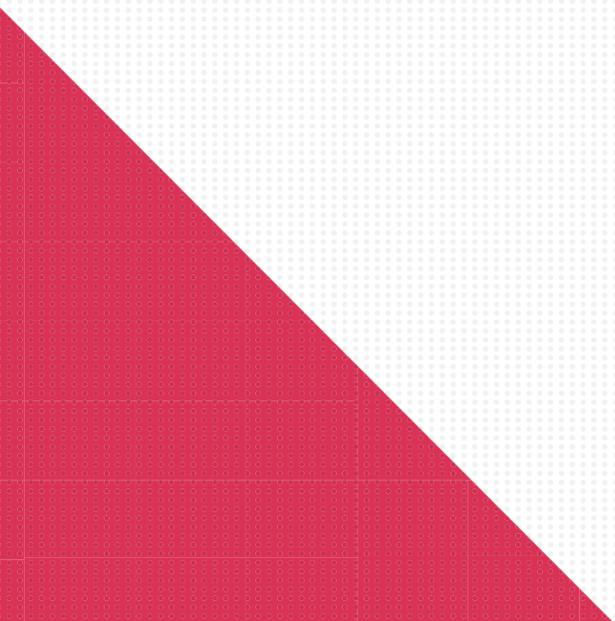


BRICS 2017

THE ROLE OF **BRICS** IN THE
WORLD ECONOMY
& INTERNATIONAL
DEVELOPMENT





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BRICS 2017

THE ROLE OF **BRICS** IN THE WORLD ECONOMY & INTERNATIONAL DEVELOPMENT

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EXECUTIVE SUMMARY

1. Brazil, Russia, India, China and South Africa (collectively the BRICS countries) constitute over 40% of the global population and their combined economic weight in 2015 equaled almost a third of the global Gross Domestic Product in PPP terms (or roughly the same as the G-7 countries). The BRICS are emerging as a new centre of gravity in the international economic system.
2. The emergence of a multipolar world in which the BRICS have become and are likely to continue to be the central source of economic dynamism is an event of historical significance. The BRICS accounted, on average, for an impressive 56% of the growth of global GNP (at 2005 \$PPP) during 2008-17. The BRICS are expected to continue to account for more than half of global economic growth through 2030.
3. The BRICS share of world trade has nearly tripled over the last twenty years. BRICS imports and exports have continued to grow even in a context of shrinking world import and export totals (2008-16). Connectivity among the BRICS and between the BRICS and other Emerging Market and Developing Countries (EMDCs) has also increased, through enlarged trade and investment.
4. The BRICS contribution to global economic growth through 2030 is expected to be higher if investment rates within BRICS countries increase. Faster BRICS growth will lead to higher growth rates in all countries, especially EMDCs.
5. The BRICS contribution to world poverty reduction has been sizeable. Continued BRICS growth remains important for poverty reduction as well as for reducing international inequalities.
6. BRICS activities to promote other global development goals can also be of substantial importance. BRICS development cooperation and actions to reshape the global economic system so that it is more supportive of EMDCs can play an important role in expressing BRICS commitment to international development, alongside the role of BRICS trade and investment in propelling economic growth.
7. The BRICS can play an important role in enabling the better provision of global public goods (GPGs), which affect shared economic, social and environmental circumstances. Many under-provided GPGs are of great importance for EMDCs in particular but are of concern to all countries.
8. There is a need for new global governance arrangements that can be more conducive to growth and development. These arrangements include reserve pooling, the strengthening of alternative reserve currencies, new multilateral development banks and new principles for the governance of sovereign debt, among others.
9. The growing contribution of the BRICS to the world economy and the rising importance of the economic relations between the BRICS and other EMDCs create an opportunity for new initiatives that would better help to support sustainable and inclusive growth and development. For example, measures to strengthen alternative reserve currencies are made possible by the increased economic ties. The BRICS can also support pathways for sustainable and inclusive development with conscious and strategic initiatives.
10. The BRICS offer a new multilateralism that can help to advance global economic and social development. Cooperation to achieve common goals, both among the BRICS and between the BRICS and others, is likely to be a key feature of international development in the coming decades.

THE **BRICS** AND THE WORLD ECONOMY: NEW DYNAMICS

The growing importance of the BRICS countries as contributors to the world economy and to international development in recent decades, combined with their existing economic, political and demographic importance, has set in motion new dynamics.

The BRICS contribution to the world economy and to international development takes and will take three concrete forms. The first is as an engine of the world economy, providing a considerable and growing portion of the demand and supply of goods and services, as well as a growing portion of the financial resources and the solutions to problems needed for common progress. The second is to fill gaps, playing a greater role in providing investment and knowledge. The third is to enable important global goals to be advanced by bringing BRICS common and coordinated actions to bear.

Almost a third of world real income, more than half of world real economic growth, almost a fifth of world trade and 40% of the world population are accounted for by the BRICS. Sections 3A and 3B of this report document these and related facts and present projections to 2030 based on a suitable economic model. The BRICS are expected to remain the primary source of world economic dynamism, with prospects for the rest of the world being raised by greater investment and growth in the BRICS. Although recent economic statistics are profiled, the emphasis of the empirical survey is on viewing the growing importance of the BRICS and of the EMDCs more generally as an historical process in which their rise, relative to other economies, may be expected to extend still further over the intermediate and long term. This shift will have the effect of fundamentally reshaping the structure and the dynamics

of the world economy, but potentially to the mutual benefit of all countries.

The BRICS are an important grouping for understanding the prospects for other EMDCs, not merely because of their role in the global economy, but because of the importance of the economic links they possess with each other and with other EMDCs. BRICS' prospects for exerting a joint influence on the world are matters of broad concern, especially to EMDCs. Along with other EMDCs, the BRICS have long pressed for more balanced arrangements for the governance of the international economic system. In particular they have advocated for a framework for growth and development that promotes the interests of the populations of EMDCs and more fully respects the role of national sovereignty and the objectives of development when making policy choices. The report thus examines possible innovative economic and financial arrangements that may better serve the interests of the BRICS, EMDCs and the world.

The potential contribution of the BRICS to the production of GPGs that are crucial for the well-being of world society is also important. The report makes the case that the BRICS are well positioned to make such a contribution to these goods that affect shared concerns. It is the nature of public goods that they will likely be under-provided if a sufficient number of actors do not consciously coalesce to provide them on an adequate scale. By taking joint initiatives the BRICS can help to ensure that such goods are better provided.

The report also considers the present as well as prospective BRICS contribution to international development, with special reference

to the 2030 Agenda for Sustainable Development. It describes the growing BRICS contribution to international development efforts through a variety of means. It recognises that these contributions can involve both internal and external efforts. In both cases, the BRICS can benefit from mutual coordination that makes their efforts more substantial and more effective. BRICS efforts to attain forms of growth and development within themselves that are inclusive and ecologically sustainable are valuable both for their own importance and because they provide useful examples as well as practical benefits for other EMDCs. Supportive measures for such a pattern of development already being undertaken by the BRICS include infrastructure and sustainable development investments via the New Development Bank (NDB). However, there is more scope for such initiatives. The BRICS can influence the development of new technologies, for instance through joint research and investment vehicles. In addition, the BRICS can jointly advocate for specific reforms of the international economic system to make it more supportive of the development goals of EMDCs generally.

The report provides a portrait of the sizable existing BRICS contribution to the world economy and to international development, and notes that it is likely to continue to grow. The report also explores ways to make that contribution more effective.

THE **BRICS** AS A NEW CENTRE OF GRAVITY FOR SUSTAINABLE AND EQUITABLE GLOBAL DEVELOPMENT

A \ THE **BRICS** ROLE IN THE WORLD ECONOMY

I. INTRODUCTION

This part of the report surveys past and current trends in the global economy and presents projections through 2022 and 2030. The focus will be on the performance of the BRICS and their projected collective contribution to the future trends of key economic variables such as GNP¹, consumption and domestic investment. It will be shown not only that the BRICS have together begun to play the leading role in the 'global growth story' but also that it is realistic to anticipate that they can continue to act as an engine of global growth, boosting the prospects for other EMDCs and for Developed Countries as well.

This part of the report first delineates historical trends in GNP per capita and shares of global GNP over the last thirty years (between 1988 and 2017). Then it presents projections for the next five years (to 2022) and for the eight subsequent years (to 2030). Such projections constitute what is called a 'Business as Usual' Scenario

since they assume no major changes in the current pattern of economic and development policies across the globe. Hereafter this scenario will be referred to as the 'Baseline Scenario'.

After surveying these results, the section will frame an 'Alternative Policy Scenario' that is based on the stipulation that financing of infrastructure and sustainable development projects across EMDCs is increased. This is assumed to happen as a result of both public initiative and private investment in which the BRICS play a leading role. The Alternative Policy Scenario attempts to project, in effect, the likely outcomes from an increase in strategic investments in EMDCs led by the BRICS. It attempts to assess the impact of carrying out a BRICS initiated and EMDC oriented investment program through 2030. Like the Baseline Scenario, the Alternative Policy Scenario is used to project 'medium-term' results for the periods 2018-2022 and 2023-2030.

¹ Income of individual countries is here measured by the purchasing power of GNP as evaluated in 2005 PPP dollars in order to make meaningful comparisons across countries and through time. This purchasing power measure is different from GDP in that it takes account of net income transfers to and from a country (and thus the impact of terms of trade movements, including changing prices of oil and primary commodities relative to those of manufactures and services, on the goods and services that each country could consume or invest).

The projection of future economic trends through 2022 and 2030 has been undertaken through the use of a macroeconomic model. This model has been explicitly designed to make medium-

term projections for major economies and groupings of economies. See **Box A.1** for a brief explanation of the model.

BOX A.1 \ OVERVIEW OF THE MACROECONOMETRIC MODEL

Over the last decade, variants of the CAM (Cambridge-Alphametrics) model have been used by the United Nations Development Programme, the UN Department for Economic and Social Affairs and, most recently, UNCTAD (the United Nations Committee for Trade and Development). This effort was begun in 2007 by the International Poverty Centre, which is based in Brasilia and has been supported by both the United Nations Development Programme and the Brazilian Government (Cripps, Izurieta and McKinley 2007). The CAM has also recently been used extensively in two sizeable FP7 European Commission research projects (AUGUR and FESSUD), both of which covered Emerging Economies though they were focused on economic trends in Europe (see Eatwell, McKinley and Petit 2014 for AUGUR; McKinley 2016 for FESSUD).

The original framework of the CAM was developed at the Cambridge Economic Policy Group in the 1970s (see Cripps and Godley 1976 and Godley and Cripps 1983). The model remains distinctive in refraining from artificially (and unrealistically) assuming market-clearing equilibrium. See Cripps and Izurieta 2014 for a thorough, in-depth description of the CAM's sister model, the GPM (United Nations Global Policy Model), which continues to be employed by UNCTAD. Among a number of its important strengths, the CAM has strong empirical foundations since its projections are based on an extensive world databank (CAM

WD) that contains a large number of historical data series for all countries of the world from 1970 to the current year.

These data include such items as trade flows, macroeconomic aggregates, financial stocks and flows, demographic and employment data, energy and CO₂ emissions, and price indices. Such data are directly sourced from international organisations such as the World Bank, the IMF, the UN Statistics Division and the UN Population Division. The original data series have been subjected to checks, revisions and, in some cases (where there are missing or erroneous data), re-estimation before their inclusion in the databank. In particular, data are adjusted to ensure accounting consistency for each country and for the world as a whole.

Through utilization of such a databank, CAM-generated simulations produce detailed macroeconomic projections. Its simulations can be used to examine the likely future paths of the global economy under a range of differing assumptions about trends, shocks and policies. However, developers of the CAM emphasise that the model is not intended to make 'predictions' about the future per se, but instead is a tool that is best suited for exploring alternative policy-generated scenarios based on an internally-consistent accounting system and empirically-grounded behavioural relationships.

1.1 HISTORICAL GROWTH RATES OF GNP PER CAPITA

Table 3.A.1 presents the growth rates of GNP per capita for the World, for the BRICS, and for five other subgroups of economies during the three consecutive ten-year historical periods spanning the last thirty years (1988-1997, 1998-2007 and 2008-2017). The last two periods approximately coincide with the earlier historical period of heightened growth for EMDCs and the BRICS in particular (namely, 1998-2007) and with the later period defined by the repercussions of the global economic crisis of 2007-08 (namely, 2008-2017).

This historical background information lays the basis for a comparison with future projected trends in GNP per capita for the five-year period through 2022 and the remaining eight-year period through 2030.

As emphasised earlier, the CAM's comparative strength involves projections of such medium-terms trends, and not short-run changes.

For purposes of reporting the modelling results, Developed Countries are disaggregated into the USA, Europe² and Other Developed Countries (such as Japan, Australia and the Republic of Korea). Emergent Market Countries are disaggregated into the BRICS and a remaining group³. Lastly, all remaining lower-income countries belong to the Developing Countries category. These categorisations are broadly consistent with widely used classifications of economies⁴.

² Europe here includes all EU and non-EU countries in Europe as defined by the UN Statistics Division (except former USSR states such as Belarus, Moldova, Ukraine, Armenia and Azerbaijan, which are included by the UN in the Eastern Europe subregion).

³ The report follows the IMF classification in referring to the Emergent Market Countries within the Emerging Market and Developing Country (EMDC) category, although the term used in other applications of the CAM model has differed.

⁴ For the 30 large countries modelled individually in CAM simulations, the 'Developed Countries' group corresponds to the World Bank's 'High Income' category; the 'Emerging Countries' group broadly corresponds to the World Bank's 'Upper and Lower Middle Income' categories; and the 'Developing Countries' group corresponds to the World Bank's 'Lower Income' category. Any minor discrepancies with World Bank categories result from the fact that the CAM modelling exercise aggregates relatively small countries primarily according to their world region. Thus small countries are classified as part of the Emerging Countries grouping or the Developing Countries grouping according to the region to which they belong.

TABLE 3.A.1 \ HISTORICAL ANNUAL GROWTH RATES OF GNP PER CAPITA (%) (2005 \$PPP)

	1988-1997	1998-2007	2008-2017
World	1.4	2.8	1.7
USA	2.0	2.0	0.7
Europe	1.8	2.3	0.6
Other Developed Countries	2.5	1.8	0.8
BRICS	2.1	6.7	5.4
Other Emerging Countries	1.5	3.2	1.1
Developing Countries	0.3	2.5	2.7

Data Source: CAM World Databank (WD)

As can be seen from **Table 3.A.1**, at the global level, GNP per capita was growing at only about 1.4% during the earliest 10-year historical period, namely, 1988-1997. But during 1998-2007, this rate rose dramatically, to 2.8%. The BRICS clearly led this upsurge, averaging 6.7% growth during this period. The contrast with the earlier period (1988-1997), during which BRICS growth was only 2.1%, highlights how the BRICS began to emerge as a major global economic force (indeed, the most dynamic grouping in the world economy) just before 2000.

As is well known, however, the global economy was suddenly stunned by a traumatic global financial crisis in 2008 that was centred in the USA and Europe and the adverse effects of which have persisted through 2017. As a result, and perhaps also for reasons connected to the recent 'secular stagnation' of Developed Countries, the global growth rate of GNP per capita has dropped sharply, to about 1.7% during 2008-2017. For instance, Europe has grown by only 0.6% and the USA by a mere 0.7%.

The BRICS have remained one of the few major engines of economic growth during this protracted global crisis. During 2008-2017 their combined growth rate has been 5.4%. The two largest BRICS, namely, China and India, have been the most noteworthy in this respect. China's average growth rate has been an extraordinary 7.7% while India's has been 5.3%. As a result, the BRICS accounted, on average, for an impressive 56% of the growth of global GNP (at 2005 \$PPP) during 2008-2017⁵. In contrast, the Developed Countries accounted for only 22% of the growth in global GNP over this period.

⁵ It is important to note that when market exchange rates are used, different quantitative results arise, although trends are broadly similar. The proportion of global growth contributed by the BRICS is around 40% for the same period when constant (2005) market exchange rates are used.

The growth statistics for the longer 20-year period lasting from 1998 to 2017 showcase the rise of the BRICS to a central position in the 'growth dynamic' of the global economy. **Table 3.A.2** documents the accompanying historical changes in the shares of World GNP (in 2005 \$PPP terms) for each bloc of countries for the years 1997, 2007 and 2017.

It shows that the share of the USA in World GNP has declined, for example, by almost 5 percentage points—from 23% in 1997 to 18.2% in 2017. Europe's share has declined more sharply, namely, from 27% to 19.1%. Meanwhile, the share of global GNP accounted for by the BRICS alone has roughly doubled over the last 20 years, from 15.4% in 1997 to 30.4% in 2017. This doubling in such a short period has represented an unprecedented change in the global balance of economic power.

However, over the same period, there have been only small changes in the shares of Other Emerging Market Countries and lower-income Developing Countries. The share of Developing Countries rose significantly but from a very low starting point; they still account for only a little over 3% of World GNP in 2017 (2005 \$PPP). And the share of Other Emerging Countries has risen only marginally in 2017 to 18.4% from 17.7% in 1997.

TABLE 3.A.2 \ HISTORICAL SHARES OF WORLD GNP, 1997-2017 (% 2005 \$PPP)

	1997	2007	2017
World	100.0	100.0	100.0
USA	23.0	20.8	18.2
Europe	27.0	23.3	19.1
Other Developed Countries	14.5	12.5	10.8
BRICS	15.4	21.9	30.4
Other Emerging Countries	17.7	18.9	18.4
Developing Countries	2.4	2.6	3.2

Data Source: CAM World Databank (WD)

II. PROJECTIONS FROM A BASELINE SCENARIO

II.1 PROJECTED GROWTH RATES OF GNP PER CAPITA

Medium-Term Baseline projections of the growth rate of GNP per capita for the period through 2030 are now presented for the Baseline Scenario, which assumes no major changes in economic policies globally or in particular countries. Future trends are assumed to follow historical trends⁶.

In contrast, the Alternative Policy Scenario to be highlighted later in this section incorporates explicit changes in economic policies (particularly those that might affect the level and pattern of investment) that could help further boost the shares of GNP for EMDCs⁷.

This section of the report presents projected results for two future periods, namely, the five-year period of 2018-2022 and the remaining eight-year period of 2023-2030. **Table 3.A.3** compares these results to those for the most recent historical period, namely, 2008-2017. It is difficult to make strong causal inferences in a complex model that incorporates diverse forms of interdependence between economic variables, so the focus below is on reporting more than on explaining the projections.

⁶ Consistency between variables is maintained by tracking the ongoing impact of trend developments on established behavioural relationships and by constraining projected outcomes to comply with all accounting identities.

⁷ Once again the simulated outcome would be consistent with established behavioural relationships (except where changes are assumed explicitly) and it would comply with all accounting identities. Results would reflect the full effects of changed assumptions on countries and on the relations between them across the global system.

TABLE 3.A.3 \ HISTORICAL AND PROJECTED ANNUAL GROWTH RATES OF GNP PER CAPITA (%) (2005 \$PPP)

	2008-2017	2018-2022	2023-2030
World	1.7	2.4	2.5
USA	0.7	1.4	1.3
Europe	0.6	1.5	1.8
Other Developed Countries	0.8	1.2	1.4
BRICS	5.4	4.7	4.5
Other Emerging Countries	1.1	2.8	2.8
Developing Countries	2.6	2.5	2.9

Data Source: CAM World Databank (WD) and Baseline Scenario

In the absence of any new source of economic dynamism, growth across Developed Countries is projected to remain relatively slow. For example, growth in the USA would dip slightly, from 1.4% during 2018-2022 to 1.3% during 2023-2030 and growth in Europe and Other Developed Countries would rise only modestly. The growth rate of the BRICS combined (and of China and India in particular) is projected to slow slightly. Nevertheless, the BRICS as a group would still lead the world in terms of per capita income growth and China and India are projected to maintain annual GNP per capita growth in excess of 5% throughout the period to 2030.

The per capita GNP growth rate in Other Emerging Economies would remain the same, at 2.8%, over both periods, 2018-2022 and 2023-2030. Growth of GNP itself in Developing Countries is expected to reach 5% but per capita GNP would grow at 2.9% during 2023-2030 given high population growth.

BRICS GNP per capita growth of 4.5% in 2023-2030 would be well above the projected growth rate of the world economy as a whole and the BRICS would still contribute around 50% of the global increase in GNP.

As was done in **Table 3.A.2**, **Table 3.A.4** lists the share of World GNP anticipated to be accounted for by six subgroups of economies based on projections for 2022 and 2030. For example, the USA's share of World

GNP in 2005 \$PPP terms is expected to decline between 2017 and 2030 from 18.2% to 15%. Similar declines are expected for Europe and Other Developed Countries, with the largest drop, 3.8 percentage points, occurring for Europe.

In contrast, the share accounted for by the BRICS would move up further to 37.7% by 2030, from 30.4% in 2017. Over the same period, there would also be small increases in the shares for other EMDCs. These results represent a continuing and cumulatively significant re-alignment in the balance of economic power away from Developed Countries and towards EMDCs.

II.2 PROJECTED TRENDS IN CONSUMPTION PER CAPITA

Trends in a number of key economic variables are now briefly examined, partly as a basis for understanding previously highlighted trends in the growth of GNP per capita and the changes in shares of World GNP. The exposition starts with a brief examination of growth rates of consumption per capita across our country groupings. Increases in consumption per capita are important not only as a basis to boost aggregate demand and thus to enhance output, employment and growth, but also as a direct contribution

TABLE 3.A.4 \ PROJECTED SHARES OF WORLD GNP, 2017-2030 (% 2005 \$PPP)

	2017	2022	2030
World	100.0	100.0	100.0
USA	18.2	17.0	15.0
Europe	19.1	17.5	15.3
Other Developed Economies	10.8	9.8	8.5
BRICS	30.4	33.4	37.7
Other Emerging Economies	18.4	18.9	19.6
Developing Economies	3.2	3.5	3.9

Data Source: CAM World Databank (WD) and Baseline Scenario

to human well-being, especially in EMDCs.

Consumption per capita is reported in 2005 \$PPP terms. For the sake of simplicity of presentation, **Table 3.A.5** sketches projected trends in this variable for 2018-2030 compared to the most recent historical trends, namely, for 2008-2017. For example, the growth rate of consumption per capita is projected to rise across Europe due to an improvement in growth of per capita GNP. But the consumption growth rate would not increase in the USA or Other Developed Countries where the projected improvements in per capita GNP growth are more modest.

It is notable therefore that the rate of growth of per capita consumption in Developed Countries as a group would remain fairly low, and thus would exert only a marginal impact on global economic growth.

However, in EMDCs growth of consumption per capita is projected to remain fairly high. These countries would be the main drivers of increases in consumption at the world level, providing thereby a stimulus for trade and investment. For example, in Other Emerging Countries (but not the BRICS), the growth rate of consumption per capita is projected to increase substantially, i.e., from 1.6% during 2008-2017 to 2.8% during 2018-2030. Contrastingly, in the

TABLE 3.A.5 \ HISTORICAL AND PROJECTED GROWTH RATES OF CONSUMPTION PER CAPITA (%) (2005 \$PPP)

	2008-2017	2018-2030
World	1.6	2.4
USA	0.7	0.5
Europe	0.4	1.1
Other Developed Countries	0.8	0.7
BRICS	5.7	5.6
Other Emerging Countries	1.6	2.8
Developing Countries	3.0	2.7

Data Source: CAM World Databank (WD) and Baseline Scenario

BRICS the growth rate of consumption per capita would be almost unchanged, averaging 5.6% over the projected period. But this rate would still be well above the rate in other groupings.

