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Indian economy sails through global headwinds: 2015 to 2025

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TEAM

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Indian economy sails through global headwinds: 2015 to 2025

Based on selected 'In-focus' write-ups of the EY Economy Watch

April 2015 to April 2025

Contents

Introduction

Introduction

The global economy faces uncertainty after the US imposed reciprocal tariffs on all its trading partners, aiming to eliminate each country's trade deficit with the US. The US runs a large trade deficit with respect to goods, while China runs a large surplus not only with the US but with many other economies, including India. By raising import tariffs, the US hopes to attract investment back home, rebuild its manufacturing capacity and substitute domestic output for its current imports. This initiative reshapes global trade and calls for structural changes across the world. The country that is likely to be the most affected by this move is China. The country that is likely to be the least affected by this move, among major economies of the world, is India. As the global equations get reset, India can direct these changes to its benefit.

Given the importance of global economy and its ongoing changes, we have compiled, in the present e-volume, selected In-focus writeups pertaining to the following broad themes:

Part 1: Perspectives on global growth

Part 2: Global government indebtedness

Part 3: BRICS+ and major economies

Part 4: Indian Economy in a global perspective

Part 5: Global trade and tariff wars

In Part 1, we have analyzed the ongoing developments regarding the role of Emerging Market Economies (EMEs) in driving global growth. A buoyant global growth depends on an atmosphere of economic certainties, a growing volume of global trade relative to global GDP, and mutually beneficial inter-country economic policies. In the first chapter of this part, we have captured the dynamics of the 2015 global slowdown led by China and the broader EME group. The 2015 slowdown was primarily due to the high level of non-financial debt, particularly government debt. Alongside, exports of major EMEs especially those of China, showed a sharp falling trend. Another important aspect of the global economy pertains to trade in crude and shale oil. Chapter 3 discusses the prospects of the shale oil as a substitute for crude in the global market. It also discusses the viability of producing shale oil and gas in India in the medium to long term. Given several constraints in India's context, we have recommended emphasizing on renewables, providing greater energy security. In the US, the new administration in 2025 has started reemphasizing extraction of shale oil and gas, which would lead to a lowering of global energy prices in due course. The last chapter of this part brings out the importance of the G-20 group of countries in the evolution of the global economy. In particular, we discuss the themes of the sixteenth G-20 Summit held in Rome in October 2021, the first in-person meeting after the onset of the COVID-19 pandemic which saw an absence of coordinated policy efforts by major countries in order to respond to the pandemic led global slowdown unlike the 2008 global economic and financial crisis where the G-20 countries came together to address the growth challenges.

The capacity to neutralize slowdowns and recessions lies in stimuli that emanate from fiscal and monetary policies. As far as fiscal policy is concerned, major economies of the world have accumulated large amount of government debt relative to their GDP. This has constrained their capacity to enlarge their fiscal deficits for providing fiscal stimulus. In Part 2 of this Volume, we have discussed, in suitable detail, the process of accumulation of government debt and how the major economies of the world landed into the sink of government indebtedness which has kept rising after each round of economic downturn and economic shock. In this part, we have included three articles that throw light on first, the dynamics of indebtedness of the Greek economy in spite of the strict EU guidelines of maintaining sustainable government finances through the Maastricht Treaty norms and the Growth and Stability Pact. The second article interlinks global growth and the evolution of global indebtedness. Finally, the debilitating impact of COVID-19 on global indebtedness has been captured in the third article. In these articles, we have highlighted as to why, at the end of each cycle of slowdown and recovery, the global debt-GDP ratio emerges at a higher level as compared to the previous peak. This is because often there is an asymmetric path of adjustment, in which the government borrowing and debt rise fast and quickly with the emergence

of a global crisis while the downward adjustment after the end of the crisis remains slow and incomplete.

In Part 3, we have covered a major ongoing development, namely, the growing clout of BRICS+ nations in the composition of global trade and global economy. BRICS that stands for Brazil, Russia, India, China and South Africa, is an economic grouping that has expanded itself by inducting additional member countries into the original group as also by providing for the inclusion of various partner countries. At present, the BRICS has expanded itself into ten member countries and 19 countries, including the partner countries. BRICS+ along with the partner countries together account for 54% of global population (2024), 28.9% of global GDP (2024)[1], 27.3% of global merchandise exports and 22.1% of global merchandise imports (2022). In recent years, BRICS has been involved in developing an alternative reserve currency, finding a substitute for trade settlements by bypassing the SWIFT system and making use of relatively cheaper and block-chain based algorithms. As the US attempts to reestablish intercountry trade volumes, BRICS+ group offers a platform for expanded global growth. In this part, we have included four articles that discuss (1) China's economic slowdown in 2015, (2) Performance of BRICS+ and the global economic slowdown, (3) Comparing BRICS+ and G7 country groups: Economic size and Government indebtedness, and (4) BRICS+ and G7 – direction and share in global trade.

In Part 4, we have included five chapters. The first chapter focuses on the changing nature of products, especially in the advanced economies. As growth takes place and the volume of international trade increases, it has been noted by a number of authors that it is not just an increase in the volume of trade that is important but also the complexity of goods and services that are produced. As technologies become more and more advanced, the goods also become more and more complex. Global supply chains also become increasingly complex. In such a scenario, it is the development and adoption of new technologies and the evolution of more complex supply chains that gives a competitive edge to a country in the global economic order. We have highlighted India's rank in the economic complexity index. The second chapter in this part looks at the global growth prospects soon after the COVID crisis. India emerges as a country that can serve as a global growth leader, at least in the medium term. In fact, as highlighted in the next chapter, India is well on its way to becoming the third largest global economy in market exchange rate terms. In purchasing power parity (PPP) terms, it is already the third largest. The fourth chapter in this part focuses on India's role in the G-20 group of countries. Historically, the G-20 countries have often coordinated their policy efforts to neutralize global economic shocks. However, this coordination had weakened in the presence of COVID. The last chapter in this part looks at several key dimensions of the evolving global economy, which is being led by complexity and artificial intelligence and features an increasing role for robotics and machine learning.

In Part 5, we look at the latest developments affecting the global economy in terms of the recent US initiative linked to the levy of across-the-board reciprocal tariff rates. There are two chapters in this part. The first chapter focuses on the competition that occurred between the US and Chinese economies in 2018 when protectionist clouds had started gathering momentum. In fact, during the COVID time, a noticeable trend towards deglobalization had started. This gathered further momentum due to various supply side disruptions emanating from global geopolitical conflicts that followed the pandemic. These disruptions may become even more critical as existing global supply interlinkages may further be affected by the imposition of high tariff barriers by the US. In the next chapter, we discuss the likely impact of the US led trade disruptions by the levy of protectionist tariffs to encourage its own import-substituting reindustrialization. These US initiatives have the potential to alter the present inter-country economic relations and the relative economic strength of different economies. It does impose certain short-term challenges for the Indian economy, but India can also take advantage of the emerging new international economic order by repositioning itself close to the top in the pecking order of countries.

[1] This excludes data for Cuba as it is unavailable in the IMF database

Part – 1

Perspectives on global growth

Emerging Market Economies (September 2015)

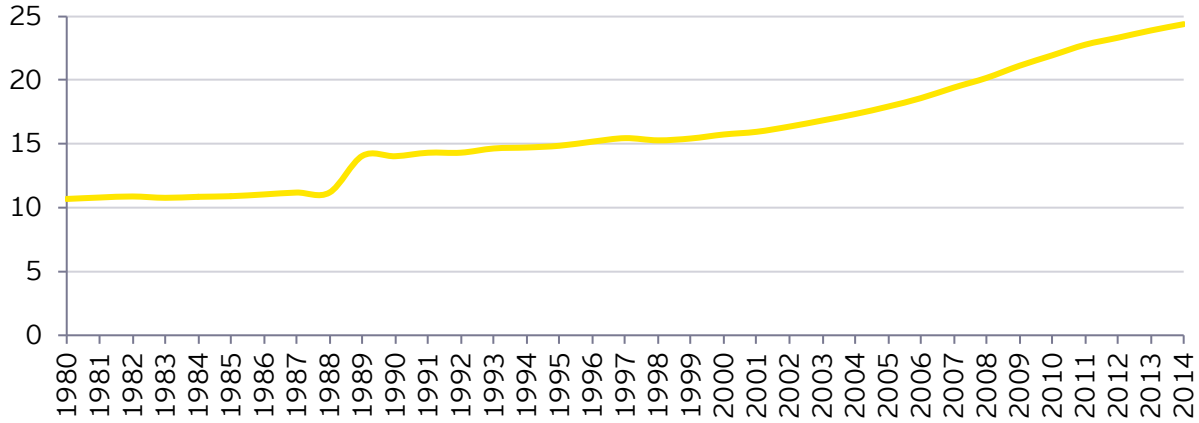
Abstract

After the 2008 global economic and financial crisis, the next noticeable economic slowdown across the world, including the group of emerging market economies (EMEs), was noted in 2015. While the 2008 crisis was rooted in the US, the 2015 economic slowdown emanated from China and other EMEs. The growth of the EME group fell from an average of 5.6% during 2010 to 2014 to 4.3% in 2015. In fact, there was a steady fall in annual growth for the EME group beginning 2010. While the 2008 crisis was essentially one of private financial institutions and banks, in 2015, it was the high level of non-financial debt, particularly government debt, that primarily led to the slowdown. Interest rates were already too low and could hardly be reduced further. With the conventional policy tools not being available, the 2015 crisis was expected to be less sharp but last longer.

Introduction

A group of 13 countries, viz., Argentina, Brazil, China, Indonesia, India, Iran, Korea, Mexico, Malaysia, Russia, Saudi Arabia, Turkey, and South Africa, is together referred to as the emerging market economies (EMEs). Led by China, the EMEs appear to be heading into an economic crisis, which does not augur well for global growth given their significance in the global economy. Together, the share of the EMEs in world output has been increasing (Chart 2.1). In 2014, they accounted for nearly one-fourth of the world output.

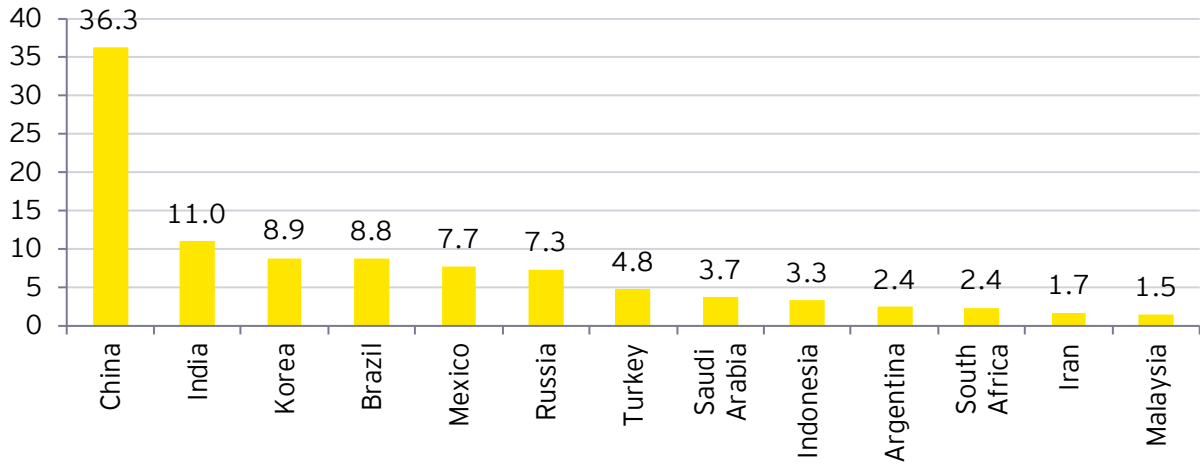
Chart 2.1: Share of EME output in world output



Source (Basic Data): World Bank Database

Within the EME group, as shown by Chart 2.2, China has a share of 36% and India, a share of 11%. China led the global growth for more than a decade, maintaining a compounded annual growth rate (CAGR) of 10.6% during the pre-crises period (1990-2007). Its growth rate fell to 9.6% in 2008 and to 8.6% in the post-crises period (2009-2014). OECD, in its recent release on 'Interim Economic Outlook' (September 2015), projects its growth to fall to 6.5% in 2016, nearly 0.8% points below that of India, projected to grow at 7.3% in 2016.

Chart 2.2: Share of country GDP in total EME GDP (%)



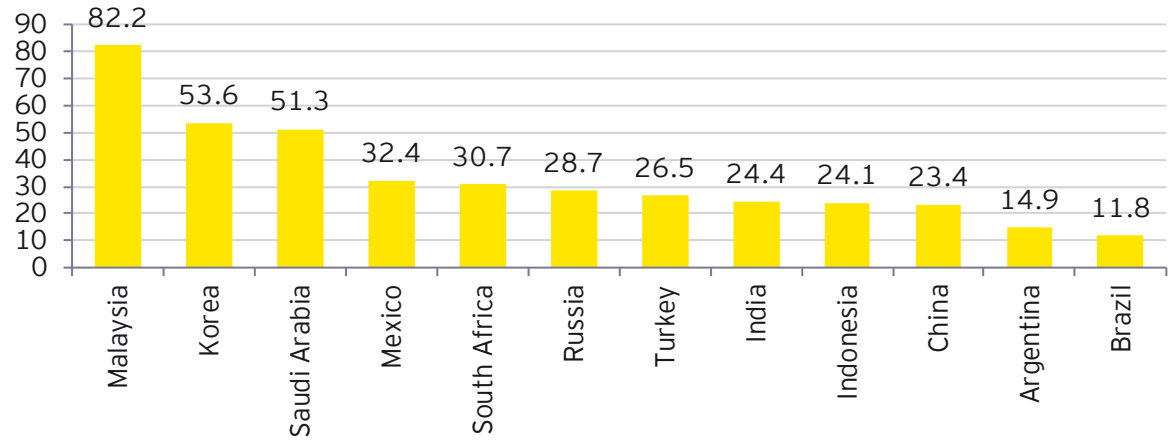
Source (Basic Data): World Bank Database

The critical driver of the economic slowdown in the EMEs is their falling export growth. The global export growth had dropped to -10.6% in 2009 at the peak of the global financial crisis. It dropped again from 7% in 2011 to 3.1% in 2012 and has been low since then. In 2009, for four of the major EMEs, viz., China, India, Korea and Malaysia, the export growth rate became negative. China and

India had witnessed the maximum fall in the growth rates of exports of goods and services in 2009. This sharp fall is now being repeated in 2015.

Alongside, their export-to-GDP ratios have fallen. This ratio had peaked for China at 36% in 2007 and has now fallen to about 21%. In India, from a peak of 25% in 2013, it has now fallen to about 22%. These changes are only visible expressions of an underlying vicious circle resulting from global economic inter-linkages. The slowing down of the Chinese economy means an end to an era defined by high Chinese imports of primary goods from a host of African and Asian countries while serving these countries with its exports of manufactured goods. In the new cycle of economic inter-linkages, the improved global crude supply situation has a salient position. With the addition of US fracking-based supplies, the energy market has become subdued, leading to a fall in crude oil prices. Prices of other primary goods including metals and minerals have also fallen in tandem. As these prices fall, surpluses available to primary goods exporters reduce, leading to a decrease in their imports of manufactured goods from China and elsewhere. Lower demand for primary goods in China completes the vicious circle, eventually pulling down global growth.

Chart 2.3: Average export-GDP ratio (2012-2014)



Source (Basic Data): World Bank Database

The current crisis differs from the 2008 crisis, which was rooted in the US and essentially a crisis of private financial institutions and banks. This time, the crisis is coming from China and other EMEs and is due to high level of non-financial debt, particularly government debt. Interest rates are already too low and can hardly be reduced further. With the conventional policy tools not being available, the present crisis may be less sharp but can last longer.

The current weak global demand can itself be traced to the policies that were used to recover from the 2008 crisis. At the time, there was a joint global effort led by the G20 countries to stimulate the world economy out of recession. It meant lowering interest rates to near-zero levels in many of the western economies and fiscal deficit-based stimulation of government expenditures across the world. This led to inordinate growth in non-financial debt, both of governments, because of larger fiscal deficits, and of the private sector, because of the low interest rates. A recent BIS publication on global non-financial debt warns that total debt ratios are now much higher than they were at the peak of the last credit cycle in 2007, just before the onset of global financial crisis. Since then, the combined public and private debt has increased by 36 percentage points to 265% of GDP in the developed economies, and by 50 percentage points to 167% in the emerging markets. In China, total debt has shot up to 235%. BIS cautions that such a pace of credit growth has almost always preceded major financial crises in the past.

Further, mainly due to zero interest rates and quantitative easing in the US, offshore borrowing in US dollars has reached a record US$9.6 trillion. This has set the stage for a worldwide dollar

squeeze as the Fed reverses course and starts to drain dollar liquidity from global markets, an eventuality that has only temporarily been postponed by the US Fed's decision in September 2015 to delay increasing the interest rate.

Given their slowing growth, falling exports, and vulnerability to US interest rate hike, EME currencies are depreciating fast. The Russian ruble depreciated the most among the BRICS countries, especially during 2014 (20.5 %). The Brazilian Real has depreciated at an average rate of 7.8% from 2011 to 2014. The average depreciation rates for South Africa and India were 10.6% and 7.6%, respectively. The Chinese Yuan, which had managed to be relatively stable, has also been devalued by about 4% in August 2015. Together, these trends have the potential to degenerate into a global economic crisis that may be less sharp than in 2008 but may last longer, a situation of 'secular stagnation'. Only India in this group has the potential to lead global recovery.

Home

Global oil markets: role of shale (November 2018)

Abstract

Shale oil as a substitute for crude oil has emerged as an important supplement to make up for the receding global reserves of crude. It is more expensive to extract than conventional crude oil and hence becomes economically viable only at the margin, once global oil prices rise above a threshold level. Although the breakeven cost of shale oil remains higher than crude oil, it has come down significantly over the last few years owing to rapid advancement in technology in the US, where it is mainly produced. Technology has also enabled production of shale oil to be rapidly escalated within a short span of time when required. This, coupled with private ownership, has made shale supply highly sensitive to global oil prices. In the case of crude, supply is largely controlled by the Organization of Petroleum Exporting Countries (OPEC). Being a close competitor, the OPEC had earlier in 2014 pushed crude prices down in an attempt to drive shale supply out of the market.

Shale oil and gas have limited prospects for India far into the future. No commercially viable shale oil or gas fields have been discovered so far. Even if any were to be discovered, there are several operative constraints besides technology that may need to be dealt with. Focusing on renewables may provide India greater energy security.

In the US, the new administration in 2025 has started reemphasizing extraction of shale oil and gas, which would lead to a lowering of global energy prices in due course.

Introduction

Shale oil as a substitute for crude oil has recently emerged as a viable option as concerns of the receding global reserves of crude, and consequently limited growth in its supply, have mounted. It is more expensive to extract than conventional crude oil and hence becomes economically viable only at the margin, once global oil prices rise above a threshold level. Although the breakeven cost of shale oil remains higher than crude oil, it has come down significantly over the last few years owing to rapid advancement in technology in the US, where it is mainly produced. Technology has also enabled production of shale oil to be rapidly escalated within a short span of time when required. This, coupled with private ownership, has made shale supply highly sensitive to global oil prices. In the case of crude, supply is largely controlled by the Organization of Petroleum Exporting Countries (OPEC). Being a close competitor, the OPEC had earlier in 2014 pushed crude prices down in an attempt to drive shale supply out of the market.

Shale oil production in the US: Recent Developments

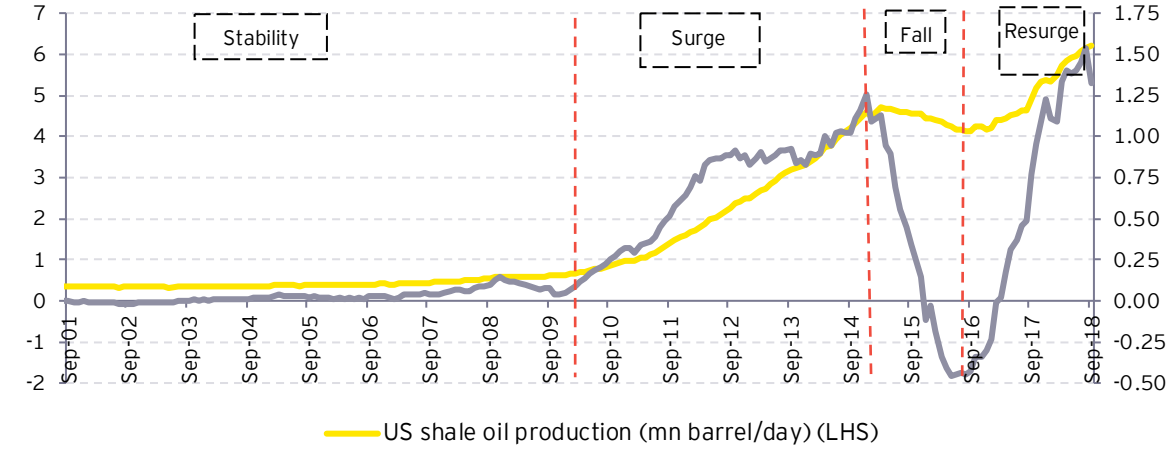
In August 2018, year-on-year (y-o-y) incremental US shale oil output reached an all-time high of 1.54 million barrel/day (mb/d) contributing 73.1% to the 2.1 mb/d incremental total U.S. oil output. As a result the total US crude oil output (including shale oil) reached a record level of 11.3 mb/d making it the largest crude oil producer globally, as reported by the US Energy Information Administration (US EIA)[2]. Since January 2018, shale oil[3] production in the US has climbed in each successive month reaching 6.21 mb/d in September 2018, approximately 54.2% of the total crude output in the US. Since March 2018 the y-o-y pace of increase has been higher than 1.3 mb/d which was the peak rate achieved in December 2014. According to Rystad Energy[4], a prominent energy consultant, "*this confirms the ability of new shale industry to grow even faster than it did during the first wave of growth prior to 2015.*"

Shale oil production: Historical trend and recent co-movement with crude price

Chart 3.1 shows the trend in shale oil production from 2001 onwards divided into four phases. During the first phase till December 2009, growth was almost non-existent. Although statistically production nearly doubled to 0.63 mb/d over the eight-year period, its level continued to remain insignificant. In phase 2 starting January 2010 till March 2015, production increased more than 7 times to 4.71 mb/d with yearly additions peaking at 1.3 mb/d in December 2014. Subsequently, in the third phase output fell by 0.6 mb/d to 4.12 mb/d in September 2016. Since then, output has resurged, growing to 6.21 mb/d in September 2018[5] with yearly additions reaching a record high of 1.5 mb/d in August 2018.

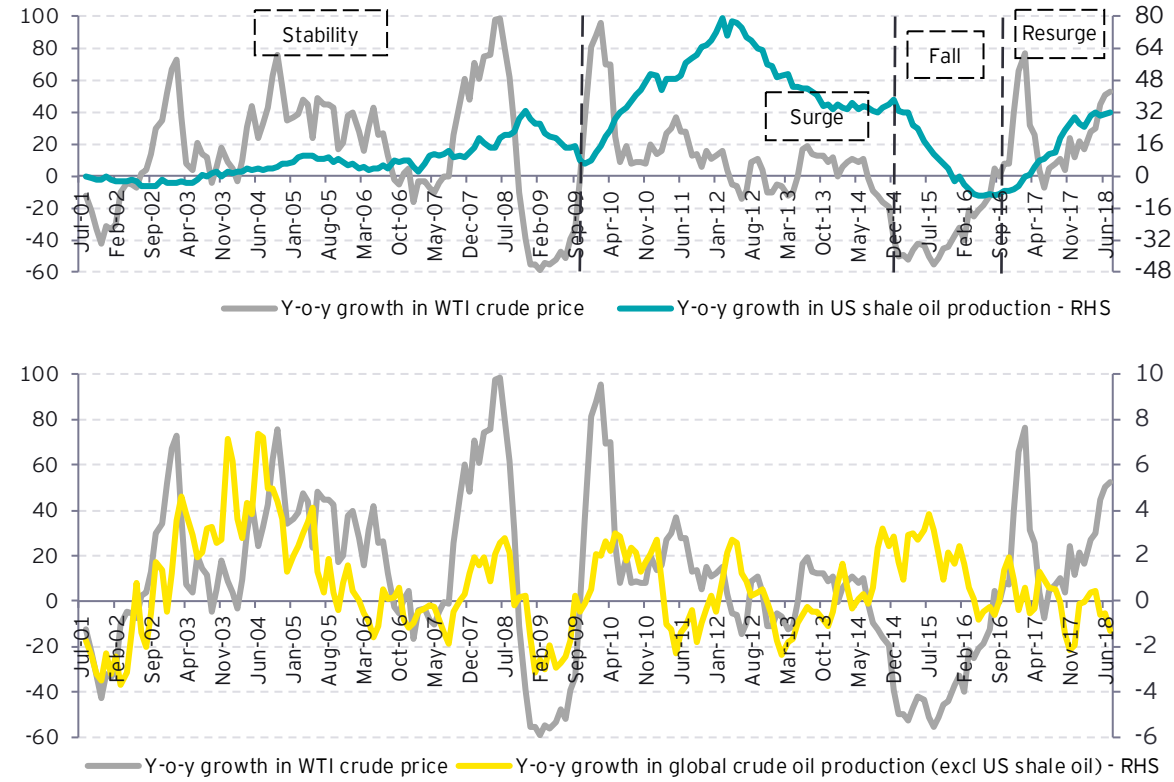
[2] https://www.eia.gov/todayinenergy/detail.php?id=37416
[3] The terms shale oil and tight oil have been used interchangeably although shale oil is a subset of tight oil as mentioned in the US EIA website: https://www.eia.gov/tools/glossary/index.php. Tight oil is defined as oil produced from petroleum-bearing formations with low permeability that must be hydraulically fractured to produce oil at commercial rates.
[4] https://www.rystadenergy.com/newsevents/news/newsletters/UsArchive/shale-newsletter-september-2018/
[5] US EIA: https://www.eia.gov/petroleum/data.php#crude

Chart 3.1: Shale oil production in US



Source: US EIA

Chart 3.2: Growth (y-o-y) in crude price, US shale oil production and global crude oil production



Source: US EIA; Federal Reserve Bank of St. Louis
Periods are named according to the trend in "change in shale oil production" as given in Chart 4.1

Chart 3.2 shows how changes in shale oil production closely follow changes in oil prices[6] although with a lag. It can be seen that from period 2 onwards crude price increases[7] have been followed by expansion in shale output and vice-versa. Growth in global crude oil production excluding US shale,

[6] According to the IMF, shale oil production today is more responsive to prices than conventional oil. Further an IMF paper titled Oil prices and Energy (2017) suggested that an era of prolonged low oil prices and investment is likely to be followed by a period where oil prices overshoot their long-term upward trend.

[7] Other than crude price, efficiency gains made due to shale extraction technology was also to a certain extent responsible for faster growth in shale output.

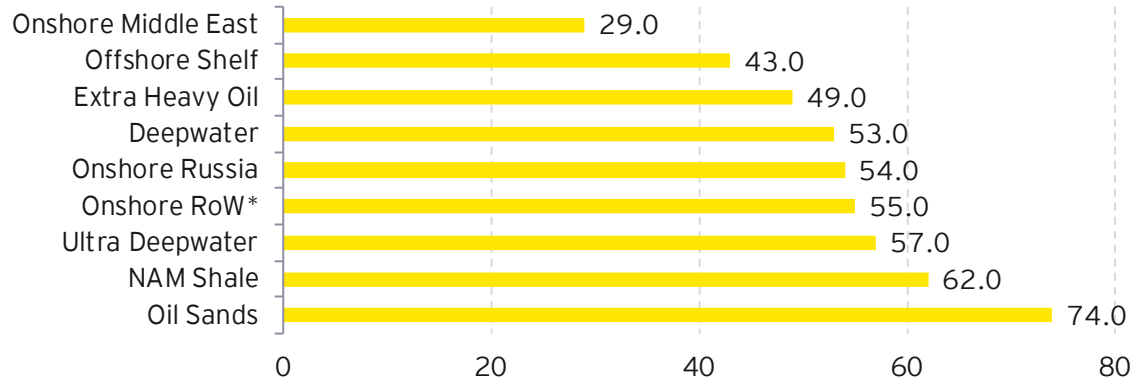
on the other hand, moved in tandem with growth in crude price till January 2011 during which a positive correlation of 0.8 existed between the two series. Since then, however, the relationship seems to have reversed.

Shale oil and gas: Breakeven dynamics

The supply of unconventional oil, especially shale oil, is related to its profitability which in turn depends on whether the oil price is higher or lower than its break-even cost. Break-even cost is the price of oil at which a new oil extraction project would become economical assuming oil prices and costs remained constant going forward. Chart 3.3 provides the average breakeven costs for different types of oil based on information as of December 2015. It can be seen that the breakeven cost for North American (NAM) shale at US$62 per barrel was more than double that of onshore oil extracted in the Middle East at US$29 per barrel.

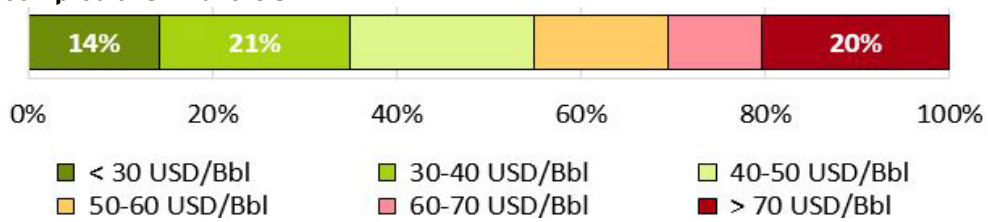
Since 2015 however, there have been technological improvements resulting in increased productivity which have in turn reduced the breakeven costs of certain types of oil particularly shale oil. The U.S. shale oil producers are reported to have enhanced completion techniques, transitioned to drilling longer laterals, and focused more activity in the core areas of the acreage.[8] As a result, the average breakeven cost of shale oil during the 4-quarter period 2Q2017-1Q2018 dropped to US$45 per barrel. Chart 3.3 shows the distribution of break-even cost for different wells producing shale oil in the US over this period. Approximately 35% of the shale wells are estimated to have a breakeven cost lower than US$40 per barrel.

Chart 3.3: Average breakeven cost in US$/barrel by type of oil well as of December, 2015



Source: Rystad Energy as referred in "Oil prices and global economy", IMF;
https://www.rystadenergy.com/newsevents/news/newsletters/EandP/eandp-newsletter-september-2018/
* Rest of the World

Chart 3.4: Average distribution during 2Q2017-1Q2018 of breakeven prices for horizontal oil completions in the US



Source: Rystad Energy as referred in "Oil prices and global economy", IMF;
https://www.rystadenergy.com/newsevents/news/newsletters/EandP/eandp-newsletter-september-2018/
* Rest of the World

[8] https://www.rystadenergy.com/newsevents/news/newsletters/EandP/eandp-newsletter-september-2018/

Distribution of global resources of shale oil and shale gas

Although the US singularly dominates the global shale oil supply, significant reserves have been found in other countries as well. Table 3.1 shows the region-wise distribution of global unproved technically recoverable reserves of shale oil and gas as given by the US EIA. North America has the highest share of shale oil and shale gas reserves at 23.0% and 23.9% respectively in 2015. Asia has the second largest reserves of shale gas with an 18.6% share, while with a 21.2% share Europe has the second largest reserves of shale oil. The reserves of shale gas in China are the largest for any country (14.7%) while the US is the single largest holder of shale oil reserves with a share of 18.7%.

Table 3.1: Global reserves of shale gas and shale oil: US EIA 2015 estimates

#	Region/Country	Unproved technically recoverable reserves		Share in global reserves	
		Shale gas	Shale oil	Shale gas	Shale oil
		Tcf	billion bbl	%	%
1	Africa	1,406	54	18.6	12.9
2	Asia *of which:*	1,406	62	18.6	14.8
2.1	*China*	*1,115*	*32*	*14.7*	*7.7*
2.2	*India*	*96*	*4*	*1.3*	*0.9*
3	Australia	429	16	5.7	3.7
4	Caspian	18	10	0.2	2.3
5	Europe	883	89	11.7	21.2
6	Middle East	260	29	3.4	6.9
7	North America *of which:*	1,741	100	23.0	23.9
7.1	*US*	*623*	*78*	*8.2*	*18.7*
8	South America	1,433	60	18.9	14.3
	Total	**7,576**	**419**	**100**	**100**

Source: US Energy Information Administration (EIA); https://www.eia.gov/analysis/studies/worldshalegas/

Perspectives on the oil market

Several studies have attempted to analyze the forces that have shaped the oil market so far and are likely to shape its future. Arezki, et al[9] divides the perspectives on the oil market into four categories, two of which subscribe to a supply-driven market view and the other two to a demand-driven market view. The second and third perspectives have implications for the role of shale oil in satisfying future oil demand.

"*Constrained supply view*" states that the oil supply is expected to remain constrained even as demand continues to grow leading to upward pressure on prices. Given the fast rate of depletion of conventional sources of oil which account for more than 80% of the global oil supply, new sources may have to be found to cater to the growing demand. Existing conventional oil supply is expected to shrink from 68.3 million bpd in 2015 to 44.6 million bpd by 2025, resulting in a shortfall of 23.7 mb/d which may need to be met in order to keep the level of oil production constant. This may prove to be difficult, and as a result oil prices are likely to rise.

"*Elastic supply view*" subscribes to the idea that higher prices eventually stimulate oil supply by encouraging investment in exploration. For instance, unconventional sources of oil supply such as shale oil have catered to the additional demand not filled in by conventional sources. Besides shale oil and gas, there are two other major types of unconventional oil supply: ultra-deep water oil and oil sands. However, these require longer investment lead times and higher investment in

[9] Arezki, R., Jakab, Z., Laxton, D., Matsumoto, A., Nurbekyan, A., Wang, H., & Yao, J. (2017, January). Oil Prices and the Global Economy. IMF.

infrastructure to ramp up production. Shale oil seems to have the highest potential to provide the required increase in supply over the next decade owing to rapidly declining costs of extraction and potential for discovering new fields[1].

"World business cycle view" attributes oil price movements to mainly demand factors. Strong growth in global output coupled with short-term inelastic supply could push oil prices upwards especially in the short run. This could persist if driven by cyclical growth factors such as during the period 2003-08. Since shale oil production is primarily driven by market prices as explained in subsequent sections, by implication its production would be propelled upwards.

The *"substitution and conservation view"* stipulates that the major driving force behind the oil market is the effort towards substitution and conservation. As the price of oil rises, the demand for oil decreases as consumers switch to substitutes such as biofuels or natural gas. The global consumption to GDP ratio for oil in terms of barrels/real GDP has dropped by more than half since 1971, partly owing to development of more efficient technologies.

Shale oil: Global prospects

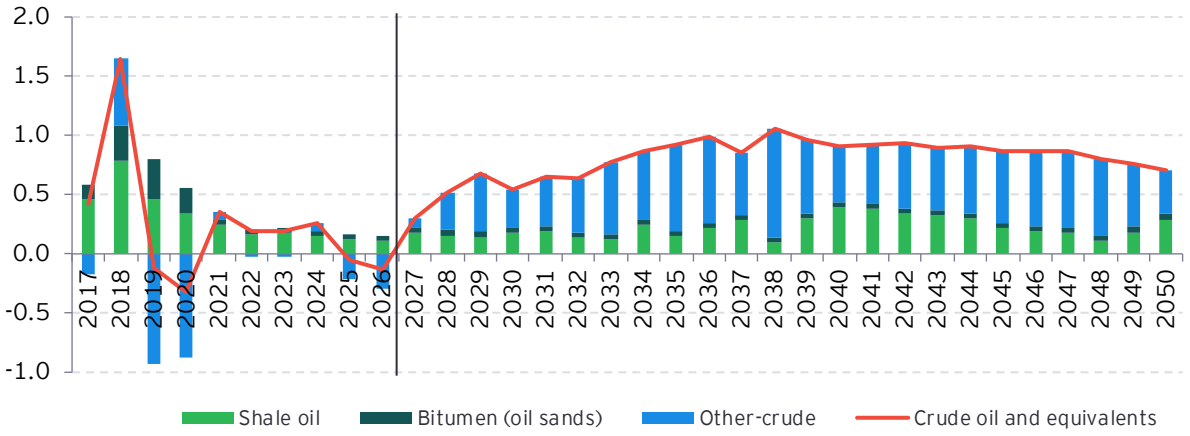
Shale oil is expected to remain a major contributor to global oil supply in the foreseeable future. Table 3.2 provides illustrative estimates of production potential of unconventional sources over the next decade as given in a paper by the IMF[10]. It can be seen that more than 80% of the forecasted 6 mb/d growth in world oil supply is projected to be coming from unconventional sources out of which shale oil is expected to contribute 50%. [10]

Table 3.2: Projected world oil production (million barrels/day)

Item	2015	2025	Change from 2015
World oil supply *of which:*	94	100	+6
Shale/Tight oil (mainly US)	7	10	+3
Ultra-deep water (>1500 mtrs)	2	3	+1
Oil Sands (mainly Canada)	2	3	+1
Others (mainly conventional)	83	84	+1

Source: Oil prices and global economy (2017), IMF

Chart 3.5: Projected contribution to growth in production of crude oil and equivalents (in percentage points)



Source: Annual Energy Outlook, Energy Information Administration, US Government

[10] https://www.rystadenergy.com/newsevents/news/newsletters/UsArchive/us-q1-2015

US EIA data provides projections for crude oil and equivalents from different sources till 2050. Chart 3.5 depicts their contributions to growth in production of crude and equivalents over the projection period. It can be seen that annual growth in crude oil and equivalents is expected to peak at 1.6% in 2018, range between (-) 0.3% to 0.4% till 2026 and thereafter turn positive ranging between 0.3% to 1.1% till 2050. Till 2026 shale oil is expected to be the only major positive contributor to growth in production of crude and its equivalents. Post 2026, other types of crude are also expected to contribute positively to growth. However, shale oil is expected to retain its pivotal role during this period by accounting for nearly 30% of growth in overall production of crude and equivalents on average.

Shale oil: Prospects in China and India

As given in Table 2, China has 14.7% of global unproved technically recoverable shale gas reserves, the largest in the world and 1.8 times that of the US. Following the US shale gas boom, the Chinese government put in a lot of effort in development of shale through various investments, and research and development promoting measures including but not limited to tax concessions. In 2017 approximately 9 bcm shale gas is estimated to have been produced in China[11] as compared to 639 bcm in the US. Further this is expected to nearly double to 17 bcm by 2020 but nevertheless be far lower than the 30 bcm target set by the government. There are several challenges to faster escalation in production of shale gas in China. China's reserves are deeper and more scattered than those in the US requiring better technology. But western firms have been wary of selling existing fracking technology to China amidst intellectual property concerns. Few firms such as Sinopec, a major shale gas producing company in China, have successfully experimented with reengineering exploration drilling equipment[12]. This has led to a 40% drop in drilling costs from 2010 levels.

Total shale gas reserves for India have been estimated to be between 300-2100 tcf by the Director General of Hydrocarbons (DGH)[13], while the US EIA estimates unproved technically recoverable reserves at a much lower level of 96.4 tcf equivalent to 1.3% of global reserves. In India the exploration and development of unconventional hydrocarbon resources including shale gas and shale oil is governed by the Directorate General of Hydrocarbons. Currently the two national oil companies, ONGC and OIL are jointly carrying out exploration of shale gas and shale oil in India. On 14 October 2013 the Government of India (GoI) announced the "Policy Guidelines for Exploration and Exploitation of Shale Gas and Oil". More recently on 01 August 2018, the GoI approved a policy framework that allows private and government players to explore and exploit unconventional hydrocarbons (including shale gas) in contract areas that were primarily allocated for extracting conventional hydrocarbons.

Most of the exploration for shale gas and oil has been concentrated in four regions, namely the Cambay basin in Gujarat, KG basin in Andhra Pradesh, Cauvery basin in Tamil Nadu and A&AA basin in Assam. Contrary to the estimates of US EIA, the DGH stated that most of the blocks explored are prospective for shale oil[14] with limited prospects for shale gas, although more data would be required before arriving at a definite conclusion. Further on 30 July 2018, the petroleum minister confirmed that no commercial discovery of shale gas reserves had been made in India so far[15]. Several challenges to shale oil and gas extraction remain including but not limited to the requirement of huge quantity of water resources[6], disposal of contaminated water[16], investment in

[11] https://www.reuters.com/article/us-china-shale-woodmac/china-shale-gas-output-to-nearly-double-over-three-years-consultancy-idUSKBN1HN34X
[12] https://www.reuters.com/article/us-china-shale-analysis/stepping-on-the-gas-chinas-home-built-fracking-boom-idUSKBN1JH0M5
[13] *India's Hydrocarbon Outlook: 2016-17* (2017), DGH
[14] Pg 117, *India's Hydrocarbon Outlook: 2016-17* (2017), Directorate General of Hydrocarbons, Ministry of Petroleum and Natural Gas, GoI
[15] https://www.bloombergquint.com/business/no-commercial-discovery-of-shale-gas-reserves-in-india-yet-says-pradhan#gs.Otn0j1U
[16] https://www.thehindu.com/opinion/op-ed/the-shale-gas-challenge/article24822864.ece

improved and locally suited technology and equipment, acquisition of large amount of land[6], and environmental approval[6].

Conclusion

Shale oil and gas have limited prospects for India far into the future. No commercially viable shale oil or gas fields have been discovered so far. Even if any were to be discovered, there are several operative constraints besides technology that may need to be dealt with. Focusing on renewables may provide India greater energy security.

G-20's Sixteenth summit in Rome – People, planet and prosperity (November 2021)

Abstract

The G-20 group of countries together constitutes the largest group of countries that can play a defining role in the evolution of the global economy. It has been coordinating efforts to respond to challenges to global growth from time to time through suitable stimulus measures. The last shock that affected the global economy was due to COVID-19.

The first in-person meeting of the G-20 leaders since the onset of COVID was held in Rome on 30-31 October 2021. The theme of this summit was 'People, planet and prosperity', emphasizing the role of the major economies of the world in these three inter-related concerns in the post-COVID economic universe. 'People' largely reflects the concern with health in the context of the Sustainable Development Goals (SDGs) and the COVID-19 pandemic. 'Planet' refers to bringing on board the compulsions of climate change and 'Prosperity' refers to the pursuit of growth. Together, the performance of the G-20 countries in these three critical areas would broadly determine the overall global achievements in these.

India played a key role in the deliberations of the Rome summit. It promised five billion additional COVID vaccines for the world in the short run and proposed important health initiatives such as "One Earth One Health". Further, India has played a prominent and leading role in proposing significant and innovative initiatives such as those captured in the Green Grids Initiative (GGI) and One Sun One World One Grid (OSOWOG) initiative.

Introduction

The first in-person meeting of the G-20 leaders since the onset of COVID was held in Rome on 30-31 October 2021. The theme of this summit was ***People, planet and prosperity***, emphasizing the role of the major economies of the world in these three inter-related concerns in the post-COVID economic universe. *People* largely reflects the concern with health in the context of the Sustainable Development Goals (SDGs) and the COVID-19 pandemic. *Planet* refers to bringing on board, the compulsions of climate change and *Prosperity* refers to the pursuit of growth. Together, the performance of the G-20 countries in these three critical areas would broadly determine the overall global achievements in these. India played a key role in the deliberations of the Rome summit. It promised five billion additional COVID vaccines for the world in the short run and proposed important health initiatives such as "One Earth One Health".

1. Prosperity as pursued by growth

The members of the G-20 group comprising Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, United Kingdom (UK), United States (US), and European Union (EU), accounted for nearly 81% of the global GDP in PPP terms in 2020 **(Table 4.1)**. This share is expected to remain unchanged in the next five years. In fact, the overall share of G-20 countries in world GDP has broadly remained stable between 2000 to 2020, but the share of some individual countries has undergone major changes. The share of China increased from 7.3% in 2000 to 18.3% in 2020 and that of India increased from 4.0% to 6.8% during this period. This happened at the cost of a fall in the share of EU from 20.3% in 2000 to 15.0% in 2020 and that of the US from 20.4% to 15.8%. Going forward, as per the IMF's forecasts, China and India are expected to show maximum gains in their shares between 2020 and 2025 of 1.5% points and 1.1% points respectively. Maintaining the trend, the EU, US and Japan would continue to lose their respective shares. By 2025, four countries/ country groups namely, China, US, EU and India would account for 57.2% of the global output.

Table 4.1: Share in world GDP at current prices, PPP (%)

Country	2000	2005	2010	2015	2020	2025 (f)	2025 minus 2020
Argentina	0.9	0.8	0.8	0.8	0.7	0.7	0.0
Australia	1.1	1.1	1.0	1.0	1.0	1.0	-0.1
Brazil	3.1	3.0	3.1	2.7	2.4	2.2	-0.2
Canada	1.8	1.7	1.5	1.4	1.4	1.3	-0.1
China	7.3	9.6	13.7	16.1	18.3	19.9	1.5
EU of which	20.3	18.4	16.3	15.3	15.0	14.2	-0.8
France	*3.3*	*3.0*	*2.6*	*2.4*	*2.3*	*2.2*	-0.1
Germany	*4.8*	*4.1*	*3.6*	*3.5*	*3.4*	*3.1*	-0.3
Italy	*3.3*	*2.9*	*2.4*	*2.0*	*1.9*	*1.7*	-0.1
India*	4.0	4.6	5.7	6.4	6.8	7.9	1.1
Indonesia	2.0	2.0	2.3	2.4	2.5	2.6	0.1
Japan	6.9	6.1	5.0	4.7	4.0	3.6	-0.5
Korea	1.6	1.7	1.7	1.7	1.8	1.7	-0.1
Mexico	2.5	2.2	2.0	2.0	1.8	1.8	-0.1
Russia	3.1	3.4	3.4	3.2	3.1	2.9	-0.2
Saudi Arabia	1.6	1.6	1.6	1.4	1.2	1.2	-0.1
South Africa	0.8	0.8	0.7	0.7	0.6	0.5	-0.1
Turkey	1.4	1.5	1.4	1.8	1.9	2.0	0.0

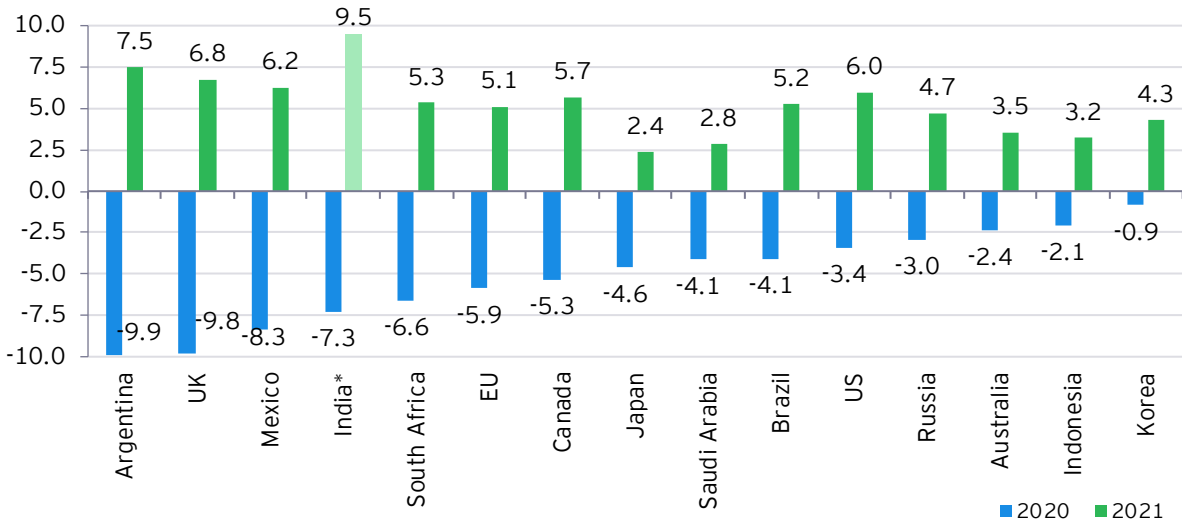
UK	3.1	3.0	2.5	2.5	2.2	2.2	-0.1
US	20.4	19.1	16.8	16.3	15.8	15.2	-0.6
Total	**81.8**	**80.6**	**79.6**	**80.3**	**80.7**	**80.8**	**0.1**
Share in world GDP at current prices, US$ billion (%): selected G-20 countries							
China	3.5	4.8	9.1	14.8	17.5	19.2	1.7
EU	21.4	24.9	21.9	18.1	18.0	17.5	-0.4
India*	1.4	1.7	2.6	2.8	3.1	3.4	0.2
US	30.1	27.3	22.7	24.3	24.6	23.2	-1.4
Total	**89.1**	**89.0**	**86.5**	**85.8**	**86.2**	**85.9**	**-0.4**

Source (basic data): IMF World Economic Outlook October 2021
(f): forecasted; *data pertains to fiscal year.

Measured in current prices at the market exchange rate, the share of G-20 countries is even higher in global output ranging from at 85.8% in 2015 to 89.1% in 2000. However, their share measured in current prices is expected to fall to 85.9% in 2025. This fall is maximum for the US at 1.4% points. Clearly, the decisions of the G-20 countries are going to be critical for the three-welfare oriented themes of the Rome summit 2021.

In terms of the impact of COVID on real GDP growth in 2020, Chart 4.1 shows that the maximum erosion of growth happened for Argentina ((-)9.9%), the UK ((-)9.8%), Mexico ((-)8.3%), India ((-)7.3%), South Africa ((-)6.6%) and the EU ((-)5.9%). In 2021, all these economies are projected to show positive growth rates with India leading the global growth at 9.5%.

