghai	2	3	1	6
Tianjin	-	-	1	1
Chongqing	2	1	-	3
Guangdong	-	-	1	1
Jiangsu	1	-	-	1
Shandong	3	-	-	3
Hebei	1	-	-	1
Henan	2	-	-	2
Liaoning	4	-	2	6
Jillian	2	-	-	2
Total	20	5	6	31

Source: Regulation Information Platform for Chinese–Foreign Cooperation in Running Schools of the People's Republic of China

The modality of China's education services exported overseas is rather simple, and the number of schools functioning overseas is low, although there have been certain achievements in recent years. As of the end of 2013, the Chinese government's Office of Chinese Language Council International (Hanban) has set up 1086 schools in 120 countries, comprising 440 Confucius Institutes and 646 Confucius Classrooms, since the first Institute's launch in 2004, according to the Annual Report on the Development of Chinese Culture (2014). As of the end of 2013, it worldwide network comprises 149 institutes in Europe, 144 in America and 93 in Asia. Over half of Europe's Confucius Institutes are in the UK (24), Russia (18), France (17), Germany (14) and Italy (11). Most Institutes in the Americas are mainly spread in the United States (97), Canada (13) and Brazil (8). In Asia, the top three homes of the Institutes

Box 8.5 Exchange and cooperation in higher education - Soochow University in Laos

The Soochow University in Lao was found in 2011 with three primary focuses: teaching, research and social services. It was officially approved in August 2013 to open two undergraduate programmes, namely "Chinese" and "Computer Science and Technology", following the approvals on "International Economy and Trade" and "International Finance" programmes in July 2012.

The University provides full-time undergraduate and postgraduate (master and doctoral) programmes education and various advanced training. It has built and implemented advanced courses and a credit system, planning to take 5,000 undergraduate and graduate students after 10 to 20 years. A Chinese language and technical training system has been set up. The university is set to offer programmes in economics, management, law, language, tourism, computer, mechanical equipment, rail transportation, electronic communication and medical science to meet the country's social-economic needs. The University aims for an excellent learning environment for learners of the Chinese language from Lao and other countries in the Indo-China Peninsula. It also seeks to cultivate elites and intellectuals with international perspectives, trilingual proficiency (Lao, Chinese and English) and in-depth knowledge. The University seeks to undertake research and social services, as well as to elevate Laos's cooperation in economy, culture, science and technology with other countries in the Indo-China Peninsula and China. It is also the university's plan to build an exchange and communication platform and provide a showpiece for Chinese enterprises so that they can learn about the economic and social development of Laos and Southeast Asia.

8.5 Technical and vocational education and training (TVET) in the BRI

As developing economies shift from lower to higher value-added industries and witness technological change, their demand for human capital rises (Heckman & Yi, 2012) (Autor, Levy, & Murnane, 2003). Countries face the pressing challenge to structure their future absorptive capacity of their national economies, particularly for growth sectors where the country has little or no experience. Technical and vocational education and training (TVET) systems can provide the platform on which countries can address shortcomings in workforce systems and ensure demand-driven training provision, thereby maximising economic opportunities brought forward by the BRI and national economic development efforts. This also reflects China's own domestic efforts in gearing up to become technology driven, resulting in the creation of a demand oriented TVET system by 2020.

Box 8.6 Huajian Group in Ethiopia

Founded in 1996, Huajian Group (Huajian) is one of world leading women's shoe makers. Gender inequality is a barrier to African women's access to equal opportunities in education and employment. On vocational education, the Ethiopian government has adopted preferential policies to address the low enrollment of women, leading to a female enrolment ratio exceeding 50% in the academic years 2013-2015. However, many women face challenges upon graduation, as seen in their low employment rate as compared with men's. In November 2011, Huajian opened a factory in Ethiopian and has been promoting the employment of local women. Since then, nearly 6,000 local employees, of them 55% women, have been recruited by the end of 2016. The factory has 85 local managers and 30 office clerks. To improve local women's skills and income, Huajian gives training to staff in positions usually held by women, such as sewing machine operators and office clerks. Of 300 sewing machine operators, over 65% are female. Every year, Huajian sends 100 Ethiopian workers to China for a 6-month management training. Over 70% of the trainees are women.

Source: UNDP 2017, Sustainable Business Report

In a context of globalisation and rapid technological development, characterised by changes in economic, labour market and skills patterns, TVET can provide a flexible framework to help improve changing skill-demands by companies and communities, increase productivity and increase wage levels. TVET also helps the acquirement of higher-level skills, which create work for those with middle to lower-level skills, thus increasing demand for the latter. Thus, labour mobility and the matching of labour supply and demand can be better balanced, contributing to a better business climate. Overall, such considerations have also been captured by the Agenda 2030 for Sustainable Development, in particular Goals 4 on education and Goal 8 on inclusive growth and decent jobs. Most importantly, this reflects that rather a mere focus on the economic climate and productivity, TVET systems should aim to integrally should target augmented equity, poverty reduction and the reduction of inequality.

Box 8.7 Exchange and cooperation in vocational and technical education while China Nonferrous Metal Mining Group "goes global"

The China Non-ferrous Metal Mining Group launched its international pilot program for vocational education in non-ferrous industry in its headquarter in Beijing in April 2015 and signed a cooperation agreement with seven colleges, namely Jilin Technology College of Electronic Information, Harbin Vocational & Technical College, Nanjing Institute of Industry Technology, Hunan Nonferrous Metals Vocational and Technical College, Guangdong Construction Polytechnic and Baiyin Institute of Mining & Metallurgy and Shaanxi Polytechnic Institute.

The Shaanxi Institute and the group plan to launch a joint investigation and survey in Zambia. The two sides will send teachers from China to Zambia to train local employees and help establish some "Luban Institutes", which will hold education certificate awarding power.

The international vocational education program in the nonferrous industry is an important way to relieve labour shortage, cut labour cost, strengthen the skills of local employees, help them learn about Chinese culture and stimulate the long-term sustainability of the investment. China's international vocational education strategy chiefly aims to expand its opening-up strategy, help construct the BRI, transform and upgrade national industries, and foster international cooperation and strengthen vocational education reform.

This is the first national pilot work promoted by the Ministry of Education and supported by vocational institutes and enterprises. The pilot work is set to begin in Zambia and the model is expected to be adopted in other countries.

The BRI provides opportunities for countries and regions to develop human capital through technical and vocational education and training. It also offers a platform where they can jointly overcome hurdles like the shortage and emigration of skilled workforces, skills mismatch and youth unemployment.

Building on ongoing cooperation in TVET systems between China and other countries and regions along the Belt and Road, a systematic development approach should be undertaken. On a policy level, first measures to be taken arise from the Education Action Plan for Jointly Building the Belt and Road. In this context, the internationalisation of China's domestic vocational education institutes could usefully follow closely sector-related needs and create close linkages to host country institutions, to ensure demand-driven cooperation to develop long-term capabilities.

Main findings of the report

China's experience in economic development provides a useful avenue to explore the possibilities for industrial diversification in the economies along the Belt and Road and the opportunities the Belt and Road Initiative can bring. To best prevent the many potential pitfalls on the road to industrial diversification and economic growth, countries should base their engagement on the Sustainable Development Goals (SDGs) as a guiding overall framework.



The Belt and Road Initiative (BRI), which includes the "Silk Road Economic Belt" and the "21st Century Maritime Silk Road", could be an effective tool to implement the 2030 Agenda. On the basis of five areas of connectivity, namely policy coordination, unimpeded trade, connectivity facilitation, financial integration, and people-to-people exchange, the BRI is designed to establish a cooperation network for mutual benefits and a multilateral cooperation platform to give momentum to global economic growth, and provide global public goods as well as greater financing opportunities.



