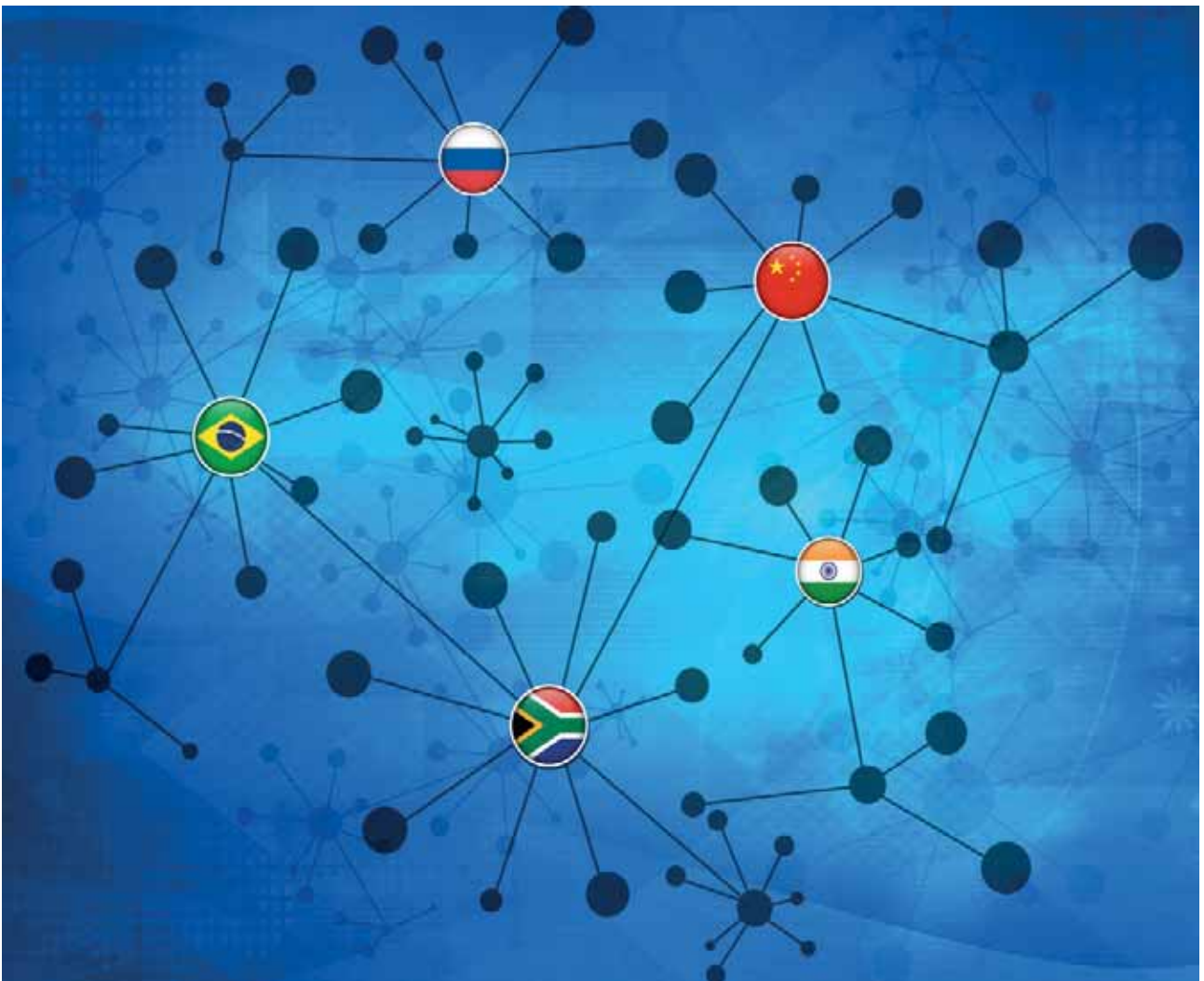


BRICS COUNTRIES: EMERGING PLAYERS IN GLOBAL SERVICES TRADE



International
Trade
Centre

TRADE IMPACT
FOR GOOD

BRICS countries: Emerging players in global services trade

About the paper

BRICS countries – Brazil, the Russian Federation, India, China, and South Africa – have emerged as important players in global services trade in the past decade. BRICS services exports are growing faster than the developed countries; their share in global services markets is also expanding rapidly. Yet they still lag behind traditional major players and much work remains to tap into their potential.

This report provides data on sector and modes of supply for each BRICS country, and analyses intra-BRICS trade. The analysis suggests that BRICS can better integrate into the global services economy by improving services regulations and reducing trade costs.

Publisher: International Trade Centre

Title: BRICS countries: Emerging players in global services trade

Publication date and place: July 2017, Geneva

Page count: x, 52

Language(s): English

ITC Document Number: CEES-17-98.E

Citation: International Trade Centre (2017). *BRICS countries: Emerging players in global services trade*. ITC, Geneva.

For more information, contact: Marion Jansen, jansen@intracen.org

For more information on Trade in Services, see: <http://www.intracen.org/itc/sectors/services/>

ITC encourages the reprinting and translation of its publications to achieve wider dissemination. Short extracts of this paper may be freely reproduced, with due acknowledgement of the source. Permission should be requested for more extensive reproduction or translation. A copy of the reprinted or translated material should be sent to ITC.

Digital image(s) on the cover: © Shutterstock

© International Trade Centre (ITC)

ITC is the joint agency of the World Trade Organization and the United Nations.

Acknowledgements

This paper was prepared by Ben Shepherd, Principal of Developing Trade Consultants, with inputs from Jimena Sotelo and Justine Lan, ITC, and Quan Zhao, ITC Trade Policy Advisor, under the supervision of Marion Jansen, ITC Chief Economist.

ITC would also like to thank Natalie Domeisen and Evelyn Seltier, both ITC, who oversaw editing, production and quality control. Editors were Christina O'Shaughnessy, Richard Waddington, and Natalie Domeisen. Kristina Golubic, Serge Adeagbo and Franco Iacovino, all ITC, provided graphic and printing support.

Production of this publication received support from the Ministry of Commerce of the People's Republic of China.

Contents

About the paper	ii
Acknowledgements	iii
Acronyms	vii
Executive summary	viii
CHAPTER 1 INTRODUCTION	1
Context	1
Research challenges	5
Chapter 2 BRICS INTEGRATION INTO THE GLOBAL SERVICES ECONOMY	7
BRICS in global services trade	7
BRICS' services trade: Sectoral composition	12
Geographical patterns in the BRICS' services trade	18
Embodied services trade	21
CHAPTER 3 DIGITAL TRADE	22
Digital environment, infrastructure, policies and incentives	23
BRICS and digital consumption	27
Digital processes for value chain integration	29
CHAPTER 4 INVESTMENT IN SERVICES	31
Inbound FDI in services and Mode 3 imports	31
Outbound FDI in services and Mode 3 exports	35
Chapter 5 PEOPLE-TO-PEOPLE CONNECTIONS	39
Travel and tourism	39
Education	42
CHAPTER 6 CHALLENGES AND RECOMMENDATIONS FOR EXPANDING IN GLOBAL MARKETS AND INTRA-BRICS COLLABORATION	44
Challenges	44
Recommendations	48
References	51

Boxes, Tables, Figures

Box 1	Modes of supplying services internationally	6
Table 1	Intra-BRICS services exports, 2011 (percentage of total)	20
Table 2	Regulatory infrastructure for the digital economy, BRICS countries	26
Table 3	Arrivals in BRICS countries by purpose of visit, 2015 (percentage)	41
Table 4	BRICS' share in tourist arrivals, 2015 (percentage)	42
Table 5	BRICS' share in tourist departures, 2015 (percentage)	42
Figure 1	Services as a percentage of GDP, by country income group, 2000 and 2014	2
Figure 2	Services as a percentage of GDP versus per capita GDP (PPP), 2014	2
Figure 3	World exports of goods and services, 2000–2015 (\$ billion)	3
Figure 4	Growth rates of services exports, by developing region, 2000–2015 (Index: 2005=100)	4
Figure 5	Services sector value added in GDP (percentage)	7
Figure 6	Services trade relative to GDP, BRICS countries, 2000–2015 (percentage)	8
Figure 7	Breakdown of world services exports by origin, 2000–2015 (\$)	10
Figure 8	Trade balance in commercial services, BRICS countries (percentage of GDP)	11
Figure 9	Trade balance in commercial services, BRICS countries, 2012–2016 (\$ million)	11
Figure 10	Sectoral breakdown of Brazil's services exports, 2014 (percentage)	12
Figure 11	Sectoral breakdown of Brazil's services imports, 2014 (percentage)	13
Figure 12	Sectoral breakdown of Russia's services exports, 2014 (percentage)	13
Figure 13	Sectoral breakdown of the Russian Federation's services imports, 2014 (percentage)	14
Figure 14	Sectoral breakdown of India's services exports, 2014 (percentage)	14
Figure 15	Sectoral breakdown of India's services imports, 2014 (percentage)	15
Figure 16	Sectoral breakdown of China's services exports, 2014 (percentage)	16
Figure 17	Sectoral breakdown of China's services imports, 2014 (percentage)	16
Figure 18	Sectoral breakdown of South Africa's services exports, 2014 (percentage)	17
Figure 19	Sectoral breakdown of South Africa's services imports, 2014 (percentage)	18
Figure 20	Geographical breakdown of the Russian Federation's services exports, 2014 (percentage)	19
Figure 21	BRICS countries' services exports to selected countries and groups, 1995–2011(\$ million)	20
Figure 22	Services value added in gross exports of manufactured goods, by origin, 2011 (percentage)	21
Figure 23	Computer services exports as a percentage of total business-sector service exports, BRICS countries, 1995–2011 (percentage)	22
Figure 24	Computer and telecommunications sector value added embodied in gross exports of services, BRICS countries, 1995–2011 (percentage)	23
Figure 25	Internet penetration rates in the BRICS countries, 2015 (percentage)	24
Figure 26	Trends in Internet usage, BRICS countries, 2000–2015 (percentage of population)	25

Figure 27	Services firms using a website or email, BRICS countries, latest available year (percentage)	26
Figure 28	Share of the population that pays bills or buys things on the Internet, BRICS countries, 2014 (percentage)	27
Figure 29	Digital market penetration rate, BRICS countries (percentage of population over 16)	28
Figure 30	Digital market size, BRICS countries, 2015 (\$ million)	29
Figure 31	Computer and telecommunications sector value added embodied in gross exports of manufactures, BRICS countries, 1995–2011 (percentage)	30
Figure 32	Manufacturing firms using a website or email, BRICS countries, latest available year (percentage)	30
Figure 33	FDI outflows, 2005–2015, selected countries (\$ million)	31
Figure 34	Inward FDI flows into Brazil, 2001–2012, selected sources (\$ million)	32
Figure 35	Inward FDI flows into China, 2001–2012, selected sources (\$ million)	33
Figure 36	Inward FDI flows into India, 2001–2012, selected sources (\$ million)	33
Figure 37	Inward FDI flows into the Russian Federation, 2007–2012, selected sources (\$ million)	34
Figure 38	Imports by the BRICS countries from the European Union, Mode 3, 2014 (percentage of total)	35
Figure 39	FDI outflows, 2005–2015, selected countries (\$ million)	36
Figure 40	Outward FDI flows from Brazil, 2006–2012, selected destinations (\$ million)	36
Figure 41	Outward FDI flows from China, 2003–2012, selected destinations (\$ million)	37
Figure 42	Outward FDI flows from India, 2003–2012, selected destinations (\$ million)	37
Figure 43	Outward FDI flows from the Russian Federation, 2003–2012, selected destinations (\$ million)	38
Figure 44	Tourist arrivals, BRICS, 2011–2015 (numbers)	39
Figure 45	Tourism receipts in total exports, 2015, BRICS countries (percentage)	40
Figure 46	Tourist departures, BRICS, 2011–2015 (numbers)	41
Figure 47	Services Trade Restrictiveness Index, BRICS countries, selected sectors, 2016	44
Figure 48	Services Trade Restrictiveness Index, BRICS countries, selected sectors, 2016	46
Figure 49	Services Trade Restrictiveness Index, BRICS countries, selected sectors, 2016	46
Figure 50	Services Trade Restrictiveness Index, BRICS countries, selected sectors, 2016	47

Acronyms

Unless otherwise specified, all references to dollars (\$) are to United States dollars, and all references to tons are to metric tons.

APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
BRICS	Brazil, Russian Federation, India, China and South Africa
EBOPS	Extended Balance of Payments Services Classification
EU	European Union
FATS	Foreign affiliates statistics
FDI	Foreign direct investment
G20	Group of Twenty
GATS	General Agreement on Trade and Services
GATT	General Agreement on Tariffs and Trade
GDP	Gross domestic product
GVCs	Global value chains
ITC	International Trade Centre
MFN	Most favoured nation
OECD	Organisation for Economic Co-operation and Development
SME	Small and medium-sized enterprise
STRI	Services Trade Restrictiveness Index
TISI	Trade and investment support institution
TIVA	Trade in Value Added
UNCTAD	United Nations Conference on Trade and Development
WTO	World Trade Organization

Executive summary

The BRICS countries – Brazil, the Russian Federation, India, China and South Africa – are emerging as important players in global services trade. Over the last decade and a half, most of them have experienced more rapid growth in services trade than the major developed markets, with China and India at the head.

According to the World Trade Organization (WTO), China was the world's third largest exporter of services in 2015 and India the eighth, with India being particularly successful in areas such as IT and business process outsourcing.¹

But since the BRICS countries started from a relatively low base, they still account for only a modest proportion of world trade. Except for India, BRICS' services trade tends to be concentrated in traditional sectors, such as transport and travel. The sectoral composition of services trade and production is important because sectors differ in terms of their productivity, their potential for future growth and their spill-over effects.

Owing to data deficiencies, it has been challenging to analyse the BRICS countries' participation in services trade and, in particular, the trade with each other. This report draws on a range of data sources to provide a fresh picture of the sectoral composition of BRICS countries' services trade, as well as the importance of intra-BRICS trade. These sources include UN Comtrade, the International Trade Centre (ITC) Trade Map, the World Bank World Development Indicators and the Trade in Value Added (TiVA) joint database of the Organisation for Economic Co-operation and Development (OECD) and the World Trade Organization (WTO). Analysing BRICS countries' participation in services trade, however, poses challenges due to a relative lack of data, particularly on intra-BRICS trade.

Dynamic sectors

Dynamic services sectors, such as engineering and research and development, have seen rapid productivity growth globally in recent years. This has implications for policymakers, who need to have the right incentives to encourage high-productivity, growth-supporting services. It also means that the fact that manufacturing in developing countries and BRICS countries is peaking at lower levels as a percentage of GDP is not necessarily negative for employment and development, provided countries generate competitive offerings in dynamic services sectors.

One aspect of services trade which stands out for the BRICS countries is so-called 'embodied' services trade – services used as inputs in the production of other tradable goods and services. Services account for just some 20% of global exports in gross terms, but nearly 50% in value-added terms, reflecting the fact that most of the world's cross-border services trade is in intermediate and not final services.

BRICS' gross exports of manufactured goods incorporate between 30% and 40% of embodied services in value-added terms, primarily from domestic sources, but also from foreign suppliers, according to new TiVA data. This emphasizes the importance of developing services not only as a source of export earnings in a direct sense but also to facilitate the ability of manufacturers to be competitive in world markets.

Most data available for global markets cover only pure cross-border services trade, known as Mode 1 in the General Agreement on Trade and Services (GATS). However, a review of United States and European Union data on Mode 3 – sales by foreign affiliates – indicates that the BRICS, particularly China, are major sources of demand. Trade via Mode 3 is likely concentrated in flows with the main developed markets, as indicated by statistics on investment. The BRICS countries are taking initial steps in terms of Mode 3 exports; they are already well established as importers. Access to high-quality, reasonably priced services from the world market is important for consumer welfare and business productivity in BRICS countries.

¹ WTO, *World Trade Statistical Review 2016*, A9. Leading exporters and importers in world trade in commercial services (including intra-EU(28) trade), 2015 www.wto.org/english/res_e/statis_e/wts2016_e/wts16_toc_e.htm

For services trade involving the physical movement of people across borders – people-to-people connections – there are important factors that make the BRICS countries key players in this type of services trade, primarily GATS Mode 2 (as Mode 4 remains very restricted in most countries).

Natural advantages translate into vibrant tourism and travel economies in several the BRICS countries. At the same time, BRICS, particularly India and China, are themselves generating an increasing number of tourists as per-capita incomes rise.

The BRICS countries are also heavily involved in trade in educational services, primarily as sending economies. Their students study mostly in the developed markets of the United States and the European Union. Intra-BRICS exchanges are marginal.

Moving forward

The key finding from our data-driven analysis of services trade in the BRICS is that much work remains to be done to fully integrate BRICS countries into the global services economy. Economic forces will continue to pull in that direction; rising incomes will shift consumption towards services and increasing use of GVCs as production platforms will increase demand for intermediate services.

The major challenge for BRICS is to improve productivity in services trade, which would benefit trade integration, consumer welfare and downstream productivity and competitiveness.

Globally, costs are high in services trade, perhaps twice what is observed in goods. Policy plays a major role here. Although there are no explicit border restrictions, such as tariffs, other policies – both horizontal and sector-specific – affect the ability of foreign service providers to contest local markets.

Close gap

To leverage the global services economy and upgrade productivity, BRICS need to close a clear gap between aspiration and progress. Some BRICS, such as China, have taken major steps to open services markets, yet there remains scope to adjust policies to support more services trade integration.

It is important to look for other frameworks that could promote incremental change in services markets. Following the example of the Asia-Pacific Economic Cooperation's (APEC) experience with goods, BRICS could seek a trade facilitation agenda in services, developing proposals to improve domestic regulation, facilitate investment and focus actions on dynamic segments of services trade, such as e-commerce and digital trade.

Through the G20, the BRICS could also push for a joint target to reduce trade costs by an agreed percentage over a set time, perhaps 5% in five years. As negotiating regulatory reform is very difficult, countries should be free to choose which regulations to reform to achieve their overall liberalization target. Experience suggests that such an approach can work when participants are committed to reform and act in good faith. Given that most experience with successful reforms of services' markets has been unilateral, this kind of external anchor could provide needed support to domestic constituencies in favour of reform.

Recommendations

1. **Disaggregate data.** Collect fully disaggregated (by subsector and by partner) data on services trade by GATS Modes 1 and 2.
2. **Track sales of foreign affiliates.** Consider tracking sales by foreign affiliates, both inward and outward, to provide information on GATS Mode 3 trade.
3. **Implement regulatory impact assessment.** This can promote effective and efficient regulation of services sectors. Improved transparency and efficiency could also be achieved through better domestic regulation and investment-facilitation measures.
4. **Reduce trade costs through G20 commitments.** Through the G20, work towards a multilateral commitment to facilitate trade in services by lowering trade costs by perhaps 5% in five years. The

means of implementation should be left up to individual countries; track results using international data sources.

5. **Leverage regional initiatives on transport and connectivity.** Examples are those sponsored by the Association of Southeast Asian Nations (ASEAN) and China, to promote liberalization of key backbone services, such as transport, logistics and telecommunications.

CHAPTER 1 INTRODUCTION

This report aims to analyse the BRICS countries' services trade in as much detail as possible to identify underlying trends in competitiveness across sectors and modes of supply, as well as examine market potential and regulatory issues, and provide policy recommendations.

Chapter 2 looks at the BRICS' services economies and services trade relations in a global context. The chapter examines their trade relations with the world as a whole, and, wherever possible, among themselves.

Chapter 3 focuses on digital trade, an increasingly important mode of delivery for services.

Chapter 4 moves to a consideration of investment, which remains a major mode of entry in sectors where geographical proximity between buyer and seller is necessary.

Chapter 5 looks at people-to-people connectivity, a key issue in the scope for expanded services trade through the temporary movement of service providers, as well as movements of consumers in sectors such as travel and tourism and education.

Chapter 6 concludes by presenting key challenges and recommendations for enhancing cooperation among the BRICS countries in the area of services trade.

Context

The services economy has been undergoing major growth in many countries over a long period. Having started some decades ago in the developed countries, with the peak of manufacturing as a proportion of the economy and employment, the movement is now spreading to the developing world as well.

Figure 1 shows that the services economy grew relative to manufacturing and agriculture in all income groups between 2000 and 2014, with the change most pronounced in middle-income countries—including the BRICS countries (Brazil, Russian Federation, India, China, and South Africa), which are the focus of this report.

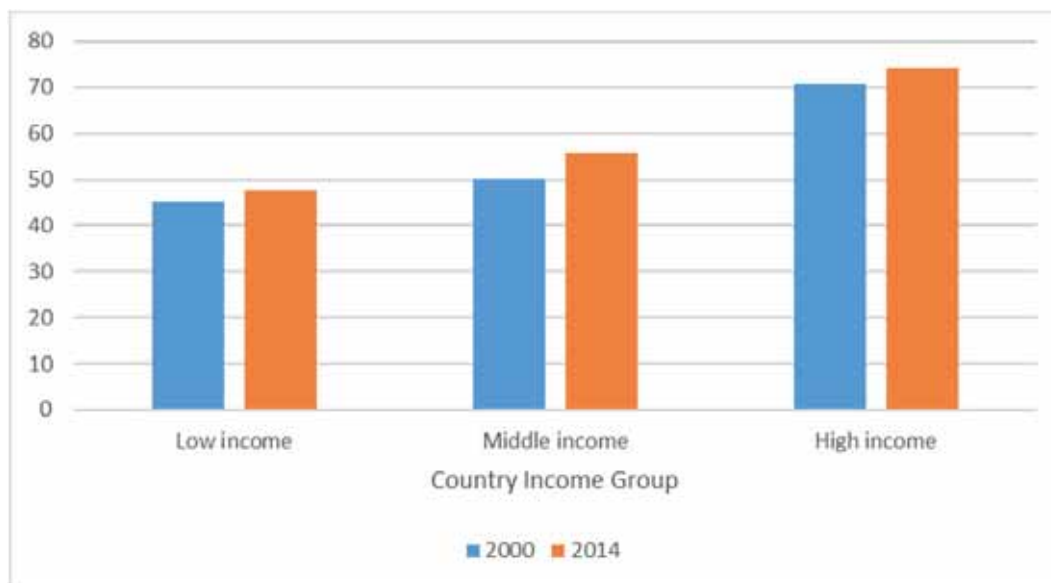
The services economy grew relative to manufacturing and agriculture in all income groups between 2000 and 2014, with the change most pronounced in middle-income countries—including the BRICS countries.

Many factors lie behind this development, including shifting demand patterns. As per capita incomes rise, consumer demand tends to shift towards services in relative terms. At the same time, the rise of global value chains (GVCs) has given services a special role, 'embodied' within goods that are then exported.

For instance, an imported iPhone nominally originating in China is, in reality, a bundle of value-added components from all over the world, including parts like a solid state hard drive or a screen, but also services, which include research and development, design, transport and marketing. Modern production methods rely heavily on services, particularly within GVCs.

Although precise figures are difficult to obtain, Low and Pasadilla (2016) present firm-level case studies from the Asia-Pacific region showing that services input costs are often a significant proportion, even up to half, of the total costs for the manufacturer. Clearly, such considerations increase the relative demand for services over and above the final consumption effect previously mentioned.

Figure 1 Services as a percentage of GDP, by country income group, 2000 and 2014

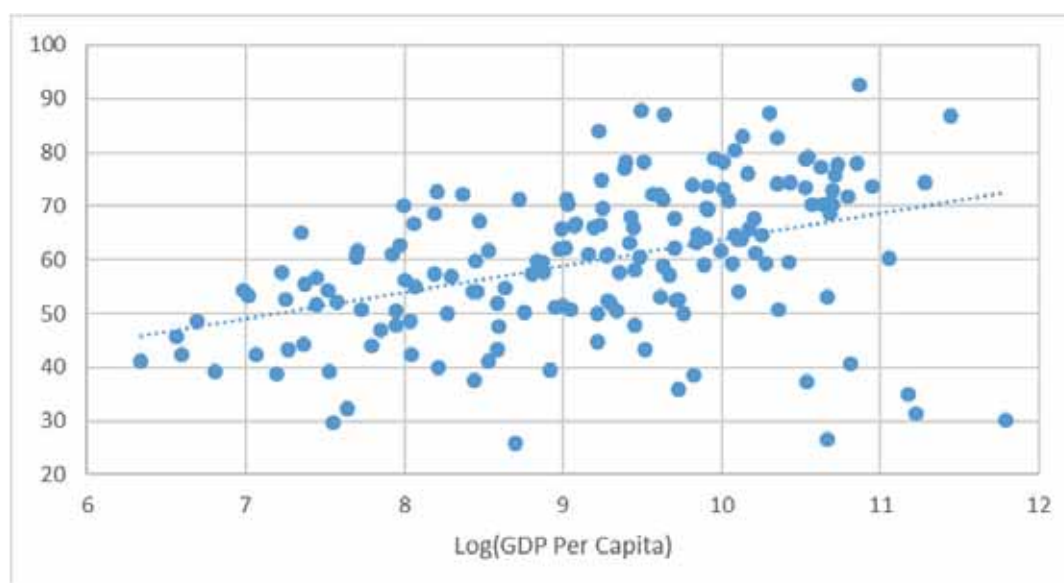


Source: World Development Indicators.