Chart 4.1: Real GDP growth (%): selected G-20 countries



Source (basic data): IMF World Economic Outlook October 2021
*data pertains to fiscal year.
Note: FY22 growth forecast for India is colored to indicate the highest growth rate among selected G-20 countries.

2. People's welfare as reflected in health parameters

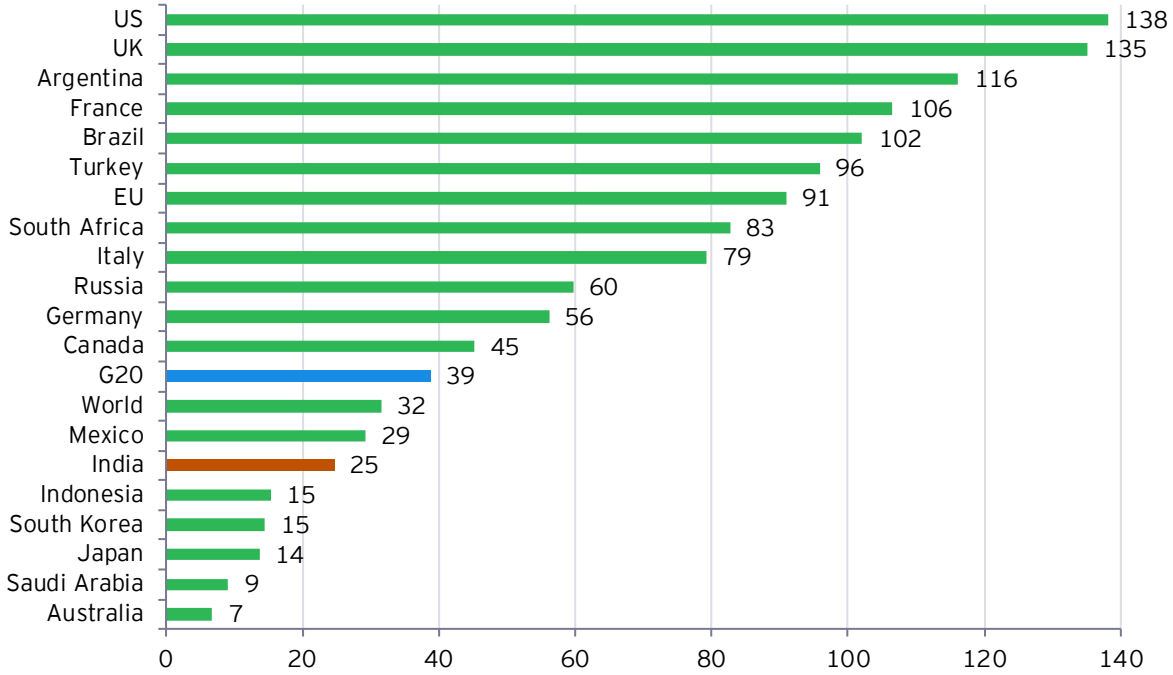
The G-20's agenda included considerations of various SDG goals including elimination of poverty and achieving better outcomes for health and education, food security, better nutrition and removal of hunger. In regard to health, particularly in the context of COVID, we consider how different G-20 countries got affected by the pandemic as an immediate challenge to the health dimension of people's welfare. As per the United Nations[17], *"the pandemic has halted or reversed*

[17] Goal 3 | Department of Economic and Social Affairs (un.org)

progress in health and shortened life expectancy". Further, "*90% of countries are still reporting one or more disruptions to essential health services*".

Chart 4.2 shows the cumulative incidence of COVID cases per 1000 of population until 9 November 2021. The highest incidence is reported for the US at 138, followed by the UK at 135 cases per 1000 of population. At the lower end, the least incidence is reported for countries like Australia, Saudi Arabia and Japan. India at 25 cases per 1000 of population, is towards the lower end of this comparative position. The average for the G-20 countries is 39 cases per 1000 of population.

Chart 4.2: COVID cases – cumulative total per 1000 population*



Source (basic data): WHO
*cumulated until 9 November 2021
Note: India's COVID cases per 1000 of population and the average for the G-20 group are colored differently for the purpose of comparison

While COVID is a challenge in the immediate to medium term, in the future, a longer-term concern for individual countries in the G-20 group in the context of people's welfare is the progressive aging of their populations.

Table 4.2 gives the projected median age of the populations of the G-20 countries based on data from the UN World Population Prospects, 2019. Except for Germany, Japan and Italy, in the remaining G-20 countries, population keeps aging all the way up to 2100. By that time, India's median age would be 46.7 years from its current median age of 28.4 years in 2020 which is only marginally above that of South Africa. Thus, India's current social and economic priorities need to focus relatively more on education and skilling of the population and as the decades progress, these priorities may need to shift towards health. Although the size of population is not indicated here, India's working age population is expected to overtake that of China towards the end of the current decade (2027)[18]. Thus, India would be in a position to provide human resources to the rest of the world particularly the developed countries that are aging much ahead of us. In India's case, between 2020 and 2100, the median age of the population would increase by 18.3 years, which is the third highest after Mexico and Turkey. Thus, India's health sector needs would continue to become progressively more pronounced with the passing decades.

[18] UN World Population Prospects, 2019

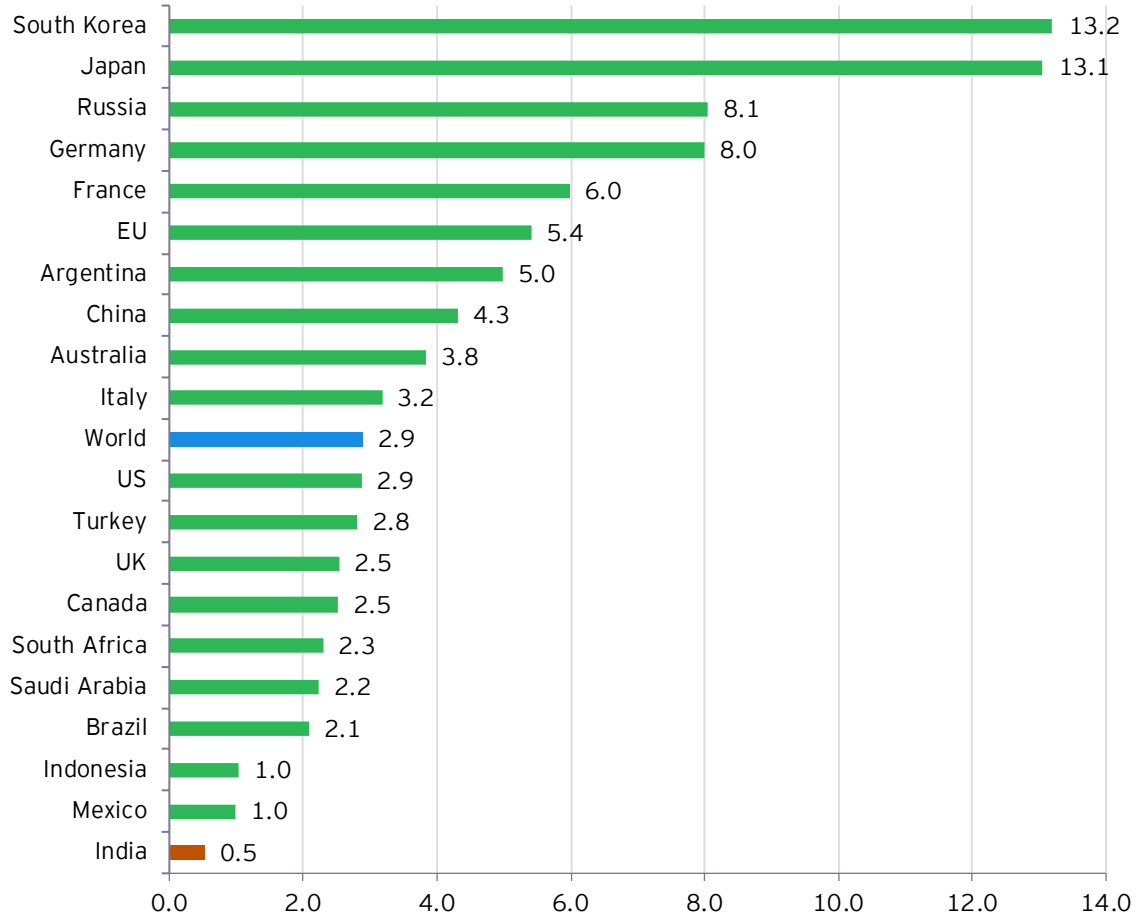
Table 4.2: Median age (in years) population forecasts of G-20 countries

Country	2000	2020	2040	2060	2080	2100	2100 minus 2020
Japan	41.2	48.4	54.1	55.1	54.1	53.8	5.4
Italy	40.3	47.3	52.6	54.1	53.6	53.4	6.1
Brazil	25.3	33.5	41.6	47.5	50.7	51.4	17.9
Turkey	24.9	31.5	38.5	44.5	48.6	51.0	19.5
China	30.0	38.4	46.3	48.2	49.2	49.7	11.3
France	37.7	42.3	45.3	46.9	48.0	49.5	7.2
Mexico	22.9	29.2	36.1	42.3	46.8	49.2	20.0
Germany	40.1	45.7	48.6	48.4	48.5	48.5	2.8
South Korea	29.4	35.3	40.4	43.0	46.0	47.6	12.3
UK	37.6	40.5	44.1	45.4	46.5	47.6	7.1
Saudi Arabia	21.3	31.8	37.6	42.9	45.8	47.4	15.6
Canada	36.8	41.1	44.8	45.9	46.6	46.8	5.7
Argentina	27.6	31.5	36.0	40.4	44.1	46.7	15.2
India	22.7	28.4	35.0	40.4	44.4	46.7	18.3
Indonesia	24.4	29.7	35.1	39.7	43.3	46.2	16.5
Australia	35.4	37.9	41.3	42.8	44.3	45.6	7.7
US	35.2	38.3	41.6	43.4	44.8	45.5	7.2
Russia	36.5	39.6	43.9	42.6	42.5	44.5	4.9
South Africa	22.6	27.6	31.6	35.8	38.8	41.2	13.6
World	**26.3**	**30.9**	**34.6**	**37.6**	**39.7**	**41.9**	11.0

Source: World Population Prospects, UN (2019)
Note: Peak median age of each country is highlighted in orange; India's median age in the selected years is highlighted in green for the purpose of comparison with the remaining G-20 countries.

In the context of health infrastructure, as measured by the number of hospital beds per 1000 of population. **Chart 4.3** shows that India's position (0.5 beds per 1000 population) is the lowest amongst the G-20 group, emphasizing the need for persistent investment in health infrastructure over the upcoming decades.

Chart 4.3: number of hospital beds/ 1000 of population – G-20 countries



Source: World Bank
Notes: (1) Data for South Africa, South Korea, and Australia pertains to 2010, 2012 and 2016 respectively.
(2) The values for India and the world are indicated in different colors for the purpose of comparison with individual G-20 countries.

3. Planet: growing climate challenges

While recognizing the availability of resources in the planet as the key to people's prosperity and welfare, the G-20 group recognized the key challenges for the planet as relating to climate change, land degradation and biodiversity loss. The climate challenges were also discussed in the COP26 summit held at Glasgow. As shown in **Table 4.3**, based on annual CO2 emissions, the G-20 countries have accounted for a substantial although falling share of the total global CO2 emissions. It was 88.1% in 1960. It has fallen to 83.1% in 2018. The maximum contribution to the global emissions among the G-20 countries is accounted for by China at 30.3%, followed by the US, EU and India respectively at 14.6%, 8.4% and 7.2% in 2018. It is notable that the contribution of China has increased from 8.2% in 1960 to 30.3% in 2018 due to a sharp increase of 1221% in the level of emissions as measured in kilotons. In contrast, the contribution of the US has fallen from 30.5% to 14.6% over the same period. Thus, the relative positions of China and the US have reversed over this period of nearly six decades.

Table 4.3: Share in CO2 emissions (%) – G-20 countries

Country	1960	1970	1980	1990	2000	2010	2018
China	8.2	5.1	7.2	10.5	14.3	27.3	30.3
US	30.5	28.3	23.2	23.5	24.8	17.4	14.6
EU	17.8	20.4	20.0	17.3	14.4	10.4	8.4
India	1.3	1.3	1.5	2.7	4.0	5.4	7.2
Russia	15.3	15.4	17.1	10.5	6.4	5.1	4.7
Japan	2.5	5.0	4.6	5.3	5.1	3.7	3.2
Germany	0.0	0.0	0.0	4.6	3.6	2.5	2.1
South Korea	0.1	0.4	0.7	1.2	2.0	1.9	1.9
Indonesia	0.2	0.2	0.5	0.7	1.2	1.3	1.7
Canada	2.0	2.2	2.2	2.0	2.2	1.7	1.7
Saudi Arabia	0.0	0.3	0.8	0.8	1.0	1.4	1.5
Mexico	0.7	0.7	1.3	1.3	1.6	1.5	1.4
South Africa	1.0	1.0	1.1	1.2	1.2	1.4	1.3
Brazil	0.5	0.6	0.9	1.0	1.3	1.3	1.3
Turkey	0.2	0.3	0.4	0.7	0.9	1.0	1.2
Australia	0.9	1.0	1.1	1.3	1.5	1.2	1.1
UK	6.2	4.3	2.8	2.7	2.3	1.6	1.1
Italy	1.2	1.9	1.9	2.0	1.9	1.3	1.0
France	2.9	2.9	2.5	1.7	1.6	1.1	0.9
Argentina	0.5	0.5	0.5	0.5	0.6	0.5	0.5
G20 total	**88.1**	**87.1**	**85.9**	**83.3**	**84.9**	**84.0**	**83.1**
Memo							
Global emissions (in million Kt)	**8.3**	**13.3**	**17.5**	**17.2**	**19.8**	**26.1**	**28.3**

Source (basic data): World Bank

This picture changes drastically when a comparison is made in terms of per capita emissions rather than total emissions. **Table 4.4** shows that the per-capita emissions were the lowest in India at 1.8 mt. in 2018 in contrast with that of 15.5 mt. in both Canada and Australia. The world average in 2018 was 4.5 mt.

Table 4.4: CO2 emissions (metric tons per capita) – G-20 countries

Country	1960	1970	1980	1990	2000	2010	2018
Canada	10.8	16.0	18.1	15.1	16.8	15.7	15.5
Australia	8.6	11.8	15.0	15.4	17.7	17.6	15.5
Saudi Arabia	0.7	7.8	17.5	10.2	11.8	16.0	15.3
US	16.0	21.1	20.8	19.4	20.5	17.4	15.2
South Korea	0.5	1.7	3.5	5.8	9.7	11.6	12.2
Russia	12.1	18.1	25.1	14.6	10.2	11.1	11.1
Japan	2.5	7.4	8.1	8.8	9.3	9.0	8.7
Germany	0.0	0.0	0.0	12.0	10.1	9.5	8.6
South Africa	5.7	6.8	8.0	6.7	6.3	8.3	7.5
China	1.2	0.9	1.5	1.9	2.6	6.3	7.4
EU	4.7	8.1	10.0	8.5	7.8	7.3	6.4
UK	11.2	11.7	10.3	9.7	9.0	7.7	5.4
Italy	2.2	5.5	6.9	7.1	7.7	6.8	5.4
Turkey	0.6	1.2	1.7	2.6	3.4	4.1	5.0
France	5.8	8.4	9.2	6.1	6.1	5.4	4.6
Argentina	2.4	3.5	3.9	3.1	3.6	4.1	4.0
Mexico	1.7	2.2	4.0	3.2	3.9	4.1	3.7
Indonesia	0.2	0.3	0.6	0.8	1.3	1.7	2.2

Brazil	0.6	1.0	1.6	1.3	1.8	2.0	2.0
India	0.3	0.4	0.4	0.6	0.9	1.3	1.8
World	**3.1**	**4.1**	**4.6**	**3.9**	**3.8**	**4.5**	**4.5**

Source (basic data): World Bank

Countries have generally been able to reduce the carbon intensity of GDP as evaluated in terms of CO2 emissions per dollar of GDP measured in PPP terms. Among major G-20 countries, the carbon intensity in 2018 was the highest for South Africa followed by China, Russia and Saudi Arabia. These countries represent concentration of major industrial activity as also that of mineral extraction. Over time, all of the G-20 countries have been able to show a reduction in their carbon intensity. The maximum improvement in carbon intensity of GDP has been for Russia, followed by China and the EU as indicated by column (7) of **Table 4.5**. India has also done rather well in halving its carbon intensity to 0.27 in 2018 from an initial value of 0.54 in 1990.

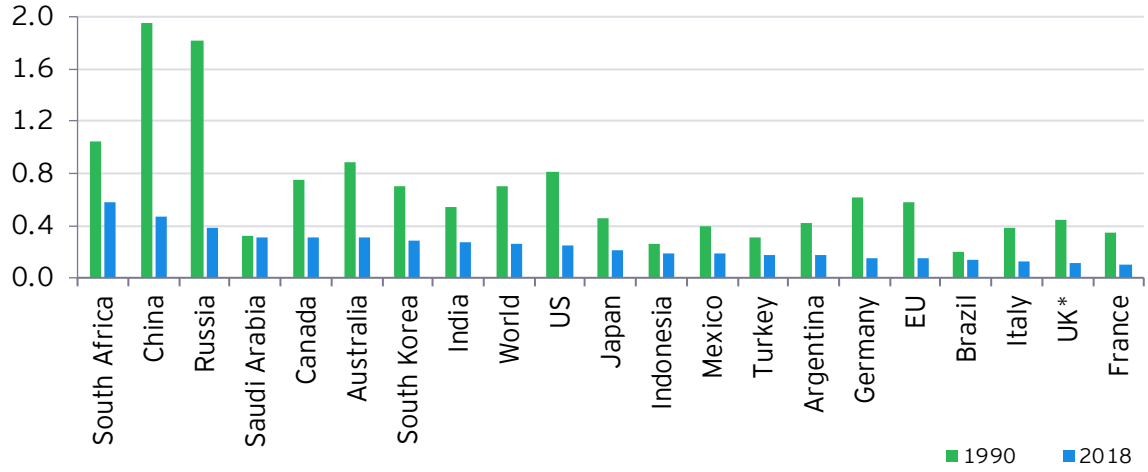
Table 4.5: Emission intensity - CO2 emissions in kg per PPP $ of GDP

Country	1990	2000	2010	2018	2018 minus 1990	% improvement in carbon intensity
(1)	(2)	(3)	(4)	(5)	(6)	(7)
South Africa	1.05	0.82	0.71	0.58	-0.47	44.7
China	1.95	0.91	0.68	0.47	-1.47	75.7
Russia	1.82	1.49	0.54	0.38	-1.44	79.2
Saudi Arabia	0.32	0.30	0.31	0.31	-0.01	1.9
Canada	0.75	0.57	0.39	0.31	-0.44	58.8
Australia	0.89	0.67	0.45	0.31	-0.58	65.4
South Korea	0.70	0.52	0.37	0.29	-0.41	58.7
India	0.54	0.42	0.32	0.27	-0.27	49.9
US	0.81	0.56	0.36	0.24	-0.57	70.2
Japan	0.45	0.35	0.26	0.21	-0.24	53.6
Indonesia	0.26	0.28	0.20	0.19	-0.08	29.3
Mexico	0.39	0.35	0.27	0.18	-0.21	53.2
Turkey	0.30	0.36	0.23	0.18	-0.12	40.8
Argentina	0.43	0.31	0.23	0.17	-0.25	59.8
Germany	0.62	0.37	0.24	0.16	-0.46	74.9
EU	0.57	0.35	0.22	0.14	-0.43	74.9
Brazil	0.20	0.20	0.14	0.14	-0.06	30.4
Italy	0.38	0.28	0.19	0.12	-0.26	67.5
UK	0.44*	0.34	0.21	0.11	-0.33	74.0
France	0.35	0.23	0.15	0.10	-0.25	71.5
World	0.71	0.48	0.35	0.26	-0.44	62.6

Source (basic data): World Bank
*data pertains to 1994
Note: % improvement in carbon intensity of countries is represented as a heat map to identify the best and the worst performers in this regard.

Chart 4.4 gives a graphical presentation of the emission intensity of individual countries in 2018 vis-à-vis. their respective levels in 1990. The countries are arranged in the descending order of their carbon intensity of GDP
in 2018.

Chart 4.4: Emission intensity - CO2 emissions in kg per PPP$ of GDP



Source (basic data): World Bank
*data for the UK pertains to 1994 and 2018.

4. Climate change and COP26 summit

The 'Advance Version' of the Glasgow climate pact emerging out of COP26 deliberations was published on 13 November 2021 [19]. This pact calls on countries to *'revisit and strengthen'* climate goals in order to limit global warming to 1.5 degree Celsius above pre-industrial levels by 2100 in line with the target set out in the Paris Agreement. It recognized that achieving this target requires reducing global emissions by 45% by 2030 relative to the 2010 level and to net zero around mid-century. It was noted that the current Nationally Determined Contributions (NDCs) [20] of individual countries were inadequate to stay within 1.5 degree Celsius and would lead to an increase in temperature of about 2.4 degree Celsius until 2030. The proposal urged nations to submit their updated pledges by the end of 2022, *'stressing the urgency of increased action in relation to mitigation, adaptation and finance in this critical decade to address the gaps in the implementation of the long-term goals of the Paris Agreement'*.

With respect to climate financing, the developed countries committed to providing US$100 billion annually to developing countries. The idea of doubling finance for adaptation was also discussed. Further, a process to define the new global goal on finance was launched.

In the COP26 deliberations, an agreement was reached on the fundamental norms related to Article 6 on carbon markets, making the Paris Agreement fully operational. This would give certainty and predictability to both market and non-market approaches in support of mitigation as well as adaptation. Further, negotiations on the Enhanced Transparency Framework were also concluded, providing for agreed tables and formats to account and report for targets and emissions by the countries [21].

At the COP26 summit, India announced a five-point agenda to deal with the challenge of climate change [22]. This five-point agenda is a verbal declaration of India's updated NDCs. These points are as follows:

1. Increasing India's non-fossil energy capacity to 500 GW by 2030.
2. Meeting 50% of India's energy requirements from renewable energy by 2030.

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[19] https://unfccc.int/sites/default/files/resource/cma2021_L16_adv.pdf
[20] Nationally Determined Contributions (NDCs) are countries' national plans and voluntary targets for cutting or curbing greenhouse gas emissions in the next decade
and are critical in achieving the Paris agreement target of limiting global temperature increase within 1.5 degree Celsius above the pre-industrial levels by 2100.
[21] https://unfccc.int/news/cop26-reaches-consensus-on-key-actions-to-address-climate-change
[22] COP26 and energy transition: An outlook on India's stance | Business Standard News (business-standard.com)

3. Reducing total projected carbon emissions by one billion tonnes from now till 2030.
4. Reducing the carbon intensity to less than 45% by 2030.
5. Achieving the target of net zero emissions by 2070.

India has played a prominent and leading role in proposing significant and innovative initiatives such as captured in the Green Grids Initiative (GGI) and One Sun One World One Grid (OSOWOG) initiative. EY is proud to have been closely associated with the OSOWOG initiative from right from its conceptualization and evolution[23].

India supported major economies like China and the US[24] in their endeavor to replace the phrase "phase out" by "phase down" of 'unabated coal power and inefficient fossil fuel subsidies, recognizing the need for support towards just transition'. India emphasized the need for climate justice and exhorted the developed countries to transfer finance as well as technology that is necessary for the developing countries to meet their climate targets.

5. Conclusion: decisions of the G-20 Rome summit – recognizing India's initiatives

Within the overall theme of *People, planet and prosperity*, the G-20 summit held on 30 and 31 October 2021 in Rome concluded its deliberations with key decisions in the specific areas of climate change, COVID vaccination, taxation and direction of post-COVID macroeconomic policy[25].

With respect to *Planet,* the focus was on climate change. In this context, the G-20 nations committed to the Paris Agreement goal of limiting global warming to 1.5 degree Celsius above the pre-industrial levels and cease public financing of coal-fired power generation abroad, as decided by the G7 members during their June 2021 summit in England. However, no target was set in the G-20 summit for phasing out public financing of coal-fired power generation domestically. Further, the G-20 nations could not reach a consensus regarding the exact timelines for the net zero emissions target. The member nations, by and large, agreed to achieve carbon neutrality by or around mid-century without specifying any particular year. The G7 countries have set 2050 as the year for achieving this target while China, Saudi Arabia, and Russia have set 2060 as their target year.

An important decision was also taken with respect to financing climate adaptation costs in developing countries. The developed countries reaffirmed the goal of mobilizing jointly, US$100 billion per year by 2020 and annually through 2025 to address the needs of the developing countries in this regard. Apart from this, the G-20 nations committed to strengthening actions for halting and reversing biodiversity loss by 2030.

With respect to *People,* the main focus was on dealing with COVID vaccination. In this context, the G-20 nations agreed to progress towards achieving the global goals of vaccinating at least 40% of the population in all countries by end-2021 and 70% by mid-2022, as recommended by the World Health Organization's (WHO) global vaccination strategy. The member nations agreed to take steps to boost supply of vaccines and essential medical products and inputs in developing countries and remove supply and financing constraints. Countries also directed their health ministers to monitor progress toward this end. It is notable that in India, as of 21 November 2021, the entire eligible population, that is population aged 18 years and above, has been administered at least one dose with 21% having received both the doses. India also promised to produce five billion vaccine doses for India and the world by end-2022. Another important decision pertained to achieving food security and adequate nutrition for all.

An important G-20 initiative pertained to establishing a *Joint Finance-Health Task Force* aimed at enhancing global cooperation on issues relating to pandemic prevention, preparedness and response (PPR), promoting the exchange of experiences and best practices, developing

[23] https://www.thestatesman.com/world/workshop-held-one-sun-one-world-one-grid-renewable-energy-1502969128.html
[24] https://timesofindia.indiatimes.com/india/india-didnt-replace-coal-phase-out-with-phase-down-at-cop-26-govt-sources/articleshow/87763843.cms
[25] https://www.g20.org/wp-content/uploads/2021/10/G20-ROME-LEADERS-DECLARATION.pdf

coordination arrangements between Finance and Health Ministries, promoting collective action, and assessing and addressing health emergencies with cross-border impact. Endorsing India's call in the PPR framework, the "One World One Health" approach was also adopted.

In regard to *Prosperity,* particularly for strengthening the ongoing global growth momentum after the COVID shock, the G-20 nations agreed to avoid any premature withdrawal of policy support particularly fiscal stimulus, while preserving financial stability and long-term fiscal sustainability and safeguarding against downside risks.

In the context of taxation, the G-20 nations formally affirmed their commitment to establishing a 15% global minimum corporate tax rate by 2023 as agreed to by the OECD countries on 8 October 2021 [26]. This is expected to help prevent multinational companies from shifting profits to jurisdictions with lower tax rates.

India has played a prominent and leading role in proposing significant and innovative initiatives such as captured in the Green Grids Initiative (GGI) and One Sun One World One Grid (OSOWOG) initiative. EY is proud to have been closely associated with the OSOWOG initiative from right from its conceptualization and evolution.

The G-20 summit for 2023 is proposed to be held in New Delhi with the chairmanship of the G-20 group passing on to India from December 2022 [27]. It is thus India's responsibility to follow up on the progress of the G-20 priorities for *People, planet and prosperity*. By that time, COVID-19 may well be brought under control in India as well as in the rest of the world with India playing a significant role in vaccine production and distribution across a large number of countries.

[26] https://www.oecd.org/newsroom/international-community-strikes-a-ground-breaking-tax-deal-for-the-digital-age.htm
[27] https://economictimes.indiatimes.com/news/india/piyush-goyal-appointed-indias-g20-sherpa/articleshow/86013223.cms

Part – 2

Global government indebtedness

Home

Understanding the Greek Crisis (July 2015)

Abstract

The Greek crisis was essentially a sovereign debt crisis. Its symptoms became visible in 2009, when it came to light that the Greek government's debt and deficit levels had been misreported. This led to a crisis of confidence. In 2012, the Greek government defaulted on an IMF loan for the first time. The roots of the crisis can be traced to the long-term effects of Greece having joined the European Economic Community and becoming a member of the currency union with the adoption of the Euro in 1999. With the common currency, the intra-community volume of trade increased as a result of the reduced trade costs. However, for EU's peripheral economies like Greece, the relatively low labor productivity meant high labor costs, making their exports less competitive. Greece started to run increasing trade deficits. Having adopted the Euro, there was no domestic currency which could have been allowed to depreciate to regain trade balance. That equilibrating mechanism had been lost. The increasing trade imbalances converted into fiscal imbalances, since the excess of imports over exports had to be financed through government borrowing.

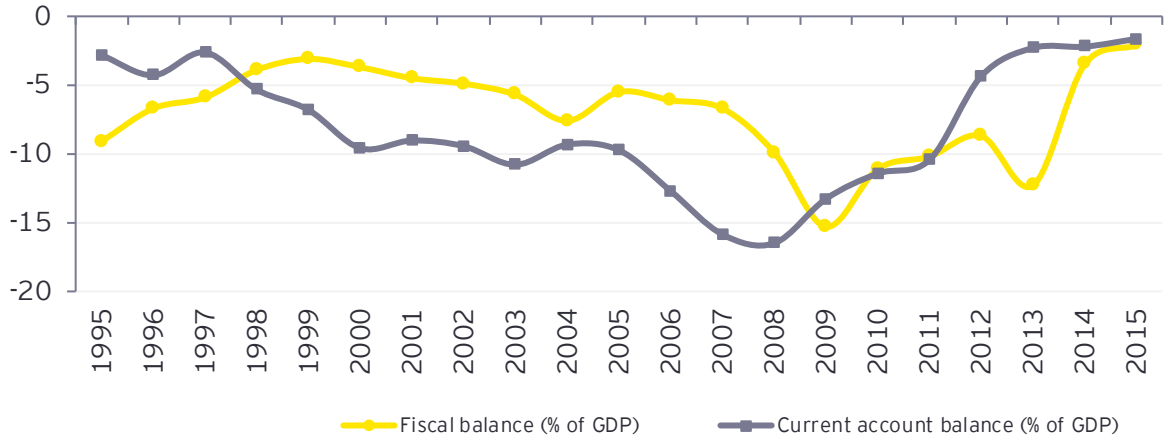
Greece's problems have not just been financial. It also has a human dimension that becomes visible in high unemployment rates, particularly of young people. The overall unemployment rate was 25%, with higher rates for the young employable population, at more than 50%. The economy had contracted by 25% and the public debt to GDP ratio had crossed 180%. Apart from Greece, other peripheral economies of the EU include Portugal, Spain, and Italy.

Introduction

The Greek crisis is essentially a sovereign debt crisis. Its symptoms became visible in 2009, when it came to light that the Greek Government's debt and deficit levels had been misreported by the Greek Government. This led to a crisis of confidence. In 2012, the Greek Government defaulted on an IMF loan for the first time. The roots of the crisis can be traced to the long-term effects of Greece having joined the European Economic Community and becoming a member of the currency union with the adoption of the Euro in 1999. With the common currency, the intra-community volume of trade increased, as a result of the reduced trade costs. But for EU's peripheral economies like Greece, the relatively low labor productivity meant high labor costs, making their exports less competitive. Greece started to run increasing trade deficits. Having adopted the Euro, there was no domestic currency which could have been allowed to depreciate to regain trade balance. That equilibrating mechanism has been lost. The increasing trade imbalances converted into fiscal imbalances, since the excess of imports over exports had to be financed through government borrowing.

Trade deficits require capital inflows to finance it. If this is based on borrowing by the government rather than the private sector, trade deficit translates into fiscal deficit. Greece ran current account deficits averaging 9.1% GDP from 2000–2011. Chart 5.1 shows the deterioration in the current account and fiscal imbalance that started almost immediately around the adoption of the Euro as the common currency. The worst came when the global financial and economic crisis happened in 2007-08. At its peak, the current account deficit crossed 16% of GDP in 2007 and fiscal deficit exceeded the level of 15% of GDP in 2008, a situation of extreme macro imbalance.

Chart 5.1: Current Account and Fiscal Balances as % of GDP at current prices



Source (Basic data): AMECO, EU

These macro-imbalances led to the creation of a debilitating downward spiral of welfare loss for the Greek citizens. Constant monitoring by the EU authorities revealed that the Greek debt levels were actually understated by the Greek authorities. It also became clear that the Greek economy had suffered three distinct recessions (Q3-Q4 2007, Q2-2008 until Q1-2009, and in Q3-2009), which resulted in a rise in the debt to GDP ratio from 109% in 2008 to 146% in 2010. This led to a vicious circle, since the credit rating agencies downgraded the Greek Government debt and the cost of that debt increased to cover the additional risk of default. A fourth recession has become noticeable since Q4-2014.

The first bailout program was launched by the European Commission, European Central Bank and IMF, jointly often called the Troika, and a €110 billion bailout loan to rescue Greece in May 2010. The second bailout, worth €130 billion (including a bank recapitalization package worth €48 billion) was approved in February 2012. In December 2012, the Troika agreed to provide Greece with a last round of debt relief measures, while the IMF extended its support with an extra €8.2 billion of loans to be transferred during the period of January 2015 to March 2016.

According to the IMF review in May 2014, Greece's public debt was assessed to be getting back on a path toward sustainability, though it remained highly vulnerable to shocks. Major changes in policies and a weak reform effort have resulted in low primary surpluses, making Greece's debt dynamics unsustainable. The tension is between the call for increased austerity by the lenders and exhaustion of Greek citizens with seemingly unending austerity.

Greece's problems are not just financial. It has a human dimension that becomes visible in high unemployment rates, particularly of young people. The overall unemployment rate is 25%, but higher for the young employable population, at more than 50%. The economy has contracted by 25% and public debt to GDP ratio has crossed 180%. Greece is only the front runner of EU's crisis. Close on its heel, other peripheral economies of the EU, viz., Portugal, Spain, and Italy. Structural solutions are needed to address structural problems. The difference between the 2008 global financial crisis and the present one is that while the 2008 crisis was related to private borrowing now it is that of public borrowing. In the earlier crisis, governments stepped in but when individual government's solvency comes under clouds, solutions become difficult, and the crises enter into unknown territory.

Debt overhang and the global growth slump (November 2015)

Abstract

The global economic crisis in 2007 sowed the seeds of a large build-up in debt. Governments in advanced economies affected by the crisis had to lower interest rates to near zero to stimulate their economies and incur a high amount of public expenditure for financial restructuring even as their revenues dipped. Consequently, since end-2007, a 41% increase in government debt-to-GDP ratio had occurred until 2014 without any associated investment in infrastructure.

A high level of public debt limits the ability of governments to further stimulate the economy. It involves a trade-off between paying it off through distortionary taxes and/or reducing spending or retaining debt at a high level but stimulating growth in the hope that eventually the higher growth will reduce the debt-GDP ratio. Nominal GDP growth rate of advanced economies had declined from a peak of 9.2% in 2007 to 2.0% in 2014. This was reflective of both a fall in demand – real growth had declined from 2.8% to 1.8% in 2014 - and a fall in inflation rate (CPI) from 2.2% to 1.4% over the same period.

Among the EMEs, India had a debt-to-GDP ratio of 125%, taking government and private debt together. This had remained stable since the 2008 crisis with minor variations. Lower commodity prices had also led to lower import bill leading to a CAD level as low as 1.2% of GDP in FY15. India thus had a relatively better 'fiscal space' that could potentially be leveraged to stimulate the economy.

Introduction

The global economy is in the grip of sluggish growth. The main reasons likely include one or more of the following[28]: a secular deficiency in aggregate demand, slowing innovation, adverse demographics, lingering policy uncertainty, post-crisis political fractionalization, debt overhang, insufficient fiscal stimulus and excessive financial regulation. Among these, Lo and Rogoff consider the key driving factor for the current slowdown to be the debt overhang.

The global economic crisis in 2007 sowed the seeds of a large build-up in debt. Governments in advanced economies affected by the crisis had to lower interest rates to near zero to stimulate their economies and incur a high amount of public expenditure for financial restructuring even as their revenues dipped. Consequently, as shown in Table 6.1, since end-2007 a 41% increase in government debt-to-GDP has occurred without any associated investment in infrastructure. More recently, net debt securities issuance by advanced economy borrowers expanded at the fastest pace since before the Global Financial Crisis of 2007–09, totaling US$247 billion in the first half of 2015, leading to an overall increase in their total debt to 265% of GDP from 229% in 2007.

A high level of public debt limits the ability of governments to further stimulate the economy. It involves a trade-off between paying it off through distortionary taxes and/or reduce spending or retain debt at a high level but stimulate growth in the hope that eventually the higher growth may reduce the debt-GDP ratio. Nominal GDP growth rate of advanced economies[29] has declined from a peak of 9.2% in 2007 to 2.0% in 2014 and is projected to fall further to -5.5% in 2015. This is reflective of both a fall in demand – real growth has declined from 2.8% to 1.8% in 2014 – and a fall in inflation rate (CPI) from 2.2% to 1.4% over the same period.

Weakness in global demand is both the cause and effect of falling prices of crude and other primary metals. The fall in commodity prices has led to a fall in import demand from commodity producers and through global interlinkages in the import demand from advanced economies. With a decline in both real growth and inflation, it appears difficult for these economies to lower their debt-GDP ratio. On the other hand, an increase in taxes risks discouraging investment, spending and thus economic growth. A recent paper by IMF[30] argues that the answer depends upon the 'fiscal space' available to a country. The major advanced economies that do not have any such fiscal room include the UK (marginal fiscal space), France and some of the weaker European countries like Greece, Portugal and Spain. However, the fiscal adjustment required to start government deleveraging in most of these countries is 2% of GDP[31] or more, which in itself may be quite damaging to these economies and to global growth.

At the same time, advanced economies' accommodating monetary policy has had a substantial impact on the financial flows to other countries. The total non-bank credit denominated in US$ to residents outside the US increased to 9.8 trillion, almost twice the amount of credit in June 2007[32]. Credit denominated in Euro to non-Euro residents increased 1.3 times over the same period.

A large portion of such flows has been directed towards emerging economies. External debt in emerging and developing economies has grown by US$3.2 trillion from 2007 to 2013[33] although its share of GDP and exports has remained stable. Non-financial sector debt denominated in dollars increased to US$7.9 trillion in June 2015, almost twice the level in June 2007[34]. As Table 1 shows, overall non-financial debt as a share of GDP in emerging economies has grown by 50% points to 167% in 2014. Debt concentration has increased largely in the corporate sector - by 35% points of GDP - rather than the government sector as witnessed in advanced economies. In Hong Kong, China,

[28] Lo and Rogoff list eight major theories explaining this: *Secular stagnation, debt overhang and other rationales for sluggish growth, six years on* (2015), Lo and Rogoff, BIS
[29] World Economic Outlook, October 2015, IMF
[30] When should debt be reduced? (2015), Ostry, Ghosh and Espinoza, IMF;
[31] Mckinsey
[32] BIS
[33] World economic outlook database (October 2015), IMF
[34] BIS

Singapore and Brazil, the share of corporate debt in GDP has increased by 85%, 58%, 24% and 18% points, respectively. China which accounts for roughly 36.3% of the total EME GDP has contributed the most to the overall EME debt burden, both directly and indirectly through trade interlinkages with other EMEs.

With a 10% rise in household debt since the crisis, the EMEs have hardly any scope for the private sector to expand demand. Studies have also shown that in countries where debt-GDP ratio increased by more than 20% in five years, the annual GDP falls by 3% points in three years after the debt ratio peaks. Moreover, such a large build-up of debt increases the probability of a variety of crisis[35].

This has put several emerging economies at risk, especially at a time when the US Federal Reserve has reversed its policy path of quantitative easing. As the share of short-term flows in net debt flows to developing economies increased from 6.8% in 2008 to 34.4% in 2013 (World Bank), there may be an exodus of capital from these countries.

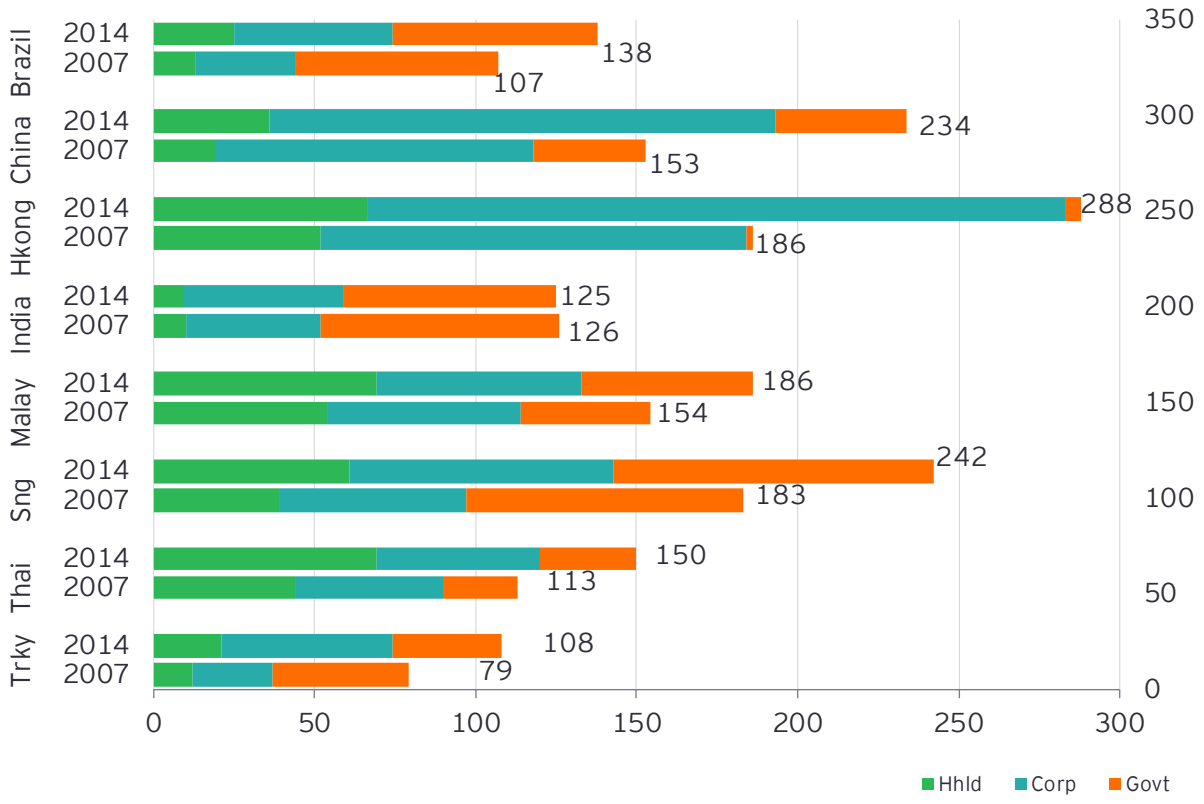
Table 6.1: Core debt of the non-financial sectors of advanced and emerging economies

% of GDP

	Level in 2014				Change since end-2007			
	Hhld	Corp	Govt	Total	Hhld	Corp	Govt	Total
Advanced economies	73	81	110	265	-7	1	41	36
Emerging market economies	30	94	44	167	10	35	4	50

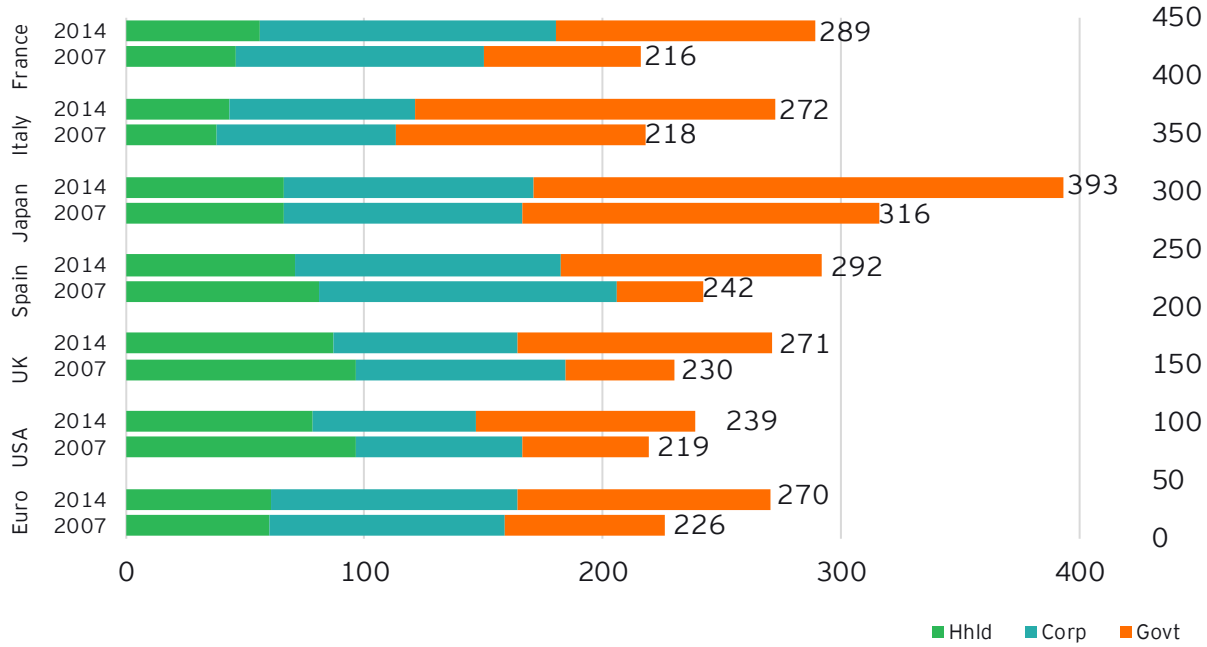
Source: BIS Quarterly Review, September 2015

Chart 6.1: Pre-crisis non-financial debt levels as % of GDP in emerging and advanced economies by type



[35] A study co-authored by Maurice Obstfeld, now Chief Economist of IMF, found that an increase in the credit to GDP ratio by 9 or more % points lead to increase in the probability in the subsequent year of a sovereign debt default by 11.5% points, a currency crisis by 9.4% points and a banking crisis by 6.4% points.

Chart 6.2: Post-crisis non-financial debt levels as % of GDP in emerging and advanced economies by type



High risk exists for countries with a high current account deficit (CAD), who are prone to inflation and require delicate exchange rate balancing to avoid both imported inflation and export decline. For example, in Brazil and Turkey, private debt load has increased by 30% and 37%, respectively, since the global economic crisis. Both had CAD to GDP ratio as high as -4.4% and -5.8% in 2014, respectively, which makes them dependent on foreign capital inflows to fund growth. Increasing US interest rates would require an increase in individual policy rates which would hurt corporate borrowers' debt service ability. A likely capital outflow might lead to currency depreciation followed by higher inflation. This would be destabilizing, especially when exchange rates of Brazil and Turkey have already depreciated by 20.9% and 68%, respectively, during 2007-2014.

China, Singapore and Thailand too are at risk. Private debt in China has increased by 75% to 235% of GDP since the crisis, with corporate debt increasing by 58%. As large public sector banks provide support to struggling less-profitable companies, profits, investment and finally Chinese growth could slow down even further to 6.5% in 2016 (OECD).

Among the EMEs, India has a debt-to-GDP ratio of 125%, taking government and private debt together. This has remained stable since the 2008 crisis with minor variations. Lower commodity prices have also led to lower import bill leading to a CAD level as low as 1.2% of GDP in FY15. India thus has relatively better 'fiscal space' that can potentially be leveraged to stimulate the Indian economy.

Pandemic-induced debt shock: India, China and G7 countries (November 2020)

Abstract

COVID-19 led to a sharp upsurge in the indebtedness of nearly all major economies. We estimated that the COVID-19 induced upsurge in government debt-GDP ratio for the G-9 countries (G7, India and China), amounted to 20.6% points on average.

The evolution of debt over the period 1996 to 2019 indicates that major economic crises led to one-time increases in the total debt-GDP ratios including government and private debt. These ratios tend to remain at high levels well after the crises are over showing downward rigidity. Over the period 1996 to 2019, covering the Latin American/Southeast Asian crisis, the global economic and financial crisis of 2008, the European sovereign debt crisis of 2010 to 2013 and some country-specific crises during 2013 to 2019, G-9 countries experienced an increase in their total debt-GDP ratios amounting to 73.6% points on average.

For assessing the impact of COVID-19, we projected the government debt-GDP ratio for 2020 and 2021 using the 2019 debt-GDP ratios along with independently projected fiscal deficit, real GDP growth and inflation rates. It was indicated that the substantive upsurge in the government debt-GDP ratio was because two of its three determinants namely, fiscal deficit and negative growth, supplemented each other in the pandemic year leading to an increase in the government debt-GDP ratio. There was thus a policy trade-off in dealing with the pandemic. A higher fiscal deficit within a country could be justified if it could minimize the contraction in its growth rate. Furthermore, there was a case for coordination among major economies of the world in implementing their fiscal stimuli.

Introduction

India is expected to experience a major upsurge in its government debt-GDP ratio as a result of both the extremely high fiscal deficit and a sharp contraction in its real GDP in FY21. This experience for the Indian economy would be shared by a number of other major economies of the world. We looked at this pandemic induced debt shock for India along with the G7 countries and China[36] (G-9 countries from hereinafter). We studied the evolution of country-wise debt-GDP ratios over 1996 to 2019. This review indicates that major economic crises have led to one-time upsurges in the debt-GDP ratios. These tend to remain at high levels well after the crises are over showing downward rigidity. We find that the projected debt shock caused by Covid-19 may turn out to be much higher than that experienced in the 2008 crisis. We bring out the role of fiscal deficit, growth rate and inflation rate in determining the impact on government debt-GDP ratio in a crisis year as compared to a normal year.