China's social-economic development trajectory can be used as a reference by other developing countries. With the BRI, China hopes that countries could learn from each other, exchange experiences in meeting development demands and overcoming obstacles, and discuss the pros and cons of varied policy measures. This will help them make joint strategic plans that are mutually beneficial and conducive to long-term sustainable development as well as improved global governance.



Structural adjustments are part of China's economic development. To upgrade industry, supply-side reform is imperative to develop an advanced manufacturing industry, optimise the allocation of production factors, and protect the environment. In such context, the BRI, in addition to serving as a driver of regional cooperation and of changes in the global governance system, also provides an unprecedented opportunity for China to review and develop its own development strategy.

The aggregate economy of countries along Belt and Road can promote sustainable global economic growth.



The aggregate economy of countries and regions along Belt and Road contributes significantly to the world economy. Each country and region has a different level of development in terms of the level of industrialisation, per capita GDP, level of trade dependency, and resource endowments, etc. Some developing countries along the Belt and Road have weak competitiveness in international trade which results in low returns/benefits due to several reasons, such as reliance on primary industry. Impacted by the globally stagnant economy, the economic development of these countries was sluggish with marked asymmetries in their development pattern.



Trade relations between countries and regions along the Belt and Road and China have become closer. The proportion of the total volume of trade between China and the countries and regions along the Belt and Road (selected in this analysis) in China's total volume of trade increased from 16.5% in 2001 to 25.1% in 2015. The production capacity of China ensures sufficient products to cover much of the needs of the industrial development in most of developing economies. China has a comparative advantage in the production of manufactured goods. Meanwhile, many countries (within the selected countries for calculation), especially developing countries and emerging economies, have relatively weak competitiveness in traditional manufactured goods production due to undiversified industrial structure and/or backward technologies. Because of price and distance of products exchange, a lot of countries along the Belt and Road are highly dependent on China's export products. Therefore, to some degree, they are generally in a trade deficit with China. Although the net export causes the excessive deficit, the deficit can be solved through industrial transfer of industrial processes and knowledge in the framework of cooperation under the BRI. The production lines of products relying on import can be transferred to the countries where it will enhance the efficiency.



At the linking point of the world's double circulation system, China plays a vital role in the global value chain. Globalisation makes production activities increasingly deconcentrated. The imports and exports data of both developed and developing countries indicates that China is an essential intermediate and final goods trading partner, as reflected by its enormous trade volume and far-reaching network.



International capacity cooperation among countries and regions along the Belt and Road has become a major modality of international cooperation and has made significant progress. Tackling slower global economic growth requires a new round of innovative cooperation and new mechanisms of practice, and the Belt and Road Initiative can help promote this process. However, the existing level of infrastructure investment and trade cooperation constrains industrialisation. The infrastructure in many countries and regions along the Belt and Road is below the international standards in both quality and quantity. China has become the largest export and import partner of countries and regions along the Belt and Road while they account for a low proportion of China's total international trade. Nonetheless, economic and trade cooperation among countries in these regions is still at the initial stage and has significant potential to grow.



FDI from China to countries and regions along the Belt and Road is on the rise with distinct features. The scale of Chinese FDI remains small compared to total foreign investment in these countries. Foreign direct investment from China mainly concentrates on neighbouring countries, such as those in Southeast Asia. The investor entreprises are mainly large and medium-sized state-owned enterprises in fields such as energy, transportation, mineral products, technology, finance and real estate. Central state-owned enterprises are the main force investing in countries and regions along the Belt and Road while local enterprises only play a supplementary role. The report also outlines barriers and challenges when implementing the BRI. Countries and regions along the routes are exposed to different levels of political unrest, weak governance, lack of market openness, and low level of financial development, all of which could become serious barriers and could stall sustainable investment.

BRI-related capabilities are reinforced by investing in human capital, institutions, improving innovation systems and upgrading in industrial and global value chains.



There has been marked progress on industrial cooperation. China's stateowned enterprises, together with private enterprises, have become active players in promoting cross-border cooperation in a variety of industries including textile, home appliances, steel and cement, high-speed railways, and communication equipment etc, through public-private partnership (PPP), as well as foreign economic and trade zones.



Participating in the global value chain is an effective strategy for developing countries to achieve industrialisation. The share of developing countries in global trade rose by 10% since 1990 and exceeded 40% in 2012. However, low-end locking in GVC slows down the process of industrialisation for developing countries. At the later stage of industrialisation, developing countries tend to fall into a trap: they are still at the developing stage of utilising primary factors of the resources and labour force and facing the risk of deterioration of trade benefit. China's emergence has presented the GVC with opportunities for global value chains because China can bridge two cycles of flows of goods and capital, upgrading and adjusting its industries while pushing countries along the Belt and Road to take advantage of their locations. Building on the current dynamics of trade and industrial development and taking into consideration the global setting, the report proposes an economic framework of double circulation, i.e., North-South cooperation and South-South cooperation. The BRI can contribute to accelerating global trade and industrial upgrading by means of international cooperation in industry, and more broadly, technology transfer, management capacity and procedures streamlining. China's role in catalysing economic integration within and between the two cycles is also highlighted. China plays a vital role in linking the economic development along the Belt and Road with developed countries.



China can stimulate the exports of nations in the lower circulation through trade while China itself can provide products for countries in the upper circulation by processing the primary commodities exported from the lower. This opens up a great potential for countries and regions along the Belt and Road for economic cooperation to spur long-term, inclusive and sustainable growth. China can improve their manufacturing by cooperating with the countries at the lower level of development based on its relatively complete industrial system; while the smaller gap between China's industrial development and the countries with high industrial structure enables suitable higher level intra-industry trade in the upper circulation.



Since the BRI was established, China and the countries and regions along the Belt and Road have witnessed progress in financial integration. China has increased its communication and exchanges with the countries and regions along the Belt and Road and intensified its participation in regional financial cooperation. This is reflected in financial supervision cooperation, the establishment and operation of new international multilateral financial institutions (e.g., the Asian Infrastructure Investment Bank, the New Development Bank), and the internationalisation of the RMB. Financial integration remains a key driver for economic growth. China and the countries and regions along the Belt and Road can jointly promote financial cooperation to a new stage by building additional international investment and financing mechanisms

and improving the global economic and financial governance system. This will help leverage financing to solve some problems of Chinese investors and their international counterparts on overseas leveraging for investment.



Educational cooperation can boost human development. Cultural exchange has also achieved preliminary results as has higher education cooperation and technical training exchange. Education is an important carrier of people-to-people exchange and an important means to multi-cultural interaction and in-depth understanding. In the process of advancing the BRI, education from vocational training to higher education could make the difference in achieving win-win outcomes along the Belt and Road. The BRI encourages a joint development system in which countries mutually bolster each other's development. In this context, education will be key in the process of advancing the BRI and creating a "community of shared destiny for mankind". Via education, countries could contribute their insights to tackle common global challenges such as climate change, water crisis, energy shortage, terrorism etc., and find feasible solutions to achieve sustainable development.