Looking at the data on a cross-country basis, it is evident that the size of the services economy is directly related to higher per capita incomes. In Figure 2, the upward sloping line of best fit strongly suggests that richer countries tend to have a larger proportion of services in their GDP than do poorer countries. Although correlation is not causation, the economic history of the developed world, as well as some developing countries now, suggests that this relationship is robust—as per capita incomes increase, the services sector grows relative to the other parts of the economy.

This dynamic is important as the BRICS countries are planning to go from middle- to high-income status. It is also important to recall arguments by some analysts that the service sector is creating more jobs than manufacturing, and at an earlier level of development (Ghani and O'Connell, 2014).

Figure 2 Services as a percentage of GDP versus per capita GDP (PPP), 2014



Source: World Development Indicators.

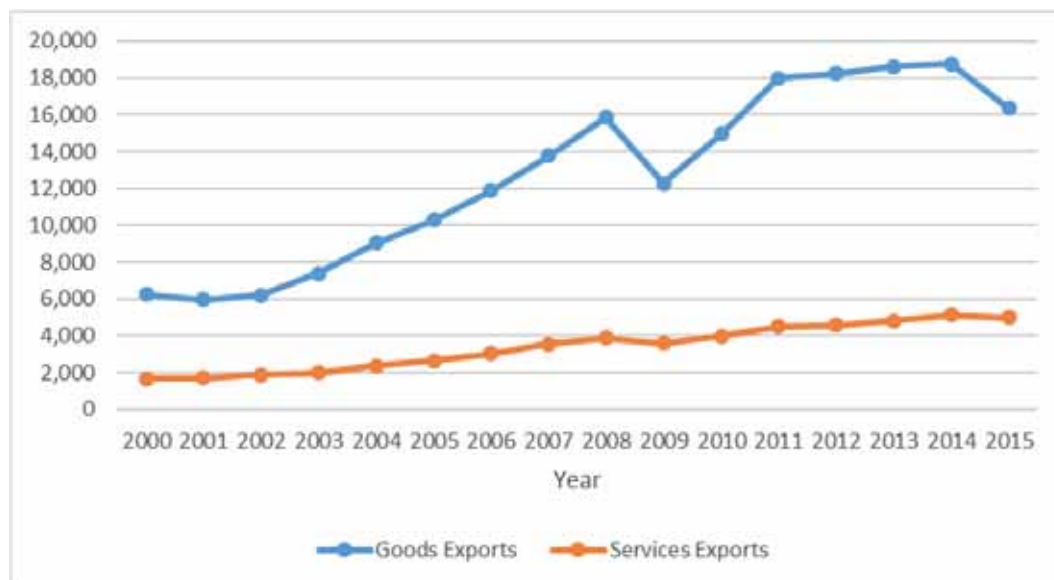
As the services economy has grown in importance relative to other sectors across the world, so too has the importance of services trade increased. Measuring services trade is subject to many difficulties, which analysts have noted at least since the General Agreement on Tariffs and Trade (GATT) Uruguay Round, when services trade was first negotiated on a multilateral level.

Although data availability has improved, there are still many holes in the data. This section purely looks at statistics on pure cross-border trade in services drawn from the balance of payments statistics.

Figure 3 shows steady growth in the services trade in the twenty-first century. It is particularly notable that the financial crisis of 2008–2009, although it originated in a services sector, affected goods trade to a much greater degree than did services trade. The average annualized growth rate of services exports between 2000 and 2015 was 7.45%, which is slightly faster than that observed for goods (6.62%), albeit that the latter has a much higher degree of variation.

Nonetheless, these basic data indicate that in line with the growth of the services economy, there has been steady and ongoing growth in world services exports—which holds potential for developing countries looking to increase their degree of integration into world markets.

Figure 3 World exports of goods and services, 2000–2015, (\$ billion)

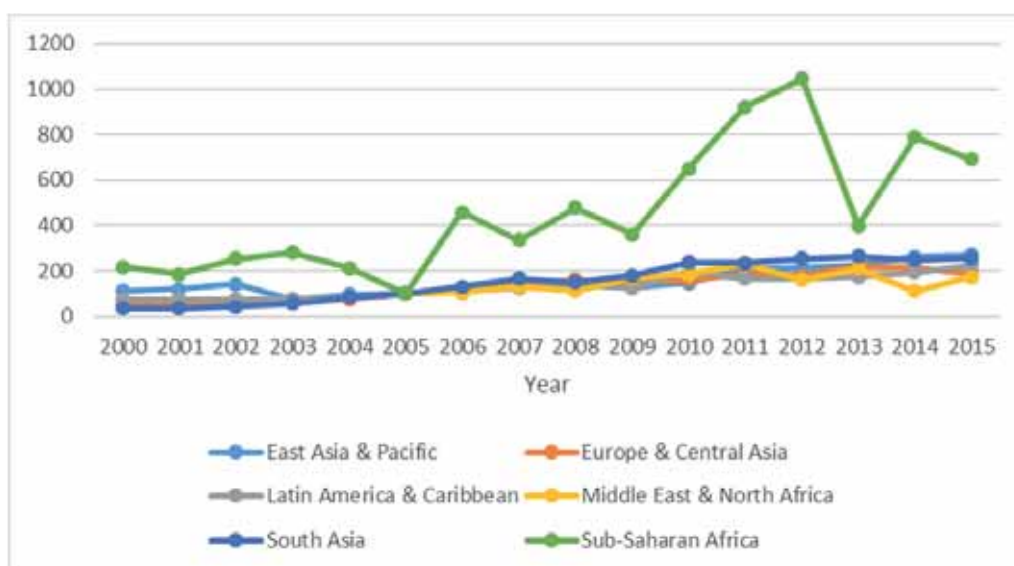


Source: World Development Indicators.

Figure 4 breaks the data out further by looking at regional patterns of services export growth, using 2005 as a base year (index set equal to 100), so that changes can be interpreted as percentages. It is clear from the figure that all regions except sub-Saharan Africa have seen steady growth in their services exports, at very similar rates, which reflect the overall dynamic in Figure 2.

The data points for Sub-Saharan Africa likely have considerable noise, and display an uncharacteristic pattern of large rises and falls. This feature is also due to the relatively small flows being considered: in 2015, for example, sub-Saharan Africa's services exports were only 12.71% of those of East Asia and the Pacific, by value.

Figure 4 Growth rates of services exports, by developing region, 2000–2015 (Index: 2005=100)



Source: World Development Indicators.

Note: Excludes high-income countries.

The general global context for services trade, within which recent developments affecting the BRICS have taken place, is therefore supportive of steady, sustained growth. The main factors that have supported growth in services trade are the unbundling of production associated with the rise of GVCs, shifts in the demand patterns of final consumers and growth in destination markets. Except for particular subsectors like computer services, there is little evidence that reductions in bilateral trade costs have played a significant role in boosting services exports around the world (Miroudot et al., 2013).

Growth in the services economy and services trade, provides important potential benefits for developing countries. From a sustainable development point of view, it is significant that the ecological footprint of services is typically much less than that of manufacturing, particularly in the early stages of industrialization. The risk of injury to workers is also much less. At the same time, services like education and healthcare directly promote sustainable development, while environmental services make it possible to mitigate the harm caused by other activities (Hoekman, 2016).

However, whereas manufacturing in many now-developed countries was a broad-based entry point into the middle class, the situation with services is more complex. Productivity levels, which are related to salaries, though not perfectly, vary widely across services subsectors.

In the developed world, services are routinely derided as ‘burger-flipping’ jobs that are low productivity and low potential, even though some of those with such an opinion are themselves high-productivity, high-salary services workers, in sectors such as publishing and higher education. In developing countries, the situation is similar, but the image is one of personal services rather than fast food. Both can be considered ‘traditional’ services sectors.

In reality, in both groups of countries, services are very heterogeneous in terms of their underlying level of productivity, their potential to produce future growth, and spillovers to other sectors. For instance, dynamic services like engineering and research and development, which modern endogenous growth theories see as the motor of long-term growth and higher per capita incomes, have high levels of productivity and productivity growth.

Looking at the EU KLEMS database for data on the United States, for example, services like telecommunications and IT saw faster growth in total factor productivity than all but a small number of manufacturing subsectors, and substantially greater growth than for manufacturing as a whole.

This means the sectoral composition of services is very important, perhaps more than in manufacturing. Policymakers therefore need to get the incentives right so that high-productivity, growth-supporting services can attract significant numbers of workers.

Research challenges

For manufacturing, there are highly disaggregated data on input-output relations, production, productivity, cross-border trade, and border policies affecting trade flows (tariffs). In services, however, the situation is vastly different. Standard industrial classifications identify services subsectors at a far higher level of aggregation than for manufacturing. The problem is magnified in the case of trade, where services data distinguish among a handful of aggregate industries, whereas goods data identify thousands of individual products. More importantly, many countries do not record cross-border services trade with anything more than a few categories of services, and with no bilateral (partner country) disaggregation. Trade is recorded with the rest of the world only.

Techniques are available to try and fill in some of the gaps in services data. For trade data, for example, mirroring can be applied: the use of import data reported by a destination country to proxy exports not reported with a bilateral or sectoral disaggregation by an origin country. This approach makes it possible to get a reasonably clear picture of trade patterns among developed countries, and between developed and developing countries.

But for South-South trade, including intra-BRICS trade, it is much harder to find any reliable quantitative information (Dihel et al., 2006). Partial information is available from the OECD–WTO Trade in Value Added (TiVA) database, as well as the World Bank Trade in Services database, which is based on mirroring, but appears not be updated to include currently available data.

Focusing on pure cross-border trade in services is only one way in which services can be traded internationally. Box 1 provides a summary of the concepts underlying international trade in services as codified by the General Agreement on Trade in Services (GATS). In summary: data problems are far worse for the other modes of supply than for Mode 1.

The balance of payments data capture some Mode 2 activity, while data on remittances capture some Mode 4 activity—albeit imperfectly. Data on Mode 3 trade are maintained by very few developed countries. But it is widely believed that Mode 3 represents between 55% and 60% of the total volume of trade in services, potentially being the most important way of entering foreign services markets.²

The best that can be done is therefore to analyse foreign direct investment (FDI) inflows and outflows for those countries for which data are of the highest quality, and readily available—typically the European Union (EU) and the United States. Although incomplete, this picture is the best that can be achieved in the current state of data collection around the world.

² World Trade Organization, *Measuring GATS Mode 4 Trade Flows*, 2008, www.wto.org/English/res_e/reser_e/ersd200805_e.pdf - 2005 estimations.

Box 1 Modes of supplying services internationally

Unlike goods trade, which consists of straightforward transactions in which goods are physically moved from one country to another, services trade is disembodied and frequently relies on different means of supporting international transactions. The standard approach to mapping international trade in services relies on the four modes of supply identified in the General Agreement on Trade in Services (GATS).

- **Mode 1** is pure cross-border trade in services, where, for example, a Chinese firm delivers management consulting services to a client in South Africa long distance, using the Internet and telephone.
- **Mode 2** refers to the situation where the consumer moves. For instance, when an Indian college student comes to the Russian Federation to study and pay fees at a Russian institution of higher education.
- **Mode 3** captures the situation where a service provider establishes a local commercial presence in order to supply services. For instance, a Brazilian bank opens a subsidiary in India, which then sells services to Indian nationals.
- **Mode 4** refers to temporary movement of service providers, as when a Chinese engineering firm sends a group of specialists to work on an infrastructure project in South Africa.

Data on international trade in services are very limited, even in developed countries. In general, there is reasonable availability in developed countries for Mode 1 and some Mode 2 trade through the balance of payments statistics.

Availability in developing countries, including the BRICS, is much more limited, and frequently only identifies the world as a trading partner, rather than individual countries.

Mode 3 data are only available for a few large, developed markets, such as the United States and the European Union.

Mode 4 trade is very limited in terms of global data availability, and is sometimes proxied using remittance data.

CHAPTER 2 BRICS INTEGRATION INTO THE GLOBAL SERVICES ECONOMY

Although the services economy has been growing in the BRICS countries, much remains to be done in terms of trade integration, particularly among the BRICS themselves. Although there are standout performers like India, and in an absolute sense, China, the BRICS as a whole remain emerging players in global services trade when measured using balance of payments data.

They are even generally marginal to each other's services trade, with the exception of Brazil and South Africa, which are relatively more dependent on the group as destination services markets, with 19.90% and 28.72% of their services exports going to the other BRICS countries, respectively.

The picture changes somewhat with services trade being complementary to merchandise trade—an area where the BRICS have enjoyed considerable success. The data show that intra-BRICS services trade is most dynamic in sectors such as transport and logistics, which are related to patterns of goods trade. And new data reveal that one third or more of the value of the BRICS' manufactured goods exports is in fact in embodied services.

This finding represents an important bridge between the significance of services in GDP and the relatively limited amount of direct trade observed in the balance of payments statistics. Besides the relevance of their domestic markets, this suggests that a key way in which BRICS' services outputs are traded is through their embodiment in manufactured goods.

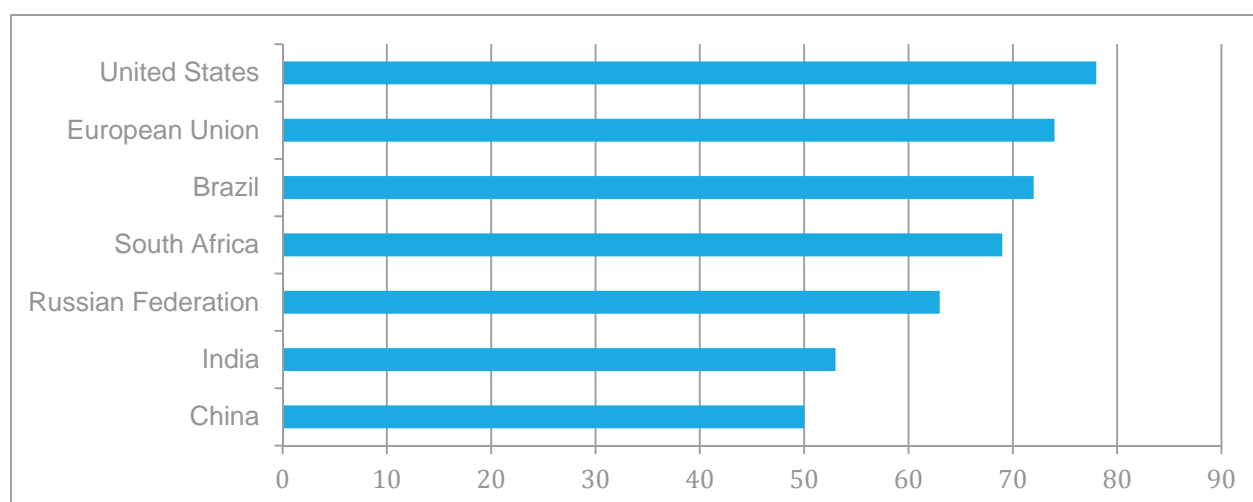
Nevertheless, there is considerable scope for greater integration of BRICS into the global services economy. As their per capita incomes increase, demand is likely to shift towards services, and the already significant proportion of services in GDP should increase.

Assuming policy barriers and other sources of trade costs can be addressed, and private-sector development can be supported, services trade could undergo significant growth in the BRICS over the medium term.

BRICS in global services trade

The BRICS countries are no exception to the general importance of services in the world economy (Figure 5). Brazil shows the highest service share in GDP among the BRICS at 72%, being at comparable levels with both the EU and the United States. China is the country with the lowest services share in GDP, which nevertheless still represents 50% of GDP. The relevance of the services sector in the total economy is prominent in Brazil, South Africa and the Russian Federation, especially when considering their smaller trade volume compared with major service players such as India and China.

Figure 5 Services sector value added in GDP, 2015 (percentage)



Source: World Development Indicators.

Although services trade (exports plus imports) in the BRICS is quantitatively large—above \$50 billion in each in 2015—that number needs to be put in the context of the large size of these economies, as well as in relation to global services trade.

Figure 6 shows that in 2015 services trade in all BRICS countries except India ranged from 6% to about 10% relative to GDP. In India, the latest available figure is much higher, at just over 14%. Different time trends are also evident. India's performance is fairly average for the group until the early 2000s, when it starts to grow rapidly. China, by contrast, saw its percentage falling from 2002 to 2010, but rising again from 2010 to 2015. Brazil's has grown slowly, as has South Africa's.

Because of different accounting conventions for trade values and GDP, these numbers do not represent the proportion of total economic output that is shipped overseas in the form of services. Rather, GDP is used as a convenient denominator to give some perspective on the absolute size of services trade.

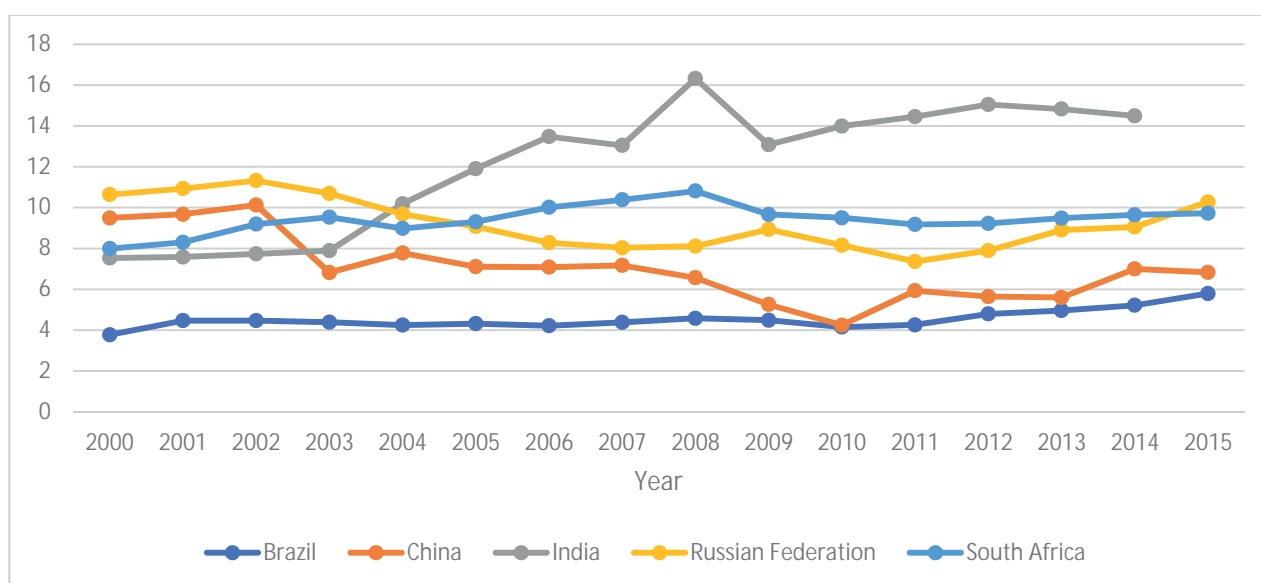
The comparison with GDP is useful in interpreting time trends: an increasing ratio of services trade to GDP, as in India, indicates that services trade is growing more quickly than the overall economy, whereas the opposite was true for China between 2002 and 2010.

Although services trade has been growing impressively in some of the BRICS, this measure—which primarily captures GATS Mode 1 trade—remains well below comparable figures for goods. Merchandise trade relative to GDP in 2015 ranged from 32% in India (over double the figure for services) to 59% in South Africa (nearly 10 times the figure for services). The implication is clear: in the BRICS, as in many other countries, trade integration is substantially more limited in services markets than in goods markets. This conclusion is unsurprising in the light of recent work on trade costs in services, which finds that globally they are perhaps twice as high as for goods: Miroudot et al. (2013).

The reasons for this difference still need clarification. On the one hand, the costs of cross-border services trade could be lower, because there is no need for physical shipment—services can be delivered using online platforms, for example. On the other, however, many other factors make it difficult for service suppliers, including in BRICS countries, to access foreign markets. These include differences in language, legal institutions, costs associated with currency fluctuations, and the need to tailor services offerings to local conditions and tastes—an example of the broad category of information-related trade costs.

Overcoming these barriers requires creative approaches on the part of policymakers, as they cannot usually be resolved through the type of request-offer negotiations that typically govern market access. They need a long-term commitment to building up supply-side capacity and attention to market failures—like information asymmetries—that can potentially be corrected with a relatively light regulatory touch.

Figure 6 Services trade relative to GDP, BRICS countries, 2000–2015 (percentage)



Source: World Development Indicators.

In a global context, the BRICS countries' level of services trade relative to GDP is not particularly high. It is comparable to, if not a little above, that of the United States (6.9% in 2015). However, it is considerably below that of the major European countries: 19.5% in France, 16.7% in Germany, and 19.4% in the United Kingdom.

As per capita incomes increase, economic activity in the BRICS is likely to shift further towards services, as has been observed in other countries. Provided that supportive policies are in place and overseas market access can be secured, the numbers in Figure 6 are likely to increase over the medium term.

Nevertheless, the size and dynamism of the BRICS economies means that they are significant players in world services trade, in particular compared with other developing countries. According to WTO data, the BRICS account for 15% of global services exports and 21% of global services imports, excluding intra-EU trade.³ China and India represent the bulk of this share, with the two countries together accounting for 12% and 16.3% of global services exports and imports, respectively.

When using world development indicators data, the share of BRICS in world services exports is significantly more modest, amounting to 7.8% of global services exports in 2015. This is likely due to statistical discrepancy, which subtracts merchandise trade statistics (customs) from total trade in goods and services from the balance of payments data in the indicators.

Economies such as the EU and the United States are still larger in terms of the proportion of world services exports they account for (Figure 7), regardless of the data source. The share of the United States and EU in global services exports is 18.8% and 24.9%, respectively, according to the WTO.

The world development indicators data for 2015 present the United States and the EU shares at 14.6% and 35.4% of global services exports, respectively. This last figure considers intra-EU trade in services. However, when it comes to services imports, BRICS' aggregate share in global imports at 21% is at comparable levels with those of the United States and the EU, which according to WTO data account for 12.9% and 20.2% of global services imports, respectively.

The dynamism of BRICS' world services exports is nevertheless incontestable, having more than doubled this century. WTO data indicate that the BRICS' share in global services exports has increased 25% over 8 years, passing from a 12% to a 15% share between 2007 and 2015; while their share in services imports has grown 52% over the same period, from a 14% to a 21% share of global services imports.⁴

However, it is individual BRICS countries rather than the group as a whole driving services' prevalence internationally, owing mainly to their large economic size. Based on WTO data, China was the third largest exporter of commercial services in 2015, although its total exports were similar to those of France and Germany, countries with much smaller populations, and the United States exports were around 2.5 times larger. India is also in the global top ten, in eighth place, although the United States exports were over four times higher.⁵

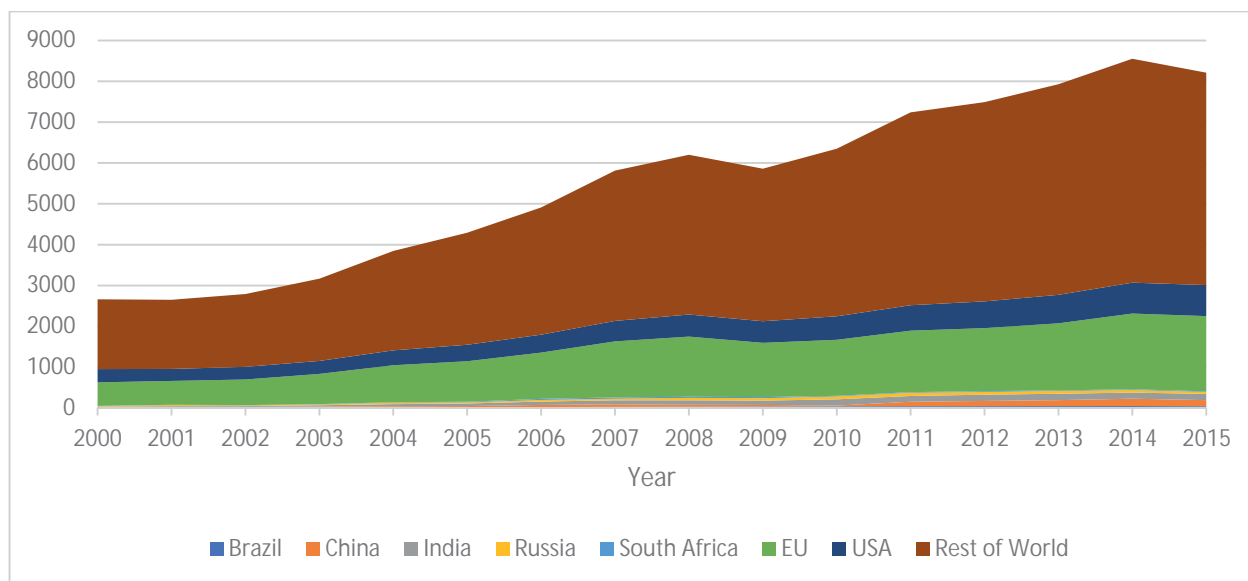
There is great potential in the services sector—a key policy question for the BRICS over the medium term will be how they take advantage of it to increase their level of trade integration, and support sustainable development and rising incomes.

³ When considering intra-EU trade in services, the BRIC share (no data for South Africa) in global exports is 11.1% and in global imports 16.2% (WTO, 2016).