Evolution of country-wise total debt-GDP ratio: 1996 to 2019

In this section, we undertake a review of the evolution of country-specific total debt-GDP ratios over the period 1996-2019. This analysis is in terms of debt-GDP ratios where both debt and nominal GDP are in local currency units (LCU). Data for this analysis has been drawn from the International Monetary Fund (IMF)[37]. The IMF data on total debt extends up to 2019. For two years, that is, 2020 and 2021, government debt relative to GDP has been projected by using real GDP growth and inflation rate forecasts as sourced from the IMF World Economic Outlook (October 2020). Further, the fiscal deficit to GDP ratio for 2020 and 2021 has been derived by using government debt to GDP ratio and the nominal GDP for these two years as projected by the IMF in its WEO.

Table 7.1: total debt-GDP ratio of G-9 economies: 1996 to 2019

Countries	1996	2005	2010	2013	2019	2005-1996	2010-2005	2013-2010	2019-2013	2019-1996
CAN	245.8	219.6	259.8	276.2	304.0	-26.2	40.2	16.4	27.8	58.2
CHN	104.8	134.8	172.3	192.1	245.4	30.1	37.5	19.7	53.4	140.7
FRA	189.7	216.6	257.7	274.7	312.6	26.9	41.1	17.0	37.9	123.0
DEU	173.3	192.7	197.5	189.2	174.0	19.3	4.8	-8.3	-15.3	0.6
IND	92.2	123.9	121.8	126.9	127.6	31.7	-2.0	5.1	0.7	35.4
ITA	186.8	205.1	244.5	256.6	244.5	18.3	39.4	12.1	-12.2	57.7
JPN	313.4	341.3	371.6	392.6	401.0	27.9	30.3	21.0	8.4	87.6
GBR	159.6	203.9	266.9	264.2	249.3	44.2	63.0	-2.7	-14.9	89.7
USA	189.2	216.3	262.4	255.3	259.0	27.1	46.1	-7.1	3.6	69.8
Avg.	183.9	206.0	239.4	247.5	257.5	22.1	33.4	8.1	9.9	73.6

Source (basic data): IMF

In terms of the underlying economic conditions during 1996 to 2019, the 2008 global economic and financial crisis was preceded by other economic crises such as the Latin American economic crisis and the Southeast Asian crisis experienced during the late 90's and early 2000's. During the period from 2010 to 2013, there was the European sovereign debt crisis. Additionally, there were country-specific crises during 2013 to 2019. These include the Chinese stock market crash (2015), Russian financial crisis (2014), Brazilian economic crisis (2014 to 2017) and Turkish currency and debt crisis (2018). Further, the movement of global crude prices which had been strongly cyclical during this period had also affected the fortunes of the oil-rich economies on the one hand, and oil-import dependent economies on the other. The evolution of the debt-GDP ratio over the years under review indicates that every major economic crisis leads to a sharp and one-time jump in the indebtedness of a country. Its debt-GDP ratio then remains relatively stable at an elevated level until the next crisis is encountered, and then again, a one-time jump happens. Thus, the evolution

[36] The selected set of countries include Canada (CAN), China (CHN), France (FRA), Germany (DEU), India (IND), Italy (ITA), Japan (JPN), the UK (GBR), and the US (USA).
[37] Global debt database, IMF; https://www.imf.org/external/datamapper/datasets/GDD

of the debt-GDP ratio has generally been episodic. The downward adjustments in the indebtedness of a country have been limited in the case of some countries. Table 3 indicates the total debt-GDP ratio comprising non-financial private debt and government debt of the selected countries.

All countries have experienced an increase in their total debt-GDP ratio by large margins between 1996 and 2019, with the exception of Germany. The highest increase at 140.7% points is that for China, followed by France at 123.0% points, the UK at 89.7% points, Japan at 87.6% points and the US at 69.8% points. India also witnessed an increase of 35.4% points.

This overall period can be divided into certain sub-periods to examine the impact of specific crises characterizing these periods. We have selected during the overall period of 1996-2019, the following years as the intervening time markers: 2005, 2010, and 2013. During 1996 to 2005, the maximum increases in the total debt-GDP ratio occurred for the UK at 44.2% points, India at 31.7% points, Japan at 27.9% points, the US at 27.1% points, and France at 26.9% points. During this period, the global crude oil prices also increased sharply 1999 onwards[38].

The increase recorded over the period 2005 to 2010 captures the impact of the 2008 global economic and financial crisis. In this period, some of the sharpest country-wise increases in the total debt-GDP ratios occurred. Many western and European economies were particularly adversely affected. The sharpest increase during this period was experienced by the UK, with an increase in its total debt-GDP ratio of 63.0% points, followed by the US at 46.1% points, and France at 41.1% points. In India's case, the total debt relative to GDP fell by 2.0% points between 2005 to 2010 although this ratio had increased by 3.8% points by 2008. It fell thereafter.

In the next phase during 2010 to 2013, when the European sovereign debt crisis occurred, countries that experienced a higher than 10% points increase in their total debt-GDP ratio include Japan at 21.0% points, China at 19.7% points, France at 17.0% points, and Canada at 16.4% points.

In the last phase during 2013 to 2019, characterized by country-specific crises, some sharp increases were observed for China at 53.4% points, followed by France at 37.9% points and Canada at 27.8% points.

Comparative debt profiles: 1996 to 2019

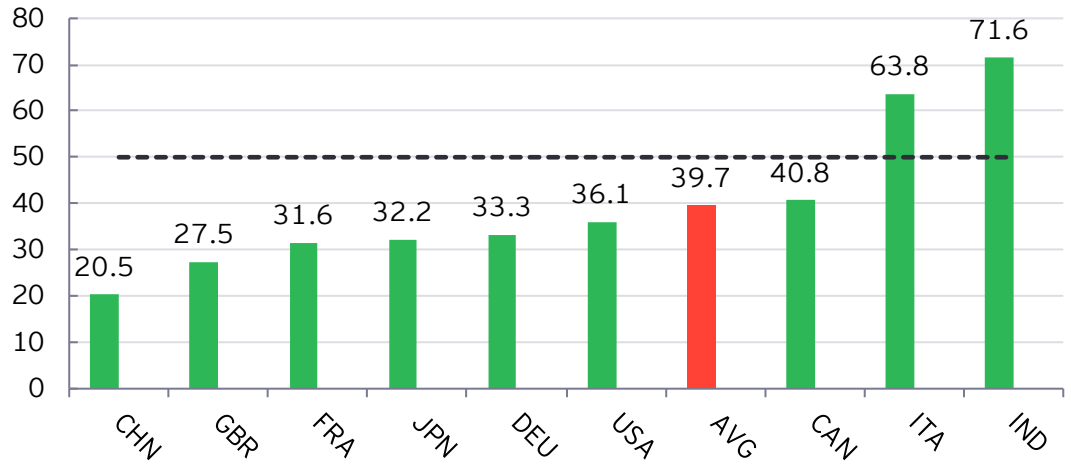
In this section, we have compared (1) share of government debt in total debt; and (2) government debt to GDP ratio as they evolved over this period with respect to four benchmark years namely, 1996, 2005, 2010 and 2019.

Composition of debt: share of government debt in total debt

In this section, we undertake a review of the composition of total debt as divided between government debt and private debt for individual countries. Chart 7.1 shows that in the selected set of countries, in 1996, the share of government debt in total debt was the highest for India at 71.6%, followed by Italy at 63.8% and Canada at 40.8%. At the lower end, the lowest share of government debt in total debt was for China at 20.5%, followed by the UK at 27.5%. The average share of government debt in total debt for the selected set of countries was 39.7% in 1996.

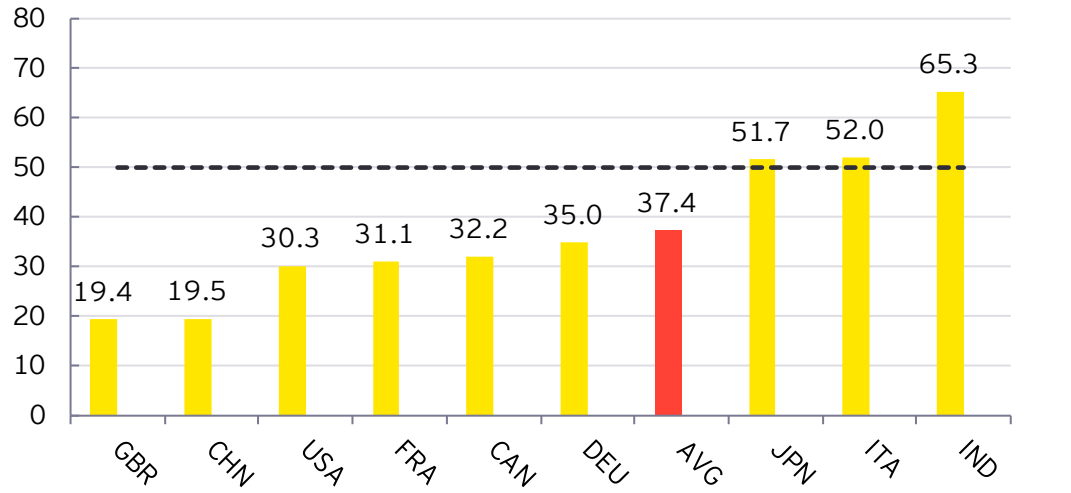
[38] Pink Sheet data, World Bank

Chart 7.1: share of government debt in total debt: 1996



Source (basic data): IMF

Chart 7.2: share of government debt in total debt: 2005

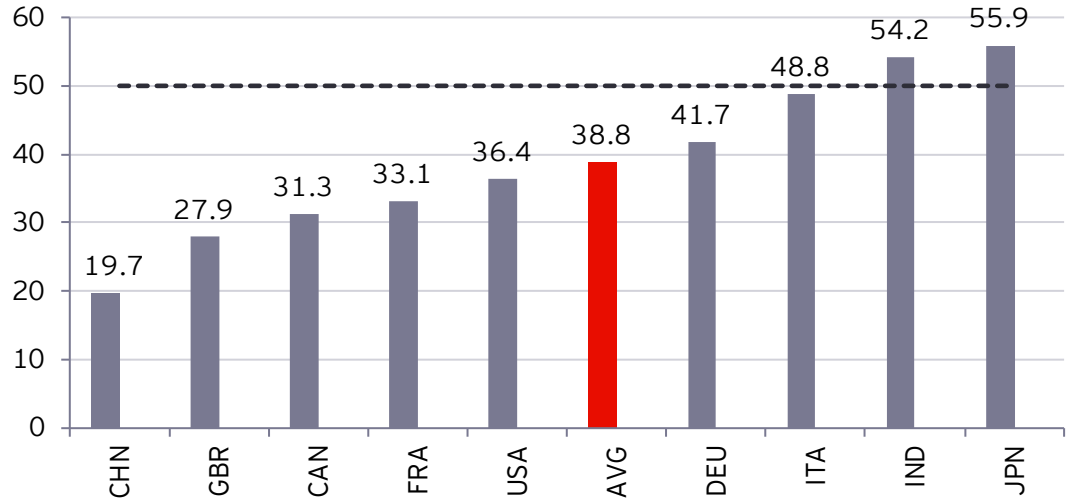


Source (basic data): IMF

By 2005 (Chart 7.2), seven out of nine selected countries experienced a decline in their share of government debt in total debt as compared to that in 1996. However, in the case of Japan and Germany, this share increased by 19.5% points and 1.6% points respectively in 2005. The average share of government debt in total debt for the selected set of countries was 37.4% in 2005, a fall of 2.3% points from the 1996 level.

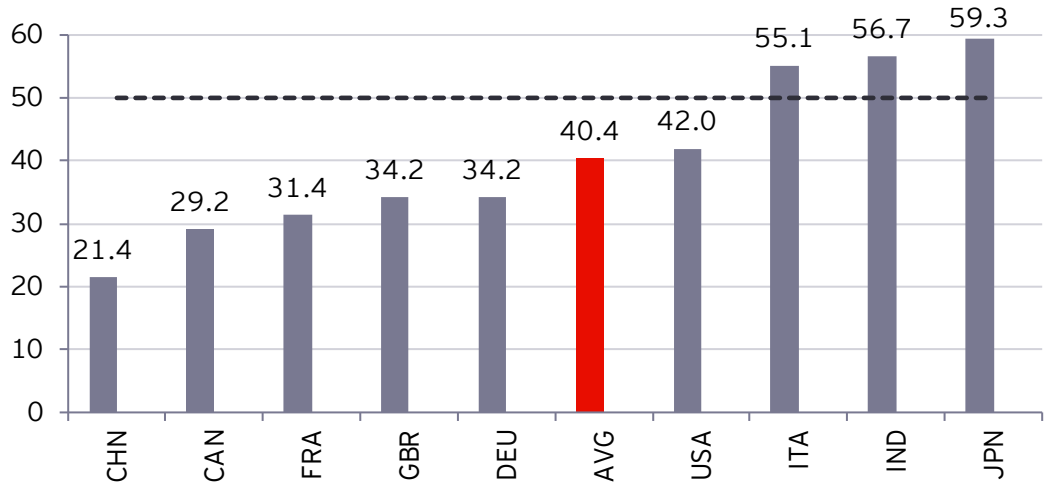
By 2010 (Chart 7.3), the effect of the 2008 global economic and financial crisis had become visible. The share of government debt in total debt increased in Japan, Germany, the US, France, the UK and China. However, in Italy, Canada and India, this share fell indicating that the 2008 crisis had led to an even greater increase in private debt. The average share of government debt in total debt for the selected countries was 38.8% in 2010, an increase of 1.4% points from the level in 2005.

Chart 7.3: share of government debt in total debt: 2010



Source (basic data): IMF

Chart 7.4: share of government debt in total debt: 2019



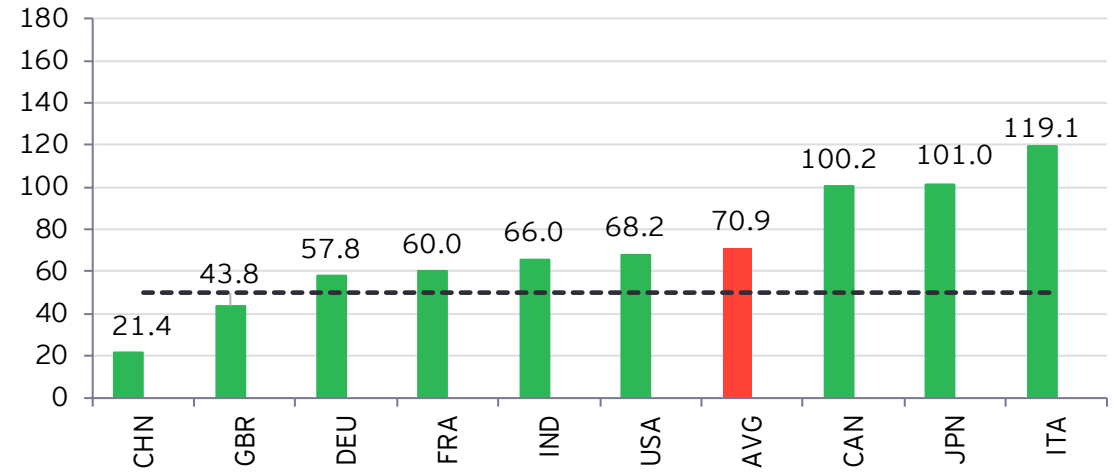
Source (basic data): IMF

In Chart 7.4, we look at the composition of debt for 2019. The intervening years from the 2008 crisis were characterized by relatively higher growth of government debt in most countries and in certain other countries, there was a higher growth of private debt vis-a-viz. government debt. The relative share of government debt increased in the case of Japan, India, Italy, the US, the UK, and China. Countries which experienced a decline in their share of government debt in 2019 as compared to 2010 include Germany, France and Canada. The average share of government debt in total debt for all the selected countries was 40.4% in 2019, an increase of 1.6% points from the level in 2010. Thus, over the period from 1996 to 2005, there was an increase in the overall debt-GDP ratio of countries in general, but this increase was relatively more for private sector debt whereas the share of government debt in total debt had shown some decline. Between 2005 and 2019, the overall debt-GDP ratio continued to surge, but in this period, the share of government debt in total debt increased on average.

Government debt-GDP ratio

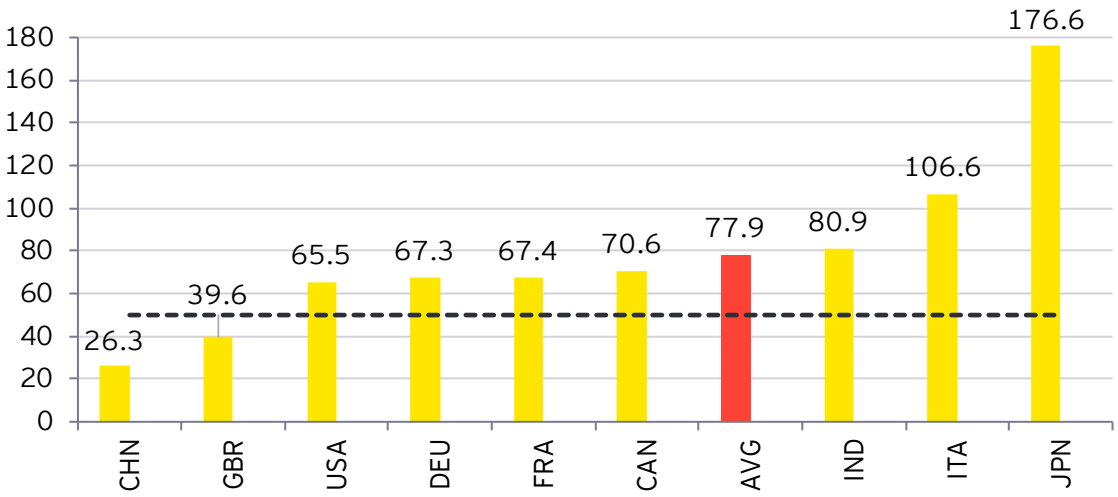
In this section, we look at the comparative position of countries with respect to the evolution of government debt to GDP ratio. In 1996 (Chart 7.5), three countries, namely Italy, Japan and Canada already had a government debt to GDP ratio which was higher than 100%. Other countries like the UK, Germany, France, India and the US had a government debt-GDP ratio in the range of 57.8% to 68.2%. China's government debt-GDP ratio at 21.4% was the lowest amongst the selected set of countries. As economies went through different phases of economic crises and responded to these through fiscal stimulus based on an increase in their fiscal deficits, their government debt to GDP ratio kept increasing. The average government debt to GDP ratio for the selected set of countries was 70.9% in 1996.

Chart 7.5: government debt relative to GDP: 1996



Source (basic data): IMF

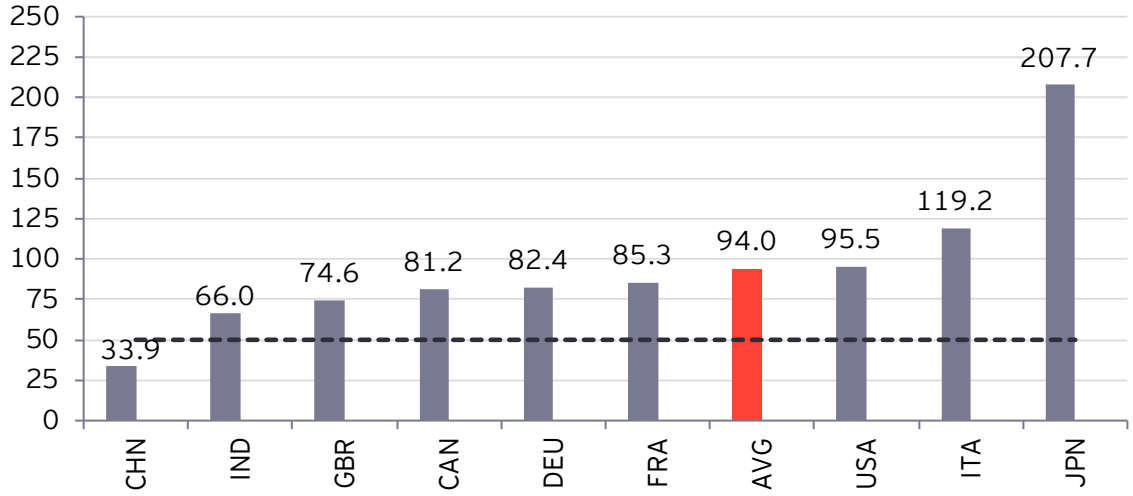
Chart 7.6: government debt relative to GDP: 2005



Source (basic data): IMF

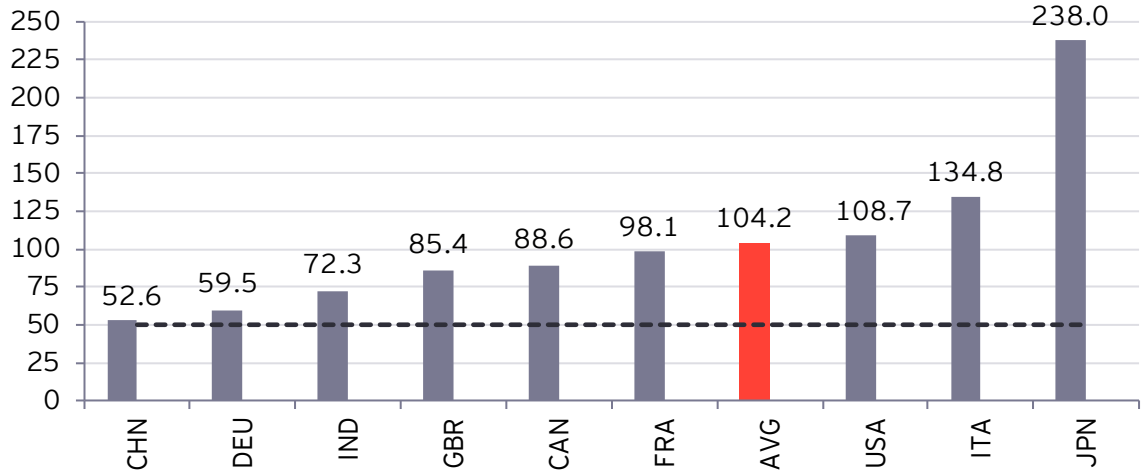
By 2005 (Chart 7.6), in the case of Japan, the government debt to GDP ratio had increased to 176.6%. For Italy, while this ratio remained above 100%, it fell marginally from 119.1% in 1996 to 106.6% in 2005. In India's case, the government debt relative to GDP increased from 66% in 1996 to 80.9% in 2005. This ratio remained in the range of 65.5% to 70.6% for the US, Germany, France and Canada. China's government debt-GDP ratio increased only marginally by 4.9% points in 2005. The average government debt to GDP ratio for the selected countries was 77.9% in 2005, an increase of 7.0% points from its level in 1996.

Chart 7.7: government debt relative to GDP: 2010



Source (basic data): IMF

Chart 7.8: government debt relative to GDP: 2019



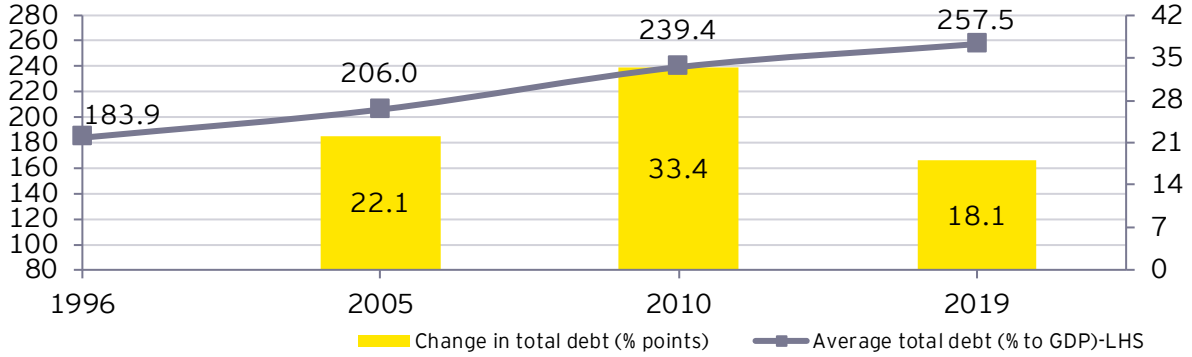
Source (basic data): IMF

By 2010 (Chart 7.7), the government debt-GDP ratio surged to 207.7% for Japan and 119.2% for Italy. For the US, there was a massive jump from 65.5% in 2005 to 95.5% in 2010, an increase of 30% points. Some of the other western economies like France, Canada, the UK and Germany also experienced an increase in their government debt to GDP ratios. These countries had borne the brunt of the 2008 crisis. India, however experienced an improvement in its government debt-GDP ratio which fell from 80.9% in 2005 to 66% in 2010, a fall of nearly 15% points. This showed the effect of adherence to the Fiscal Responsibility and Budget Management Act (FRBMA) which was adopted by both the central and state governments during 2003 to 2010. The average government debt to GDP ratio for the selected countries was 94.0% in 2010, a sharp increase of 16.1% points from its level in 2005.

By 2019 (Chart 7.8), all countries except Germany showed an increase in their government debt to GDP ratio relative to their levels in 2010. In the case of Japan, government debt to GDP ratio had continued to surge, reaching a level of 238.0%. Italy also showed a substantial increase, touching a level of 134.8%. In the US, government debt relative to GDP had by now crossed the threshold of 100%, reaching a level of 108.7%. The average government debt to GDP ratio for the selected set of countries was 104.2% in 2019, an increase of 10.3% points from its level in 2010.

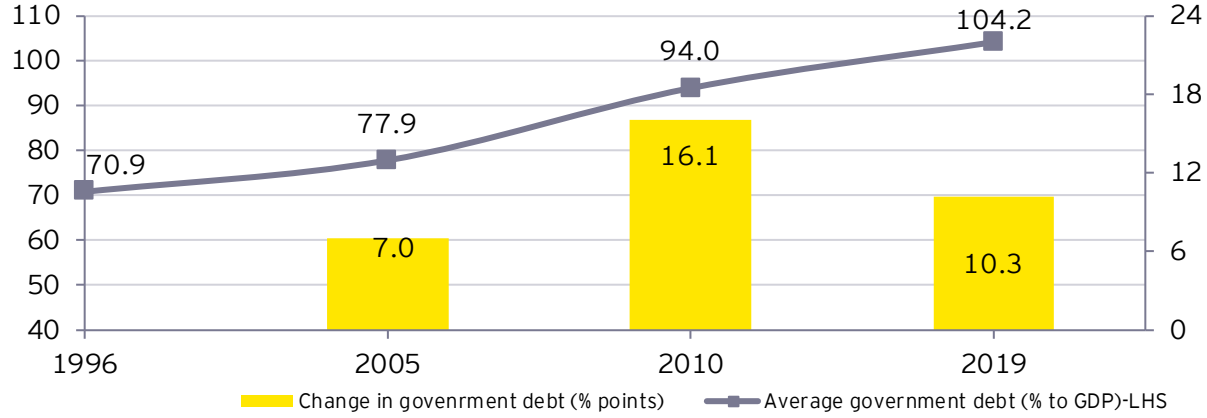
Charts 7.9, 7.10, 7.11 and 7.12 show the evolution of total debt to GDP ratio, government debt to GDP ratio, private debt to GDP ratio and share of government and private debt in total debt on average for the selected set of countries for the years 1996, 2005, 2010 and 2019.

Chart 7.9: average total debt relative to GDP



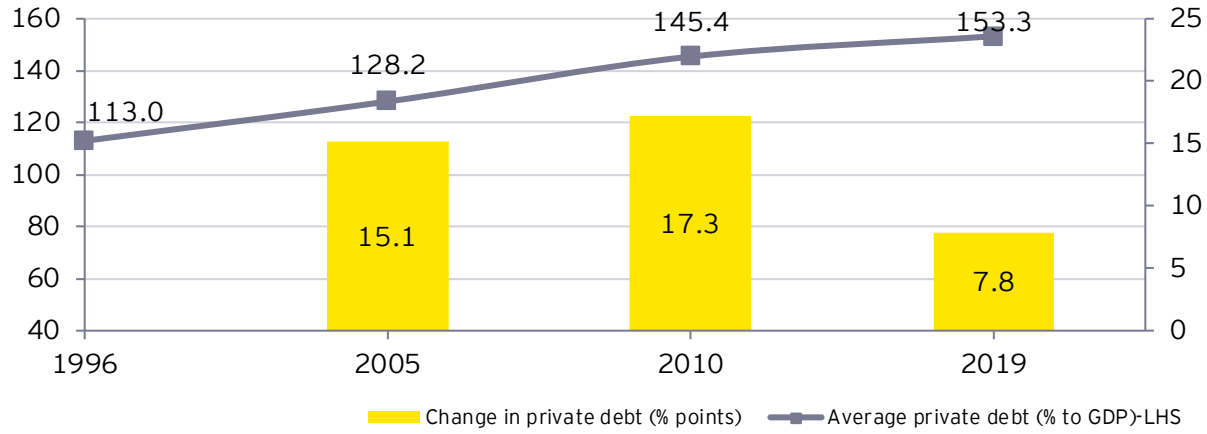
Source (basic data): IMF

Chart 7.10: average government debt relative to GDP



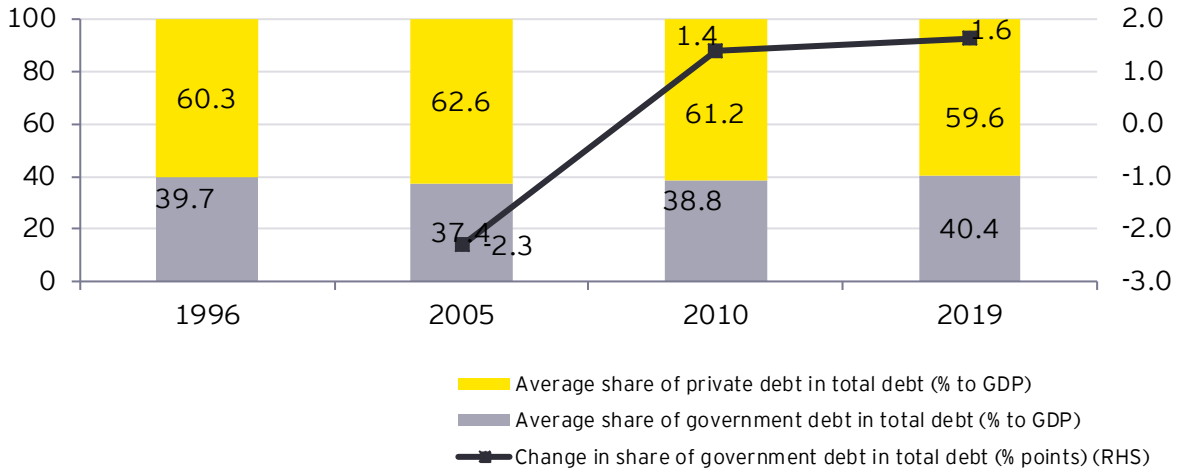
Source (basic data): IMF

Chart 7.11: average private debt relative to GDP



Source (basic data): IMF

Chart 7.12: average share of government debt in total debt



Source (basic data): IMF

Growth in government debt-GDP ratio: relative contribution of determinants

In Table 7.2, we have analyzed the change in government debt-GDP ratio in 2009 as compared to 2008 thereby highlighting the impact of the 2008 crisis. Looking at the change in government debt-GDP ratio in 2009 over 2008, it is clear that in all those countries where the growth factor made a positive contribution to the increment in debt-GDP ratio, the change in debt became quite substantial.

Table 7.2: estimated contribution to increase in government debt to GDP ratio: 2009 over 2008 (% points)

#	Countries	2009 over 2008					
		Fiscal deficit	Growth	Inflation	Residual	Total	Real GDP growth
1	CAN	7.7	2.0	1.6	0.1	11.4	-2.9
2	CHN	9.7	-2.3	0.0	0.0	7.4	9.4
3	FRA	12.3	2.0	0.0	0.0	14.3	-2.9
4	DEU	4.8	3.9	-1.2	-0.1	7.5	-5.7
5	IND	7.9	-5.6	-4.1	0.3	-1.7	8.5
6	ITA	6.4	5.9	-1.8	-0.1	10.4	-5.3
7	JPN	5.9	10.5	1.1	0.1	17.6	-5.4
8	GBR	12.6	2.2	-0.8	0.0	13.9	-4.2
9	USA	11.7	1.9	-0.6	0.0	13.0	-2.5
Average		**8.8**	**2.3**	**-0.6**	**0.0**	**10.4**	**-1.2**
Share of average in total		**84.0**	**21.9**	**-6.1**	**0.2**	**100.0**	**--**

Source (basic data): IMF, OECD, EY estimates

Thus, in Canada, the increase was 11.4% points, in France, 14.3% points, in Italy, 10.4% points, in Japan, 17.6% points, in the UK, 13.9% points and in the US, 13.0% points. Countries which could show a positive growth rate and therefore a negative contribution of the growth factor escaped with a much lower impact in terms of the increment in government debt relative to GDP. Thus, India was able to show a contraction in its debt-GDP ratio of (-)1.7% points.

Projecting the pandemic's impact on debt-GDP ratio

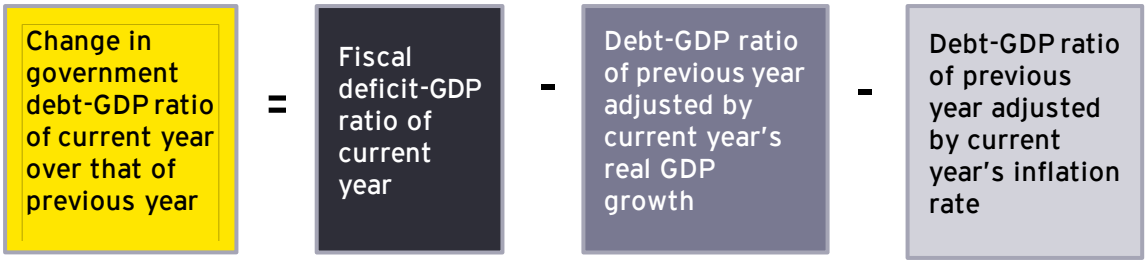
In this section, we project the government debt-GDP levels for 2020 and 2021 for the selected countries. For this purpose, we need independent projections of fiscal deficit to GDP ratio, real GDP growth and inflation rate in these years. Real GDP growth and inflation forecasts for different

countries for these two years are taken from the October 2020 issue of IMF's World Economic Outlook (WEO). The fiscal deficit to GDP ratio for 2020 and 2021 has been derived by using government debt to GDP ratio and the nominal GDP for these two years as projected by the IMF in its WEO.

Methodology: projection and decomposition

It can be shown that the increase in debt-GDP ratio over two successive years (current year over previous year) is given by the fiscal deficit-GDP ratio of the current year, minus previous year's debt-GDP ratio adjusted for current year's real GDP growth, minus previous year's debt-GDP ratio adjusted for current year's GDP deflator-based inflation rate[39] **(Chart 7.13)**. The assumption is that in a normal year, both real GDP growth and the inflation rates are positive.

Chart 7.13: methodology for projection and decomposition of government debt-GDP ratio



Source: EY analysis

It may be noted that in a crisis year, if a GDP contraction takes place, the second term in the above relationship adds positively to the change in the debt-GDP ratio. Thus, in a crisis year, the debt-GDP ratio increases over that of the previous year both because of high fiscal deficit and negative GDP growth.

Table 7.3: projected government debt relative to GDP: 2020 and 2021

Country	2018	2019	2020	2021	2020 *minus* 2019	2021 *minus* 2020
CAN	89.7	88.6	114.6	115.1	25.9	0.5
CHN	48.8	52.6	61.7	66.7	9.1	5.0
FRA	98.1	98.1	118.5	118.4	20.3	-0.1
DEU	61.6	59.5	73.2	72.2	13.7	-1.0
IND	69.6	72.3	88.9	89.8	16.6	0.9
ITA	134.8	134.8	161.5	158.1	26.7	-3.4
JPN	236.6	238.0	266.1	263.9	28.1	-2.2
GBR	85.7	85.4	107.7	111.2	22.4	3.5
USA	106.9	108.7	131.1	133.7	22.4	2.6
Average	**103.5**	**104.2**	**124.8**	**125.4**	**20.6**	**0.6**

Source (basic data): IMF

Table 7.3 shows that in the pandemic year, the government debt-GDP ratio is projected to increase by 20.6% points on average, which is nearly double the average increase experienced by these countries in 2009 at 10.4% points. Individual countries projected to experience substantively high Covid-19 induced increments in their debt-GDP ratios are Japan (28.1% points), Italy (26.7% points), Canada (25.9% points), the UK (22.4% points), the US (22.4% points) and France (20.3% points). India is also projected to suffer an increase of 16.6% points in its government debt-GDP ratio.

[39] $b_t - b_{t-1} = f_t - b_{t-1}.(g_t - g_t^2) - b_{t-1}.(\pi_t - \pi_t^2)$; where b_t and b_{t-1} refer to the government debt-GDP ratio in periods t and t-1 respectively, f_t refers to the fiscal deficit-GDP ratio in period t, g_t refers to real GDP growth in period t, and π_t refers to the GDP deflator-based inflation in period t.

Table 7.4: estimated contribution to increase in government debt to GDP ratio: 2020 over 2019 (% points)

#	Countries	2020 over 2019					
		Fiscal deficit	Growth	Inflation	Residual	Total	Real GDP growth
1	CAN	20.0	6.8	-0.7	-0.1	25.9	-7.1
2	CHN	10.6	-1.0	-0.6	0.0	9.1	1.9
3	FRA	12.1	10.5	-1.9	-0.4	20.3	-9.8
4	DEU	11.2	3.8	-1.2	-0.1	13.7	-6.0
5	IND	12.1	8.2	-3.1	-0.7	16.6	-10.3
6	ITA	12.8	15.9	-1.6	-0.3	26.7	-10.6
7	JPN	15.8	13.2	-0.8	-0.1	28.1	-5.3
8	GBR	16.1	9.1	-2.4	-0.5	22.4	-9.8
9	USA	19.2	4.8	-1.5	-0.1	22.4	-4.3
Average		**14.4**	**7.9**	**-1.5**	**-0.3**	**20.6**	**-6.8**
Share of average in total		**70.1**	**38.5**	**-7.4**	**-1.2**	**100.0**	**--**

Source (basic data): IMF, OECD, EY estimates

Table 7.4 shows that a major reason for this sharp increase in the government debt-GDP ratio in the Covid-19 period is the expected contraction in the growth rates of both developed and developing countries. In contrast, in 2008, some of the developing countries experienced a slowdown but could avoid a contraction in real GDP. In 2020, developing economies are expected to show a contraction. The average percentage contribution of the growth factor to the increase in government debt-GDP ratio is estimated to rise to 38.5% in 2020 as compared to 21.9% in 2009. Thus, Covid-19 is turning out to be a far more serious crisis than the 2008 crisis, impacting countries' economic and fiscal parameters.

Summary

We have highlighted the Covid-19 led upsurge in the indebtedness of G-9 countries, comparing it with the impact of the 2008 global economic and financial crisis. We estimate that Covid-19 induced upsurge in government debt-GDP ratio for the G-9 countries, would amount to 20.6% points on average. As such, it would be about 97.4% higher than the increase of 10.4% points resulting from the 2008 crisis.

The evolution of debt over the period 1996 to 2019 indicates that major economic crises have led to one-time increases in the total debt-GDP ratios including government and private debt. These ratios tend to remain at high levels well after the crises are over showing downward rigidity. Over the period 1996 to 2019, covering the Latin American/Southeast Asian crisis, the global economic and financial crisis of 2008, the European sovereign debt crisis of 2010 to 2013 and some country-specific crises during 2013 to 2019, G-9 countries experienced an increase in their total debt-GDP ratios amounting to 73.6% points on average.

The average government debt to GDP ratio for the G-9 countries increased from 70.9% in 1996 to 77.9% in 2005, 94.0% in 2010, and further to 104.2% in 2019. The private debt-GDP ratio also increased on average and this increase was higher than that in government debt-GDP ratio during 1996 to 2005. This changed the composition of total debt on average further in favor of private debt during this period. During 2005 to 2019 however, the private debt-GDP ratio rose at a rate which was marginally lower than that of government debt-GDP ratio. As a result, during this period, the share of government debt in total debt increased on average.

For assessing the impact of Covid-19, we have projected the government debt-GDP ratio for 2020 and 2021 using the 2019 debt-GDP ratios along with independently projected fiscal deficit, real GDP growth and inflation rates. We have indicated that the substantive upsurge in the government debt-GDP ratio is because two of its three determinants namely, fiscal deficit and negative growth supplement each other in a pandemic year leading to an increase in the government debt-GDP ratio.

There is thus a policy trade-off in dealing with the pandemic. A higher fiscal deficit within a country could be justified if it can minimize the contraction in its growth rate. Furthermore, there is a case for coordination amongst major economies of the world in implementing their fiscal stimuli. A joint and well-coordinated effort to stimulate major global economies may help minimize the contractionary export effect of the pandemic. In 2008 crisis, such a coordination was consciously attempted within the G-20 framework. But in the Covid-19 crisis, such a global coordination of stimulus efforts is notably missing. It would be timely to coordinate such effort along with the introduction of the Covid-19 vaccine.

Part – 3

BRICS+ and major economies

China's economic slowdown (August 2015)

Abstract

This article notes that China was already slowing down in 2015 along with other emerging market economies, pulling down global growth. In the second week of August 2015, China initiated a devaluation of its currency which cumulatively added to a devaluation of about 4.4% against the US$. Led by a fall in exports, growth prospects in China appeared to be dipping at that time.

China had led global growth for more than three decades, maintaining an average annual growth of 10.4% during 1981-1989, 9.7% during 1990-99, 9.9% during 2000-2009, and 8.7% during 2010-2015. That added to a 35-year period of sustaining an average annual growth of close to 10%. In 2014, GDP growth in China and India were neck and neck at 7.4%. International agencies, however, forecasted India overtaking Chinese GDP growth in 2015. Important policy lessons could be derived by examining how the Chinese growth miracle became possible and what drove its 2015 slowdown.

India at present has a unique opportunity. As the share of China's working age population declines, that of India's is slated to increase. India can accelerate investment demand aimed at infrastructure, and policy-induce a much faster pace of urbanization. China's infrastructure has already saturated. India may not reach a saving level close to China's historical peak rates; nor is it likely to have similarly expanding export markets for manufactured products, given the excess capacities that exist in China and the developed countries. India may have to rely relatively more on the services sector, where its comparative advantage lies and may aim to sustain for a long period, a saving-investment rate of close to or less than 40%.

Introduction

China is slowing down, along with other emerging market economies, which can pull down global growth. In the second week of August 2015, China initiated a devaluation of its currency which cumulatively added to a devaluation of about 4.4% against the USD. Led by a fall in exports, growth prospects in China appear to be dipping.

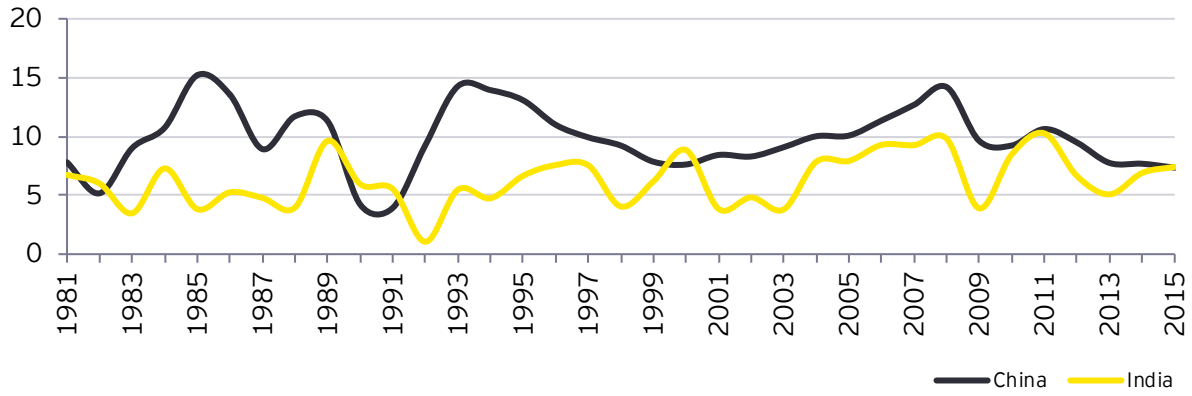
China led global growth for more than three decades maintaining an average annual growth of 10.4% during 1981-1989, 9.7% during 1990-99, 9.9 % during 2000-2009, and 8.7% during 2010-2015. That adds to a 35-year period of sustaining an average annual growth of close to 10% (Chart 8). In 2014, GDP growth in China and India were neck and neck at 7.4%. International agencies, however, forecast India overtaking Chinese GDP growth in 2015. Can India now play the role of leading global growth? Important policy lessons can be derived by examining how the Chinese growth miracle became possible and what is driving its current slowdown.

A. Saving and investment

The strategy underlying the Chinese growth miracle was based primarily on (a) maintaining a high saving and domestic investment rate (Chart 8.2), (b) creating a large manufacturing capacity, and (c) and aggressively expanding exports (Chart 8.5).

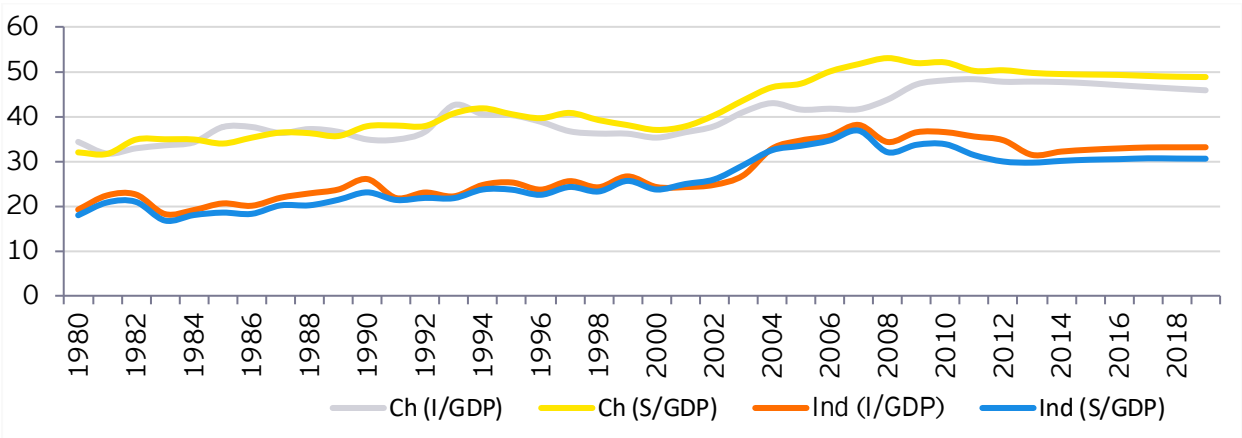
Even as its saving rate exceeded its domestic investment, it accumulated large foreign exchange reserves by sustaining a large surplus on its current account. At their respective peaks, the saving rate in China touched 53% (2008), and investment rate touched 48% (2010 and 2011).

Chart 8.1: GDP growth rates: China and India



Source: World Bank Database

Chart 8.2: Investment and saving ratios (% to GDP)

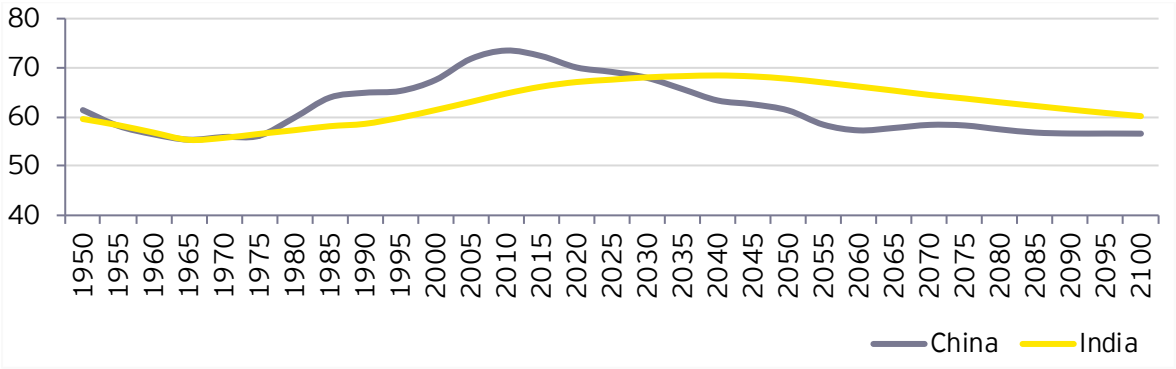


Source: World Bank Database

B. Demographic dividend and urbanization

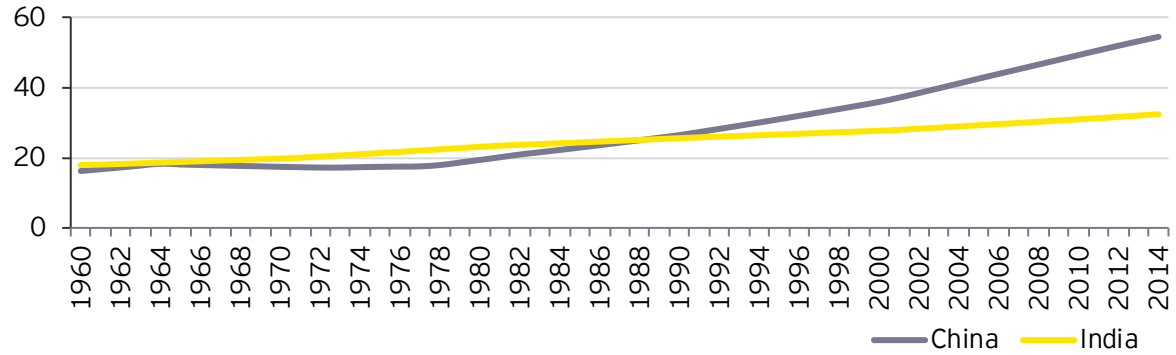
China's high saving rate became possible due to a combination of demographic dividend (Chart 8.3), employing its working age population at internationally competitive wages, and an accelerated pace of urbanization. The share of urban to total population in China has crossed 50%, nearly 20% points more than India, while both had comparable levels of urbanization in the early sixties (Chart 8.4).