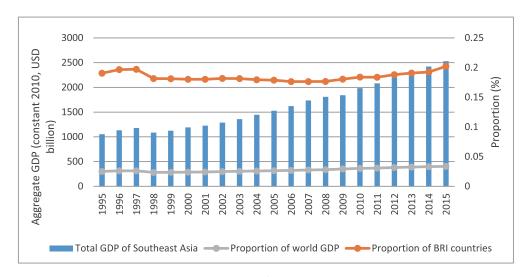
Annex 1 – An economic outlook into the regions along the Belt and Road

The Belt and Road spans across many geographical regions. Countries within each of the regions share a certain degree of similarities. Therefore, the economic development of the countries and regions along the Belt and Road are analysed according to the geographical division as employed by the United Nations Bureau of Statistics. Analysing the economic indicator by regions will provide a more comprehensive overview. The regions taken into consideration are: Southeast Asia, South Asia, West Asia, Central Asia, East Asia, Europe and North Africa. The countries included in the analysis are those taken into consideration for this report. Please refer to the paragraph 2.1 of this report for more information.

Southeast Asia

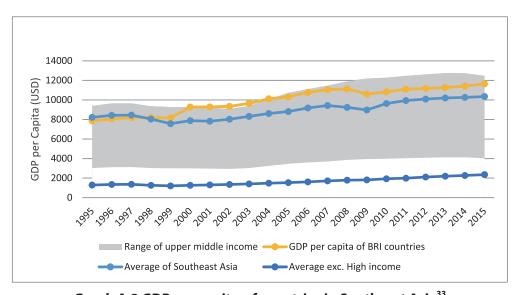
Southeast Asia, consisting of Indochina Peninsula and the Malay Archipelago, is situated at the "crossroad" connecting Asia, Oceania, the Pacific Ocean, and the Indian Ocean, where the Strait of Malacca is like the "bridge" connecting to the "crossroad". Southeast Asia includes 11 countries: Indonesia, Cambodia, Laos, Myanmar, Malaysia, Brunei, the Philippines, Singapore, Thailand, Timor-Leste and Vietnam (among which Laos is the only landlocked state in Southeast Asia). As of 2015, the 11 countries covering the territorial area of 4.5 million square kilometres had reached a population of 630 million, with the population of Indonesia and of the Philippines exceeding 100 million. Densely populated, Southeast Asia has over 90 ethnicities, mostly Asian. It is also one of the regions with the highest density of overseas Chinese in the world. With the tropical landscapes and historical sites, Southeast Asia attracts tourists from around the world, and tourism has become an important industry in countries such as Singapore, Thailand, and Malaysia.

The total economic size of Southeast Asia is relatively large among the countries along the Belt and Road. They have enjoyed relatively higher GDP growth rates, implying a rather ideal process of economic recovery. But this convergence process still has some way to go: the GDP per capita of these countries is slightly lower than the average level of the countries along the Belt and Road. With a large population, the 11 countries have an extensive consumer market. Southeast Asian countries depend heavily on international trade, where import and export both play a significant role in their economic development. In terms of investment, there are various domestic and social uncertainties for foreign investment. In terms of aggregate GDP, the GDP of Southeast Asia reached USD 2.53 trillion in 2015, with an increasing trend, accounting for 20.2% of GDP of the countries and regions along the Belt and Road, and 3.4% of world GDP.



Graph A.1 Aggregate GDP of countries in Southeast Asia

The average GDP per capita of Southeast Asia countries reached USD 10,344 by 2015, which suggests that the general trend of average income level is in the range of upper middle income, slightly below the average level of the countries and regions along the Belt and Road as a whole. However, taking off the three relatively high-income countries Brunei, Malaysia and Singapore, at USD 32,226, 10,878 and 51,855 respectively in 2015, which have been already categorised in upper and high-income countries since 1995, the average level of GDP per capital of rest of Southeast Asian countries fell into the lower middle income range. A stable rising trend is revealed over last twenty years.

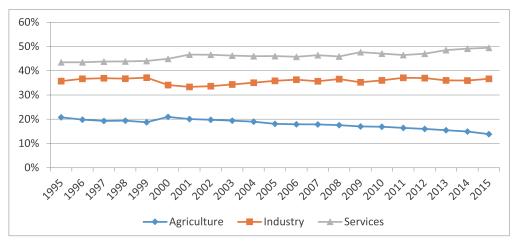


Graph A.2 GDP per capita of countries in Southeast Asia³³

Source: World Bank database

33. Unweighted average data are applied to the calculation

Services sector with its average percentage over 45% dominates the overall GDP of Southeast Asia throughout the period. It is worth noting that India has been one of the greatest beneficiaries of the economic boom being one of the world's largest exporters of software and other information technology related services. The services sector witnessed a slight increase from 1995 to 2015 followed by industrial sector, which fluctuates within 32% to 36% over the period. China's spectacular industrial growth performance is moving assembly industries and labour-intensive activity in general towards Southeast Asia. The agricultural sector has seen a downward trend, decreased from 21% in 1995 to 14% in 2015. As the economies of the ASEAN countries have been restructured toward growth in industry and services, there has been a corresponding decline in the proportion of the gross domestic product (GDP) derived from agriculture, most significantly in Indonesia, Malaysia and Thailand.



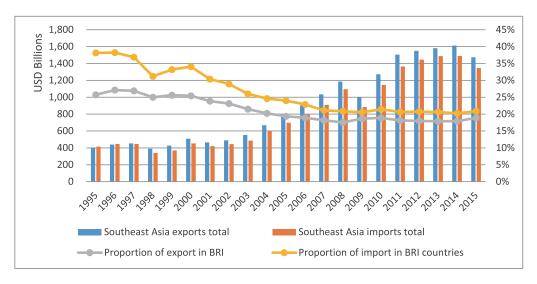
Graph A.3 Industrial structure in Southeast Asia

Source: World Bank database

In 2015, the performance of export and import made a slight trade surplus at 0.13 trillion. The exports from Southeast Asia reached USD 1.47 trillion, accounting for 62.4% of total GDP and 18.89% of total exports from the countries and regions along the Belt and Road respectively; the imports reached USD 1.34 trillion, equivalent to 57.31% to its total GDP and 20.86% of total imports of all countries and regions along the Belt and Road correspondingly. According to the proportion of export and import to GDP, the economic development of Southeast Asian countries remains highly dependent on international trade. Meanwhile, although the volume of both export and import reveals a general rising trend, trade proportions of countries and regions along the Belt and Road are decreasing. The trade balance stays a relatively low position though it raised above 0 after 1997.

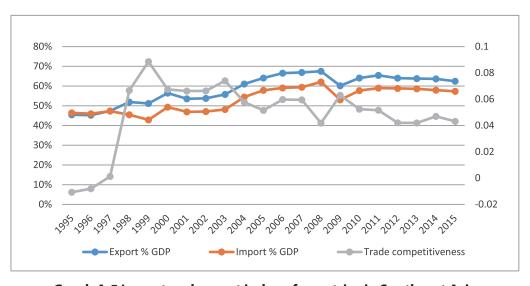
All countries in Southeast Asia except Timor-Leste are ASEAN member states. The establishment of the ASEAN in 1967 officially launched its regional economic integration, with the creation of the ASEAN Economic Community (AEC) in 2015 as a breakthrough. The bloc's economic growth has outperformed that of the rest of the world economy for years. Plans have been put forward to transform the region into a highly integrated and cohesive economy by 2025 (ASEAN Secretariat, 2016a). Most of ASEAN members' international trade takes place within the bloc. For instance, intra-ASEAN trade accounted for 24 percent of the total in 2015, followed by China, Japan, the European Union, and the United States (ASEAN Secretariat, 2016b). The exports and imports of ASEAN states are led by electrical machinery and equipment, as well as mineral fuels and related commodity (ASEAN Secretariat, 2016c).