The projected dip in the growth of per capita consumption in low-income Developing Countries, namely, from 3% to 2.7%, reflects slightly lower projected GNP growth in comparison to its trend in 2008-17. Although growth of per capita consumption would remain above the global average in this group of countries, there would be a need for the growth rate in these countries to accelerate, not to decrease, in order to promote meaningful poverty reduction and more inclusive growth

11.3 PROJECTED TRENDS IN INVESTMENT AS A RATIO OF GDP

Future trends in investment, which are a powerful determinant of economic growth, are now examined. The projections focus on non-government investment spending, which includes investment by state enterprises as well as private and foreign-owned corporations and households⁸.

Table 3.A.6 reports levels of this variable for 2017, 2022 and 2030. Investment as a ratio of GDP is projected to increase progressively but modestly across Developed Countries through 2030. In Europe, for example, it is expected to rise by 3.7 percentage points, from 18.4% in 2017 to 22.1% in 2030.

TABLE 3.A.6 \ PROJECTED (NON-GOVERNMENTAL) INVESTMENT SPENDING (% OF GDP)

	2017	2022	2030
World	23.9	24.6	24.8
USA	17.7	19.0	20.1
Europe	18.4	20.4	22.1
Other Developed Countries	21.6	23.0	24.4
BRICS	33.2	31.9	29.9
Other Emerging Countries	22.2	22.5	22.4
Developing Countries	20.7	19.5	18.8

Data Source: CAM Baseline Scenario

In the BRICS as a group, however, this investment ratio is projected to decline somewhat, although it is expected to remain relatively high, at about 30 percent of GDP. The investment ratio in Other Emerging Countries is projected to remain about the same over the whole period of 2017-2030, i.e. just above 22%. But the corresponding ratio in poorer Developing Countries is expected to fall noticeably (to 18.8% in 2030 from 20.7% in 2017).

Thus, although the investment level of the BRICS is projected to remain fairly high (namely 30% or above), the relative stagnation or marginal declines in all three groups of EMDCs should be of concern since higher levels of investment are needed in many countries in order to accelerate development. This problem is explicitly addressed below as an important element of framing an Alternative Policy Scenario.

⁸ The CAM model does not distinguish spending on fixed capital and inventories from other central and local government spending on goods and services. The main reason is that this component of government spending is not separately identified for many countries in published international statistics. Also, it is a relatively small component of total investment in most countries for which figures are readily available. The model uses UN System of National Accounts definitions. Investment refers to gross capital formation and does not include household purchases of durable goods.

II.4 PROJECTED TRENDS IN SAVINGS AS A RATIO OF GDP

How do investment levels compare to levels of savings across economies? Savings are a basis for financing investment but if they are excessive, they could also exert a dampening influence on economic growth. **Table 3.A.7** lists Total Non-Governmental Savings as a Ratio to GDP for our six subgroups for 2017, 2022 and 2030. This statistic includes savings in the corporate sector as well as savings by households.

TABLE 3.A.7 \ PROJECTED NON-GOVERNMENTAL SAVINGS (% OF GDP)

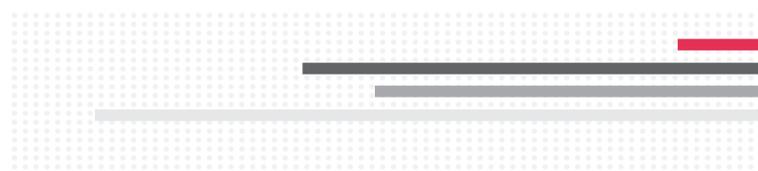
	2017	2022	2030
World	26.9	27.6	27.8
USA	18.6	21.4	25.1
Europe	22.4	23.2	24.8
Other Developed Countries	28.2	28.2	30.2
BRICS	36.0	35.7	33.0
Other Emerging Countries	25.1	23.9	22.8
Developing Countries	20.2	19.2	19.0

Data Source: CAM Baseline Scenario

As a group, the BRICS are *not* expected to experience a large decline in non-governmental savings. But the ratio of their savings to GDP is still projected to drop from 36% in 2017 to 33% in 2030. Modest drops from relatively high levels are projected in both China and India along with a countervailing increase in savings from a fairly low level in Brazil as its GDP growth resumes. In Other Emerging Countries the savings ratio is estimated to decline from 25.1% in 2017 to 22.8% in 2030. There would also be a modest decline in the savings ratio in lower-income Developing Countries.

Thus, through initiatives such as the NDB and other institutional sources of investment financing, the BRICS and other development partners could play a valuable role in promoting finance for development in such economies. Comparisons between investment ratios in **Table 3.A.6** and savings ratios in **Table 3.A.7** suggest that the BRICS as a group might continue to exhibit an excess level of non-governmental savings compared to the level of non-governmental investment, stimulating them to contribute to the financing of infrastructure and productive business activities in other countries with growth potential.

The general picture is that the savings ratio is projected to increase across the USA, Europe and Other Developed Countries while it is projected to decline across the BRICS and other EMDCs as the share of consumer spending in income is expected to increase in these last three groupings.



III. OUTCOMES FROM THE ALTERNATIVE POLICY SCENARIO

In this section some of the key outcomes from modelling the effects of the Alternative Policy Scenario are presented. The chief hypothesis for this scenario is a significant increase in global infrastructure investment, which is stimulated by policy initiatives in EMDCs, especially among the BRICS.

The core 'ex ante' assumption in the CAM's modelling in this instance is a long-term debt-financed increase in non-governmental investment. This increase is spread across the BRICS and Other EMDCs, building up gradually to a higher level in the mid-2020s and being sustained thereafter into the 2030s by support for investment from new efforts and policies at the national and international level aimed at the achievement of the SDGs, including energy saving and development of non-carbon energy sources. The annual value of the ex ante stimulus is assumed to rise to 1.25% of world non-government investment. It is assumed to be accompanied by increases in domestic saving and inflows of Foreign

III.1 PROJECTED INCREASES IN DOMESTIC NON-GOVERNMENTAL INVESTMENT: ALTERNATIVE POLICY SCENARIO

Table 3.A.8 reports on the projected levels of non-governmental investment spending as a percent of GDP for 2030—first under the assumptions of the Baseline Scenario and then under the assumptions of the Alternative Policy Scenario. The last column reports on the percentage point differences between the two Scenarios for 2030.

The first row reports that global non-governmental investment spending as a ratio of global GDP is projected to be 24.8% in 2030 according to the Baseline Scenario. However, under the Alternative Policy Scenario, this ratio is projected to rise to 26%. The increase in investment as a share of GDP is reflected in corresponding reductions in the share of consumer and government spending on goods and services, but since GDP itself would be significantly higher in this scenario, all categories of expenditure would exhibit some gains.

The most substantial increase in investment spending as a ratio of GDP is projected to occur in the BRICS. This increase would be 1.9 percentage points, and would have a significant impact on the global investment rate in 2030. In fact, BRICS non-governmental investment as a share of the global total is projected in the Alternative Policy Scenario to rise to almost 56% by 2030 as compared with 51% under the Baseline Scenario.

Direct Investment (FDI) from BRICS members as well as Developed Countries. The investments that result are assumed to give rise to some redirection of trade in proportion to the participation of different countries in the stimulus program, with this knock-on effect rising to a maximum value of 1.5% of their bilateral trade in industrial products.

The outcomes from making these assumptions are modelled with full iteration of indirect and lagged effects that generate further investment, as well as growth of trade and income flows in which the US, Europe and other Developed Countries share. From the perspective of Developed Countries, the benefits of the faster growth of world markets is projected to outweigh any effects of trade redirection as well of the outflow of FDI to EMDCs that have higher rates of GDP growth. These consequences are endogenous to the model; namely, they are not imposed by *ex ante* assumption.

This significant investment push is assumed to take place through both independent national policy efforts and coordinated international efforts seeking to increase the pace and scope of infrastructure development, based on long-term finance from commercial banks and financial markets as well as development banks and international institutions, including new ones such as the NDB and the Asian Infrastructure Investment Bank (AIIB). The focus of the additional investment is on the BRICS and Other EMDCs which have higher long-term growth potential, rather than on slower-growing Developed Countries, where rates of return on investment would be lower.

TABLE 3.A.8 \ PROJECTED NON-GOVERNMENTAL INVESTMENT SPENDING (% OF GDP)

	2030 Baseline	2030 Alternative	Difference % Points
World	24.8	26.0	1.2
USA	20.1	20.4	0.3
Europe	22.1	22.4	0.3
Other Developed Countries	24.4	24.8	0.4
BRICS	29.9	31.8	1.9
Other Emerging Countries	22.4	23.3	0.9
Developing Countries	18.8	20.0	1.2

Data Source: CAM Baseline Scenario and Alternative Policy Scenario

Across Developed Countries—namely, the USA, Europe and Other Developed Countries—the differences in investment as a percent of GDP between the outcomes for the two scenarios are projected to be relatively small, namely, 0.3-0.4 percentage point. But there would also be a benefit for these countries in the Alternative Policy Scenario as a result of enhanced global growth.

What is crucial is that other EMDCs would benefit significantly in this scenario. For Other Emerging Countries, the Alternative Policy Scenario would raise the investment to GDP ratio by 0.9 of a percentage point. In Developing Countries, the gain in investment spending as a ratio of GDP would be 1.2 percentage points—similar to the average gain at the global level. Hence, under the assumptions of the Alternative Policy Scenario, increases in non-governmental investment spending would be most prominent across EMDCs as a whole.

III.2 PROJECTED GROWTH RATES OF GNP PER CAPITA: ALTERNATIVE POLICY SCENARIO

In the previous section, the levels of investment through 2030 have been compared between the Alternative Policy Scenario and the Baseline Scenario. Rates of growth of GNP per capita for both scenarios are now examined. These results are recorded in **Table 3.A.9**.

The Alternative Policy Scenario generates a projected overall global growth rate of 2.8% for GNP per capita for 2023-2030. This outcome is a notable improvement on the projected global growth rate of 2.5% for the same period under the Baseline Scenario. There would be a net global increase of 0.3 percentage point under the Alternative Policy Scenario. This increase to 2.8% would represent, in fact, a significant boost at the global level—especially when it is compared to the relatively slow world growth rate of only 1.7% during the current period of 2008-2017.

Table 3.A.9 shows that the most significant gains in the growth of GNP per capita would be located in the BRICS and other EMDCs. However, it is crucial to note that every grouping of countries would benefit from the BRICS-led Alternative Policy Scenario. Projected gains would range from 0.3 percentage point for Other EMDCs to 0.6 percentage point for the BRICS themselves.

There would be smaller indirect gains in Developed Countries under the Alternative Policy Scenario. For example, the percentage-point difference between the Baseline Scenario and the Alternative Policy Scenario would range between only 0.1 and 0.2 percentage point for the USA, Europe and Other Developed Countries. In other words, these groupings would be marginal indirect beneficiaries of the assumed stimulus to the BRICS and Other EMDCs.

TABLE 3.A.9 \ PROJECTED GROWTH RATES OF GNP PER CAPITA (% PER ANNUM, 2005 \$PPP)

	2023-2030 Baseline	2023-2030 Alternative	Difference % Points
World	2.5	2.8	0.3
USA	1.3	1.4	0.1
Europe	1.8	2.0	0.2
Other Developed Countries	1.4	1.5	0.1
BRICS	4.5	5.1	0.6
Other Emerging Countries	2.8	3.1	0.3
Developing Countries	2.9	3.2	0.3

Data Source: CAM Baseline Scenario and Alternative Policy Scenario

IV. CONCLUSION

The Baseline Scenario to 2030 suggests that the BRICS as a group would maintain or increase their role in global development, despite some disruptions in recent years. High growth rates achieved by the BRICS and several Other EMDCs before 2008—and to a large extent maintained through the subsequent period when Developed Countries experienced major slowdowns—have recently begun to moderate. Nevertheless, BRICS as a group can still be expected to maintain per capita growth of 5% p.a. or more. This BRICS momentum would provide some support for growth in Other EMDCs, which have become increasingly dependent on them.

The Alternative Policy Scenario helps to highlight the stronger role that the BRICS could potentially play in advancing investment-led economic growth, not only among themselves but also throughout the EMDCs and indeed across the global economy.

Gains for all groupings of countries would be achieved not only through the indirect stimulus effect of increased levels of domestic investment in the BRICS themselves but also through the assumed increase in international flows of Net Direct Investment from the BRICS to other EMDCs.

It is through both of these channels that new global strategic initiatives, such as the BRICS-led NDB and a potentially wide range of complementary regional and international development vehicles, could play a constructive role. It can be hoped, moreover, that the backing for such an explicit investment strategy would encourage other similar initiatives that would be supportive of inclusive and sustainable economic development.

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B \ TRADE AND INVESTMENT INTEGRATION WITHIN AND BEYOND THE **BRICS**

I. INTRODUCTION

The participation of EMDCs in the world economy has been growing according to various measures, including their shares of trade and investment.

Trade and investment policies must be considered from the perspective of how they affect prospects for development broadly conceived⁹. The analysis of each trade or investment policy should address a number of concrete questions: How does the policy affect opportunities for different segments of the population, recognising the present profile of skills? How will it affect technological progress and structural change? How will it affect the international balance of payments? Economic policies should promote conditions of production consistent with goals of full employment, technological progress, and sustainable development over time. A healthy development process will foster conditions of production responsive to the following goals, among others:

1. Ensuring employment or livelihoods of a high quality for all segments of the population
2. Fostering productivity growth and structural change conducive to long-term development
3. Respecting the conditions of economic and environmental sustainability

There may be trade-offs among those goals. For example, productivity increases and employment gains can be in tension, as has been evident in manufacturing worldwide in the last two decades. Such trade-offs should be analysed and addressed as part of development policy.

This section focuses on the recent evolution of trade and investment flows and examines how BRICS participation has been evolving, so as to provide an empirical backdrop for reflection on these broader questions. It analyses how trade and investment flows among EMDCs, and in particular involving the BRICS, have been increasing relative to global flows. A survey of recent trends shows that the core-periphery conception that has long dominated, or at least influenced, the understanding of the global geopolitical system has lost traction. This opens opportunities for EMDCs to play a more active role in the determination of global policies, to participate more fully in multinational institutions, to contribute more actively in the international provision of global public goods, and to influence the governance of the international economy, including the terms of trade and investment.

⁹ The NDB recognises that social, economic, and environmental sustainability are necessary conditions of any development strategy: 'Growth at all costs is unsustainable for individuals, countries and the planet as a whole. The challenge is to expand prosperity and opportunities rapidly to fulfill the legitimate aspirations of BRICS and other emerging markets and developing countries (EMDCs), and do so in a way that supports economic stability, maintains environmental integrity and equitably shares the benefits of growth with all' (NDB 2017, p.6).

II. TRENDS IN TRADE FLOWS WITHIN AND BEYOND THE BRICS

II.1 BRICS AND EMDC PARTICIPATION IN WORLD TRADE

Growth in international trade has been slowing down recently. The growth of the volume of world exports of goods in 2015 was 1.4% and in 2016 was 1.7%, down from higher levels in the recent past (see **Table 3.B.1**). Nevertheless global trade continues to grow.

The BRICS economies have along with others been affected by this slowdown but have had sharply growing trade volumes over the last twenty-five years (see **Figure 3.B.1** for exports and **Figure 3.B.2** for imports).

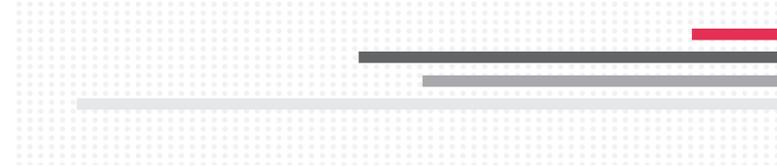
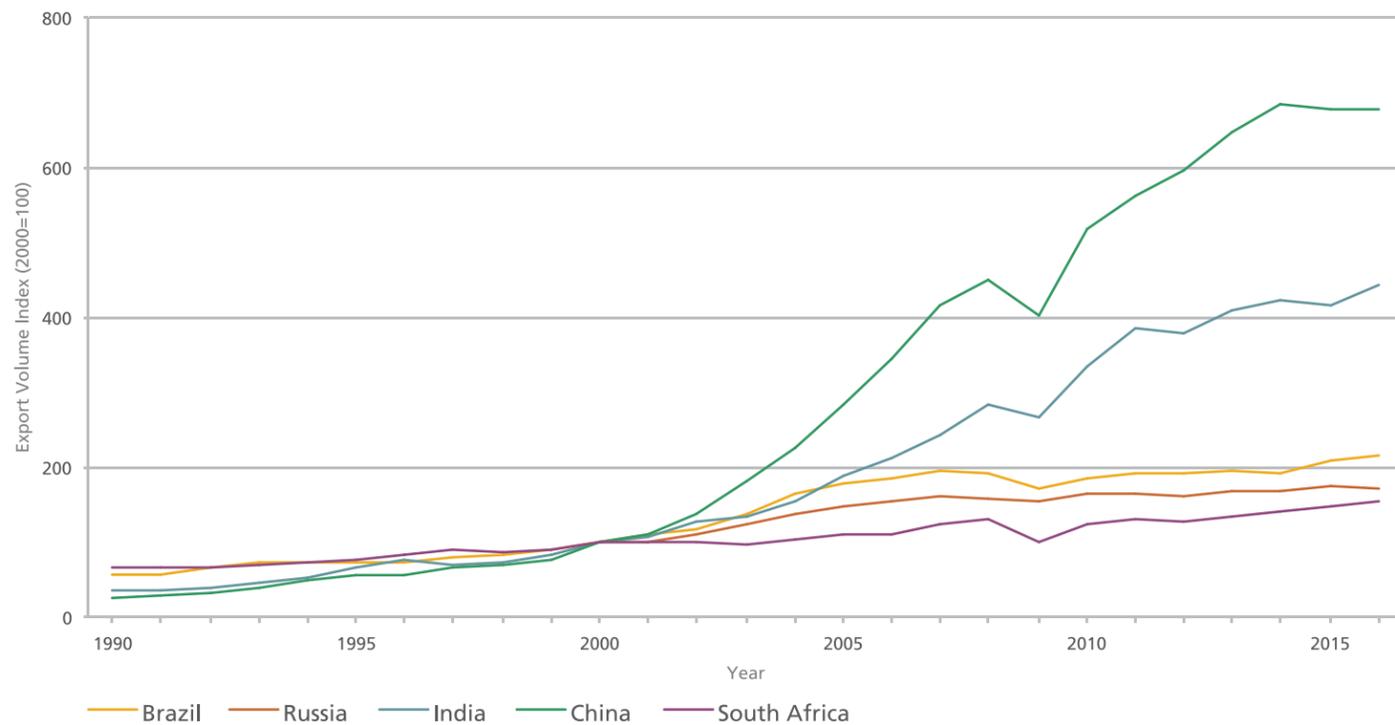


TABLE 3.B.1 \ WORLD VOLUMES OF EXPORTS AND IMPORTS OF GOODS-GROWTH RATES (%)

	2012	2013	2014	2015	2016
Volume of Exports	3.36	3.14	2.03	1.40	1.70
Volume of Imports	3.11	2.28	2.46	1.86	2.14

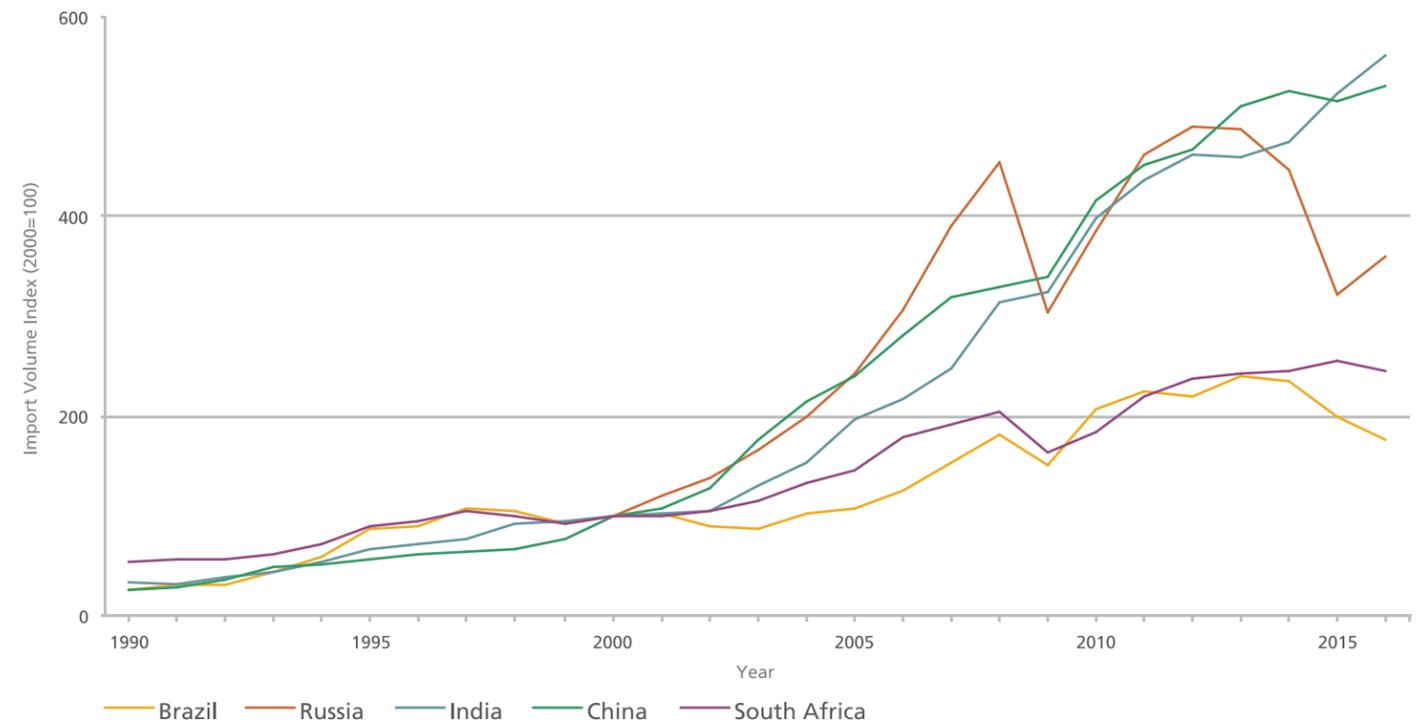
Source: UNCTADstat

FIGURE 3.B.1 \ BRICS EXPORT VOLUMES



Source: Calculations based on UNCTADstat

FIGURE 3.B.2 \ BRICS IMPORT VOLUMES



Source: Calculations based on UNCTADstat

The last decades have witnessed significant increases in the participation of EMDCs in international trade. BRICS economies are central to this phenomenon. The pattern holds for exports

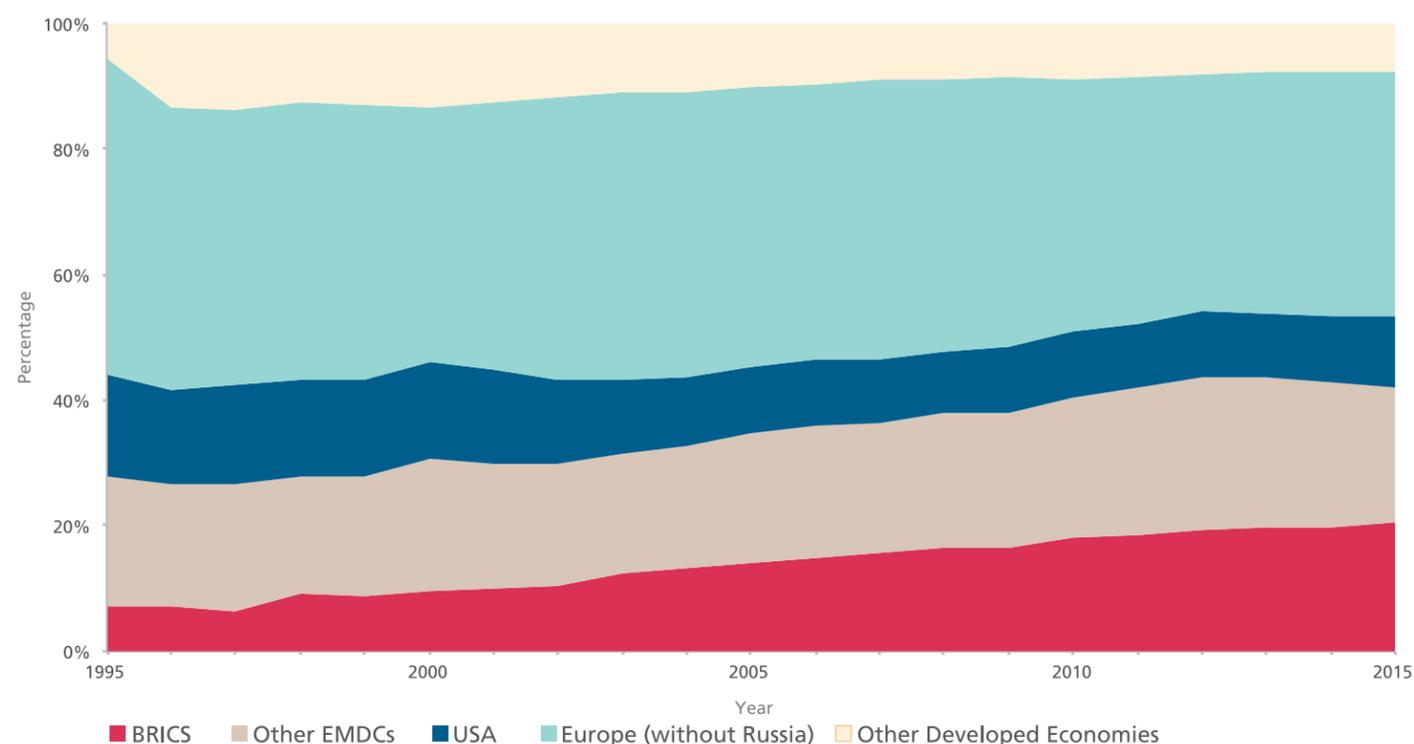
and imports of both merchandise and services (see **Table 3.B.2**). Specifically, the BRICS roughly tripled their relative importance in international trade over twenty years.