Chart 8.3: Share of 15-64 years population in total population (%): China and India



Source: UN Population statistics (Medium fertility assumption)

Chart 8.4: Share of urban population in total population



Source: UN Population statistics (Medium fertility assumption)

China went past the peak of its demographic dividend around 2010 when the share of its working age population (15-65 years) reached a level of 73.5%. India is expected to reach the peak of its own demographic dividend around 2040 at 68.4%.

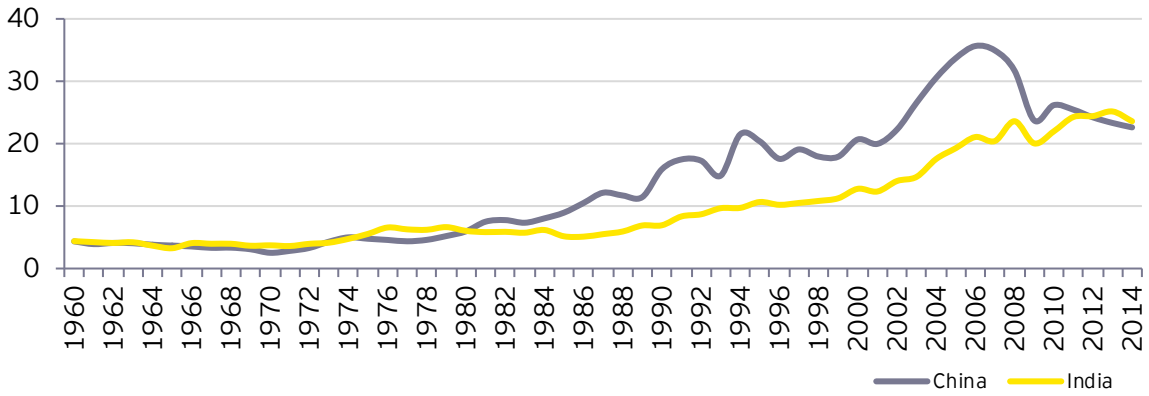
C. Exports and balance of payments

Expansion of exports provided the demand for China's fast expanding manufacturing output, while domestically maintaining a high saving rate. Both China and India were relatively closed economies in the early sixties with the share of exports in GDP being less than 5%. China expanded the share of exports to 36% by 2007; India reached a peak of 25% in 2013. In both cases, the share of exports has been falling since then, the fall being much sharper for China (Chart 8.5). While India remained almost always in current account deficit, China reaped a large positive balance of payments and accumulated large foreign exchange reserves.

With export growth slowing down, China's large manufacturing capacity would remain under-utilized. Increasing reliance on domestic demand is going to be slow and inadequate. With infrastructure already in place, there is little scope of increasing public investment demand domestically. Given the size of Chinese economy, its slowdown is causing major global ripples

including a fall in the US stocks. China is a major importer of industrial commodities accounting for nearly one-quarter of global energy output and one-half of global metal supply. Slowing Chinese investment in commodity-intensive manufacturing due to excess capacity and, in construction and real estate, which has a large inventory overhang, is depressing demand for crude and primary metals globally.

Chart 8.5: Share of exports in GDP (%): China and India



Source: World Bank Database

China maintained a large positive balance of payments while India almost always incurred a current account deficit. This enabled China to accumulate large foreign exchange reserves.

While India also increased its foreign exchange reserves based on positive capital inflows, China accumulated foreign exchange reserves that are now more than 10 times that of India.

After reaching a peak of 36%, the share of exports in GDP in China fell to about 22% in a short span of seven years beginning 2007

D. China and the global economy

China's evolving imbalances and structural shifts in global crude oil have together generated a vicious cycle pulling down global growth. China constitutes a critical link in the global economic interconnectedness. It is the hardware producer for many IT giants including Apple. It imports crude and other primary metals and minerals from many African and Middle east countries. It is a major investment destination for investors from the US and Europe. That is why the fall in Chinese stocks and the devaluation of its currency has been accompanied by a fall in stock prices across the world.

Fracking-based oil has resulted in an upward supply-shift, weakening crude oil prices on a long-term basis, reducing overall import demand from oil surplus countries, thereby weakening export demand for Chinese goods. China has long labored to generate an investment boom, resulting now in massive overcapacities. Its infrastructure needs are saturated leaving little scope for expanding domestic investment.

China devalued its currency against the US$ by about 4.4%. The depreciation of Yuan has implications for the countries that trade with China, including the US and countries exporting primary metals and minerals to China. At this juncture, if the US goes ahead with its planned withdrawal of quantitative easing, the recovery in the US may also slow down.

E. India's challenges and opportunities

India has a unique opportunity. As the share of China's working age population declines, that of India's is slated to increase. India can accelerate investment demand aimed at infrastructure and policy-induce a much faster pace of urbanization. China's infrastructure has already saturated. India may not reach a saving level close to China's historical peak rates; nor is it likely to have a similarly expanding export markets for manufactured products, given the excess capacities that

exist in China and the developed countries. India may have to rely more on the services sector, where its comparative advantage lies and be satisfied with a saving-investment rate of close to about 40% and aim to achieve and sustain these levels for a long time. Planning a domestic-focused growth strategy, such as the 'Make in India' program aimed at the more capital-intensive manufacturing sector, could hold more benefit for India. At this juncture, given the global slowdown and excess capacity in China along with relative cost advantages, India may find it challenging to find a market for exports of its manufactured products even if it successfully expanded manufacturing capacities.

Rather, India may plan to develop a complementary strategy where India and China mutually benefit from each other's strengths. This means that India may focus relatively more on services, invest heavily in the service sectors including health and education and focus public investment on expanding and upgrading domestic infrastructure, which can productively employ people moving to urban areas with different skill levels. India's singular asset and potential liability would be the sheer size of its working age population. By 2030, the number of people in the 15 to 65 years age group, at more than 1 billion or 100 crore, would have crossed that in China; throughout the period beyond 2050, India's working age population will exceed that of China by more than 40%; and by the end of the century, India will have a number of potential workers exceeding that of China by 50%. Productively employed, that would be a great asset. On the contrary, a large unemployed labor force may lead to social disharmony.

Performance of BRICS and the Global Economic Slowdown (January 2016)

Abstract

The term BRIC, later expanded to BRICS, refers to five relatively large and fast-growing economies namely Brazil, Russia, India, China and South Africa. The BRICS economies constitute roughly two-thirds of emerging market activity. During the 2003-2007 period of high global growth, these countries emerged as the global growth leaders. By the end of 2008, the BRICS economies were contributing about 15% of world GDP, with China's contribution alone accounting for nearly half of it. These economies started to slow down after the 2008 crisis. China slowed down due to structural reasons. Russia and Brazil were in recession. India appeared to be the only bright spot. Later, BRICS has been expanded by including other member countries and by co-opting a set of partner countries. BRICS+ along with the partner countries together account for 54% of global population (2024), 28.9% of global GDP (2024)[40], 27.3% of global merchandise exports and 22.1% of global merchandise imports (2022). While global trade and growth prospects may be adversely affected due to the current US initiatives resulting in increased tariff rates, the BRICS+ countries can provide a stabilizing force for the global economy.

[40] This excludes data for Cuba as it is unavailable in the IMF database

Introduction

The term BRIC[41], later expanded to BRICS, refers to five relatively large and fast-growing economies namely Brazil, Russia, India, China and South Africa. The BRICS economies constitute roughly two-thirds of emerging market activity. During the 2003-2007 period of high global growth, these countries emerged as the global growth leaders. By the end of 2008, the BRICS economies were contributing about 15% of world GDP, with China's contribution alone accounting for nearly half of it.[42] These economies have started to slow down (Charts 9.1 to 9.5) after the 2008 crisis. China is slowing down due to structural reasons. Russia and Brazil are in recession. India appears to be the only bright spot.

Chart 9.1: GDP growth rate: Brazil

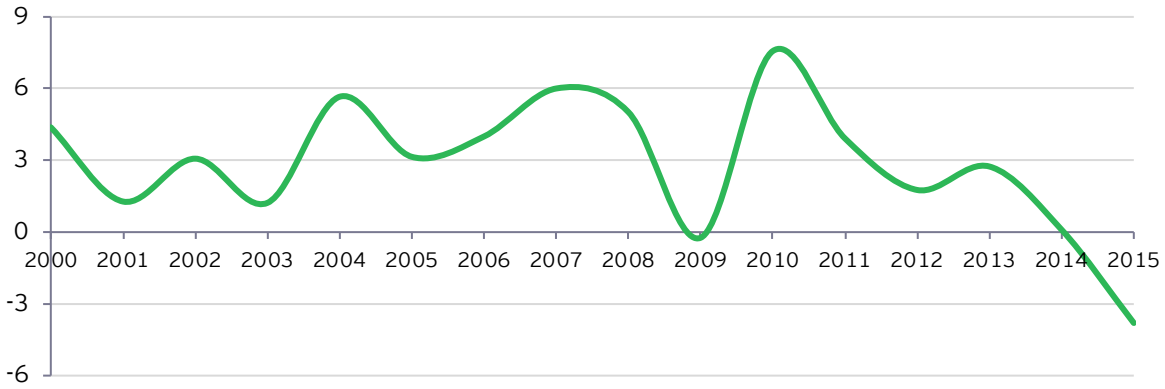
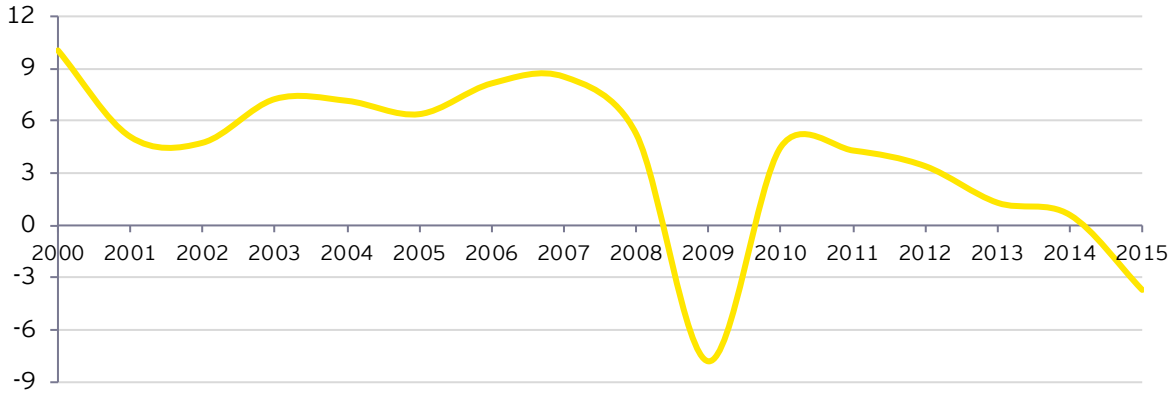


Chart 9.2: GDP growth rate: Russia



[41]Neill, Jim O' (2001), *Building Better Global Economic BRICs*, Goldman Sachs
[42] GDP at current market prices in USD in 2015, World Economic Outlook, October 2014

Chart 9.3: GDP growth rate: India

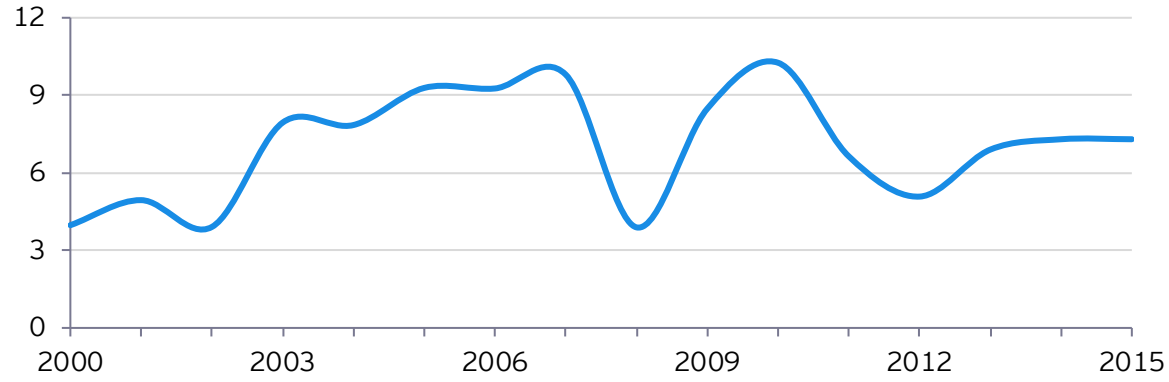


Chart 9.4: GDP growth rate: China

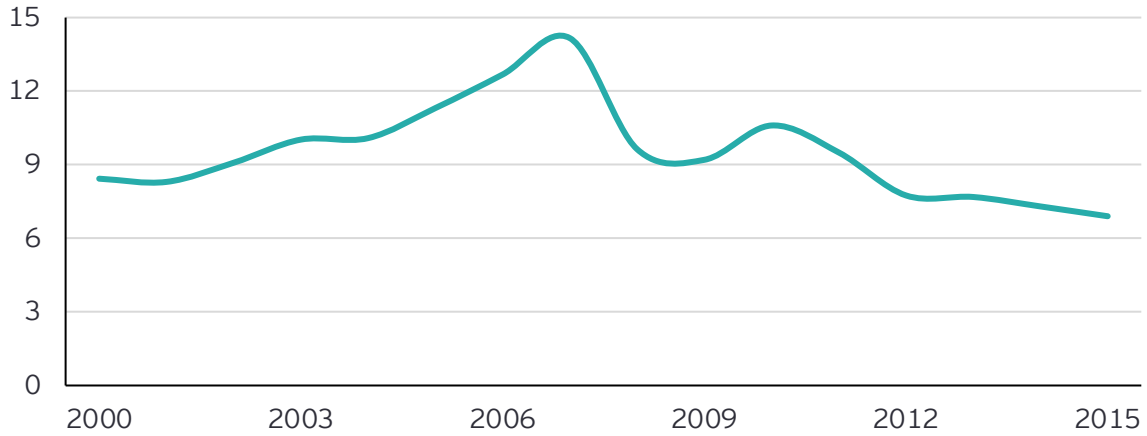
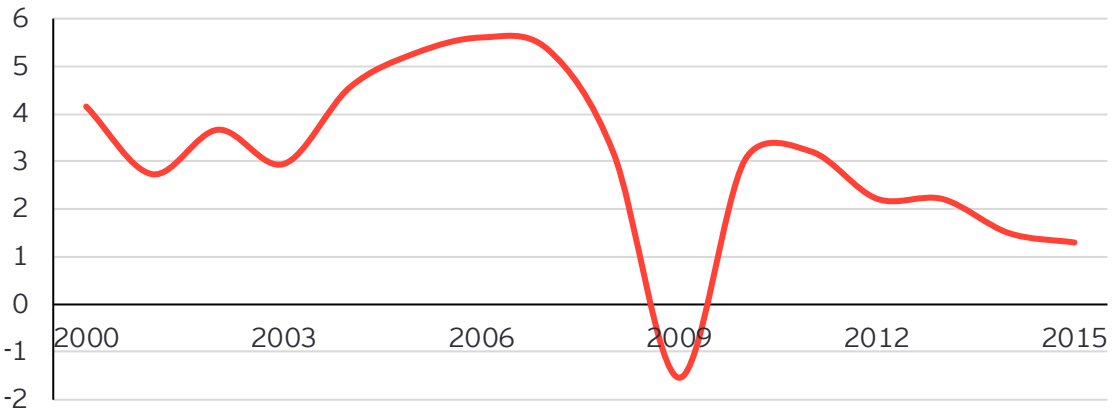


Chart 9.5: GDP growth rate: South Africa



We consider below, the country-specific problems and potential of these BRICS economies in the current global context.

Brazil

Brazil's growth rate peaked in 2010 at 7.6%; but has since been declining sharply, reaching a level close to zero in 2014, and becoming negative after that (-3.8% in 2015). Exports constitute 11.3% of Brazil's GDP[43]. Major exports include soyabeans, transport equipment, oil and iron ore. Brazil's problems are both internal and external. Internally, due to fiscal profligacy, fiscal deficits have been increasing, and the savings rate has been falling. Externally, falling commodity prices, particularly those of iron ore and aluminum, have led to a decline in the terms of trade. The current account deficit has widened to -4.4% in 2015 from -2.8% in 2011. Additionally, non-financial debt, especially in the corporate sector, has risen sharply by 32% since 2007. High level of corruption, such as that relating to the government-run oil company Petrobras, which is currently under investigation, has also discouraged potential investors. Two out of three major credit rating agencies have downgraded Brazil's status to junk, and the IMF expects it to further decelerate by 3.5% in 2016. The economy is on the verge of a fiscal crisis as loose fiscal policy has led to the highest ever budget deficit (10% in 2015)[44] in the last two decades. Inflation has also risen to 8.9%.

Russia

The Russian economy is in the midst of a recession, particularly due to the tumbling crude prices. Exports constitute around 30% of the total GDP out of which oil exports contribute nearly 50.6%[45]. GDP growth fell from 1.3% in 2013 to 0.6% in 2014 and further to -3.7% in 2015. Geo-political tensions and consequent sanctions have also contributed to the decline, which is reflected in a falling investment rate that fell from 21.6% in 2013 to 18.7% in 2015. Exchange rate has depreciated, pushing inflation to 15.8% in 2015.

China

Growth in China has more than halved since its peak of 14.2% in 2007 to 6.9% in 2015. China is undergoing major structural adjustments relating to a shift from external to domestic demand, manufacturing to services sector and from investment-led to a consumption-led growth. China's exports have been falling as its competitiveness has been lowered due to increasing wages apart from the falling global demand for manufactured products.

India

India is the only country that has experienced successively increasing growth in the last three years. India's growth at 7.6% in FY16 (CSO, Advance Estimates) has overtaken that of China. The size of the Indian economy, however, is much smaller than that of China. The question uppermost in the minds of various analysts is whether India can replace China in its role as a global growth leader. This may depend on India achieving a sustained growth of 7%-plus for a few decades. This would be feasible only with continued economic reforms and an increase in the savings and investment rate to levels in the range of 38%-40%.

South Africa

South Africa, too, has been suffering from a slowdown as growth rates have reduced to a fourth of what they were in 2007. In 2015, growth rate was as low as1.3%[46]. More than 30% of the economy is dependent on exports. Commodities exports (metals and minerals) contributed 32.6% of the total exports during April-January FY16. Besides the global slowdown, decline in commodity prices, energy bottlenecks and labor unrest have contributed to the growth slowdown.

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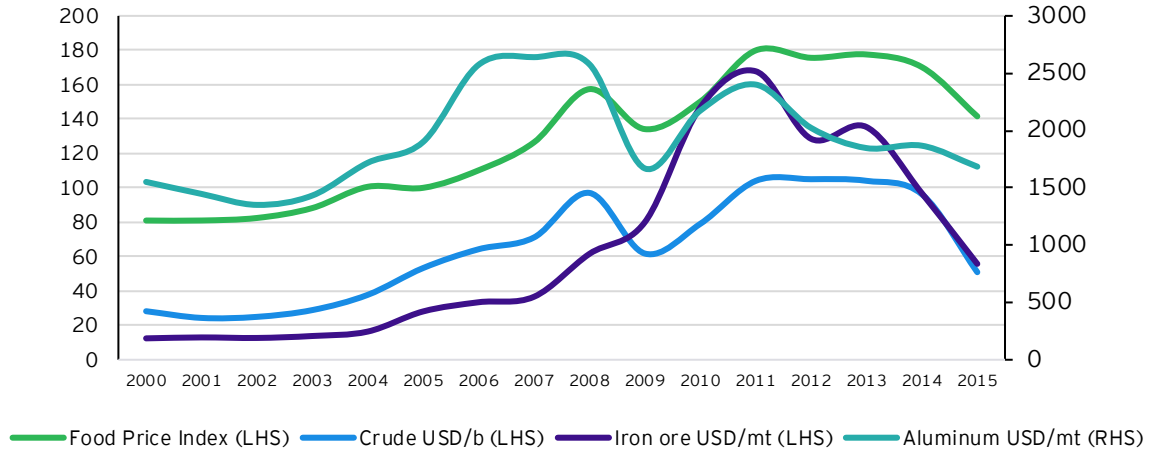
[43] WTO
[44] *Brazil's Fall*, January 2nd, 2016, The Economist
[45] http://www.worldstopexports.com/russias-top-10-exports/
[46] World Economic Outlook update, January, 2016

Chart 9.6: Price trends: Food, Crude, Iron-ore and Aluminum



Source: WEO, October 2015, IMF

Chart 9.6 depicts the co-movement in the price trends of major commodities, namely iron-ore, aluminum, crude and food prices. The recent crash in crude prices has had an adverse impact on prices of other commodities besides adversely affecting world trade.

Growth spillovers in EMEs

In EMEs as a whole, current account balance has turned negative in 2015 (-0.1%) from 0.5% in 2014. The World Bank observes that the slowdown in China and South Africa and the recession in Brazil and Russia have dampened imports particularly commodity imports from trading partners, remittances to Central Asia, and FDI flows from major emerging markets.

Lead correlations (by one quarter) between growth rates of BRICS and other EMEs have been found to be sizeable[47]. The World Bank estimates that on an average, a 1% point decline in BRICS growth could, over the following two years, reduce global growth by 0.4% points, growth in other emerging markets by 0.8% points and growth in frontier markets by 1.5% points.

As global commodity demand is likely to remain subdued, the growth prospects for Brazil and Russia remain depressed. China's growth is likely to continue to slow down as forecasted by many international agencies. The World Bank has warned that the BRICS weakness combined with financial market turbulence could lead to a 'perfect storm' in 2016 as a result of which EMEs' growth rates could decline by 1.3%-1.5% points and global growth rates by 0.9%-1.2%.

[47] Global Economic Prospects, 2016, World Bank

Comparing BRICS+ and G7 groups: economic size and government indebtedness (September 2024)

Abstract

Two important economic blocs that have emerged in competition with each other are G7 and BRICS+. In the G7 group, the member countries are Canada, France, Germany, Italy, Japan, the UK and the US. In the BRICS+ group, there are 10 countries. The first five, constituting the original members, are Brazil, Russia, India, China and South Africa. The extended group includes five other members, namely Egypt, Ethiopia, Iran, Indonesia and the UAE. Together, these countries, 17 in number, group-wise account for an overwhelmingly large share of world GDP, world population and world trade. Their economic clout increases further if we also include the partner countries of BRICS+.

Handling issues pertaining to global economic policy and growth, macro stabilization and global poverty alleviation are likely to depend on the policies followed by these two groups and their individual members. The effectiveness of these policies would depend on the cohesiveness of the two groups in formulating those policies. The relative impacts of these policies would also depend on their relative economic size and the nature of their policy interventions. In the context of management of global economic affairs, BRICS+ is emerging as a relatively strong and increasingly cohesive group.

These country groups played critical roles in combating two recent global crises that occurred in 2008 and 2020. In this process, governments in both country groups became heavily indebted, progressively reducing their capacity to fiscally combat any future crisis. However, in relative terms, the BRICS+ group is better placed to fiscally combat any future major economic crisis as it has a lower debt-GDP ratio, access to higher primary deficit, and a near equal excess of growth over interest rates as compared to the G7 group.

Introduction

In this writeup, we look at the relative economic size of two global country groups, namely G7 and BRICS+. In the former group, there are seven member countries, namely Canada, France, Germany, Italy, Japan, the UK and the US [48]. In the latter group, there are ten countries. The first five, constituting the original members, are Brazil, Russia, India, China and South Africa. The extended group includes five other members, namely Egypt, Ethiopia, Iran, Saudi Arabia [49] and the UAE. Together these countries, 17 in number, account, group wise, for an overwhelmingly large share in world GDP, world population and world trade. Handling of issues pertaining to global economic policy and growth, macro stabilization and global poverty alleviation are likely to depend on the policies followed by these two groups and their individual members. The effectiveness of these policies would depend on the cohesiveness of the two groups in formulating those policies. The relative impacts of these policies would also depend on their relative economic size and the nature of their policy interventions. The G7 group is already quite cohesive, and it took a lead in developing counter measures while dealing with two major recent crises, that is (1) the 2008 global economic and financial crisis and (2) the 2020 COVID-19 crisis. Its responses in terms of fiscal and monetary policies were well coordinated, at least in the 2008 crisis. Even in the COVID crisis, its interventions were of a similar nature, although the extent of its intra-group co-ordination was relatively limited. Since the impact of an intervention by any of the two groups depends on their relative size, and since their relative size measured in terms of the group-wise GDP is changing progressively, we first consider the dynamics of the size of the GDPs of these two groups as well as their individual members. We then consider their ability to fiscally intervene if and when another global recession occurs. The capacity to intervene largely depends on the indebtedness of governments in these countries.

Size of GDP in Market Exchange Rate and Purchasing Power Parity terms

The measurement of relative size of an economy/group of economies depends, among other factors, on the exchange rates which are used for the conversion of GDPs measured in domestic currencies of different countries to a common platform. Usually, this conversion can be done in terms of US$ using either current market exchange rates (MX) or international dollar based on purchasing power parity (PPP). Any pressure on the US$ may lead the market exchange rates to move closer to the PPP$ rates.

Measured at current market exchange rates, the share of the G7 group in world GDP has fallen from 64.4% in 2002 to an estimated level of 44.4% in 2024, a fall of 20% points, as shown in Table 10.1. As per the IMF data, this is projected to fall further to 42.4% by 2029. The share of the BRICS+ group on the other hand, increased from 10.1% in 2002 to 27.3% in 2024, an increase of 17.2% points. This share is projected to increase further to 29.2% by 2029. Together, these two groups currently account for nearly three-fourth of the global GDP although, their combined share has fallen marginally from 74.5% in 2002 to 71.7% in 2024.

Table 10.1: Share in global GDP in MX terms

Country	2002	2009	2015	2020	2024	2029
Brazil	1.5	2.7	2.4	1.7	2.1	2.2
China	4.2	8.4	14.8	17.4	16.9	17.9
India	1.5	2.2	2.8	3.1	3.6	4.6
Russia	1.1	2.2	1.8	1.7	1.9	1.6
South Africa	0.4	0.5	0.5	0.4	0.3	0.3
Egypt	0.3	0.3	0.5	0.4	0.3	0.4
Ethiopia	0.0	0.0	0.1	0.1	0.2	0.3
Iran	0.4	0.7	0.5	0.2	0.4	0.4

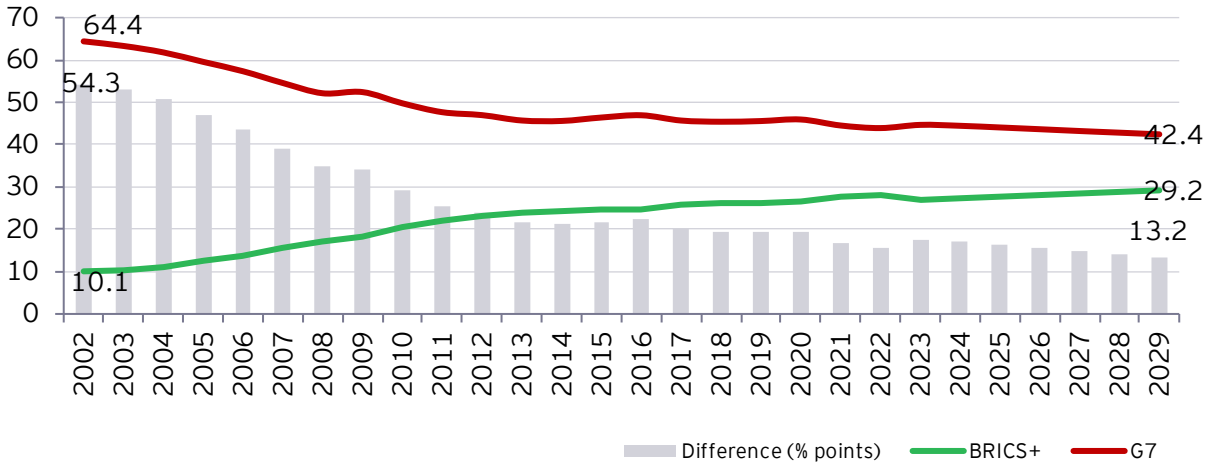
[48] The EU is a non-enumerated member of the G7.
[49] Saudi Arabia was originally slated to become a member of BRICS+. However, although a potential member, it has not formally become a member yet.

Country	2002	2009	2015	2020	2024	2029
Saudi Arabia	0.5	0.7	0.9	0.9	1.0	1.0
UAE	0.3	0.4	0.5	0.4	0.5	0.5
BRICS+	10.1	18.2	24.7	26.5	27.3	29.2
Canada	2.2	2.3	2.1	1.9	2.0	2.0
France	4.3	4.4	3.2	3.1	2.9	2.6
Germany	5.9	5.6	4.5	4.6	4.2	3.9
Italy	3.6	3.6	2.4	2.2	2.1	1.9
Japan	12.0	8.7	5.9	5.9	3.8	3.6
UK	5.1	4.0	3.9	3.2	3.2	3.4
US	31.3	23.8	24.4	25.0	26.3	25.1
G7	64.4	52.4	46.4	45.9	44.4	42.4
G7 + BRICS+	74.5	70.6	71.1	72.4	71.7	71.6
Others	25.5	29.4	28.9	27.6	28.3	28.4
World	100	100	100	100	100	100

Source (basic data): World Economic Outlook April 2024 database

Chart 10.1 shows the progressive fall in the difference between the relative shares of the two country groups. In 2002, this relative difference was 54.3% points, which is projected to fall to 13.2% points by 2029.

Chart 10.1: Share in global GDP in MX terms



Source (basic data): World Economic Outlook April 2024 database

Measured in PPP$ terms, as shown in Table 10.2, the share of G7 countries which accounted for 42.1% in 2002 fell to 29.6% in 2024, a fall of 12.5% points. In the case of BRICS+, their share in global GDP increased from 24.1% in 2002 to 36.7% in 2024, an increase of 12.6% points. The share of G7 countries is projected to fall to 27.5% while that of BRICS+ is projected to increase to 38.3% by 2029. Thus, BRICS+ has a much larger share of global GDP measured in PPP$ terms. Going forward, the BRICS+ group including countries such as India and UAE may have a larger and more active role to play in global economic affairs.

Table 10.2: Share in global GDP in PPP terms

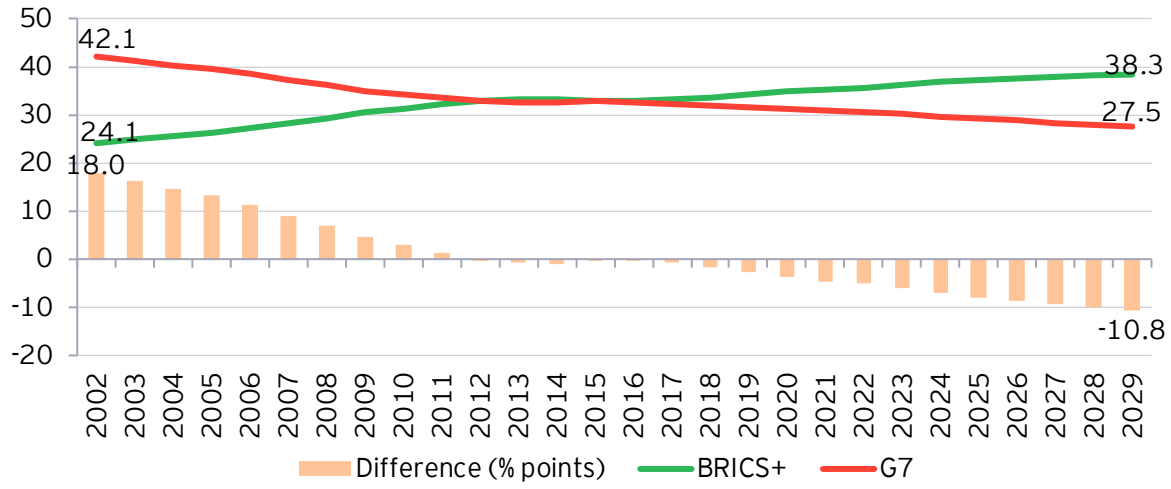
Country	2002	2009	2015	2020	2024	2029
Brazil	3.1	3.0	2.7	2.4	2.3	2.2
China	8.1	12.9	15.9	18.1	19.0	19.5
India	4.5	5.6	6.4	6.8	7.9	9.2
Russia	3.2	3.4	3.1	3.1	2.9	2.7
South Africa	0.8	0.7	0.7	0.6	0.6	0.5
Egypt	0.8	0.9	1.0	1.0	1.0	1.1

Country	2002	2009	2015	2020	2024	2029
Ethiopia	0.1	0.1	0.1	0.2	0.2	0.3
Iran	1.5	1.5	1.0	1.0	1.0	1.0
Saudi Arabia	1.5	1.6	1.4	1.3	1.3	1.3
UAE	0.6	0.6	0.6	0.5	0.5	0.5
BRICS+	**24.1**	**30.5**	**32.9**	**34.9**	**36.7**	**38.3**
Canada	1.8	1.5	1.4	1.4	1.3	1.3
France	3.2	2.7	2.4	2.3	2.1	2.0
Germany	4.6	3.6	3.5	3.4	3.1	2.8
Italy	3.2	2.4	2.0	1.8	1.8	1.6
Japan	6.5	5.1	4.6	4.0	3.6	3.2
UK	3.1	2.6	2.5	2.2	2.2	2.0
US	19.7	17.1	16.3	16.0	15.5	14.7
G7	**42.1**	**35.0**	**32.7**	**31.1**	**29.6**	**27.5**
G7 plus BRICS+	**66.2**	**65.5**	**65.7**	**66.0**	**66.3**	**65.9**
Others	**33.8**	**34.5**	**34.3**	**34.0**	**33.7**	**34.1**
World	**100**	**100**	**100**	**100**	**100**	**100**

Source (basic data): World Economic Outlook April 2024 database

Chart 11.2 shows that in PPP terms, the share of the BRICS+ group in global GDP overtook that of the G7 group way back in 2012. The share of the BRICS+ group is likely to further increase with time if the present trends continue. In fact, this process would be accelerated if more countries join the BRICS+ group and if the market exchange rates move against the US dollar.

Chart 10.2: Share in global GDP in PPP terms



Source (basic data): World Economic Outlook April 2024 database

Debt-GDP ratio

We now consider the effectiveness of cohesive policy intervention by the two groups in the presence of a global crisis. One dimension of this is fiscal policy intervention. When the 2008 crisis occurred, both groups had responded cohesively in terms of fiscal intervention. This had led to progressive increases in the government's fiscal deficit and government debt relative to respective GDPs. The composition of debt into domestic and external debt is also critical in determining a country's vulnerability arising from the level of its debt.

Table 10.3 shows that most governments in both groups are heavily indebted. In both groups, government's debt increased over the period from 2002 to 2024 with two global crises in between, one in 2008 and one in 2020. The first crisis which had started in 2008 and whose deleterious

impact became visible in 2009 is well known as the global economic and financial crisis. The crisis in 2020, which originated as a health crisis, to which governments had responded, among other factors, by expanding their fiscal deficit and debt, witnessed its peak fiscal impact in 2020. The period from 2022 to 2024 is also characterized by the onset of the geopolitical conflicts, especially the Russia Ukraine conflict.

Governments in the G7 group have remained relatively more indebted with its weighted average debt-GDP ratio deteriorating from 76.7% in 2002 to a peak of nearly 140% in the COVID affected year of 2020. It is estimated at 126.5% in 2024. The most indebted country in this group is Japan, whose government debt to GDP ratio is estimated at 254.6% and the lowest government debt to GDP is for Germany at 63.7% in 2024.

Table 10.3: General government debt as % of GDP

Countries/Country groups	2002	2009	2020	2024	% change (2024 over 2002)
Brazil	76.1	64.7	96.0	86.7	*14.0*
China	25.9	34.6	70.1	88.6	*241.8*
India	84.3	72.8	88.4	82.5	*-2.2*
Russia	37.6	9.9	19.2	20.8	*-44.7*
South Africa	31.8	27.0	68.9	75.4	*137.2*
Egypt	85.8	69.5	86.2	96.4	*12.3*
Ethiopia	107.4	30.0	53.7	30.5	*-71.6*
Iran	28.5	13.3	48.3	25.5	*-10.5*
Saudi Arabia	96.4	14.0	31.0	27.5	*-71.4*
UAE	3.4	21.1	41.1	30.3	*783.3*
Simple Average – BRICS+	**57.7**	**35.7**	**60.3**	**56.4**	***-2.3***
Weighted Average – BRICS+	**48.1**	**39.3**	**68.9**	**78.2**	**62.7**
Canada	79.6	81.8	118.2	104.7	*31.6*
France	60.3	83.0	114.7	111.6	*85.2*
Germany	59.9	73.2	68.8	63.7	*6.3*
Italy	106.4	116.6	154.9	139.2	*30.9*
Japan	154.1	198.8	258.3	254.6	*65.2*
UK	35.4	64.9	105.8	104.3	*194.5*
US	55.5	86.6	132.0	123.3	***121.9***
Simple Average - G7	**78.7**	**100.7**	**136.1**	**128.8**	***63.5***
Weighted Average - G7	**76.7**	**103.7**	**139.6**	**126.5**	***65.0***

Source (basic data): World Economic Outlook April 2024 database
Note: Debt levels for country groups (G7 and BRICS+) are estimated by aggregating country level debt and nominal GDP denominated in US$ (MX) terms.

In the BRICS+ group, the weighted average debt-GDP ratio was 78.2% in 2024, increasing by 62.7% from its 2002 level of 48.1% of GDP. This deterioration was driven largely by China, although a number of countries in this group experienced a reduction in their debt-GDP levels during the corresponding period.

The general trend over the period 2002 to 2024 in government indebtedness is that of deterioration reflected in their increasing debt GDP ratios. The worst impact in terms of individual countries covering both groups is that on the UAE, at 783.3% followed by China where government debt increased by nearly 242%. These are followed by the UK where the government debt to GDP ratio increased by close to 195%, South Africa by 137% and the US with an increase of 122%.

Considering both groups together, there are five countries where the government debt to GDP ratio actually fell during the period from 2002 to 2024. These are Russia, India, Ethiopia, Iran and Saudi Arabia. All these countries belong to the BRICS+ group.

Fiscal deficit to GDP ratio

We measure fiscal deficit as the annual change in government debt. In fact, government debt is the outcome of the accumulation of annual fiscal deficits moderated by the excess of nominal GDP growth over effective interest rate. The dynamics of accumulation of government debt can be described as a function of primary deficit and previous year's outstanding debt relative to the GDPs of the current and previous years and the nominal GDP growth and interest rate in the current year [50].

In 2024, in the BRICS+ group, the highest fiscal deficit to GDP ratio was that for Egypt followed by China at 26.1% and 9.7% respectively (Table 10.4). Driven by these two countries, the weighted average fiscal deficit to GDP ratio for this group was also quite high at 8.4% in 2024. In contrast, for the G7 group, the weighted average fiscal deficit to GDP ratio was slightly lower at 6.3%, with Japan showing the highest fiscal deficit at 9.9% of GDP in 2024. A higher fiscal deficit relative to GDP leads to a higher level of debt-GDP ratio, implying a higher level of interest payment to service this debt. This would lower the capacity of an economy/ group to stimulate the economy based on increased borrowing. In the presence of a recession, revenue receipts also go down and the burden of interest payments relative to revenue receipts of a government increase further.

Table 10.4: Fiscal deficit as % of GDP

Countries/Country groups	2002	2009	2020	2024	% point change (2020 over 2024)
Brazil	16.6	7.4	11.4	7.8	*3.6*
China	3.6	9.7	11.8	9.7	*2.1*
India	9.9	8.4	12.4	7.6	*4.8*
Russia	0.9	2.0	5.2	2.6	*2.6*
South Africa	-0.8	4.5	12.2	5.3	*6.9*
Egypt	10.8	12.1	13.4	26.1	*-12.7*
Ethiopia	7.9	-1.0	10.1	2.6	*7.5*
Iran	10.3	1.7	17.0	5.3	*11.8*
Saudi Arabia	5.9	-0.6	6.4	2.2	*4.2*
UAE	0.9	10.0	9.0	0.8	*8.2*
Simple Average – BRICS+	**6.6**	**5.4**	**10.9**	**7.0**	***3.9***
Weighted Average – BRICS+	**6.4**	**7.4**	**11.3**	**8.4**	***2.9***
Canada	1.5	7.6	24.2	2.1	*22.1*
France	3.7	12.3	12.2	4.8	*7.4*
Germany	2.4	4.8	8.0	1.5	*6.4*
Italy	1.2	6.4	9.8	6.6	*3.2*
Japan	7.0	5.9	14.0	9.9	*4.1*

[50] See for a detailed discussion (Srivastava, D.K., Bharadwaj, M., Kapur, T., Trehan, R. (2022). Evolution of Debt and Deficit in BRICS Countries: Covid-19 Shock and Post-Covid Prospects. In: Yoshino, N., Paramanik, R.N., Kumar, A.S. (eds) *Studies in International Economics and Finance. India Studies in Business and Economics*. Springer, Singapore. https://doi.org/10.1007/978-981-16-7062-6_20). Srivastava, D. K., Kapur, T., Bharadwaj, M., & Trehan, R. (2020). Impact of Covid-19 on global debt: a study of countries in the G-20 group. *Modern Economy, 11, 2101-2121).*

Change in debt to GDP ratio in two different years (z_t) is given as follows $z_t = p_t - b_{t-1}[(g_t - i_t)/(1 + g_t)]$ where p_t refers to primary deficit to GDP ratio, g_t refers to nominal GDP growth rate, i_t refers to effective interest rate and b_{t-1} refers to debt-GDP ratio at the end of previous year.

Countries/Country groups	2002	2009	2020	2024	% point change (2020 over 2024)
UK	1.8	12.6	14.9	5.4	*9.4*
US	4.1	11.7	22.9	7.1	***15.8***
Simple Average - G7	**3.1**	**8.8**	**15.1**	**5.4**	***9.8***
Weighted Average - G7	**4.0**	**9.6**	**18.4**	**6.3**	***12.1***

Source (basic data): World Economic Outlook April 2024 database
Note: Fiscal deficit is defined as a change in annual general government gross debt. IMF provides annual general government gross debt as a percentage to GDP as well as nominal GDP in current US dollar terms. Using these two, we have derived general government gross debt in US dollar terms. Using this we have estimated fiscal deficit as change in debt between two successive years. Fiscal deficit levels for country groups (G7 and BRICS+) are estimated by aggregating country level deficit and nominal GDP denominated in US$ (MX) terms.

Interest payment relative to GDP and revenue receipts

High levels of debt translate into high levels of interest payments. The capacity to bear the servicing cost of debt in the form of interest payments, however, depends also on the effective interest rate and the level of revenue receipts as a percentage of GDP. For the BRICS+ group in 2024, the weighted average interest payment to GDP ratio, a measure of the comparative cost of debt, was 2.1%, which was lower than the corresponding ratio of 2.6% in 2002 (Table 10.5). In contrast, for the G7 group, the interest payment to GDP ratio was higher at 2.5% in 2024. It had also increased from its 2002 level of 2.2%. Thus, in terms of the interest payment to GDP burden of servicing the debt, the BRICS+ group was marginally better off as compared to the G7 group. Individually, in 2024, some of the countries in the BRICS+ group where the ratio of interest payment to GDP was relatively low include Saudi Arabia (0.1%), Russia (0.2%), Ethiopia (0.6%), UAE (0.7%), China (1.1%) and Iran (1.9%). In comparison, Egypt, Brazil, India and South Africa carry a larger burden of interest payments relative to their respective GDPs. In the case of the G7 group, countries with relatively lower burden of interest payments relative to GDP are Japan (0.1%), Canada (0.6%), Germany (0.8%). Thus, while Japan had the highest debt-GDP ratio, it has the lowest interest payment to GDP ratio because of the ultra-low interest rate at which the government has been able to borrow. The two countries that have a relatively higher interest payment to GDP ratio are Italy at 4% and the US at 3.3% in 2024. In the case of the US, there has been a persistent increase in the interest payment to GDP ratio in recent years.

Table 10.5: Net interest payment as % of GDP

Countries/Country groups	2002	2009	2020	2024	% point change (2020 over 2024)
Brazil	7.5	5.1	4.0	5.7	*-1.7*
China	0.6	0.4	1.0	1.1	*-0.1*
India	4.8	4.6	5.6	5.4	*0.2*
Russia	1.9	-0.3	0.2	0.2	*0.0*
South Africa	3.5	2.0	4.1	5.3	*-1.2*
Egypt	4.0	3.0	8.7	12.6	*-3.9*
Ethiopia	1.5	0.4	0.4	0.6	*-0.2*
Iran	0.3	0.1	1.1	1.9	*-0.8*
Saudi Arabia	2.9	-0.1	-1.8	0.1	*-1.9*
UAE	0.0	0.2	0.3	0.7	*-0.4*
Simple Average – BRICS+	**2.7**	**1.6**	**2.4**	**3.4**	***-1.0***
Weighted Average – BRICS+	**2.6**	**1.6**	**1.7**	**2.1**	***-0.4***
Canada	2.5	1.1	0.5	0.6	*-0.1*
France	2.6	2.2	1.2	2.0	*-0.8*
Germany	2.6	2.4	0.5	0.8	*-0.3*

Countries/Country groups	2002	2009	2020	2024	% point change (2020 over 2024)
Italy	5.2	4.2	3.3	4.0	-0.7
Japan	1.3	1.0	0.6	0.1	0.5
UK	1.4	1.5	1.1	2.3	-1.1
US	2.1	1.9	2.1	3.3	**-1.2**
Simple Average - G7	**2.5**	**2.0**	**1.3**	**1.9**	**-0.5**
Weighted Average - G7	**2.2**	**1.9**	**1.6**	**2.5**	**-0.9**

Source (basic data): World Economic Outlook (WEO) April 2024 database
Note: IMF WEO provides data on general government net lending/borrowing and general government primary net lending/borrowing. Net interest payable/paid (interest expense minus interest revenue) is derived as the difference between these two variables. A negative sign implies interest revenues are higher than interest expenditures. Interest payment levels for country groups (G7 and BRICS+) are estimated by aggregating country level interest payments and nominal GDP denominated in US$ (MX) terms.

Since the government debt needs to be serviced from out of government's revenue receipts, the levels of these receipts relative to GDP are also important. In this context, in Table 10.6, the G7 group shows a much higher level of revenue receipts to GDP ratio at 35.7% in 2024 as compared to the BRICS+ weighted average of 26.9%. Thus, even though the G7 group carries the burden of a higher debt-GDP level, its capacity to service this in the form of interest payments is better since it has a higher ratio of government revenue receipts as a percentage of GDP. In the BRICS+ group, considering individual countries, the highest revenue receipt to GDP ratio is that of Brazil, followed by Russia in 2024. In the G7 group, the highest revenue receipts to GDP ratio is that of France, followed by Germany and Italy.

Table 10.6: Revenue receipts as % of GDP

Countries/Country groups	2002	2009	2020	2024	% point change (2020 over 2024)
Brazil	41.5	38.5	38.0	40.9	-2.8
China	15.6	23.9	25.7	26.2	-0.5
India	18.0	18.8	18.2	20.1	-2.0
Russia	34.5	32.7	35.2	35.6	-0.5
South Africa	21.3	23.8	25.0	27.1	-2.1
Egypt	24.2	26.3	18.2	17.5	0.7
Ethiopia	19.1	16.2	11.7	8.3	3.4
Iran	15.6	14.3	7.8	11.1	-3.3
Saudi Arabia	30.0	31.7	28.4	28.5	-0.1
UAE	20.1	28.9	28.7	31.2	-2.5
Simple Average – BRICS+	**24.0**	**25.5**	**23.7**	**24.6**	**-1.0**
Weighted Average – BRICS+	**23.0**	**26.6**	**26.0**	**26.9**	**-0.9**
Canada	40.2	39.5	41.4	41.1	0.3
France	49.6	50.0	52.4	52.0	0.3
Germany	44.0	45.0	46.1	46.3	-0.1
Italy	43.8	46.0	47.4	46.3	1.1
Japan	28.1	29.0	35.5	35.8	-0.3
UK	34.0	34.6	36.8	39.5	-2.7
US	29.9	28.2	30.7	30.5	**0.2**
Simple Average - G7	**38.5**	**38.9**	**41.5**	**41.6**	**-0.2**
Weighted Average - G7	**33.6**	**34.2**	**36.0**	**35.7**	**0.3**

Source (basic data): World Economic Outlook April 2024 database
Note: Revenue receipts levels for country groups (G7 and BRICS+) are estimated by aggregating country level revenue receipts and nominal GDP denominated in US$ (MX) terms.

Considering interest payments and revenue receipts together, it is possible to look at the relative burden of interest payments for the two groups and their member countries. For the BRICS+ group, the weighted average of the ratio of interest payment to revenue receipts is 7.9% in 2024, whereas that for the G7 group is lower at 7.0% (Table 10.7). Thus, even though the G7 group has higher debt-GDP ratios on average, they have a lower interest payment to revenue receipts ratio, that is, a lower cost of servicing the debt relative to their capacity measured in terms of their revenue receipts.