⁴ World Trade Organization, *World Trade Statistical Review 2016* www.wto.org/english/res_e/statis_e/wts2016_e/wts16_toc_e.htm

⁵ When excluding intra-EU trade, China and India occupy the third and fifth positions as global exporters and the third and sixth positions as global importers, respectively (WTO, 2016).

Figure 7 Breakdown of world services exports by origin, 2000–2015 (Dollars)



Source: World Development Indicators.

When analysing Figure 7, it is important to keep in mind that growth rates in BRICS' services exports have been very rapid, even though absolute levels are still smaller than those of the major developed markets. China, with 21.6% per annum between 2000 and 2015, has seen the fastest average annualized growth rate in services exports. All BRICS countries' services exports, except those of South Africa (5.7%), grew more rapidly than those of the United States (5.8%) and the EU (8.1%): Brazil at 12.4%, India at 15.1% and the Russian Federation at 10.1%. These figures are testament to the rapid development and internationalization of the services sector in the BRICS countries and augur well for continued growth and development.

Economists usually do not attach great weight to the trade balance, which is largely determined by macroeconomic factors, specifically the difference between savings and investment. However, looking at the balance of trade for a single sector, like services, can give an indication of evolving trends in competitiveness. Of course, a negative balance should not be interpreted as a 'loss' to an economy—far from it, imports bring with them important gains for domestic consumers, including lower prices and greater variety.

In the case of services, imports are particularly important, because a large proportion of global trade in services is in producer services, namely those that are used as inputs by other firms—services like engineering, transport and finance help produce other goods and services, including those that are exported. Hoekman and Shepherd (2017) show that liberalization in services markets has real potential to help support growth in manufacturing exports through this kind of input-output linkage.

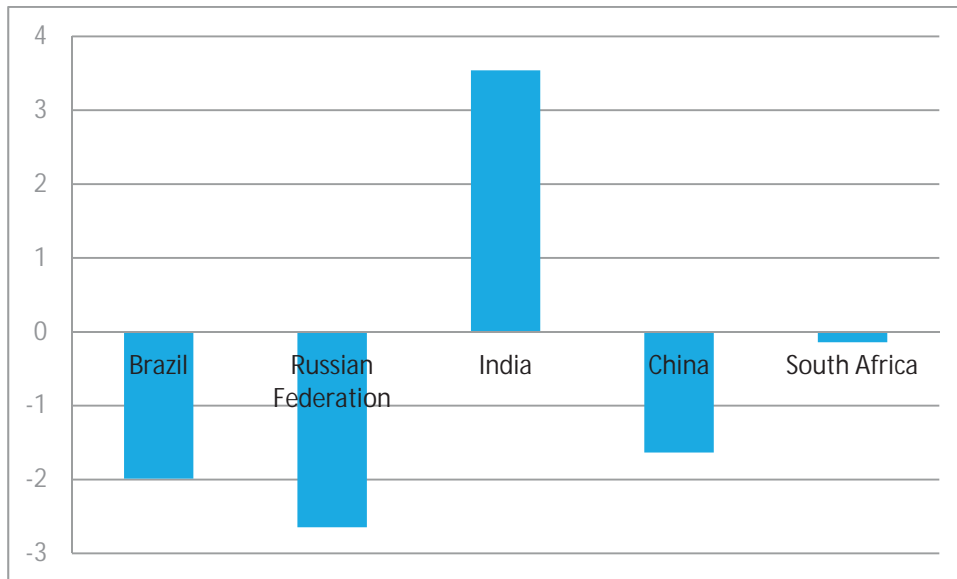
Figure 8 thus presents trade balances in services as a percentage of GDP for the BRICS countries. India stands out in exporting significantly more than it imports—which lines up well with its success stories in sectors like customer service (call centres) and business process outsourcing. South Africa's trade is approximately balanced, and the other BRICS run manageable deficits in services.

Figure 9 shows the BRICS' evolution of trade balance in commercial services between 2012 and 2016. While India reinforced its position as a net exporter over the years, negative trade balances also decreased in Brazil, the Russian Federation and South Africa. On the contrary, China's negative trade balance in commercial services nearly tripled over these four years.

Boosting trade integration is not just about increasing exports without paying attention to imports: the largest exporters are typically also the largest importers. Services imports have the potential to boost competitiveness in other sectors given the prevalence of services inputs across different activities. This

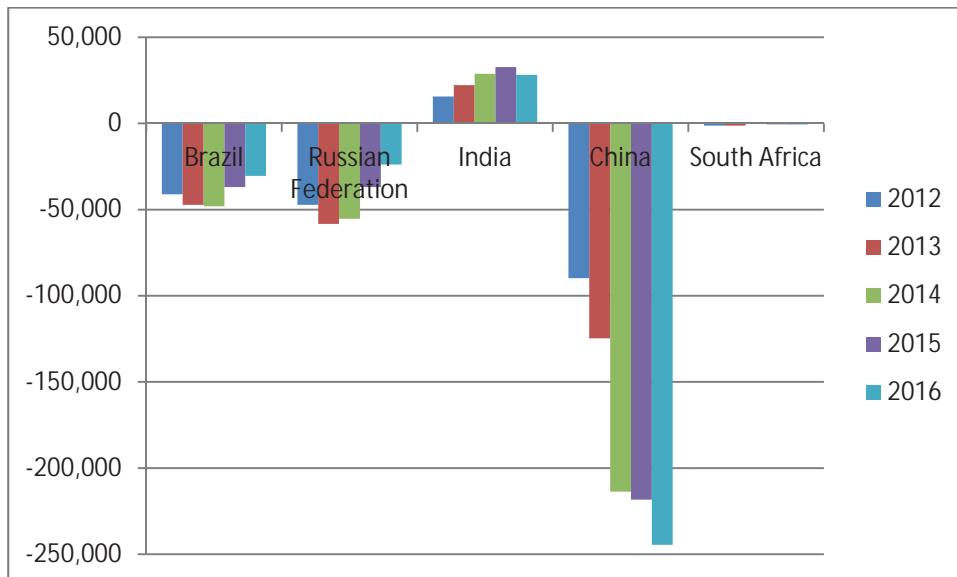
may explain the case of China, where the rapid growth in services imports may be associated with the economic restructuring and growing exports in manufacturing products.

Figure 8 Trade balance in commercial services, BRICS countries, 2015 (percentage of GDP)



Source: World Development Indicators.

Figure 9 Trade balance in commercial services, BRICS countries, 2012–2016 (\$ million)



Source: International Trade Centre Trade Map.

BRICS' services trade: Sectoral composition

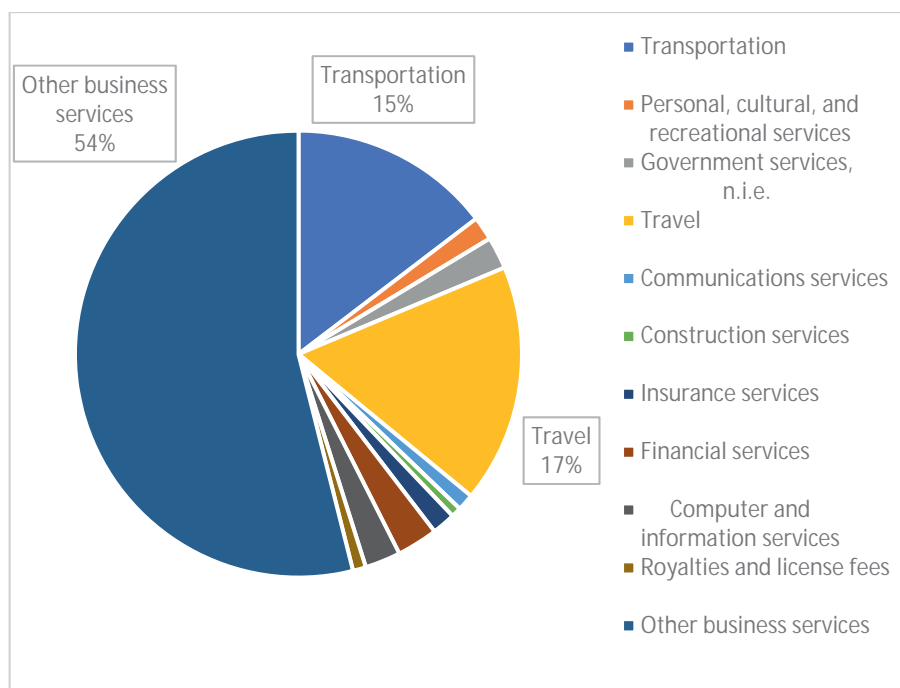
The composition of a country's services sector has major implications for its growth trajectory. So, too, does sectoral composition matter in the case of services trade.

In this section, UN Comtrade data are used to provide a sectoral breakdown of trade patterns for each of the BRICS countries. The most reliable data—those reported by the country itself—are available typically only with the world as an aggregate trading partner, and with a limited level of sectoral disaggregation. But even this basic decomposition of the data allows us to gain some useful insights into the services trade.

Figure 10 presents a sectoral breakdown of Brazil's services exports for 2014. Three sectors stand out as making a major contribution: other business services, transportation and travel. These three sectors have quite different characteristics. Transportation is strongly related to goods trade: when goods travel internationally to or from Brazil using a Brazilian shipping company, the resulting payments are recorded as exports of services. Travel, by contrast, primarily captures Mode 2 trade, namely payments by tourists and business visitors from other countries when they come to Brazil.

'Other business services' is a very broad category that fits best with the standard paradigm of cross-border trade. It includes subsectors such as professional services (law and accountancy), and technical services (engineering, and research and development). Clearly, as this category is a major part of the modern services economy that can help generate growth, developing world-standard competitiveness here is an important policy goal.

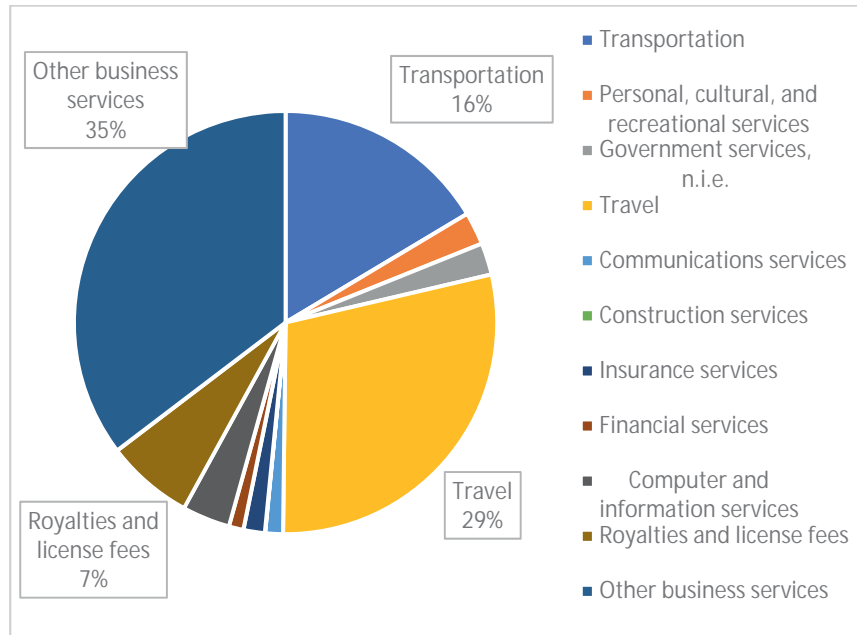
Figure 10 Sectoral breakdown of Brazil's services exports, 2014 (percentage)



Source: UN Comtrade and authors' calculations.

Figure 11 takes the same approach to Brazil's imports of services in 2014. Again, the same three sectors account for the major share: transport, travel and other business services. This finding is not at all surprising, as modern and modernizing economies often engage in substantial amounts of two-way trade, i.e. trade in differentiated goods or services within a sector, rather than between sectors.

Figure 11 Sectoral breakdown of Brazil's services imports, 2014 (percentage)

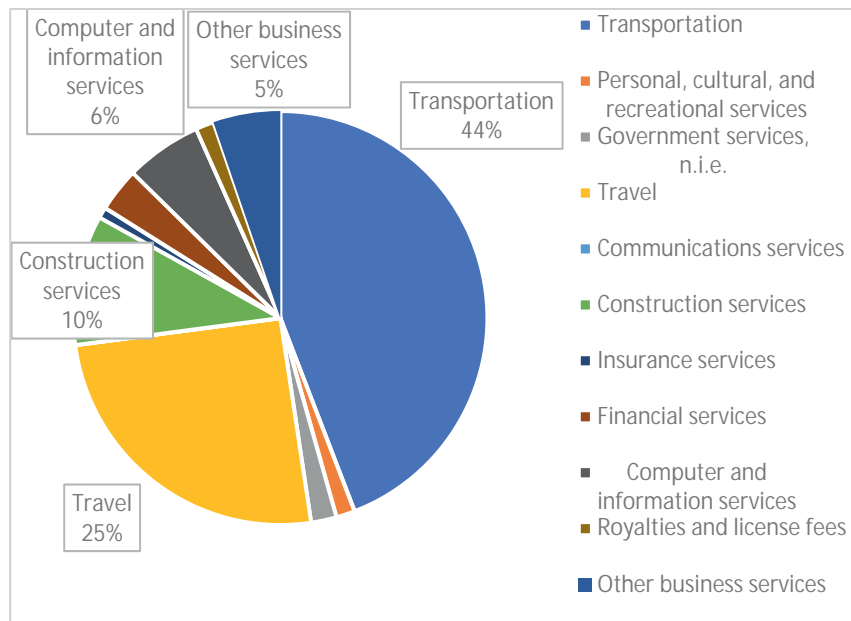


Source: UN Comtrade and authors' calculations.

Figure 12 provides a sectoral breakdown of the Russian Federation's services exports in 2014. Two of the three main sectors are the same as for Brazil, but the relative proportions are very different: the largest sector by far being transport, followed by travel. The third largest sector is construction—compared with other business services in Brazil, which have only a 5% share for the Russian Federation.

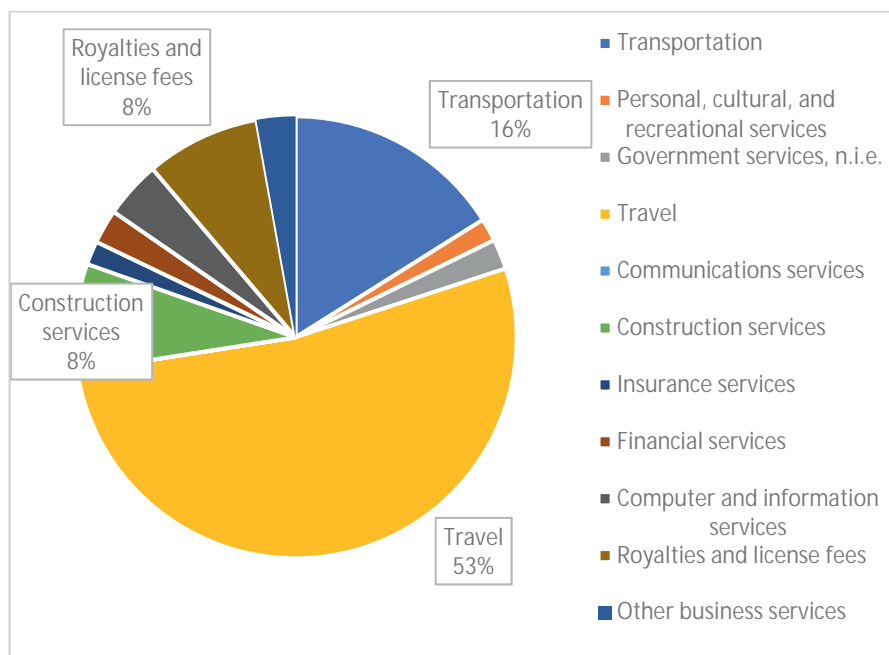
From a competitiveness standpoint, this pattern suggests that the modern services sector may be experiencing difficulties in the Russian Federation, as export activity is concentrated in more traditional sectors. There may be implications of this pattern of specialization for the country's future trajectory of productivity growth, given the major role the services sector plays in GDP.

Figure 12 Sectoral breakdown of Russian Federation's services exports, 2014 (percentage)



Source: UN Comtrade and authors' calculations.

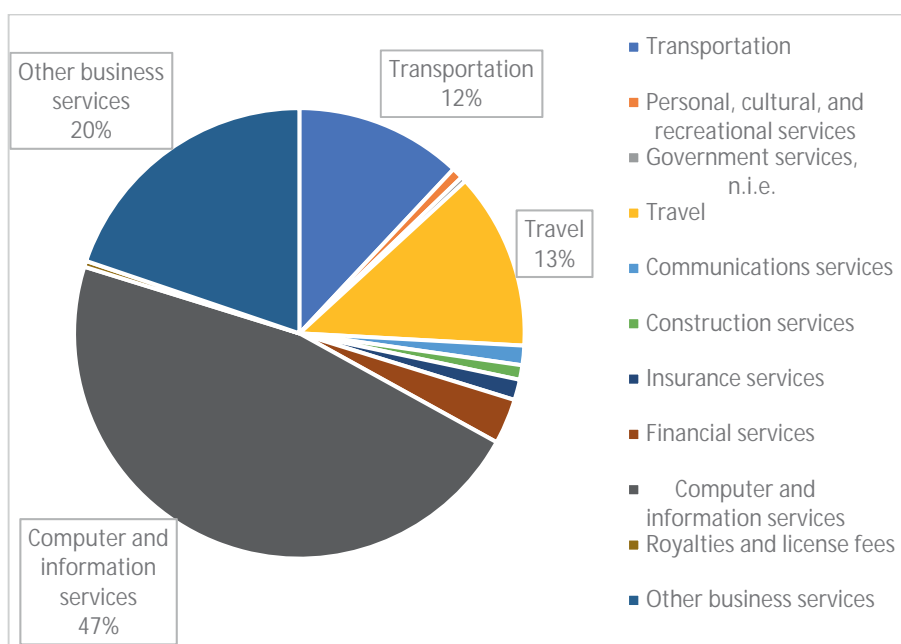
Figure 13 Sectoral breakdown of the Russian Federation's services imports, 2014 (percentage)



Source: UN Comtrade and authors' calculations.

India's services exports differ radically from those of the countries previously examined. The largest subsector is computer and information services—unsurprising in the light of India's well-known successes in IT services (Chanda, 2013). Other business services are also a substantial export earner, covering activities like business process outsourcing. Transport and travel are important, as in the other BRICS countries, but to a lesser degree. Of the BRICS countries examined so far, India has the strongest claim to development of high productivity services exports as a core activity.

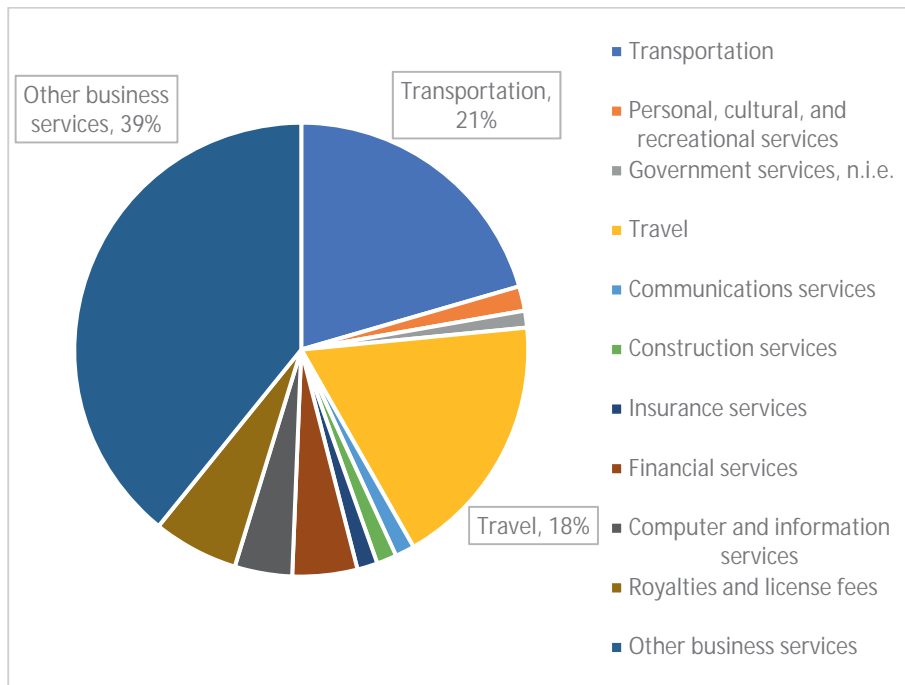
Figure 14 Sectoral breakdown of India's services exports, 2014 (percentage)



Source: UN Comtrade and authors' calculations.

On the import side, India's trade pattern is more similar to that of the other BRICS. The key sectors are other business services, transportation and travel. The importance of other business services on both the export and import sides would suggest significant two-way trade in this subsector.

Figure 15 Sectoral breakdown of India's services imports, 2014 (percentage)

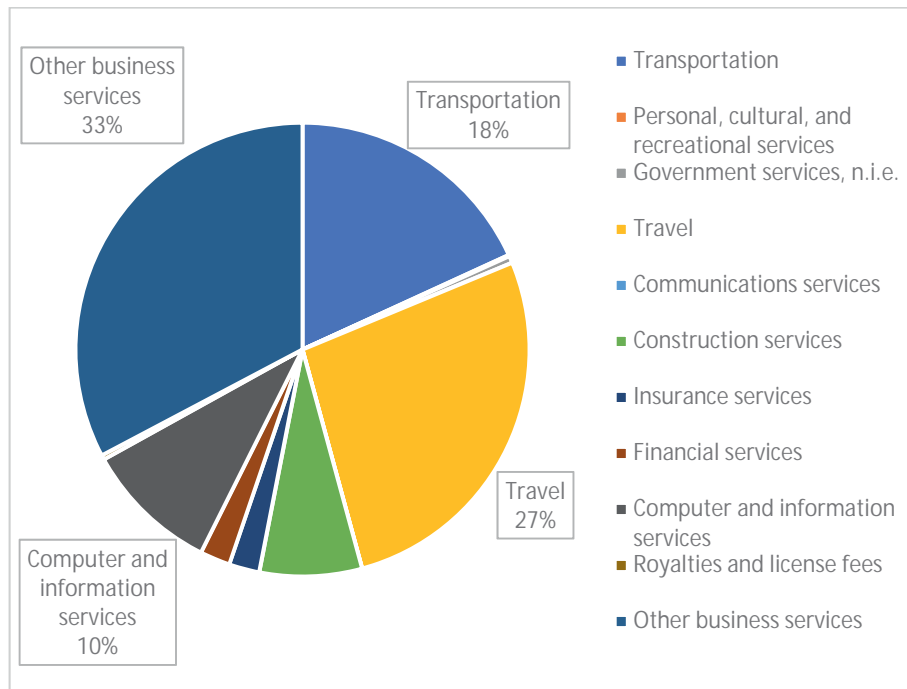


Source: UN Comtrade and authors' calculations.

China's services exports (Figure 16) display the familiar pattern of significant proportions of travel, transport and other business services. Around 10% of exports by value are in computer and information services. Together with a strong performance in other business services, this suggests that China, like India, is laying the foundations for a high-productivity services sector and is enjoying some degree of success in world markets.

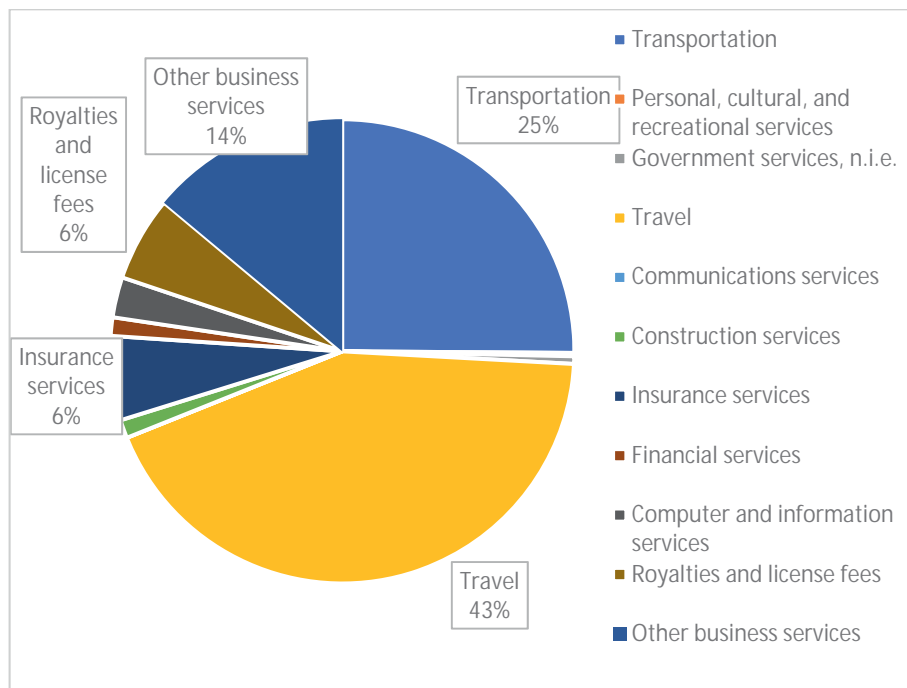
As for the other BRICS countries, China's imports (Figure 17) are primarily accounted for by transport and travel, with a smaller proportion going to other business services. The lion's share of its services imports is in traditional sectors. Imports of transportation services are largely linked to China's goods exports, and travel reflects the growing ability of Chinese people to travel abroad, given rising per capita incomes.