TABLE 3.B.2 \ BRICS SHARE OF WORLD TRADE

BRICS as % of World	1995	2000	2005	2010	2015
Exports of Goods and Services	6.0	6.8	11.0	14.6	16.8
Merchandise Exports	6.4	7.4	12.1	16.2	19.0
Service Exports	3.6	7.1	6.9	8.4	9.7
Imports of Goods and Services	5.8	5.0	9.1	13.6	15.2
Merchandise Imports	5.9	6.1	9.9	14.7	15.2
Service Imports	5.7	5.7	8.0	10.1	14.8

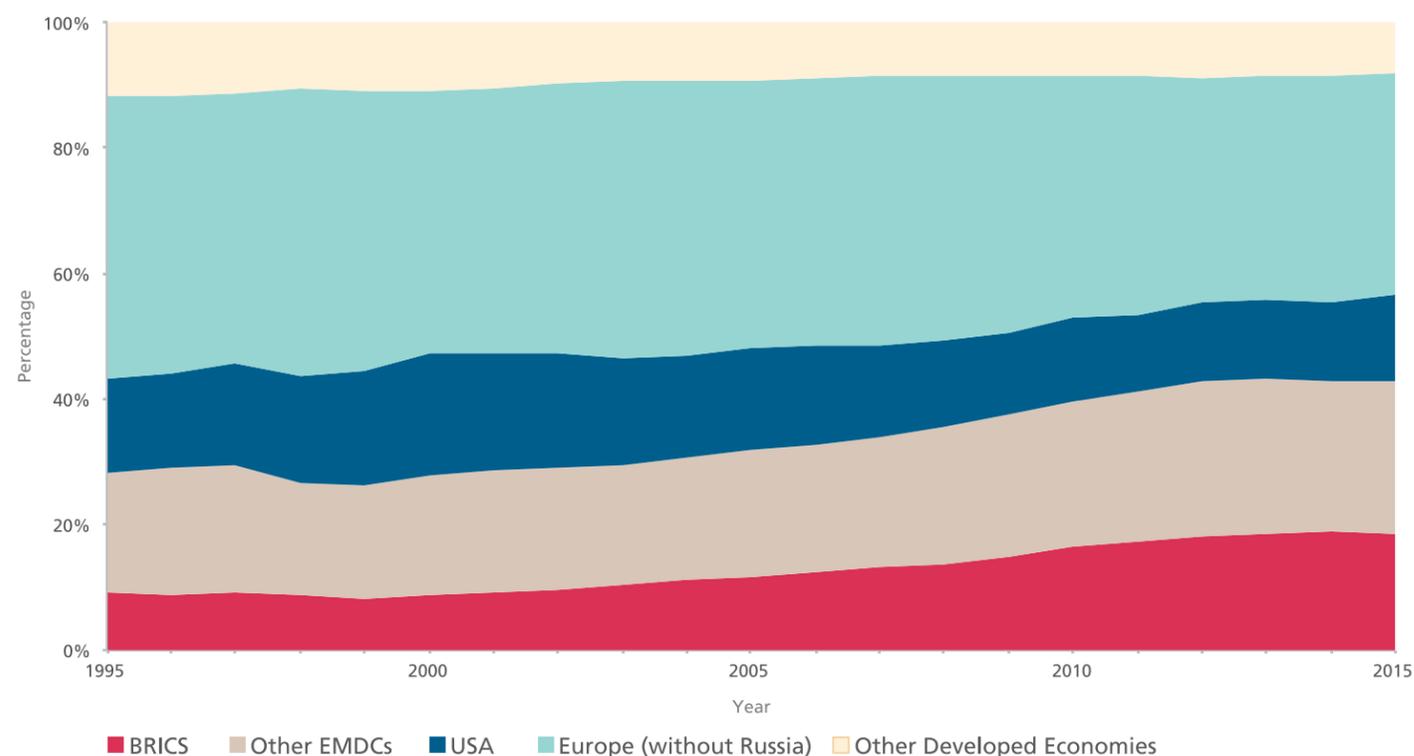
Source: Calculations based on WDI (World Bank)

FIGURE 3.B.3 \ SHARE OF WORLD EXPORTS BY COUNTRY GROUP



Source: Elaboration based on WDI (World Bank)

FIGURE 3.B.4 \ SHARE OF WORLD IMPORTS BY COUNTRY GROUP



Source: Elaboration based on WDI (World Bank)

Figure 3.B.3 and Figure 3.B.4 show that the share of world trade accounted for by BRICS and other EMDCs has increased markedly, and therefore has been accompanied by a decrease in the share of developed economies, both for exports and for imports of goods and services¹⁰.

The growth in BRICS exports and imports also represents a substantial percentage of world exports and imports growth since 1995 (mostly arising before the world growth slowdown after 2008)

as may be seen from Table 3.B.3 and Table 3.B.4. In the last two decades BRICS exports and imports growth has been considerably faster than that of almost any of the other country groupings, only comparable to the group of other EMDCs. BRICS export and import growth (along with EMDC growth generally) have both been positive during the world trade growth stagnation that occurred in the period 2008-2016, underlining the importance of BRICS and EMDC growth to sustaining employment and output globally, including in developed countries.

TABLE 3.B.3 \ CONTRIBUTIONS TO WORLD EXPORTS GROWTH (VALUE, CONSTANT 2016 US DOLLARS), IN PERCENTAGE POINTS

Period	Europe (Without Russia)	United States	Other EMDCs	Other Developed Economies	BRICS	Total Growth
1995-2000	10.25	3.23	8.11	1.61	3.12	26.32
2001-2007	37.14	3.44	20.43	4.45	19.50	84.95
2008-2016	-4.81	0.81	0.21	-1.57	4.61	-0.74

Source: Calculations based on DOTS (Direction of Trade Statistics) of IMF

TABLE 3.B.4 \ CONTRIBUTIONS TO WORLD IMPORTS GROWTH (VALUE, CONSTANT 2016 US DOLLARS), IN PERCENTAGE POINTS

Period	Europe (Without Russia)	United States	Other EMDCs	Other Developed Economies	BRICS	Total Growth
1995-2000	11.95	8.44	3.19	1.60	2.00	27.18
2001-2007	38.32	7.47	17.70	5.07	14.72	83.29
2008-2016	-7.09	-0.79	3.61	-0.84	3.03	-2.09

Source: Calculations based on DOTS of IMF

¹⁰ Figures calculated here take note of the important role of Hong Kong SAR, reported separately in World Bank WDI data, when calculating China's overall exports and imports.

Table 3.B.5 shows the evolution of trade flows within the BRICS. Within BRICS exports as a percentage of total BRICS exports increased from 3.4% in 1998 to 6.9% in 2016 while within BRICS imports as a percentage of the total BRICS imports increased from 4.4% in 1998 to 9.6% in 2016 (see **Table 3.B.5**). The share of exports from the BRICS going to other EMDCs has also increased.

The share of exports from BRICS to other BRICS has also increased. The same pattern holds for imports: the shares of BRICS imports from other EMDCs and from the BRICS have increased (see **Figure 3.B.5**). These findings suggest an increase in the trade interconnectivity within developing economies in general, and within BRICS in particular.

TABLE 3.B.5 \ EVOLUTION OF INTRA-BRICS TRADE

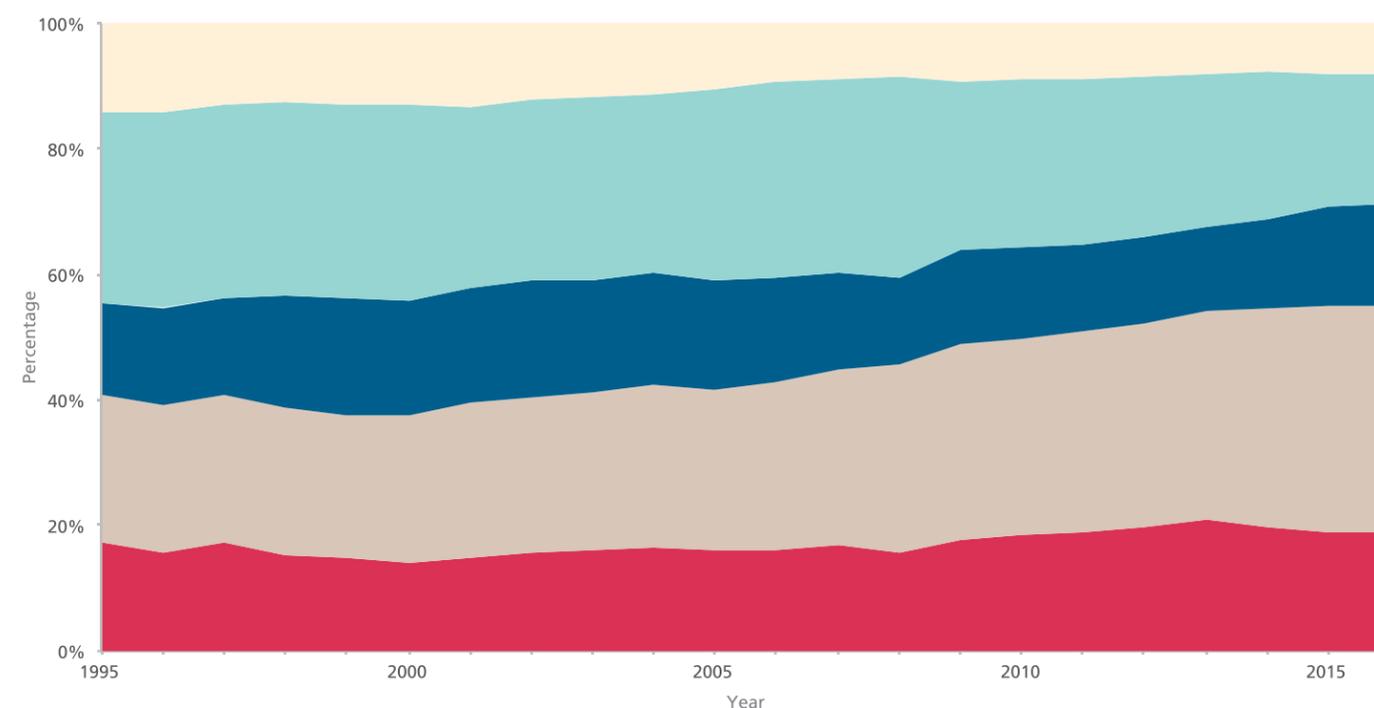
Trade Flows Within BRICS

Year	Exports as Percentage of BRICS GDP	Imports as Percentage of BRICS GDP	Exports as Percentage of BRICS Exports	Imports as Percentage of BRICS Imports	Exports Growth	Imports Growth
1998	0.12	0.14	3.4	4.4		
1999	0.14	0.17	3.5	4.7	5.8	6.4
2000	0.16	0.18	3.4	4.5	22.9	13.5
2001	0.17	0.22	3.7	5.4	4.3	27.0
2002	0.23	0.25	4.3	5.5	39.0	15.3
2003	0.28	0.30	4.6	5.8	37.9	36.5
2004	0.31	0.36	4.8	6.2	32.4	40.9
2005	0.36	0.40	5.1	6.8	34.8	31.2
2006	0.38	0.44	5.3	7.1	25.8	27.2
2007	0.42	0.49	6.0	7.9	38.3	40.2
2008	0.44	0.55	6.3	8.8	24.4	34.9
2009	0.36	0.46	6.5	9.0	-17.0	-15.9
2010	0.44	0.52	7.3	9.1	49.0	38.2
2011	0.47	0.59	7.6	9.6	27.1	34.0
2012	0.46	0.58	7.5	9.7	1.1	3.3
2013	0.44	0.54	7.4	9.4	2.5	-0.7
2014	0.43	0.52	7.3	9.6	-0.5	-1.5
2015	0.37	0.43	6.7	9.5	-18.2	-21.4
2016	0.35	0.41	6.9	9.6	-5.1	-4.4

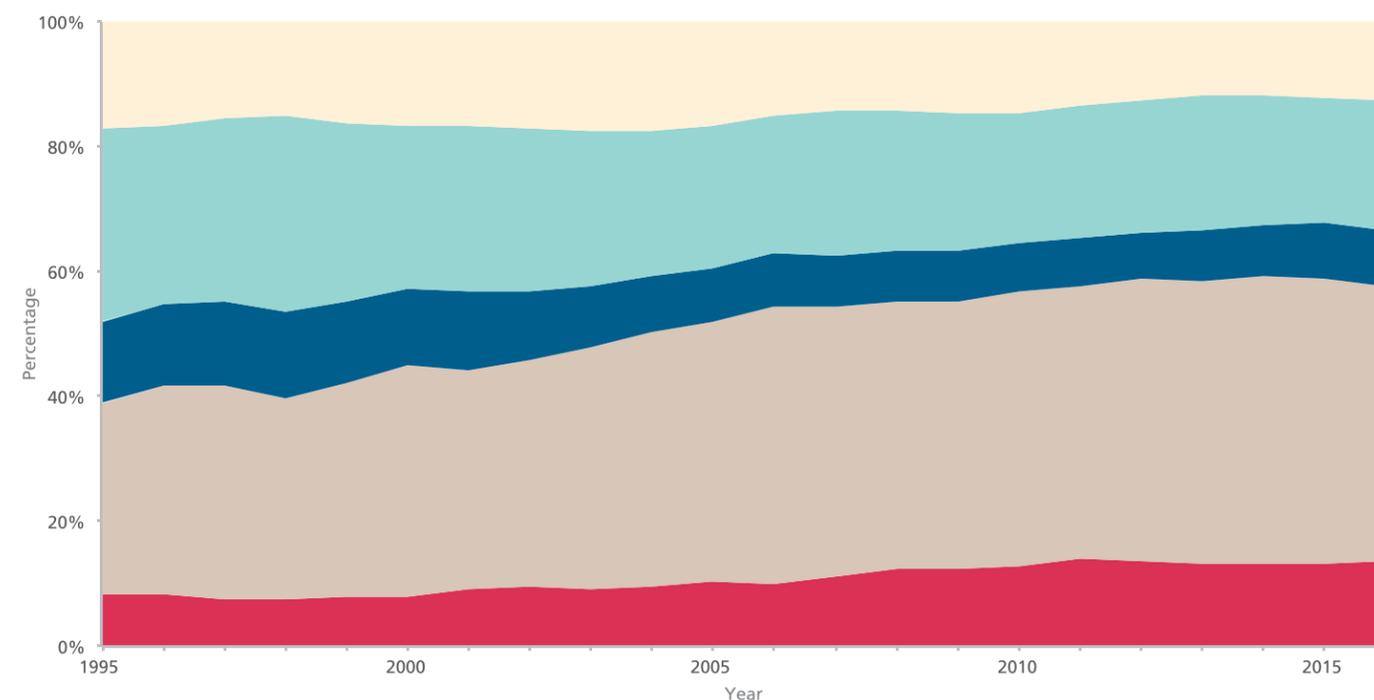
Source: Calculations based on DOTS of IMF

FIGURE 3.B.5 \ GROWING ROLE OF EMDCS IN BRICS TRADE

Destination of Exports (% of Total BRICS Exports)



Origin of Imports (% of Total BRICS Imports)



BRICS Other EMDCs USA Europe (without Russia) Other Developed Economies

Source: Elaboration based on DOTS of IMF

III. TRENDS IN INVESTMENT FLOWS WITHIN AND BEYOND THE BRICS

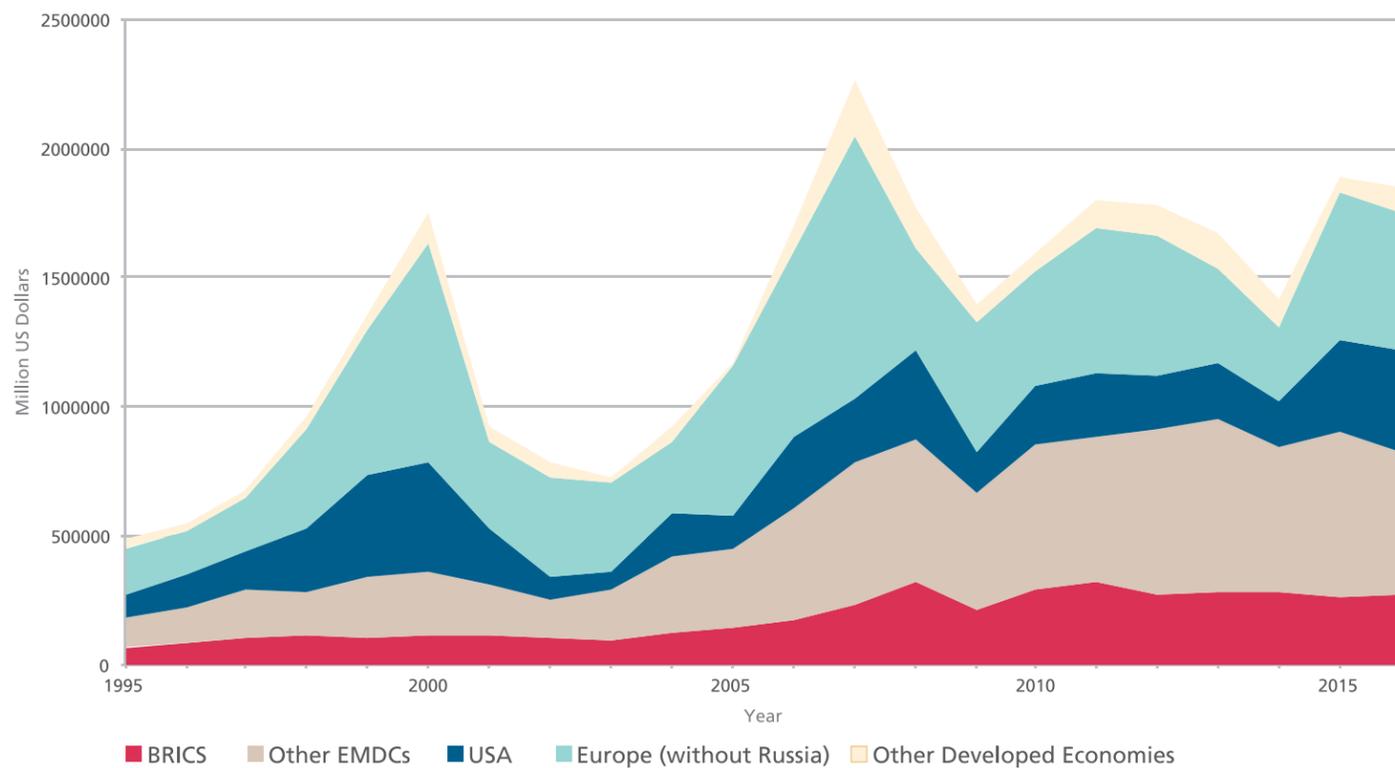
III.1 FDI: THE RECENT GLOBAL CONTEXT

In 2016, global flows of FDI fell by 2.1%, following a large increase of 33.9% over the previous year (UNCTAD, 2017). Global flows of FDI are, however, still 22.4% larger than the pre-crisis 2005-2007 average. As **Figure 3.B.6** and **Figure 3.B.7** show, both BRICS inward and outward flows have, despite volatility, experienced a marked increase over the last two decades¹¹.

III.2 FDI TRENDS WITHIN THE BRICS

According to data from the Coordinated Direct Investment Survey (CDIS) of the IMF, the relative and absolute importance of the FDI positions among the BRICS has also been increasing. However, there is room for investment flows to expand between the BRICS in both absolute and relative terms. A number of the countries (Brazil, Russia, and India) have experienced an increase in inward direct investment from the other economies of the group during the period 2010-2015, measured as a ratio of each country's GDP, as a percentage of the total inward direct investments from the entire world, as a percentage of gross capital formation, and as a percentage of the gross fixed capital formation.