Table 10.7: Interest payment to revenue receipts (%)

Countries/Country groups	2002	2009	2020	2024	% point change (2020 over 2024)
Brazil	18.1	13.4	10.5	13.9	*-3.4*
China	3.6	1.8	3.7	4.2	*-0.5*
India	26.8	24.7	30.9	26.9	*3.9*
Russia	5.6	-0.9	0.7	0.6	*0.1*
South Africa	16.4	8.6	16.3	19.5	*-3.1*
Egypt	16.6	11.4	47.5	71.8	*-24.3*
Ethiopia	7.8	2.4	3.4	7.3	*-3.9*
Iran	1.9	0.9	14.5	17.0	*-2.5*
Saudi Arabia	9.8	-0.5	-6.3	0.4	*-6.7*
UAE	0.1	0.6	1.0	2.2	*-1.1*
Simple Average – BRICS+	**10.7**	**6.2**	**12.2**	**16.4**	***-4.2***
Weighted Average – BRICS+	**11.4**	**6.1**	**6.7**	**7.9**	***-1.2***
Canada	6.2	2.8	1.2	1.5	*-0.3*
France	5.3	4.5	2.2	3.8	*-1.5*
Germany	6.0	5.3	1.0	1.7	*-0.7*
Italy	11.9	9.1	6.9	8.7	*-1.8*
Japan	4.6	3.5	1.8	0.3	*1.5*
UK	4.1	4.4	3.1	5.7	*-2.7*
US	7.0	6.7	6.7	10.7	***-4.0***
Simple Average - G7	**6.4**	**5.2**	**3.3**	**4.6**	***-1.4***
Weighted Average - G7	**6.5**	**5.6**	**4.4**	**7.0**	***-2.7***

Source (basic data): World Economic Outlook April 2024 database

Primary deficit to GDP ratio

Since out of the annual borrowing in the form of fiscal deficit, a certain portion is pre-empted by interest payments, the balance of borrowing that is available for current purchases of goods and services is called primary deficit. The primary deficit thus is fiscal deficit, net of interest payments. Current governments actually need to look at the levels of primary deficit because these indicate the extent to which current borrowings can be used for current purchases of goods and services. Here, again, for the BRICS+ countries, the level of primary deficit relative to GDP, in terms of the group-weighted average, is 6.2% in 2024 (Table 10.8). In comparison, for the G7 group, the corresponding weighted average is 3.8%. Thus, the G7 group was able to access a lower level of primary deficit relative to GDP as compared to that for the BRICS+ group, since the BRICS+ group carried a higher fiscal deficit and a lower interest payment relative to GDP.

Table 11.8: Primary deficit as % of GDP

Countries/Country groups	2002	2009	2020	2024	% point change (2020 over 2024)
Brazil	9.1	2.3	7.4	2.1	*5.3*

Countries/Country groups	2002	2009	2020	2024	% point change (2020 over 2024)
China	3.0	9.3	10.8	8.6	*2.3*
India	5.1	3.7	6.8	2.2	*4.6*
Russia	-1.0	2.3	4.9	2.3	*2.6*
South Africa	-4.3	2.5	8.1	0.0	*8.1*
Egypt	6.8	9.1	4.7	13.5	*-8.8*
Ethiopia	6.4	-1.4	9.7	2.0	*7.7*
Iran	10.0	1.6	15.9	3.4	*12.5*
Saudi Arabia	3.0	-0.5	8.2	2.1	*6.1*
UAE	0.9	9.8	8.7	0.1	*8.6*
Simple Average – BRICS+	**3.9**	**3.9**	**8.5**	**3.6**	***4.9***
Weighted Average – BRICS+	**3.8**	**5.8**	**9.5**	**6.2**	***3.3***
Canada	-1.0	6.5	23.7	1.5	*22.2*
France	1.1	10.0	11.0	2.8	*8.2*
Germany	-0.2	2.4	7.5	0.7	*6.8*
Italy	-4.0	2.2	6.6	2.6	*4.0*
Japan	5.7	4.9	13.4	9.7	*3.6*
UK	0.4	11.1	13.7	3.2	*10.6*
US	2.0	9.8	20.9	3.9	***17.0***
Simple Average - G7	**0.6**	**6.7**	**13.8**	**3.5**	***10.3***
Weighted Average - G7	**1.8**	**7.6**	**16.8**	**3.8**	***13.0***

Source (basic data): World Economic Outlook April 2024 database
Note: Primary deficit is defined as derived fiscal deficit (Table 7) minus derived net interest payable/paid (interest expense minus interest revenue) (Table 8).

Excess of growth over interest rate

The dynamics of accumulation of debt and fiscal deficit are driven by the relative position of GDP growth and effective interest rate on outstanding government debt. The relevant formulation can be written in terms of both real growth and real interest rate and nominal growth and nominal interest rate. We have undertaken the analysis based on the nominal growth and nominal (effective) interest rates [51]. The higher is the nominal GDP growth, and the lower is the interest rate, the lower would be the conversion of annual fiscal deficit into outstanding debt relative to GDP. First, we look at the profile of nominal GDP growth of individual countries and the country groups. Nominal growth can be calculated for GDP denominated in domestic currency, US$ when domestic currency is converted at MX terms, as well as in PPP terms. In considering weighted averages, it is not feasible to aggregate countries into group averages in national currency terms. Therefore, we have given growth rates in weighted averages for country groups after conversion into US$ at MX and PPP terms. Further, annual growth rates of individual countries often show large variation due to base effects and presence of crises years in the period under review. We have, therefore, utilized the Compounded Annual Growth Rate (CAGR) for the period 2015 to 2024 for purposes of assessing comparative performance. Using the CAGRs, in terms of PPP, the BRICS+ countries show a higher average nominal GDP growth rate at 7.0% compared to a weighted average growth of 4.6% for the G7 group (Table 10.9). Even when measured in MX terms, the CAGR of nominal GDP over this period for the BRICS+ is higher at 5.4% as compared to that for G7 at 3.8%.

[51] See for details: Srivastava, D. K., Kapur, T., Bharadwaj, M., & Trehan, R. (2020). Impact of Covid-19 on global debt: a study of countries in the G-20 group. *Modern Economy, 11, 2101-2121*

Table 10.9: Nominal GDP growth (%)

Countries/Country groups	2002	2009	2020	2024	CAGR 2015-24
Brazil	13.2	7.2	3.0	7.3	7.7
China	9.9	9.3	3.5	6.0	7.5
India	7.7	15.5	-1.2	10.5	10.1
Russia	21.1	-6.0	-1.8	8.0	9.3
South Africa	16.7	7.0	-1.0	5.4	5.8
Egypt	5.6	16.4	9.9	36.4	20.6
Ethiopia	-2.2	35.0	25.4	36.2	27.9
Iran	40.7	7.1	49.1	39.9	37.6
Saudi Arabia	3.0	-17.4	-12.4	3.6	5.7
UAE	6.3	-19.6	-16.4	4.7	4.0
Simple Average – BRICS+	**12.2**	**5.4**	**5.8**	**15.8**	13.6
Weighted Average (USD at MX rates) – BRICS+	**-1.4**	**0.6**	**-1.9**	**5.5**	**5.4**
Weighted Average (PPP $) – BRICS+	**4.3**	**-5.2**	**-4.0**	**4.4**	**7.0**
Canada	4.3	-5.2	-4.0	4.4	4.7
France	3.2	-2.8	-4.9	3.5	3.1
Germany	1.2	-4.0	-2.0	3.3	3.9
Italy	3.5	-3.7	-7.5	3.5	3.0
Japan	-1.3	-6.2	-3.2	3.1	1.4
UK	4.0	-2.8	-5.8	2.2	4.1
US	3.3	-2.0	-0.9	5.2	5.2
Simple Average - G7	**2.6**	**-3.8**	**-4.1**	**3.6**	**3.6**
Weighted Average (USD at MX rates) - G7	**3.1**	**-4.8**	**-1.8**	**4.0**	**3.8**
Weighted Average (PPP $) - G7	**2.7**	**-3.2**	**-2.9**	**4.2**	**4.6**

Source (basic data): World Economic Outlook April 2024 database

Effective interest rate

It is the excess of nominal GDP growth over effective interest rate which moderates the conversion of fiscal deficit into debt. Effective interest rates have been derived by dividing net interest payments (interest payments minus interest receipts) in a given year by the debt at the end of the preceding year. The BRICS+ group has an effective interest rate averaged over the period 2015 to 2024 at 4.8% [52] (Table 10.10). In the case of G7, the interest rates averaged 1.7% during this period. In this context, we are considering only simple averages. In terms of individual countries, countries that have relatively higher effective interest rate on their government debt include Egypt, Brazil and India where the effective interest rates averaged 11.1%, 7.7% and 7.2% respectively from 2015 to 2025.

Table 10.10: Effective interest rate

Countries/Country groups	2002	2009	2020	2024	Avg. (2015 to 2024)
Brazil	12.6	9.0	4.7	7.2	*7.7*
China	2.5	1.7	1.6	1.4	*1.5*
India	6.5	7.2	7.4	7.2	*7.2*
Russia	5.2	NA	1.7	1.2	*2.3*
South Africa	10.7	9.1	7.2	7.5	*7.3*
Egypt	5.3	5.2	11.9	17.9	*11.1*

[52] This excludes Saudi Arabia since for several years its interest receipts exceed the interest payments.

Ethiopia	1.5	1.2	0.9	2.2	*1.3*
Iran	1.6	1.2	3.6	9.4	*3.1*
Saudi Arabia	3.2	NA	NA	0.4	*NA*
UAE	1.1	1.6	0.9	2.3	*1.3*
Simple Average – BRICS+ excl. Saudi Arabia	**5.2**	**3.6**	**4.5**	**6.3**	***4.8***
Weighted Average – BRICS+ excl. Saudi Arabia	**5.9**	**5.0**	**3.0**	**3.0**	***3.4***
Canada	3.2	1.5	0.5	0.6	*NA*
France	4.6	3.2	1.1	1.8	*1.6*
Germany	4.6	3.5	0.7	1.3	*1.1*
Italy	4.9	3.8	2.3	3.0	*2.7*
Japan	0.9	0.5	0.3	0.0	*0.3*
UK	4.1	2.9	1.2	2.3	*2.2*
US	4.1	2.5	1.9	2.8	*2.2*
Simple Average - G7 excl Canada	**3.9**	**2.7**	**1.3**	**1.9**	***1.7***
Weighted Average - G7 excl Canada	**3.0**	**2.1**	**1.3**	**2.1**	***1.7***

Source (basic data): World Economic Outlook April 2024 database
Note: NA implies interest receipts are in excess of interest payments. Weighted average effective interest rate levels for country groups (G7 and BRICS+) are estimated by aggregating country level net interest payments and debt denominated in US$ (MX) terms.

Table 10.11: Excess of growth over effective interest rate (% points)

Countries/Country groups	2002-2015	2015-2024
Brazil	1.0	0.0
China	12.4	6.0
India	7.0	2.8
Russia	13.5	7.0
South Africa	0.4	-1.4
Egypt	8.7	9.4
Ethiopia	24.3	26.5
Iran	19.6	34.5
Saudi Arabia	NA	NA
UAE	8.7	2.7
Simple Average – BRICS+ excl. Saudi Arabia	10.6	9.7
Weighted Average – BRICS+ excl. Saudi Arabia	**8.0**	**2.0**
Canada	NA	NA
France	-0.9	1.5
Germany	-0.8	2.8
Italy	-2.5	0.3
Japan	-0.4	1.1
UK	0.1	1.9
US	1.1	3.0
Simple Average - G7 excl Canada	-0.6	1.8
Weighted Average - G7 excl Canada	**1.0**	**2.1**

Source (basic data): World Economic Outlook April 2024 database
Note: NA implies interest receipts are in excess of interest payments

As shown in Table 10.11, excess of nominal GDP (in MX terms) growth over effective interest rate[53] was higher at 8.0% points for BRICS+ group as compared to 1.0% point for the G7 group

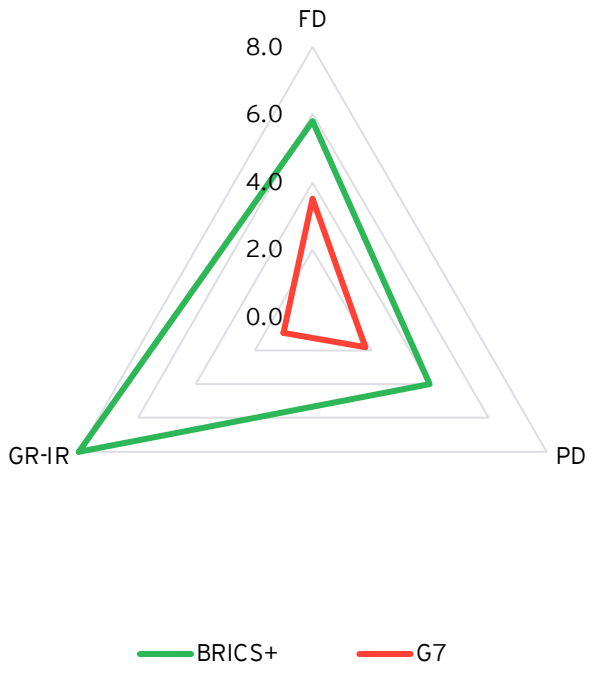
[53] For nominal GDP growth we have used the CAGR's calculated over the periods 2002 to 2015 and 2015 to 2024. For effective interest rates we have used simple average interest rate has been calculated from 2002 to 2014 and 2015 to 2024.

during 2002 to 2015 period. However, GDP and interest rate differential fell sharply to 2.0% in the case of BRICS+ while for G7 it improved to 2.1% during 2015 to 2024.

Charts 10.3 and 10.4 shows three important parameters that determine a country or a country group's capacity to fiscally stimulate an economy in the presence of a crisis. These parameters are fiscal deficit to GDP ratio (FD), primary deficit to GDP ratio (PD) and excess of nominal GDP growth (GR) over effective interest rate (IR). The primary deficit to GDP ratio indicates the capacity of a government of a country to purchase goods and services after having accounted for the servicing of past debt in the form of interest payments. The higher the sustainable level of fiscal deficit [54] relative to GDP of a country or a country group and the lower the interest payment to GDP ratio, and the higher is the excess of growth over interest rate, the higher would be its capacity to fiscally intervene.

Further, higher is the excess of growth over interest rate, the lower would be the translation of current fiscal deficit into debt. Thus, the BRICS+ group can contribute more in terms of neutralizing a global recession. The conversion of this higher fiscal/primary deficit to GDP ratio into debt depends on the excess of growth over interest rate. This difference for the two groups is nearly equal at 2.0% (BRICS+) and 2.1% (G7) considering the average over 2015-24. However, the debt-GDP ratio of BRICS+ in 2024 was lower than that of the G7 group, giving them larger fiscal room to stimulate the economies.

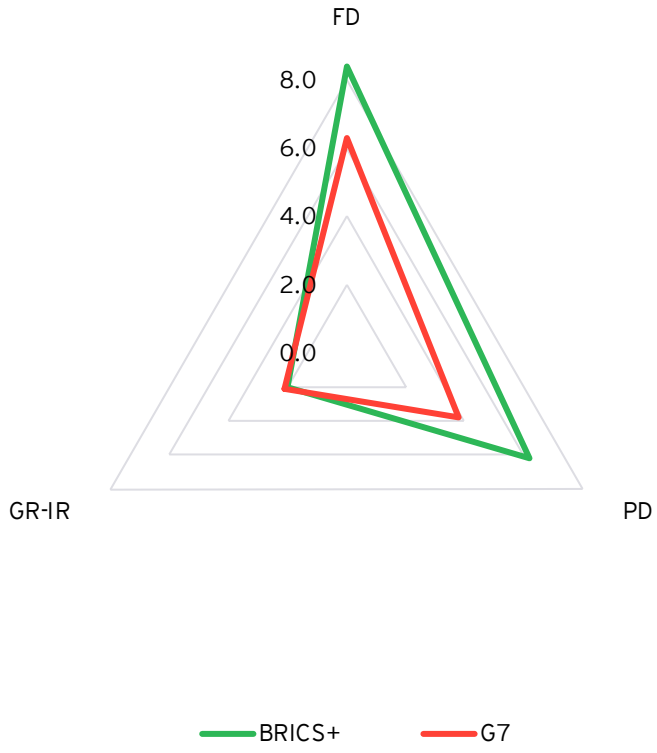
Chart 10.3: Capacity to use fiscal stimulus for macro-stabilization – 2015



Source (basic data): World Economic Outlook April 2024 database
Notes: We have considered FD and PD for respective years. GR - CAGR (MX rates) over 2002 to 2015 has been used in the case of 2015 and CAGR over 2015 to 2024 in the case of 2024. Similarly, for interest rate we have used the weighted average interest rates averaged over 2002 to 2014 and 2015 to 2024. In these calculations, we have excluded Saudi Arabia as its interest receipts exceeded the interest payments in several years

[54] Srivastava, D. K., Bharadwaj, M., Kapur, T., & Trehan, R. (2021). Revisiting Fiscal Responsibility Norms: A Cross-Country Analysis of the Impact of Covid-19. Business and Economics Journal, Volume 12:5, 2021.

Chart 10.4: Capacity to use fiscal stimulus for macro-stabilization – 2024



Source (basic data): World Economic Outlook April 2024 database
Notes: We have considered FD and PD for respective years. GR - CAGR (MX rates) over 2002 to 2015 has been used in the case of 2015 and CAGR over 2015 to 2024 in the case of 2024. Similarly, for interest rate we have used the weighted average interest rates averaged over 2002 to 2014 and 2015 to 2024. In these calculations, we have excluded Saudi Arabia as its interest receipts exceeded the interest payments in several years

Concluding observations

In the context of management of global economic affairs, BRICS+ is emerging as a relatively strong and increasingly cohesive group, alongside the existing cohesive G7 country group. The size of their aggregate GDP, if measured in market exchange rate terms, favors the G7 group. However, when the comparison is made in PPP terms, it is the BRICS+ group that has the relatively larger and growing share in global GDP. It is projected to have a share of 29.2% in market exchange terms and 38.3% in PPP terms as compared to the corresponding shares of the G7 group at 42.4% and 27.5% respectively in 2029. These country groups are slated to play a major role in the dynamics of global growth, global trade and management of global exchange rates. These country groups played critical roles in combating two recent global crises that happened in 2008 and 2020. In this process, governments in both country groups also became heavily indebted, progressively reducing their capacity to fiscally combat any future crisis. However, in relative terms, the BRICS+ group is better placed to fiscally combat any future major economic crisis as it has a lower debt-GDP ratio, access to higher primary deficit, and a near equal excess of growth over interest rates as compared to the G7 group.

Post-Script: BRICS+ group (including partner countries) as in January 2025

Table 10.12: Group-wise shares in global trade, GDP, and population (%)

	2000	2007	2010	2015	2019	2020	2021	2022	2023	*2022 minus 2000*
	% share									*% points*
Total merchandise exports										
BRICS+#	12.8	19.9	23.1	25.1	24.9	25.9	27.1	27.3	NA	*14.5*
G7	45.1	36.4	33.3	32.1	31.4	30.0	28.4	27.7	NA	*-17.4*
RoW	42.1	43.6	43.6	42.9	43.7	44.1	44.5	44.9	NA	*2.8*
Total exports	100	100	100	100	100	100	100	100	NA	
Total merchandise imports										
BRICS+	9.9	16.0	20.4	21.0	22.1	22.2	23.1	22.1	NA	*12.2*
G7	49.8	41.3	37.6	36.2	35.3	34.8	33.4	34.0	NA	*-15.9*
RoW	40.3	42.7	42.0	42.8	42.6	43.0	43.5	44.0	NA	*3.7*
Total imports	100	100	100	100	100	100	100	100	NA	
	2000	2007	2010	2015	2019	2020	2021	2022	2023	*2023 minus 2000*
	% share									*% points*
Size of GDP										
BRICS+#	11.4	17.3	22.7	27.2	28.8	28.9	30.1	30.4	29.3	*17.9*
G7	64.8	54.5	49.7	46.3	45.4	45.8	44.3	43.8	44.5	*-20.2*
RoW	23.8	28.2	27.6	26.5	25.8	25.3	25.6	25.8	26.2	*2.4*
Total	100	100	100	100	100	100	100	100	100	
Size of Population										
BRICS+	55.5	55.3	55.1	54.8	54.5	54.4	54.3	54.2	54.1	*-1.4*
G7	11.3	10.9	10.6	10.2	10.0	9.9	9.8	9.8	9.7	*-1.6*
RoW	33.2	33.8	34.3	35.0	35.5	35.7	35.9	36.0	36.2	*3.0*
Total	100	100	100	100	100	100	100	100	100	

Source (basic data): International Trade in goods (by partner countries IMTS database), IMF
Notes: (1) BRICS+ includes member countries as well as partner countries. As per latest information, the BRICS+ group member countries include the following: Brazil, Russia, India, China, South Africa, Egypt, Ethiopia, Indonesia, Iran, and United Arab Emirates. BRICS+ partner countries include Belarus, Bolivia, Cuba, Kazakhstan, Malaysia, Thailand, Uganda and Uzbekistan.
(2) # This excludes data for Cuba as it is unavailable in the IMF database

BRICS+ and G7 – Direction and share in global trade (October 2024)

Abstract

Continuing with the theme of comparing BRICS+ to the G7 country group, in this chapter, we have focused on their impact on direction of and share in global trade.

The importance of the BRICS+ group of countries has progressively been increasing in terms of the size of economy and their share in world exports and imports. The BRICS+ group is likely to compete as well as co-operate with the G7 group for determining world economic policies. Going forward into the current century, the importance of individual members of the BRICS+ group and the policies followed by the group itself is likely to play a critical role in determining the economic welfare of the global population. In the context of current geopolitical tensions, the BRICS+ group is making a concerted effort to coordinate their policies which may eventually translate into a reduction in the dominance of a) the US$ as currency of choice for global trade and foreign exchange reserves, b) the use of SWIFT as a global trade platform and c) that of western economies in technological leadership. Given the present trends and the strong likelihood of several new members joining the BRICS+ group, the share of BRICS+ in global merchandise exports may overtake that of the G7 group by 2026.

Introduction

Two major country groups are emerging in the global economy that are poised to compete for enhancing their relative shares in global economy, trade and capital. In this context, the "in focus" section of the September 2024 issue of the EY Economy Watch had highlighted the progressive rise in the share of BRICS+ group[55] in world GDP. It was also noted that they are projected to have a relatively larger share in global population as well. In this writeup, we focus on salient features of their respective shares in value and direction of global trade (exports and imports). For this purpose, we look at the respective shares in intra BRICS+ (BRICS+ to BRICS+) and between BRICS+ and G7 trade. The residual is the trade between BRICS+ and the rest of the world (RoW). The evolution of these shares is examined over the period 2000 to 2023 with a view to highlighting how the shares of BRICS+ group is rising over time in the relevant parameters reflecting its rising relative importance in global trade. Here, the comparative analysis covers only merchandise exports and imports. An important dimension of trade pertaining to trade in services is however, not covered. We have drawn the relevant data from the IMF Direction of Trade Statistics and World Trade Organization (WTO) International Trade Statistics[56]. Eventually, as the share of the BRICS+ group in global trade rises, it may facilitate their effort to guide the global economy and trade towards a multipolar system of trade and currencies.

Share in global merchandise exports and imports

Table 11.1 shows the shares of the BRICS+ and G7 groups in merchandise exports and imports over the period 2000 to 2023. The share of BRICS+ group in global merchandise exports has increased from 10.7% to 23.3%, an increase of 12.6% points. On the other hand, the share of G7 group in global exports has fallen by a margin of 16.2% points from 45.1% to 28.9% over the same period. The share of the rest of the world has largely remained stable increasing only marginally from 44.2% to 47.9% during this period. This implies that largely it is the BRICS+ group which has replaced the G7 group in terms of share in global merchandise exports.

Table 11.1: Group-wise share in global merchandise exports and imports (%)

	2000	2007	2010	2015	2019	2020	2021	2022	2023	*2023 minus 2000*
	% share									*% points*
Total merchandise exports										
BRICS+	10.7	17.9	20.2	22.2	21.9	22.6	23.9	24.2	23.3	***12.6***
G7	45.1	36.4	33.3	32.1	31.4	30.0	28.4	27.7	28.9	***-16.2***
RoW	44.2	45.7	46.5	45.7	46.8	47.4	47.6	48.1	47.9	***3.6***
Total exports	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	
Total merchandise imports										
BRICS+	7.2	13.3	17.0	17.9	18.6	19.1	19.9	18.7	18.9	***11.7***
G7	49.8	41.3	37.6	36.2	35.3	34.8	33.4	34.0	33.7	***-16.2***
RoW	43.0	45.4	45.4	45.9	46.1	46.1	46.7	47.3	47.4	***4.5***
Total imports	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	

Source: Direction of Trade Statistics, IMF

A similar pattern is visible in the case of share in merchandise imports. While the share of BRICS+ group has increased from 7.2% to 18.9%, that of the G7 group has fallen from 49.8% to 33.7% over

[55] The number of members and partners in the BRICS+ group is evolving fast. Saudi Arabia did not participate in the BRICS+ group meeting held in Kazan during 22-24 October 2024. However, thirteen new partners have been admitted in BRICS+ group namely Algeria, Belarus, Bolivia, Cuba, Indonesia, Kazakhstan, Malaysia, Nigeria, Thailand, Turkey, Uganda, Uzbekistan and Vietnam.

[56] Merchandise trade by commodity group.

the period 2000 to 2023. Once again, the share of the rest of the world has largely remained stable, increasing marginally from 43.0% to 47.4%.

Thus, while the ratio of G7 group to BRICS+ group has fallen from 4.2 to 1.2 in the case of merchandise exports, the comparative fall in the case of merchandise imports is 6.9 to 1.8 during 2000 to 2023.

Share in intra group merchandise exports and imports

An important dimension of global merchandise trade pertains to the direction of trade. In Table 11.2, the importance of delineating the respective shares in merchandise exports within group and outside group are highlighted. In 2023, the share of exports to BRICS+ countries from BRICS+ countries had increased to 18.1% from 12.1% in 2000. On the other hand, the share of exports to G7 countries from BRICS+ countries was at 25.8% in 2023 as compared to 39.5% in 2000. This shows a fall in the share of G7 in exports of BRICS+ countries by a large margin of 13.7% points. The share of BRICS+ exports to the rest of the world has also been rising. As the number of countries that join the BRICS+ group increases, the BRICS+ intra group share could increase. In fact, exports within BRICS+ group, that is BRICS+ to BRICS+ group, constituting about 18% of the total exports by these countries, can take place even without using the US$ as the exchange numeraire, that is, in domestic currencies or some specialized BRICS+ currency. At present, these intra group exports are largely denominated in US$. Going forward, even if many countries remain outside the two groups, as long as these countries are willing to trade in currencies other than the US$, there may be long term implications for the demand for US$ as a currency of exchange in the global trade market. As per Atlantic Council, the share of US$ in global export invoicing currently stands at 54%[57]. In terms of the composition of global reserve currency, the share of US$ denominated reserves has fallen from 71.5% in 1Q CY2000 to 58.2% in 2Q CY2024[58].

Table 11.2: Destination-wise distribution of merchandise exports from BRICS+ and G7 (% share in group total)

	2000	2007	2010	2015	2019	2020	2021	2022	2023	*2023 minus 2000*
	% share									*% points*
BRICS+										
BRICS+ to BRICS+	12.1	14.7	16.7	15.2	16.7	15.8	16.5	17.2	18.1	***6.0***
BRICS+ to G7	39.5	33.6	30.8	29.8	28.1	29.4	28.7	27.1	25.8	***-13.7***
BRICS+ to Rest of the World	48.4	51.7	52.5	54.9	55.2	54.8	54.8	55.7	56.1	***7.7***
BRICS+ total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	
G7										
G7 to BRICS+	6.1	11.3	14.1	13.9	13.4	14.4	14.5	12.9	12.4	***6.2***
G7 to G7	48.2	40.2	36.6	37.6	37.1	36.7	36.0	36.7	37.2	***-11.0***
G7 to Rest of the World	45.6	48.5	49.4	48.5	49.5	49.0	49.5	50.4	50.5	***4.8***
G7 total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	

Source: Direction of Trade Statistics, IMF

A similar pattern is observed in the case of imports (Table 11.3). Here again, while BRICS+ to BRICS+ imports has increased from 9.9% in 2000 to 24.8% in 2023, that of BRICS+ imports from G7 countries has fallen sharply by a margin of 19.1% points. This implies that by 2023, the share of BRICS+ to BRICS+ imports had become higher than the share of BRICS+ to G7 countries.

[57] https://www.atlanticcouncil.org/programs/geoeconomics-center/dollar-dominance-monitor/
[58] IMF COFER database and In-focus section of May 2024 edition EY economy watch; CY refers to calendar year

Table 11.3: Source-wise distribution of merchandise imports into BRICS+ and G7 (% share in group total)

	2000	2007	2010	2015	2019	2020	2021	2022	2023	*2023 minus 2000*
BRICS+										
	% share									*% points*
BRICS+ from BRICS+	9.9	16.7	19.0	18.8	20.9	19.9	21.0	24.0	24.8	***14.9***
BRICS+ from G7	40.6	30.9	28.2	27.3	24.4	24.3	23.1	21.5	21.5	***-19.1***
BRICS+ from Rest of the World	49.5	52.4	52.8	53.9	54.6	55.8	55.9	54.5	53.7	***4.2***
BRICS+ total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	
G7										
G7 from BRICS+	11.6	18.6	20.9	20.9	19.2	19.9	20.5	19.7	16.8	***5.2***
G7 from G7	43.6	34.6	31.4	32.3	31.3	29.7	28.8	28.3	30.2	***-13.4***
G7 from Rest of the World	44.8	46.8	47.7	46.8	49.5	50.4	50.7	52.0	53.0	***8.2***
G7 total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	

Source: Direction of Trade Statistics, IMF

Relative shares of India's and China's exports/imports to/from different destinations/source countries

India and China are two prominent members of the BRICS+ group. In the global ranking in purchasing power parity (PPP) terms, they rank second and third in terms of size of economy. In market exchange rate (MX) terms, they rank respectively second and fifth at present. However, by 2030, they are expected to rank second and third both in PPP and MX terms. Within the BRICS+ group in terms of size of the economy, they rank first and second both in PPP and MX terms.

Table 11.4 shows that the share of India's exports to BRICS+ as share of India's total merchandise exports has progressively increased from 14.2% to 19.6% over the period 2000 to 2023. It is also seen that the share of its exports to G7 countries has fallen over this period by nearly 14% points, from 41.9% to 28.4%. However, the share of India's exports to G7 was still higher than the share of its exports to BRICS+ countries in 2023.

Table 11.4: Destination-wise distribution of exports from India and China (% share in own exports)

	2000	2007	2010	2015	2019	2020	2021	2022	2023	*2023 minus 2000*
	% share									*% points*
India										
India to BRICS+	14.2	24.3	29.1	23.2	22.0	21.0	19.7	18.5	19.6	***5.4***
India to G7	41.9	27.8	23.0	27.1	27.7	29.2	29.1	28.4	28.3	***-13.6***
India to RoW	43.9	47.9	47.9	49.6	50.3	49.8	51.2	53.1	52.1	***8.2***
Total exports of India	100	100	100	100	100	100	100	100	100	
China										
China to BRICS+	4.4	8.9	9.9	10.0	10.3	9.7	10.2	11.2	12.9	***8.5***
China to G7	48.2	39.1	37.5	33.3	32.3	33.4	32.3	30.6	28.6	***-19.6***
China to RoW	47.5	51.9	52.6	56.7	57.4	56.9	57.5	58.2	58.6	***11.1***
Total exports of China	100	100	100	100	100	100	100	100	100	

Source: Direction of Trade Statistics, IMF

In China's case also, its exports to BRICS+ group have increased as percentage of its total exports, although at nearly 13%, this share is lower than the corresponding share of India. In fact, China's exports to G7 countries as percentage of its total exports has fallen sharply from 48.2% to 28.6% during the period 2000 to 2023. By 2023, the share of exports from India and China to the G7 group in their respective total exports became almost equal at just a little more than 28%.

We also consider the comparative patterns in the case of imports. India imports a relatively large and growing share from the BRICS+ group. Table 11.5 shows that this share has been rising steadily over the last few years. India sourced nearly 39% of its total imports from within the BRICS+ group in 2023. It may benefit India if it were to import these goods from within the BRICS+ group in currencies other than the US$. On the other hand, China's dependence on imports sourced from BRICS+ group was much lower at 16% in 2023.

Table 11.5: Source-wise distribution of imports to India and China (% share in own imports)

	2000	2007	2010	2015	2019	2020	2021	2022	2023	*2023 minus 2000*
	% share									*% points*
India										
India from BRICS+	16.5	31.5	33.9	32.1	30.6	32.2	32.7	36.1	39.1	*22.5*
India from G7	30.6	21.4	15.5	15.1	16.7	16.5	15.3	14.3	14.9	*-15.7*
India from RoW	52.9	47.1	50.6	52.8	52.6	51.4	52.1	49.6	46.0	*-6.9*
Total imports of India	100	100	100	100	100	100	100	100	100	
China										
China from BRICS+	6.2	9.8	11.0	10.3	12.9	12.0	12.8	14.8	16.0	*9.8*
China from G7	39.4	30.5	29.4	28.4	24.4	24.8	23.6	22.2	22.0	*-17.4*
China from RoW	54.4	59.7	59.6	61.3	62.6	63.2	63.7	63.0	62.0	*7.6*
Total imports of China	100	100	100	100	100	100	100	100	100	

Source: Direction of Trade Statistics, IMF

Country-wise decomposition of BRICS+ and G7 exports and imports

In this section, we consider a decomposition of total exports and imports of the BRICS+ and G7 groups in terms of the relative shares of the member countries of this group. In the case of BRICS+ group, clearly China dominates this group both in terms of its contribution to the group exports and imports. In fact, as far as exports are concerned, China's contribution increased from 36.1% in 2000 to 62.5% in 2023, an increase of 26.4% points (Table 11.6). Next in importance is India whose share is 7.9% in the group exports, although the difference between the contributions of these two countries was quite large in 2023. Over the period 2000 to 2023, there were only three member countries whose contribution in the group exports has increased. These are China, India and UAE. A similar pattern is observed in the case of relative contributions of member countries of the BRICS+ group in global imports. In this case share of India's imports in BRICS+ group imports have risen by a margin of 6.6% points. Its contribution was 8.1% in 2000 which increased to 14.7% in 2023. Thus, India and China are likely to play a relatively important role in determining the dynamics of global trade through their participation in the BRICS+ group.

Table 11.6: Country-wise decomposition of BRICS+ exports and imports

Country/country groups	2000	2007	2010	2015	2019	2020	2021	2022	2023	2023minus 2000
	% share									*% points*
	Exports									
Brazil	8.6	6.3	6.6	5.2	5.4	5.4	5.3	5.6	6.2	***-2.4***
China	36.1	48.6	51.4	62.4	60.6	66.1	63.7	60.3	62.5	***26.4***
Egypt	0.8	0.6	0.9	0.6	0.7	0.7	0.8	0.8	0.7	***-0.1***

Country/country groups	2000	2007	2010	2015	2019	2020	2021	2022	2023	2023minus 2000
Ethiopia	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	***0.0***
India	6.2	6.1	7.3	7.3	7.9	7.0	7.5	7.6	7.9	***1.7***
Iran	3.6	3.1	2.8	1.1	0.7	0.3	0.3	0.3	0.3	***-3.3***
Russia	14.9	14.1	12.4	9.4	10.2	8.6	9.3	9.7	7.6	***-7.3***
Saudi Arabia	20.4	13.1	9.7	6.7	6.3	4.6	5.3	6.8	5.9	***-14.5***
South Africa	3.1	2.5	3.0	2.2	2.2	2.2	2.3	2.1	2.0	***-1.1***
United Arab Emirates	6.2	5.5	5.9	5.1	5.9	5.0	5.5	6.7	6.8	***0.6***
Total exports	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	
Imports										
Brazil	12.7	6.8	7.3	6.2	5.2	5.0	5.2	6.1	5.6	***-7.0***
China	47.5	50.3	53.0	54.3	57.6	61.1	60.2	57.1	56.5	***8.9***
Egypt	3.4	1.4	2.0	2.4	2.2	1.8	1.7	1.7	1.6	***-1.8***
Ethiopia	0.3	0.3	0.3	0.6	0.4	0.4	0.3	0.3	0.3	***0.0***
India	8.1	12.3	13.3	13.3	13.4	10.9	12.8	15.4	14.7	***6.6***
Iran	3.0	2.4	2.5	1.4	1.2	1.2	1.2	1.3	1.2	***-1.9***
Russia	7.1	10.5	8.3	6.2	6.8	6.9	6.6	4.4	3.8	***-3.3***
Saudi Arabia	6.5	5.3	4.5	5.9	3.7	4.3	3.4	3.9	4.6	***-1.8***
South Africa	6.0	4.8	3.3	3.1	2.6	2.2	2.2	2.5	2.5	***-3.5***
United Arab Emirates	5.3	5.9	5.4	6.8	6.9	6.3	6.4	7.4	9.2	***3.9***
Total imports	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	

Source: Direction of Trade Statistics, IMF

In the case of the G7 group, the country which dominates in terms of its share in exports as percentage of the overall exports of G7 group is the United States followed by Germany, Japan and France (Table 11.7). However, changes in their shares have been limited in the range of (-)5.8% points to 6.4% points. Similar trends can be observed in the case of imports by G7.

Table 11.7: Country-wise decomposition of G7 exports and imports

Country/country groups	2000	2007	2010	2015	2019	2020	2021	2022	2023	2023 minus 2000
	% share									*% points*
Exports										
Canada	9.4	8.2	7.6	7.7	7.5	7.5	8.0	8.7	8.4	***-1.1***
France	11.1	10.7	10.2	9.5	9.6	9.3	9.3	8.9	9.3	***-1.7***
Germany	18.8	25.8	24.8	25.1	25.1	26.4	25.9	24.3	25.2	***6.4***
Italy	8.2	9.7	8.7	8.6	9.0	9.5	9.7	9.5	9.8	***1.6***
Japan	16.4	14.0	15.2	11.8	11.9	12.2	12.0	10.9	10.5	***-5.8***
United Kingdom	9.7	8.7	8.2	8.7	9.0	7.7	7.2	7.6	7.2	***-2.5***
United States	26.5	22.8	25.2	28.5	27.8	27.4	28.0	30.1	29.7	***3.2***
Total exports	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	
Imports										
Canada	7.7	6.9	7.1	7.4	7.0	7.0	6.9	7.0	7.3	***-0.4***
France	10.3	10.7	10.5	9.5	9.6	9.5	9.5	9.5	9.7	***-0.6***
Germany	15.1	18.0	18.1	17.5	18.1	19.1	18.9	18.3	18.3	***3.2***
Italy	7.3	8.7	8.4	6.8	7.0	6.9	7.5	8.0	7.9	***0.6***
Japan	11.6	10.6	11.9	10.8	10.6	10.3	10.3	10.4	9.7	***-1.9***
United Kingdom	10.2	10.9	10.1	10.5	11.1	9.3	9.1	9.2	8.9	***-1.3***
United States	37.8	34.3	33.8	37.4	36.6	38.0	37.8	37.6	38.2	***0.4***

Country/country groups	2000	2007	2010	2015	2019	2020	2021	2022	2023	2023 minus 2000
	% share									% points
Total imports	100	100	100	100	100	100	100	100	100	

Source: Direction of Trade Statistics, IMF

Commodity composition of trade: Growing share of BRICS+ group

Table 11.8 shows that, as per data sourced from WTO, the share of BRICS+ countries in global merchandise exports has progressively increased across all major commodity groups. Over the period 2000 to 2022, this share has increased from 10% to nearly 25%[59]. Furthermore, there is a strong likelihood of a larger number of countries joining this group, as a result of which, the share of this group in world exports would continue to increase both because of the increase in the share of exports of existing members and due to the additional members joining the group.

In terms of commodity composition, the highest share in corresponding global exports by BRICS+ group in 2022 was that of textiles at 49.6%, followed by telecommunications equipment at 41.3%, clothing at 36%, electronic data processing and office equipment at 35.7% and fuels at 30.3%. Clearly, the share of BRICS+ group in world exports is increasing on a trend basis.

Table 11.8: Share of BRICS+ in world exports: product/product group wise

	Products/ product groups	2000	2007	2010	2015	2019	2020	2021	2022	*2022 minus 2000*
		% share in total world exports of respective commodities								*% points*
1	**Agricultural products**	**8.9**	**12.3**	**14.0**	**15.7**	**15.9**	**16.1**	**16.0**	**17.2**	***8.3***
1.1	*Food*	8.9	12.2	14.1	15.9	16.0	16.2	16.1	17.5	***8.6***
1.2	*Agricultural products excluding food*	9.0	12.7	13.3	14.6	15.4	15.4	15.0	15.2	***6.2***
2	**Fuels and mining products**	**25.3**	**28.2**	**27.6**	**27.4**	**30.2**	**29.4**	**28.5**	**28.1**	***2.9***
2.1	*Fuels*	28.8	31.6	30.2	30.1	33.5	34.2	32.0	30.3	***1.6***
2.2	*Mining products*	13.1	17.1	18.6	19.2	19.7	19.3	20.4	20.3	***7.2***
3	**Manufactures**	**7.2**	**15.4**	**18.9**	**23.5**	**23.1**	**24.3**	**26.1**	**26.3**	***19.0***
3.1	*Iron and steel*	13.4	21.2	21.1	28.5	26.9	26.8	29.6	29.3	***15.9***
3.2	*Chemicals*	5.7	8.6	10.7	13.7	14.5	14.3	16.6	17.5	***11.7***
3.2.1	Pharmaceuticals	3.2	3.3	4.5	5.8	5.9	6.4	8.8	5.7	***2.5***
3.2.2	Other chemicals	6.3	10.4	13.0	16.8	18.2	18.2	20.2	22.5	***16.2***
3.3	*Machinery and transport equipment*	4.4	13.6	17.7	21.3	21.5	23.2	25.0	25.0	***20.6***
3.3.1	Office and telecom equipment	5.0	23.7	28.6	34.9	34.3	33.9	34.6	32.8	***27.9***
3.3.1.1	Electronic data processing and office equipment	5.3	30.9	38.3	39.6	40.6	36.4	37.2	35.7	***30.3***
3.3.1.2	Telecommunications equipment	7.7	27.5	32.3	42.9	42.9	47.3	48.3	41.3	***33.6***
3.3.1.3	Integrated circuits and electronic components	1.9	8.9	13.3	19.7	20.7	19.9	21.3	23.0	***21.1***
3.3.2	Transport equipment	3.1	6.3	9.3	9.7	9.6	10.3	12.9	13.8	***10.7***
3.3.3	Other machinery and transport equipment	5.0	12.2	15.7	21.1	21.6	23.7	25.7	26.6	***21.6***

[59] The difference with respect to figures as per Table 1 is on account of reference to different databases.

	Products/ product groups	2000	2007	2010	2015	2019	2020	2021	2022	2022 minus 2000
		% share in total world exports of respective commodities								% points
3.3.2.1	Automotive products	1.8	4.6	5.9	7.0	7.4	7.7	9.8	11.7	**10.0**
3.4	*Textiles*	16.5	29.7	38.0	45.9	46.6	53.1	49.2	49.6	**33.1**
3.5	*Clothing*	22.1	36.5	40.7	43.4	35.2	35.4	36.3	36.0	**14.0**
3.6	*Other Manufactures*	10.4	17.9	22.0	28.9	28.2	29.6	31.8	32.3	**21.9**
4	Others	10.8	16.8	18.5	15.0	9.9	11.0	9.7	10.9	**0.1**
5	Total merchandise exports	10.0	17.6	20.2	22.6	22.6	23.1	24.3	24.6	**14.6**

Source (basic data): WTO International Trade Statistics

In the case of imports by the BRICS+ group from the world, the aggregate share in terms of all commodities is somewhat lower than their share in exports. In other words, the BRICS+ group are net exporters to the world. Important commodities that are being imported into the BRICS+ countries include integrated circuits and electronic components with a share in world imports group of this product at 40.2% in 2022, followed by mining products at 34.6%, agricultural products excluding food at 27.7%, office and telecom equipment at 25.8% and fuels at 23%.

Table 11.9: Share of BRICS+ in world imports: Product/product group wise

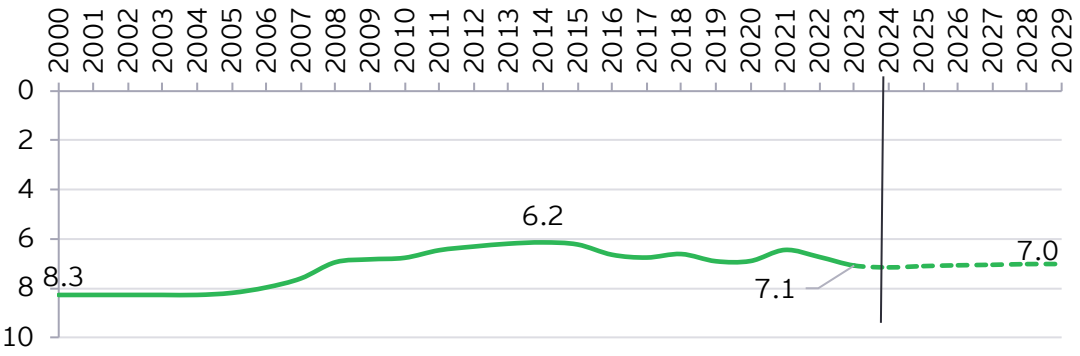
	Products/ product groups	2000	2007	2010	2015	2019	2020	2021	2022	2022 minus 2000
		% share in total world exports of respective commodities								% points
1	Agricultural products	9.1	12.5	16.7	18.9	19.1	19.5	20.4	20.1	**11.0**
1.1	*Food*	8.3	10.8	14.6	17.0	17.2	17.9	19.2	18.9	**10.6**
1.2	*Agricultural products excluding food*	12.0	19.8	26.1	29.1	30.3	29.5	27.6	27.7	**15.8**
2	Fuels and mining products	8.8	13.5	18.8	23.1	28.5	31.9	29.6	25.7	**16.9**
2.1	*Fuels*	8.2	11.0	15.0	19.6	26.1	28.7	26.1	23.0	**14.7**
2.2	*Mining products*	10.6	21.3	31.6	33.5	35.3	38.0	36.8	34.6	**24.0**
3	Manufactures	6.9	12.8	16.2	16.2	16.2	16.5	16.9	15.7	**8.8**
3.1	*Iron and steel*	11.3	14.0	17.4	15.3	14.9	18.9	15.5	14.7	**3.4**
3.2	*Chemicals*	9.9	13.3	16.6	17.6	18.4	17.4	18.0	17.7	**7.8**
3.2.1	Pharmaceuticals	6.3	6.2	8.2	10.0	11.2	10.1	10.8	10.0	**3.8**
3.2.2	Other chemicals	10.7	15.6	19.7	20.6	21.6	21.1	21.3	20.8	**10.1**
3.3	*Machinery and transport equipment*	6.4	14.1	17.5	18.3	17.9	18.7	19.3	17.4	**10.9**
3.3.1	Office and telecom equipment	6.3	18.2	20.6	25.9	26.6	27.5	28.6	25.8	**19.5**
3.3.1.1	Electronic data processing and office equipment	4.5	11.9	15.1	15.7	17.0	16.6	17.7	15.8	**11.2**
3.3.1.2	Telecommunications equipment	7.3	13.1	14.4	18.8	18.3	18.1	19.5	16.4	**9.1**
3.3.1.3	Integrated circuits and electronic components	7.5	31.5	32.9	42.0	40.7	42.4	42.3	40.2	**32.7**
3.3.2	Transport equipment	3.7	8.5	11.6	12.1	11.2	11.3	11.9	10.7	**7.0**
3.3.3	Other machinery and transport equipment	9.1	15.9	20.0	17.5	16.2	16.2	15.9	14.6	**5.5**
3.3.2.1	Automotive products	3.2	8.6	12.5	12.7	11.3	11.9	12.6	11.4	**8.1**
3.4	*Textiles*	11.7	11.6	13.4	12.5	11.3	9.5	10.4	9.9	**-1.8**
3.5	*Clothing*	1.7	3.1	5.1	5.7	5.9	6.0	6.4	5.6	**3.9**
3.6	*Other Manufactures*	6.0	10.9	14.9	12.9	13.2	12.8	13.1	12.6	**6.7**
4	Others	12.9	39.2	38.2	46.7	36.5	24.9	40.2	43.3	**30.4**
5	Total merchandise exports	7.6	13.7	17.5	18.6	19.1	19.2	20.1	19.2	**11.6**

Source (basic data): WTO International Trade Statistics

Exchange rate trends

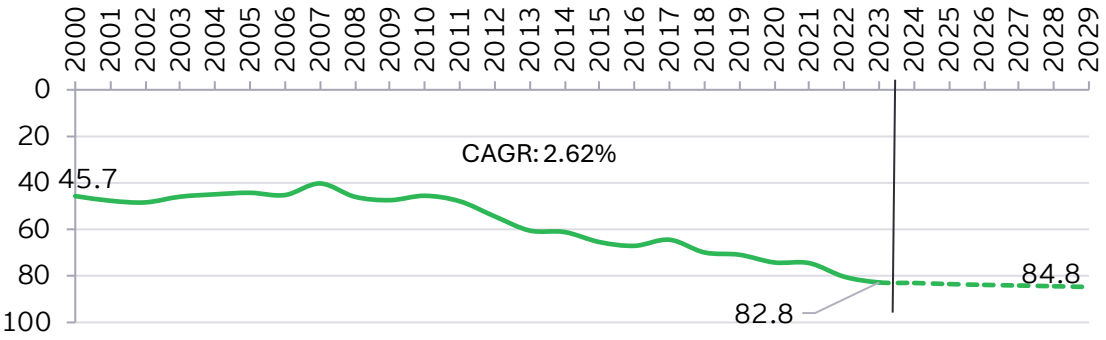
Because of the large economic role of some of the countries in the BRICS+ group such as China, India, Russia, Brazil and Saudi Arabia, their currencies are likely to have a progressively increasing role in a multicurrency framework of transactions in global trade. While individual exchange rates may depend on various factors, one underlying common factor would be the way in which the US economy, particularly the US inflation is likely to behave in relation to the inflation experience of some of these major BRICS+ economies. The use of US$ as a global reserve currency may also erode over time. Already, as stated earlier, the share of US$ as a global reserve currency has fallen from 71.5% in 1QCY2000 to 58.2% in 2QCY2024. Charts 11.1 to 11.4 show the relative movement of individual exchange rates vis-à-vis the US$. Yuan and Euro remain largely stable with marginal appreciation in recent years. At the same time, the INR and the Yen have depreciated in recent years, particularly 2018 onwards for India and 2021 onwards for Yen.