Figure 16 Sectoral breakdown of China's services exports, 2014 (percentage)



Source: UN Comtrade and authors' calculations.

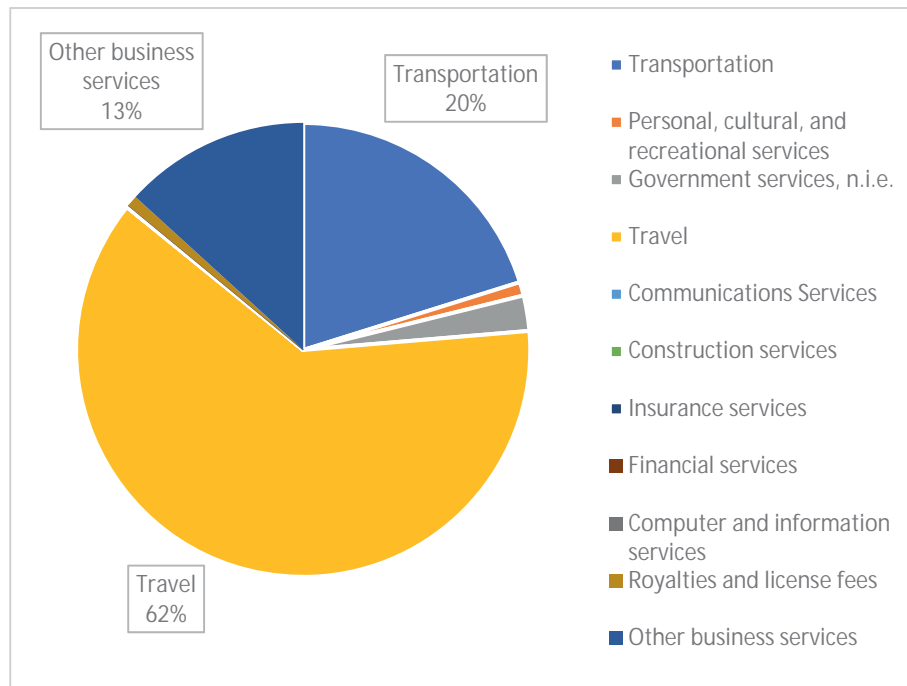
Figure 17 Sectoral breakdown of China's services imports, 2014 (percentage)



Source: UN Comtrade and authors' calculations.

Figure 18 shows that nearly two thirds of South Africa's services exports are in the travel category, with 20% in transport (related to goods trade), and 13% in other business services. The other sectors are small in terms of total services exports. As in the case of most of the other BRICS countries, this sectoral distribution of services exports is quite traditional, and leaves only a relatively restrained scope for the modern services sector, through other business services.

Figure 18 Sectoral breakdown of South Africa's services exports, 2014 (percentage)

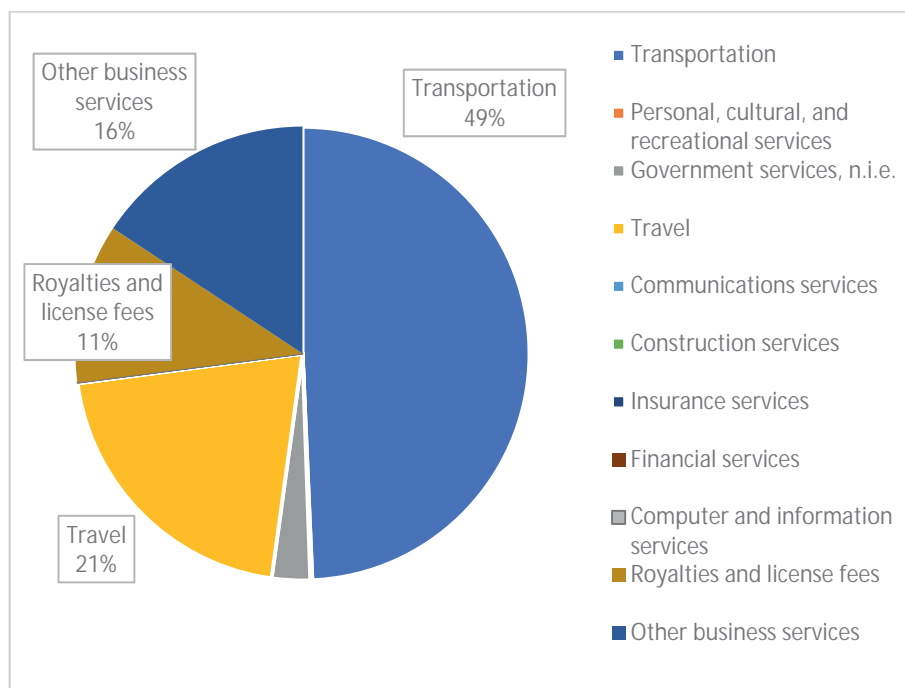


Source: UN Comtrade and authors' calculations.

As with the other BRICS, South Africa's imports (Figure 19) are largely made up of transport and travel services, and some other business services. Interestingly, the royalties and licences category is much larger than for the other countries. This category reflects payments for the use of intellectual property held by foreigners. Licensing and use of foreign intellectual property is one way in which technology transfer can take place within manufacturing. However, it can also represent other types of payments, for instance related to pharmaceutical products.

It would be important to go further into this category to establish why it is relatively high in proportional terms, and what kinds of intellectual property are concerned.

Figure 19 Sectoral breakdown of South Africa's services imports, 2014 (percentage)



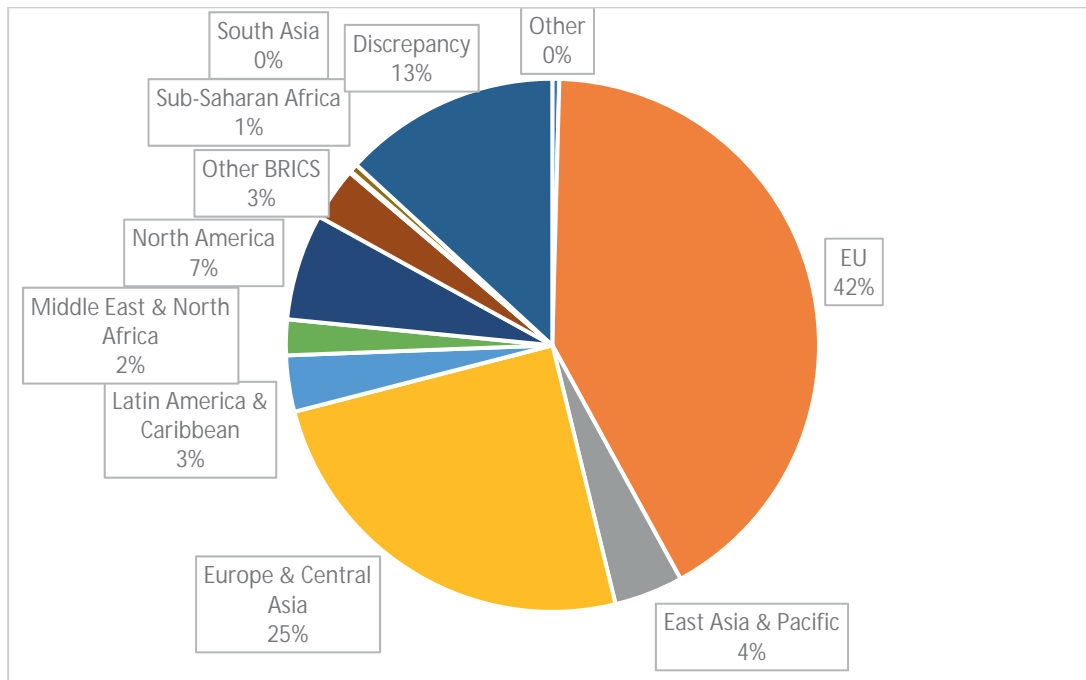
Source: UN Comtrade and authors' calculations.

Geographical patterns in the BRICS' services trade

The BRICS countries' own trade data provide some degree of disaggregation by sector. However, only the Russian Federation systematically reports services exports and imports by partner country. Although some partial, older data are available for the other countries, it is impossible to gain a systematic picture of their services trade partnerships around the world. This point remains true even if trade data are 'mirrored', i.e. reported imports by partners are used to proxy exports. As relatively few countries report services trade data by partner, even mirroring produces a data set with substantial holes, in particular in relation to trade among developing countries.

Given these difficulties, this section considers the Russian Federation first. Figure 20 shows the geographical distribution of its services exports in 2014, using World Bank regional groupings, but calling out the other BRICS and the EU. Clearly, geographically close countries account for the bulk of the Russian Federation's services exports: the EU and 'Europe and Central Asia (excluding EU)' account for over two thirds of the total. North America (primarily the United States) is the next largest market. Together, the other BRICS only account for 3% of the Russian Federation's services exports.

Figure 20 Geographical breakdown of the Russian Federation's services exports, 2014 (percentage)



Source: UN Comtrade and authors' calculations.

Given that the other BRICS countries do not provide a geographical disaggregation of their services exports, analysing the role of intra-BRICS trade beyond the Russian Federation necessarily requires somewhat more speculation. The TiVA database has attempted to fill in missing cells in the global bilateral services trade matrix using a variety of advanced techniques, based on commonly accepted models of trade, as well as mathematical operations. Although the figures must be interpreted with caution, they represent the best evidence available on the proportion of intra-BRICS trade in the BRICS countries' total services exports.

Table 1 presents results for the latest available year (2011). For China, India and the Russian Federation, intra-BRICS trade is a relatively small part of total services exports, in the order of 10%. The figures are much larger for Brazil and South Africa though, nearly 20% and nearly 30% respectively. For Brazil, this trade is almost exclusively with China, and almost three quarters of it is in the aggregate wholesale trade, retail trade, hotels and restaurants—although it skews towards trade activities. For South Africa, exports are split more evenly between China and India. Exports to China are about one third in the same aggregate category as for Brazil, with a substantial part accounted for by tourist-related activities. For India, the corresponding figure is nearly three quarters, but skewing heavily towards trade activities.

Therefore, where intra-BRICS services trade is more substantial, it appears to be linked either to tourism, or goods trade—wholesale and retail trade captures logistics services, which are required to facilitate merchandise trade transactions.

There is little evidence of a vibrant, high-productivity, growth-promoting BRICS services economy based on intra-BRICS integration. Although each of the BRICS countries has actual or potential competitiveness assets in services, their comparative advantage is mostly directing trade with the developed markets, rather than with other BRICS.

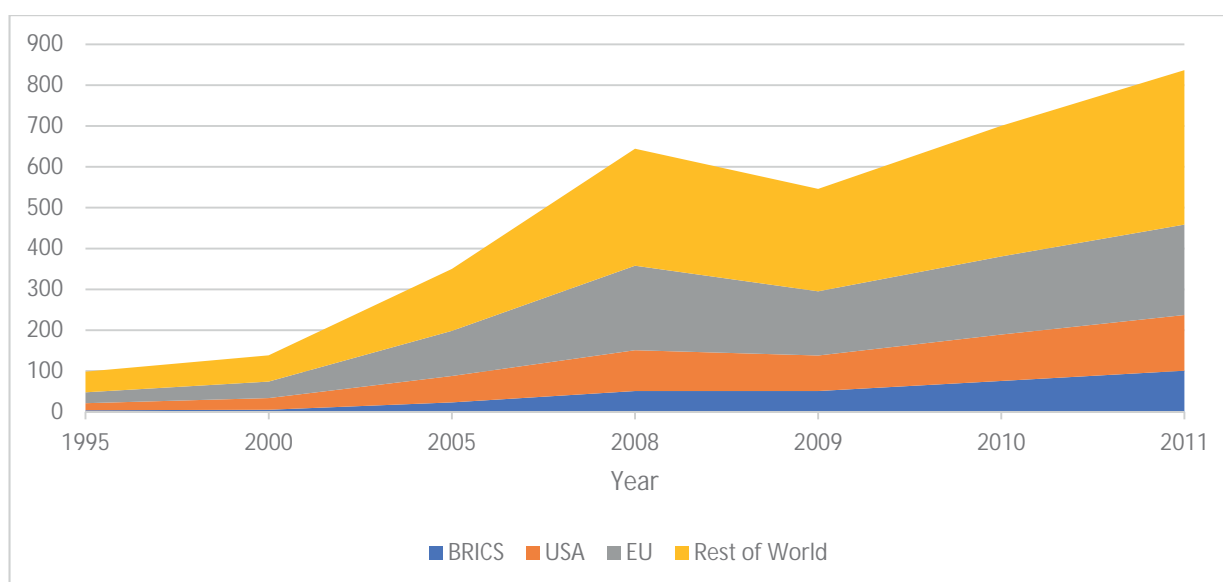
Table 1 Intra-BRICS services exports, 2011 (percentage of total)

	Brazil	China	India	Russian Federation	South Africa	Total
Brazil		14.47	3.86	1.19	0.37	19.90
China	1.89		5.16	2.58	0.79	10.41
India	2.17	9.08		0.87	0.58	12.70
Russian Federation	0.11	7.79	1.00		0.16	9.06
South Africa	2.01	13.05	12.98	0.68		28.72

Source: OECD–WTO Trade in Value Added database, and authors' calculations.

This view is reinforced, but also nuanced, by Figure 21, which puts intra-BRICS services trade in a temporal perspective. It has evolved over time from a very low level to accounting for 12% of the BRICS' total services exports in aggregate. Growth has been most rapid from 2005 onwards. However, the finding remains that intra-BRICS trade is small relative to trade with the United States or the EU.

Figure 21 BRICS countries' services exports to selected countries and groups, 1995–2011 (\$ billion)



Source: OECD–WTO Trade in Value Added database, and authors' calculations.

Taking these results together, it is clear that the available data indicate that intra-BRICS trade in services remains undeveloped. It requires more analysis to understand why a successful high-productivity services exporter like India does very little business with the other BRICS, in favour of developed markets such as the United States and the EU.

With rare exceptions, the BRICS countries remain marginal as sources of demand for exports from other BRICS countries. Many reasons could potentially explain this result. One is geographical distance: as the Russian Federation data show, there is a clear tendency for countries to engage in services trade most heavily with countries that are relatively close, rather than those that are distant.

The 'death of distance' has been greatly exaggerated in relation to services trade. Another factor is market size. As Figure 21 shows, the United States and the EU are key export destinations for the BRICS countries. Though both are geographically distant from these countries, consumers there have more to spend on services imports, including from the BRICS. The third factor is policy. We examine this further in

the concluding chapter of the paper, when we address the prospects for further integration in services among the BRICS, and the challenges.

Embodied services trade

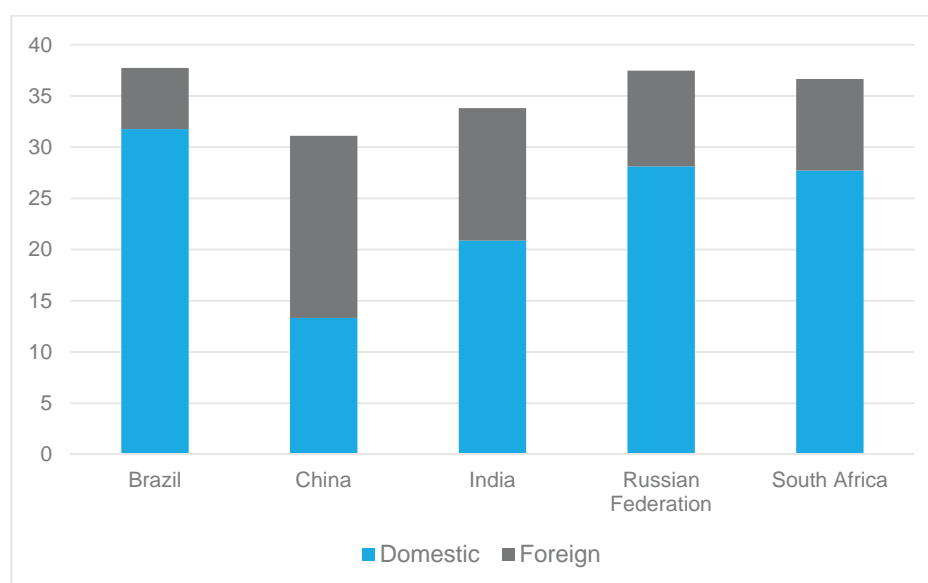
Recent research has revealed that many services are in fact traded as ‘embodied’ in goods produced domestically, and then shipped overseas.

For instance, a mobile phone appears in goods trade statistics when it moves from the point of final assembly to the point of consumption. But the phone is not a pure good: in terms of the origin of its value added, there are components from primary industry (such as rare earth elements used in some components), inputs from manufacturing (such as the screen and solid state hard drive), but also from services—most notably design, research and development, engineering and marketing, not to mention transport and logistics services that help the product get to its final destination. Modern products are in fact bundles of value added from different origins geographically (domestic and foreign), and by industry (goods and services).

The OECD–WTO TiVA database allows to unpack some of these issues by tracing the origin of value added in exports. Of particular interest is the extent of embodied services trade by the BRICS, which is measured as the sum of domestic and foreign services value added incorporated in gross exports of manufactured goods.

Figure 22 shows that some 30%-40% of the value of gross manufactured goods exports originates in services sectors. But this embodied services trade—which is substantial—is not captured by the balance of payments or other statistics on trade in services.

Figure 22 Services value added in gross exports of manufactured goods, by origin, 2011 (percentage)



Source: OECD–WTO Trade in Value Added database, and authors’ calculations.

Given that exports of manufactured goods are substantial in the BRICS, particularly China, it is important to recognize that around one third of the value of those goods can be traced back to services. This suggests that, indirectly, services trade is much more significant than the raw cross-border figures would tend to indicate.

Indeed, this pattern of embodied services trade is reminiscent of what is seen in countries at higher income levels. In Germany, for instance, according to TiVA data, around 37% of the value of manufactured goods exports can be traced back to services. There is clear evidence of services dynamism in these data, but it is little known as it has only recently become possible to obtain this kind of decomposition of the value of gross exports.

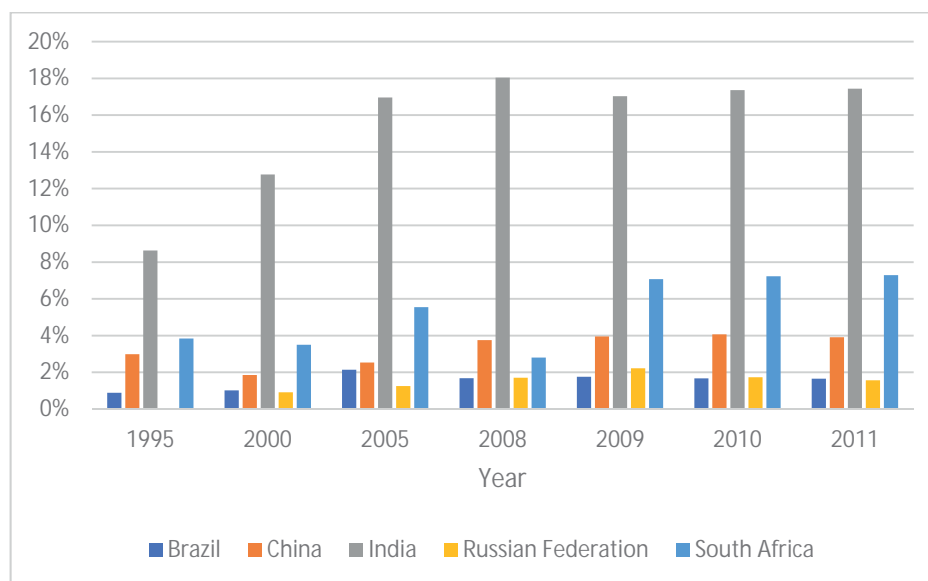
CHAPTER 3 DIGITAL TRADE

The digital economy can significantly develop services trade. It has two dimensions: direct trade in computer and information services, and trade embodied or facilitated by information and communications technology (ICT)—i.e. digitally enabled trade. This section examines the infrastructure and policy environment in the BRICS in relation to digital trade, and analyses their links with the potential development of services trade.

Figure 23 presents data from the OECD–WTO data set on the proportion of total services exports of the BRICS countries accounted for by computer and telecommunications services (which also include the postal services category, as the two cannot be separated in the data). The figure is telling: only India is a significant direct exporter of computer and telecommunications services, at around 18% of total services exports. Proportions are much less for the other BRICS countries, at about 4%, except for South Africa, where the proportion is close to 8%.

However, in all BRICS countries, the proportion of these sectors in total exports is growing over time. At first glance, therefore, it would seem that the digital economy is only directly involved in trade in other than a marginal way in India, and to a lesser extent South Africa, although trend growth is picking up from a low baseline in the other BRICS countries.

Figure 23 Computer services exports as a percentage of total business-sector service exports, BRICS countries, 1995–2011 (percentage)



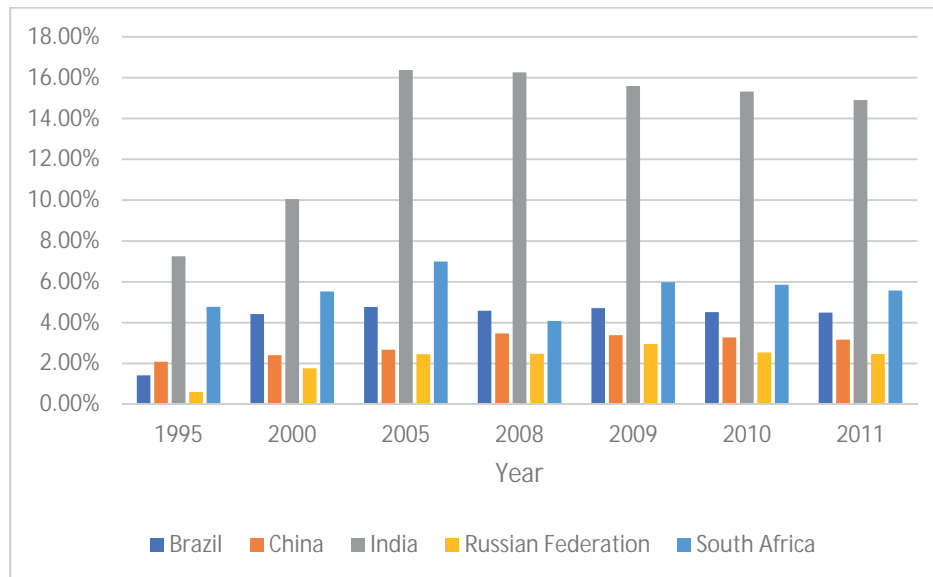
Source: OECD–WTO Trade in Value Added database, and authors' calculations.

However, indirect involvement of the digital sector in trade is also an important aspect. Although this report focuses only on trade in services, the point is also true of trade in goods. Many cross-border services are IT-enabled, in the sense that the digital economy makes them possible. For example, a lawyer retained by a foreign client will communicate by email and use file exchange or cloud services to share files securely. This export of professional services will therefore contain a segment of value added originating in the computer services sector. The TiVA database can be used to uncover that segment and compare it across the BRICS.

Figure 24 presents results. India again stands out as having the highest proportion of IT value added in its services exports. This indicates that not only does it directly export IT services, but it also uses computer services to export services in other categories.

The same dynamic applies to the other BRICS as well, although to a lesser extent. In all cases, the proportions in Figure 24 are noticeably higher than those in Figure 23. Again, in all countries there is evidence of growth in IT-enabled services, although from a low baseline. The digital services economy therefore has considerable growth potential in the BRICS, with India so far leading the way.

Figure 24 Computer and telecommunications sector value added embodied in gross exports of services, BRICS countries, 1995–2011 (percentage)



Source: OECD–WTO Trade in Value Added database, and authors' calculations.

Digital environment, infrastructure, policies and incentives

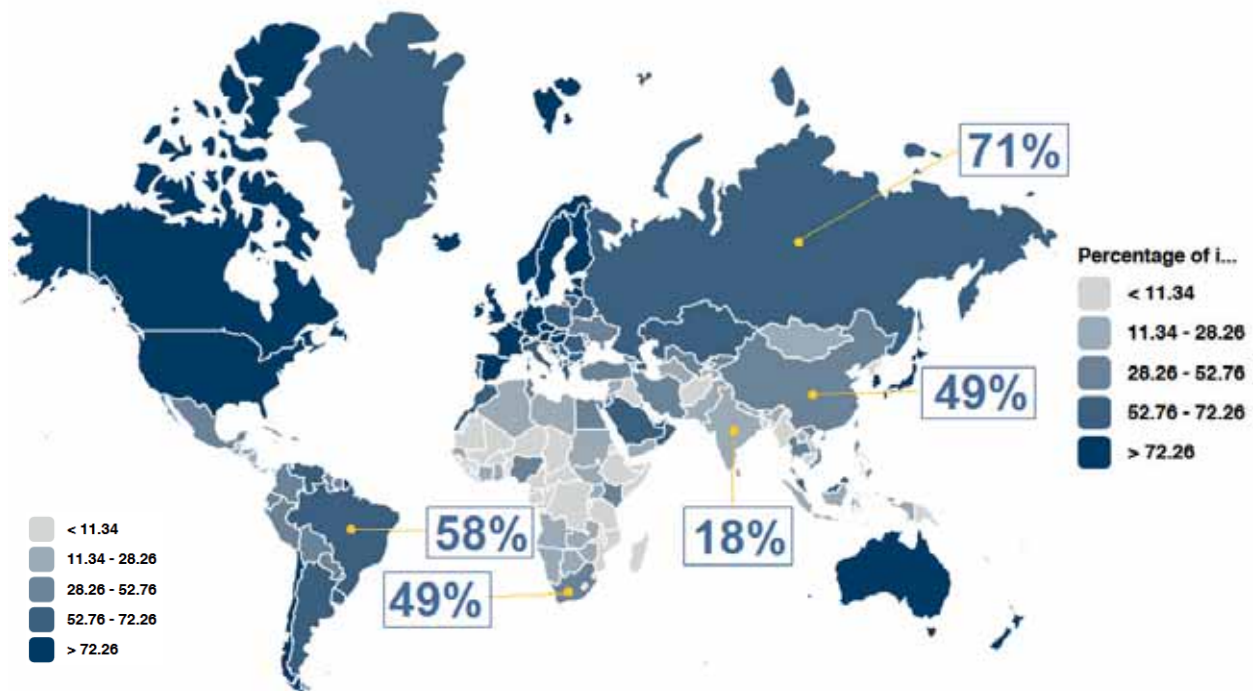
Internet penetration in BRICS countries is relatively high compared with countries in Africa but lower than countries in Europe (Figure 25). The share of Internet users in the total population ranges from 18% in India to 71% in the Russian Federation.