Economic profiles of ASEAN members are of great diversity, resulting in different trade policies and export structures (Chia & Plummer, 2015). For instance, the five founding members (Indonesia, Malaysia, the Philippines, Singapore and Thailand) trade far more extensively than the CLMV countries (Cambodia, Lao PDR, Myanmar and Viet Nam), which joined the association after the Cold War (Park, Ungson, & Francisco, 2016). To members other than Singapore, trade in services is much lower than that in merchandise. Despite such differences, all ASEAN members adopt an outward-oriented development strategy (Chia & Plummer, 2015) and seek to make their economies more complementary to each other's.



Graph A.4 Imports and exports of countries in Southeast Asia

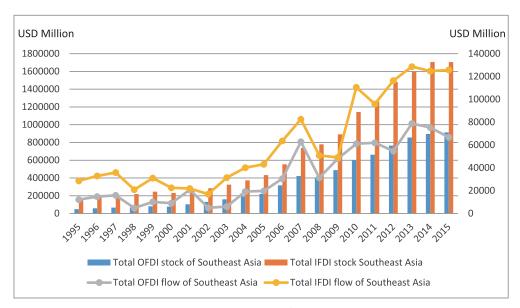
Source: World Bank Database



Graph A.5 Import and export index of countries in Southeast Asia

Source: World Bank Database

In terms of investment of Southeast Asian countries, both the stocks and flows of investment show a substantial growth over the two decades. Outward FDI (OFDI)³⁴ and Inward FDI (IFDI)³⁵ reached the first peak in 2007 and dropped afterwards. The volumes increased exponentially after 2009 and the flows of IFDI reached a second peak. The data indicate a general expanding trend of investment. The flows of investment experienced fluctuations after 2008. Notably, the inward FDI flow and stock of Southeast Asian countries are higher than those of outward investment. Southeast Asian countries remain a popular investment location for the world.



Graph A.6 Investment of Southeast Asia

Source: World Bank Database

South Asia

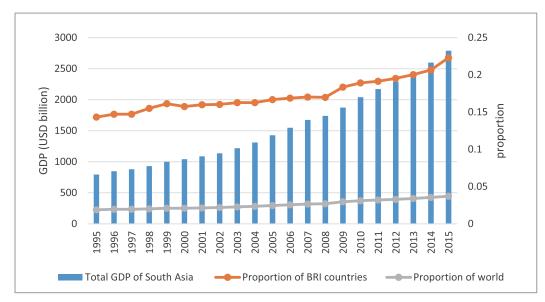
Neighbouring the Himalayas and the Indian Ocean near the Bay of Bengal in the east and the Arabian Sea in the west, South Asia consists of 8 countries: Afghanistan, Bangladesh, Bhutan, India, Sri Lanka, Maldives, Nepal, and Pakistan. As of 2015, the 8 countries covering 5.14 million square kilometres had a total population of 1.75 billion, accounting for 38.33% of the population of all the countries along the Belt and Road.

South Asia's economy is large. With India playing a leading role, South Asia has enjoyed a high GDP growth rate in recent years. GDP per capita in this region is lower than the average level of all the countries along the Belt and Road, making it a lower middle-income region.

In terms of aggregate GDP, the GDP of 8 countries in South Asia reached about USD 2.8 trillion, accounting for 22.3% of the GDP of all of the countries along the Belt and Road and 3.7% of the world GDP.

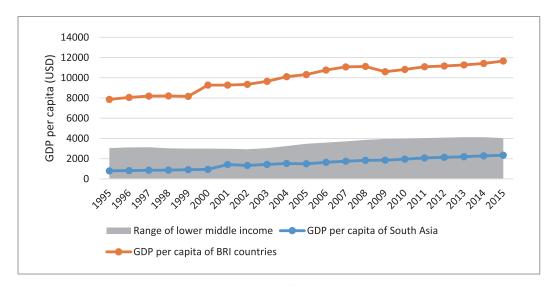
^{34.} The outward FDI is the value of the home investors' equity in and net loans to enterprises in foreign economies.

^{35.} The inward FDI is the value of foreign investors' equity in and net loans to resident enterprises in the reporting economy.



Graph A.7 Aggregate GDP of countries in South Asia³⁶

The average GDP per capita of South Asian countries reached USD 2,338 by 2015, which locates in the range of lower middle income, far behind of the average level of the countries along the Belt and Road as a whole. A slow rising trend is revealed over the last decades.

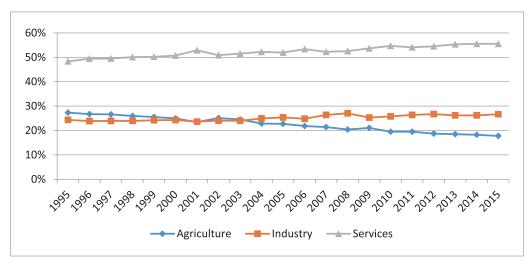


Graph A.8 GDP per capita of countries in South Asia

Source: World Bank Database

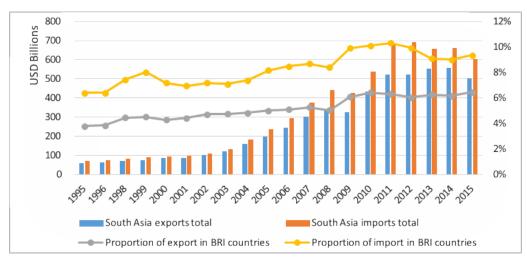
The services sector witnessed a steady increase from 48% in 1995 to 56% in 2015. The agricultural sector decreased ceaselessly from 27% to 18% within the period and was eventually taken over by the industrial sector in 2004. The industrial sector fluctuated around 24% for the first 8 years and increased steadily to 27% in 2015.

36. Including India



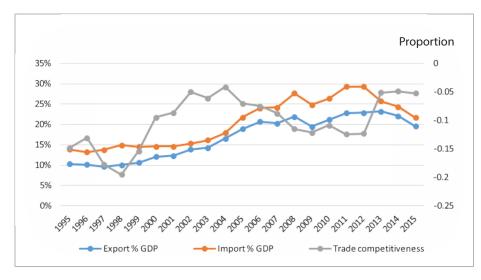
Graph A.9 Industrial structure in South Asia

Exports from South Asia reached USD 504.9 billion in 2015 and slightly decreased from 2014. Imports and exports accounted for 19.56% and 21.21% of their total GDP in 2015, which show a less dependence on trade to economic development. South Asia contributes 9.7% and 6.46% to overall import and export of the countries along the Belt and Road in 2015. The trade Competitiveness Index of this region has been staying under 0, which means the region ran a trade deficit. The competitiveness of the trading products (low-end products) are relatively weak in the global trading market. The countries in this region lie in the underdeveloped level which is inferior to that of developed countries. Developing countries usually export low-grade raw materials products, while import from developed countries with independent intellectual property rights of the high-end products to form a huge difference in the distribution of benefits. The unbalance of this economic order is hard to change in the short term. However, at the same time, it means the region is at the stage of absorbing the technology and improve the production. Trade deficits can be seen as the investment in purchasing production equipment.