Chart 11.1: Trends in Yuan/US$



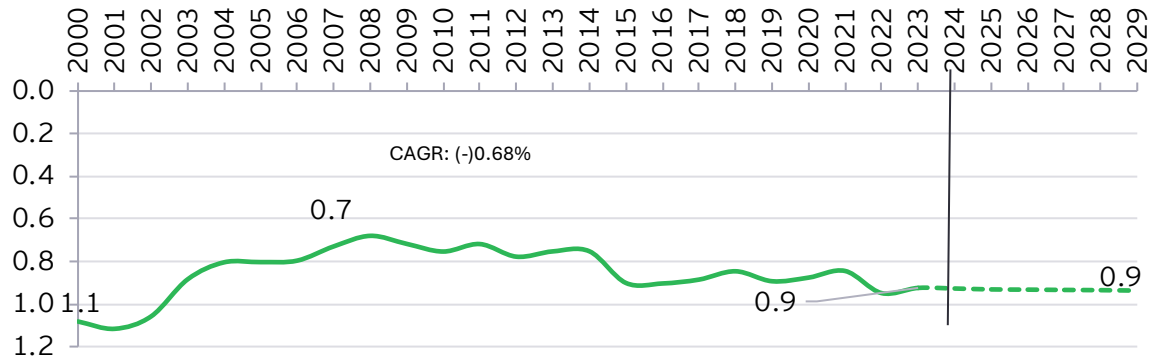
Source (basic data): IMF

Chart 11.2: Trends in INR/US$



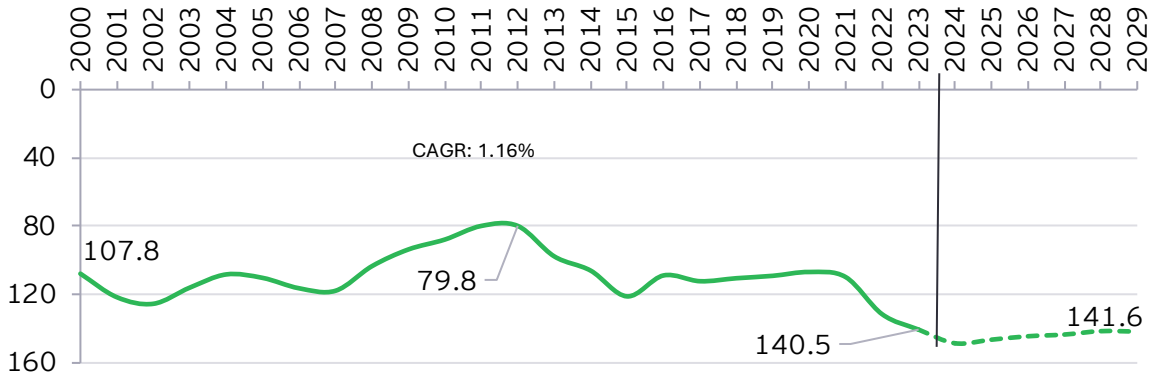
Source (basic data): IMF

Chart 11.3: Trends in Euro/US$



Source (basic data): IMF

Chart 11.4: Trends in Yen/US$



Source (basic data): IMF

Concluding observations

The importance of BRICS+ group of countries has progressively been increasing in terms of size of economy [60] and in terms of their share in world exports and imports. The BRICS+ group is likely to compete as well as co-operate with the G7 group for determining world economic policies. Going forward into the current century, the importance of individual members of BRICS+ group and the policies followed by the group itself is likely to play a critical role in determining the economic welfare of the global population. In the context of current geopolitical tensions, the BRICS+ group is making a concerted effort to coordinate their policies which may eventually translate into a reduction in the dominance of a) the US$ as currency of choice for global trade and foreign exchange reserves, b) the use of SWIFT as a global trade platform and c) that of western economies in technological leadership. Given the present trends and the likelihood of several new members joining the BRICS+ group being strong, the share of BRICS+ in global merchandise exports may overtake that of the G7 group by 2026. The lead of G7 in managing global economic affairs is likely to come into question as the importance of the BRICS+ group in terms of their share in global population, world GDP and world trade increases.

[60] See In-focus section of September 2024 issue of EY Economy Watch for details

Part – 4

Indian economy in a global perspective

Measuring economic complexity of countries and products – India shows significant potential (August 2017)

Abstract

Traditional analysis in economics focuses on factors of production such as land, labor and capital as contributing to output growth. Modern economies are characterized by products that have become progressively more complex, dependent as they are on a variety of sub-products and processes that largely derive from growth in human knowledge, which depends more and more on exchange of ideas across people, countries and generations, using modern methods of storing and communicating knowledge through networking and other similar technologies. Hausmann and Hidalgo et.al (2014, 2011) distinguish between complexity of products and complexity of countries. They distinguish between two kinds of knowledge: explicit and tacit. Explicit knowledge is transferable by text, conversation, and other means of communication. Tacit knowledge is difficult to transfer as it depends on individual skills and inherited knowledge. Thus, products that require greater use of tacit knowledge constrain the process of growth and development as their transferability is limited. Sometimes, shareability of knowledge is constrained by specific policies followed by governments, which give them a monopoly advantage in the development and export of certain products. Tacit knowledge is dependent on specialization. Just as individuals specialize, organizations also specialize and represent collective capabilities.

According to the product complexity index developed by Hausmann and Hidalgo et.al, the top five products by complexity are mostly machinery and appliances. The bottom five products are mostly primary commodities including minerals in their raw form. As per the country complexity index, the top five countries are Japan, Germany, Switzerland, Sweden and Austria. The US has the 13th rank, China the 29th rank and India the 51st rank.

Introduction

In recent contributions, Hausmann and Hidalgo et.al (2014, 2011) propose an Index of Economic Complexity and postulate that a country's growth prospects improve with increase in its Index of Economic Complexity. Traditional analysis in economics focuses on factors of production such as land, labor and capital. In the analytical framework proposed by Hausmann and Hidalgo et al., the key factor of production is knowledge. Modern economies are characterized by products that have become progressively more complex, dependent as they are on a variety of sub-products and processes that largely derive from growth in human knowledge, which depends more and more on exchange of ideas across people, countries and generations using modern methods of storing and communicating knowledge through networking and other similar technologies. Hausmann and Hidalgo et.al distinguish between complexity of products and complexity of countries, which in turn is based on complexity of products. They distinguish between two kinds of knowledge: explicit and tacit. Explicit knowledge is transferable by text, conversation, and other means of communication. Tacit knowledge is difficult to transfer as it depends on individual skills and inherited knowledge. Thus, products that require greater use of tacit knowledge constrain the process of growth and development as their transferability is limited. This transferability is individual or company-specific and specific to groups of firms or specialists etc. who in turn may be specific to groups of countries – for example, technologies relating to liquid fuels used in long-distance rockets as also in specialized advanced jet engines etc. Sometimes shareability of knowledge is constrained by specific policies followed by governments, which give them a monopoly advantage in the development and export of certain products. Tacit knowledge is dependent on specialization. Just as individuals specialize, organizations also specialize and represent collective capabilities.

The complexity of an economy is related to the multiplicity of useful knowledge embedded in it covering design, marketing, finance, technology and human resource management, operations and institutional frameworks. In these dimensions, different countries have different capabilities. Economic complexity is therefore the composition of a country's productive output, which reflects the structures and the knowledge combinations that make their production possible. Hausmann and Hidalgo et.al assert that "economic complexity is necessary for a society to be able to hold and use a larger amount of productive knowledge" and it can be measured from the mix of products that a county is able to make. The higher the economic complexity of a country, the higher the capacity of that country to produce a more diverse set of products. This is why all products are not produced in all countries. Products that demand large volumes of knowledge are feasible only in few countries. Thus, we can consider a product in terms of its two characteristics: ubiquity and diversity. Ubiquitous products require a lower degree of complexity and can be produced across most countries. Diversity requires specialized knowledge. The more complex the knowledge requirement associated with products, the higher the diversity dimension of that product. Generally, countries with higher measures of economic complexity would be able to produce a more diverse range of products. Hausmann and Hidalgo et.al define an Index of Economic Complexity as well as product complexity index. The former depends on the latter.

To make international comparisons possible, Hausmann and Hidalgo et.al utilize product export data and differentiate between products that are high on product complexity index. Countries with a larger share of export of products with high product complexity index would have a higher ranking in their economic complexity index. To illustrate the point, Singapore and Pakistan, which export roughly 133 products each, are compared. Although the number of products exported is comparable between two countries, the mix of products in terms of high and low product complexity indices is very different. Singapore has a much larger basket of products with high product complexity rankings. This gives Singapore a much higher economic complexity ranking as compared to Pakistan. Their GDP at market prices is, however, similar. However, Singapore is 38 time richer than Pakistan in per-capita terms because of its higher economic complexity ranking.

The top five and bottom five products by complexity and their product groups are shown in Table 12.1. The top 5 products by complexity are mostly machinery and appliances. The bottom 5 products are mostly primary commodities including minerals in their raw form.

Table 12.1: Products by complexity

Top 5 products			Bottom 5 products		
#	Product	Index	#	Product	Index
1	Machines and appliances for specialized particular industries	2.27	1	Crude oil	-3.00
2	Instrument and appliances for physical or chemical analysis	2.21	2	Tin ores and concentrates	-2.63
3	Appliances based on the use of X-rays or radiation	2.16	3	Cotton, not carded or combed	-2.63
4	Lubricating petrol oils and other heavy petrol oils	2.10	4	Cocoa beans	-2.61
5	Other machine tools for working metal or metal carbide	2.05	5	Sesame seeds	-2.58

Source: Hausmann and Hidalgo et.al (2016)

Using this framework and international trade data, Hausmann and Hidalgo et.al rank 128 countries. The top 5 countries are Japan, Germany, Switzerland, Sweden and Austria. Except Japan, the last four are in Western Europe. The bottom 5 countries are Papua New Guinea, Republic of Congo, Sudan, Angola and Mauritania. Except Papua New Guinea, which is in the East Asia and the Pacific, the last four belong to sub-Sharan Africa. The US has the 13th rank, China the 29th rank and India the 51st rank.

Table 12.2: Country wise economic complexity index: selected countries

#	Country	Rank	#	Country	Rank
1	Japan	1	11	Mexico	20
2	Germany	2	12	The Netherlands	23
3	Switzerland	3	13	Hong Kong	24
4	Sweden	4	14	China	29
5	Austria	5	15	India	51
6	UK	9	16	Brazil	52
7	France	11	17	Greece	53
8	South Korea	12	18	Argentina	57
9	US	13	19	Australia	79
10	Israel	19	20	Bangladesh	103

Source: Hausmann and Hidalgo et.al (2016)

Japan and Germany are the two countries with the highest levels of economic complexity. If a good cannot be produced in Japan or Germany, the likely list of countries where such a good can be produced would be very small. On the other hand, if a product cannot be made in the low complexity countries, the list of countries where it can be made is likely to be very large. Some countries that are rich in natural resources, such as Qatar, Kuwait, Oman, Venezuela and Chile, are rich because they possess large volumes of natural resources and not because of their capacity to produce complex goods. If a product cannot be produced in these mineral-rich states, it is likely to be produced in many other countries. Hausmann and Hidalgo et.al show that the gap between a country's economic complexity and the level of per-capita income is an important determinant of future growth. Countries tend to converge to the level of income that can be supported by the knowhow that is embedded in their economy reflected by Index of Economic Complexity.

India's growth as related to the complexity index: Achievement and potential

In terms of the Index of Economic Complexity, India has the 51st rank. Hausmann and Hidalgo et.al have used their analysis to estimate the growth in per-capita GDP up to 2020 and have also estimated the expected GDP growth until 2020 based on the Index of Economic Complexity. In this context, we

compare India and China. In terms of expected growth in per-capita income up to 2020, China and India are ranked first and second respectively. The relevant estimated values are given in Table 13.3.

Table 12.3: Estimated GDP and per-capita GDP growth based on economic complexity

Overall GDP								
Country	Rank	Expected growth (2009–20)	Growth (1999–08)	Rank income 2009 (US$)	Income 2009 (US$)	Rank income 2020(US$)	Income 2020 (US$)	Expected population growth
China	20	4.66%	9.4%	81	3,744	70	5,962	0.34%
India	8	5.51%	5.4%	99	1,192	97	1,886	1.25%
Per-capita GDP								
Country	Rank	Expected growth (2009–20)	Growth (1999–09)	Rank Income 2009 (US$)	Income 2009 (US$)	Rank Income 2020 (US$)	Income 2020 (US$)	
China	1	4.32%	9.6%	81	3,744	70	5,962	
India	2	4.26%	5.6%	99	1,192	97	1,886	
Source: Hausmann and Hidalgo et.al (2016)								

Hausmann and Hidalgo et.al also rank countries in terms of their expected contributions to world GDP growth in the period up to 2020. Here, China and India have the 2nd and 4th ranks respectively. The US and Japan have the 1st and 3rd ranks respectively. This contribution obviously depends on the size of the economy and its economic complexity. The following table lists the countries with the first five ranks. India's contribution is the highest in the South Asian region, where it has the first rank.

Table 12.4: Expected contributions to world GDP growth based on economic complexity

Rank	Country	Contribution to world GDP growth	Region
1	United States	22.41%	North America
2	China	14.21%	East Asia and Pacific
3	Japan	7.11%	East Asia and Pacific
4	India	4.89%	South Asia
5	Germany	3.88%	Western Europe
Source: Hausmann and Hidalgo et.al (2016)			

Critique of the Economic Complexity Atlas

In the literature on this subject, it has generally been recognized that measuring economic complexity, which reflects an economy's latent value of the underlying knowledge and capabilities used in the production of products, is a new and valuable way of looking at differences in relative growth and prosperity across countries. It has also been subjected to some critique, many of which relate not to the basic concept of capabilities resulting in complexity of the product mix attained by a country but to the way it has been measured.

The use of trade data rather than production data and the use of only goods rather than also services have been indicated to be important omissions in measuring economic complexity. It does underestimate the level of complexity for countries that are heavily reliant on non-tradables. Furthermore, many countries, including India, are service-based economies where the share of services in GDP is relatively high. This implies that India's growth achievement and potential might have been underestimated in this framework. Another shortcoming of the measurement framework used by Hausmann and Hidalgo et al. (2014, 2011) is that their focus is on domestic production capacity and processes. It does not give enough importance to capacities and processes that are partitioned in different countries across the globe in the products where material and hardware may be produced in one place and software in other countries. Stojkoski et al (2016) found that complexity indices for services are on average higher than those of goods and argue that

diversification and sophistication of services exports can provide growth for economies. The future of the world economy, ageing as it is at a fast rate, is expected to depend heavily on exports of services such as health exports. Furthermore, large population economies like India may provide complex education services, which may largely be domestically produced and consumed. Inclusion of services and expansion of the product space to cover not only exports but the entire range of production might improve India's rankings in the economic complexity measures.

This entire analysis also offers an additional way of giving new direction and interpretation to the Make in India campaign, where emphasis may be placed not so much on increasing the size of manufacturing but the complexity of goods and services featuring in India's production basket. Thus, the focus may be on expanding production both of goods and services that require relatively more complex products, technologies and processes.

Home

IMF's reassessment of growth rates – India in a global perspective (August 2021)

Abstract

Due to the impact of COVID-19, the IMF had reassessed the global and country specific growth prospects in its July 2021 update of the World Economic Outlook. The revised forecasts related to a limited number of variables and were only for two years, 2021 and 2022. The main change captured by the IMF between its April and July 2021 projections related to the impact of COVID's second or subsequent waves for different economies of the world. The Indian economy was mainly affected by COVID's second wave in the months of April and May 2021.

Looking at the need to reboot the Indian economy after COVID's deleterious effects in FY21 and in 1QFY22, the policymakers needed to focus on strategic growth initiatives to provide a solid foundation for a robust medium-term growth. For this purpose, it was important to assess the progress made in the earlier planned National Infrastructure Pipeline (NIP), which was partially derailed due to COVID. With strong base effects expected in the remaining part of the fiscal year, we considered that central government's tax prospects may show a tangible improvement over the budgeted estimates. For non-tax revenues, with RBI providing a significant uplift in its dividends to the government in 1QFY22, the budgeted target for FY23 was likely to be met if not exceeded. There was a possibility, however, of the government's non-debt capital receipts falling short of expectations, primarily due to excessive expectations in regard to disinvestment and monetization of assets. With revenue receipts exceeding the budgeted magnitudes, the government had the option to either lower the fiscal deficit or increase expenditures compared to the budgeted magnitudes. It was suggested that it may be desirable to go for the second option to support growth and lay a foundation for medium-term growth, requiring sustained emphasis on building up infrastructure including that of the health sector.

Introduction

The prospects of global growth including India have recently been revisited by the IMF which published its revised forecasts for growth and selected fiscal parameters in its July 2021 update of the World Economic Outlook. The original forecasts covering the period 2021 to 2026 were published in April 2021. The revised forecasts relate to a limited number of variables and is only for two years namely, 2021 and 2022. The main change captured by the IMF between its April and July 2021 projections relates to the impact of COVID's second or subsequent waves for different economies of the world. The Indian economy was mainly affected by COVID's second wave in the month of April and May 2021. Many of the advanced economies (AEs) have been able to gather momentum in their respective vaccination drives and as a result, some of these economies have done better than what was anticipated in April 2021. However, subsequent COVID waves are now catching up and some of the AEs including the US and the UK are witnessing a tangible increase in the number of COVID cases. These effects, which are becoming visible now, may be captured in IMF's next update due in October 2021. Our focus in the present analysis is mainly on the performance of the Indian economy while we look at the growth and selected fiscal outcomes of India in a global context.

1. Re-assessment of growth outcomes

Table 13.1 gives IMF forecasts of real GDP growth for 2021 and 2022 for ten selected large economies. We also cover the growth prospects of the overall global economy. Comparing IMF's July 2021 forecasts with those of April 2021, it is seen that the growth prospects for 2021 are revised downwards for only three of the ten selected economies namely, Japan, India and China. In 2022 also, three countries show a lower growth than that projected in April 2021, but these countries are different from those in this group in 2021. These countries are the UK, Brazil and Russia. Perhaps, this latter downward revision reflects the anticipation of the impact of incomplete coverage of vaccination in these countries and/or resurgence of COVID cases due to new variants.

Table 13.1: IMF forecasts of real GDP growth (%): 2021 and 2022

		2021			2022		
#	Country	April 2021 forecast (%)	July 2021 forecast (%)	July 2021 minus April 2021 (% point)	April 2021 forecast (%)	July 2021 forecast (%)	July 2021 minus April 2021 (% point)
1	US	6.4	7.0	0.6	3.5	4.9	1.4
2	UK	5.3	7.0	1.7	5.1	4.8	-0.3
3	Japan	3.3	2.8	-0.5	2.5	3.0	0.5
4	Germany	3.6	3.6	0.0	3.4	4.1	0.7
5	France	5.8	5.8	0.0	4.2	4.2	0.0
6	Italy	4.2	4.9	0.8	3.6	4.2	0.6
7	Brazil	3.7	5.3	1.6	2.6	1.9	-0.7
8	Russia	3.8	4.4	0.6	3.8	3.1	-0.7
9	India*	12.5	9.5	-3.0	6.9	8.5	1.6
10	China	8.4	8.1	-0.3	5.6	5.7	0.1
11	**Global**	**6.0**	**6.0**	**0.0**	**4.4**	**4.9**	**0.5**

Source (basic data): IMF World Economic Outlook April 2021 and World Economic Outlook Update July 2021
*Data pertains to fiscal year, that is, 2021 implies 2021-22 (FY22) and 2022 implies 2022-23 (FY23)

We also note that some of the upward revisions for 2021 growth in the July 2021 update vis.-a-vis. the April 2021 forecasts may reflect some delayed loading of stimulus as well as IMF's assessment of the impact of the pace of opening up of these economies.

Table 13.2: real GDP (in national currency, billion)

#	Country	Currency	2019	2020	2021	Excess of 2021 over 2019 (% change)
1	US	USD	19,099	18,430	19,721	3.3
2	UK	GBP	2,172	1,959	2,096	-3.5
3	Japan	JPY	5,54,301	5,28,248	5,43,039	-2.0
4	Germany	EUR	3,234	3,079	3,189	-1.4
5	France	EUR	2,331	2,145	2,269	-2.7
6	Italy	EUR	1,726	1,572	1,649	-4.4
7	Brazil	BRL	1,206	1,157	1,218	1.0
8	Russia	RUB	91,419	88,676	92,578	1.3
9	India*	INR	1,45,635	1,35,003	1,47,829	1.5
10	China	CNY	89,430	91,487	98,898	10.6

Note: Magnitude of real GDP in national currency for the base year, that is, 2018 is taken from the April 2021 WEO. Real GDP growth rates for 2019,2020 and 2021 as given in WEO Update July 2021 are applied to estimated magnitude of GDP for each country in 2019, 2020 and 2021
Source (basic data): IMF World Economic Outlook April 2021 and World Economic Outlook Update July 2021
*Data pertains to fiscal year, that is, 2021 implies 2021-22 (FY22) and 2022 implies 2022-23 (FY23)

Table 13.2 shows that for five major economies namely, UK, Japan, Germany, France and Italy, the cumulated effect of two years of COVID in its multiple waves, has led to an erosion of real GDP such that at the end of 2021, these are likely to be lower than their respective real GDP levels in 2019. In India's case, the economy is expected to emerge on the positive side after two years, although only by a small margin of 1.5%. This would be so on the basis of the projected growth of 9.5% in FY22 (2021) which is lower than the April 2021 forecast at 12.5% by a margin of 3% points. India may still emerge in the negative territory if the economy is not able to show a real GDP growth of at least 7.8% which we had earlier estimated as the relevant benchmark [61]. Such an eventuality may arise if COVID's third wave turns out to be unduly strong. However, since India has invested in shoring up its health infrastructure after the second wave and there is considerable progress in the pace of vaccination, such an eventuality may not arise. Among the large economies, the US recovery appears to be quite strong with its real GDP in 2021 expected to be about 3.3% higher than that in 2019. Among other factors, the US has been able to launch a strong stimulus package focused largely on rebuilding its human and physical infrastructure.

Table 13.3: general government fiscal deficit as a percentage of GDP: IMF forecasts for 2021

Countries	April 2021 forecast[$]	July 2021 forecast	July 2021 minus April 2021
	% of GDP		(% point)
US	-15.1	-13.3	1.8
UK	-11.7	-11.7	0.0
Japan	-9.4	-9.2	0.2
Germany	-5.4	-7.2	-1.8
France	-7.2	-9.3	-2.1
Italy	-8.8	-11.1	-2.3
Brazil	-8.3	-6.3	2.0
Russia	-0.8	-1.1	-0.3
India*	-10.0	-11.3	-1.3
China	-9.6	-8.3	1.3
Global	**-9.3**	**-8.8**	**0.5**

[61] Economy Watch June 2021; Economy Watch June 2021 (ey.com)

Source (basic data): IMF World Economic Outlook April 2021 and World Economic Outlook Update July 2021
*Data pertains to fiscal year, that is, 2021 implies 2021-22 (FY22) and 2022 implies 2022-23 (FY23); $for the purpose of arriving at consistent values we have reverse derived the April-2021 forecast values of general government deficit using July 2021 forecast and the percentage point difference between the two forecasts as given in the World Economic Outlook Update July 2021

2. Impact on government deficit

The IMF, in its July 2021 forecast has also given its revised assessment of government deficit and debt relative to GDP for 2021. We note that in the April 2021 forecast, all selected countries listed in Table 13.4, show large magnitudes of fiscal deficit relative to GDP except Russia whose revenues depend on inflows from petroleum exports. The largest fiscal deficit relative to GDP as per the July 2021 forecast was that for the US at (-)13.3%, followed by the UK, India and Italy. Comparing the July 2021 forecasts with those of April 2021, the expected fiscal deficit has fallen for the US, Brazil and Japan. In the case of the US and Brazil, this largely reflects an improvement in anticipated GDP growth. In the case of Japan, although growth is likely to fall as per the July 2021 forecast relative to that of April 2021, the fiscal deficit is still anticipated to fall, indicating a lowering of the fiscal stimulus in absolute terms as compared to the earlier plans. For Germany, France, Italy, Russia and India, the IMF anticipates the fiscal deficit to increase in the July 2021 forecast as compared to the April 2021 forecast. The fiscal deficit to GDP ratio at 11.3% for India in FY22 (2021) pertains to the combined deficit of the central and the state governments. Considering the overall global picture, the expectation is that fiscal stimulus is likely to be moderated marginally as compared to the earlier estimates.

In the US, two multi-year spending packages equivalent to 18% of 2021 GDP have been proposed namely, the American Families Plan (US$2 trillion) and the American Jobs Plan (US$2.3 trillion). While these plans continue to provide support for vulnerable households, their main purpose is to strengthen recovery. Also, some EU countries hit by new COVID outbreaks in late March and April 2021, approved supplementary budgets or extended fiscal support for businesses, affected workers and the health care system (France, Germany, Italy). The effect of increased fiscal deficits is captured in revision of government debt as percentage of GDP which is discussed in the next section.

3. Impact on government debt

As a result of changes in fiscal deficit, the debt-GDP ratio forecasts for 2021 have also been revised by the IMF. In the case of the US, it is estimated as 134.5% of GDP at the end of 2021 which is exceeded only by Italy at 157.8% and Japan at 256.5%. In India's case, it is anticipated at 90.1% of GDP at the end of FY22 which is 3.5% points higher than the earlier estimate of 86.6%.

Table 13.4: general government debt at end 2021 as a percentage of GDP: IMF forecasts

Countries	April 2021 forecast[$]	July 2021 forecast	July 2021 minus April 2021
	% of GDP		(% point)
US	132.8	134.5	1.7
UK	107.2	107.0	-0.2
Japan	256.5	256.5	0.0
Germany	70.3	73.0	2.7
France	115.2	117.2	2.0
Italy	157.2	157.8	0.6
Brazil	98.4	91.8	-6.6
Russia	18.1	18.0	-0.1
India*	86.6	90.1	3.5
China	69.6	70.3	0.7
Global	**98.9**	**98.8**	**-0.1**

Source (basic data): IMF World Economic Outlook April 2021 and World Economic Outlook Update July 2021
*Data pertains to fiscal year, that is, 2021 implies 2021-22 (FY22) and 2022 implies 2022-23 (FY23) $for the purpose of arriving at consistent values we have reverse derived the April-2021 forecast values of general government debt using July 2021 forecast and the percentage point difference between the two forecasts as given in the World Economic Outlook Update July 2021.

4. India's emerging fiscal prospects: Center

In the next few sections of this write-up, we focus on India's fiscal prospects for FY22 based on information that has become available from the CGA for 1QFY22 fiscal aggregates of the center.

Tax revenue prospects

Table 13.5 shows y-o-y quarterly growth in center's tax revenues. We compare the 1QFY22 performance with that in the corresponding quarters in the last few years. A quarterly growth of 97.1% in 1QFY22 is quite unprecedented. It however largely reflects a strong base effect because in 1QFY21, there was a contraction of (-)32.6% in Center's gross tax revenues (GTR). The pattern of quarterly growth for earlier years indicates that 1Q growth rates have generally been relatively higher for GTR except in FY21. Growth in 1QFY21 was negative across the board for individual central tax categories also. In 1QFY22, the growth rate is the highest for customs, followed by CIT, PIT, UED and GST. In the case of customs duties, the central government had decided to increase the customs duty rates for selected items in the beginning of FY21. Its positive impact became visible in 3Q and 4Q of FY21 when the economy started to recover and import growth picked up substantially.

Table 13.5: center's tax revenues: quarterly growth (y-o-y, %)

Quarter	Gross taxes	Direct taxes	CIT	PIT	Indirect taxes	GST	UED	Customs
1Q FY17	30.6	26.9	3.9	53.4	34.5	--	60.5	17.8
2Q FY17	8.7	-0.1	1.6	-2.9	19.4	--	40.7	-5.2
3Q FY17	21.0	14.3	8.5	25.6	24.2	--	37.4	4.2
4Q FY17	17.1	16.2	11.6	23.4	14.6	--	15.9	14.2
1QFY18	15.2	16.6	24.3	10.6	13.4	--	7.3	15.0
2QFY18	23.0	11.7	6.0	21.7	30.3	--	-29.1	-56.7
3QFY18	13.4	22.6	25.3	18.1	8.1	--	-43.5	-60.3
4QFY18	1.0	21.7	19.1	25.4	-16.7	--	-43.7	-67.5
1QFY19	22.1	6.2	-1.2	12.8	36.3	--	-38.1	-47.1
2QFY19	0.1	23.5	26.1	19.7	-16.8	-13.5	-7.3	32.2
3QFY19	3.2	10.9	9.9	12.8	-5.3	-13.8	5.1	41.1
4QFY19	12.6	15.7	20.4	9.3	8.6	13.9	-1.3	10.0
1QFY20	1.4	9.7	6.3	12.3	-4.0	-5.9	-7.7	16.9
2QFY20	1.6	2.8	0.8	6.2	0.1	1.2	-2.6	5.5
3QFY20	-10.6	-22.5	-34.6	-1.8	4.5	21.1	2.7	-59.1
4QFY20	-4.4	-11.5	-20.6	2.0	6.1	-2.1	15.8	15.7
1QFY21	-32.6	-30.6	-23.3	-35.9	-34.5	-35.2	-4.3	-61.0
2QFY21	-13.1	-31.9	-46.1	-10.1	11.5	-1.4	58.4	-23.0
3QFY21	33.1	30.5	34.8	25.5	35.3	4.3	87.3	194.8
4QFY21	9.6	-9.7	-22.8	5.4	33.9	-1.1	77.9	129.7
1QFY22	97.1	111.8	128.2	97.5	85.2	71.0	92.1	168.3

Source: Monthly Accounts, CGA
Notes: (1) Direct taxes include personal income tax and corporation tax, and indirect taxes include union excise duties, arrears of service tax, customs duty, CGST, UTGST, IGST and GST compensation cess

(2) Other taxes (securities transaction tax, wealth tax, fringe benefit tax, banking cash transaction tax, etc.) are included in the center's gross tax revenues along with direct and indirect taxes.

Table 13.6 shows that center's GTR in 1Q as a percentage of the full year BE for FY22 is 24.0% which is much higher than the corresponding ratios to actuals in recent years covering FY17 to FY21. This reflects that the recovery in center's GTR in 1QFY22 may lead to an upward revision in the budget estimates for the fiscal year in due course. However, this would be conditional upon the Indian economy maintaining the momentum of recovery and avoiding any adverse impact of COVID's second or subsequent waves. If this happens, it would strengthen the case for financing additional stimulus in the remaining part of FY22. This is discussed in detail in sections 7 and 8 of this write-up.

Table 13.6: center's tax revenues as percentage of annual actuals (BE for FY22)

Quarter	Gross taxes	CIT	PIT	GST	UED	Customs
1Q FY17	16.4	11.2	20.3	--	15.8	24.6
1QFY18	16.9	11.8	18.7	--	25.0	49.5
1QFY19	19.0	10.0	18.7	27.8	17.3	28.7
1QFY20	19.9	12.7	20.2	25.4	15.4	36.2
1QFY21	13.3	11.9	13.2	17.9	9.1	11.4
1QFY22	24.0	22.6	21.9	26.8	20.3	30.4

Source: Monthly Accounts, CGA and Union Budget

Prospects for non-tax revenues and non-debt capital receipts

Table 13.7 gives even better prospects for the growth of non-tax revenues. In 1QFY22, non-tax revenues show an unprecedented growth of 738.4%. It is notable that the dividend that the central government receives from the RBI has been substantially raised in terms of its magnitude. RBI's dividend to the central government in FY22 at INR99,122 crores looks quite high although it partly reflects the effect of a change in the RBI's accounting year from July-June to April-March. The RBI paid the dividend of the nine months of the previous year in the first quarter of the current year. In the case of non-debt capital receipts, the high growth rate of 107.2% in 1QFY22 largely reflects base effect.

Table 13.7: center's non-tax revenue and non-debt capital receipts: quarterly growth (y-o-y, %)

Quarter	Non-tax revenues	Non-debt capital receipts
1Q FY17	-40.6	52.6
2Q FY17	-8.5	-47.8
3Q FY17	67.9	522.7
4Q FY17	32.2	-22.9
1QFY18	-6.5	106.4
2QFY18	-38.2	113.7
3QFY18	-48.7	76.9
4QFY18	-19.2	77.2
1QFY19	39.3	11.3
2QFY19	33.1	-60.2
3QFY19	18.7	-22.9
4QFY19	18.4	18.2
1QFY20	9.4	-56.1
2QFY20	124.0	129.9
3QFY20	-15.0	-63.8
4QFY20	-4.3	-43.2

1QFY21	-54.6	-25.0
2QFY21	-56.1	-30.1
3QFY21	3.0	77.1
4QFY21	-2.8	-34.8
1QFY22	738.4	107.2

Source: Monthly Accounts, CGA and Union Budget

Table 13.8: center's non-tax revenues and nondebt capital receipts as percentage of annual actuals (BE for FY22)

Quarter	Non-tax revenues	Non-debt capital receipts
1Q FY17	8.6	7.2
1QFY18	11.7	8.1
1QFY19	13.0	9.6
1QFY20	10.3	6.9
1QFY21	7.3	6.2
1QFY22	52.4	3.9

Source: Monthly Accounts, CGA

Table 13.8 shows that in 1QFY22, a relatively high portion of the budgeted annual amount of non-tax revenues has already been raised. Even if the remaining quarters remain normal, the year as a whole may show better performance. The performance of non-debt capital receipts largely reflects an ambitious budgeted target under this head. FY22 may turn out to be a more normal year where the budgeted target may remain underachieved.

On the whole, the revenue side of center's budget reflects positive prospects, and in all likelihood, revenue receipts in FY22 may improve upon the budget estimates by a tangible margin. As this trend becomes more evident, the central government may have a choice to use the additional revenues for supporting the economy by increasing expenditures over and above the budgeted amounts. Alternatively, the central government may choose to reduce the fiscal deficit below the budgeted magnitude. Given the need to strengthen the growth momentum, the first option may be considered more relevant and desirable. However, the revenue side prospects should be matched with the expenditure side compulsions.

Expenditure side prospects

Table 13.9 captures growth in center's expenditures as divided into revenue and capital expenditure. It is noted that the quarterly growth in total expenditures at 0.7% in 1QFY22 is much below the corresponding figures of earlier years. There has however been an emphasis on frontloading capital expenditure while delaying revenue expenditures.

Table 13.9: center's expenditures: quarterly growth (y-o-y, %)

Quarter	Total expenditure	Revenue expenditure	Capital expenditure
1Q FY17	18.8	24.3	-16.4
2Q FY17	7.6	4.9	23.5
3Q FY17	9.6	15.2	-23.1
4Q FY17	6.9	-1.8	62.0
1QFY18	27.1	25.8	39.5
2QFY18	-3.4	-2.2	-9.2
3QFY18	24.4	16.0	96.3
4QFY18	-13.1	3.2	-75.4
1QFY19	8.7	6.6	27.3
2QFY19	19.7	23.9	-3.1
3QFY19	-4.0	4.1	-45.5

4QFY19	9.1	-7.0	268.1
1QFY20	2.0	6.1	-27.6
2QFY20	28.6	23.3	64.6
3QFY20	17.7	15.5	38.2
4QFY20	19.4	27.8	-14.7
1QFY21	13.1	10.5	40.1
2QFY21	-13.5	-8.8	-37.7
3QFY21	28.9	18.9	110.5
4QFY21	113.5	125.1	42.6
1QFY22	0.7	-2.4	26.3

Source: Monthly Accounts, CGA

As a percentage of the annual budgeted expenditure, center's revenue and capital expenditures in 1QFY22 do not appear out of line with the corresponding ratios relative to actuals in the previous years, FY17 onwards.

Table 13.10: center's expenditure as percentage of annual actuals (BE for FY22)

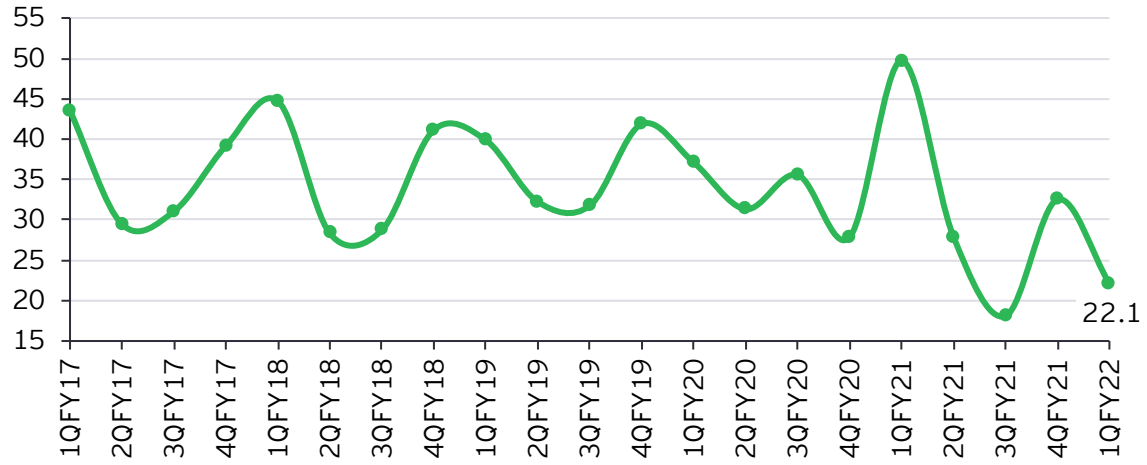
Quarter	Total expenditure	Revenue expenditure	Capital expenditure
1Q FY17	25.9	27.3	17.1
1QFY18	30.4	31.0	26.0
1QFY19	30.6	30.9	28.3
1QFY20	26.9	28.0	18.7
1QFY21	23.2	23.6	20.8
1QFY22	23.6	24.2	20.1

Source: Monthly Accounts, CGA and Union Budget

5. Fiscal prospects for states

The performance of center's GTR has a bearing on state tax revenues since state finances depend heavily on their share in the devolution from the center. Chart 13.1 shows that states have received one of the lowest shares in center's GTR in 1QFY22 at 22.1%. This is possibly due to two factors. First, receipts under center's GTR in 1QFY22 have been higher than expected. Second, assignment to states is formula based, dividing the anticipated budgeted amount into equal monthly shares disbursed over 10 months while the months of February and March are generally used to make adjustments in line with actual collections.

Chart 13.1: assignment to states as a % of center's GTR

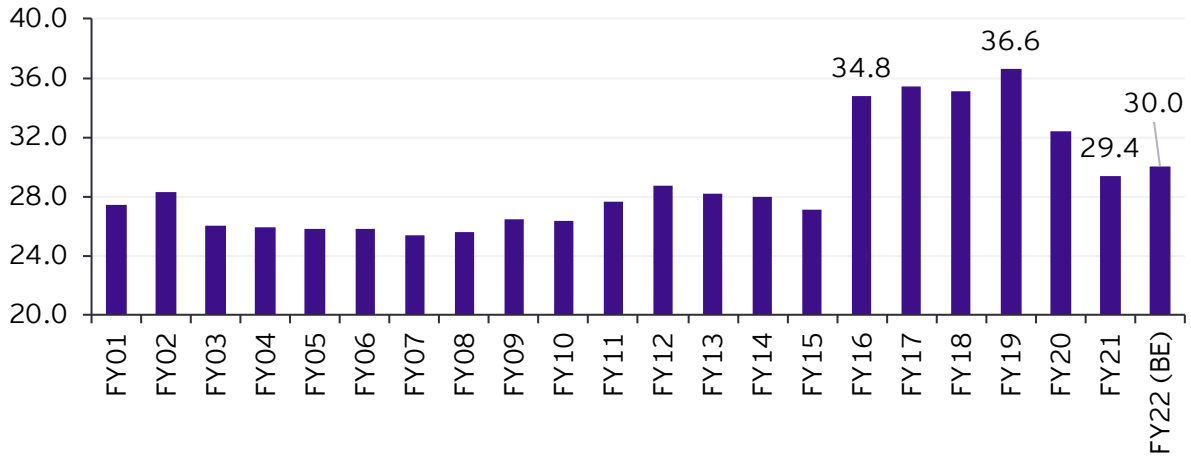


Source: Monthly Accounts, CGA and Union Budget

The performance of center's GTR has a bearing on state tax revenues since state finances depend heavily on their share in the devolution from the center. Chart 13.1 shows that states have received one of the lowest shares in center's GTR in 1QFY22 at 22.1%. This is possibly due to two factors. First, receipts under center's GTR in 1QFY22 have been higher than expected. Second, assignment to states is formula based, dividing the anticipated budgeted amount into equal monthly shares disbursed over 10 months while the months of February and March are generally used to make adjustments in line with actual collections.

Chart 13.2 shows longer term trends in the share of states in center's GTR. It may be noted that this share used to be in the range of 27-28%, averaging at 26.8% during FY01 to FY15. This share was raised to a range of 32.4%-36.6%, averaging 34.9% during FY16 to FY20. This upward shift reflects the increase in the recommended share of states from 32% to 42% of the sharable pool of central taxes by the Fourteenth Finance Commission (FC 14). It is noted that the average of 34.9% for the FC 14 period is well below the recommended share of 42%. This difference is mainly due to the role played by center's cesses and surcharges. The effective share of states in central taxes has been lowered further to 29.4% and 30% respectively in FY21 and FY22 (BE) which are the first two years of the Fifteenth Finance Commission (FC 15). This is despite the FC 15 maintaining parity with the FC14's recommended share of 42%, by reducing it to 41% which reflected the effect of the change in the number of states from 29 to 28.

Chart 13.2: assignment to states as a % of center's GTR



Source: Monthly Accounts, CGA and Union Budget

6. Fiscal prospects for the center

As per the CGA data for 1QFY22, fiscal and revenue deficits as a percentage of their corresponding BE are much lower than the corresponding numbers relative to actuals for the period FY17 to FY21 **(Table 13.11)**. This is partly due to robust growth in center's gross and net tax revenues which implied lower dependence on borrowing in 1QFY22 and partly due to the fact that growth in revenue expenditures, as noted earlier, was negative. However, in order to support growth, the central government may need to uplift its spending particularly on sectors which may be characterized by relatively high multiplier effects with respect to growth and employment. We expect that with limited room for a monetary stimulus, there would be progressively higher reliance on fiscal stimulus in the remaining part of the fiscal year. In 1Q and 2Q of FY22, the central government had notified certain curbs on different ministries and departments with a view to curtailing their budgeted expenditures in the early part of the year. These may have to be relaxed in 3Q and 4Q of FY22 to support growth in demand[62].

[62] 7191_curtailing.pdf (pcdawc.gov.in)

Table 13.11: center's deficits as a percentage of annual actuals (BE for FY22)

Quarter	Fiscal deficit	Revenue deficit
1Q FY17	60.7	89.0
1QFY18	74.7	85.3
1QFY19	66.1	77.6
1QFY20	46.2	56.0
1QFY21	36.4	39.7
1QFY22	18.2	14.9

Source: Monthly Accounts, CGA and Union Budget

7. Concluding observations

Looking at the need to reboot the economy after COVID's deleterious effects in FY21 and in 1QFY22, the policymakers would now need to focus on strategic growth initiatives to provide a solid foundation for a robust medium-term growth. For this purpose, it is important to catch up with the progress made so far in regard to the earlier planned National Infrastructure Pipeline (NIP) which may have been partially derailed due to COVID. It is time now to take stock of the status of investment in NIP and identify sectors characterized by deficient investment measured against the original NIP targets. With strong base effects expected in the remaining part of the fiscal year, we consider that center's tax prospects may show a tangible improvement over the budgeted estimates. For non-tax revenues, with RBI providing a significant uplift in its dividends to the government in 1QFY22, the budgeted target for this year is likely to be met if not exceeded. The only likely shortcoming may be with respect to government's non-debt capital receipts, primarily due to excessive expectations in regard to disinvestment and monetization of assets. With revenue receipts likely to be more than the budgeted magnitudes, the government may have the option to either lower the fiscal deficit or increase the expenditures as compared to the budgeted magnitudes. It may be desirable to go for the second option so as to support growth and lay a foundation for medium-term growth. This would require sustained emphasis on building up infrastructure including that of the health sector.

India – towards becoming the third largest economy in the world (August 2023)

Abstract

The Indian economy is acknowledged to be the fastest-growing large economy by major multilateral organizations, including the IMF. At the same time, some of the advanced economies (AEs) are facing economic slowdown, chronic shortages, high inflation, and aging populations. India is climbing the ladder of large economies at an accelerated pace. Its GDP in market exchange rate terms overtook that of the UK in 2021 (FY2022 for India), making it the fifth-largest economy. According to the IMF, India's GDP is slated to exceed that of Germany and Japan in 2027 (FY2028 for India). This would place India as the third largest economy in the global order, behind the US and China. In PPP terms, however, India is already the third-largest economy, exceeding the GDPs of Germany and Japan by wide margins. In this chapter, we look at the comparative economic profile of the five largest economies, not only in terms of GDP but other major economic parameters that would determine the relative course of growth and development in these economies.

In India's context, it is important to look at economic features and strategies that support a sustained high level of GDP growth over the medium term and beyond. In particular, strategies to absorb oil price shocks and contain government borrowing at prudent levels would increase India's capacity to minimize the adverse economic impacts of externally rooted shocks. Continuation of union government's focus on expanding infrastructure through prioritization of capital expenditure would facilitate attracting investment from abroad and domestically. At the same time, there is a need to prioritize investment in productivity enhancing technologies pertaining to AI/GenAI. There is also a need to expand education and skilling facilities to take advantage of India's unfolding demographic dividend.

Introduction

The Indian economy is acknowledged to be the fastest growing large economy by major multilateral organizations, including the IMF. At the same time, some of the AEs are facing economic slowdown, chronic shortages, high inflation, and aging populations. India is climbing the ladder of large economies at an accelerated pace. Its GDP in market exchange rate terms overtook that of the UK in 2021 (FY2022 for India), making it the fifth-largest economy. According to the IMF, India's GDP is slated to exceed that of Germany and Japan in 2027 (FY2028 for India). This would place India as the third largest economy in the global order, behind US and China. In purchasing power parity (PPP) terms, however, India is already the third-largest economy, exceeding the GDPs of Germany and Japan by wide margins. In this write-up, we look at the comparative economic profile of the five largest economies, not only in terms of GDP but other major economic parameters that would determine the relative course of growth and development in these economies.

1. Comparing size of GDP in the medium term: alternative perspectives

In comparing the relative size of the economy using GDP as a summary measure, two perspectives can be drawn based on converting a domestic currency to US$. One relates to conversion of the domestic currency using the market exchange rate and the other, using the PPP conversion rate. **Table 14.1** provides both comparisons based on IMF's medium-term projections. In terms of the more frequently used comparison based on market exchange rate, the Indian economy is projected to overtake both Japan and Germany in 2027 (FY2028 for India), that is four years from the current fiscal year. After reaching this stage, the US economy would still be nearly six times as large as the Indian economy in market exchange rate terms[63].

In terms of the more relevant comparison, which focuses on the purchasing power of the domestic currency within the domestic economy, India is already the third largest economy, well above the next two largest economies, namely Japan and Germany. In PPP terms, at the end of 2027 (FY2028 for India), the US economy would be only about 1.7 times that of India. In the next few decades, if India is able to maintain a real growth rate of about 6% to 7%, it may be possible to catch up with the US economy[64].

Table 14.1: Size of the economy as measured by nominal GDP

Country	2022	2023	2024	2025	2026	2027	2028
In US$ trillion							
USA	25.46	26.85	27.74	28.77	29.90	31.09	32.35
China	18.10	19.37	20.88	22.41	24.04	25.72	27.49
Japan	4.23	4.41	4.53	4.73	4.92	5.08	5.34
Germany	4.08	4.31	4.45	4.64	4.82	4.95	5.04
India*	**3.39**	**3.74**	**4.06**	**4.40**	**4.77**	**5.15**	**5.58**
UK	3.07	3.16	3.38	3.57	3.79	4.02	4.25
In PPP International Dollar trillion							
China	30.22	33.01	35.26	37.39	39.60	41.78	44.03
USA	25.46	26.85	27.74	28.77	29.90	31.09	32.35
India*	**11.86**	**13.03**	**14.17**	**15.33**	**16.56**	**17.88**	**19.31**
Japan	6.14	6.46	6.67	6.83	7.00	7.15	7.31
Germany	5.35	5.55	5.73	5.96	6.18	6.37	6.57
UK	3.71	3.85	3.97	4.13	4.29	4.45	4.60

Source (basic data): IMF World Economic Outlook (April 2023)
*Data pertains to fiscal year. For example, 2022 implies FY2023 and so on.

[63] For the year-wise profile of the size of the Indian economy as measured by its GDP in market exchange rate terms up to FY2048, see, EY (2023). India@100: Realizing the potential of a US$26 trillion economy.
[64] EY Economy Watch (August 2022). In focus section 'India's growth potential: the next 25 years and beyond'; https://assets.ey.com/content/dam/ey-sites/ey-com/en_in/topics/tax/economy-watch/2022/08/ey-economy-watch-august-2022.pdf

There are, however, various critical economic parameters other than GDP that are relevant in such inter-country comparisons of economic growth prospects and potential. We consider some of these below.