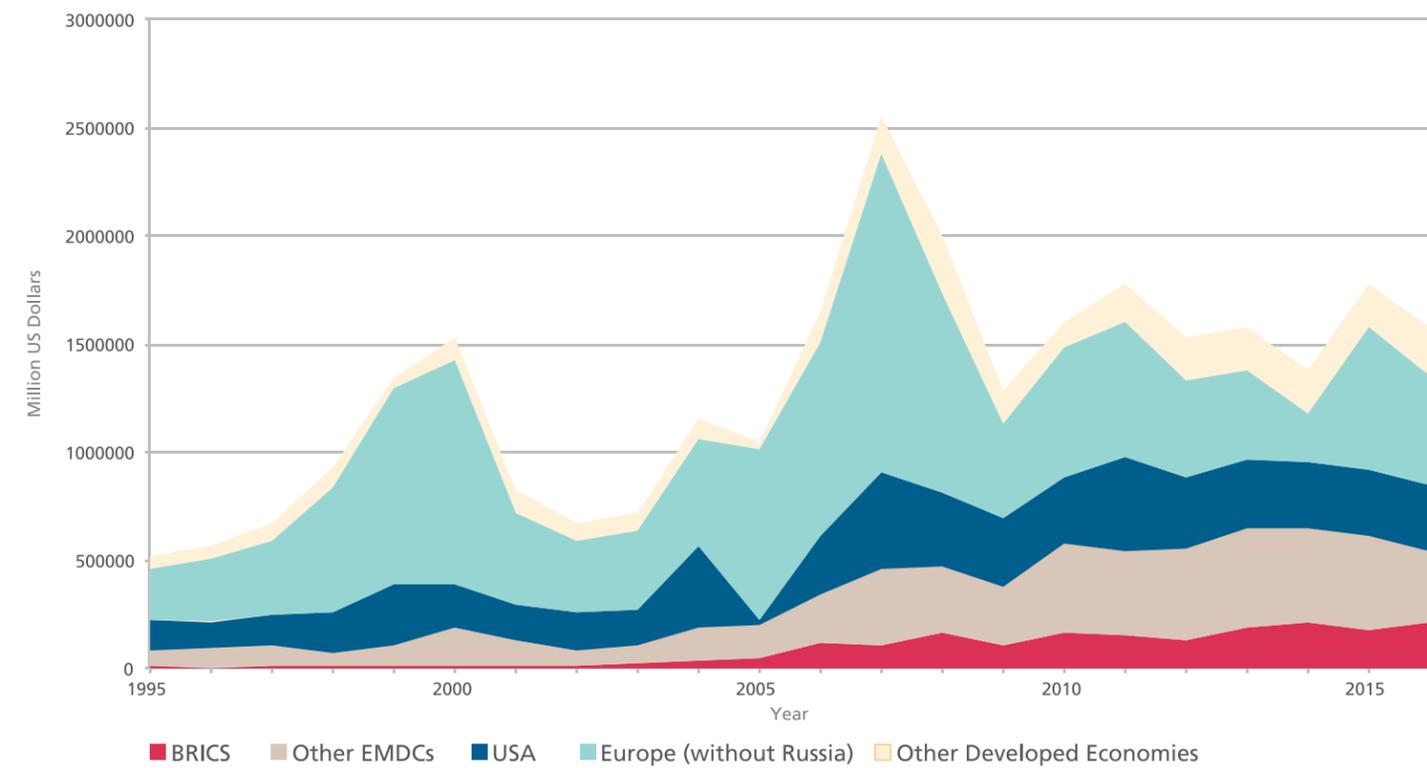
FIGURE 3.B.6 \ FDI INWARD FLOWS BY GROUP (CONSTANT 2016 US DOLLARS)



Sources: Calculations based on UNCTADstat



FIGURE 3.B.7 \ FDI OUTWARD FLOWS BY GROUP (CONSTANT 2016 US DOLLARS)



Source: Calculations based on UNCTADstat

¹¹ Figures calculated here take note of the important role of Hong Kong SAR, reported separately in UNCTADstat data, when calculating China's overall flows.

III.3 INVESTMENT POLICIES WITHIN AND BEYOND THE BRICS

An example of a policy framework affecting trade and investment that has development implications (of which there are many more that are not addressed here despite their importance) is that of Bilateral Investment Treaties (BITs). There have been concerns regarding whether they provide sufficient room for developmental objectives to be furthered as well as whether the provisions for litigation that they include may be abused by investors. Investment disputes with the State as respondent have been increasing in many countries, including in the BRICS (see **Figure 3.B.8**).

The number of new treaty-based investor-state dispute settlement (ISDS) cases is also increasing. In 2016, 62 new cases were initiated (less than in the preceding year but more than the 10-year average of 49 cases per year between 2006 and 2015). The total number of known cases is now 767. As of the beginning of 2017, investors

had won 60% of all cases decided on the merits (UNCTAD, 2017). Of particular concern is that excessive litigation can hurt the State's regulatory capacity to pursue public policies for economic development.

Many EMDCs are currently reviewing and in some cases terminating BITs. This situation calls for innovation in the forms that investment treaties take, and provides an opportunity for the BRICS to take a leadership role in determining the shape of such treaties.

There is a need for a new landscape for settling investment disputes. The international system for settling investment disputes established by the Washington Convention has generated significant discontent in EMDCs. The design of the system is not aligned with global development needs. There are several concerns. These include the system's incapacity to guarantee social, environmental and corporate responsibility standards; its failure to take into account economic downturns; its perceived bias in favour of investors; and

the high litigation costs it imposes on developing countries.

Re-aligning the FDI system in order that it better supports development may require a substantial change in frameworks for settling international investment disputes. Recently the Brazilian government produced an innovative investment treaty model that could bring significant improvements to the landscape of BITs¹². Central to the model is the idea of a dialogue that can balance investor needs for predictability and security with national developmental goals. The BRICS can consider demonstrating as well as advocating the application of such an approach to investment flows, or other innovative models, both among the BRICS countries and when acting as recipients or providers of FDI, especially to other EMDCs.

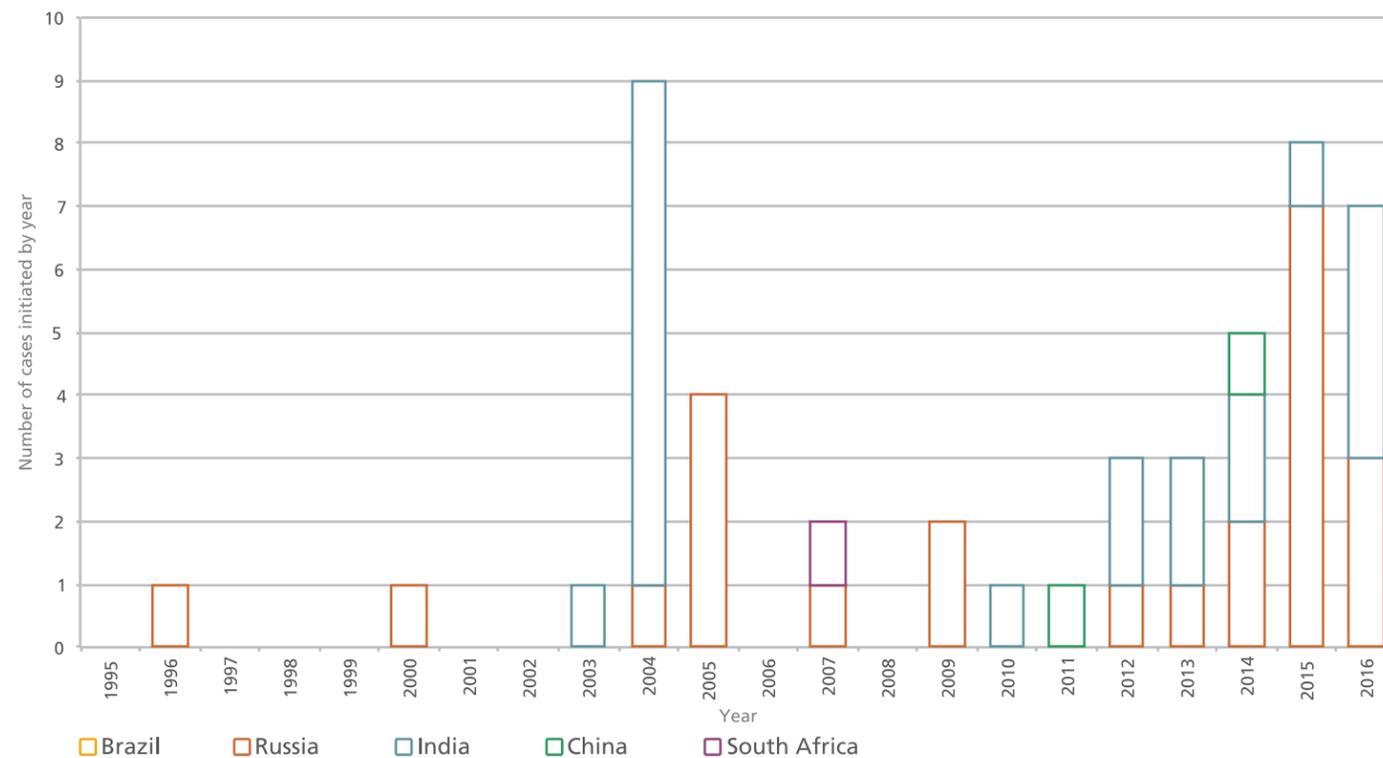
IV. CONCLUSION

The growing trade and investment interdependence among BRICS as well as between BRICS and other EMDCs is incrementally reshaping the nature of the world economy. This creates an opportunity for the BRICS to influence both patterns and norms of trade and investment in ways that support development.

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FIGURE 3.B.8 \ BRICS AS RESPONDENTS TO INVESTOR DISPUTE SETTLEMENTS



Source: Calculations based on UNCTAD Investment Policy Hub

¹² See Morosini and Badin (2015).

c \ THE **BRICS** ROLE IN FURTHERING THE GLOBAL DEVELOPMENT AGENDA

I. INTRODUCTION

Despite their economic and technological achievements, and their political importance, the BRICS countries have a considerable distance to travel in terms of economic and social development. Decisions made by the BRICS countries will have a substantial impact on the ability of the world to meet the Sustainable Development Goals (SDGs) adopted by the United Nations General

Assembly in 2015 as part of the 2030 Agenda, the United Nations framework that outlines a vision and goals for sustainable and inclusive economic and social development. The BRICS can make an internal contribution to these goals in the form of the domestic development of each of its member countries. They can also make an external contribution in the form of BRICS actions.

II. ENDING DEPRIVATION THROUGH INCLUSIVE GROWTH

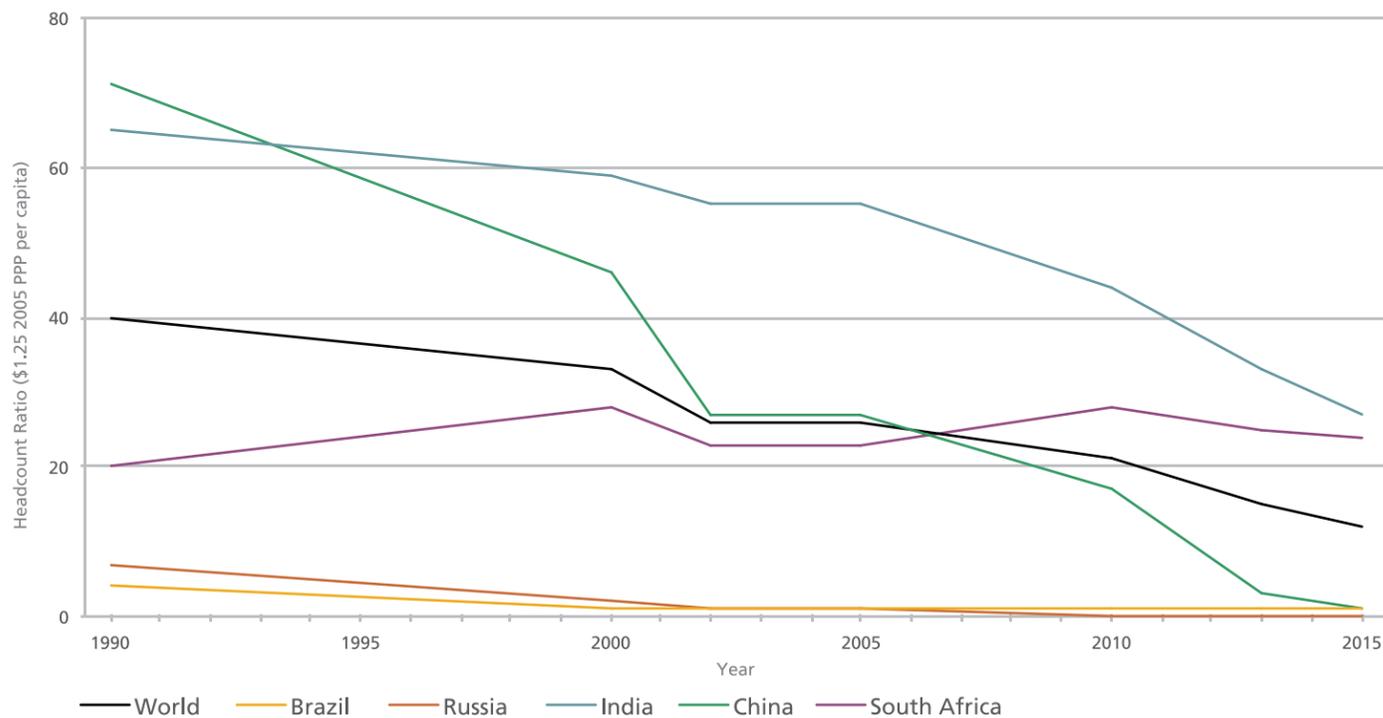
Development involves the expansion of effective human freedoms, including the capacity to avoid poverty, to be healthy and to be equipped to participate in the life of one's society. SDG 1 calls for ending poverty in all its forms everywhere, with the first of the associated targets being to reduce the number of persons living under the World Bank's lower poverty line of \$1.25 a day in 2005 PPP by 2030 (\$1.90 in 2011 PPP, more recently adopted by the Bank, has been argued by it to be broadly equivalent).

Figure 3.C.1 shows the dramatic reduction in poverty across the world in the recent past. In 2000, 33% of the world was considered poor by this standard. By 2013, 15% lived below this level. Most

of this striking decline in global poverty has been due to economic growth in China and, more recently, India. These two BRICS countries have accounted for most of the decline in the global poverty headcount¹³.

Table 3.C.1 shows the poverty headcount and headcount ratio of the five countries respectively in 2013 (the most recent year for which we can make a common estimate for the BRICS countries and for the world as a whole on the basis of the same poverty line). 477 million people or 15% of the population are still poor in the BRICS countries, accounting for 45% of global poverty. This underlines that a very large share of the responsibility for continued global poverty reduction still rests with the BRICS countries. In the rest of the world, poverty headcount ratios were also 15% with 573 million individuals living in poverty.

FIGURE 3.C.1 \ POVERTY HEADCOUNT RATIOS AT \$1.25 POVERTY LINE (2005 \$ PPP)



Source: Global Consumption and Income Project (see Lahoti et al 2016)

¹³ Poverty (as defined by the \$1.25 2005 PPP poverty line) in China declined between 1990 and 2013 by 68 percentage points, in India by 32 percentage points, and in the world as a whole by 25 percentage points. In absolute terms, the number of individuals deemed as poor declined from 805 million to 40 million in China and from 565 million to 422 million in India. The number of poor in the world declined by 1040 million (from 2111 to 1070 million). Out of the 1040 million fewer poor, 908 million came from China and India together. Calculations are from the Global Consumption and Income Project (GCIP).

TABLE 3.C.1 \ POVERTY IN BRICS COUNTRIES IN 2013 ACCORDING TO THE \$1.25 2005 PPP POVERTY LINE

Country/Region	Headcount Ratio (%)	Headcount (in millions)
Brazil	1	2
Russia	0	0
India	33	422
China	3	40
South Africa	25	13
BRICS Group	15	477
World	15	1050

Source: Global Consumption and Income Project (GCIP).

III. SHARED PROSPERITY

The remarkable economic growth in the BRICS countries in the last few decades has meant that they now have many fewer people living in poverty. It also means that BRICS populations constitute a substantial proportion of what may be termed the 'global middle class'. While this concept has been variably defined in the literature (see Jayadev et al 2017), it is expected that this proportion will grow over the next twelve years as the BRICS economies grow further. In order to project the impact of the growth rates outlined in Section 3.A of this report on poverty and 'middle class' growth in 2030, this section uses several plausible thresholds to assess the size of the populations above them. It also uses two alternative classifications of middle class incomes: those living in a lower bracket of between \$2 and \$10 (2005 PPP) per day for the first definition and in an upper bracket of between \$10 and \$50 PPP per day for the second definition¹⁴. The \$1.25 poverty line is a very stringent one¹⁵. Researchers have argued for the adoption of a higher, more plausible poverty line or for alternative approaches to identifying the poor (see, for example, Reddy and Lahoti 2016, Reddy and Pogge

2003). In recognition of these concerns, the analysis below uses a more expansive \$2.50 per day (2005 PPP) poverty line for moderate poverty and a \$4.16 per day (2005 PPP) standard based on the amount that would be needed to have sufficient resources for nutritionally adequate food intake using US market prices.

The projections developed in Section 3.A of this report, imply that 94% of the BRICS population will be either middle class or above it in 2030 if we use the lower bracket definition of the poverty line. 36% will be either middle class or above if we use the upper bracket definition, assuming the baseline consumption per capita growth rate projections reported in Section 3.A of this report and no changes in the relative distribution of consumption.

Table 3.C.2.A presents the proportion of people who will be poor in 2030 based on these projections, whereas Table 3.C.2.B presents the proportion who will have incomes that place them below, in, or above middle class status in 2030 based on these projections, in different parts of the world.

¹⁴ These are the definitions used by Banerjee and Duflo (2008), and by Milanovic and Yitzhaki (2001) respectively.

¹⁵ As a result, poverty levels are negligible in many countries, including Brazil and Russia, according to it. They are notably higher when the \$2.50 PPP poverty line is applied.

TABLE 3.C.2.A \ PROPORTIONS OF THE POOR IN 2030

	Poverty Headcount for Poverty Line (%)		
	\$1.25	\$2.50	\$4.16
Brazil	1%	6%	22%
China	0%	0%	4%
India	0%	31%	65%
Russia	0%	1%	2%
South Africa	18%	41%	57%
BRICS	0%	11%	32%
Latin America and Caribbean	1%	7%	21%
West Asia and North Africa	3%	17%	35%
Sub-Saharan Africa	26%	58%	80%
World	5%	24%	42%

Source: Global Consumption and Income Project



TABLE 3.C.2.B \ PROPORTIONS BELOW, IN OR ABOVE MIDDLE CLASS IN 2030

	Middle Class Defined as \$2-\$10 Per Capita 2005 PPP			Middle Class Defined as \$10-\$50 Per Capita 2005 PPP		
	Below Middle Class	In Middle Class	Above Middle Class	Below Middle Class	In Middle Class	Above Middle Class
Brazil	3%	63%	34%	66%	32%	2%
China	0%	35%	65%	35%	58%	7%
India	17%	77%	6%	94%	6%	0%
Russia	0%	31%	69%	31%	65%	4%
South Africa	34%	45%	21%	79%	18%	3%
BRICS	6%	59%	35%	65%	32%	3%
Latin America and Caribbean	4%	58%	38%	62%	36%	2%
West Asia and North Africa	11%	57%	32%	68%	30%	2%
Sub-Saharan Africa	47%	49%	4%	96%	4%	0%
World	16%	50%	34%	66%	28%	6%

Source: Global Consumption and Income Project

An important caveat is that survey-mean growth rates (on which poverty estimates and middle class estimates are based) have been historically far lower (on average half) of national income accounts growth rates. In **Table 3.C.2.A** and **Table 3.C.2.B**, we have assumed that growth rates of consumption in the surveys from which distributional and poverty data are collected will be the same as the projected growth rate, corresponding to consumption per capita in the national income accounts¹⁶. However, even so, the projected growth rates, when applied to an unchanging distribution, will not suffice to eradicate poverty by 2030.

Table 3.C.3 gives the survey mean growth rates in per-capita consumption required to get to zero poverty as defined by these various poverty lines by the year 2030¹⁷. The required growth rates to eradicate poverty in some cases are implausibly large when compared to historical and recent growth rates, especially but not only for Sub-Saharan Africa.

¹⁶ If the discrepancies between survey mean growth rates and national income accounts continue to be at their historical levels over the last three decades, the improvements in income levels and in poverty reduction as reported in **Table 3.C.2.A** and **Table 3.C.2.B** will be too optimistic.

¹⁷ Due to the previously noted discrepancy between national income and survey income growth rates, the per capita growth rates required to eliminate poverty will likely have to be even higher than estimated in **Table 3.C.3**.

TABLE 3.C.3 \ ANNUAL PER-CAPITA CONSUMPTION GROWTH RATES (PERCENTAGES) OF SURVEY GROWTH RATES REQUIRED TO ELIMINATE POVERTY BY 2030 FOR DIFFERENT POVERTY LINES

	\$1.25	\$2.5	\$4.16
Brazil	1	6	10
China	<1	6	10
India	4	9	13
Russia	0	3	7
South Africa	6	11	20
BRICS	4	9	13
Latin America and Caribbean	4	8	12
West Asia and North Africa	7	12	21
Sub-Saharan Africa	11	17	29
World	9	15	21

Source: Global Consumption and Income Project.