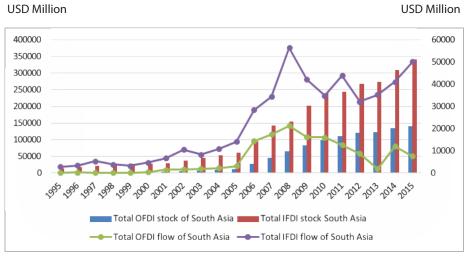
Graph A.10 Imports and exports of countries in South Asia

Source: World Bank Database



Graph A.11 Import and export index of countries in South Asia

In terms of investment in South Asia, the stock of OFDI shows a slow growth trend and the flow dropped sharply after 2008. Until 2013, the flow of OFDI has a slight recovery. The total inward FDI stock of South Asia increased substantially from the 1990s and increased exponentially since 2004 until it reached its peak in 2008. The flows dropped significantly beginning 2008 and fluctuated increasing up till 2015.



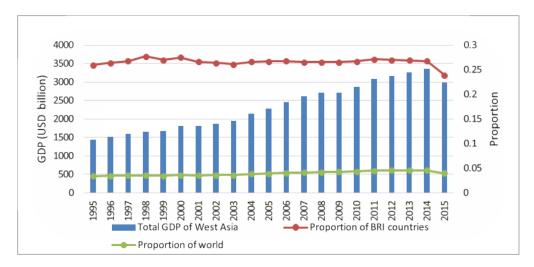
Graph A.12 Investment of South Asia

Source: World Bank Database

West Asia

The countries in West Asia are located in the sub-region of Asia, which include three Caucasus countries Georgia, Armenia, and Azerbaijan in the south of the Caucasus Mountains. There are 18 countries in the region: Armenia, Azerbaijan, Bahrain, Georgia, Iran, Iraq, Israel, Jordan, Syria, Lebanon, Palestine, Kuwait, Oman, Qatar, Saudi Arabia, Turkey, the United Arab Emirates and Yemen. Suffering from political turbulence and instability, most of the countries in this region rely heavily on oil and natural gas for development, as the region is rich in oil resources. Armenia and Georgia are net oil and gas importers, while Azerbaijan relies on oil-export.

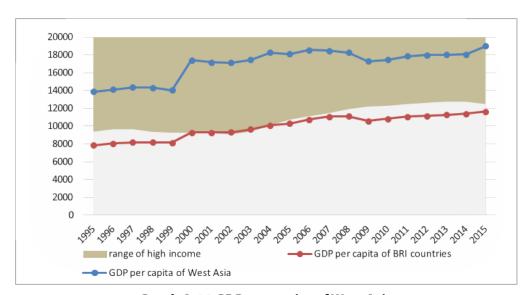
In terms of aggregate GDP, the GDP of West Asia in 2015 fell to USD 3 trillion after the peak amount of 3.4 trillion in 2014, accounting for 24% of that of all countries and regions along the Belt and Road, and 4% of the world GDP, owing to the globally collapsing of oil price. The aggregate GDP in West Asia is high since this region occupies a large portion of world energy supply.



Graph A.13 Aggregate GDP of West Asia

Source: World Bank Database

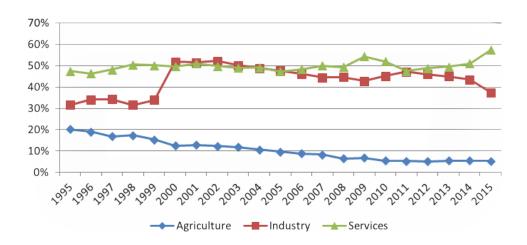
The average GDP per capita of West Asia reached USD 18996.9 by 2015. The average GDP per capita makes the regions stay in the high-income group.



Graph A.14 GDP per capita of West Asia

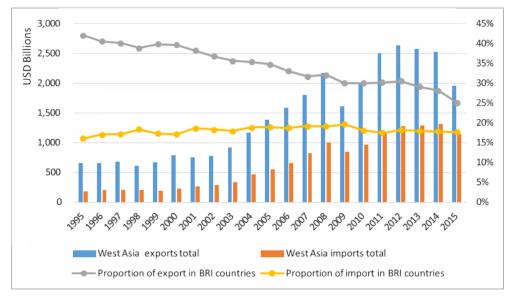
Source: World Bank Database

Most of the countries in West Asia rely on oil industrial and related industries. Tourism becomes the most important industry within the services sector with a high share throughout the years. As it can be seen from the graph 3.22, after 2011, the service sector increased substantially while the industrial sectors showed a decreasing trend. The industrial sector after 2000 witnessed a steady downward trend. The agricultural sector witnessed a significant decrease from 20% to 5% in the ten-year period.



Graph A.15 Industrial structure in West Asia

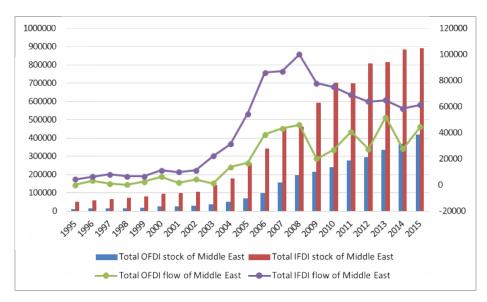
In 2015, the region continued to have a trade surplus. In 2015, the exports of the West Asia reached USD 1.96 trillion, accounting for 40.43% of its GDP, and dropped to 25.14 % of total exports in the countries along the Belt and Road; the imports reached USD 1.14 trillion, accounting for 34.26 % of GDP, and 17.72% of total imports in the countries along the Belt and Road. Import growth plateaued over years and remains a stable contribution to the countries along the Belt and Road. The economic development relies heavily on export driven by oil-exports. However, the contribution of export to the countries along the Belt and Road is decreasing. From 2006 to 2015, the annual trade balance was positive over years. Thanks to the natural resource endowment, the region stays at competitive advantages in trade. However, the region's economy is highly vulnerable, given oil dependence and lack of economic diversification. This was demonstrated when oil prices dropped shortly in 2015.



Graph A.16 Imports and exports of countries in West Asia

Source: World Bank Database

In terms of investment of West Asian countries, both the stocks and flows of investment show substantial growth over the two decades. The flows of OFDI and IFDI reached the first peak in 2008. Notably, the total volume of inward FDI flow and stock are higher than those of outward investment. Although the volume of OFDI flows is smaller than IFDI, it increased with fluctuation compared to the decreasing trend of IFDI flow. The volumes of stock still increased rapidly. The data indicate a general expanding trend of investment. West Asian countries remain a popular investment location for the world.



Graph A.17 Investment of West Asia

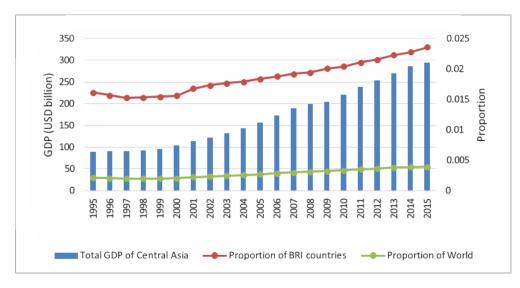
Source: World Bank Database

Central Asia

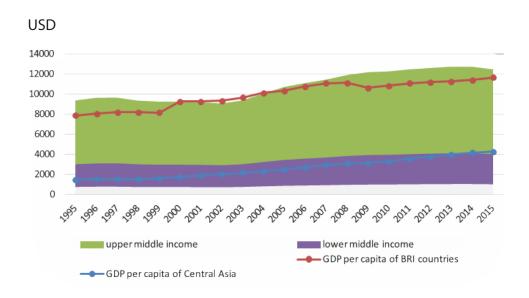
Central Asia is an inland area consisting of 5 countries: Turkmenistan, Kyrgyzstan, Uzbekistan, Tajikistan and Kazakhstan. All the countries became independent after the Soviet Union collapsed. The territory of the region covers 4 million square kilometres, making up 7.7% of all the countries along the Belt and Road, and 3.0% of that of the world. The vast majority of the territory is deserts with an arid climate. In 2015, the total population of these five countries reached 70 million, accounting for 1.5% of the population of all the countries along the Belt and Road, and 1.0% of that of the world. Islam is the dominant religion in Central Asia.