2. Comparing populations and workforce

One important distinguishing feature of the Indian economy in the current century would be its economic potential linked to the size and age structure of its population. In terms of the overall size, India is estimated to have the largest share in global population at 17.8%, that is more than one-sixth of the global population, overtaking China in the current year[65] **(Table 14.2)**. As part of the evolving demographic trends, major changes are predicted in the share of the working age population in India's total population and the dependency ratios, particularly the old age dependency. In terms of the share of working age population, India is expected to overtake China in 2030. This share is projected to remain not only higher than that of China in the remaining decades of this century, but the gap is also estimated to increase over time.

Table 14.2: Demographic trends: size and structure of population

Country	2010	2020	2023	2030	2040	2047	2100
Share in global population (%)							
India	17.8	17.8	17.8	17.7	17.5	17.3	14.8
China	19.3	18.2	17.7	16.6	15.0	14.0	7.4
US	4.5	4.3	4.2	4.1	4.0	3.9	3.8
Japan	1.8	1.6	1.5	1.4	1.2	1.1	0.7
Germany	1.2	1.1	1.0	1.0	0.9	0.8	0.7
Working age-group (15 to 64 years) share in total population (%)							
India	64.0	67.2	68.0	68.9	68.4	67.5	56.3
China	72.9	69.4	68.9	68.7	62.9	59.9	49.3
US	67.1	65.3	64.7	63.0	61.5	60.9	55.5
Japan	63.2	58.5	58.5	57.9	53.8	51.8	50.1
Germany	65.9	64.3	63.3	59.7	57.6	57.2	53.4
World	65.3	64.9	65.0	65.1	63.9	63.2	59.5
Old age-group (above 65 years) share in total population (%)							
India	5.1	6.7	7.1	8.8	11.6	13.8	29.8
China	8.6	12.6	14.3	18.2	26.2	28.7	40.9
US	13.0	16.2	17.6	20.5	22.4	23.2	30.5
Japan	23.6	29.6	30.1	31.4	35.2	37.0	38.7
Germany	20.5	22.0	22.7	26.4	29.5	30.1	33.7
World	7.7	9.4	10.0	11.8	14.5	15.8	24.0

Source: UN World Population Prospects 2022

One important aspect of the age structure of the population is the old age dependency ratio. The lower is the share of people above 65 years of age in the total population of a country, the higher would be its saving and investment rates since a relatively larger portion of the population would be earning and spending lower amounts on the sustenance of the elderly in the family. They would then be in a position to save for their own future or invest in the future of their children, especially through education. India would maintain the lowest old age dependency ratio throughout the remaining decades of the century relative to the peer countries.

One major challenge for the Indian economy, however, relates to finding productive employment for the large and growing working age population. If these people can be productively employed, it

[65] India's total population in 2023 is estimated at 1428.6 million while that of China is estimated at 1425.7 million (https://www.unfpa.org/data/world-population-dashboard)

would provide significant economic growth potential. However, if a good portion of this population remains unemployed or under-employed, it would hinder India's potential growth. Creation of suitable employment opportunities is therefore India's key current policy challenge. This situation may become even more challenging due to the emerging labor-saving technological developments relating to AI and Generative AI. This subject is discussed in section 5 of the In-Focus.

Table 14.3 shows that India's labor force participation rate is the lowest among the peer countries. With respect to the female labor force participation rate, India's gap from the peer countries is even wider.

Table 14.3: Labour force participation rates (%)

Country	1990	2000	2010	2015	2019	2023	2024
Total labour force participation rate							
China	79.2	76.8	71.0	69.3	67.4	66.2	65.8
Japan	63.3	62.4	59.6	59.5	62.0	63.1	63.2
US	65.0	65.9	63.5	62.1	62.6	62.0	61.7
Germany	58.0	57.5	59.4	60.2	61.9	61.7	61.5
India	54.2	57.2	54.7	50.5	49.4	49.6	49.6
Female labour force participation rate							
China	73.1	70.6	63.7	62.7	61.4	60.4	60.0
US	55.9	58.9	57.6	56.0	56.9	56.5	56.2
Germany	45.4	48.9	53.1	54.7	56.6	56.5	56.4
Japan	50.1	49.2	48.4	49.4	53.3	54.6	54.8
India	27.8	30.5	28.8	23.7	23.7	24.1	24.1

Source: ILO Modelled estimates (2022), ILOStat

3. Comparing liabilities

Another critical economic dimension is to assess a country's liabilities relative to its respective GDP, as this indicates the burden of debt servicing for future generations which is to be provided from future income. **Table 14.4** provides the total as well as government debt-GDP ratios. Here, total debt covers liabilities of households, private non-financial corporations, and the government. India is most favorably placed in comparison to its peers with a total debt-GDP ratio of 172.7% at the end of December 2022. In comparison, China's total debt-GDP ratio was nearly 300% and that of Japan was more than 400%. These high liabilities would have to be serviced by these countries, especially in a period when the share of their working age population would be shrinking.

Table 14.4: Total debt and government debt relative to GDP (%)

Year	India	Germany	USA	China	Japan
Total debt relative to GDP (end December)					
2015	169.9	195.5	248.7	239.0	359.5
2019	165.7	187.3	255.1	266.3	381.5
2020	188.1	209.3	294.3	294.1	421.5
2021	174.1	207.1	277.7	285.1	416.1
2022	172.7	190.0	255.6	297.2	414.1
General government debt relative to GDP					
2015	69.0	71.9	105.1	41.5	228.3
2019	75.0	58.9	108.7	60.4	236.4
2020	88.5	68.0	133.5	70.1	258.7
2021	84.7	68.6	126.4	71.8	255.4
2022	83.1	66.5	121.7	77.1	261.3
2023	83.2	67.2	122.2	82.4	258.2
2024	83.7	66.5	125.8	87.2	256.3

2025	83.8	64.4	129.1	92.0	257.6
2026	83.8	62.3	131.8	96.5	259.2
2027	83.7	60.9	134.0	100.8	261.5
2028	83.6	59.6	136.2	104.9	264.0

Source (basic data): BIS, IMF
Notes: (1) Total debt to GDP ratios are sourced from BIS
(2) Data for government debt to GDP ratios is sourced from IMF World Economic Outlook (April 2023). Government debt-GDP ratios are projected beyond 2022.
(3) For government debt-GDP ratio, data for India pertains to fiscal year. For example, 2022 implies 2022-23 and so on.

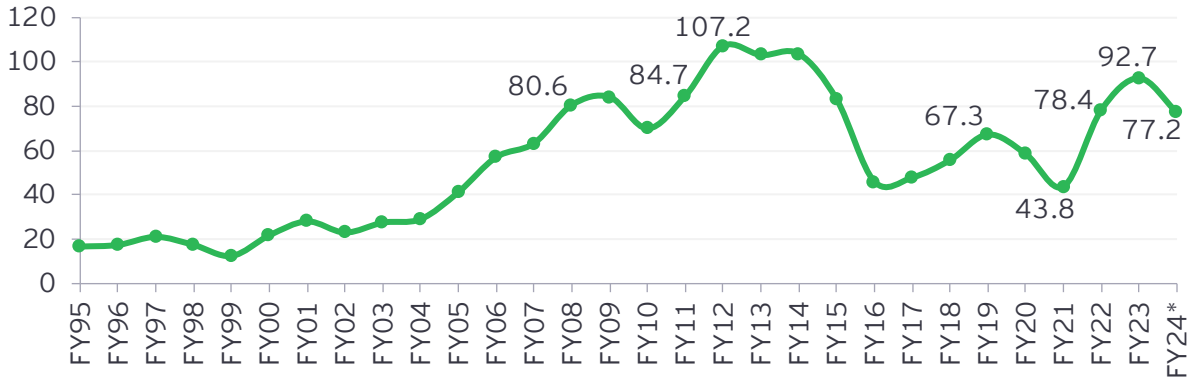
An important component of the total debt of a country pertains to government debt. Government debt in many countries is controlled through Fiscal Responsibility Legislations (FRLs). A sustainable level of government debt to GDP ratio indicates a country's ability to pursue macro stabilization objectives by fiscal expansion in times of an economic downturn. India's government debt-GDP ratio is the second lowest after Germany. Both, for India and for European countries, the general government debt-GDP ratio target is 60% as per India's FRBM Act 2018 and the Maastricht Treat Norms, respectively. One important difference between India's FRBM and the Maastricht Treaty Norms is the underlying growth rate. The underlying growth rate in nominal terms under the Maastricht Treaty Norms is 5.26% while for India, it is 11%[66]. Since India is projected to maintain a higher growth rate in real and nominal terms in the upcoming decades, its government debt to GDP ratio may be brought within sustainable limits relatively faster. As part of a growth sustaining economic strategy, India may also prepare for certain other challenges and vulnerabilities which are discussed in the next section.

4. India-specific challenges

One vulnerability specific to the Indian economy relates to the volatility of global crude prices. **Chart 14.1** shows global crude price movements beginning the mid-1990s. After remaining subdued during FY1996 to FY2004, global crude prices witnessed a long stretch of price surge up to FY2009. Following a price crash in FY2010 in the aftermath of the global economic and financial crisis, there was a second phase of increase in global crude prices wherein prices crossed US$100/bbl., reaching a peak of US$107.2/bbl. in FY2012.

More recently, FY2021 witnessed a sharp fall in global crude prices due to COVID-19-induced demand slowdown. In FY2022, prices increased as there was a release of pent-up demand along with supply rigidities. The third and the most recent phase of the price upsurge began in FY23 on account of the ongoing geopolitical tensions. Global crude prices averaged US$92.7/bbl. in FY2023 and have moderated at a slow pace during April-July FY2024.

Chart 14.1: Movements in global crude oil prices (US$/bbl.)



Source (basic data): World Bank
*Global crude prices in FY2024 represents average price during April to July 2023.

[66] Srivastava, D. K., Bharadwaj, M., Kapur, T., & Trehan, R. (2021). Revisiting fiscal responsibility norms: a cross country analysis of the impact of Covid-19. *Business and Economics Journal*, *12*(2021), 370 (Page 6).

India's vulnerability to crude price upsurges is captured in a recent study by the RBI (2019, 2021) which estimates that relative to a benchmark price of the Indian crude basket at US$75/bbl., an increase of US$10/bbl. leads to a fall of 0.27% points in real GDP growth and an increase of 0.4% points in CPI inflation[67].

India is facing price and source volatility due to geopolitical developments, which include sanctions on oil producers like Russia and production controls by OPEC countries. This has led to India changing its sources of supply in search both of assured sources as well as the lowest possible prices.

In the 2010s, India diversified its sources favoring Latin American countries and Africa. Venezuela alone accounted for 11.2% of India's oil imports in 2013 in volume terms. However, since 2019, several geopolitical changes prompted Indian oil majors to change their import strategy. By FY2022, India completely ceased its oil purchases from Iran and Venezuela, and considerably reduced imports from Mexico as well. Instead, India switched to the US for oil imports. As a result, the US went from being the 10th largest supplier of oil to India in 2018 to the fourth largest by FY2022 preceded by Iraq, Saudi Arabia, and the UAE, and followed by Nigeria at the fifth position. In FY23, the top five sources of oil imports have been Russia, Iraq, Saudi Arabia, the UAE, and the US[68].

5. Growth promoting and sustaining economic policies

As mentioned earlier in section 2, the technological innovations pertaining to AI/Gen AI result in growth promoting but employment reducing impacts. India may, by suitable policy support, work towards overcoming the employment reducing effect of these technological developments by the growth expansion effects in a manner such that net employment growth remains suitably positive while overall GDP growth is considerably enhanced. **Table 15.5** provides a summary of some of the recent available estimates of the economic impact of AI/Gen AI on the global as well as the Indian economies.

Estimates available from NASSCOM* (2022)[69] indicate that AI could add US$957 billion to the Indian economy by changing the nature of work to create better outcomes for businesses and society, implying that AI has the potential to increase India's annual GVA growth by 1.3% points, lifting the country's income by 15% in 2035.

It is important for the government to continue to encourage participation in AI/Gen AI by institutions of higher learning, businesses in the formal sector, start-ups operating in various sectors of the economy and multi-stakeholder partnerships. These entities would need to invest in developing AI growth blueprints, R&D directed towards AI especially Gen AI, prepare robust data capture technologies while remaining consistent with suitable regulations, and build capacity in multidisciplinary work by training and skilling India's next generations in science, technology, engineering, arts, and mathematics.

Table 14.5: Estimates of the economic impact of AI/Gen AI

#	Institution	Year of publication	Country /Region	Time period	Focus area	Economic impact	Notes
1	**McKinsey Global Institute**	June 2023	Global	Annual	AI	US$ 11.0 - US$17.7 trillion	Covering use cases and increase in productivity resulting

[67] https://www.rbi.org.in/Scripts/MSM_Mintstreetmemos17.aspx
For RBI (2021), source is Monetary Policy Report, October 2021 – In the original study, a baseline assumption for Indian crude basket at US$75/bbl. for 2HFY22 is considered.
[68] Based on data sourced from the Ministry of Commerce and Industry
[69] ai-gamechangers-22-06-2022.pdf (indiaai.s3.ap-south-1.amazonaws.com); https://pib.gov.in/Pressreleaseshare.aspx?PRID=1896016

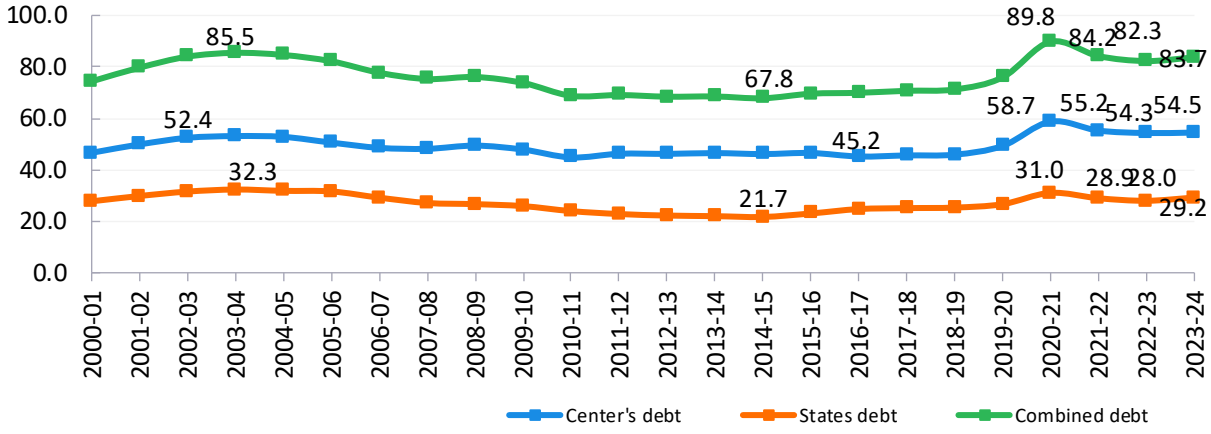
					Gen-AI	US$ 6.1 - US$ 7.9 trillion	from application of technology across knowledge workers' activities.
					AI + Gen AI	US$ 17.1 - 25.6 trillion	
2	**Goldman Sachs**	March 2023	Global	Annual, over a period of 10 years	Gen-AI	US$ 7 trillion	Gen-AI could increase annual global GDP by 7%.
3	**The International Telecommunication Union**	December 2018	Global	by 2030	AI	US$ 13 trillion	This is about 16% higher cumulative GDP compared with the level of GDP in 2018. This translates to about 1.2% additional GDP growth per year.
4	**FICCI, Access Partnership**	June 2023	India	----	Gen-AI	US$ 621 billion	Equivalent to nearly 18% of GDP in 2021. **High impact sectors:** manufacturing at 41% (US$255 billion), wholesale and retail sectors at 14% (US$87 billion), construction at 9% (US$57 billion), transport services at 8% (US$47 billion), and real estate, renting and other business activities at 7% (US$40 billion).
5	**NASSCOM and EY**	2022	India	by FY2026	AI	US$ 500 billion	Four sectors namely BFSI, CPG and retail, healthcare, and industrials and automotive contributing nearly 60% of the net new value add.
6	**ICRIER**	July 2020	India	Annual, over the medium term	AI	US$ 67.25 billion	Estimated at 2.5% of 2017-18 nominal GDP.
7	**NASSCOM***	2022*	India	By 2035	AI	US$ 957 billion	AI has the potential to increase India's annual GVA growth

							by 1.3% points, lifting the country's income by 15% in 2035.

Source (basic data): EY compilation
*NASSCOM Report titled 'AI Gamechangers 2022 – Realizing India's AI Promise' sources this estimate from Accenture (2017) [70]

One critical dimension of India's future economic strategy may be focused on developing the capacity to minimize the adverse impact of global economic upheavals. This calls for suitable macro stabilization policies. One dimension of these policies pertains to fiscal capacity for undertaking stimulus measures in the context of global economic slowdowns. This may be augmented by suitably reforming India's FRL framework. India's combined government debt-GDP ratio shot up to a peak level of 89.8% in FY2021 [71]. It has started falling since then but has remained well above the FRBM norms **(Chart 14.2)**. As recommended by the Fifteenth Finance Commission, the FRBM framework may need to be recast. In particular, there is a need to provide suitable flexibility for increasing fiscal deficit relative to GDP on the combined account of central and state governments in the face of major global economic slowdowns or recessions.

Chart 14.2: India's government debt to GDP ratio: Centre, states and combined



Source (basic data): IPFS, MoF, Union Budget 2023-24
Note: (1) Centre's net liabilities excludes all on-lending to states. It includes external debt estimated at the current market exchange rate.
(2) The combined debt-GDP ratio is the sum of central net liabilities excluding all on-lending to states and states' liabilities.

A similar sustainability issue arises in the context of external debt and current account deficit. At present, India's total external debt relative to GDP is nearly 18.9% (end-March 2023) [72]. The volume of external debt poses a different kind of economic problem, particularly if the share of exports in GDP is also limited. The entire external sector needs to remain stable to protect the economy against external shocks.

India's share of exports in nominal terms has ranged between 20.4% and 25.4% during the period FY07 to FY15, averaging close to 23%. Since then, it has fallen, averaging 19.5% during the FY16 to FY22 (**Table 14.6**). It is notable that during 2006 to 2014, global GDP growth averaged 3.8% while during 2015 to 2021, it averaged 2.9%. Thus, in a global slowdown, India's exports fall by a few percentage points, and in an expansionary phase, they regain this ground. A similar pattern characterizes the share of imports.

[70] https://newsroom.accenture.com/news/artificial-intelligence-could-add-957-billion-to-indian-economy-according-to-new-research-by-accenture.htm#:~:text=The%20report%2C%20'Rewire%20for%20Growth,by%2015%20percent%20in%202035.
[71] Srivastava D.K. (2023). Balancing Growth with Fiscal Consolidation. Economic and Political Weekly, Vol. 58, Issue no. 12. 25 March 2023.
[72] External debt is sourced from RBI's Database on Indian Economy

Table 14.6: Share of total exports and imports in nominal GDP (%)

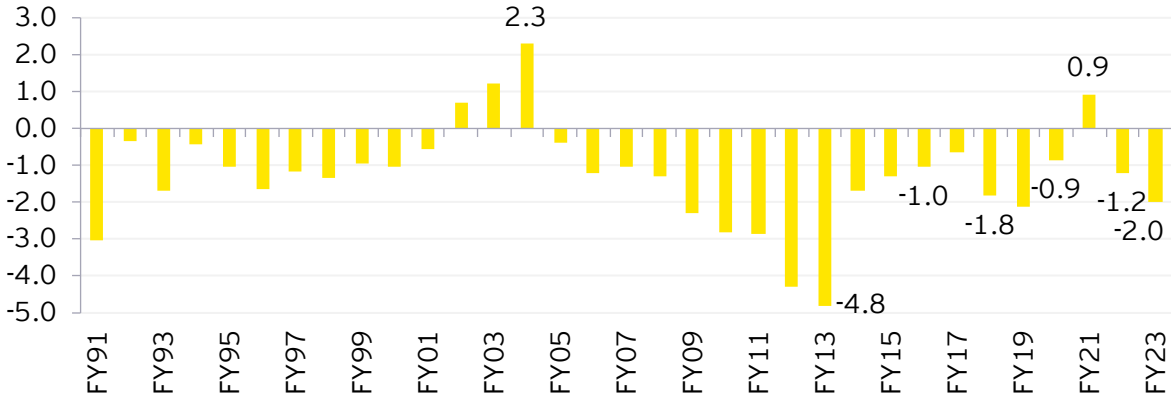
Year	Exports	Imports	Year	Exports	Imports
FY06	19.6	22.4	FY15	23.0	26.0
FY07	21.3	24.5	FY16	19.8	22.1
FY08	20.8	24.9	FY17	19.2	20.9
FY09	24.1	29.3	FY18	18.8	22.0
FY10	20.4	25.9	FY19	19.9	23.7
FY11	22.4	26.9	FY20	18.7	21.2
FY12	24.5	31.1	FY21	18.7	19.1
FY13	24.5	31.3	FY22	21.5	24.2
FY14	25.4	28.4	FY23	22.8	26.4

Source (basic data): MoSPI

In this context, ascertaining a suitable level of sustainable current account deficit is critical. Some recent estimates put it at 1.3% of GDP[73]. Earlier studies have shown that a current account deficit of about 2.3% of GDP annually may be sustainable[74].

Chart 14.3 provides a relatively longer-term perspective on the movement of India's current account balance. Most years show a deficit on the current account while only four years have been characterized by a surplus. The current account deficit had reached a peak of 4.8% of GDP in FY2013 after which it fell. The long period average of current account balance as percentage of GDP over the period FY1991 to FY2023 is (-)1.3%. In fact, there is a noticeable correlation between global crude prices and the size of India's current account deficit. With a minimization of exposure to crude price volatility, the volatility of the current account deficit may also be contained.

Chart 14.3: Current account balance as % of nominal GDP: long-term perspective



Source (basic data): RBI
Note: -ve shows a deficit and +ve indicates a surplus

Conclusion

India is well on course to emerge as the third largest economy in the world in the next four years. It is important, however, to look at economic features and strategies that may support a sustained high level of GDP growth over the medium term and beyond. In particular, strategies to absorb oil price shocks and contain government borrowing at prudent levels would increase India's capacity to minimize the adverse economic impacts of externally rooted shocks. Continuation of union

[73] Rangarajan, C (2016): "Can India grow at 8 to 9 per cent?" The Hindu (http://www.thehindu.com/opinion/lead/can-india-grow-at-8-to-9-per-cent/article8596824.ece)
[74] https://www.epw.in/journal/2013/07/insight/indias-external-sector.html.

government's recent focus on expanding infrastructure through prioritization of capital expenditure would facilitate attracting investment from abroad and domestically. At the same time, there is a need to prioritize investment in productivity enhancing technologies pertaining to AI/Gen AI. There is also a need to expand education and skilling facilities to take advantage of India's unfolding demographic dividend.

Home

India's economic opportunities in the expanded G-20 group (September 2023)

Abstract

The expanded G-20 group of countries, that is, G-20 countries plus the African Union, accounted for 89% of global GDP (2022) and 79.1% of global population (2023). Two recent global crises that occurred in quick succession have adversely affected global growth prospects. COVID-19 affected the four quarters of 2020 leading to a contraction in the GDP of all major economies. This was followed by geopolitical developments that adversely affected global growth since the second quarter of 2022, leading to an economic slowdown in most of the major economies with a recession in Germany. The policy options for stimulating the world economy have also been squeezed due to most of the non-oil large economies nursing a high government debt-GDP ratio and also showing a higher than trend CPI inflation. As a result, it is difficult for these economies to stimulate demand individually or in a coordinated effort either by reducing interest rates or by increasing fiscal deficit.

India was acknowledged to be a bright star in this gloomy scenario, with an expected medium-term growth prospect in the range of 6.0% to 6.3% at that time. It was assessed that India may be able to improve its growth performance even more as soon as the global economic conditions normalize. In the long run, India is also suitably placed to take advantage of the growing size and changing age structure of its population along with the increasing size of its GDP. It can productively participate in expanding infrastructure, manufacturing and services in Africa while filling up the growing gaps in human resources in the fast aging developed countries.

Introduction

The expanded G-20 group of countries with the addition of the African Union (AU) constitutes a large complex group of countries and country groups that accounted for nearly 88.6% of global GDP in 2022 **(Table 15.1)** and 79.1% of global population in 2023. Its members represent diverse economic achievements and challenges. Currently, a large segment of the G-20 group is facing an economic slowdown, high inflation, large debt-GDP ratios, limited scope for policy intervention, and unutilized investment opportunities. The age structure of population in these countries represents diverse patterns with one group of countries aging fast while another group of countries having a relatively higher share of young population. The current geo-political realities have affected all of these countries with supply-side bottlenecks adversely impacting the availability of food and raw materials accompanied by high and volatile global crude and commodity prices. The latest addition to the G-20 group, namely the African Union, comes with economic challenges and opportunities. While the developed countries such as the US and the EU are currently facing an economic slowdown/recession, a good part of Asian and African countries are contributing tangibly to the global growth.

Table 15.1: Share in World GDP (nominal market exchange rate terms)

Country/country groups	2000	2010	2015	2019	2020	2021	2022	2023	2028
US	30.1	22.6	24.3	24.5	24.8	24.2	25.4	25.4	24.0
China	3.5	9.1	14.8	16.4	17.5	18.4	18.1	18.4	20.4
EU *of which*	21.3	21.9	18.1	18.0	18.1	17.9	16.6	16.9	15.6
Germany	5.7	5.1	4.5	4.5	4.6	4.4	4.1	4.1	3.7
France	4.0	4.0	3.3	3.1	3.1	3.1	2.8	2.8	2.5
Italy	3.4	3.2	2.5	2.3	2.2	2.2	2.0	2.1	1.8
Japan	14.6	8.7	5.9	5.9	5.9	5.2	4.2	4.2	4.0
India*	1.4	2.6	2.8	3.2	3.1	3.3	3.4	3.5	4.1
UK	4.9	3.8	3.9	3.3	3.2	3.2	3.1	3.0	3.1
AU *of which*	2.0	3.0	3.2	2.8	2.8	2.8	2.9	2.8	3.0
South Africa	0.4	0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.3
Russia	0.8	2.5	1.8	1.9	1.8	1.9	2.2	2.0	1.7
Canada	2.2	2.4	2.1	2.0	1.9	2.1	2.1	2.0	1.9
Brazil	1.9	3.3	2.4	2.1	1.7	1.7	1.9	2.0	2.0
Australia	1.2	1.9	1.6	1.6	1.6	1.7	1.7	1.6	1.5
Korea	1.7	1.7	2.0	1.9	1.9	1.9	1.7	1.6	1.6
Mexico	2.1	1.6	1.6	1.5	1.3	1.3	1.4	1.6	1.5
Indonesia	0.5	1.1	1.1	1.3	1.3	1.2	1.3	1.3	1.5
Saudi Arabia	0.6	0.8	0.9	1.0	0.9	0.9	1.1	1.0	0.9
Turkey	0.8	1.2	1.2	0.9	0.8	0.8	0.9	1.0	1.0
Argentina	0.9	0.6	0.9	0.5	0.5	0.5	0.6	0.6	0.5
Expanded G20	**90.6**	**88.8**	**88.5**	**88.8**	**89.2**	**89.1**	**88.6**	**88.8**	**88.4**

Source: IMF WEO – April 2023

*Data is on fiscal year basis

Notes: (1) The share of African Union in World GDP excludes two countries namely Sahrawi Republic and Ivory Coast due to unavailability of comparable data from the IMF.

(2) Countries/country groups are arranged in decreasing order of their share in world GDP in 2022. The shares beyond 2022 are projections.

Perspectives on growth: fighting recession and slowdown

On a global scale, growth has been challenged by two recent phenomena namely, COVID-19 and economic slowdown linked to the current geopolitical conditions. **Table 15.2** shows that four quarters spanning from 2020-Q1 to 2020-Q4 were mainly affected by COVID-19. Most economies in these four quarters experienced a contraction in their GDP. There are very few positive growth rates among the G-20 countries in these quarters. The adverse effect of the second episode pertaining to the geopolitical conflict became visible within six to seven quarters of the COVID

impact. This episode has been characterized by various barriers pertaining to global trade and flow of finances that has led to a notable economic slowdown, and in the case of Germany, a recession. In spite of the widespread slowdown, India and Indonesia and to some extent, Mexico appear to be exceptions to this general trend. Data regarding the growth performance of Russia are not available from 2021-Q4 onwards.

Table 15.2: Quarterly real GDP growth trends

	Argentina	Australia	Brazil	Canada	China	Germany	France	UK	Indonesia	India*
2019-Q4	-0.5	2.2	1.7	1.8	5.8	0.9	1.0	1.3	4.8	3.2
2020-Q1	-4.9	**1.5**	-0.9	-0.5	-6.9	-1.5	-4.9	-2.0	**2.9**	**2.3**
2020-Q2	-19.5	-5.7	-10.1	-12.2	**3.1**	-10.6	-18.0	-22.6	-5.4	**-21.9**
2020-Q3	-10.4	-2.9	-2.9	-4.7	**4.8**	-2.6	-3.8	-10.3	-3.4	-4.8
2020-Q4	-4.6	-0.1	-0.3	-2.9	**6.4**	-2.1	-4.0	-9.2	-2.2	**1.0**
2021-Q1	3.3	2.1	2.9	0.5	18.7	-1.6	1.4	-7.7	-0.6	2.3
2021-Q2	20.7	10.3	12.4	12.1	8.3	10.8	17.8	24.4	7.1	22.2
2021-Q3	11.5	4.0	4.5	4.3	5.2	2.4	3.3	8.5	3.8	9.0
2021-Q4	8.9	4.6	2.2	3.9	4.3	1.6	4.6	8.9	4.7	4.6
2022-Q1	5.9	3.1	2.3	3.2	4.8	4.0	4.4	10.6	4.7	3.6
2022-Q2	7.6	3.1	3.6	4.7	0.4	1.6	3.9	3.8	5.3	13.3
2022-Q3	5.4	6.0	3.6	3.8	3.9	1.2	1.2	2.0	6.1	5.6
2022-Q4	1.1	2.6	2.5	2.1	2.9	0.8	0.7	0.6	5.2	4.6
2023-Q1	1.2	2.3	3.4	2.2	4.5	-0.3	0.9	0.2	4.9	6.1
2023-Q2				1.6	6.3	-0.1	0.9	0.4	4.9	7.8

	Italy	Japan	South Korea	Mexico	Russia	Saudi Arabia	Turkey	US	South Africa	EA19
2019-Q4	-0.3	-2.0	2.7	-0.6	0.8	0.1	5.5	2.6	-0.4	1.2
2020-Q1	-6.3	-1.8	**1.4**	-1.6	**0.6**	-1.5	**4.4**	**0.8**	**0.8**	-2.8
2020-Q2	-17.7	-9.9	-2.7	-18.8	-6.0	-6.4	-8.8	-8.4	-16.6	-14.2
2020-Q3	-6.1	-5.0	-0.8	-8.3	-2.5	-5.0	5.9	-2.0	-5.3	-3.8
2020-Q4	-6.0	-0.4	-0.7	-3.9	-1.3	-4.4	5.7	-1.5	-2.7	-4.1
2021-Q1	0.2	-1.0	2.4	-2.6	-0.4	-3.0	7.5	1.2	-2.3	-0.8
2021-Q2	16.8	8.0	6.5	19.4	7.6	3.8	22.4	12.5	19.1	14.2
2021-Q3	5.2	1.8	4.2	4.3	3.8	6.8	8.7	5.0	2.8	4.0
2021-Q4	6.9	1.0	4.2	1.2	NA	7.0	9.2	5.7	1.4	4.8
2022-Q1	6.5	0.7	3.1	1.8	NA	11.6	7.2	3.7	2.3	5.5
2022-Q2	5.0	1.4	3.0	2.2	NA	10.9	7.0	1.8	0.2	4.4
2022-Q3	2.5	1.5	3.1	4.3	NA	7.6	4.1	1.9	3.9	2.4
2022-Q4	1.5	0.4	1.3	3.7	NA	6.5	3.5	0.9	1.3	1.8
2023-Q1	2.0	1.9	1.0	3.7	NA	2.2	3.0	1.8	0.2	NA
2023-Q2	0.6	2.1	0.8	3.5	NA	1.0	NA	2.6	0.0	NA

Source: OECD; *Quarterly data is on fiscal year basis. For instance, 2023-Q2 pertains to 1QFY24 and so on.

Challenges of high inflation

Along with growth slowdown, the G-20 countries are also experiencing high CPI inflation. **Table 15.3** shows that in 2022 and 2023, exceptionally high CPI inflation rates are shown by Argentina and Turkey. Some of the G-20 countries who had maintained low inflation trajectories over a long period of time until 2022 are also experiencing high CPI inflation rates. These include the UK, the EU, Mexico, Australia, Brazil, and the US. As a general trend, inflation in 2023 is projected to be lower than that in 2022. In the African Union, inflation experienced by some of the larger countries namely Nigeria, Egypt, Algeria, South Africa and Morocco was also quite high. Countries facing high inflation rates do not find it easy to reduce their interest rates in order to monetarily stimulate the economy. For instance, in the US, despite a cumulated increase of 525 basis points in the federal funds rate since February 2022, CPI inflation has not yet converged to its long-term target of 2%. In fact, after a rate hike of 25 basis points in July 2023, the US Fed has retained the Federal Funds rate at 5.25-5.5% in its latest monetary policy review held in September 2023. Further, it indicated a likelihood of a further upward revision.

Table 15.3: CPI inflation trends

Country/country groups	Avg. 2001-2005	Avg. 2006-2010	Avg. 2011-2015	Avg. 2016-2019	2020	2021	2022	2023*
Argentina	10.5	9.0	10.1	37.8	42.0	48.4	72.4	98.6
Turkey	28.3	8.7	7.9	12.6	12.3	19.6	72.3	50.6
Russia	14.9	10.3	8.7	4.5	3.4	6.7	13.8	7.0
UK	1.5	2.7	2.3	1.9	0.9	2.6	9.1	6.8
EU *of which*	2.7	2.2	1.5	1.3	0.7	2.9	9.3	6.3
Germany	1.6	1.6	1.5	1.3	0.4	3.2	8.7	6.2
France	2.0	1.7	1.2	1.2	0.5	2.1	5.9	5.0
Italy	2.4	2.0	1.6	0.8	-0.1	1.9	8.7	4.5
Mexico	4.9	4.4	3.6	4.3	3.4	5.7	7.9	6.3
Australia	3.0	3.0	2.3	1.7	0.9	2.8	6.6	5.3
Brazil	8.7	4.7	6.7	4.9	3.2	8.3	9.3	5.0
India**	4.1	9.0	7.9	4.1	6.2	5.5	6.7	4.9
US	2.5	2.2	1.7	1.9	1.3	4.7	8.0	4.5
Indonesia	9.3	7.8	5.7	3.4	2.0	1.6	4.2	4.4
Canada	2.3	1.7	1.7	1.8	0.7	3.4	6.8	3.9
Korea	3.3	3.0	1.9	1.2	0.5	2.5	5.1	3.5
Saudi Arabia	0.1	4.2	2.7	0.4	3.4	3.1	2.5	2.8
Japan	-0.4	-0.1	0.7	0.5	0.0	-0.2	2.5	2.7
China	1.3	3.0	2.9	2.1	2.5	0.9	1.9	2.0
AU (selected economies)								
Egypt	5.0	10.9	9.5	17.1	5.7	4.5	8.5	21.6
Nigeria	15.7	10.3	9.7	13.9	13.2	17.0	18.8	20.1
Algeria	3.0	4.1	4.9	4.6	2.4	7.2	9.3	8.1
South Africa	5.1	6.8	5.4	5.1	3.3	4.6	6.9	5.8
Morocco	1.4	2.5	1.0	1.0	0.6	1.4	6.6	4.6
World	**4.0**	**4.2**	**3.7**	**3.3**	**3.2**	**4.7**	**8.7**	**7.0**

Source: IMF WEO – April 2023; *projection, ** Data is on fiscal year basis

High government debt burdens

Table 15.4 shows that countries like Japan and the US have inordinately high government debt to GDP ratios which were at 261.3% and 121.7% respectively at end 2022. These are projected by the IMF to increase to 264.0% and 136.2% by 2028.

Table 15.4: General government debt as % of respective GDP

Country/country groups	2001	2009	2019	2020	2021	2022	2023	2028
Japan	145.1	198.8	236.4	258.7	255.4	261.3	258.2	264.0
US	53.1	86.6	108.7	133.5	126.4	121.7	122.2	136.2
Canada	81.5	81.9	90.2	118.9	115.1	106.6	105.1	91.1
UK	33.8	63.1	84.5	105.6	108.1	102.6	106.3	113.1
Brazil	70.1	65.5	87.9	96.8	90.7	85.9	88.4	96.2
EU *of which*	65.5	74.8	79.2	91.6	89.5	85.3	84.4	80.4
Italy	108.9	116.6	134.1	154.9	149.8	144.7	140.3	131.9
France	58.3	79.0	97.4	114.7	112.6	111.1	111.4	115.0
Germany	58.2	73.2	58.9	68.0	68.6	66.5	67.2	59.6
Argentina	48.0	55.4	88.8	102.8	80.9	84.5	76.3	65.4
India*	78.7	71.5	75.0	88.5	84.7	83.1	83.2	83.6
China	24.6	34.6	60.4	70.1	71.8	77.1	82.4	104.9
AU *of which*	58.3	31.8	55.0	64.7	64.1	61.4	60.6	55.9
South Africa	38.0	27.0	56.2	69.0	69.0	71.0	72.3	84.9
Mexico	39.3	43.7	53.3	60.1	58.7	56.0	55.6	57.9

Country/country groups	2001	2009	2019	2020	2021	2022	2023	2028
Australia	17.1	16.6	46.7	57.1	57.6	55.7	59.4	62.2
Korea	17.2	30.0	42.1	48.7	51.3	54.3	55.3	58.2
Indonesia	73.7	26.5	30.6	39.7	41.1	39.9	39.1	37.3
Turkey	75.5	43.4	32.6	39.7	41.8	31.2	35.0	42.3
Saudi Arabia	93.1	14.0	21.6	31.0	28.8	22.6	23.6	19.9
Russia	44.4	9.9	13.7	19.2	16.5	19.6	24.9	21.5
Expanded G20	**67.4**	**78.8**	**89.0**	**105.2**	**100.7**	**97.4**	**98.7**	**106.4**

Source: IMF WEO – April 2023; Note: Data on African Union excludes two countries namely Sahrawi Republic and Ivory Coast due to unavailability of comparable data from the IMF.
*Data is on fiscal year basis

Some of the other developed G-20 countries which had higher than 100% government debt to GDP ratios at end 2022 include Canada, UK, Italy and France. In comparison, India has a government debt-GDP ratio of 83.1% and that of Russia is at 19.6%. The government debt-GDP ratio of the expanded G-20 group at the end of 2022 is estimated at 97.4%. This is projected to increase to 106.4% by end-2028.

Table 15.5 shows the fiscal deficit to GDP ratios of the expanded G-20 group over different years. This ratio, for most individual countries, as well as for the expanded G-20 group as a whole was the highest in 2020, which was the COVID affected year. The weighted average for the expanded G-20 group in this year was 10.1%. It fell to 5.2% in 2022. India's combined fiscal deficit to GDP ratio, considering central and state governments together, had become as high as 12.9% in FY21. It has been gradually falling since then and is projected to reach a level of 7.6% by FY29. In order to counter the ongoing economic slowdown, most of the countries need to stimulate demand through both fiscal and monetary stimuli.

Table 15.5: General government fiscal balance as % of respective GDP

Country/country groups	2001	2009	2019	2020	2021	2022	2023	2028
India*	-10.8	-9.5	-7.7	-12.9	-9.6	-9.6	-8.9	-7.6
Japan	-6.2	-9.7	-3.0	-9.1	-6.2	-7.8	-6.4	-3.7
China	-2.6	-1.8	-6.1	-9.7	-6.0	-7.5	-6.9	-6.0
UK	0.2	-10.0	-2.2	-13.0	-8.3	-6.3	-5.8	-3.7
US	-0.5	-13.2	-5.7	-14.0	-11.6	-5.5	-6.3	-6.8
Brazil	-2.8	-3.2	-5.8	-13.3	-4.3	-4.6	-8.8	-4.4
Mexico	-2.7	-4.1	-2.3	-4.4	-3.9	-4.4	-4.1	-2.7
AU *of which*	-1.2	-4.6	-4.4	-7.3	-5.2	-4.0	-4.7	-4.5
South Africa	-1.0	-4.7	-4.7	-9.6	-5.6	-4.5	-5.9	-6.5
Argentina	-5.4	-1.8	-4.4	-8.6	-4.3	-3.9	-3.8	-1.3
EU *of which*	-1.9	-6.0	-0.6	-6.8	-4.8	-3.5	-3.5	-1.9
Italy	-3.2	-5.1	-1.5	-9.7	-9.0	-8.0	-3.7	-0.7
France	-1.4	-7.2	-3.1	-9.0	-6.5	-4.9	-5.3	-4.0
Germany	-3.0	-3.2	1.5	-4.3	-3.7	-2.6	-3.7	-0.5
Australia	0.0	-4.6	-4.4	-8.7	-6.3	-3.3	-3.1	-1.9
Indonesia	-1.8	-1.6	-2.2	-6.1	-4.5	-2.3	-2.6	-2.1
Russia	3.0	-5.9	1.9	-4.0	0.8	-2.2	-6.2	0.2
Turkey	-11.7	-5.8	-4.8	-5.1	-4.0	-1.6	-6.5	-5.6
Korea	2.5	0.2	0.4	-2.2	0.0	-0.9	0.0	-0.1
Canada	0.5	-3.9	0.0	-10.9	-4.4	-0.7	-0.4	0.0
Saudi Arabia	-3.9	-5.4	-4.2	-10.7	-2.3	2.5	-1.1	-0.3
Expanded G20	**-2.0**	**-7.7**	**-3.9**	**-10.1**	**-7.1**	**-5.2**	**-5.5**	**-4.7**

Source: IMF WEO – April 2023; **Note:** The share of African Union in World GDP excludes two countries namely Sahrawi Republic and Ivory Coast due to unavailability of comparable data from the IMF.
*Data is on fiscal year basis

High fiscal deficit and government debt to GDP ratios accompanied by high inflation and low growth are indicators of economic stress. If debt sustainability conditions, which depend on fiscal deficit and growth and interest rates are analyzed, many of the advanced countries and some of the larger emerging market economies such as India, might be found to be under stress. In such a condition, while it is desirable to stimulate demand, these governments may find it difficult to do so because of the existence of high deficit and debt levels. Thus, unlike during the 2008 global economic and financial crisis, these countries have not been able to jointly mount a coordinated stimulus.

Population: India's unique position in the diverse profiles of G-20 countries

In terms of the size and age structure of population, the profiles of individual member countries of the expanded G-20 group provides for considerable diversity. **Table 15.6** shows that in terms of share in global population, the overall group accounts for 79.1% in 2023. Of this, two countries namely, India and China and one country group namely, the African Union together account for 53.6% of the global population. Thus, some of the countries are very large while others are rather small in terms of their population size. The number of countries that have a share of 1% or less in the pre-expanded G-20 group is 10.

Table 15.6: Demographic profile: Share in global population and median age

Country/country groups	Share in global population (%)			Median age (in years)		
	2023	2030	2050	2023	2030	2050
India	17.8	17.7	17.2	28.2	30.9	38.1
China	17.7	16.6	13.5	39.0	42.7	50.7
AU *of which:*	**18.1**	**20.0**	**25.6**	**19.3**	**20.3**	**24.2**
Egypt	1.4	1.5	1.7	24.2	25.4	30.3
Nigeria	2.8	3.1	3.9	17.2	18.3	22.4
Algeria	0.6	0.6	0.6	28.2	29.5	34.5
South Africa	0.8	0.8	0.8	27.6	29.0	33.1
Morocco	0.5	0.5	0.5	29.3	31.2	36.6
EU *of which:*	**5.8**	**5.4**	**4.6**	**43.2**	**45.2**	**48.5**
Germany	1.0	1.0	0.8	44.9	45.9	49.2
France	0.8	0.8	0.7	42.0	43.5	46.1
Italy	0.7	0.7	0.5	47.7	50.3	53.4
US	4.2	4.1	3.9	38.1	39.7	43.1
Indonesia	3.4	3.4	3.3	29.9	31.7	36.5
Brazil	2.7	2.6	2.4	33.6	36.5	43.6
Russia	1.8	1.7	1.4	39.2	42.1	43.6
Mexico	1.6	1.6	1.5	29.8	32.8	40.7
Japan	1.5	1.4	1.1	49.1	51.5	53.6
Turkey	1.1	1.0	1.0	31.8	34.8	41.1
UK	0.8	0.8	0.7	40.1	41.6	44.9
Korea	0.6	0.6	0.5	44.5	48.4	56.7
Argentina	0.6	0.6	0.5	31.9	34.1	39.9
Canada	0.5	0.5	0.5	40.6	42.0	45.3
Saudi Arabia	0.5	0.5	0.5	30.6	33.4	38.8
Australia	0.3	0.3	0.3	37.5	39.5	43.6
Expanded G-20	**79.1**	**78.8**	**78.4**	**31.6**	**33.4**	**37.4**
World	**100.0**	**100.0**	**100.0**	**30.5**	**32.1**	**35.9**

Source (basic data): UN World Population Prospects 2022

The age profile of the member countries also shows variations with some countries having a relatively larger share of older population while others having a relatively younger population. **Table 15.6** shows that the oldest country is Japan with a median age of 49.1 years whereas the country with the lowest median age at 17.2 years is Nigeria (considering only major economies within the AU group).

India is uniquely positioned both in terms of size and median age. It accounts for 17.8% of the total global population, the highest for an individual country in 2023. Its median age is 28.2 years which is well below that of China at 39.0 years. The average for the EU is even higher at 43.2 years. With its young and large population, India can take advantage of the diversity within the G-20 group by actively participating in the growth of the member countries of the AU which are resource rich but largely underdeveloped in terms of size and diversity of economies. It can also take advantage of the fast-ageing member countries in the developed world where there is scope for expanding services in health and education sectors by filling up the gaps in human resources that are slated to increase over time. Further, it can participate in expanding manufacturing and infrastructure as well as services in Africa where the available young population needs to be educated, trained and skilled.

India's economic promise

In comparison to major advanced and emerging market economies, India is projected to show a relatively high growth in the range of 6.1% (IMF)-6.5% (RBI) in FY24. Its CPI inflation rate has averaged 5.6% during the first five months of FY24, close to the RBI's annual projection at 5.4%. Thus, it compares well in terms of CPI inflation with some of the developed countries. According to the IMF, India is estimated to contribute 15% of global growth in 2023 (FY24)[75]. In the medium term also, India is projected to sustain a GDP growth rate in the range of 6.0-6.3% during the period FY25 to FY29.

Economic slowdown being experienced by some of the larger G-20 countries is however beginning to adversely affect India's export performance. The recently released GDP data for 1QFY24 showed that India's exports contracted by (-)7.7%. This led to a sharp negative contribution of net exports to real GDP growth at (-)4.6% points, which was its worst quarterly performance since FY13.

Comparatively higher interest rates in the US have also led to some adverse impact on foreign direct investment inflows in India. FDI as a percentage of GDP has fallen to 2.1% in FY23 as compared to an average of 2.6% during FY16 to FY22.

Thus, while India is able to show the promise of a high GDP growth even in the presence of global economic slowdown, it can potentially perform much better if the global economy normalizes, overcoming the present supply-side constraints due to the continuing geo-political challenges.

Conclusions

The expanded G-20 group of countries accounts for 89% of global GDP (2022) and 79.1% of global population (2023). Two recent global crises that occurred in quick succession have adversely affected global growth prospects. COVID-19 affected the four quarters of 2020 leading to a contraction in the GDP of all major economies. This was followed by recent geopolitical developments which have adversely affected global growth since the second quarter of 2022 leading to an economic slowdown in most of the major economies with a recession in Germany. The policy options for stimulating the world economy have also been squeezed due to most of the non-oil large economies nursing a high government debt-GDP ratio and also showing a higher than trend CPI inflation. As a result, it is difficult for these economies to stimulate demand individually or in a coordinated effort either by reducing interest rates or by increasing fiscal deficit. India is acknowledged to be a bright star in this gloomy scenario, showing a medium-term growth prospect in the range of 6.0 to 6.3%. It may be able to improve its growth performance even more as soon as the global economic conditions begin to normalize. In the long run, India is also suitably placed to take advantage of the growing size and changing age structure of its population along with the increasing size of its GDP. It can productively participate in expanding infrastructure, manufacturing and services in Africa while filling up the growing gaps in human resources in the fast aging developed countries.

[75] https://indianexpress.com/article/business/economy/india-economy-bright-spot-global-growth-2023-imf-md-8460948/

Home

India and the changing contours of the evolving global economy: some key dimensions (May 2024)

Abstract

As India endeavors to attain a 'Viksit' status by 2047, the Indian economy is expected to change in a major way. Along with that, there are numerous developments that may also change the global economy. India has to strategize its pursuit of development in the context of a fast-evolving global economy. In this chapter, we highlight some of the major contours of the evolving global economy in the next 25 years.

As India improves its global ranking in terms of the size of the economy, achieved growth and overall economic strength, India may have to recast its own role in the global pecking order in terms of economic clout and policy leadership. India is already emerging as a leader of the Global South. It has to develop its own paradigm, defining the nature and quality of its leadership in developing a non-exploitative relationship with the rest of the world based on optimizing mutual economic benefits. India can also learn from the experiences of the existing advanced economies and try and avoid some of the erstwhile pitfalls in the growth process such as the Middle-Income Trap and the Dutch Disease. This would require careful policymaking and commitment to responsible fiscal behavior so that excessive subsidization or higher government expenditures do not lead to unsustainable commitments. In this context, it is of critical importance for the GoI and state governments to adhere to their respective Fiscal Responsibility Legislation targets.