The case of India is interesting, because it is the BRICS country with the lowest total rate of Internet penetration, but the greatest reliance on IT-enabled services in its exports. This apparent paradox revolves around a question of inclusivity: Internet access is widely available in Indian cities, including IT hubs like Bangalore; however, access is much more difficult in the hinterland.

Around 432 million people were using the Internet in India in December 2016, of whom 269 million (62.3%) were from urban areas and 163 million (37.7%) from rural areas. This number was projected to exceed 450 million by June 2017 partly owing to the increasing role of rural areas in expanding technology consumption.⁶

⁶ Internet and Mobile Association of India (2016). *Internet in India*.

Figure 25 Internet penetration rates in the BRICS countries, 2015 (percentage)



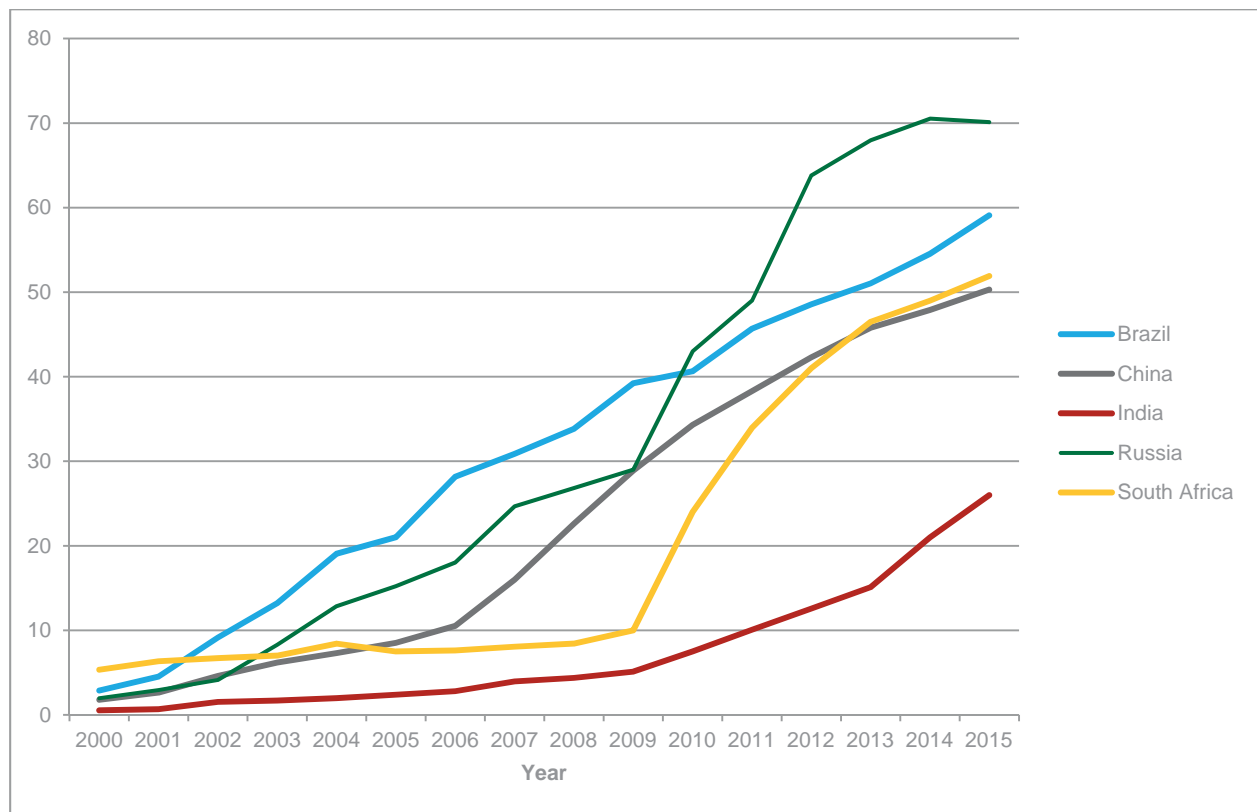
Source: Authors' illustration based on data from the International Telecommunication Union.

Note: Internet penetration rate corresponds to the percentage of the total population in a given country that uses the Internet.

In interpreting these data, it is important to keep underlying trends in mind. Figure 26 shows that growth in Internet penetration has been rapid in all BRICS countries, from close to a standing start in 2000. Given the physical size of the countries involved, as well as their relatively large populations, these trends show that the rollout of infrastructure and technology solutions has been impressive.

Although it will take time for coverage to approach a universal level, all BRICS countries have positioned themselves well in regard to the basic infrastructure required by the digital economy, at least by comparison with countries with similar per capita income.

Figure 26 Trends in Internet usage, BRICS countries, 2000–2015
(Percentage of population)



Source: Authors' illustration based on data from the International Telecommunication Union.

But the infrastructure of the digital economy is not just physical (Internet connections). Full participation also requires a sophisticated legal and regulatory framework that facilitates digital transactions. All BRICS countries have adopted legislation in at least three out of the four areas of cyber law highlighted by the United Nations Conference on Trade and Development (UNCTAD) Global Cyberlaw Tracker: e-transactions, consumer protection, privacy and data protection, and cybercrime.

Adopting an adequate legal framework is vital for the development of digital trade, where a lack of security or trust remains an impediment to online transactions. For instance, the Russian Federation amended its law in 2011 to recognize all forms of e-signatures. It also adopted the Convention on the Use of Electronic Communications in International Contracts, which is key in facilitating cross-border digital trade.

Cybercrime, including data breaches, costs the world economy about \$400 billion a year.⁷ One study pointed out that three out of the five BRICS countries, Brazil, China and the Russian Federation, are among the top five hotspots for cybercrime.⁸

⁷ McAfee and the Center for Strategic and International Studies (2014). *Net Losses: Estimating the Global Cost of Cybercrime*.

⁸ Time (2014). The world's top 5 cybercrime hotspots.

Table 2 Regulatory infrastructure for the digital economy, BRICS countries

	E-transaction	Consumer protection	Privacy and data protection	Cybercrime
Brazil	L	L	D	L
Russian Federation	L		L	L
India	L		L	L
China	L	L	L	L
South Africa	L	L	L	L

Source: Authors' illustration based on UNCTAD Cyberlaw Tracker.

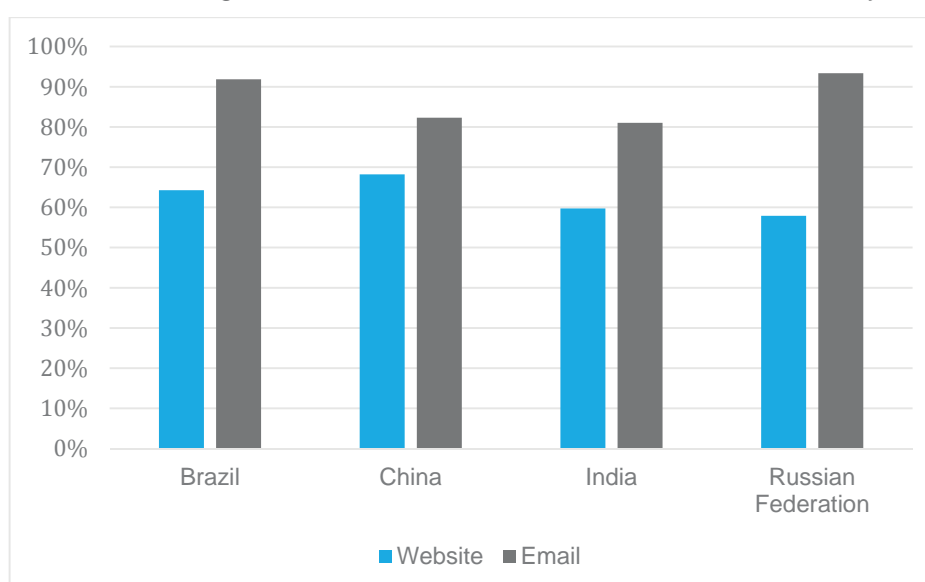
Note: L = legislation adopted; D = legislation drafted.

From a trade in services perspective, it is important to look at uptake of the digital economy by firms. The World Bank Enterprise Surveys bring together firm-level data for a wide range of countries, covering over 100,000 firms.

Figure 27 extracts the available data for BRICS countries (no data available for South Africa), focusing on the use of websites and email by services firms. Uptake rates are high: email use is close to universal in all countries, and websites are used by a strong majority of firms.

A comparison with the relevant figures for manufacturing firms shows that rates of uptake are generally similar. Numbers should be interpreted with caution, as the Enterprise Surveys are known to over-sample large firms and internationally engaged firms, which are more likely to be digitally connected than other firms. However, the indicative finding is clear: services firms in the BRICS countries have set up at least the most basic systems required if they are to engage in pure cross-border trade in services, which relies on digital delivery and payment.

Figure 27 Services firms using a website or email, BRICS countries, latest available year (percentage)



Source: World Bank Enterprise Surveys; and authors' calculations.

Note: No data available for South Africa.

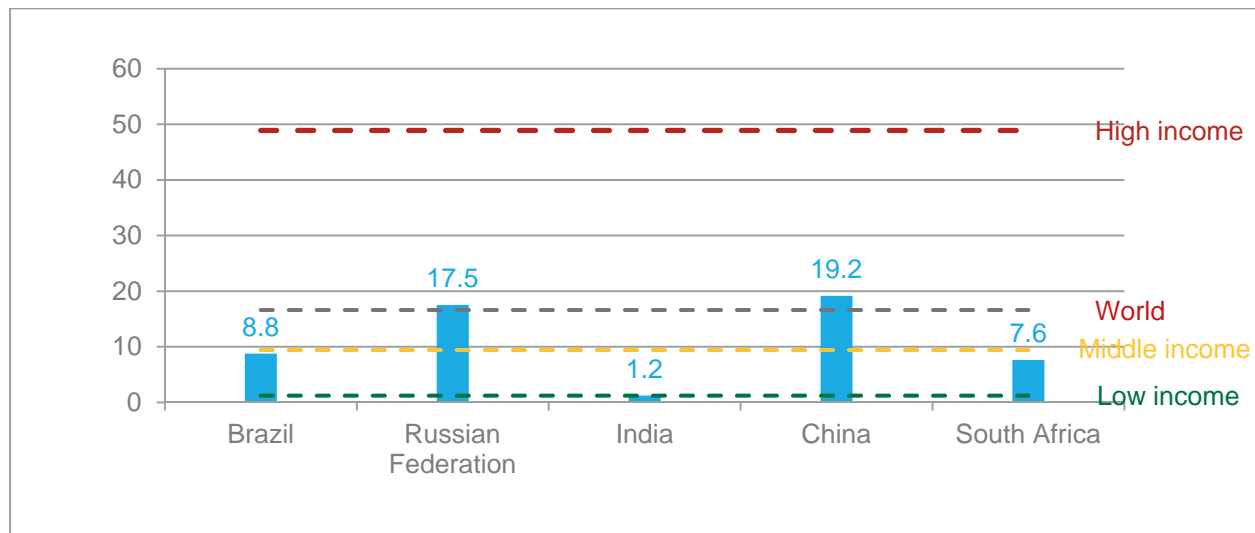
BRICS and digital consumption

Although the regulatory framework for digital transactions is in place, and firms also have the basic structures up and running, take-up in the population is relatively limited. It is measured as the percentage of the population that uses the Internet to pay bills or buy things (Figure 28). Although the shares in the Russian Federation and China are slightly above the world average, the shares in the other three countries are below the average in middle-income countries.

Most strikingly, in India, which has by far the largest direct and indirect involvement of IT in its services exports, online transactions through the use of e-commerce platforms are marginal; difficulties with payment systems are well known, with a significant proportion of the population unbanked, or unable to access credit cards. As a result, in India many e-commerce transactions are cash on delivery.

Clearly, there is considerable potential to expand the digital market among BRICS consumers, which in turn would be a positive force for cross-border trade, but there seem to be significant impediments that need to be overcome.

Figure 28 Share of the population that pays bills or buys things on the Internet, BRICS countries, 2014 (percentage)



Source: Authors' illustration based on Global Findex data.

Note: Share denotes the percentage of respondents who report paying bills or making purchases online using the Internet in the past 12 months (% age 15+).

Among the challenges with take-up of online platforms in some BRICS countries is the limited ability of their populations to make financial transactions online owing to the widespread lack of bank accounts. Increasingly, mobile payment platforms are arising to fill the gap, but there is still some distance to go.

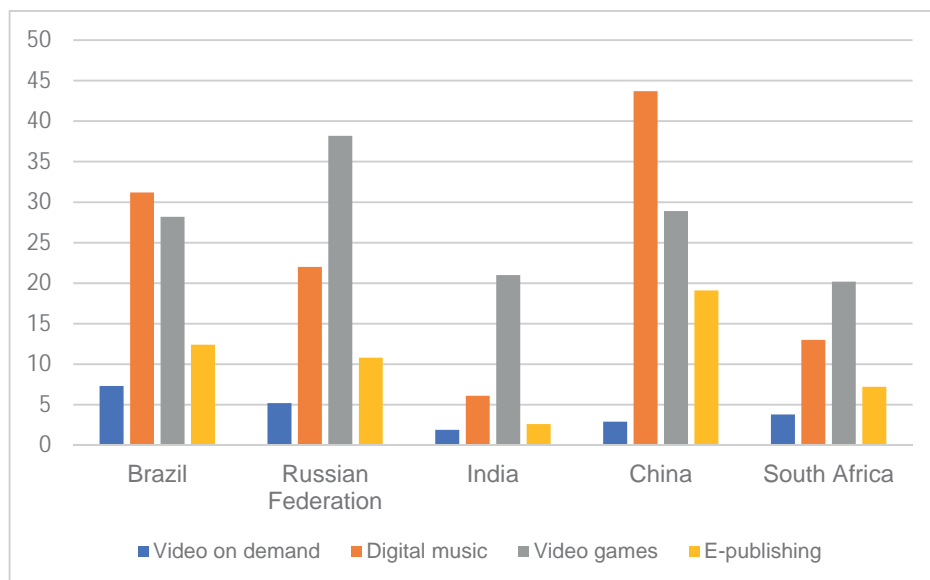
There is also the additional gap between having a bank account and having the knowledge and trust to use a debit or credit card online. Although Indian firms have been successful in developing online delivery systems, such as FlipKart, consumers often prefer to pay cash on delivery.

From a services trade point of view, this is holding back the development of the digital economy, as for cross-border transactions, there needs to be some use of electronic means of payment. For the moment, retailers and wholesalers looking to enter the BRICS markets need to do so primarily through local establishment (i.e. FDI).

Clearly, there are different segments of the digital economy that could be of interest from a trade perspective. Examples include video on demand, music, video games and electronic books. Figure 29 shows that the popularity of different digital products varies markedly across countries, but that video games and music are typically the two leading categories. Penetration is strongest in China, but is also significant in the other countries.

Although it is unclear what proportion of the market is accounted for by domestic and foreign suppliers, there is clear potential for trade in these segments—although the best mode of entry may not necessarily be Mode 1, given the uncertainties surrounding cross-border payments, but rather Mode 3 (local establishment) to process e-payments locally.

Figure 29 Digital market penetration rate, BRICS countries (percentage of population over 16)



Source: Authors' illustration based on Statista data.

Note: Penetration rate denotes share of active users (age 16+).

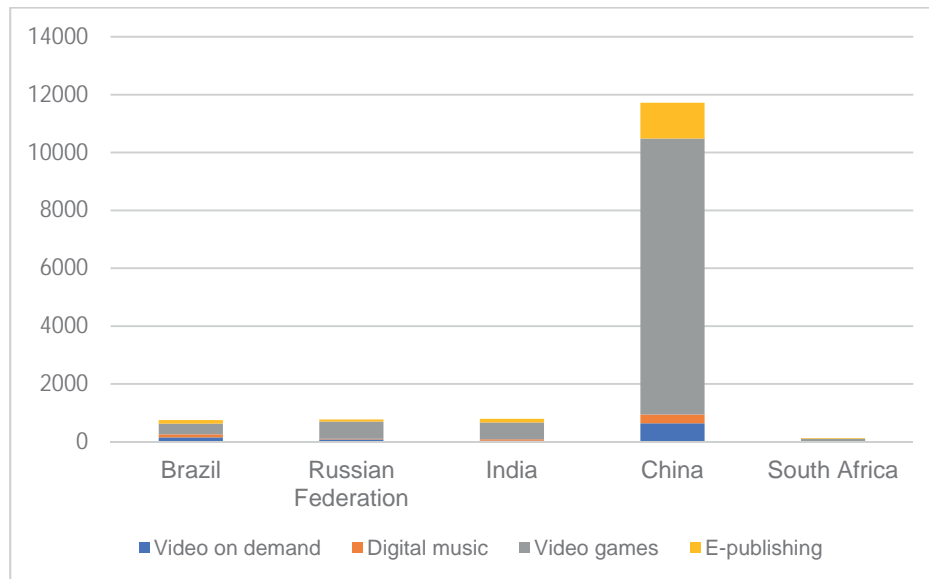
To put these figures in perspective, however, it is important to also look at the size of the market in revenue terms, given that these are middle-income countries. Their large populations mean that the middle class has increasing purchasing power, but its ability to spend on digital products is much more limited than in the developed markets.

Figure 30 illustrates the point well. In dollar terms, China has by far a significant digital market compared with the other BRICS.⁹ In absolute value, it is the largest in the BRICS region and the second largest in the world after the United States.

Video games account for the largest share of the digital market in BRICS: 49% in Brazil, 77% in the Russian Federation, 73% in India, 81% in China and 64% in South Africa.

⁹ Digital market includes audiovisual media, digital videos, music downloads and streaming, digital games, digital books, not including user-generated content (Statista).

Figure 30 Digital market size, BRICS countries, 2015 (\$ million)



Source: Authors' illustration based on Statista data.

Although these figures suggest considerable potential in digital markets in the BRICS, there is as yet little services export taking place, at least in terms of pure cross-border trade (Mode 1). UN Comtrade data for 2014 show that of the three BRICS countries—Brazil, the Russian Federation and India—that report exports in the audiovisual services category, which would cover some of the digital products considered above, they only account for a fraction of 1% of total services exports. On the import side, figures are higher, but still only in the region of 1%.

Although the data are inconclusive because digital content is not defined as a category in trade in services statistics, the part of that market that is captured by audiovisual services—which could be considerable—indicates that the digital content markets in the BRICS are, as yet, primarily domestic in focus.

One important caveat to this finding is that 'domestic' services in terms of these statistics would include services provided by a foreign invested firm doing business locally, which is in fact GATS Mode 3 trade. So digital markets in the BRICS may be more international than they seem, if there has been significant inward FDI in these segments.

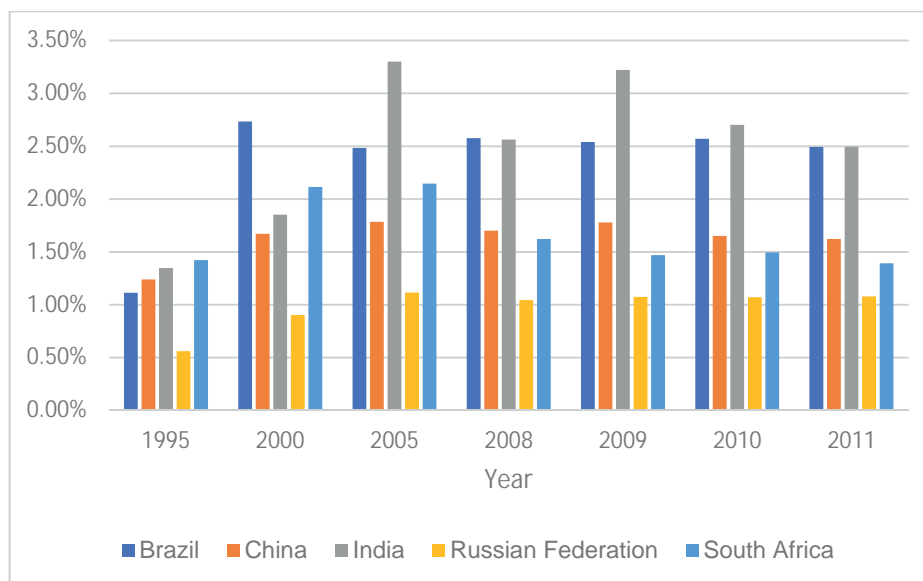
Digital processes for value chain integration

The digital economy in promoting trade in goods is key in GVCs, where a lead firm provides services to suppliers by coordinating activities and managing transactions, as well as by providing intellectual property and technical services.

The TiVA database can be used to extract the proportion of gross manufacturing exports accounted for by value added originating in the computer services and telecommunications subsectors. Figure 31 presents results. First, we see a general upward trend in the proportion of digital services embodied in manufactured goods exports, which is typical of the rise of GVCs. The total is particularly high in India and Brazil, but still significant in the other BRICS. For India, the services sector uses IT services more intensively than the manufactured goods sector.

The same is true of the other BRICS countries, although the differences are less marked. The key point is therefore that digital services are key enablers of trade in goods as well as trade in services.

Figure 31 Computer and telecommunications sector value added embodied in gross exports of manufactures, BRICS countries, 1995–2011 (percentage)

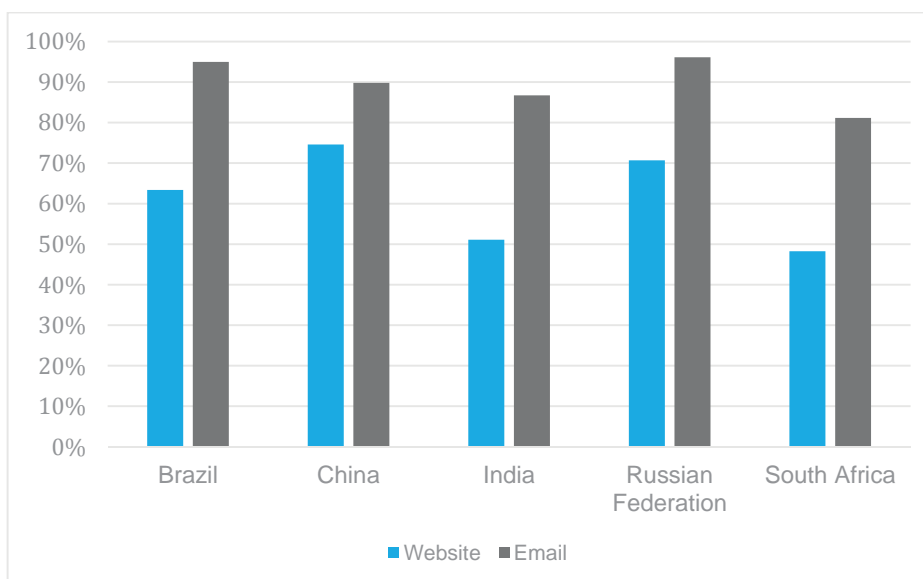


Source: OECD–WTO Trade in Value Added database; and authors' calculations.

Figure 32 reinforces this finding by looking at the proportion of manufacturing firms in the BRICS that use email and have a website. As in the case of services firms, the figures for email use are very high, close to universal. The prevalence of websites is lower, but still significant. The figure therefore again suggests that manufacturing firms are using digital processes to reach consumers, including, potentially, in foreign markets.

Overcoming information deficits is crucial in forming trade relations. Information-related costs in terms of breaking into a new market can be very high. A crucial first step is developing an online presence—a necessary but not sufficient condition for overcoming the costs, and establishing a trading relationship.

Figure 32 Manufacturing firms using a website or email, BRICS countries, latest available year (percentage)



Source: World Bank Enterprise Surveys; and authors' calculations.

CHAPTER 4 INVESTMENT IN SERVICES

FDI represents an important vehicle for services trade under the GATS. Mode 3 trade takes place through foreign affiliates: sales of affiliates of a Chinese firm in South Africa are recorded as exports from China to South Africa, while sales of United States affiliates in China are recorded as imports into China from the United States.