The aggregate economy of the 5 countries in Central Asia is small, with its GDP per capita slightly lower than the average level of the countries along the Belt and Road. Kazakhstan has a large amount of oil while Turkmenistan has a large capacity of natural gas. However, Kyrgyzstan and Tajikistan do not have a substantial amount of proven natural gas and oil reserves. Among the 5 countries, the economy of Uzbekistan is the most diversified.

The GDP of Central Asia reached about USD 295.6 billion in 2015, accounting for 2.3% of that of the countries along the Belt and Road, and 0.4% of the world's GDP. The region's GDP per capita was slightly lower than the average level of the countries along the Belt and Road. In 2015, GDP per capita in these countries was about USD 4,390, which belongs to the upper middle-income countries.



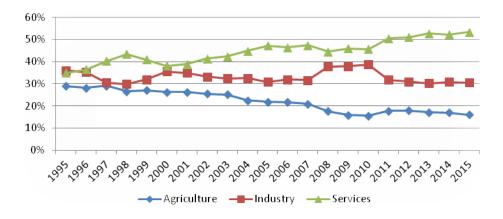
Graph A.18 Aggregate GDP of countries in Central Asia



Graph A.19 GDP per capita of countries in Central Asia

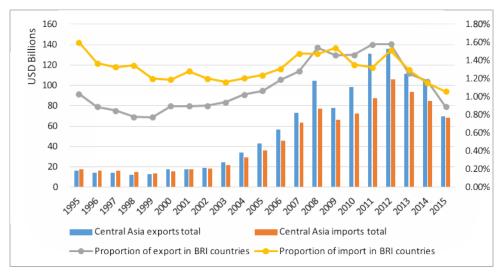
Source: World Bank Database

The services sector takes up the most significant role in Central Asia. It witnessed an increasing trend from 1995 to 2015 despite a short-term fall in the year of 1999, 2000 and 2008. An important driver of Central Asia's economic growth has been a very significant increase in international prices for energy and metals, resources which are abundant in Central Asia. The industrial sector saw drastic changes throughout the changes. The agricultural sector is in a downward trend in the past decade.



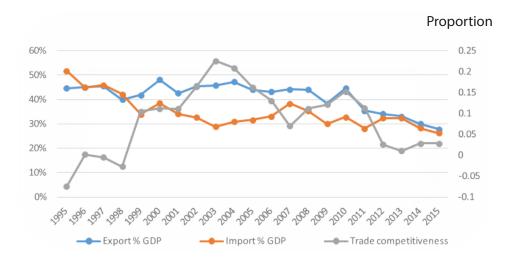
Graph A.20 Industrial structure in Central Asia (% of GDP)

In 2015, the exports of Central Asia reached USD 69.46 billion, accounting for 27.82% of their GDP, and 0.89% of total exports of all the countries and regions along the Belt and Road; import reached USD 68.4 billion, which equals 26.27% of GDP, and 1.06% of total imports of the countries along the Belt and Road. The contribution of total trade to economic development declined in general. The export and import of proportion in the countries along the Belt and Road are decreasing and the total volume of trade also decrease dramatically after 2011. After 1999, the Trade Competitiveness Index became positive which means it started to run trade surplus.



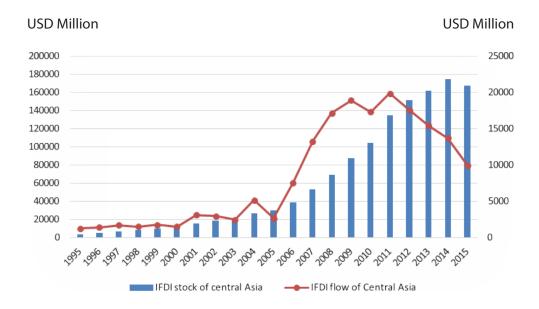
Graph A.21 Imports and exports of countries in Central Asia

Source: World Bank Database



Graph A.22 Imports and exports of countries in Central Asia

In terms of investment in Central Asia, only inward investment is recorded. Graph 3.31 show dramatic growth of the inward FDI stock over the two decades. After an exponential increase of inward FDI flow, the flows reached the peak at 19.8 trillion in 2008. The flow of IFDI dropped sharply after 2011.



Graph A.23 Investment of Central Asia

Source: World Bank Database

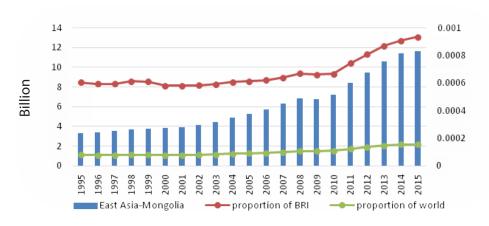
East Asia: Mongolia

The analysis on East Asia focuses solely on Mongolia, as the only country in East Asia included in the analysis of this report for the reasons underlined in 2.1. Mongolia, landlocked between China and Russia, covers an area of 1.56 million square kilometres, accounting for 3.02% of the territorial area of Countries along the Belt and Road, and 1.16% of that of the world. In

2015, the total population of Mongolia reached 2.959 million, accounting for 0.06% of the population of all the countries and regions along the Belt and Road, and 0.04% of that of the world.

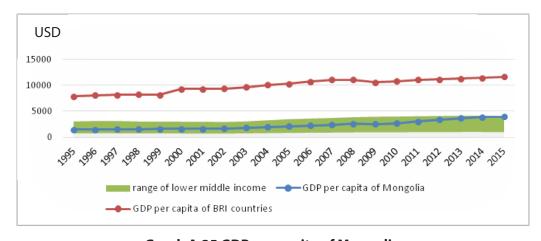
With a small aggregate GDP, Mongolia's industrial structure is mainly dominated by livestock rearing and mineral mining; agriculture remains significant, while service industry still has rooms for growth. In recent years, Mongolia has enjoyed rapid economic growth rate, though growth rate declined in 2016 due to the impact of price in international energy resources. Its economy depends highly on trade, mainly exporting minerals, textiles, and animal products, and importing minerals, machinery and equipment, and food products.

Mongolia achieved USD 11.6 billion in aggregate GDP in 2015, accounting for 0.09% of that of all the countries and regions along the Belt and Road, and 0.015% of the world GDP. GDP per capita was lower than the average level of the countries and regions along the Belt and Road (USD 3,968) in 2015, occupying a place in the rank of lower middle-income countries (USD 1,045-4,125).



Graph A.24 Aggregate GDP of Mongolia

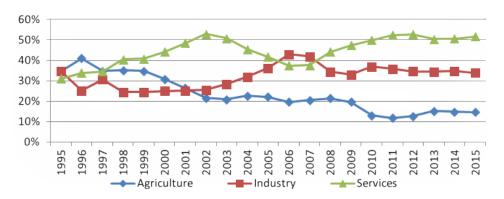
Source: World Bank Database



Graph A.25 GDP per capita of Mongolia

Source: World Bank Database

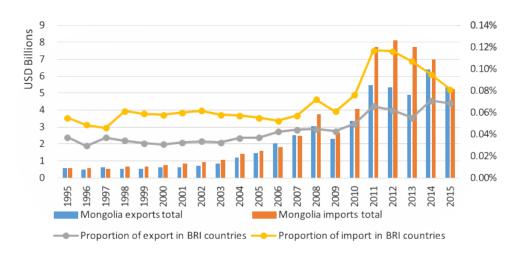
Mongolia experienced rapid changes in the three main sectors of the country in the past decade. Generally speaking, the services sector remained the major industry. It increased rapidly from 31% to over 50% in the first 7 years and peaked in 2002, later went down to as low as 37% in 2007 and climbed to 52% in 2015. The industrial sector witnessed a fluctuating trend. It started with 35% in 1995 and peaked in 2006 with 43%, decreased to 34% by the end of the period. The agricultural sector has seen a steady downward trend. It went up to 41% in 1996 from 34% and declined rapidly to 15% in 2015.