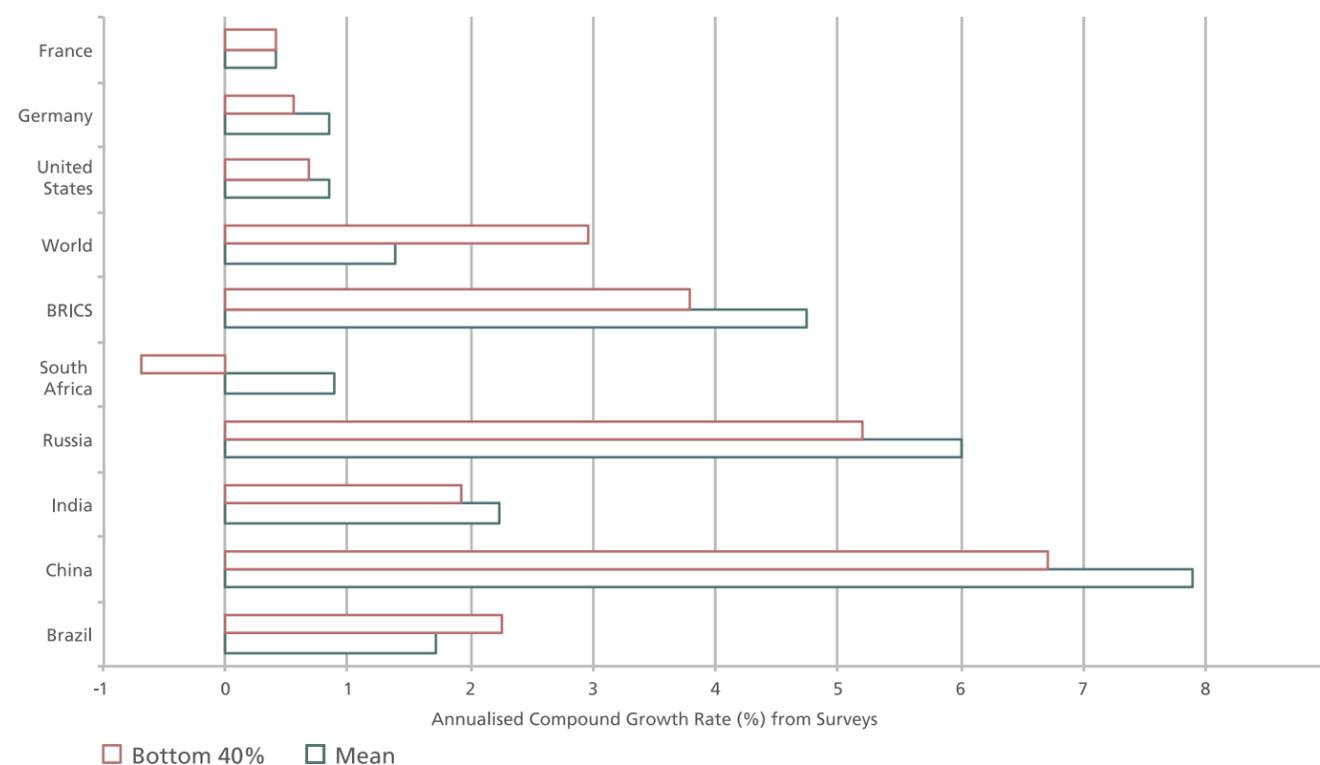
Therefore, while growth is essential, it will nevertheless be insufficient to eradicate global poverty by 2030. A more fruitful way of achieving poverty eradication and serious reductions in deprivation is to foster more inclusive growth (interpreted here as growth that raises the incomes of the less affluent more rapidly). Growth processes that distribute the gains very broadly may emerge in different ways. For example, steps that improve the human capabilities of the poor or increase access to markets through better infrastructure can be seen as pre-market measures that facilitate meeting the market on more advantageous terms. Steps that ensure that market transactions happen on equitable terms or that surpluses from production activities are equitably shared are in-market measures. Post-market measures are transfer mechanisms based on taxation and supplementation of earned incomes. All of these may have a role in ensuring that growth processes are able more rapidly to reduce poverty and deprivations and contribute to shared prosperity. Even rapid growth will need to be complemented by suitable sharing of gains in order to achieve global development goals.

Ensuring lower relative inequality is also in itself a sustainable development goal recognised in the 2030 Agenda. BRICS countries have played a prominent role in imagining a path towards more widespread prosperity. Official attention to the ideas of inclusive growth and development in India and that of a harmonious society in China over the last fifteen years reflect this recognition.

One of the SDG inequality indicators is the growth of the bottom 40% of the income distribution as compared to the national average. **Figure 3.C.2** provides an indication of the growth of the bottom 40% relative to the national average in all the BRICS countries and across the world between 1990 and 2013. Apart from Brazil, the growth rate of the bottom 40% in the BRICS countries has been substantially lower than that of the mean. That noted, in the world overall, the large growth in the average incomes of China and India has meant that the growth of the bottom 40% worldwide was higher than the mean. The figures reported are for growth rates of survey incomes and therefore are different from national income per capita growth rates as reported from national accounts¹⁸.

¹⁸ In particular, starting from the 1990 base, Russia has a steeper rate of growth of per capita consumption from surveys over the period than of GDP per capita as measured by national accounts, whereas the opposite is true for India.

FIGURE 3.C.2 \ ANNUALISED COMPOUND GROWTH RATES (%) OF SURVEY MEAN INCOME AND INCOME OF BOTTOM 40% FROM 1990 TO 2013



Source: Global Consumption and Income Project.

Another way of putting this is that the relatively rapid growth of China and India has meant that global inequality has been falling in the last two decades due to decreasing inter-country relative differences. As a result, a greater proportion of global interpersonal inequality is now due to differences within countries than in the past. In 1980 about 78% of global consumption inequality derived from the differences between countries rather than from differences within countries. By 2010, inequality derived from differences between countries had declined to about 56%¹⁹. Between 1990 and 2013 mean per capita consumption growth in the BRICS countries²⁰ substantially outstripped both that in developed countries and in the world as a whole. Continued BRICS growth (most dramatically in China and India) will further reduce global inequality, but we should also note that the gap between the better performing EMDCs (such as China) and the poorest is widening as a result of their differential growth rates. China's per capita income from survey measures has increased from 1.18 times that of Sub-Saharan Africa in 2000 to 3 times that in 2015. Although the BRICS primary contribution to reducing global inequalities is through

their own development, this also suggests a need and rationale for the BRICS to support development elsewhere, and in particular in poorer developing countries.

The need to reduce poverty and promote more inclusive growth requires a two-pronged effort on the part of the BRICS. First, it requires suitable internal social and economic policies aimed at the broad sharing of future gains in prosperity. Second, it requires external engagement by the BRICS individually and collectively. This can take the form of supporting EMDCs, especially those which are poorer or have more limited technical capabilities, in their development paths, through mechanisms including development assistance, the transfer of ideas and knowhow through technical cooperation, FDI and other means. The BRICS also have an important role to play in actively creating a world more supportive of development. Such measures can simultaneously benefit the people of the BRICS countries and of EMDCs generally. Addressing structural inequalities in the world system is itself an important contribution to global development goals.

¹⁹ Calculation from Jayadev et al (2015) using the Theil index and based on Global Consumption and Income Project data.

²⁰ This is the case for the BRICS overall and for four out of five of the individual countries. The BRICS overall and two of the five individual countries also outstripped world median per capita consumption growth.

IV. EXTERNAL ENGAGEMENT

The BRICS are not only, as noted previously, of growing economic importance, but shape other EMDCs economies through trade (especially demand for their exports) and finance. They are also, as shall be discussed below, increasingly significant providers of development assistance. Finally, the BRICS countries can help to further sustainable development by pressing for global arrangements that are more supportive of it.

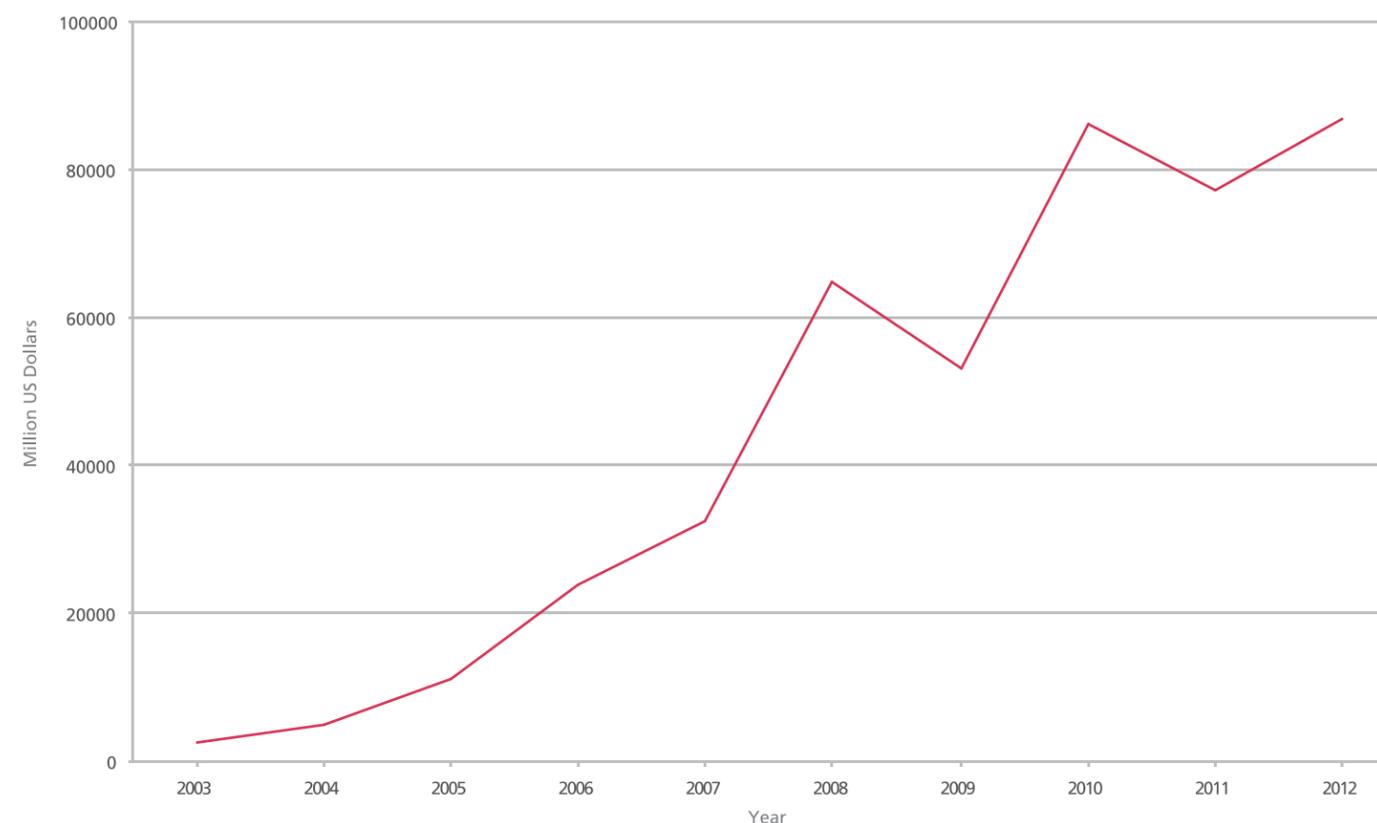
The BRICS have a crucial role to play in the diffusion of resources, knowledge, and capabilities to other EMDCs. Knowledge is a global public good²¹. The BRICS countries can therefore powerfully promote the well-being of people in EMDCs generally by encouraging transfer of global knowledge from developed to developing countries when similar technology is appropriate for both types of countries (see Baker et al 2017 for a comprehensive review of these issues). The BRICS should also enhance mechanisms for knowledge sharing between themselves and other EMDCs. Fundamentally, this involves both active measures to facilitate such transfers and the removal of impediments to knowledge transfer, including limiting intellectual property restrictions. The BRICS could therefore promote global development by working in bilateral and multilateral forums, to reduce barriers to obtaining frontier technology. The greater its success in this, the more the world will benefit from faster and more equitable growth in EMDCs. While there may be reasonable differences across countries concerning this issue, it should be noted that intellectual property (IP) has been advocated historically primarily as a legal device for creating incentives to develop and extend useful universal knowledge efficiently. As a result, the IP regime should be evaluated according to whether it is in fact promoting these goals in each area. Such a test may be particularly relevant to health care, access to medicines, and other areas in which access to innovative technologies can have implications for vital interests of societies.

Externally the BRICS can also enhance global development prospects through investment. Over the last few years outflows of investment by the BRICS to EMDCs have increased significantly (see **Figure 3.C.3**), to at least 80 billion US Dollars annually in 2012, the latest

year for which internationally comparable statistics are presently available from UNCTAD²². Higher financial flows, including FDI can make a major contribution to development and BRICS investment in other EMDCs is of significance from this perspective.

In addition to FDI, the BRICS have also been expanding their Official Development Assistance (ODA) programmes. Morazan et al (2013) note that despite issues in cross-country comparisons arising from the lack of a common data source or monitoring system, BRICS development assistance has increased substantially. It may be helpful in this regard to consider establishing such a system to provide comparable statistics to those available from the OECD Development Assistance Committee (OECD DAC). BRICS countries have been increasing their outward official development assistance in various forms, including outright grants, lines of credit and technical assistance. Although as noted it is hard to make a direct comparison between BRICS countries and other developed economies in terms of the trends in their commitments to ODA, it is nevertheless clear that there have been marked increases in external ODA or 'ODA-like' flows from the BRICS countries. The Development Cooperation Report, 2013 estimates that Indian external development assistance rose from around 393 million US Dollars in 2007 to 730 million US Dollars in 2012. The Centre for Policy Research (2014) suggests a larger increase—a four-fold growth from 2002 to 1.2 billion US Dollars in 2013²³. China's ODA has been similarly growing. The Chinese government white paper on aid published in 2014 suggests that China provided assistance to 121 countries, including 30 in Asia, 51 in Africa, 9 in Oceania, 19 in Latin America and the Caribbean and 12 in Europe between 2000 and 2012. These flows amounted to a total of 14.4 billion US Dollars²⁴. Zhang (2016) estimates that since 2005, the country has seen annual increases of over 20% yearly in ODA-like effort. South Africa has seen a substantial increase in ODA like flows from 2000-2010, from around 50 million US Dollars to over 200 million US Dollars by the end of the decade²⁵. Brazil too has seen a substantial increase in aid outflows since 2000, rising to about 500 million US Dollars in 2010²⁶. Finally, OECD DAC data suggests that Russia increased its development cooperation expenditure from 302 million US Dollars in 2010 to 1.2 billion US Dollars in 2015. As the BRICS countries grow, these flows are expected to increase in tandem

FIGURE 3.C.3 \ FDI OUTFLOWS OF BRICS ECONOMIES TO EMDCs



Source: Calculation from UNCTAD bilateral FDI statistics

and indeed to become much more important in relative terms, since flows from developed countries are stagnant. The growth rate of total BRICS development aid has been more than 2.5 times the OECD DAC total over 2011-15 according to the latter's own estimates²⁷. Estimates of the absolute levels and rates of growth of BRICS aid are very diverse. However, a picture of sharply rising aid from the BRICS as a whole as well as from a number of the BRICS countries emerges robustly from the different sources. The increasing role of the BRICS appears therefore to provide an essential complement to ODA from developed countries. The NDB and other BRICS initiatives can play a critical developmental role by providing finance and relevant knowledge to help close large infrastructural deficits. The investment gap for infrastructure in EMDCs may be 3 to 4 trillion US Dollars annually between now and 2030²⁸.

The role of the BRICS in trade with other EMDCs has already been explored in this report. However, we focus here on Sub-Saharan Africa (SSA). The BRICS' total merchandise trade with SSA has since 2010 exceeded that of the EU and had earlier surpassed that of the US (see **Figure 3.C.4**). Trade brings mutual benefits and will help African industry engage more fully in global supply chains. As BRICS countries themselves move to producing higher value-added goods, and seek broader markets, both exports to and imports from SSA are likely to increase, often with complementary foreign investment. The BRICS can play a crucial role in offering SSA producers more opportunities to export to BRICS markets and to global markets generally. BRICS countries' continued engagement with the SSA region will provide an important contribution to realising global development goals.

²¹ For more on this, see Stiglitz (1999).

²² This is an underestimate both because South African data was unavailable in the required form and because of the presence of indirect flows, the scale of which cannot be easily ascertained from the available information.

²³ The report further notes that 'the trend of India's assistance commitments also differ markedly from those of the traditional DAC countries. India's development assistance has grown dramatically... by contrast the total foreign aid from DAC countries decreased by almost 2% in real terms in 2011 and by 4% in 2012.

²⁴ See <http://ssc.undp.org/content/dam/ssc/dgspaces/China/files/China%202nd%20White%20Paper%20on%20Foreign%20Aid%202014.pdf>

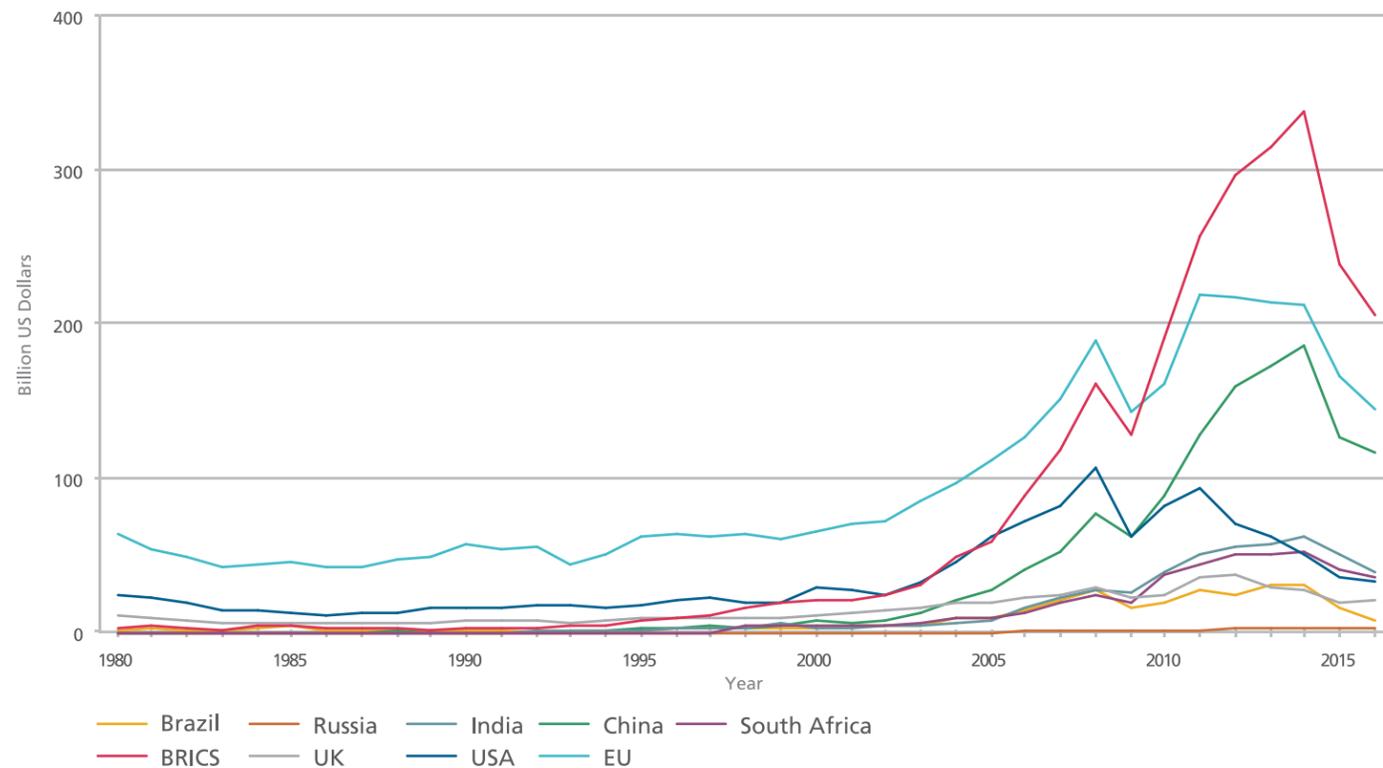
²⁵ <http://www.devinet.org/wp-content/uploads/2013/09/Investments-to-End-Poverty-Chapter-9-South-Africa.pdf>

²⁶ <http://www.oecd.org/dac/dac-global-relations/brazil-development-co-operation.htm>

²⁷ Calculation based on data from OECD DAC (<http://www.oecd.org/development/stats/non-dac-reporting.htm>).

²⁸ See Bhattacharya, Oppenheim and Stern (2016).

FIGURE 3.C.4 \ TOTAL MERCHANDISE TRADE OF BRICS, EU AND USA WITH SSA COUNTRIES



Source: Calculations from World Trade Organisation, and World Bank World Development Indicators data

V. ENSURING INCLUSIVE GROWTH AND EMPLOYMENT

Inclusive growth and development can, as noted already, be achieved through pre-market, in-market and post-market measures. While social programs to ensure widespread sharing of the fruits of growth are important, inclusive growth and development is likely to require measures that allow market processes to generate more inclusive outcomes. Secure employment opportunities are less widespread, both geographically and sectorally, than is desirable. Informality of labour markets, large-scale migration, and other phenomena reflect this reality. The International Labour Organisation (ILO) reports that 670 million jobs will need to be created by 2030 to keep pace with the growth of the working-age population²⁹. This is a major concern, as the ills of premature deindustrialization, combined with jobless growth, have been widely reported and analysed (see e.g. Rodrik 2015). There is growing apprehension that the traditionally conceived structural transformation in the form of a shift from agriculture to higher

productivity sectors (typically in manufacturing) is no longer very much in evidence. In many countries, agriculture is shrinking and urbanisation is taking place, but the service sector rather than the manufacturing sector is growing. Moreover, much of the growth in the service sector is in lower value-added forms of employment³⁰.

Many middle- and low-income countries, including Brazil, South Africa and India, have been experiencing a weak link between output and employment increases (see Castillo and Martins 2016 and OECD 2010). Others are in danger of experiencing a deindustrialization that again increases reliance on primary exports (see Castillo and Martins 2016 and Rodrik 2015). If manufacturing shrinks without a corresponding rise in high productivity service employment, informality and 'precarity' increase and economy-wide productivity is reduced. There is evidence of such shifts both in Latin America and Africa (see McMillan and Rodrik 2011). The prevalence of large labour pools facing poor employment prospects, low job quality and limited socio-economic mobility is a weakness in many EMDCs and may play a role in deepening inequality worldwide

²⁹ <http://www.waipa.org/wp-content/uploads/2016/10/ILO-Presentation-SDGs-Investment-and-Decent-Work.pdf>.

³⁰ See among others, Stiglitz and Greenwald (2014) on such transitions.

(see Standing 2012). There are likely to be considerable gender disparities as well, since women are often more marginalised than men in labour markets. There is an urgent need to reorient growth to support just, desirable, secure and reasonably paid employment.

The NDB has a potentially important role to play in inclusive and sustainable development. It is increasingly recognised that infrastructure deficits often lead to lower growth. There are substantial multiplier benefits to be obtained by overcoming the financial, institutional and technical obstacles to greater infrastructure provision in key sectors such as transport, communication, energy and water, and health. Many infrastructure development activities also have prospects of creating well-paid work. There is a significant need for such expenditures within the BRICS and indeed in all EMDCs.

VI. SUSTAINABLE GROWTH

Within their announced commitment to inclusive and widespread growth, the BRICS have explicitly included respect for environmental boundaries and constraints. Understandably, the major focus of the BRICS over the last few decades has been to ensure relatively fast growth to reduce deprivation. There is now, however, the increasing recognition that the current global growth patterns have resulted in widespread environmental degradation in the form of water shortages, inadequate sanitation, deforestation, air pollution and carbon emissions that contribute to global warming among many other difficulties. Development is likely to continue to have a heavy impact on the physical limits sustaining the Earth as an ecological system. Catastrophic environmental threats generated by this impact are not only bad for future generations but have an adverse effect on current output through such effects as extreme weather and social dislocation. All of this requires conscious and concerted responses in terms of national policies and investments, which must in turn be supported by global efforts³¹.

Figure 3.C.5 shows BRICS nations' role in carbon usage in the world³². The graph focuses on consumption rather than emissions, since at least some fraction of carbon produced within a country is consumed outside it in the form of exports (see Peters et al 2011 for

a description of the issue, which is of great significance for major exporting countries)³³. The BRICS countries were responsible for 24.8% of global consumption in 2001 and 34.8% in 2010. While they account for an increasing share of global emissions, they still have a much lower emission rate on a per capita basis than the G-7 countries or than the global average. Despite their lower per-capita emissions levels, BRICS countries have been catching up to the global average. The restructuring of the global economy and the commitment of responsible countries including the BRICS to the COP 21 (2015 United Nations Climate Change Conference) consensus require the establishment of new patterns of energy and resource use during the course of growth and development. This requirement should, however, be interpreted as a potential driver and not a barrier to growth. New energy industries (solar and wind) provide important opportunities to generate jobs, reduce deprivation and ensure healthy growth for future generations. Indeed, both China and India are already taking a leading role in the development, production and dissemination of usable solar technologies.