In many services sectors, proximity between buyer and seller is necessary for transactions to take place. Despite the rise of the digital economy, this point remains true. As such, Mode 3 is still a crucial way in which foreign companies can contest local services markets.

Data availability on Mode 3 trade is limited. There is no systematic international data collection facility like UN Comtrade for Mode 1 trade. Only a few countries, such as EU member States and the United States, maintain foreign affiliates' sales statistics that can give an accurate read on Mode 3 exports and imports. Even those data are subject to major issues at a sectoral level, as data are frequently suppressed to preserve the confidentiality of reporting firms.

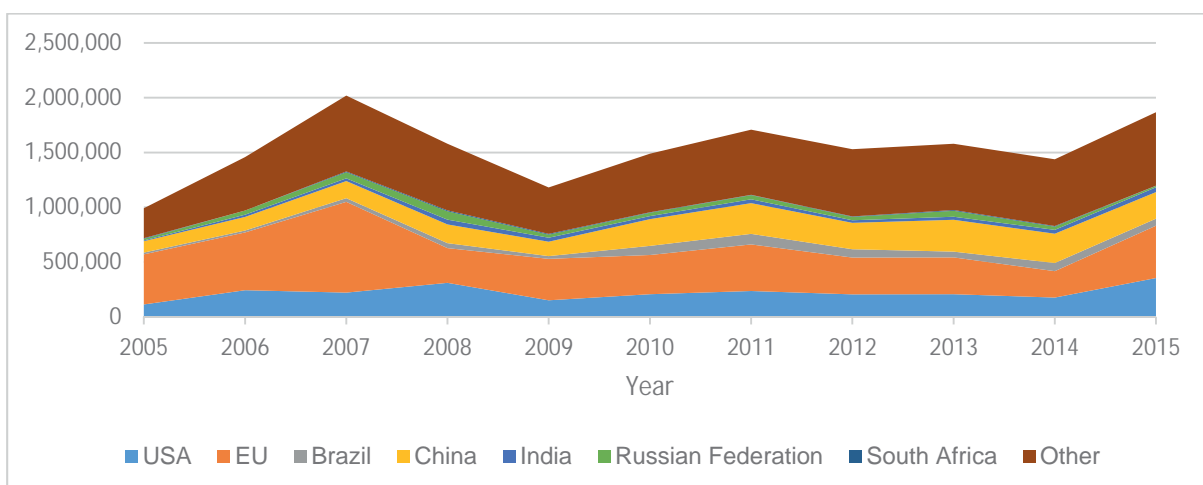
This report uses three data sources in an effort to provide some first information on the BRICS' countries participation in Mode 3 trade. First, OECD FDI statistics identify inflows and outflows in the world as a whole, and separately identify each of the BRICS countries; however, they do not disaggregate by sector. Next, UNCTAD bilateral FDI statistics examine the geographical distribution of inward and outward FDI involving the BRICS.

Importantly, these data cover manufacturing and primary industries (including extractives) in addition to services; it is not possible to disaggregate the data by sector. The data are not directly informative regarding the value of Mode 3 trade—which is based on sales of foreign invested entities, rather than investment flows—but can at least provide some basic information on the geographical pattern of investment in the BRICS, and of the BRICS (cf. Chanda, 2013). Third, data from Europe and the United States on sales by the foreign affiliates in the BRICS countries (imports), and sales by affiliates from the BRICS in Europe and the United States (exports), provide actual figures on Mode 3 trade.

Inbound FDI in services and Mode 3 imports

Figure 33 takes the first step in analysing FDI inflows into the BRICS countries using aggregate OECD data. Although the BRICS as a group are present as a destination for other countries' outward investment, it is only China that stands out as a major destination in its own right. Much of the cumulative investment tracked by these statistics would probably be in manufacturing rather than in services, but the trend is nonetheless indicative: China is an important market for inward FDI.

Figure 33 FDI inflows, 2005–2015, selected countries (\$ million)



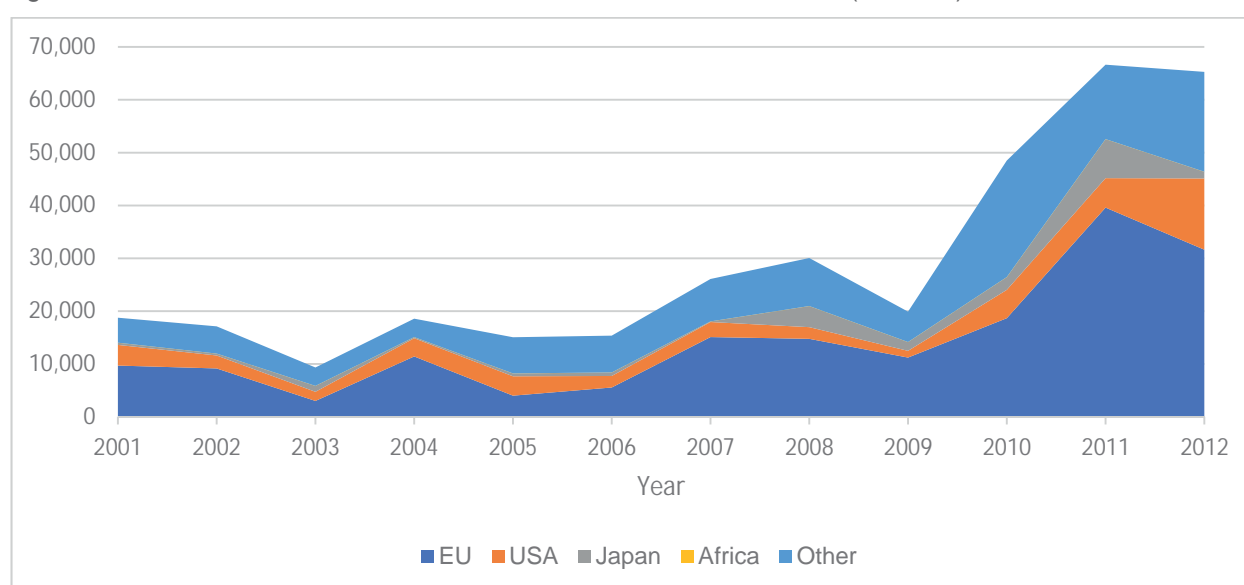
Source: Organisation for Economic Co-operation and Development.

This chapter continues with the analysis with bilateral investment data from UNCTAD, taking each BRICS country separately, but excluding South Africa, for which insufficient data are available.

Figure 34 presents results for Brazil. The geographical breakdown of origin countries is not complete. China is treated separately, but India is subsumed into Asia (which has negligible inward FDI into Brazil except for the Republic of Korea and Singapore), the Russian Federation is included only as 'other', and South Africa is included in Africa, but inward FDI is close to zero.

The net result is that the lion's share of inward investment into Brazil is accounted for by the United States and the European Union. Of the 'other' category in the figure, most is accounted for by countries in South America, as well as significant contributions from Singapore and the Republic of Korea. Even China only accounts for 2% of inward FDI into Brazil. In this case, the inward investment relationship between Brazil and the other BRICS countries appears quite marginal.

Figure 34 Inward FDI flows into Brazil, 2001–2012, selected sources (\$ million)

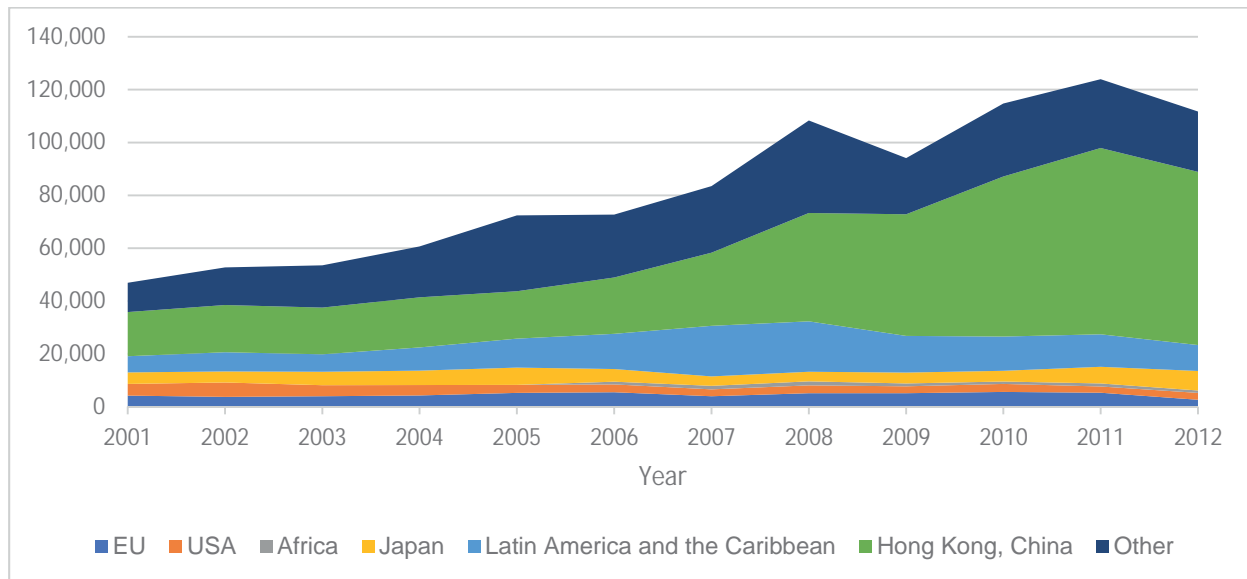


Source: UNCTAD FDI/TNC database; and authors' calculations.

Figure 35 presents results for China, which display similar properties to those for Brazil. Brazil is subsumed into an aggregate Latin America and the Caribbean group; India is subsumed into Asia (which has negligible inward FDI outside selected countries in East and South-East Asia); the Russian Federation is in the 'other' category; and South Africa is subsumed within Africa.

It is clear from the graph that the other BRICS countries are, at most, very marginal sources of inward FDI into China, vastly dwarfed by Hong Kong, China, for example. Of course, the relationship between Hong Kong, China, and mainland China is a special and complex one from an investment viewpoint, and it is likely that some of what is classified as investment originating in Hong Kong, China, is in fact related to investments from other parts of the world. Even keeping this point in mind, however, there is no evidence that Brazil, South Africa, the Russian Federation, or India are important sources of FDI in China.

Figure 35 Inward FDI flows into China, 2001–2012, selected sources (\$ million)

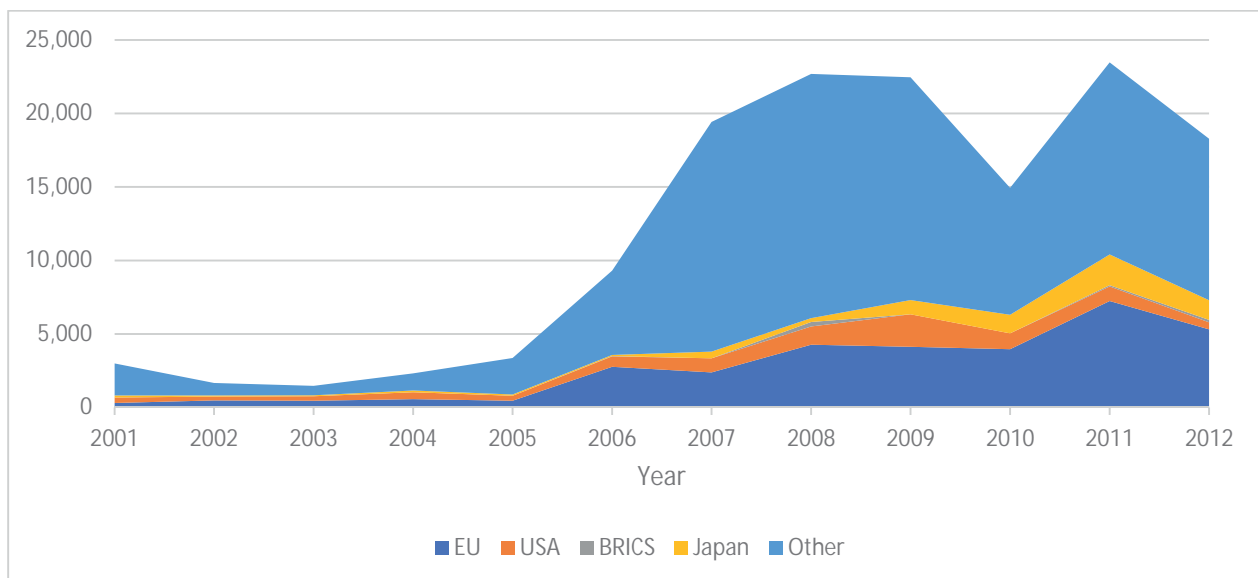


Source: UNCTAD FDI/TNC database; and authors' calculations.

The data for India in Figure 36 provide a better degree of geographical disaggregation. All BRICS countries are separately identified, and they are summed in the figure. However, inward FDI from the other BRICS is negligible in terms of India's total, which is dominated by the United States, the EU and Japan, as well as offshore financial centres like Mauritius and Singapore in the 'other' category.

Results for India sit well with those for Brazil and China, in the sense that the other BRICS countries are only a marginal source of inward FDI.

Figure 36 Inward FDI flows into India, 2001–2012, selected sources (\$ million)

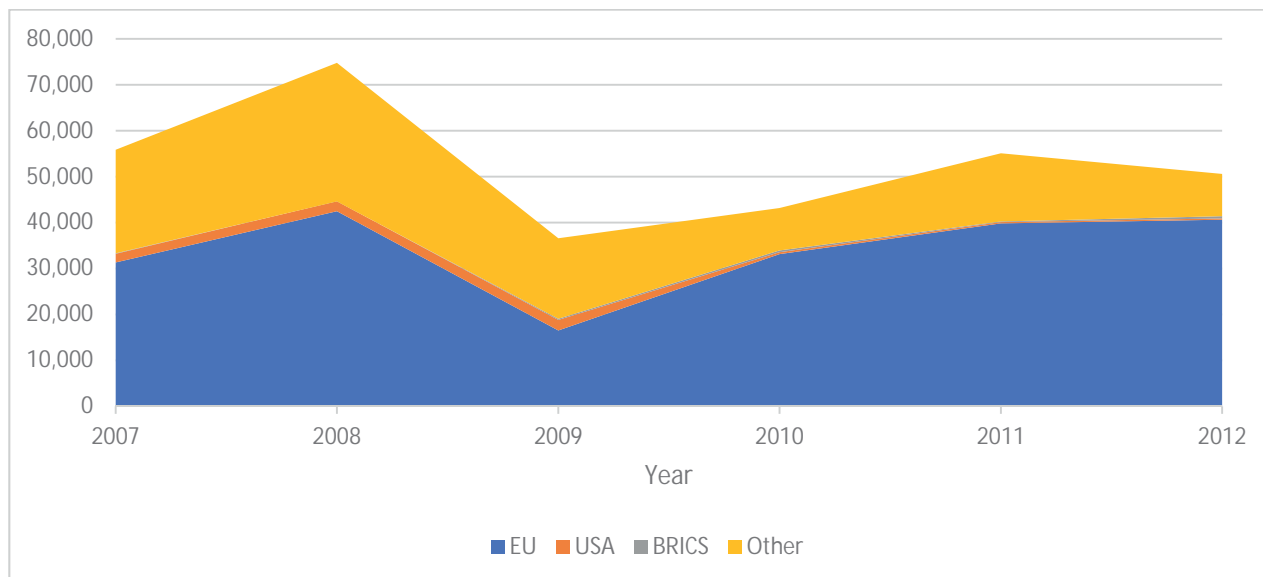


Source: UNCTAD FDI/TNC database, and authors' calculations.

Figure 37 repeats the analysis for the Russian Federation. Inward investment from the other BRICS is again very marginal; with most of it coming from the EU.

This inward investment is not likely to be heavily skewed towards services, but instead may be related to significant activities in extractive industries and energy. Nonetheless, the overall conclusion is the same as for the other BRICS countries: it is the developed economies that provide the largest amount of inward FDI, with the other BRICS playing at most a marginal role.

Figure 37 Inward FDI flows into the Russian Federation, 2007–2012, selected sources (\$ million)



Source: UNCTAD FDI/TNC database; and authors' calculations.

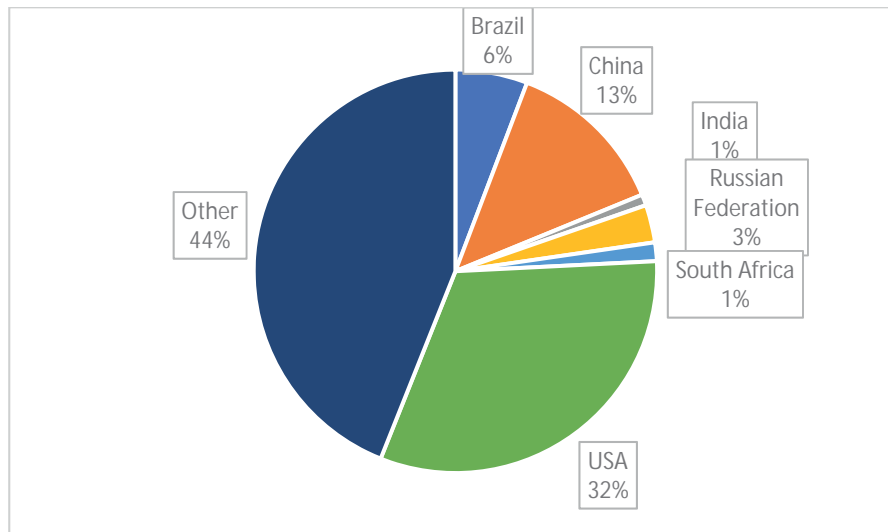
Note: Earlier data unavailable.

The report now moves from a consideration of investment flows to look at sales by service sector foreign affiliates in the BRICS.

Figure 38 presents EU data. The BRICS together represent about one quarter of the total sales abroad of European Union foreign affiliates. This is a substantial figure, just over half of which is accounted for by China alone. However, to put the figure in context, it is less than the 32% of foreign affiliates' sales accounted for by the United States market.

These Mode 3 data—as compared to investment flow proxies—suggest that this mode of supply is a significant means by which European firms contest markets in the BRICS. Looking at the sectoral breakdown of the data, it emerges that sectors such as wholesale trade and financial services are the principal focus of Mode 3 exports from the EU to the BRICS countries.

Figure 38 Imports by the BRICS countries from the European Union, Mode 3, 2014 (percentage of total)



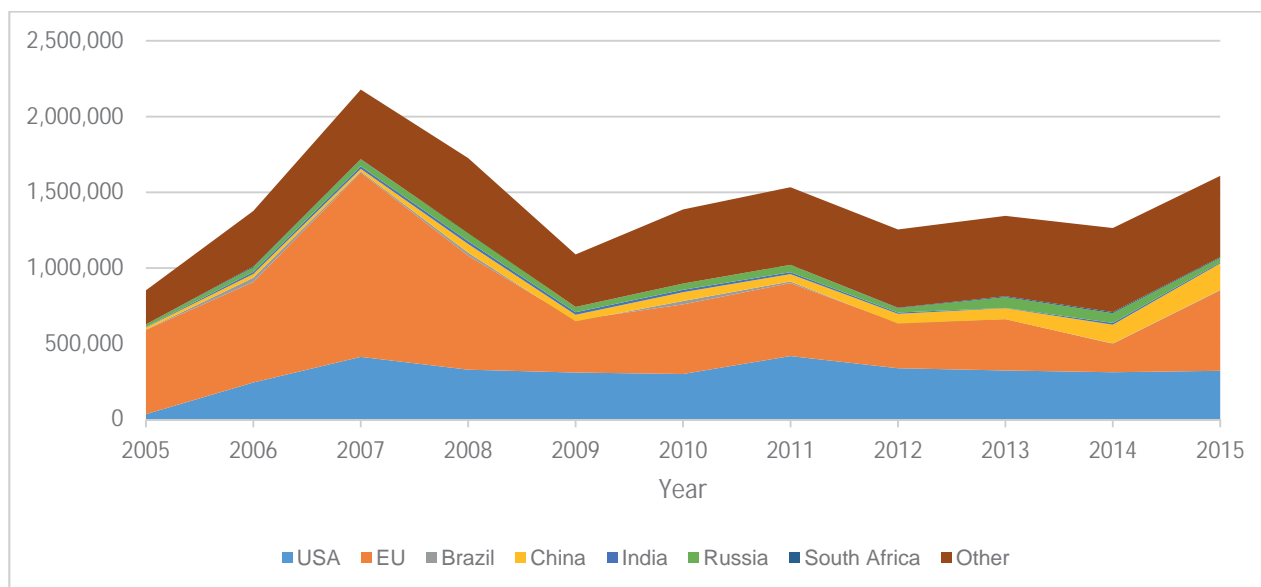
Source: Eurostat.

Data for the United States are not as complete as those for the European Union, and only separately identify China and Brazil. In 2014, those two countries together accounted for at least 6.5% of United States Mode 3 exports. The figure is a lower bound because a number of entries have been suppressed out of confidentiality concerns. However, it is much lower than the comparable number for EU, which suggests that United States services firms have not enjoyed the same success as their EU counterparts in entering the BRICS' markets. Nonetheless, in the context of the receiving countries' economies, United States foreign affiliates' sales are substantial in some sectors, such as wholesale trade and financial services.

Outbound FDI in services and Mode 3 exports

OECD has aggregate data on FDI outflows, separately identifying each of the BRICS. As Figure 39 shows, only China, and to a lesser extent the Russian Federation, are significant sources of foreign investment in a global context. China's share of the total has been steadily growing over time, a trend that seems set to continue, as it invests in productive capacity in the region and further afield, for example in Africa. According to the UNCTAD *World Investment Report*, China became the second largest investing country in the world in 2016. However, even in aggregate terms, the BRICS countries' outward FDI remains less than either that of the EU or the United States.

Figure 39 FDI outflows, 2005–2015, selected countries (\$ million)

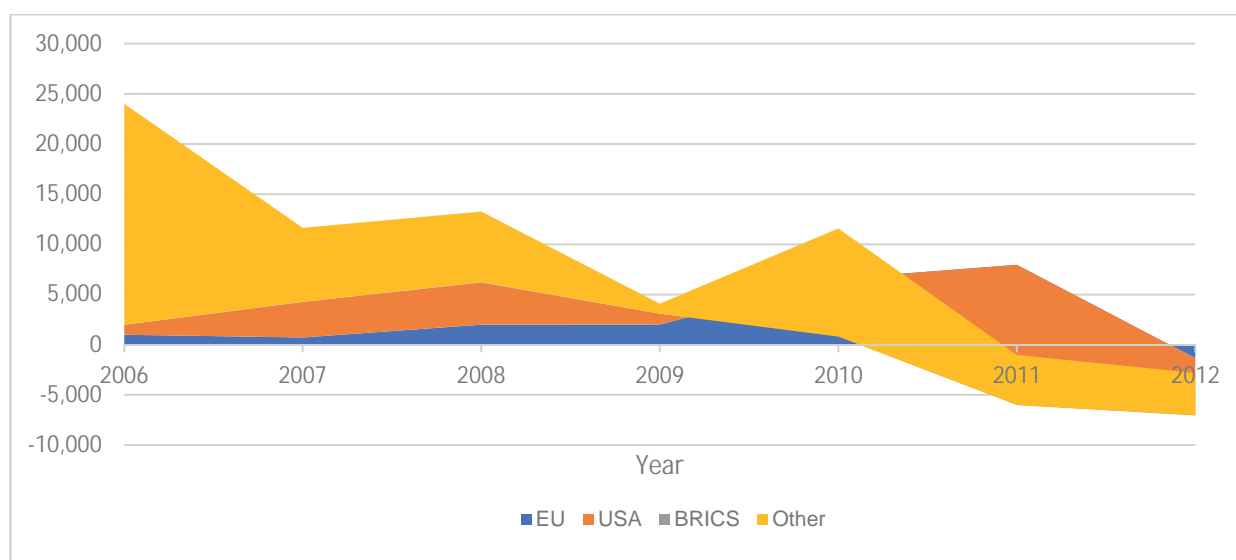


Source: Organisation for Economic Co-operation and Development.

UNCTAD also provides data on the BRICS' countries outward FDI, with the same reservations as above. First, it is not limited to services sectors, but also includes primary industries and manufacturing. Second, it records investment flows, not foreign affiliates' sales. Nonetheless, the data are interesting as they provide a first look at the extent of the investment relationships that exist among the BRICS, which is relevant to Mode 3 services trade. Each BRICS country is examined separately, apart from South Africa, for which the data are incomplete.

Figure 40 shows results for Brazil. As in the case of inward FDI, the proportion of Brazil's outward FDI to the BRICS is negligible—even absolutely zero in some years. Important destinations include the United States, as well as offshore financial centres in the Caribbean and Canada.