Graph A.26 Industrial structure of Mongolia

Source: World Bank database

In terms of imports and exports³⁷, in 2015, the exports of Mongolia reached USD 5.4 billion, accounting for 0.07% of total exports of all the countries along the Belt and Road; imports reached USD 5.2 billion, contributing 0.08% to total imports of all the countries along the Belt and Road. The total trade made up 90% of Mongolia's GDP. The country's share in the total exports of the countries along the Belt and Road is slowly increasing with some fluctuation the share of its imports has been declining after 2011.

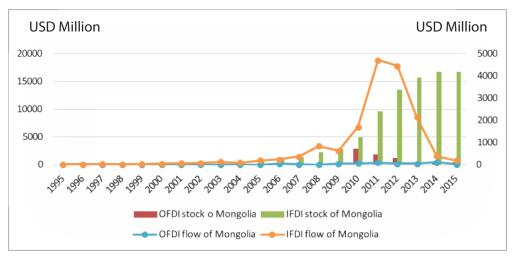


Graph A.27 Imports and exports of Mongolia

Source: World Bank Database

37. Because of the data missing, this report is unable to accurately calculate the trade indexes of Mongolia as those were applied in other regions.

In terms of investment of Mongolia, only inward investment is recorded from 1995. Mongolia started outward investment since 2005 and recorded with fairly low volume. The figure shows dramatic growth of inward FDI stock over the two decades. However, after an exponential increase of inward FDI flow, of flows reached the peak at 19.8 trillion in 2008. The flow of IFDI dropped sharply after 2012.



Graph A.28 Investment of Mongolia

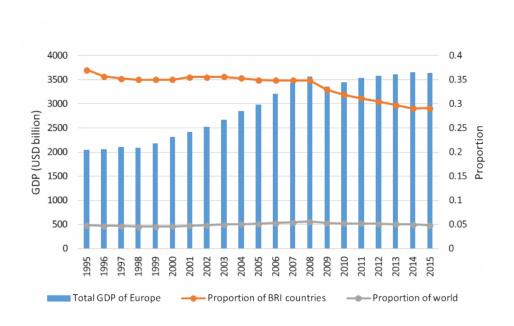
Source: World Bank database

Europe

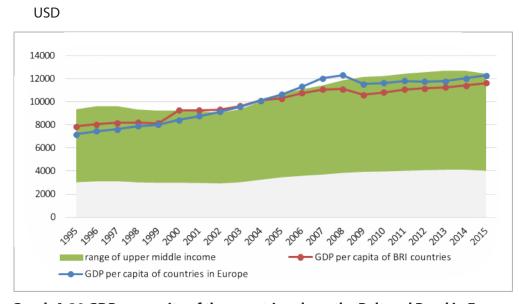
Countries along the Belt and Road in Europe comprise 22 countries namely Albania, Belarus, Bulgaria, Bosnia and Herzegovina, Croatia, Cyprus, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Macedonia, Moldova, Montenegro, Poland, Romania, Serbia, Slovak Republic, Slovenia, Ukraine and Russia. 12 of these countries are part of the European Union.

One of the pole in today's multipolar world, the EU has suffered over the few years from major internal crises, including the euro zone sovereign debt crisis and the refugee crisis. As a result, EU member states have shifted their focus to inward development, which requires more support from and cooperation with China than ever. Indeed, China is net investor in the EU in 2015 and also the bloc's top importer of goods in 2016. On the trade of services with China, the EU has a surplus of € 11 billion in 2016. (Eurostat, 2017).

Countries and regions along the Belt and Road in Europe cover an area of 20.1 million square kilometres, or 39% of the area of all the countries along the Belt and Road, or 15.06% of the world's land area. Their countries' GDP reached about USD 3.6 trillion in 2015, accounting for 29% of that of all the countries along the Belt and Road, and 4.8 % of the world GDP. The region contributed significantly to the countries along the Belt and Road due to a high level of GDP per capita as upper middle-income countries. With Greece being tangled by its debt crisis, some of the European countries have been experiencing sluggish economy in recent years; nonetheless, the high level of GDP per capita (USD 10,842), which makes them the upper middle-income countries, reached high-income class in 2008. Countries vary in terms of territory area and population. Russia is the largest country in the world by surface area, with an economy depending predominantly on oil and gas.



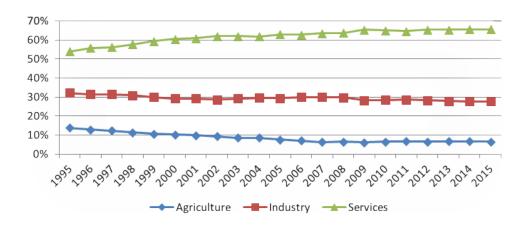
Graph A.29 Aggregate GDP of the countries along the Belt and Road in Europe



Graph A.30 GDP per capita of the countries along the Belt and Road in Europe

Source: World Bank Database

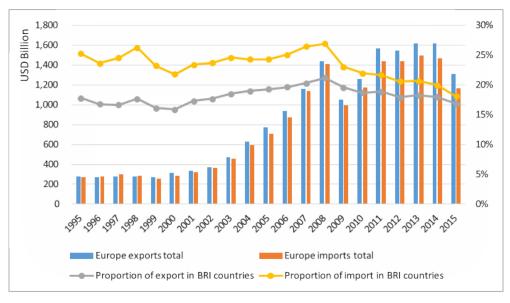
The services sector takes up much of the region's economy. It witnessed a steady increase from 54% to 66% from 1995 to 2015. The industrial sector remained fluctuated within the twenty-year period. Europe has deindustrialised at a steady pace, while northern Europe is an exception, which has been reindustrialising in terms of output. The agricultural sector, which has remained constantly had at a low productivity level, declined gradually from 14% in 1995 to 7% in 2006 and fluctuated throughout the final years.



Graph A.31 Industrial structure of the countries along the Belt and Road in Europe

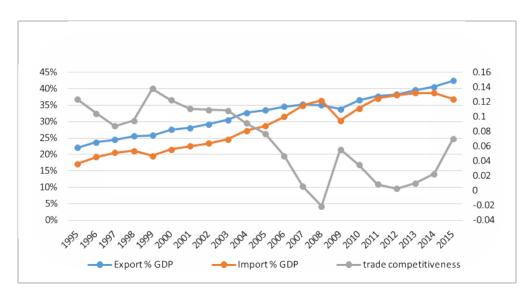
Source: World Bank Database

With a large trade surplus, European countries along the Belt and Road have a high level of trade dependence on goods and services. Their trade makes up 79.15% of GDP; but its contribution to the total trade volume in the countries and regions along the Belt and Road is relatively small. In 2015, the exports of Europe reached USD 1,312 billion, accounting for around a 42.46% of its GDP, and 16.82% of total exports of all the countries along the Belt and Road; the imports reached USD 1,170 billion, accounting for almost 36.89% of GDP, and 18.12% of total imports of all the countries and regions along the Belt and Road. Being subjected to trade deficit, its trade balance only dropped negative in 2008 and indicates as competitive through rest of the years.