The NDB's commitment to financing sustainable infrastructure development, including renewable energy projects, will directly have the impact of advancing SDG 7 (on energy) and SDG 9 (on infrastructure) simultaneously. The G20 countries have reached consensus on the need for green finance and adopted the G20 Green Finance Synthesis Report in Hangzhou. Each BRICS country can also initiate domestic measures to mobilise complementary private capital for green investment. BRICS coordination can highlight good practices over time and raise them to a higher level of prevalence so as to provide a practical model for other EMDCs. Concrete supportive measures for green investments in those countries will provide a meaningful contribution to avoidance of disruptive climate change.

BRICS countries can help move the world towards sustainability by advancing SDG 6 (on the sustainable use of water resources). SDG 6 states that countries should 'ensure availability and sustainable management of water and sanitation for all' by 2030. Targets include achieving 'universal and equitable access to safe and affordable drinking water for all' and achieving 'access to adequate and equitable sanitation and hygiene for all', among others. A May 2017 report by the United Nations estimated that 'more than 2 billion people globally are living in countries with excess water stress', and that by 2050, 'at

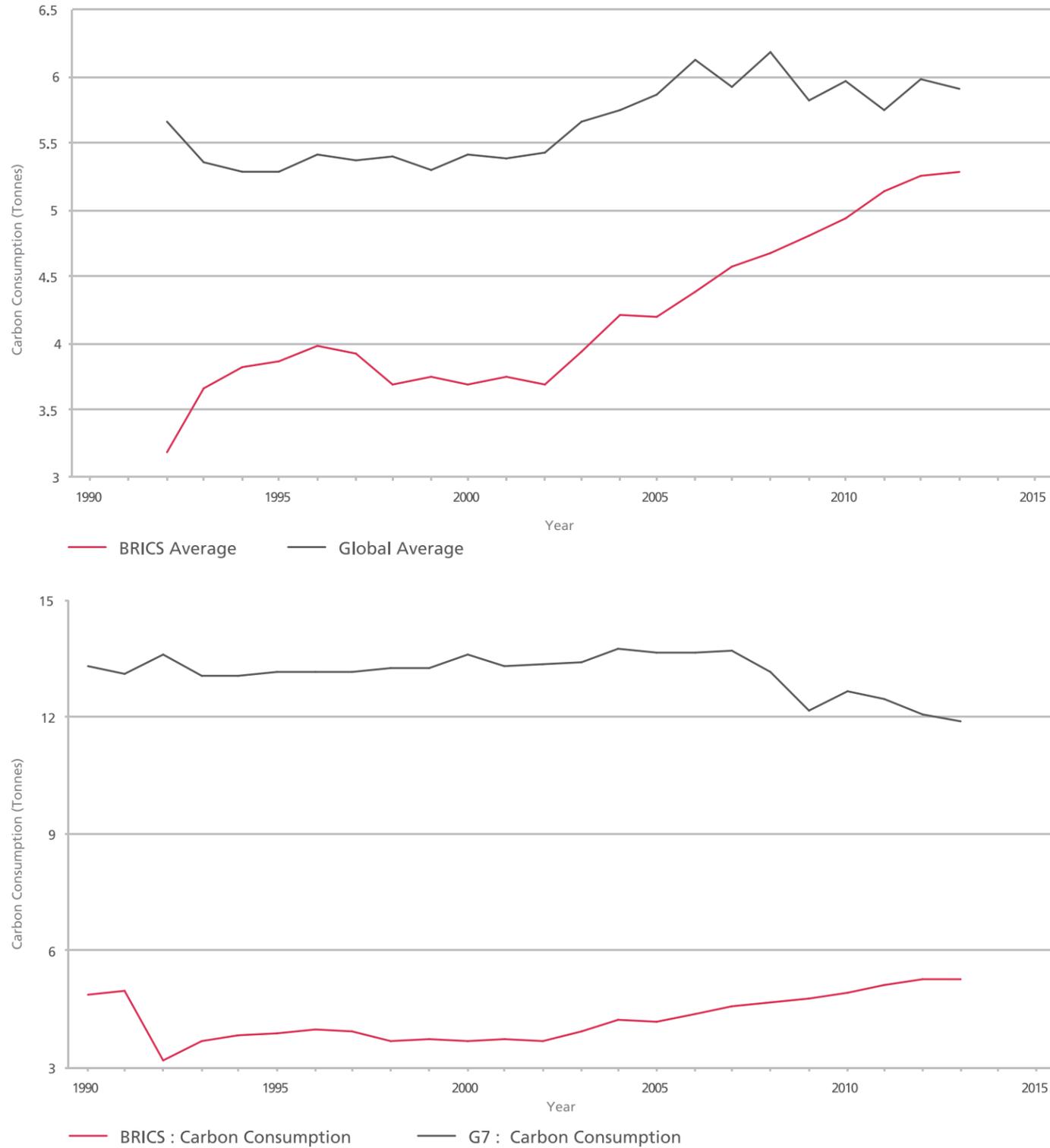
³¹ These and other concerns are addressed in SDG 12 on sustainable development. The UN Secretary General (United Nations 2017) reported that 'achieving Goal 12 requires a strong national framework for sustainable consumption and production that is integrated into national and sectoral plans, sustainable business practices and consumer behaviour, together with adherence to international norms on the management of hazardous chemicals and wastes'.

³² See in this regard, SDG number 12.2.1 that refers to reducing the material footprint of output.

³³ The table reports data only through 2011 as that is the most recent year for which they have been calculated in this form.

FIGURE 3.C.5 \ GLOBAL CONSUMPTION OF CARBON BETWEEN 1990 AND 2011

Per Capita Carbon Consumption



Source: Calculations using Peters et al (2011)

least one in four people is likely to live in a country affected by chronic or recurring shortages of fresh water³⁴. Such trends in water scarcity make SDG 6 particularly important for developing countries. The Goa Declaration of the BRICS pledged to improve knowledge on reducing water pollution and to improve irrigation technologies³⁵. The NDB and the BRICS could make the development of such technologies a priority and provide financing for such an initiative, which is likely to be of great importance for a very large number of people around the world, including many of the world's poorest. It is noteworthy that a number of the BRICS share common ecological or topographical circumstances (for instance possessing large semi-arid areas) which both accentuate the case for their cooperation and give them reason to emphasise their common interest with many other EMDCs.

There has already been substantial movement among BRICS countries towards more sustainable growth and alternative sources of energy. For example, India has set a goal of attaining a sizeable 175 GW of renewable energy by 2022. This includes adding 100 GW of solar energy, 60 GW of wind energy, 10 GW of bioenergy, and 5 GW of small hydro generation³⁶. Brazil's ethanol mandate has increased from 4.5% to the current 27%. More recently a law has been passed mandating transition to biodiesel and diesel blends³⁷. China's inexpensive production of wind and solar components has brought down prices of renewable energy around the world, in the process providing a major contribution to sustainability globally. Analysis by the International Energy Agency shows that the percentage of total electricity produced in China using renewables increased from about 18% in 2008 to 23% in 2014. In absolute terms both wind and solar power production increased rapidly, respectively from 14.6 TWh to 156.08 TWh, and from 0.15 TWh to 29.2 TWh over the same period³⁸. In light of their importance in global energy consumption, their growing technical capabilities in renewable energy production, and their potential role in disseminating such technologies globally, the BRICS are well positioned to play a consequential and even decisive role in coordinating financing, production and global standard setting for renewable energy use. This global public good is one that the BRICS could fruitfully make a focus of joint innovation efforts.

³⁴ <http://www.un.org/sustainabledevelopment/water-and-sanitation/>

³⁵ The Goa Declaration stated, 'We welcome the decision to share technical expertise in the areas of abatement and control of air and water pollution, efficient management of waste and sustainable management of bio-diversity. We recognise the importance of participation by BRICS countries in environmental cooperation initiatives, including developing a platform for sharing environmentally sound technologies'.

³⁶ Report of the Expert Group on 175 GW RE by 2022 (2015).

³⁷ See USDA (2016).

³⁸ See <http://www.iea.org/statistics/statisticsearch/report/?product=Indicators&country=CHINA>

VII. CONCLUSION

The BRICS have an important role to play in the 2030 Agenda for sustainable development, both because of the significance of what happens within their countries for its success and because of their potential contribution to the ability of other EMDCs to further it. The BRICS can help both to realise and to support pathways for inclusive and sustainable development.

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THE BRICS ROLE IN PROVIDING GLOBAL PUBLIC GOODS

I. INTRODUCTION

A growing list of unmet global challenges confront the world, including persistent poverty and deprivation, disruptive climate change, loss of ocean resources including through overfishing and acidification, deforestation, soil depletion, fresh water depletion, loss of biodiversity, and the spread of communicable diseases, excessive financial volatility, criminality in cyber-space, terrorism, and wars with regional and global consequences. These challenges will affect all countries, even if in different ways and to different degrees. In fact, many of these challenges have arisen because the corresponding global public goods (GPGs) such as financial stability, the international trade regime, cyber-security, terrorism control and peace are under-provided. Most of these challenges have been extensively studied and strategies to address them have been proposed. Nevertheless, corrective action has been slow to emerge, despite the fact that the costs of under-provision are sizeable and mounting, and in some policy fields—climate change, for example—the world is coming close to thresholds of irreversible harm.

Why is it difficult to engage in concerted global action to address such urgent problems? What is required to provide GPGs more speedily and effectively? What role could the BRICS play in fostering enhanced GPG provision and thereby foster progress towards sustainable and inclusive global growth and development? These goals have been set forth in the two landmark agreements adopted by the international community in 2015, that is, *Agenda 2030*, and the *Paris Agreement*³⁹.

This section of the report examines these questions. It first discusses the reasons that contribute to the under-provision of GPGs and suggests principles that ought to underpin GPG provision in a multipolar world. Drawing on several documents, including the BRICS Summit Declarations and reports on the role of the BRICS in various global challenge areas to-date⁴⁰, it presents reasons that the BRICS are well positioned to advance the agenda of 'a new multilateralism for GPG provision'. In Summit Declarations, the BRICS have repeatedly expressed their collective aspiration to help build a more open, cooperative, equitable and efficient world order.

In addition to the environmental, human, economic and political costs of allowing GPGs to be under-provided there are also structural changes in the world economy that make it of great importance to identify the new areas in which GPG provision is necessary. For example, the emergence of the 'digital economy'—or, as it is sometimes called, 'Industry 4.0' is one such source of structural change⁴¹. This set of technological and economic transformations could open up important new avenues of accelerated progress towards sustainable growth and development for all but could also lead to new challenges, for instance by sharply reducing employment in many sectors or by reducing the comparative advantage of developing countries in international trade arising from their relatively abundant

³⁹ See 'Transforming Our World: The 2030 Agenda for Sustainable Development' (UN 2015a); 'Adoption of the Paris Agreement' (UN 2015b).

⁴⁰ See for example: BRICS (2013, 2014a, 2014b, 2015, 2016a, 2016b, 2017) and Carey and Li (2016).

⁴¹ Industry 1.0 refers to early factory-based production in the course of the 19th-century industrial revolution, Industry 2.0 refers to 'Fordist' mass production in the early 20th century, and Industry 3.0 refers to 'post-Fordist' production systems based on just-in-time inventories and continuous improvement

labour⁴². There is therefore a need for extensive policy research on how the digital economy might affect employment and livelihoods, international trade, the role of intellectual property rights, the global tax base, personal privacy, international peace and security, inequality, social cohesion and inclusion, etc. In each of these areas there is likely to be a need for a suitable response in terms of the nature and extent of the coordinated public policy response, including the global public goods that are provided.

II. CORRECTING GPG UNDER-PROVISION THROUGH NEW MULTILATERALISM

Efforts to provide GPGs fall short of what is required⁴³. This falling short is not due to shortage of resources but rather due to a failure to apply available resources in a concerted and cooperative fashion. Pure public goods are goods that are non-rivalrous in consumption and non-excludable. According to standard economic theory, a good is non-rivalrous in consumption if its consumption by one individual does not reduce its availability for other individuals; and it is non-excludable if it is effectively infeasible to exclude individuals from its consumption. Most goods that are, or can be considered, public only partly fulfil these criteria but nevertheless commonly suffer from the problems of under-provision associated with them.

The provision of GPGs is often undertaken by appealing to national interest-based foreign policies. However, due to the interdependence of policy choices, effective international cooperation in a multipolar world also depends crucially on perceptions of process and outcome fairness. Effective provision of GPGs requires meaningful commitments to provide more resources than would be done on the basis of a calculation of a narrowly conceived national self-interest. This feature of public goods is what leads to their frequent under-provision. One possibility in addressing this difficulty is to think of GPG provision as

requiring its own pillar of international cooperation, based on a new type of multilateralism, concerned with 'enlightened self-interest' as well as the global public interest.

GPGs are a sub-category of public goods, but, due to their worldwide reach, they differ in important ways from the often much better understood national or local counterparts. It is therefore important to identify the goods' distinguishing features before exploring the main provision constraints and then subsequently exploring what might be required to achieve their adequate provision. It will be suggested that the BRICS are well positioned to make the argument for more effective GPG provision and through their actions help to make this a reality.

II.1 DISTINGUISHING FEATURES OF GPGS

GPGs share with other public goods that the benefits realised are fully or partially non-rivalrous and non-excludable. What distinguishes them from other public goods is their reach. They typically span several geographic regions and even the globe as a whole, may extend into areas beyond national jurisdictions (e.g. the polar regions or outer space) and are of long-term duration. They can affect several generations.

GPGs are not 'automatically' equally good for all. For example, while a few innovators may benefit from strict intellectual property rights (IPRs), many other people may suffer, unable to afford such patented goods as life-saving medicines.

Importantly, GPGs typically have to be provided on the basis of voluntary cooperation between diverse actors (in particular sovereign states). By contrast, in the national context the individual state plays the decisive role in the provision of public goods and determines through its actions how the burdens as well as benefits are distributed.

II.2 ENHANCING INTERNATIONAL COOPERATION FOR GPGS

Why are GPGs not being adequately provided, and why is the problem acute now?

It is in the nature of public goods that there are incentive problems involved in providing them, because of the spillovers involved. However, many GPGs also have their own systemic integrity requirements⁴⁴ requiring more policy actions than states, individually or collectively, are initially willing to take to realise them. International cooperation often extends only as far as global concerns overlap with narrowly conceived national interests. But by the very definition of a public good such a restrictive method of assessing the desirability of individual actions will lead to the under-provision of the good⁴⁵. For instance, it is acknowledged that to avoid global warming beyond the limit of 2 degrees Celsius requires the globally co-ordinated reduction of CO₂ emissions (see, among others IPCC (Intergovernmental Panel on Climate Change) 2015). The impediments to adequate GPGs provision include:

1. the absence of recognition in policymaking of the urgency of the goods
2. the scale of the efforts required
3. the perception and the reality of a lack of process and outcome fairness in international cooperation

All three contribute to inadequate coordination. More effective GPGs provision can be brought about through a number of measures including:

1. placing the provision of GPGs closer to the centre of policymaking
2. promoting process and outcome fairness in GPGs decision-making processes

3. creating sound financing arrangements that recognise the need for separate financing of GPGs
4. recognising the special importance of knowledge sharing in bringing about GPGs provisioning
5. recognising the importance of sovereign decision-making rights and responsibilities
6. recognising the principle of common but differentiated responsibility⁴⁶

III. THE ROLE OF THE BRICS IN GPG PROVISION

The BRICS are committed to support the emergence of 'a more just, democratic, and multipolar international order based on the central role of the United Nations, and respect for international law' (BRICS (2016), Paragraph 6). They welcome Agenda 2030 and reconfirm their commitment to lead by example in promoting its implementation (BRICS (2016), Paragraphs 21-23), ensure increased voice of the dynamic and emerging and developing economies while protecting the voice of least developed countries, poor countries and regions (Paragraph 30). Moreover, Paragraph 110 states that they are ready to support GPGs provision across a wide range of issues, including climate change, health, food security, management of the global knowledge and technology stock, building a multilateral trade system with development at its core, control of corruption and illicit money flows, international peace and security, and the long-term sustainability of outer space activities. BRICS Summit Declarations over the years (see, again, BRICS 2013, 2014a, 2015, 2016a), emphasise the determination to address these and other global challenges in cooperation with others.

⁴² The changes includes breakthroughs in at least six areas, many of which are interconnected and underpinned by digital technology: Manufacturing technologies such as robotics, automation, 3D printing, and personalised manufacturing; Information technologies including Web 2.0/3.0 and the Internet of Things (advanced internet-based process and product implementation), social media, big data, cloud computing, artificial intelligence, and virtual reality devices; Biotechnologies including genetic therapy, stem cell research, and applications of big data; Financial technologies with the potential to transform payment and lending systems, insurance services and asset allocation; Energy technologies including new forms of fossil fuels such as shale gas and oil and alternative energy sources such as solar and wind, new storage technologies, clean tech, and smart electric grids; Transportation and defence technologies including the development of automated cars, drones and advanced weapon systems.

⁴³ The discussion in this section draws on the concepts in Kaul et al (2016).

⁴⁴ 'Systemic integrity requirements' refers to the conditions that need to be maintained or achieved in order for a system (natural or human-made) to function in an intact and undiminished way.

⁴⁵ The distinction between under-provision and non-provision is crucial in the context of public goods: typically, an actor will undertake some effort to provide a good, in accordance with a narrow calculation of the individual incremental interest in doing so, but the cumulative sum of these efforts will lead to an inferior outcome compared to the counter-factual in which all actors undertake greater efforts.

⁴⁶ For more on these and related issues see Kaul (2017).

The BRICS have already undertaken some measures that have advanced GPGs⁴⁷. However, placing GPGs more explicitly at the centre of BRICS policymaking can enable the BRICS to make a bigger contribution to GPG provisioning.

Crucially, the size and significance of the BRICS in the new multipolar world offers them the potential to play a catalytic role in GPG provision and do so in line with the BRICS commitment to ‘make a bigger contribution to world economic growth, global governance and democracy in international relations’ (BRICS 2017). More specifically, two strategies could be pursued towards this end. First, the BRICS could encourage international policy dialogue to foster a clearer understanding of GPGs and how to address them in an incentive-compatible and effective manner; and, second, they could provide added support for relevant ongoing initiatives, as well as for new and innovative initiatives designed to accelerate progress in agreed-upon policy fields deserving urgent attention, such as climate change mitigation and adaptation.

III.1 ENCOURAGING GLOBAL POLICY DIALOGUE ON GPG PROVISION

The interest in a new international cooperation model is evident from discussions on the follow-up to Agenda 2030 and the Paris Agreement, and from debates on the future of multilateral development banks, including on the question of how they could best address GPG-related issues⁴⁸. However, these debates often remain embedded in frameworks determined by conventional foreign aid paradigms that are conceptually and practically ill-suited to addressing GPG provisioning. This continues to be the case even when addressing operational issues concerning international cooperation in support of GPGs, now often coupled with the mobilisation of private finance. A clear vision of how a more open, efficient and equitable global governance framework could work practically, enabling *inter alia* more effective GPG provision, is still lacking. A BRICS initiative could thus be of significant added value in helping to accelerate GPGs provision.

One specific step through which the BRICS can advance GPG provision

would be to request the UN to support a general debate on the issue in relation to the 2030 Agenda for Sustainable Development including the study of practical options. The BRICS could also sponsor consultations on specific GPGs in order to arrive at realistic proposals and instruments for enhancing their provision in a way that takes the systemic integrity requirements of the goods into account and fosters a distribution of costs and benefits that is perceived by all the concerned parties as fair and mutually beneficial.

III.2 ENCOURAGING INNOVATIVE AND ACCELERATED GPG PROVISION

Several BRICS statements (BRICS 2016a, 2016b, 2017) emphasise the importance of innovation as a key driver of sustainable growth and development. BRICS countries have made significant advances in strengthening their own research and development (R&D) capacities in a number of areas of considerable relevance to sustainable development needs. These areas include clean energy and its efficient use, manufacturing, transport, housing and water security; response to new and resurgent, communicable and non-communicable diseases; and the physical infrastructure of roads, airports and seaports, and access to the internet. In many of these fields, the BRICS are making valuable contributions, sometimes leapfrogging old technologies and developing new ones suitable to their conditions.

The capacities of the BRICS and their commitment to fostering more widely shared development raise the question of how they can help other EMDCs gain access to knowledge and technology relevant for sustainable development. Existing developed country investment flows to EMDCs are not as well matched with technological and sustainable development needs as is desirable. Some flows may even technologically foreclose more beneficial, sustainable, and equitable developmental trajectories. There is considerable room for BRICS initiatives to expand EMDC access to knowledge relevant for inclusive and sustainable growth and development. The BRICS could collaborate with the Technology Facilitation Mechanism established within the UN, welcomed in paragraph 22 of the BRICS Goa Declaration⁴⁹. Moreover, they could explore, together with the relevant multilateral

⁴⁷ According to its Articles of Agreement, the NDB's mandate is ‘to mobilise resources for infrastructure and sustainable development projects in BRICS and other emerging market economies and developing countries to support sustainable growth and development’ (NDB 2014:2); and the CRA's (Contingent Reserve Arrangement) purpose is to ‘forestall short-term balance of payments pressures, provide mutual support and further strengthen financial stability’ (BRICS 2014b: 1). The BRICS have played a leading role in the field of renewable energy, in which each one of the BRICS countries ranks at least once (and several many times) among the top five performers (see REN21, 2017); in international peacekeeping operations (BRICS Policy Centre 2011); and in various G20 initiatives, including in finance and trade (Haibin 2013; Hou et al 2014).

⁴⁸ See, among others High Level Panel on the Future of Development Banking (2016); Kaul (2017); WBG (2016).

⁴⁹ See, for more information about this mechanism: <https://sustainabledevelopment.un.org/tfm/>.

organisations and other concerned stakeholders, ways to accelerate the dissemination of critical technology, including in the fields of clean-energy and water. The BRICS countries themselves are already grappling with the implications that advanced technologies have for labour markets, education and training, urban planning and management (‘smart cities’) and the delivery of services, including in health, education and computing⁵⁰. Many other EMDCs are likely also to be concerned about these issues. Thus, a further initiative that the BRICS could initiate might be to support a high-level commission on how different groups of countries—depending on their level of development, their main industries and other factors— might best address these changes.

IV. CONCLUSION

Addressing the challenges of providing GPGs requires finding fairer, more efficient and effective ways to do so, since many GPGs require, for their adequate provision, the cooperation of most countries and, often, also the cooperation of most people. The BRICS are already engaged in a number of GPG-related technological and policy domains and are pursuing approaches to provision in line with these principles. Effective provisioning of GPGs will help to establish the value of the new multilateralism—more open, participatory and equitable approaches to international cooperation.

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⁵⁰ See, among others: BRICS Skill Development Working Group (2016); Chaturvedi, Bhalla and Chakravorti (2017); Schwab (2016); Stacey and Nicolau (2017).