Figure 40 Outward FDI flows from Brazil, 2006–2012, selected destinations (\$ million)

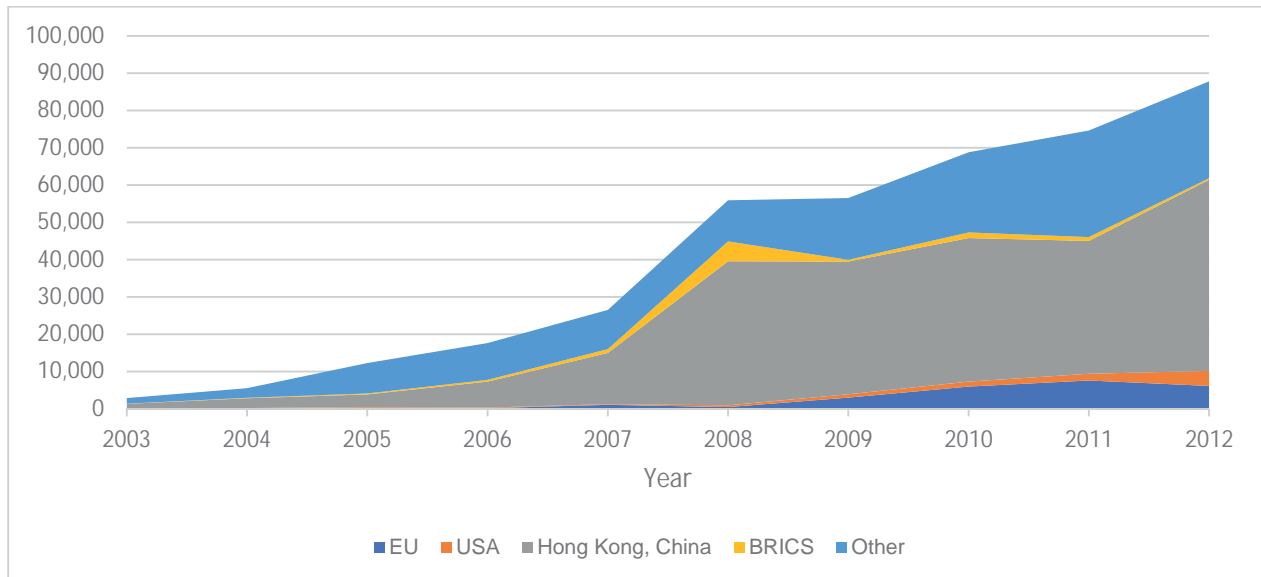


Source: UNCTAD FDI/TNC database, and authors' calculations.

Note: No earlier data available.

China is an active foreign investor, but as Figure 41 shows, the bulk of its outward flows are destined for Hong Kong, China, as well as for developed markets. FDI in the other BRICS is more important than for Brazil, but still marginal in terms of the country's overall investment activity in recent years.

Figure 41 Outward FDI flows from China, 2003–2012, selected destinations (\$ million)

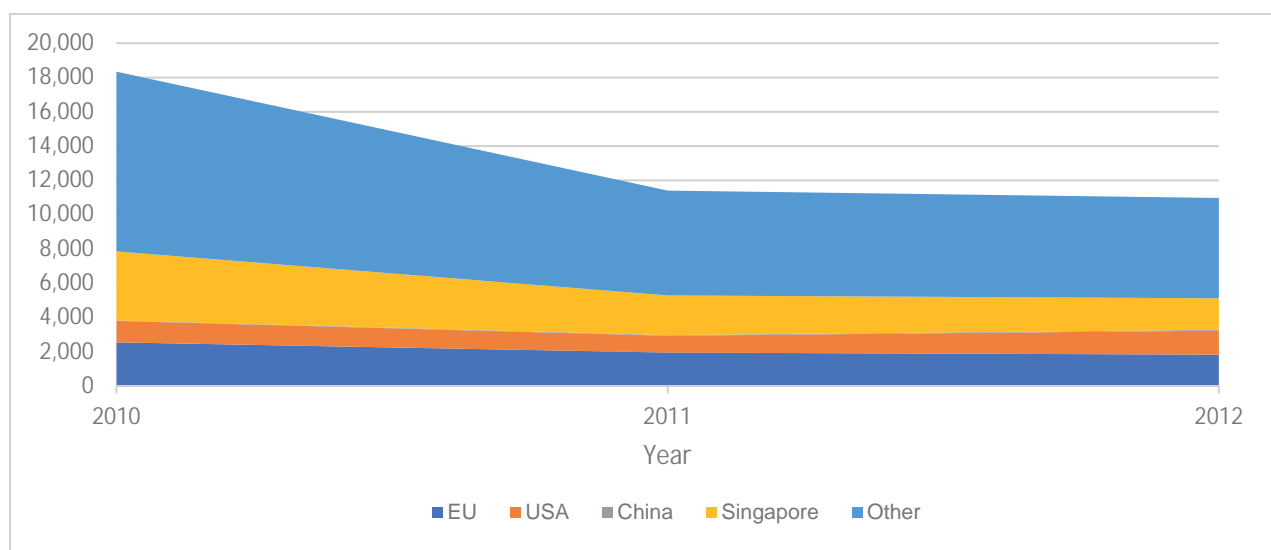


Source: UNCTAD FDI/TNC database, and authors' calculations

Note: No earlier data available.

China is the only BRICS country explicitly identified in India's data (Figure 42), but flows are negligible. The disaggregation in the data makes it possible to be certain that outflows to Brazil, the Russian Federation and South Africa were zero in 2012. It is striking that Singapore is a larger hub for Indian outward FDI than all of the BRICS countries put together.

Figure 42 Outward FDI flows from India, 2003–2012, selected destinations (\$ million)

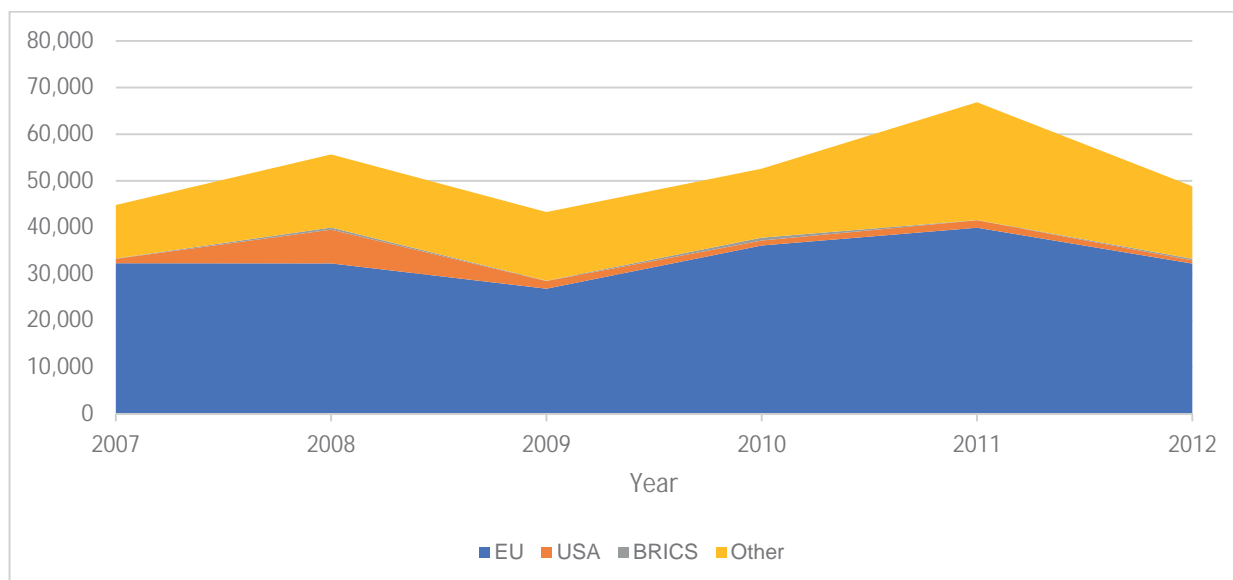


Source: UNCTAD FDI/TNC database; and authors' calculations

Note: No earlier data available

Figure 43 shows that the bulk of the Russian Federation's outward FDI goes to the European Union. Investment in the other BRICS countries is negligible, and literally zero for some countries and years. As noted for the other BRICS countries above, intra-BRICS FDI is a marginal activity for the Russian Federation as well.

Figure 43 Outward FDI flows from the Russian Federation, 2003–2012, selected destinations (\$ million)



Source: UNCTAD FDI/TNC database, and authors' calculations.

Note: No earlier data available.

EU foreign affiliates statistics (FATS) data identify only China and the Russian Federation among the BRICS as sources of imports into Europe through affiliates controlled by companies in those countries. We assume that flows from the other BRICS are too small to be properly recorded. Even for China and the Russian Federation, the proportions of total EU sales of foreign affiliates is typically very small, usually 1% or less on a sectoral basis. Even if the BRICS are important markets for EU service providers seeking to do business through foreign affiliates, the involvement of the BRICS in the opposite direction is still very small statistically in the context of the EU market.

This result sits relatively well with the others analysed in this section. As emerging markets, it is not at all surprising that the BRICS' primary role in markets for FDI should be as recipients rather than sending countries. Development of multinational enterprises, especially in the services sector, is still at a relatively early stage in all BRICS economies. The primary involvement of the BRICS in global Mode 3 services flows is as market entry points for businesses based elsewhere, typically in the developed world.

Although there is no data on intra-BRICS Mode 3 trade, based on the results in this section it seems highly likely that Mode 3 trade among these countries is very limited. In regional contexts, some of the BRICS may play a significant role as sources of FDI, including in services, but the BRICS as a group are geographically dispersed, which increases the costs of intra-group trade and investment. It is therefore not particularly surprising that Mode 3 flows appear to be at a very early stage of development.

CHAPTER 5 PEOPLE-TO-PEOPLE CONNECTIONS

Two modes of supply under GATS involve physical movement by people across borders. Mode 2 trade occurs when the consumer moves to the place where a service is produced in order to be able to consume it. Tourism is an example: when a Chinese tourist visits South Africa, there is an export of services via Mode 2 from South Africa to China. This transaction is recorded in the balance of payments, and is captured by the data examined in Chapter 2.

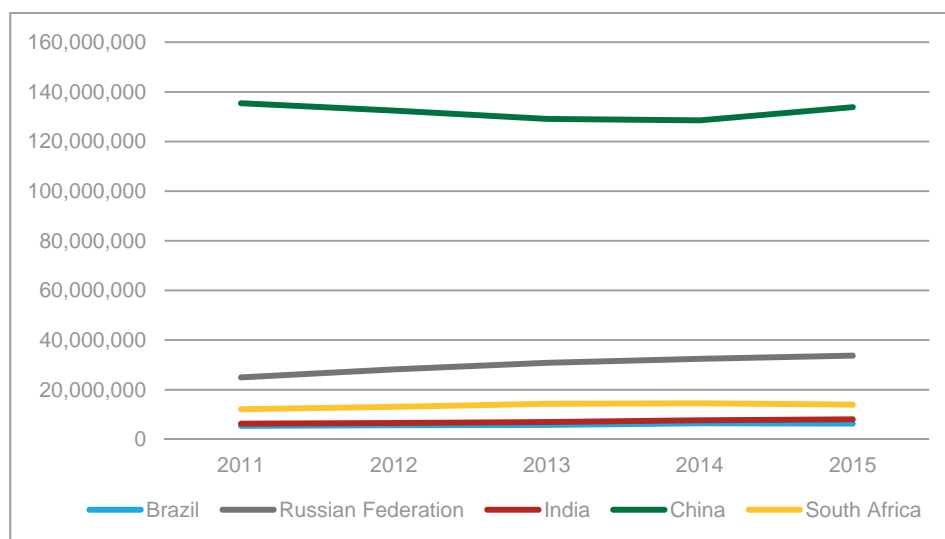
The other way in which individual people move to effect services trade is under Mode 4, which involves short-term movements by service providers. For example, when an Indian IT professional visits the United States for a short stay to provide services to a local firm, and then returns home, there is an export of Mode 4 services from India to the United States. Data on these kinds of transactions is notoriously hard to track, and these transactions are made all the more challenging by the significant policy barriers most countries erect to this kind of trade through the need to meet specific visa requirements. While Mode 4 trade represents a market of great potential to countries with large labour forces, especially India, it is still likely to be quite small owing to these policy restrictions.

This chapter looks at people-to-people connectivity. Specifically, it examines tourism and education—two important Mode 2 sectors—through the lens of the number of people who move across borders. The BRICS countries are playing increasingly important roles in both sectors, although they differ considerably in the two cases. Movements of people in a global context are influenced by patterns of comparative advantage, which, in turn, are shaped by economic factors such as endowments of labour and capital (physical and human).

Travel and tourism

The BRICS countries are becoming increasingly popular as tourist destinations. Figure 44 shows an average annualized growth rate of 4%, which is indicative of a healthy, growing market. India has seen the fastest growth, at 11% per annum. In absolute terms, China has the lead within the group, with almost 134 million tourist arrivals in 2015, then followed by the Russian Federation, with almost 34 million.¹⁰ However, as the figure shows, the BRICS together still only account for a relatively small share of the world's tourist market, about 10% in 2015.

Figure 44 Tourist arrivals, BRICS, 2011–2015 (numbers)



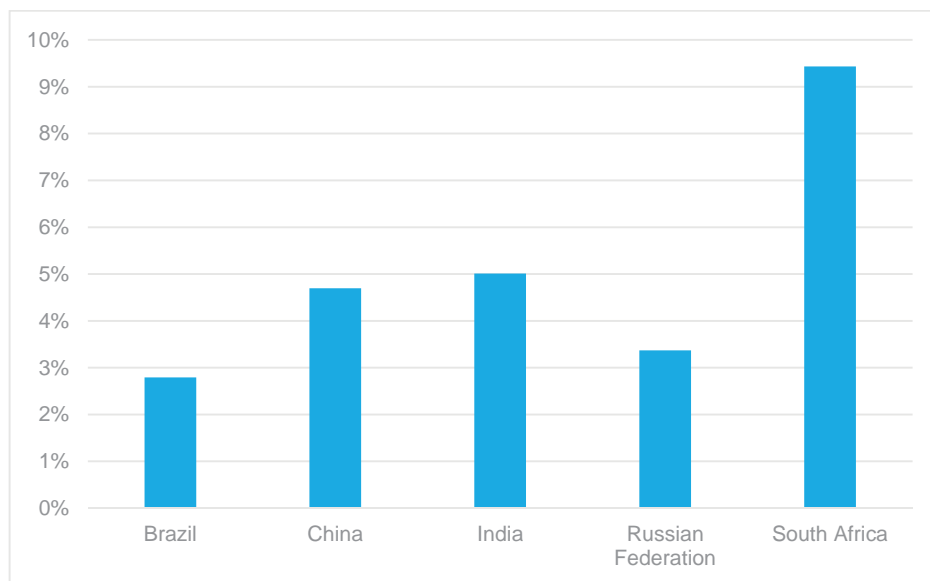
Source: World Tourism Organization (2016), *Yearbook of Tourism Statistics* dataset [electronic], UNWTO, Madrid.

¹⁰ World Tourism Organization (2016), *Yearbook of Tourism Statistics* dataset [Electronic], UNWTO, Madrid

It is also important to look at the data on tourist arrivals from the perspective of the BRICS countries themselves – specifically, at the tourism sector’s contribution to total exports. Figure 45 shows that it is significant, especially bearing in mind that the denominator for the proportions is total exports of goods and services.

South Africa, which has considerable natural advantages as a tourist destination, stands out: tourism receipts account for nearly 10% of total export earnings. These figures include all purchases by tourists in the country, and so capture activity in hotels and restaurants, as well as through tour operators. Clearly, tourism is important to a number of the BRICS economies as a source of relatively labour-intensive economic activity, which can also be accessed by low-skilled workers.

Figure 45 Tourism receipts in total exports, 2015, BRICS countries (percentage)



Source: World Development Indicators; and authors' calculations.

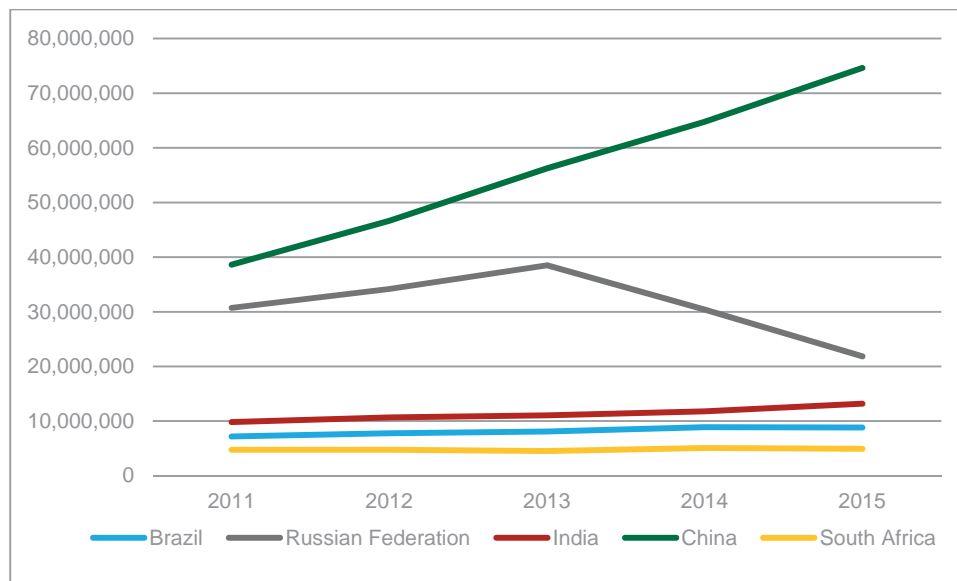
Although the BRICS have undeniable attractions as tourist destinations, it is in the opposite role—sources of tourists—that they have evolved most impressively over recent years. Figure 46 shows aggregate annualized growth in the BRICS countries' tourist departures of just over 11%, led by China (17%) and India (11%).

In absolute terms, China with almost 75 million tourist departures and the Russian Federation with 22 million led in outbound tourism in 2015.¹¹ Whereas the BRICS accounted for 10% of tourist arrivals in 2015, they made up 13% of departures. Rapid income growth, as well as changing social preferences in relation to the work/leisure trade-off, are behind this changing dynamic.

Many countries now actively court tourist arrivals from the BRICS, in particular from China. Given its large population, the fact that a growing percentage of people can now afford, both in terms of time and money, to travel overseas has had a major impact on the global tourist market. In 2015, Chinese tourists abroad numbered close to 120 million.

¹¹ World Tourism Organization (2016), *Yearbook of Tourism Statistics* dataset [electronic], UNWTO, Madrid.

Figure 46 Tourist departures, BRICS, 2011–2015 (numbers)



Source: World Tourism Organization (2016), *Yearbook of Tourism Statistics* dataset [electronic], UNWTO, Madrid.

Note: No data available for South Africa.

Roughly 20% of the arrivals in the BRICS are for business and professional purposes, compared with a global average of 14%.¹² The share is slightly higher for the Russian Federation and China, but significantly lower for South Africa, as shown in Table 3.

Table 3 Arrivals in BRICS countries by purpose of visit, 2015 (percentage)

	Brazil	Russian Federation	India	China	South Africa
Personal	80	78	85	79	96
Business and professional	20	22	15	21	4

Source: World Tourism Organization (2016), *Compendium of Tourism Statistics* dataset [Electronic], UNWTO, Madrid.

Tables 4 and 5 present the share of BRICS in each country's tourist arrivals and departures, showing the magnitude of intra-BRICS tourism. Within the group India and the Russian Federation are the countries more dependent on the BRICS to export tourism-related services, with almost 6% and 4% of their total inbound tourists coming from the group. Within the group, India particularly relies on China (3%) and the Russian Federation (2%) as sources of tourists; while the Russian Federation relies on China (4%).

Similarly, Table 5 shows that a significant proportion of tourists from the Russian Federation (8%) and India (7%) travel to other BRICS countries, especially China.

¹² World Tourism Organization, *UNWTO Tourism Highlights*, 2016, www.e-unwto.org/doi/pdf/10.18111/9789284418145

Table 4 BRICS' share in tourist arrivals, 2015 (percentage)

From \ Arriving at	Brazil	Russian Federation	India	China	South Africa
Brazil	-	0.10	0.26	0.07	0.25
Russian Federation	0.41	-	2.15	1.18	0.06
India	0.37	0.19	-	0.55	0.61
China	0.84	3.60	2.57	-	0.63
South Africa	0.43	0.02	0.65	0.05	-
Total BRICS	2.05	3.92	5.62	1.85	1.55

Source: Authors' calculations based on World Tourism Organization (2016), *Yearbook of Tourism Statistics* dataset [electronic], UNWTO, Madrid.

Note: Some figures from China are from 2014.

Table 5 BRICS' share in tourist departures, 2015 (Percentage)

Departures from \ To	Brazil	Russian Federation	India	China	South Africa	Total BRICS
Brazil	-	0.39	0.23	1.07	0.33	2.03
Russian Federation	0.12	-	0.79	7.24	0.03	8.18
India	0.18	0.48	-	5.55	0.60	6.80
China	0.07	1.63	0.28	-	0.11	2.09
South Africa	0.55	0.17	1.05	1.38	-	3.16

Source: Authors' calculations based on World Tourism Organization (2016), *Yearbook of Tourism Statistics* dataset [Electronic], UNWTO, Madrid.

Note: Some figures from China are from 2014.

Education

Trade in higher education services has been growing rapidly over recent decades, as students become more mobile across borders. The BRICS are primarily sending countries, i.e. they send students abroad to study, which means that they import education services from the receiving countries. The main recipients are the developed economies, particularly the United States and the EU (primarily the United Kingdom).

Of Brazilian students abroad, for example, over 33% go to the United States, while the corresponding figures for the other BRICS are 37% for China, 48% for India, 24% for South Africa, but only 9% for the Russian Federation. None of the other BRICS is a major destination for BRICS students.¹³ For the Russian Federation, Germany is the main destination, receiving 17.6% of Russian students abroad.

Seen from the perspective of the receiving countries, the BRICS are major sources of international student mobility. Nearly half of all foreign students in the United States, for example, are from the BRICS, with China and India occupying the first and second positions in terms of total numbers of students. Similarly, students from the BRICS countries make up 26% of the total number of foreign students in the United Kingdom, with China and India again occupying the top two spots.

¹³ All figures in this section are from the UNESCO Institute for Statistics.

Among the BRICS, Brazil receives only a small number of foreign students, mostly from its region; the largest BRICS origin is South Africa, but it only accounts for 1.5% of the total. India hosts more students, but again, they are mostly from its region; China accounts for only 1.1% of the total. The same pattern is true for the Russian Federation, but Chinese-origin students are more numerous, making up nearly 4% of the total. In South Africa, Indian and Chinese students together account for 1.4% of foreign students, but the main flows are from other African countries. No inward flow data are available for China.

The absolute numbers involved in the BRICS students' international movements are substantial. China has nearly 800,000 students abroad, and India has nearly 250,000. People-to-people connections in the education field are clearly important to younger people in the BRICS, and are opening them up to a wide range of life experiences—in some cases leading to long-term migration, in others temporary residency, and in still others a return home to jobs often with an international dimension.

The perspectives for this kind of exchange are bright, as they help integrate the BRICS further into the world economy. However, barriers are also substantial, including restrictive visa regimes in the large destination countries, although there are significant differences among them.

As in the case of the other relationships examined in this paper, there is relatively little in the way of intra-BRICS movement of students. Barriers like visas may be one issue. Language is clearly another. But more fundamentally, students are attracted to the countries with the best universities, which are by and large the developed economies. As operating research universities is very capital intensive—both physical and human—it is not surprising that the developed countries would have a comparative advantage in this sector, a pattern that is likely to continue for many years. As educational opportunities in the BRICS continue to develop, more intra-group exchanges may take place, but for the moment the BRICS main role is as a source of mobile students on the world educational market.

CHAPTER 6 CHALLENGES AND RECOMMENDATIONS FOR EXPANDING IN GLOBAL MARKETS AND INTRA-BRICS COLLABORATION

The analysis has shown that the services economy is becoming increasingly important to the BRICS countries both in terms of direct trade relations and in facilitating movement of goods and other services through embodied services trade. In terms of pure cross-border trade, the numbers involved are significant because of the size of the countries' economies. But the BRICS as a group remain emerging players in the global services economy. They have seen rapid growth in trade volumes, but they started from low baselines relative to the developed countries.

Intra-BRICS trade is particularly underdeveloped, as most countries rely most heavily on the developed countries as sources of demand for their exports and as sources for their imports. In large part, this dynamic is a function of comparative advantage. Factors such as capital endowments and institutional strength matter to bilateral services trade. Services trade for the BRICS is largely complementary and based on deep economic differences rather than being two-way in similar items, as is the case for most trade in manufactured goods.

The picture changes somewhat when we look at trade through commercial presence (Mode 3). Despite data being scarce, we find clear evidence that the Chinese market is a major destination for global FDI, including in services. Although the main services global trade flows are between the developed markets of Europe and North America, there is evidence of increasing investment in at least some of the BRICS. Again, however, intra-BRICS relations are relatively limited at this stage.

The picture regarding people-to-people connections (modes 2 and 4) is somewhat similar. The BRICS countries, particularly India and China, are major sources of students attending programmes abroad, and increasingly also tourists. Intra-BRICS movements are very limited.

The key finding from our data-driven analysis of services trade in the BRICS is that much work remains to be done to fully integrate BRICS countries into the global services economy. Economic forces will continue to pull in that direction; rising incomes will shift consumption towards services and increasing use of GVCs as production platforms will increase demand for intermediate services.