Graph A.32 Imports and exports of the countries along the Belt and Road in Europe

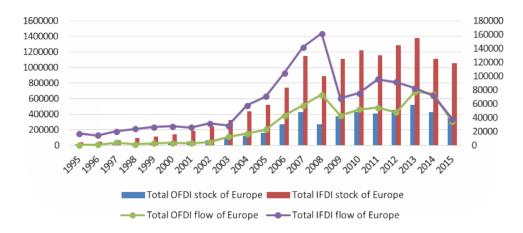
Source: World Bank Database



Graph A.33 Import and export index of the countries along the Belt and Road in Europe

Source: World Bank Database

In terms of investment of Europe, inward investment underwent a major up and down over the two decades, with its total IFDI reached its peak in 2008. The flows of OFDI and IFDI reached their peak in 2013. The total inward FDI flow and stock are higher than those of outward investment except in 2014 when the outward FDI flow was slightly over than the inward FDI flow. Although the OFDI flows were smaller than IFDI flow before 2013, they have been standing at similar levels since then. Since 2013, both inward and outward investment has been dropping steadily. The data indicate a declining trend of investment since 2013.



Graph A.34 Investment of the countries along the Belt and Road in Europe

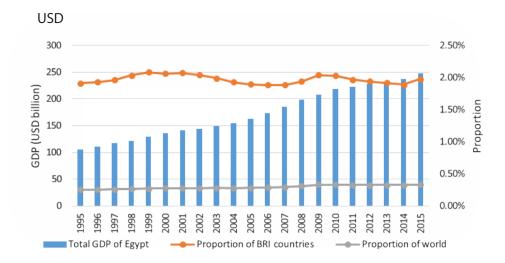
Source: World Bank Database

North Africa: Egypt

The only country in North Africa taken into consideration in this analysis is Egypt as the only country in North Africa included in the analysis of this report for the reasons underlined in 2.1. For the reasons underlined in 2.1. Egypt is located in a key location connecting Asia and Africa, covers an area of around 1 million square kilometres, accounting for 0.75% of the territorial area of the world. In 2015, the total population of Egypt, reached 95.69 million, accounting for 0.12 % of the population of the world.

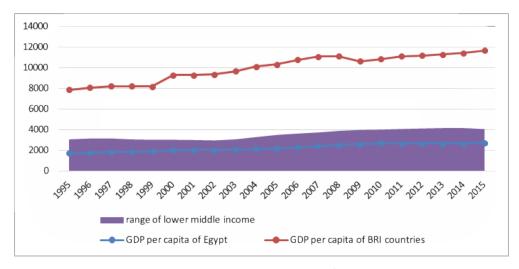
With a steadily growing aggregate GDP, Egypt's industrial structure is mainly dominated by the services sector, followed by the industrial and agricultural sectors. In recent years, Egypt has enjoyed a steady economic growth rate over the past two decades. Its economy depends highly on trade, mainly exporting crude petroleum, refined petroleum and tourism.

Egypt achieved USD 247 billion in aggregate GDP in 2015, accounting for 1.98 % of that of all the countries along the Belt and Road. Despite its positive economic trend, the country's GDP per capita was still lower than the average level of the countries and regions along the Belt and Road (USD 2707) in 2015, making it a lower middle-income country (USD 1,045-4,125).



Graph A.35 Aggregate GDP of Egypt

Source: World Bank Database

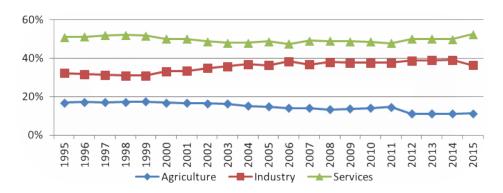


Graph A.36 GDP per capita of Egypt

Source: World Bank Database

Egypt reveals rapid changes in three sectors of the country in the past decade. The service sector, the largest and fastest-growing economic sector, fluctuated around 50% throughout the years. Tourism, trade, banking, and shipping services on the Suez Canal constitute the main sources of service sector revenue. The industry is the second-largest economic sector in Egypt and accounted for 32% to 39% in the past decade. Major industries include the

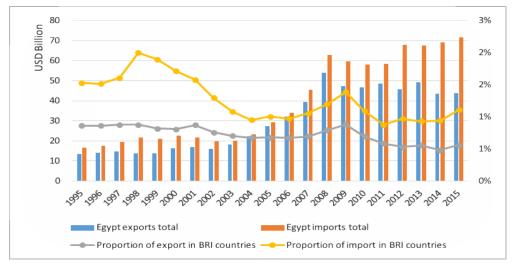
production of petroleum and petroleum products, providing a major source of foreign currency. The sector's contribution is heavily dependent on the performance of the world's oil markets and fluctuates accordingly. The growth in domestic energy demand in the 1990s has placed constraints on Egypt's petroleum exports, leading to a downturn in net revenues. The construction industry has become one of the fastest-growing sectors of the economy, thanks in large part to huge government infrastructure and modernisation projects. Overall, the industrial sector's contribution has increased because of the government's efforts towards privatisation. Agriculture's contribution to GDP declined from 17% in 1995 to 11% in 2005, and the number of workers in the sector decreased steadily during the 1990s.



Graph A.37 Industrial structure of Egypt

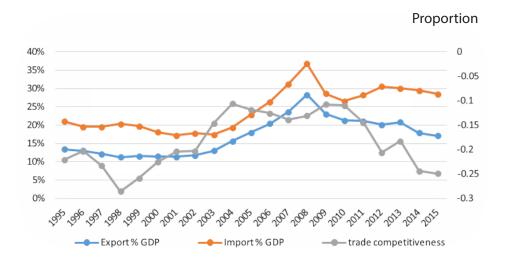
Source: World Bank Database

In 2015, the exports of Egypt reached USD 43.68 billion, accounting for 17.10% of their GDP, and 0.56% of total exports of all the countries along the Belt and Road; import volume reached USD 71.60 billion, which equals 28.47% of GDP, and 1.11% of total imports of the countries along the Belt and Road. The contribution of total trade to economic development declined in general. The export and import of proportion in the countries along the Belt and Road have been stable since 2012 and so has total trade. Since 2010, its Trade Competitiveness Index, which remained negative throughout the two decades, indicates a relative large trade deficit in Egypt.



Graph A.38 Imports and exports of Egypt

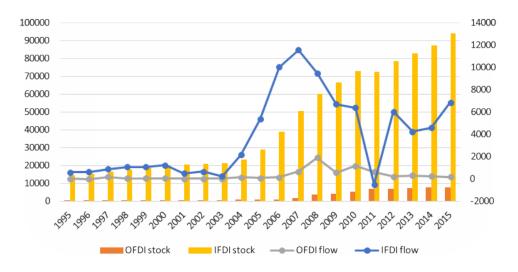
Source: World Bank Database



Graph A.39 Import and export index of Egypt

Source: World Bank Database

In terms of investment in Egypt, few outward investments made in Egypt and the inward investment flow has also stuck at small volume. On the contrary, the stock of inward FDI increased substantially over the two decades. The flows IFDI reached the peak in 2007 and experienced an exponential reduction afterwards. After bottoming out in 2011, the flow of IFDI started to grow in 2012 and reached USD 6,885 million in 2015.



Graph A.40 Investment in Egypt

Source: World Bank Database

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