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E \ GLOBAL ECONOMIC GOVERNANCE: NEW ARRANGEMENTS

I. INTRODUCTION

The first decades of the twenty-first century have seen transformative changes in the world economy. Enjoying comparatively high measures of growth, EMDCs have become systemically important to global growth, trade and output, as has been reviewed in earlier sections.

Underlying the increasing importance of EMDCs in world growth, trade and output there are a series of significant structural changes, which will be briefly reviewed here in light of the relevance of these facts to the discussion that follows. EMDCs have become highly integrated into international trade, production, and financial networks. This has included the development of an increasingly dense set of linkages between those economies. By 2015, trade among them accounted for over 28% of all international trade. It also accounted for almost 60% of their total merchandise imports and exports⁵¹. The BRICS alone imported and exported 3.1 trillion US Dollars worth of goods and services from and to EMDCs in 2015⁵². Both imports and exports between the BRICS and other EMDCs have also been growing over the last two decades. FDI flows between EMDCs also grew over this period⁵³. These developments have created a more complex pattern of international integration for EMDCs, which for many decades had been caught in primarily 'North-South' patterns of trade and capital flows.

New patterns of growth, output, international trade and investment have revived debates over the inadequacies and inequities of the present system of global economic governance, including over institutional practices and conventions of international monetary management, multilateral development banking, and the regulation

of international trade and banking. The prevailing system was shaped by the economic and political realities of the second half of the last century, reflecting primarily the objectives of US policy makers but also those of other advanced-economy governments. EMDCs have called for changes and reforms in the system since the collapse of the Bretton Woods regime in 1971-73. These calls went mostly unheeded for decades.

The financial crisis of 2008 and the recent robust growth of EMDCs have changed the world economic and political picture significantly. These events have made the problems and anachronisms of the present system of economic governance strikingly clear. The greater economic weight and interconnectedness of EMDCs may have created the conditions under which EMDCs themselves could start moving towards building a new, genuinely multilateral system of global economic governance. The BRICS countries have already taken important enabling steps in this direction through the CRA and the NDB.

This section outlines and discusses some possible reforms and innovations in international monetary management and development banking. It draws on successful experiences the BRICS and other EMDCs have had with development banking, industrial policy, international pooling of reserves, and clearing unions. This section emphasises steps that can enable medium- to long-term progress towards a system of global economic governance in line with the needs of the international economy of the twenty-first century.

⁵¹ Calculated from data in UNCTAD (2016).

⁵² UN Comtrade (2017).

⁵³ According to recent estimates, their share had risen (from 3% in 2000) to 14% of the global FDI total in 2009 (UNCTAD 2015a).

II. PROBLEMS OF THE INTERNATIONAL MONETARY SYSTEM

The present international monetary system has three salient characteristics relative to its predecessors: a de facto central role for an inconvertible US Dollar as the primary currency of international settlements and reserves, a measure of flexibility and choice in national exchange-rate policies, and high measures of trade and capital-account openness. The development of this system over the past forty years coincided with a period of significant international commercial, financial, and supply-chain integration; dramatic geographical and structural shifts in the world economy with a growing share of world manufacturing and output taking place in Asia in particular; reductions in the proportion of the world population in absolute poverty; and a considerable increase in economic inequality. The Post-Bretton Woods system has also suffered from recurring episodes of financial instability and damaging crises, some with global effects.

The merits of this system have been the subject of extensive debates, particularly following the US financial crisis of 2008⁵⁴. A number of contributions have underscored the fundamental incoherence of an integrated international economy that relies heavily on the currency of an individual country for international settlements and reserves. The resulting system creates considerable costs and risks, particularly for EMDCs whose currencies are not widely accepted as reserves. It also encourages patterns of international imbalances that exacerbate financial cycles and encourage inequitable and distorting processes of growth. Finally, the system gives specific monetary authorities disproportionate responsibilities and influence during episodes of financial instability.

II.1 RISKS AND COSTS

Under the present system, the external financing necessary to support economic development and international trade primarily takes place in US Dollars. This exposes EMDC firms and governments not only to currency mismatches in their balance sheets, but also to risks associated with developments in US credit and financial markets. An early illustration of this vulnerability was given by the experience following the 1979 interest rate shock in the US economy, which had catastrophic consequences for the ability of Latin American economies to manage loans incurred during the dislocations of the 1970s oil shocks.

A more recent illustration was given during the 2008 US financial crisis. The systematic (and seemingly paradoxical) flight to the safety of the US Dollar exposed various countries, including EMDCs reliant on capital inflows, to a sudden reversal of capital flows, the rapid evaporation of US Dollar liquidity, and considerable downward pressures on their exchange rates. This resulted in chronic strains for many financial and non-financial enterprises in those economies, which had become deeply involved in financing, revenue generation, and the taking of derivative positions in US Dollars⁵⁵. In many cases, domestic central banks were only able to meet the urgent demand for US Dollar liquidity by entering into swap agreements with the US Federal Reserve⁵⁶. The US crisis also seriously disrupted the financing of world trade, which is overwhelmingly undertaken in US Dollar terms (See **Box E.1**).

BOX E.1 \ TRADE FINANCE AND ITS US DOLLAR VULNERABILITIES

Between 80% and 90% of international trade is supported by some form of trade finance (Auboin and Engmann 2013). International banks are central to this business, directly financing trade through instruments like Letters of Credit, or providing a range of insurance, discounting, and credit-enhancement services to parties using inter-firm credit to conduct transactions. Most trade finance takes place in US Dollars, with more than 80% of Letters of Credit settled in that currency (See BIS (2014), which estimates that in 2011 banks supplied between \$6.5 and \$8tn of trade finance, while credit insurance products covered nearly \$1.7tn in trade). The dominance of the US Dollar is evident in trade finance in the BRICS. As reported by the BIS (Bank for International Settlements) (2014), more than 90% of import loans in India are denominated in US Dollars. In China, international trade finance in US Dollars is still twice as common as in Renminbi. In Brazil locally extended trade-finance loans are denominated in Reais, but are funded with credit lines that are overwhelmingly in US Dollars, and are repaid with foreign currency export revenues.

The evaporation of US Dollar liquidity in 2008 severely disrupted trade credit markets and thus world trade. This disruption hit developing economies particularly hard. Spreads on 90-day letters of credit involving EMDCs parties rose from a range of 10 to 16 basis points to 250 to 500 (International Chamber of Commerce 2012). Surveys taken in late 2008 pointed to severe strains in trade financing across the developing world (Auboin 2009 and Auboin and Engmann 2013). Reliance on a single currency exposes world trade to disruptions arising from specific macroeconomic or regulatory failures. EMDCs face an additional challenge in that international capital-adequacy regulations often entail that this type of activity has high equity capital costs for banks (see BIS Report on Trade Finance 2014). There is a clear need to develop new facilities to help finance EMDC international trade. One forward-looking way of addressing this need would be the establishment of a multilateral import-export clearing union (MCU). As described below, such a union could directly provide trade credit denominated in a basket of currencies to parties from member countries, or support the development of private markets capable of consistently doing so. It would also represent a modest, concrete first step towards the development of a more equitable and multilateral international monetary system.

⁵⁴ This includes prominent official interventions such as Zhou (2009); UN (2009), the 'Camdessus Report' of 2011; WTO (2012), and IMF (2016a, 2016b); interventions by IMF staff including Mateos y Lago et al (2009); and contributions by academics, including Ocampo (2010); Eichengreen (2011) and Cohen (2009).

⁵⁵ See Mesquita and Torós (2010).

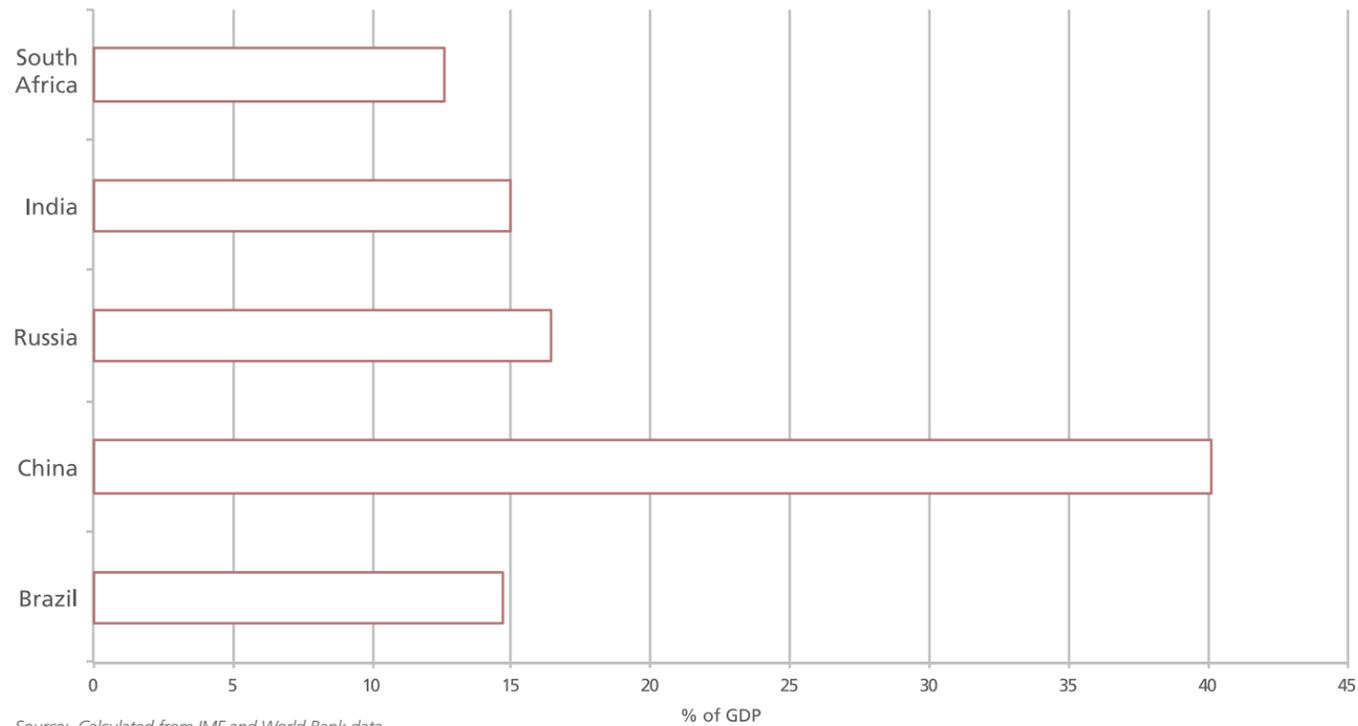
⁵⁶ See https://www.federalreserve.gov/monetarypolicy/bst_liquidityswaps.htm

Exposure to external shocks and mismanagement is not the only cost borne by EMDCs under the current international monetary system. Following the crises of the 1980s and 1990s, many of their central banks moved to accumulate dramatically larger US Dollar reserves to insure themselves against sudden stops in capital flows and speculative attacks on their currencies. As Baker and Walentin (2001) and Rodrik (2006) have noted, these accumulations come at

significant cost to those economies. Using the spread between the yield of domestic Treasury securities and corresponding US securities of the same maturity as a conservative proxy for the effective price paid on international reserves yields estimates for the annual costs borne by individual BRICS economies of between 0.7% and 2.5% of GDP in 2014 (see **Figure 3.E.1**).

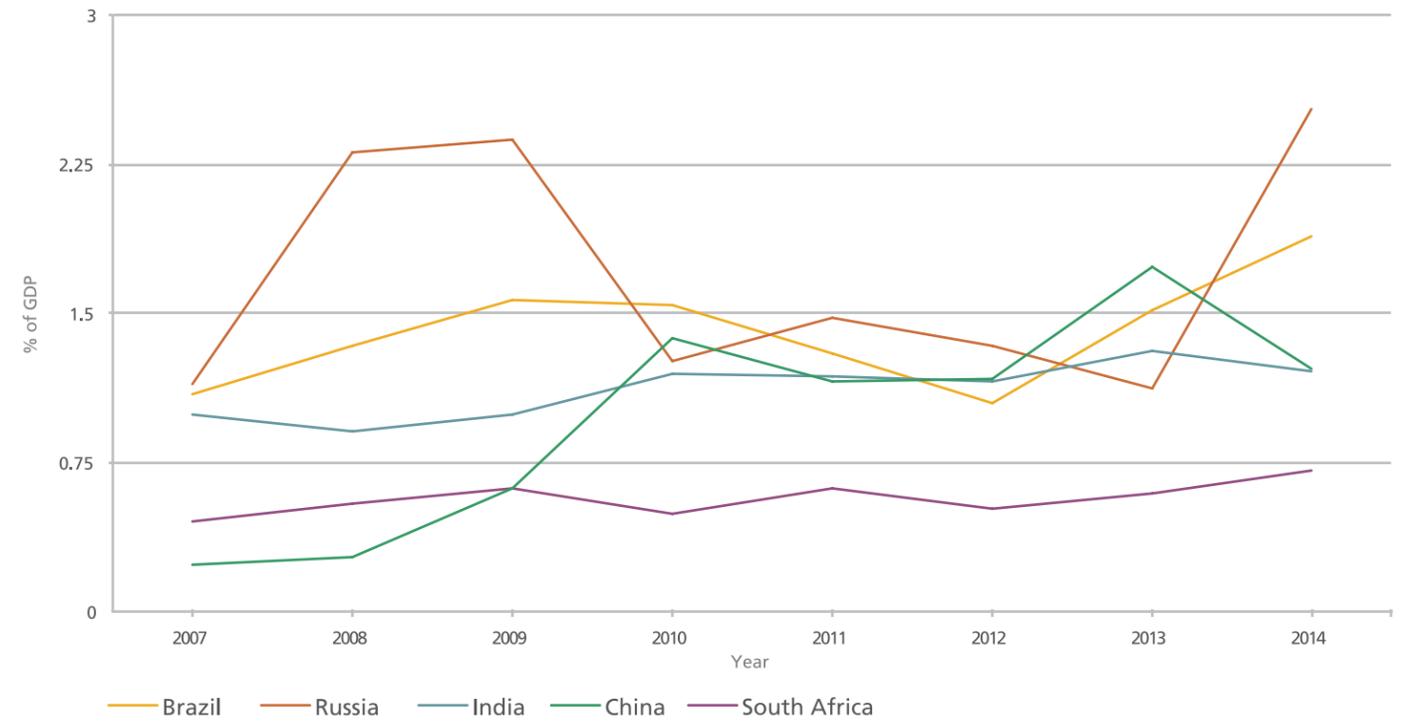
FIGURE 3.E.1 \ SIZE AND ESTIMATED COST OF RESERVES, RELATIVE TO GDP

A \ Official foreign exchange reserves as percent of GDP



Source: Calculated from IMF and World Bank data

B \ Estimated Costs of Holding US Treasury Securities as Reserves



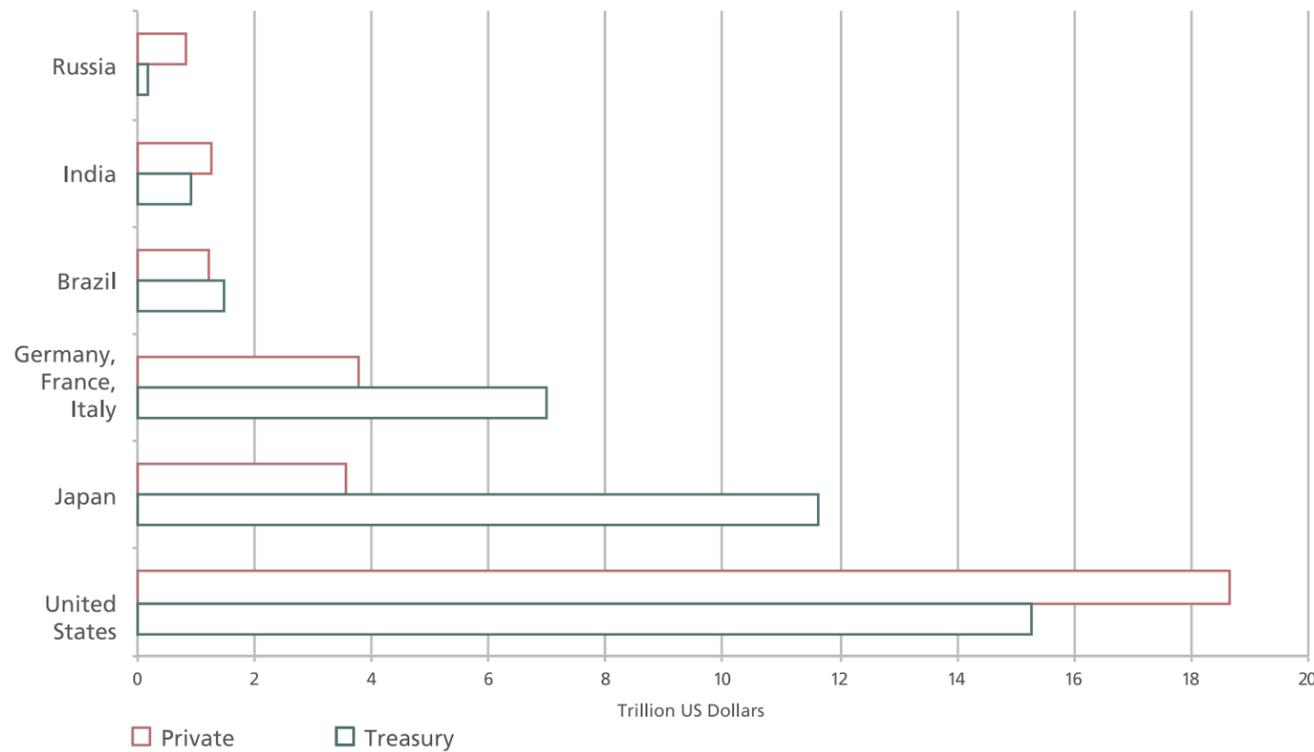
Source: Calculated from IMF and World Bank data

The costly accumulation of reserves reflects a broader, disproportionate preference by internationally mobile investors for US Dollar-denominated assets. In fact, net international capital flows move 'uphill', that is, away from many EMDCs to advanced economies, primarily the US⁵⁷. This pattern is clearly counter to the investment needs of international convergence.

The overwhelming preference of international investors for US assets (suggested by **Figure 3.E.2**) has benefitted some, in particular in the US economy. But it has also contributed to the development of significant imbalances and inequities.

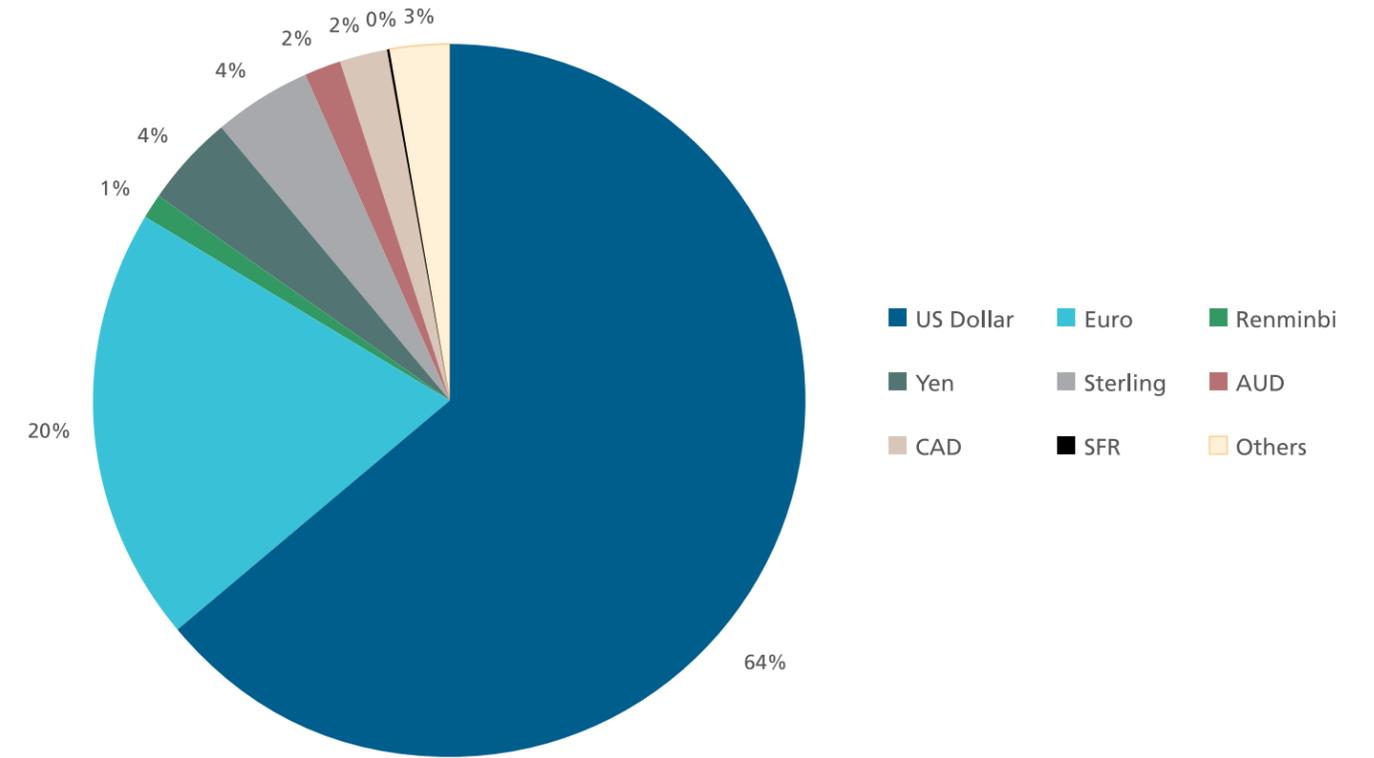
FIGURE 3.E.2 \ COMPOSITION OF OFFICIAL RESERVES AND SIZE OF SECURITIES MARKETS

A \ Market Capitalisation for Treasury and Private Securities



Source: Calculated from IMF, Federal Reserve & World Bank Data

B \ Composition of Official Reserves



Source: Calculated from IMF, Federal Reserve & World Bank Data

⁵⁷ As noted early in Lucas (1990) and more recently in Prasad et al (2007).

II.2 CRISES AND THEIR MANAGEMENT

As already noted, the international monetary system is affected by the tensions that exist between the domestic and international effects of US monetary policy⁵⁸. Whatever course of action US monetary policy takes, the incongruence between the national nature and mandate of the Federal Reserve and its international influence is clear.

The unconventional monetary-policy measures undertaken by policymakers in the US (and other advanced-economies) in response to the post-2008 recession contributed to destabilising capital flows into many EMDCs. Many of those economies experienced stock market and currency appreciations as a result⁵⁹. In many cases, increased capital inflows occurred alongside rapid credit growth, creating challenges for monetary policy and contributing to the development of financial vulnerabilities⁶⁰.