There is great potential in services for the BRICS, and India has already enjoyed notable successes in sectors like IT and business process outsourcing. However, if that potential is to be realized, it will be important for the BRICS to address ongoing challenges that hold back their integration into global services markets. We address those challenges in the next subsection, before presenting recommendations in the last subsection.

Challenges

Given that the BRICS have relatively large economies, with often robust growth rates over recent years, why are they not more involved in the global services economy? They have large services sectors, but the data suggest that only a small proportion of their output is exported, and a similarly small proportion of consumption is imported.

A key reason is that trade costs in services markets are high and not always trending downwards. Using data from Miroudot et al. (2013), we can see that trade costs in services for Brazil fell just 5.5% between 2000 and 2004, i.e. from 199% to 188% in ad valorem equivalent terms. By comparison, goods trade costs fell by nearly 7% over the same period. In India, trade costs in services fell by around 5%, and in China they fell by 8%.

These changes are not particularly large given the high initial levels. But they are more than changes in worldwide trade costs, which, according to Miroudot et al. (2013), remained relatively flat in services while

Intra-BRICS trade is quite underdeveloped, as these countries still rely on developed markets as sources of demand and supply for their services trade. However, BRICS countries do better in services trade in value-added terms, showing their services trade is largely complementary to their manufacturing trade.

they declined sharply for goods. The key insight is that trade integration in services markets has been proceeding significantly more slowly than in goods markets, in the BRICS and in their major markets and import sources, the developed economies.

In this analysis, trade costs capture all factors that drive a wedge between producer prices in the exporting country and consumer prices in the importing country. They include not only traditional trade policy measures, but also factors like institutional and legal similarities, as well as the business environment, which can make it easier or harder to trade services across borders.

The precise division of services trade costs into policy- and non-policy-related factors is not yet apparent from the literature, but one thing is clear: lowering trade costs has important benefits for the domestic economy by encouraging productivity upgrading through enhanced competitive pressure (Miroudot et al., 2012). To the extent that policy measures keep trade costs unnecessarily high, they could be contributing to a lack of competitiveness in services, which is reflected in less trade integration.

Trade restrictions

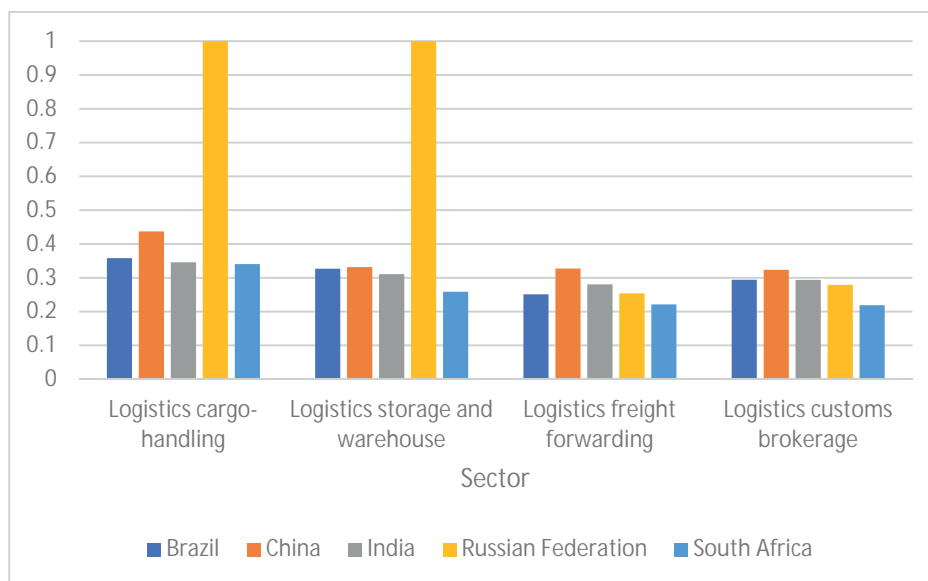
OECD provides quantitative summaries of countries applied services trade policies in its Services Trade Restrictiveness Index (STRI) project, which covers the BRICS in addition to OECD members. Each index summarizes policy restrictions in a given sector, and ranges between zero (completely open) and one (completely closed). Comparing restrictiveness across sectors is not free from difficulties, but across countries within a sector it is quite consistent.

Figures 47–50 reproduce the BRICS' STRI scores for all sectors for which data are available, grouping them into related clusters. Restrictions are generally fairly moderate, but certain highly restricted sectors immediately stand out, such as some logistics subsectors in the Russian Federation (completely closed), rail freight in India and the Russian Federation (completely closed), courier services in China, professional services in India and some audiovisual services in China.

Comparing results for the BRICS to the cross-country average shows that in nearly all sectors the BRICS are more restrictive than the average, based on a sample composed largely of OECD countries. Services policies in the BRICS are therefore relatively restrictive by the standards of the developed world, although they may in some cases be more liberal than what is seen in lower-income countries.

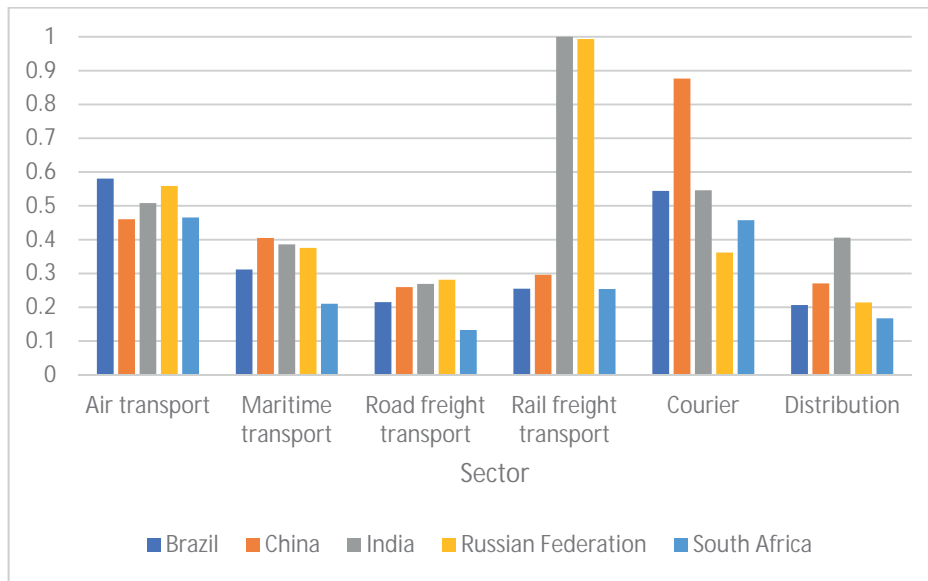
Nonetheless, in terms of leveraging the global services economy to promote productivity upgrading, there is a clear gap between aspiration and progress in this area. Although some BRICS countries, such as China, have taken important steps to open previously closed markets, there remains significant scope to adjust policies to support more services trade integration.

Figure 47 Services Trade Restrictiveness Index, BRICS countries, selected sectors, 2016, Index (0-1)



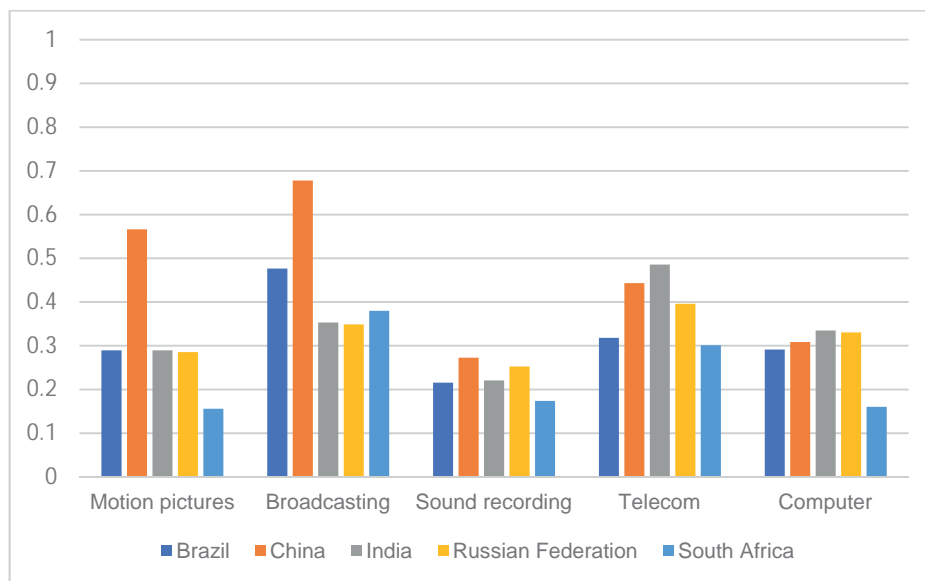
Source: Organisation for Economic Co-operation and Development.

Figure 48 Services Trade Restrictiveness Index, BRICS countries, selected sectors, 2016, Index (0-1)



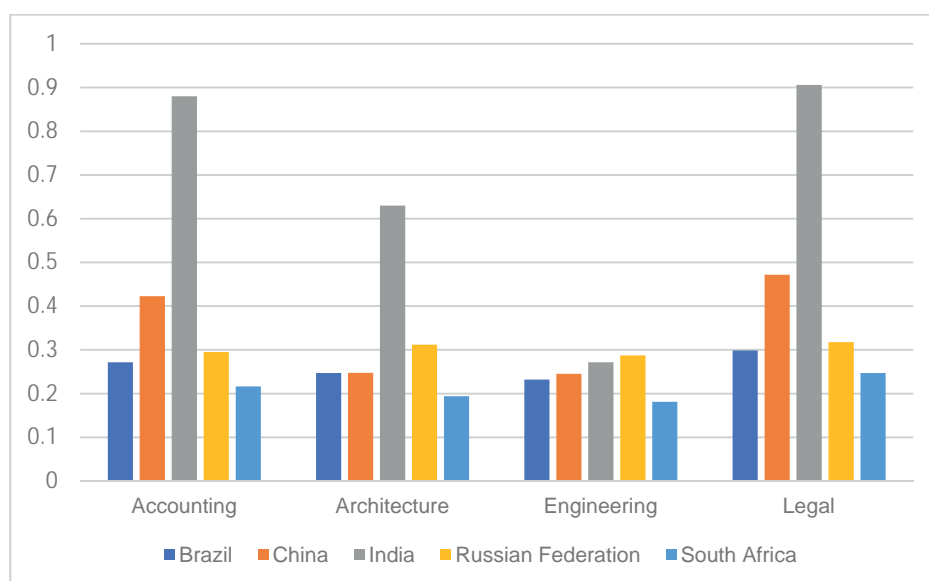
Source: Organisation for Economic Co-operation and Development.

Figure 49 Services Trade Restrictiveness Index, BRICS countries, selected sectors, 2016, Index (0-1)



Source: Organisation for Economic Co-operation and Development.

Figure 50 Services Trade Restrictiveness Index, BRICS countries, selected sectors, 2016, Index (0-1)



Source: Organisation for Economic Co-operation and Development.

Policy reform

Most policy reform in services has been unilateral rather than regional or multilateral. There are important exceptions, such as China's accession to the WTO, which resulted in significant modifications to applied policies. But typically, countries have moved forward on liberalizing services because they have recognized that it is in their own interest to do so.

A 2013 study shows that 60% of the overall gains deriving from structural reform in the service sectors of various Asia-Pacific Economic Cooperation (APEC) economies would come from reforms at home rather than in other countries. Thus, national governments have a strong incentive for unilateral action to reform their service sectors, even when participating in regional agreements or initiatives.¹⁴

The traditional reciprocity of request-and-offer negotiations has proved to be ill-suited to services trade liberalization, as evidenced by the lack of progress on services under the Doha Round. WTO members eager to move forward on services have promoted the idea of a trade in services agreement and talks are under way. However, the mechanics and legality of reciprocal (non-MFN) concessions in that forum against the background of the GATS remain questionable.

This highlights an important issue about reforming services' policies, where liberalization is politically more challenging than in goods. Many services need strong regulatory frameworks to promote the public interest, but public debate can confuse reforms designed to reduce the costs of restrictive policies with decisions to no longer regulate in the public interest. The two things are quite different; but there have been significant difficulties in informing the public about reforms designed to bring about effective and efficient regulation of services markets.

Effective regulation means that measures achieve important public policy goals; efficient regulation means that they do so at minimum economic cost. Is regional integration a middle ground that could help promote services trade liberalization, including among the BRICS? There is evidence that regional integration in

¹⁴ Philippa Dee, 2011. 'Modelling the Benefits of Structural Reforms in APEC Economies', Chapter 2 in Asia-Pacific Economic Cooperation Policy Support Unit, *The Impacts and Benefits of Structural Reforms in the Transport, Energy and Telecommunications Sectors in APEC Economies*, 2011, http://trpc.biz/wp-content/uploads/2011-01_TRP_APEC_ImpactAndBenefitsOfStructuralReforms_Report.pdf

services acts more as an external anchor for unilateral MFN reforms than as a vehicle for preferential trade (Miroudot and Shepherd, 2014).

Intra-BRICS integration

Although some BRICS countries are involved in agreements that cover services trade with their regional partners, the only example of intra-BRICS negotiations on services—between China and India through the Regional Comprehensive Economic Partnership—is proving to be very challenging.

Intra-BRICS integration in services faces significant stumbling blocks. Services trade is driven by factors such as market size and trade costs and both create more favourable conditions for trade between the BRICS and the developed countries than for trade among the BRICS themselves.

Patterns of comparative advantage are also an issue. The evidence reviewed here suggests that differences in factor endowments are an important driver of trade and the BRICS are all abundant in low-skilled labour and relatively lacking in human and financial capital. Prospects for integration in the short term, therefore, seem stronger between the BRICS and the developed countries than among the BRICS themselves. But that does not mean that the BRICS cannot cooperate to help achieve meaningful improvements in the global services economy. We turn to that issue in the next section.

Recommendations

The first issue that the BRICS countries need to address in working towards a more productive and globally engaged services sector is data. Although international sources make it possible to compile a reasonable picture of their services trade by using mirror statistics, there remain considerable holes in the data, particularly in terms of South-South trade.

A first priority should be to collect services trade data through the balance of payments that are fully disaggregated by partner country and by extended balance of payments services classification (EBOPS) subsector. Currently, only the Russian Federation does this consistently. Without these basic data, it is difficult to undertake detailed analysis of the BRICS countries' services trade relations, in particular with each other.

A second aspect of data collection that is of particular salience for the BRICS is GATS Mode 3. Very few countries collect data on the sales of foreign affiliates within their territory (inward FATS) or sales by affiliates abroad (outward FATS). However, entry by local establishment remains a key way of contesting services markets.

As the BRICS grow and develop their services sectors, they will likely engage in additional FDI activities in services sectors. However, as yet no information is available on these kinds of activities and it is impossible to assess how active the BRICS are as Mode 3 exporters. Rectifying this lack of data by collecting systematic information on the activities of foreign affiliates in services sectors should be a second priority in terms of data collection.

Effective and efficient regulation

Since reducing trade costs in services sectors increases competitive pressures from the world market, and sparks productivity upgrading, the BRICS need to give full scope to this process and promote productivity growth and higher quality in their services sectors. But they also need to ensure—and be seen by their populations to ensure—that regulation in the public interest in areas such as environmental protection and consumer health and safety is not compromised.

Given that most services policy reforms take place unilaterally, each BRICS country should consider committing to pursuing effective and efficient regulation of services sectors; in other words, ensuring that public policy objectives are met with minimum economic cost, including in terms of disruption to trade.

Assessing these questions is complex and requires technical processes in addition to political ones. Many high-income countries have found it useful to have some form of regulatory impact assessment in which public-sector bodies—preferably with some independence—calculate the economic costs and benefits of various regulatory options.

The Australian Productivity Commission is a best-practice example. It is independent of the federal government, technically highly proficient and conducts analysis that takes full account of general equilibrium effects—in other words, the effects that services regulations have on other parts of the economy, not just the sector in question.

Alternative models

What role can international cooperation play in achieving these objectives? As international organizations have established expertise in data collection, there is a large pool the BRICS can draw from in terms of building up domestic statistical capacity.

For the institutional change necessary to promote effective and efficient regulation of services sectors, each economy needs to look for inspiration from solutions around the world, but ultimately design a programme and body that fits with its own legal and institutional structures. Indeed, it has been seen at the WTO that the experience of trade negotiators in exchanging market access ‘concessions’ is not necessarily helpful in moving forward on trade-enhancing services reforms.

An alternative model is to work within international bodies to promote an agenda for trade facilitation in services. India has already made moves in this direction through the WTO negotiating process, but it is not yet clear that a legally binding agreement is feasible. An alternative model is APEC, which was an early mover on trade facilitation in goods.

The APEC approach was not prescriptive in terms of the measures economies took to facilitate trade. Instead, there was a collective commitment to reduce trade costs by 5% in five years, which was renewed once. Individual economies were left to choose the highest impact measures to take with the aim of achieving the goal, within their own political economy constraints. In keeping with the APEC structure and history, no binding instrument was adopted. Although experiences varied, some member economies were very successful in reducing trade costs during the period of the two Trade Facilitation Action Plans (Shepherd, 2016).

Given that services policies are typically de facto MFN (most-favoured nation), it makes sense to move forward on trade facilitation in services through a flexible multilateral framework, i.e. one that does not necessarily include legally binding bargaining commitments.

G20, other approaches

The G20 represents a good option, as it brings the BRICS together with the major developed markets, which currently represent their strongest trade connections in services.¹⁵ Committing to joint action to facilitate services trade would send a strong signal to the global economy, at a time when protectionist pressures in goods markets are on the rise in some important economies.

The Guiding Principles for Global Investment Policymaking, agreed in 2016 at the G20 trade ministers’ meeting in Shanghai, China, is an example of such efforts. The G20 would provide a framework for a joint commitment and at the same time reassure the BRICS that they would not be ‘giving up’ import access without getting export access in return. While imports of services are economically beneficial, in the political economy of trade, import penetration is often seen and experienced negatively.

This initiative is not designed to take away from the WTO as a multilateral forum for trade liberalization. But it takes stock of the fact that no major liberalization in services has been agreed since the formation of the WTO in 1995. Clearly, another approach is needed.

A variety of regional initiatives are taking place that explicitly or implicitly require effective liberalization of services policies.

For instance, ASEAN takes an alternative approach by setting liberalization targets for specific service sectors under the ASEAN Framework Agreement on Services.

¹⁵ The G20 is composed of: Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Republic of Korea, Russian Federation, Saudi Arabia, South Africa, Turkey, United Kingdom, United States, and European Union.

Negotiations every two years focus on setting the liberalization targets and on deciding on the pace of compliance. Thus, ASEAN members negotiate to add a number of sectors at each round following the ASEAN Economic Community blueprint. The implicit cases are perhaps the most interesting. Measures such as the ASEAN Master Plan on Connectivity and China's One Belt One Road initiative can only succeed if there is substantial liberalization of transport, logistics and telecommunications markets, in addition to work on trade facilitation and infrastructure.

To recapitulate, review of the data and issues suggests the following key recommendations:

1. **Disaggregate data.** Collect fully disaggregated (by subsector and by partner) data on services trade by GATS modes 1 and 2.
2. **Track sales by foreign affiliates.** Consider tracking sales by foreign affiliates, both inward and outward, to provide information on GATS Mode 3 trade.
3. **Implement regulatory impact assessment.** Implement regulatory impact assessment as a tool to promote effective and efficient regulation of services sectors. Improve transparency and efficiency through better domestic regulation and investment-facilitation measures.
4. **Reduce trade costs through G20 commitments.** Through the G20, work towards a multilateral commitment to facilitate trade in services by lowering trade costs by perhaps 5% in five years. The means of implementation is left up to individual countries, but is tracked using international data sources.
5. **Leverage regional initiatives on transport and connectivity,** such as those sponsored by ASEAN and China, to promote liberalization of key backbone services, such as transport, logistics and telecommunications.

Bringing together actions in these different areas will help set the BRICS countries on a course whereby their growing service economies can interface more effectively with global markets. This process is beneficial not only for services, by lowering prices and increasing variety and quality, but also for industries that use services—which include many export manufacturing subsectors.

Improving global services links can help countries become more tightly bound into GVCs, both in goods and in services, and can help them leverage the global economy to promote sustainable development objectives.

REFERENCES

- Chanda, R. (2013). Deepening Cooperation in Services among BRICS Members. In S. Mathur & M. Dasgupta (Eds.), *BRICS: Trade Policies, Institutions, and Areas for Deepening Cooperation*. Delhi: IIFT.
- Dee, P., 2011. 'Modelling the Benefits of Structural Reforms in APEC Economies', Chapter 2 in Asia-Pacific Economic Cooperation Policy Support Unit, *The Impacts and Benefits of Structural Reforms in the Transport, Energy and Telecommunications Sectors in APEC Economies*, 2011, http://trpc.biz/wp-content/uploads/2011-01_TRP_APEC_ImpactAndBenefitsOfStructuralReforms_Report.pdf
- Dihel, N., F. Eschenbach, and B. Shepherd. 2006. "South-South Services Trade." Trade Policy Paper No. 39, OECD. Eurostat, <http://ec.europa.eu/eurostat/en> <https://doi.org/10.1787/18166873>
- Ghani, E., and S. O'Connell. 2014. "Can Service be a Growth Escalator in Low Income Countries?" Policy Research Working Paper No. 6971, World Bank. <https://doi.org/10.1596/1813-9450-6971>
- Hoekman, B. 2016. "Services and Sustainable Development: A Conceptual Approach." Paper prepared for the ICTSD.
- Hoekman, B., & Shepherd, B. (2017). Services Productivity, Trade Policy, and Manufacturing Exports. [International Telecommunication Union data, www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx]. *World Economy*, 40(3), 499–516. <https://doi.org/10.1111/twec.12333>
- International Trade Centre, ITC Trade Map, www.trademap.org/Index.aspx
- Internet and Mobile Association of India. (2016). IMAI. Internet in India.
- Low, P., & Pasadilla, G. (2016). *Services in Global Value Chains: Manufacturing Related Services*. Singapore: World Scientific. <https://doi.org/10.1142/10073>
- McAfee and the Center for Strategic and International Studies (2014). Net Losses: Estimating the Global Cost of Cybercrime, www.mcafee.com/de/resources/reports/rp-economic-impact-cybercrime2.pdf
- Miroudot, S., Sauvage, J., & Shepherd, B. (2012). Trade Costs and Productivity in Services Sectors. *Economics Letters*, 114(1), 36–38. <https://doi.org/10.1016/j.econlet.2011.09.005>
- Miroudot, S., Sauvage, J., & Shepherd, B. (2013). Measuring the Costs of International Trade in Services. *World Trade Review*, 12(4), 719–735. <https://doi.org/10.1017/S1474745613000049>
- Miroudot, S., & Shepherd, B. (2014). The Paradox of 'Preferences': Regional Trade Agreements and Trade Costs in Services. *World Economy*, 37(12), 1751–1772. <https://doi.org/10.1111/twec.12178>
- OECD, Foreign Direct Investment Statistics: Data, Analysis and Forecasts, www.oecd.org/corporate/mne/statistics.htm
- OECD Services Trade Restrictiveness Index, www.oecd.org/tad/services-trade/services-trade-restrictiveness-index.htm
- OECD—WTO Trade in Value Added Database, www.oecd.org/industry/ind/measuringtradeinvalue-addedanoecd-wtojointinitiative.htm
- Statista, <http://de.statista.com/>
- Shepherd, B. (2016). Did APEC's Trade Facilitation Action Plans Deliver the Goods? *Journal of Asian Economics*, 43(C), 1–11. <https://doi.org/10.1016/j.asieco.2016.01.003>
- Time (2014). The world's top 5 cybercrime hotspots, <http://time.com/3087768/the-worlds-5-cybercrime-hotspots/>
- UN Comtrade Database, <https://comtrade.un.org/>
- UNCTAD FDI/TNC Database, <http://unctad.org/en/Pages/DIAE/FDI%20Statistics/FDI-Statistics.aspx>
- UNCTAD's Global Cyberlaw Tracker, http://unctad.org/en/Pages/DTL/STI_and ICTs/ICT4D-Legislation/eCom-Cybercrime-Laws.aspx
- UNESCO UIS Statistics, <http://data.uis.unesco.org>
- World Bank, Enterprise Surveys, www.enterprisesurveys.org/

World Bank, Global Index, www.worldbank.org/en/programs/globalindex

World Bank, World Development Indicators, <http://data.worldbank.org/data-catalog/world-development-indicators>

World Tourism Organization. (2016). Yearbook of Tourism Statistics dataset [Electronic]. Madrid: UNWTO.

World Tourism Organization. (2016). Compendium of Tourism Statistics dataset [Electronic]. Madrid: UNWTO.

World Trade Organization, Measuring GATS Mode 4 Trade Flows, 2008, www.wto.org/English/res_e/reser_e/ersd200805_e.pdf

World Trade Organization, World Trade Statistical Review 2016, 2016, www.wto.org/english/res_e/statis_e/wts2016_e/wts16_toc_e.htm



Street address
International Trade Centre
54-56 Rue de Montbrillant
1202 Geneva, Switzerland

P: +41 22 730 0111
F: +41 22 733 4439
E: itoreg@intracen.org
www.intracen.org

Postal address
International Trade Centre
Palais des Nations
1211 Geneva 10, Switzerland

The International Trade Centre (ITC) is the joint agency of the World Trade Organization and the United Nations.