The prospect of a return to more conventional monetary-policy regimes has raised concerns about a sudden reversal of these developments and further episodes of financial instability for EMDCs. The mere announcement in May 2013 that the Fed would start tapering its asset purchases and move towards a normalisation in US monetary policy led to the so-called ‘Taper Tantrum’—a significant depreciation of assets and currencies across a number of EMDC economies. US monetary authorities and the Bretton Woods organisations expect that the eventual full return to normal monetary conditions in the US and other advanced economies will ‘cause investors to adjust their portfolios, triggering capital outflows from emerging market and developing economies’⁶¹.

The position of the US Dollar in international financing has effectively required the US Federal Reserve to function as an international lender of last resort. This was clear during the distresses of 2008-2009, when many central banks took advantage of swaps with the US monetary authority to supply Dollar liquidity within their own jurisdictions, as mentioned above. At their peak, these operations totalled almost 600 billion US Dollars, around twice total IMF resources at the time⁶². While successful in its stated purposes, this was done outside any multilateral framework defining these operations, their terms, and what should be reasonable expectations concerning their use in the future.

III. THE STATE OF REFORM

The 2008 crisis in the U.S. financial system prompted a prominent and at times wide-ranging debate on the future of the international monetary system. Many called for significant reforms, including for wider use of the SDR (Special Drawing Rights)⁶³. While there have been some adjustments to the composition of the basket of currencies that makes up the SDR and its supply by the IMF, the push for broader changes is slow⁶⁴.

The US Dollar’s dominant position has important economic foundations, in addition to its non-economic ones⁶⁵. The US economy has the largest and most liquid financial markets in the world⁶⁶, its economy is sufficiently large and diversified to allow the Fed largely to ignore the effect of large capital flows on the US Dollar’s valuation, and its authorities have been hitherto credibly committed to capital mobility

⁵⁸ The identification of this conflict in the Bretton Woods monetary system is due to Triffin (1960).

⁵⁹ Fic (2013); Lavigne et al (2014); Lim et al (2014).

⁶⁰ Sahay et al (2014).

⁶¹ Fischer (2015), p 8.

⁶² IMF (2011), p. 10.

⁶³ See Zhou (2009); UN (2009); the ‘Camdessus Report’ of 2011; WTO (2012), and IMF (2016a, 2016b).

⁶⁴ An IMF (2009) Staff Position Note discussed as possible alternatives: (i) the creation of a multi currency reserve system; (ii) greater use of the IMF’s SDR; and (iii) the possibility of a Bancor-type regime. In contrast, an IMF (2016a) document on ‘Strengthening the International Monetary System’ focuses instead on: (i) crisis prevention; (ii) policy cooperation; and (iii) the development of a global financial safety net, all under the present monetary architecture. The document concludes by noting that many member countries ‘are interested in discussing enhancing the role of the SDR. Staff would need to return to this in due course’. A subsequent IMF (2016b) Report considers possible new roles for the SDR only inasmuch as they may help address ‘market failures’, while advancing no concrete, actionable proposals.

⁶⁵ For recognition of the latter, see Rogoff (2008).

⁶⁶ McCauley and Semolina (2000) report that in 1997 trade in US Treasury securities involved a total transaction volume 37.9 times greater than the total stock of securities outstanding. By comparison, the corresponding measure in Japan—the second biggest market for government debt—stood at 17.1.

and price stability. As a result, self-regarding market actors daily look to the US dollar as an international unit of account, means of exchange and settlement, and store of wealth. The network effects inherent to the performance of these functions have ensured that this preference is disproportionate to the size of the US economy⁶⁷, which accounts for just below one quarter of global output. In some cases, this disproportion is overwhelming, as is clear from **Figure 3.E.2**. A central economic challenge of international monetary reform is the creation of monetary instruments capable of performing the functions currently performed by the US Dollar, to the satisfaction of self-regarding, internationally mobile market agents.

III.1 CURRENCY INTERNATIONALISATION AND SDR STRENGTHENING

A number of reforms and initiatives have been undertaken since the 2008 crisis to improve the functioning of the current system, and to lessen the burdens on EMDCs. This has included moves to encourage the internationalisation of the Renminbi and to broaden the use of the IMF’s SDR.

As is well known, the role of the Renminbi as an international currency has been increasing. Offshore Renminbi clearing centres have been established, including in London and New York. A series of swap agreements totalling almost 500 billion US Dollars have been established between the People’s Bank of China (PBOC) and more than thirty other central banks⁶⁸. These facilities could deliver liquidity support to economies experiencing short-term funding gaps, potentially making funding possible outside IMF programmes and conditionality. They may also contribute to growth in Renminbi reserve holdings.

In 2016, the IMF added the Renminbi to the SDR basket of currencies, with a weight of just under 11%. This is significant in light of IMF efforts to support broader use of the SDR as a reserve asset. It made a general allocation of SDR 161.2 billion to member central banks in

2009, and it continues to monitor and discuss the possibility of making further allocations to help diversify reserve holdings.

To the extent that the international use of the SDR as a central-bank reserve increases in coming years, this would contribute to the internationalisation for the Renminbi. The direct benefits to the Chinese economy are clear. Other EMDCs may also enjoy indirect benefits, both as a result of diversification in the world’s reserve currency arrangements, and because of the ability of the PBOC to act as a supplier of international liquidity, potentially on bases different from those attached to IMF programmes.

Strategies of internationalisation along these lines are, however, beyond the capacities of most if not all other EMDCs. They require a large economy and trade volumes, liquid capital markets, few impediments to convertibility (at least in offshore trading) and high creditor confidence. At least in its early phases, they must also be supported by sizeable and stable US Dollar reserves. More significantly, the network effects inherent to the performance of monetary functions may significantly limit the scope for adding additional individual currencies to an existing effective basket of reserve monetary units.

III.2 RESERVE POOLING

Another line of reforms improving the capacity of EMDCs to manage the risks and costs in the present international monetary system involves the effective pooling of reserves. Important actions enabling such pooling have been taken, including the Chiang Mai Initiative and, more recently, the BRICS CRA.

These arrangements allow member banks to draw on a pool of Dollar reserves through swaps involving their own currencies if they face short-term liquidity shortages. Some members have agreed to limit their right to access reserves to a fraction of their potential contribution, while some have the right to request swaps exceeding it. In addition

⁶⁷ A positive network effect is understood to exist whenever use of a good or service by one agent increases the value of that good or service by other agents.

⁶⁸ See the PBOC’s Report on Renminbi Internationalisation, excerpts of which are available in PBOC (2016).

to pooling reserves, the arrangements allow members to draw a portion of their drawing limits without being required to participate in an IMF programme and abide by its corollary conditionality. The benefits of these initiatives will be proportional to the size of total reserves pooled relative to typical financing needs during episodes of distress, the breadth and diversity of participating economies, and to the extent to which they effectively allow soundly managed economies in distress to access resources in excess of their contributions. Also, crucially, increasing the proportion of funds that may be accessed without participation in an IMF programme (and the attendant policy conditionalities) would increase the policy space open to countries suffering short-term liquidity pressures.

The question of requirements imposed on borrowers in these arrangements brings up a rather difficult question in global economic cooperation: What are the principles and mechanisms through which a multilateral, pro-growth system would seek to balance the goals of safeguarding the interests of creditors and maximising the policy options open to their peer governments whose economies experience liquidity shortages or balance-of-payments strains? This is a core policy challenge in the development of a new global system of economic governance.

IV. NEW CURRENCY ARRANGEMENTS

While these measures represent positive and indeed necessary steps, they do not redress the fundamental incongruence at the heart of the international monetary system. Recent changes in the world economy, however, have placed the BRICS and EMDCs more broadly in a position to consider other options to address this difficult problem. Increasingly dense and globally significant networks of trade and financing among EMDCs may provide the bases for considering the creation of a new international means of exchange and store of wealth as a longer term possibility. The surpluses and reserves many EMDCs have accumulated offer the means to establish new development banking and trade-clearing institutions that can function in line with a broader, pro-development system of international economic governance.

It is possible that EMDCs might today be able to consider taking modest steps towards the construction of what could perhaps be seen as a twenty-first-century version of the international system Keynes envisioned—a system based on a broadly representative currency

⁶⁹ Whether the most appropriate basket would be the newly expanded SDR or a more representative weighting of international and EMDC (and in particular BRICS) currencies is an important practical and political question requiring separate attention. An initiative to develop an MCU should presumably include one or more or even all currencies of members, likely in varying proportions.

that settles international trade and serves as the denomination for international financial contracts. That currency would have to be combined with a set of institutional practices and conventions that help diminish the trade and financial imbalances that can develop across increasingly interdependent national economies.

The vulnerabilities and costs of trade credit supporting EMDC imports and exports discussed earlier provide a compelling motivation for the development of new trade financing arrangements for EMDCs. A well-capitalised, multilateral clearing union (MCU) capable of extending trade credit for qualifying parties in member countries could offer valuable alternatives to present arrangements. It could also make a concrete, practical contribution to the process of developing a new international means of exchange/settlement and unit of account. The gaps in trade financing for EMDCs and the growth in trade flows among them offer the market basis for the successful functioning of such an organisation. The establishment and capitalisation of such a union may be within the capacities of BRICS central banks and import-export banking institutions. Such moves could perhaps encourage other steps towards a global MCU by promoting a broader membership, including in the first instance the BRICS principal trading partners.

The key innovation in such clearing unions would be in the nature of the MCU's unit of account. Instead of relying exclusively on the US Dollar, the MCU would denominate claims on its balance sheet through an international basket of currencies⁶⁹. In its defining transaction, the MCU would credit the account of an exporter (or that of its bank), while maintaining convertibility into the basket of national currencies defining its own unit of account. Importers (or their banks) could discharge their obligations either by producing the requisite quantity of the MCU's liabilities, or the equivalent in national currencies. The MCU could also work closely with private financial institutions on the development of contracts and modalities that would allow the latter to engage in MCU-denominated trade credit. This could include arrangements that could help lower the equity-capital cost of private engagement in EMDC trade finance.

Growth in intra-EMDCs trade can be leveraged to sustain demand for this type of financing. The trade-credit obligations it creates would generate demand for MCU liabilities. Importantly, the recent emergence of an increasingly dense network of South-South trade, as has been documented earlier in this report, creates growing scope for the mutual offsetting of claims between members of the MCU,

effectively increasing the circulation of its liabilities and bringing measures of that trade onto its own balance sheet. This would also reduce demand for US Dollars to mediate. It would also establish the MCU's liabilities as an incipient international monetary form. Such an initiative could be begun on a realistically modest level and then scaled upward as market demand and other conditions warrant.

General use of the Multilateral Clearing Unions' liabilities by importers and exporters could lay the foundation for a further set of measures supporting the development of financial markets for securities denominated in them. Members of an MCU could support the development of such markets by making some of their own debt issuances to MCU-liability markets. Multilateral development policy could also assist in the establishment of these markets by supporting their use in the issuance of bonds financing GPGs (for example, instruments supporting developing-country policies aimed at stopping or mitigating climate change) or other common objectives⁷⁰. Policy could also more broadly support the development of market and institutional conditions allowing for the eventual issuance of private securities in such markets.

While initiatives in this direction may have seemed far-fetched only a few years ago, the IMF has recently put some effort into investigating the potential benefits, risks and market-development issues posed by the establishment of an 'M-SDR', or SDR-denominated private financial-market instrument⁷¹. While rightly pointing to the institutional difficulties posed by the de novo establishment of these markets, IMF (2016b) also recognises the important diversification gains that are built into international financing denominated in a basket of currencies.

⁷⁰ As proposed by Zattler (2010).

⁷¹ See IMF (2016b).

⁷² The same IMF contribution contrasts the experiences of two previous multi-currency financial markets: the short-lived SDR financing market of the 1970s and early 1980s, and the more successful European Currency Unit-denominated market. Four distinct but related factors that may have conditioned the comparative success of ECU markets bear careful consideration in thinking about the development of new M-SDR or MCU financial markets: (1) The presence of regulatory-arbitrage opportunities in multi-currency markets, where financing may be free of regulatory restrictions that may bear upon single-currency, onshore financing; (2) the credibility of the convertibility of the issuance unit into a generally recognised currency; (3) official interest and support, for instance in developing markets, in securities denominated in the unit; and (4) the degree of broader economic integration between the regions involved in these markets.

Both issuers and holders face lower exchange-rate and interest-rate risks than in single-currency financing⁷². The eventual development of large, liquid and generally open multi-currency financial markets would also represent the establishment of a new international store of wealth. This too would reduce disproportionate private demand for US Dollar denominated assets, and reduce official demand for US Dollar reserves.

A different approach to developing an alternative reserve asset would, as noted above, be to try to develop a new reserve asset based on existing ones. As is well known, IMF conditionality during the Asian Financial Crisis of 1997-98 caused a reaction in many EMDCs and occasioned criticism from economists as overly strict or inappropriate (see e.g. Stiglitz 2002) and some institutional responses by Asian governments followed. One was the previously mentioned Chiang Mai Initiative (CMI) in 2000. Another was the Asian Bond Fund (Asian Bond Fund 1 (ABF 1) in 2003 followed by the Asian Bond Fund 2 (ABF 2) in 2005). The Asia Bond Fund 1 (ABF 1), announced in 2003 by the Executive's Meeting of East Asia-Pacific Central Banks (EMEAP) consisting of 11 countries, channeled investment into dollar-denominated sovereign bonds issued by the governments (Park et al 2006). The Asia Bond Fund 2 (ABF 2) was started in 2004. The central banks of the EMEAP have through these initiatives committed to invest in local currency denominated Asian bonds, thus supporting broader investor purchases of the bonds. The ability to issue long-term bonds both domestically and abroad in domestic currency can lessen a significant constraint on EMDCs. The ABF 2 consists of nine separate funds: a Pan-Asian Bond Index Fund (PAIF) and eight single-market funds.

Although the development of an alternative international reserve currency may well be a worthy long-term goal of the international economic system, over the short- and medium-term, creating a multipolar world of reserve assets may be more immediately beneficial and practically feasible. The BRICS could create instruments similar to the Asia Bond Fund 2 (ABF 2). By supporting each other in issuing local currency bonds and creating a new diversified asset class for both resident and non-resident investors, the BRICS will have helped to widen the range of reserve assets.

V. SOVEREIGN DEBT RESTRUCTURING

The international financial architecture suffers from serious deficiencies when it comes to the issue of resolving sovereign debt crises. It is a basic tenet of a dynamic market economy that severely distressed debtors ought to be provided the opportunity for a fresh start so as to avoid debt becoming an impediment to consumption, investment and innovation. Domestic legislation recognises this: most countries have some form of bankruptcy law that sets provisions for achieving efficient and fair resolutions in the interest of furthering both efficiency and equity. But there are no similar (or even remotely close) frameworks for sovereign debtors.

Instead, the current frameworks for sovereign debt restructuring, based on decentralised and non-binding market-based instruments centred on collective action clauses and competing codes of conduct, remain fraught with perverse incentives, which in turn lead to sometimes destructive and inequitable outcomes.

Restructurings are inefficiently delayed, and once they occur the amount of relief achieved by the distressed sovereign is very often not sufficient to restore debt sustainability. The gaps in the international financial and legal architecture have also led to the emergence of destabilising speculative holdout behaviour—including on the part of the so-called vulture funds, which buy distressed debt at bargain prices in secondary markets to litigate claims to full payment (full principal and full interest, including punitive interest). The return on this behaviour can be exorbitant. Vulture funds' actions delay the finalisation of restructurings with deleterious consequences for societies experiencing sovereign debt crises, and lead to severe inter-creditor inequities. This creates a moral hazard problem that in turn jeopardises the entire functioning of sovereign lending markets, since responsible creditors who accept losses in order to permit a return to debt sustainability are in effect punished.

There is consensus that the system is deficient—a point that has been recognised in different degrees by the IMF, the G20, the international business community, and the United Nations, where the G77 + China have been leading the way in proposing reforms⁷³. There is no consensus, however, on what reforms to implement.

There have been a handful of attempts in the direction of creating a multinational formal framework for sovereign debt restructuring since the 1930s, but no significant progress has been made. The call for reforms has intensified recently in the context of the Euro area crisis and Argentina's legal dispute with holdout bondholders in the US Courts. Private investors, with the endorsement of the IMF, have advanced reforms that remain within a contractual approach, suggesting new contractual terms that aim at making holdout behaviour more difficult, such as more robust collective action clauses (ICMA 2014). The new terms constitute progress but gaps remain. Improved versions of collective action clauses will help but will not replace basic and essential functions of coordination and relative predictability implied by statutory frameworks. In fact, contractual improvements and a statutory approach providing a multinational legal framework for the governance of sovereign debt should be seen as complements, not alternatives.

In September 2014 the United Nations launched a process for creating a 'multinational formal framework for sovereign debt restructuring processes' through the adoption of UN General Assembly Resolution 68/304. As a result of the opposition of major creditor countries, the process evolved towards less ambitious goals. In 2015, the UN General Assembly passed Resolution 69/319 that adopted nine principles that should be the basis of sovereign debt restructuring processes—the principles are sovereignty, good faith, transparency, impartiality, equitable treatment of creditors, sovereign immunity, legitimacy, sustainability, and majority restructuring. These have been inadequately respected in many of the recent restructurings. Adherence to them would lead to more efficient and equitable outcomes. But six countries voted against, including the two major jurisdictions for sovereign lending.

A possible path of action, discussed at the UN General Assembly of 2016 (and based on Guzman and Stiglitz, 2016), would be to work on the establishment of a 'soft law' regime that builds on the recent work of the United Nations. Soft law has the potential to create a healthier environment for debtors and creditors. It relies on social norms and market acceptance, rather than on legal force to induce compliance. The immediate challenge is to improve the consensus over

the principles and institutions that should guide the constitution of such a regime. The EMDCs, and especially the BRICS, should have a larger influence over these institutions, consistent with their growing role in the global economy. It is noteworthy that all BRICS members voted in favour of the two UN resolutions mentioned above.

There are other reforms of the international financial architecture that could also improve matters. The problems in sovereign debt restructuring are exacerbated by the existence of sovereign credit default swaps (SCDS). These instruments encourage non-cooperative behaviour, as creditors that hold SCDS will most likely be repaid in full regardless of the debtors' actions. Furthermore, SCDS can be used not only for insurance purposes but also for speculation. This is the case of naked SCDS, in which the SCDS holder does not hold the underlying security. Third parties holding SCDS also have incentives to exert actions that increase the sovereign's probability of default. The European Union has corrected this deficiency since 2012 by banning naked SCDS trading. Other regions in which such instruments are traded have not implemented similar or other reforms to address this problem. Markets for SCDS lack transparency. There is no obligation for a bondholder to disclose her/his SCDS position. SCDS are exempt from securities regulations and provisions that are key for the correct functioning of financial markets. The controversial rationale is that these contracts are 'exceptional' because they are indispensable for a better performing financial system, and because they involve sophisticated parties. The advocates of no regulation claim that in such a context regulatory failures would bring large costs but that good regulation would bring small benefits. This is far from true. In practice, the opaqueness of these markets, combined with the perverse incentives they can create, are sources of concern. Because of the consequent negative spillovers for sovereign debt restructuring processes, these instruments should be regulated.

The BRICS could have an important role to play in this matter by advocating better sovereign debt restructuring mechanisms. This could provide a background framework for all EMDCs to borrow for developmental purposes without the concern that, in the eventuality of crises and the need for debt restructuring, creditor interests will always be put first, ahead of furthering efficient economic outcomes or socially just ones.

A system for sovereign debt restructuring is a global public good. The world is lacking it at the moment, and both EMDCs and developed countries suffer the consequences. This is one of many areas in which a BRICS voice can make a decisive difference in creating a set of global economic rules more supportive of development.

VI. DEVELOPMENT BANKING, INDUSTRIAL POLICY AND INFRASTRUCTURE

Concerted efforts to promote upward convergence in levels of development should be integral to any effective twenty-first-century system of economic governance. The experience some EMDCs have had with the successful formulation and pursuit of national industrial strategies, large infrastructure undertakings, and with development banking, holds important lessons for the establishment of a new approach to global economic governance. The recent accumulation of large international reserves by the BRICS and other EMDCs can usefully support the capitalisation and functioning of development banking organisations that operate in line with this understanding. New institutions such as the AIIB and the NDB are in a position to help re-conceptualise the work of existing multilateral investment and development banking institutions. Such institutions are poised to match available surpluses with investment needs among EMDCs, especially in productivity increasing investments in infrastructure. Other innovations, including in developing long-term investment criteria, and in financing methods, may also support such development banking activities.

Shared research and development initiatives or exchanges of positive experiences in industrial policy could also play an important role⁷⁴. Pro-industrialisation development banking could usefully support the development of national or regional research centres and laboratories. Even if in early phases research would most likely focus overwhelmingly on the local adaptation and emulation of existing technologies, such undertakings could steadily develop institutional capacities and assist in the training and retention of researchers who can eventually engage more consistently in frontier research. With concerted support for national and regional research capacities and strategies, developing countries can 'leapfrog' advanced economies in some areas. This is evidenced in the successes some BRICS economies have had in the development of biofuels (e.g. sugar-cane) and other renewable energy sources (e.g. solar energy). Without concerted efforts to close

⁷³ See UN General Assembly Resolution 68/304; and UN General Assembly Resolution 69/319.

⁷⁴ See Cimoli et al (2009a).

persistent R&D gaps⁷⁵, the disadvantageous international patterns of specialisation of the twentieth century will be reproduced into the new century. They could possibly even be reproduced in accentuated form given the increasing knowledge intensity of many products that are becoming increasingly prominent in general consumption.

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⁷⁵ Recent experience in R&D undertakings and expenditures has been varied across EMDCs. Many Asian economies recorded significant relative increases since 1990, with some of them reaching the 2%-3% of GDP benchmark of advanced economies. Some studies have further suggested that research and development efforts in EMDCs have also often been less truly innovative than desirable. See Rocha (2004).

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CONCLUSIONS

The BRICS have emerged as a new centre of dynamism in the world economy and this role is projected to continue. An increase in BRICS growth propelled by greater investment by the BRICS in their own economies and in other EMDCs would be expected to have a benefit in the form of higher growth for all countries.

The growing importance of trade and other ties among the BRICS as well as between the BRICS and others EMDCs creates an opportunity for new and imaginative international cooperation initiatives. Examples include new reserve pooling arrangements, initiatives to strengthen alternative reserve currencies, and innovative models of multilateral development banking, such as the NDB plans to implement.

The BRICS are contributing to achieving global development goals through their own internal efforts as well as through their external actions, both in support of other EMDCs directly and in support of international economic arrangements that are more conducive to inclusive and sustainable growth and development.

The BRICS are well positioned through their joint efforts to contribute to correcting the severe under-provisioning of diverse global public goods of shared importance. They can do so by acting together to create open initiatives that can be joined by other countries. Shared research and development initiatives to create, apply and disseminate knowledge and technology in areas of pressing importance for EMDCs provide one example.

The emergence of a multipolar international system has created the conditions for a new multilateralism, defined by frameworks of cooperation shaped by the BRICS and other EMDCs. BRICS initiatives can offer and advance effective options for reform in diverse areas of considerable consequence for EMDCs, from the development of standards and norms for international investment to the reinvention of development banking, and from addressing the challenge of employment creation, to reshaping global governance arrangements so as better to support economic stability and growth.

The BRICS can help to shape the prospects for the world we want in the twenty-first century through their concerted and cooperative actions.