Introduction

As India endeavors to attain a 'Viksit' status by 2047, the Indian economy is expected to change in a major way. Alongside, there are numerous developments that may also change the global economy. India has to strategize its pursuit of development in the context of a fast-evolving global economy. In this section, we highlight some of the major contours of the evolving global economy in the next 25 years.

Technology induced endogenous growth

In the late 1980s, growth literature began to emphasize endogenous growth processes that went beyond the neo-classical explanations of growth being dependent on capital stock and labor supply, particularly in the context of long-term growth. With investment in human capital through suitable policies emphasizing education, health and social development, technological progress could take place as a result of interactions amongst the educated and technically trained people. In its latest phase, technology itself is able to produce higher tiers of technology through AI and Generative AI (GenAI). These processes enabled the growth dynamics, which was characterized by diminishing returns to capital and increasing share of consumption of capital/depreciation, to keep uplifting the production function to neutralize these adverse impacts.

Impact of AI and GenAI

Technologies such as AI and GenAI are likely to have an output expansion effect and an employment substitution effect. The first effect would augment GDP growth rate while the second effect would reduce employment growth rate, although the latter's adverse impact may be partially offset by the increased GDP effect.

As far as the output impact is concerned, a number of recent studies have quantified the annual impact of GenAI on the Indian economy. For example, EY (2023)[76] has estimated the potential impact of GenAI on India's GDP between US$359 and US$438 billion by FY30. Some other studies have also estimated India's potential to take advantage of GenAI in order to increase the growth of output [FICCI (2023), and NASSCOM (2022)][77].

With respect to the employment impact, as per a recent study by the IMF (2024), almost 40% of global employment is exposed to AI. The degree of risk varies across country groups with advanced economies at the highest risk of 60%, followed by emerging economies at 40% and low-income countries at 26%[78].

Some studies have attempted to estimate the proportion of Indian jobs which would be replaced with the advent of technologies such as GenAI. For example, FICCI (2023) estimates that while only a small share (1%) of the Indian workforce would see GenAI used in more than 20% of their work, almost half (45%) of workers in India will potentially use GenAI for between 5% and 20% of their regular work activities. Thus, GenAI is expected to change the focus within jobs, rather than replace them entirely, and there is potential for most workers to use GenAI to some degree in their work.

India is likely to be one of the biggest users of emerging technology which can shape its growth and development. In terms of median age, India's population is already the youngest among large economies. This population also happens to be largely digitally connected. Already 96% of payments in India have become digital[79]. Thus, many of the users may find it easy to move to the next generation computing paradigms that rely heavily on AI and GenAI by navigating the web and leveraging a range of agents to assist them. India's large penetration of the web can give rise to uniquely Indian digital paradigms leveraging data (text, voice, image and video) that may originate

[76] EY (2023) The AIdea of India: Generative AI's potential to accelerate India's digital transformation
[77] Access Partnership and FICCI (June 2023). 'The Economic Impact of Generative AI: The Future of Work in India'; NASSCOM and EY (2022). AI Adoption Index – Tracking India's Sectoral Progress on AI Adoption
[78] https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2024/01/14/Gen-AI-Artificial-Intelligence-and-the-Future-of-Work-542379
[79] https://www.rbi.org.in/Scripts/PSIUserView.aspx?Id=26

in India. Also, the cost of accessing data in India is one of the lowest in the world[80]. India may potentially have the largest number of deployed AI agents (co-pilots) trained on Indian data, which is likely to facilitate virtual healthcare assistants, sales and teaching assistants conversing with customers/students in vernacular, easily bringing new generations into the digital fold.

Technological innovations pertaining to AI/GenAI result in growth promoting but employment substitution impacts. India may, by suitable policy support, work towards overcoming the employment substitution effect of these technological developments by the growth expansion effects in a manner such that net employment growth remains suitably positive while overall GDP growth is considerably enhanced. Policies that would help optimize the economic impact of these technologies include initiatives both by the government and the private sector. Thus, the government may substantially enhance its investment in infrastructure, which can be accessed for developing technology platforms and tools and enhance budgetary allocations for training and reskilling of the labor force. AI/GenAI is a potent instrument for the Indian government as it improves the delivery of citizen services at scale. The ability of conversational agents to enable citizens to seek information and complete transactions across a range of use cases and languages is vast. The private sector may also allocate resources for adoption of new technologies as well as training and reskilling with a view to retaining their existing workers while also ensuring net growth in employment of workers suitably skilled in AI/GenAI and other upcoming technologies.

Increasing complexity of goods and services

The structure and features of output across countries have progressively become more complex, especially due to the impact of technological advances. Economists have been linking a country's export prospects and export competitiveness to the degree of complexity of its outputs. [See, for example, Hidalgo and Hausmann (2009)81]. In recent literature, two indices of economic complexity developed by the MIT (Observatory of Economic Complexity - OEC)82 and Harvard (Harvard Growth Lab -HGL)83 based on the methodology by Hidalgo and Hausmann (2009), have gained prominence. Both of these institutions have developed indices pertaining to product complexity and country complexity. The HGL has also developed a complexity outlook index (COI) which indicates how close a country is to producing more complex products given its current capabilities. According to HGL, India's country complexity ranking improved to 42 in 2021 from 54 in 2010 (Table 16.1).

Further, India ranked first in the COI. Some examples of evolving complex goods include robots, drones, self-driven vehicles, satellites and rockets and space products, high-definition cameras/telescopes/microscopes, aircraft manufacturing, 3D printing of goods and buildings. Examples of complex services include financial derivatives, research and designing of semi-conductors, AI and GenAI, and Internet of Things (IoT).

Table 16.1: Country complexity rankings: top five and US, India and China

Country	Economic Complexity Index Rank			Country	Complexity Outlook Index Rank		
	2010	2015	2021		2010	2015	2021
Japan	1	1	1	India	1	1	1
Switzerland	2	3	2	Turkey	2	2	2
S. Korea	8	4	3	Spain	7	4	3
Germany	3	2	4	Portugal	3	3	4
Singapore	4	5	5	Bulgaria	4	7	5
US	12	9	14	US	89	84	40
China	24	21	18	China	11	21	54
India	54	48	42				

Source (basic data): The Atlas of Economic Complexity (harvard.edu)

[80] https://shorturl.at/IRFvr
[81] Hidalgo, C. A., & Hausmann, R. (2009). The building blocks of economic complexity. Proceedings of the national academy of sciences, 106(26), 10570-10575.
[82] https://oec.world/en/rankings/eci/hs6/hs96
[83] https://atlas.cid.harvard.edu/rankings

In order to exploit these endogenous growth processes in India, suitable policy changes favoring investment in human development through augmented provision of education and skilling, and health services, supplemented by institutional development, technological growth and innovations, are critical. As the tax-GDP ratio in India increases, the additional fiscal space that gets created may be invested largely in education, health and physical infrastructure so that growth may be sustained at a level of 7% plus for at least the next few decades.

Climate induced challenges: economic impact

Natural disasters occur with a regular frequency from time to time affecting individual countries or groups of countries. Many of these disasters can be linked to the ongoing climate change. A 2018 UN Report[84] covering six major disasters, namely earthquake, earthquake and tsunami, storm, extreme temperature, flood and drought, provides an estimate of economic losses during the period 1998 to 2017. As per this study, direct economic losses amounted to US$2,908 billion, of which climate-related disasters costed US$2,245 billion or 77% of the total economic losses. India's estimated loss at US$79.5 billion was the fourth largest. The World Bank has also calculated the global average per annum cost of natural disasters at nearly US$520 billion, with disasters pushing 26 million people into poverty every year[85].

A 2021 study by the Swiss Re Institute estimated that the world may lose close to 10% of total economic value considering a baseline temperature-rise scenario of about 2.0°C to 2.6°C by mid-century from their current levels. Under a severe stress scenario, wherein global temperatures are anticipated to be higher by 3.2°C by mid-century, and with no action taken to combat climate change, the estimated size of global economy would be 18% lesser **(Table 16.2)** than in a world without climate change. While assessing the regional impact of climate change, the study has highlighted that south-east Asia and Latin America may likely be the most susceptible to dry conditions. Many countries in north and eastern Europe are likely to experience more precipitation and higher instances of flood events.

Table 16.2: Simulating for economic loss (% reduction in GDP) from rising temperatures relative to a world without climate change (0°C) by mid-century

Regions	Paris target (%)	The likely range of global temperature gains (%)		Severe case (%)
	Well-below 2°C increase	2.0°C increase	2.6°C increase	3.2°C increase
World	**4.2**	**11.0**	**13.9**	**18.1**
ASEAN	4.2	17.0	29.0	37.4
Middle East and Africa	4.7	14.0	21.5	27.6
Asia *of which:*	5.5	14.9	20.4	26.5
India	5.7	17.4	27.0	35.1
China	6.6	15.1	18.1	23.5
South America	4.1	10.8	13.0	17.0
Oceania	4.3	11.2	12.3	16.3
Advanced Asia	3.3	9.5	11.7	15.4
OECD	3.1	7.6	8.1	10.6
Europe	2.8	7.7	8.0	10.5
North America	3.1	6.9	7.4	9.5
United States	3.1	6.8	7.2	9.2

Source (basic data): Swiss Re Institute (April 2021), The economics of climate change: no action not an option

India has made commitments on global platforms to achieve certain climate change related targets. Some of the main commitments and the implementation status are summarized in **Table 16.3**.

[84] Economic Losses, Poverty and Disasters - 1998-2017 (2018), GoI for Research on the Epidemiology of Disasters, United Nations Office for Disaster Risk Reduction (https://www.undrr.org/publication/economic-losses-poverty-disasters-1998-2017)
[85] https://shorturl.at/93JPp

Table 16.3: India's climate goals and implementation status

Current status	India's targets indicated in COP26
▪ 186.46 GW installed capacity (approx. 37% of the target) from non-fossil fuel-based energy resources (as on 31-10-2023). ▪ 14.08 GW of capacity under implementation ▪ 55.13 GW under tendering	Increasing non-fossil energy capacity to 500 GW by 2030
▪ At 43% of total installed capacity of power generation in India from non-fossil fuels (as of 12-Jun-2023)	Meeting 50% of India's energy requirements from renewable energy by 2030
▪ In 2020 India's Co2 emission was estimated at 2.2 billion tons, 0.3 billion tons lower than that in 2018 at 2.5 billion tons.	Reducing total projected carbon emissions by one billion tons from now till 2030
▪ Available information indicates reduction by 16.3% from 0.30 kg per PPP$ of GDP in 2005 to 0.255 kg per PPP$ of GDP in 2020 based on WB data	Reducing the carbon intensity per unit of GDP (PPP terms) by at least 45% by 2030 from 2005 levels
Achieving the target of net zero emissions by 2070	

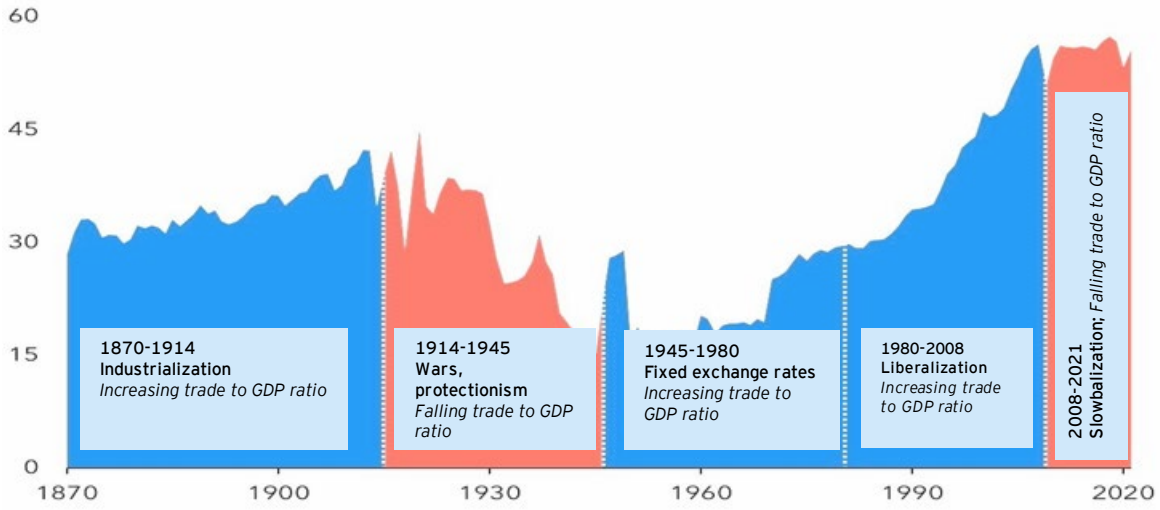
Source (basic data): PIB and authors' compilation

Towards deglobalization and trade fragmentation

Global as well as India's export growth experienced their respective golden periods from 2002 to 2007. According to the IMF, growth in global export volume averaged 7.6% in this period. In comparison, growth in India's volume of exports averaged 18.9%. Since 2007, both global and India's export growth rates have fallen. While global export volume on average showed a much lower growth at 3.2% during 2008 to 2022, average growth in India's export volume also fell to 5.9%.

In contrast with the experience of growing globalization after the second world war which continued for more than six decades (1945-2008), we are now transitioning towards a phase in which economies are becoming inward looking where global trade is frequently hampered with supply side disruptions. A recent IMF article[86] has referred to this phenomenon as slowbalization. This article has highlighted five distinct phases of evolution of global trade as depicted by **Chart 16.1**.

Chart 16.1: Patterns in trade intensity of global output (exports plus imports as % of GDP)



[86] https://www.imf.org/en/Blogs/Articles/2023/02/08/charting-globalizations-turn-to-slowbalization-after-global-financial-crisis

Source: Adapted from IMF(February 2023); https://www.imf.org/en/Blogs/Articles/2023/02/08/charting-globalizations-turn-to-slowbalization-after-global-financial-crisis

The five major phases of evolution of global trade identified in the IMF article are briefly described below:

Phase 1 - The Industrialization era: This phase was facilitated by reliance on the gold standard and advances in transportation technologies. The main participant countries included US, Europe, Canada, Australia, and Argentina.

Phase 2 - The Interwar era: This phase witnessed a substantive reversal of globalization due to international conflicts and the rise of protectionism.

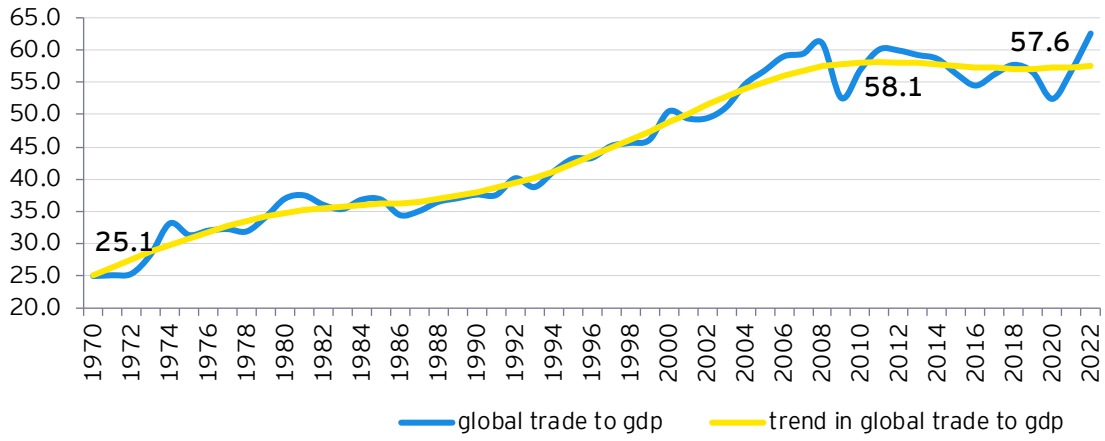
Phase 3 - The Bretton Woods era: During this phase, the dollar was pegged to gold while most other currencies were pegged to the dollar leading to the US emerging as the dominant economy in the world. The phase also saw rapid economic expansion in Europe, Japan, and developing economies led by trade liberalization. Alongside, many countries also relaxed capital controls. Further, in the early 1970s, the US ended dollar-gold convertibility, and many countries switched to a floating exchange rate regime.

Phase 4 - The Liberalization era: In this phase, China and other emerging markets gradually opened up their economy to foreign trade. There was unprecedented international economic cooperation, including the integration of the former Soviet bloc. In 1995, the World Trade Organization was established as a multilateral institution with the mandate of overseeing trade agreements, negotiations and dispute settlement. This phase also saw a surge in cross-border capital flows and trade, along with increasing interconnectedness and complexity of the global financial system.

Phase 5 – Slowbalization: Following the global financial crisis of 2008-09, there was a prolonged slowdown in the pace of trade reform. Owing to rising geopolitical uncertainties, political support for open trade weakened, leading to stagnation in global trade.

Chart 16.2 shows a long-term trend of growing global trade to global GDP ratio on trend basis. This ratio rose from 25.1% in 1970 to a peak of 58.1% in 2011 before it started to stagnate and eventually fall. The global trade to global GDP ratio on trend basis has fallen marginally to 57.6% by 2022.

Chart 16.2: Evolving trend in global trade (global trade as % to global GDP)



Source: World Bank

Global trade and global growth have often been disrupted due to the occurrence of global crises, which were largely economic or political in nature. **Table 16.4** highlights the increased frequency of the occurrence of global crises in recent years. In the first phase during 1940 to 2000, 1.3 crises occurred per decade whereas in the second phase covering two and a half decades beginning 2000, this frequency has increased to 2.8 crises per decade.

Table 16.4: Major crises with global impact: increased frequency in recent years

Crises during 1940 to 2000		Crises since 2000	
1941-44	World War II	2008-09	Global financial and economic crisis
1948-49	Beginning of cold war: Berlin blockade	2010-13	European debt crisis
1949	Suez crisis	2011-14	Arab Spring
1971	Arab-Israeli war: OPEC oil embargo	2018	Argentine crisis
1982	Sovereign debt crises in Mexico	2020	Covid-19
1994	Mexican crisis	2022	Ukraine-Russia War
1997	Asian financial crisis	2023	Israel-Hamas War
1998	Crisis in Russia		

Source: IMF (https://www.imf.org/en/About/Timeline#:~:text=Suez%20Crisis%20is%20an%20early%20test%20of,pressure%20from%20independence%20movements%2C%20France%2C%20United%20Kingdom)

At present, two important crises are besetting global trade and economic performance. These pertain to the conflicts between Russia and Ukraine and that between Israel and Hamas. In both cases, the US and the EU economies came up with a number of sanctions. These conflicts have resulted in serious supply side disruptions as also fragmentation of global trade into specific trade blocs. The main supply side disruptions affect the following dimensions:

1. **Sources of raw materials:** Many industries including automobiles, aeronautics, electronics, and fertilizers are facing critical shortages of raw materials (crude, primary metals, and urea).
2. **Sources of intermediate products:** There is shortage of intermediate products such as energy (crude, coal, and natural gas) and semiconductors. Consequently, scarcity and price upsurges have forced many economies into a recession/slowdown.
3. **Sources of final outputs:** Supply disruptions and trade sanctions have led to historically higher prices for many final goods (wheat, oilseeds, cereals, rice, maize, edible oils, and milk).
4. **Disruption of trade and transport routes:** Trade channels and transportation routes have been adversely affected.
5. **Disruption of financial settlement architecture:** Financial settlement architecture has been disrupted due to financial and business-related sanctions, including the ban on the SWIFT platform for certain countries.

One key dimension of these disruptions pertains to crude oil. The World Bank, in its Commodity Markets Outlook (April 2024), has modeled this impact in terms of a baseline scenario and scenarios relating to moderate and severe disruptions. In their baseline scenario, Brent crude oil price is projected to average US$84/bbl. in 2024 and US$79/bbl. in 2025. In the moderate disruption scenario, the average price could rise to US$92/bbl., while in the severe disruption scenario, it could reach an average of US$102/bbl. in 2024. Escalation of the conflict in the Middle East could also drive-up prices for natural gas, food, and fertilizers.

The IMF, in a recent speech (May 2024)[87], has highlighted the increasing risks of trade fragmentation along with an impact on investment flows. They consider a world divided into three blocs namely, a US leaning bloc, a China leaning bloc, and a bloc of nonaligned countries. They point out that the average weighted quarter-on-quarter trade growth between US leaning countries and China leaning countries during 2Q 2022 to 3Q 2023 was almost 5% points lower than the

[87] Speech: Geopolitics and its Impact on Global Trade and the Dollar (imf.org)

average quarterly weighted trade growth during 1Q 2017 to 1Q 2022. At the same time, quarterly growth in trade within blocs only saw a 2% points drop. On an average, in the period following the Russia-Ukraine conflict, trade and FDI between blocs declined by roughly 12% and 20% more than flows within blocs, respectively. The bloc of non-aligned countries, including India, serves to reduce frictions by playing the role of a trade connector.

Growing global indebtedness

All economic stakeholders in the advanced and emerging market economies have been nursing higher and higher indebtedness. Data pertaining to country-wise levels of debt of the general government, households, and non-financial corporations show progressively higher indebtedness. Added together, the country's level of indebtedness relative to GDP can be gauged by the total non-financial sector debt. For advanced economies, it was 265% of GDP by end-September 2023 whereas that for the EMEs, this number was 222% of GDP. Japan had the highest indebtedness amongst major countries at 402% whereas that for the US was also as high as 264%. India was relatively better off as its total non-financial sector debt was comparatively lower at 175% **(Table 16.5)**. In fact, this level is lower than its corresponding level in 2007. Within this total debt, general government debt was highest for Japan and lowest for Germany amongst major economies. The US general government debt had peaked at 121% in 2020. A high level of debt relative to GDP generally implies large interest payments for the governments depending on the average interest rate and the composition of debt into external and domestic components, implying fiscal pressure. If the share of external debt in total debt for a country is high, it is also likely to face pressure on its exchange rate.

Table 16.5: Country-wise levels of debt of non-financial sector (% to GDP)

Year	EMEs	*China*	*India*	AEs	*Germany*	*Japan*	*US*	*Euro Area*
Total non-financial sector								
2007	125.7	142.5	180.5	240.9	193.4	300.9	228.5	218.1
2020	244.0	294.1	189.9	306.5	199.9	409.5	285.2	269.6
2022	219.3	297.4	172.3	272.9	194.1	413.5	266.7	248.7
2023 (30-Sep)	221.5	310.7	175.2	264.6	188.4	402.0	263.7	240.6
General government								
2007	NA	29.3	72.8	69.6	64.1	142.1	57.7	65.9
2020	68.4	71.3	89.4	122.0	68.9	226.2	120.6	97.3
2022	64.6	77	82	107.7	66.2	227.3	110.7	91.0
2023 (30-Sep)	66.5	81.2	83.3	105.9	64.8	220.8	112.2	89.9
Households and NPISHs								
2007	NA	18.9	43.1	82.7	61.4	60	98.7	59.8
2020	54.6	61.9	40.6	80.5	57.2	67.5	78.3	61.8
2022	48.2	61.6	36.5	73.4	55.0	68.1	75.3	56.9
2023 (30-Sep)	47.6	62.4	37.2	70.8	52.8	66.2	73.1	54.4
Non-financial corporations								
2007	NA	94.3	70.1	88.6	67.9	98.8	72.1	92.4
2020	120.7	160.9	59.8	104	73.8	115.8	86.3	110.5
2022	106.5	158.8	53.8	91.8	72.9	118.1	80.7	100.8
2023 (30-Sep)	107.6	167.1	54.7	87.9	70.8	115	78.4	96.3

Source: BIS
Note: Data for India pertains to the fiscal year ending 31 March; Government debt for EMEs and AEs is estimated at nominal value and for AEs at market value; total debt for AEs is re-estimated using government debt at nominal value

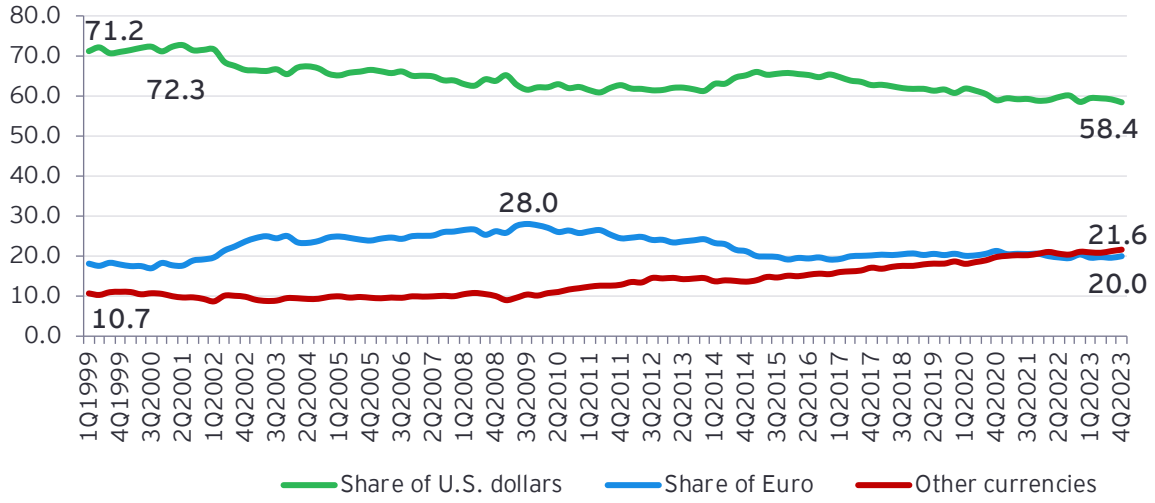
Erosion of US dollar's position as the prime global currency

With frequent sanctions emanating from the US, large economies such as China, Russia and the BRICS countries have become wary of holding foreign exchange (FX) reserves in the form of US$. The US$ itself discontinued any backing by gold after 1971 when the concept of petrodollars came

into vogue with an agreement between the US and the Saudi Arabia. This arrangement had enabled the US to print dollars almost without limit to finance their internal deficits. The US has been extensively floating Treasury Bills and consequently, its government debt-GDP ratio is now touching 123.3% in 2024 (IMF WEO, April 2024).

Chart 16.3 shows the currency composition of official FX reserves as per the information available with the IMF. It can be observed that the share of the US dollar kept as FX reserves has fallen from its peak of 72.3% (3Q 2000) to 58.4% (4Q 2023). The share of Euro has also fallen from a peak of 28% (3Q 2009) to 20% (4Q 2023). In contrast, the share of other currencies which include Pound Sterling, Japanese Yen, and Chinese Renminbi, has progressively increased to reach 21.6% in 4Q 2023. These trends are likely to continue. There are initiatives by countries such as India and China where bilateral trade is being settled in domestic currencies. There is also a major initiative by BRICS to float its own currency backed by gold and commodities to be used as payment within BRICS countries[88]. This group has now been substantially expanded by inclusion of Iran, Egypt, Ethiopia, Saudi Arabia and the UAE[89]. It is notable that some of these are important oil-producing countries.

Chart 16.3: Currency composition of official FX reserves



Source (basic data): IMF
Notes: (1) These shares are for Allocated FX reserves. Allocated foreign exchange reserves accounted for over 80% of total global foreign exchange reserves since 2017.
(2) Other currencies include Australian dollars, Canadian dollars, Pound Sterling, Swiss Frank, Japanese Yen, Chinese Renminbi, and others.

Evolving demographic profiles

Demographic profiles of individual countries and major country groups are projected to change in a major way throughout the rest of the 21st century. Median age in high and middle-income countries is expected to rise by nearly 20 years between 1950 and 2060. For India, it is about 21 years. This rise is only about 8 years for low-income countries.

Table 16.6: Median age and share in global working age population across country groups

Year	Median age (years)					Share in global working age population (%)			
	High-income	Low-income	Middle-income	*India*	World	High-income	Low-income	Middle-income	*India*
1950	27.5	17.7	20.7	*20.0*	22.2	29.3	4.2	66.3	14.0

[88] https://www.nasdaq.com/articles/how-would-a-new-brics-currency-affect-the-us-dollar-updated-2024
[89] https://www.livemint.com/news/brics-5-countries-officially-join-group-of-emerging-nations-check-the-list-here-11706757708865.html

2000	35.2	16.0	24.0	*21.6*	25.3	19.1	5.3	*75.1*	16.6
2010	37.9	16.6	26.5	*24.0*	27.3	17.4	6.2	*76.0*	17.4
2020	40.4	17.4	29.4	*27.3*	29.7	15.9	7.5	*76.2*	18.4
2030	43.0	19.0	32.3	*30.9*	32.1	14.4	9.3	*75.9*	18.8
2040	45.1	20.8	34.7	*34.6*	34.0	13.2	11.5	*74.9*	18.8
2050	46.4	23.0	37.1	*38.1*	35.9	12.2	14.0	*73.4*	18.4
2060	47.4	25.4	39.3	*41.0*	37.6	11.5	16.5	*71.5*	17.5

Source: UN World Population Prospects 2022

As per the UN World Population Dashboard[90], the estimated population for India for 2023 at 1,428.6 million has exceeded that of China at 1,425.7 million in April 2023. From here on, India would remain the largest population country in the world for the remaining decades of the 21st century and beyond. In 2025, India's working age population (WAP) estimated at 994.7 million is expected to exceed that of China[91] by 7.3 million, making India the largest working age population country globally. By 2030, with close to 1043.4 million working age persons in India, this excess of WAP as compared to China is projected to increase nearly ten-folds, reaching 70.9 million.

These changing demographic profiles offer both opportunities and challenges for India. With a relatively higher share in global working age population, India may have to develop a strategy of growth that depends on exporting human resources or services based on human resources, to countries where populations would have aged faster. In these countries, there may be a relatively high demand for health services accompanied by a shortage of human resources for more regular industrial and business activities[92].

Conclusion: placing India in the new global order

As India improves its global ranking in terms of size of the economy, achieved growth and overall economic strength, India may have to recast its own role in the global pecking order in terms of economic clout and policy leadership. India is already emerging as a leader of the Global South. It has to develop its own paradigm, defining the nature and quality of its leadership in developing a non-exploitative relationship with the rest of the world based on optimizing mutual economic benefits. India can also learn from the experiences of the existing advanced economies and try and avoid some of the erstwhile pitfalls in the growth process such as the Middle-Income Trap[93] and the Dutch Disease[94]. This would require careful policymaking and commitment to responsible fiscal behavior so that excessive subsidization or higher government expenditures do not lead to unsustainable commitments. In this context, it is of critical importance for the GoI and state governments to adhere to their respective Fiscal Responsibility Legislation targets.

[90] https://www.unfpa.org/data/world-population-dashboard

[91] China's working age population is estimated at 987.4 million in 2025.

[92] For more details see EY Economy Watch April 2024 edition; https://www.ey.com/en_in/tax/economy-watch/population-trends-in-the-21-st-century-what-are-india-s-opportunities

[93] According to the World Bank (2011), the middle-income trap refers to a situation whereby a middle-income country is failing to transition to a high-income economy due to rising costs and declining competitiveness. Many economies in Latin America and the Middle East regions have been stuck in a middle-income trap, and recent evidence suggests that a number of countries in East Asia are in a similar position.

[94] Dutch disease is the apparent causal relationship between the increase in the economic development of a specific sector (for example, natural resources) and a decline in other sectors (like the manufacturing sector or agriculture). The term was coined in 1977 to describe the decline of the manufacturing sector in the Netherlands after the discovery of the large Groningen natural gas field in 1960.
This syndrome has been witnessed in many countries across the world, including but not limited to resource-rich commodity exporters. Although Dutch disease is generally associated with a natural resource discovery, it can occur from any development that results in a large inflow of foreign currency, including a sharp surge in natural resource prices, foreign assistance, and foreign direct investment. Economists have used the Dutch disease model to examine such episodes as the flow of American treasures into 16th century Spain and gold discoveries in Australia in the 1850s (IMF).

Part – 5

Global Trade and Tariff wars

US-China trade: gathering protectionist clouds (April 2018)

Abstract

On 3 April 2018, during the first term of US President Donald Trump, the US published a list of products including iron, steel and aluminum products, machinery and equipment parts and organic chemicals, of Chinese origin, proposing an imposition of an additional ad-valorem duty of 25% on these items, affecting US$50 billion of Chinese imports. These duties were applicable only on China's products and in excess of the US' bound rates in its Schedule of Concessions and Commitments annexed to the GATT 1994. In response, China undertook retaliatory measures. With these measures and countermeasures, two of the largest economies of the world entered into a trade conflict. On the priority watch list of the US, countries such as Algeria, Argentina, Chile, India, Indonesia, Kuwait, Russia, Thailand, Ukraine and Venezuela were also listed.

For India, these developments implied both an opportunity and a challenge. India's exports had weakened at that time. Global trade was also expected to slow down if the tariff and trade skirmishes between the US and China were to further escalate. It was expected that both countries would look for alternate destinations for imports. With suitable policies in place, India had the possibility of increasing its exports to the US as well as cut its trade deficit with China.

Introduction

On 3 April 2018, the United States published a list of products including iron, steel and aluminum products, machinery and equipment parts and organic chemicals, of Chinese origin proposing an imposition of an additional ad-valorem duty of 25% on these items, affecting US$50 billion of Chinese imports 95. The proposed duties would be applied only to China's products and in excess of the United States' bound rates in its Schedule of Concessions and Commitments annexed to the GATT 1994. In response, China undertook retaliatory measures. With these measures and countermeasures, two of the largest economies of the world appear to be entering a trade conflict. India cannot escape being adversely affected. On the priority watch list of the US, countries such as Algeria, Argentina, Chile, India, Indonesia, Kuwait, Russia, Thailand, Ukraine and Venezuela are also listed.

International trade has made considerable progress since the signing of the General Agreement on Trade and Tariffs (GATT) in 1947. Its main aim guided by the objective of barrier-free international trade was 'substantial reduction of tariffs and other trade barriers and the elimination of preferences, on a reciprocal and mutually advantageous basis.' GATT was replaced by the World Trade Organisation (WTO) in 1995. Currently, WTO has 159 countries as its members.

The March 2018 Report to the US President on Trade Policy Agenda observed that the scope of China's trade-measures and its economic practices increasingly affect the United States and the overall global economic and trade system. As per this report, the US sees China as a" statist economic model" with a large and growing government role. The 2017 Annual Report by the office of the US Trade Representative (USTR) argues that while China has been a member of the WTO for more than 16 years, it has yet to adopt the market economy system expected of all WTO members. Rather, China appears to be moving further away from market principles in recent times. The report asserts that China has been contributing to a" dramatic misallocation of global resources that leaves everyone –including the Chinese people –poorer than they would be in a world of more efficient markets".

As a result of these trade imbalances, the US workers and businesses are at a disadvantage in global markets, as unfair trading practices flourish. The USTR Report goes on to say that it is not only China but a number of other countries who have benefited from market-distorting practices. As such, the trade policy changes proposed by the US aims at the following:

a. Supporting US National Security
b. Strengthening the US Economy
c. Negotiating Better Trade Deals
d. Aggressive Enforcement of the US Trade Laws
e. Reforming the Multilateral Trading System

US trade deficits: major trading partners

The US has been running major trade deficits with a number of its trading partners, the largest accounting for about 47.1% of the average total US trade deficit in 2016-17 coming from its trade with China.

The average total US Trade Deficit has risen more than six-fold to US$766.5 billion during 2016-2017 from US$120.4 billion during 1987-1990 (Table 17.1). Nearly 55.0% of this increase can be attributed to an increased deficit in trade with China. Over the period 1987-2017, trade with China has increased at a rapid pace with imports into the US rising more than 80 times and exports from the US by more than 37 times. The average trade deficit with China in 2016-17 was 63 times the level over 1987-90. As a result, China's share in the overall trade deficit of the US increased from 5.2% to 47.1% over this period (Chart 17.1).

[95] https://ustr.gov/about-us/policy-offices/press-office/press-releases/2018/april/under-section-301-action-ustr

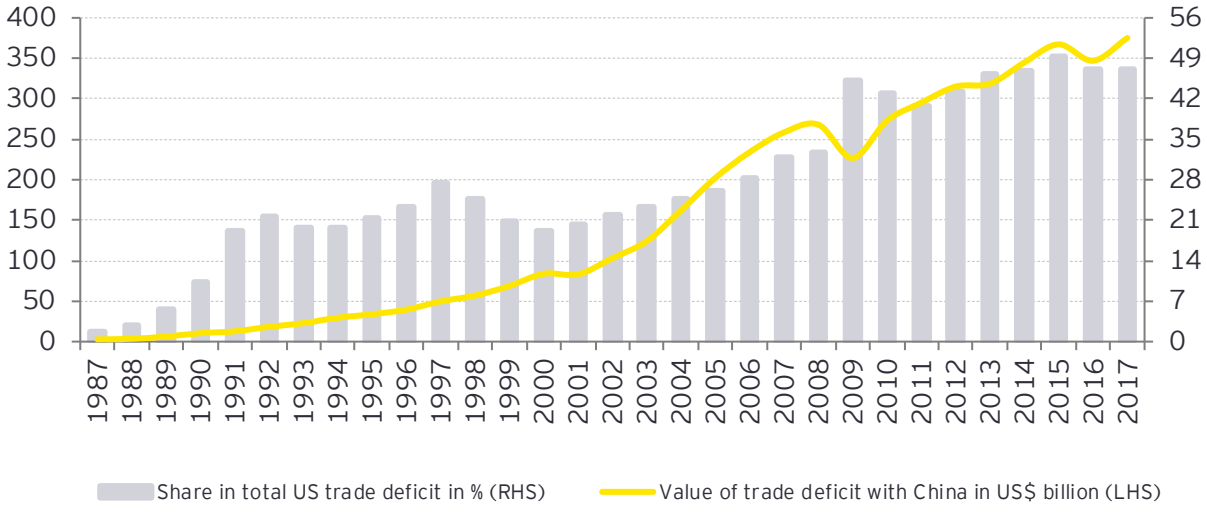
In the meanwhile, Japan's share in the US trade deficit fell by 32.5% points to 9.0% in 2016-17 from 41.5% during 1987-90. The average trade deficit with India, on the other hand, has grown at a much slower pace, increasing from US$0.8 billion in 1987-90 to US$23.7 billion in 2016-17. This reflected a gain of only 2.5% in terms of shares. No other EME has gained as much as China during the process of expansion of the US trade deficit over the last three decades. China has been followed by Mexico with its average share increasing by a margin of 6.4% points during 1987-90 to 2016-17.

Table 17.1: US trade deficit with major trading partners 1987-2017

Period	China	Mexico	Japan	Germany	Vietnam	Ireland	Italy	Malaysia	India	S. Korea	World
Trade Deficit (US$ billion) (Average over given period)											
1987 to 1990	5.7	3.1	49.6	11.2	0.0	-0.8	4.9	1.6	0.8	7.0	120.4
1991 to 1995	23.4	1.1	55.4	9.8	0.0	-0.4	5.7	5.3	2.1	1.3	115.2
1996 to 2000	59.7	19.1	64.5	23.0	0.2	3.7	11.6	10.7	4.7	4.5	269.1
2001 to 2005	135.0	40.6	72.9	40.1	3.0	17.1	16.0	16.3	8.4	15.1	567.9
2006 to 2010	252.1	63.6	70.6	39.6	9.3	22.9	18.0	17.5	8.9	12.2	718.4
2011 to 2015	328.2	59.2	69.9	65.3	20.8	27.8	22.8	15.6	20.0	20.8	725.0
2016 to 2017	361.1	67.7	68.8	64.5	35.2	37.0	30.1	24.7	23.7	25.2	766.5
Share in Overall Trade Deficit (%)											
1987 to 1990	5.2	2.4	41.5	9.2	0.0	-0.7	4.2	1.4	0.6	5.8	100.0
1991 to 1995	20.3	-0.4	51.2	8.4	0.0	-0.5	4.9	4.4	1.8	1.4	100.0
1996 to 2000	23.1	7.6	25.6	9.0	0.0	1.2	4.7	4.2	1.8	1.0	100.0
2001 to 2005	23.3	7.2	13.3	7.1	0.5	3.0	2.9	2.9	1.5	2.7	100.0
2006 to 2010	36.2	9.0	9.7	5.5	1.4	3.3	2.5	2.4	1.2	1.7	100.0
2011 to 2015	45.3	8.2	9.7	9.0	2.9	3.8	3.1	2.1	2.8	2.9	100.0
2016 to 2017	47.1	8.8	9.0	8.4	4.6	4.8	3.9	3.2	3.1	3.3	100.0
2016-2017 minus 1987-1990 share	41.9	6.4	-32.5	-0.8	4.6	5.5	-0.2	1.8	2.5	-2.5	0.0

Source: United States Census Bureau

Chart 17.1: Trend of the US trade deficit with China: 1987-2017



Source (Basic data): United States Census Bureau

US complaints with Chinese trade interventions

In relation to trade between the US and China trade, the US has expressed four main categories of issues. These relate to Intellectual property rights, technology-related issues, food and agricultural products and subsidies and support by the trading countries to their exports.

Intellectual Property Rights

An important US concern is about protection of intellectual property rights. The USTR Report (2018) says that preserving the US lead in research and technology and protecting the US economy from competitors who unfairly acquire their intellectual property is important. For this purpose, the US has already launched an investigation pursuant to Section 301 of the Trade Act of 1974 into allegations that China is engaged in unreasonable and discriminatory efforts to obtain the US technologies and intellectual property.

Technology Related Issues

The USTR Report (2018)96 raises a number of technology-related issues as quoted in the excerpt below:

1. The Chinese government reportedly uses a variety of tools, including opaque and discretionary administrative approval processes, joint venture requirements, foreign equity limitations, procurements, and other mechanisms to regulate or intervene in the US companies' operations in China, in order to require or pressure the transfer of technologies and intellectual property to Chinese companies.
2. The Chinese government's acts and policies constrain achieving market-based terms in licensing and other technology related negotiations with Chinese companies thereby undermining U.S. companies' control.
3. The Chinese government reportedly directs or unfairly facilitates the systematic investment in, or acquisition of, U.S. companies and assets by Chinese companies to obtain cutting edge technologies and intellectual property and generate large scale technology transfer in industries deemed important by Chinese government industrial plans.
4. The Chinese government is conducting or supporting unauthorized intrusions into U.S. commercial computer networks or cyber enabled theft of intellectual property, trade secrets, or confidential business information, and this conduct harms U.S. companies or provides competitive advantages to Chinese companies or commercial sectors.

The USTR Report (2018) asserts that the ITC investigation revealed that from 2012 to 2016, the US imports of CSPV solar cells and modules grew nearly six-fold, and prices fell dramatically. Most of the US producers ceased production entirely or moved their facilities to other countries. Despite the favorable demand conditions, prices fell. Those producers who remained were operating at below full capacity and employment levels and consistently suffered with negative financial performance. These conditions forced them to cut capital investment and research and development expenditures. The ITC determined that the injury to the domestic industry was serious and that increased imports were the most important cause of that injury.

Food and agricultural products

To combat the myriads of unfair trade barriers facing the US food and agricultural exports, the US is also prioritizing its efforts for resolving unfair trade barriers around the world for food, beverages, and agriculture products used for industrial inputs. In 2017, the following initiatives were undertaken: seeking to open Argentina to the US pork and fruit, achieving science based standards for the US beef exports to Australia, resolving barriers to exports of American lamb, beef, horticultural products and processed foods to Japan, establishing year-round markets for the US rice exports to Colombia, Nicaragua and China, resolving access issues with the European Union for the US high quality beef, reopening the Indian market to the US poultry and opening it to pork, working with Middle Eastern countries, China and elsewhere on food certificates, where necessary,

[96] *2018 Trade Policy Agenda and 2017 Annual Report of the President of the United States on the Trade Agreements Program,* Office of the President of the United States, March 2018

based on science; opening Vietnam to meat offal; and resolving barriers to the US corn and soybeans derived from agricultural biotechnology in various countries.

Subsidies and Support: China and other US trading partners

The United States has challenged the excessive government support that China provides for the production of rice, wheat, and corn. China's market price support for rice, wheat, and corn inflated Chinese prices above market levels, creating an artificial government incentive for Chinese farmers to obtain government support. The USTR calls for reducing distortions for rice, wheat, and corn to help American farmers to compete on a more level playing field. This dispute presents issues of systemic importance. The USTR had established a panel in 2017, and it is likely to pursue this case aggressively.

As of 2016, global trade in seafood had grown to US$126 billion, and China alone exported nearly as much seafood annually as the next three largest exporters combined. Global fishing capacity has increased approximately 50% from 2001 to a level that some have estimated it to be 250% higher than required to fish at sustainable levels.

The USTR Report estimates that the value of harmful global subsidies to support fishing are close to US$20 billion annually. These harmful fisheries subsidies are considered as a major contributing factor in the unsustainable exploitation of fisheries resources. The Food and Agriculture Organization (FAO) most recently estimated that approximately 31% of global fish stocks are now in an overfished condition and almost 60% are fully fished and therefore are at risk of overexploitation without effective management.

The USTR calls for urgent action to address overexploitation of fisheries resources. In its view, WTO Members can make a major contribution in ending these destructive subsidy programs that are exacerbating overfishing and overcapacity by agreeing to new prohibitions on the most harmful fisheries subsidies.

In April 2017, the United States and the European Union jointly submitted Article 25.8 requests to China on potential subsidies provided to its steel industry. In previous meetings of the Subsidies and Countervailing Measures (SCM) Committee, China stated that it only provided subsidies to its steel companies under three broadly available (i.e., non-specific) programs. In light of this statement, the United States, along with the European Union, requested information on nearly 160 apparent subsidy programs maintained by the government of China. All of these programs were listed in the annual reports of several steel companies, and many appear to meet the notification requirements set forth under Article 25 of the Subsidies Agreement.

Given the worldwide overcapacity in the steel industry, the United States believes that it is critical for China to respond to this request for information and appropriately notify all subsidies received by its steel industry in accordance with China's obligations. These questions are being followed up in 2018.

Among other related complaints, the USTR Report says that China is home to widespread infringing activity, including trade secret theft, rampant online piracy and counterfeiting, and high levels of physical pirated and counterfeit exports to markets around the globe. Combined shipments/goods coming from or through China and Hong Kong in Fiscal Year FY16 accounted for an overwhelming majority (88%) of all U.S. Customs border seizures of IPR infringing merchandise. China also requires that U.S. firms localize research and development activities. Structural impediments to civil and criminal IPR enforcement are also problematic, as are impediments to pharmaceutical innovation.

US Concerns with India's trade policies

Export subsidies

The WTO provisions on subsidies and countervailing measures in respect of trade in goods are contained in Articles VI and XVI of GATT 1994, the Agreement on Subsidies and Countervailing Measures (ASCM) and the Agreement on Agriculture. The intention in the ASCM was to bring about

greater uniformity in the interpretation of concepts like subsidies, export subsidies, material injury and domestic industry, and lend greater precision and predictability to the rights and obligations.

The US has requested consultations with the Government of India pursuant to Articles 1 and 4 of the Understanding on Rules and Procedures Governing the Settlement of Disputes and Articles 4 and 30 of the Agreement on Subsidies and Countervailing Measures ("SCM Agreement") with regard to certain export subsidy measures of India. India provides export subsidies through: (1) The Export Oriented Units Scheme and sector-specific schemes, including Electronics Hardware Technology Parks Scheme, (2) The Merchandise Exports from India Scheme, (3) The Export Promotion Capital Goods Scheme, (4) Special Economic Zones, and (5) a duty-free imports for exporters program.

The USTR Report asserts that India is not entitled to these subsidies as its per-capita income has crossed US$1000 per annum. The US says that these subsidy measures appear to be inconsistent with Article 3.1(a) of the SCM Agreement, and India appears to have acted inconsistently with Article 3.2 of the SCM Agreement. The USTR Report points out that instead of constraining market distorting countries like China, the WTO has in some cases given them an unfair advantage over the United States and other market-based economies. Instead of promoting more efficient markets, the WTO has been used by some Members as a bulwark in defense of market access barriers, dumping, subsidies, and other market-distorting practices.

Currency management

According to an April 2018 Report of the US Treasury Department to Congress on Macroeconomic and Foreign Exchange Policies of Major Trading Partners of the US, the US Treasury has established a Monitoring List of major trading partners that merit close attention to their currency practices and macroeconomic policies. If a country meets two of the following three criteria, as per a 2015 Act, it is placed on the Monitoring List:

1. A large bilateral trade surplus with the United States is one that is at least $20 billion;
2. A material current account surplus is one that is at least 3% of gross domestic product (GDP); and
3. Persistent, one-sided intervention occurs when net purchases of foreign currency are conducted repeatedly and total at least 2% of an economy's GDP over a 12-month period.

India is also placed on its monitoring list on account of points (1) and (3).

Table 17.2: India's import and export performance (quarterly)

Quarter	Growth rates (%)			Contribution to growth (% points)		
	Exports	Imports	GDP	Exports	Imports	Net Exports
1QFY15	11.7	-0.5	7.4	2.8	-0.1	2.9
2QFY15	1.2	4.7	7.8	0.3	1.3	-1.0
3QFY15	2.0	5.7	6.1	0.5	1.5	-1.0
4QFY15	-6.3	-6.1	6.7	-1.6	-1.6	0.0
1QFY16	-6.2	-5.7	7.8	-1.5	-1.5	0.0
2QFY16	-4.6	-3.7	8.5	-1.1	-1.0	-0.2
3QFY16	-9.1	-10.1	7.3	-2.2	-2.6	0.4
4QFY16	-1.6	-3.7	9.0	-0.4	-0.8	0.5
1QFY17	3.6	0.1	8.1	0.8	0.0	0.7
2QFY17	2.4	-0.4	7.6	0.5	-0.1	0.6
3QFY17	6.7	10.1	6.8	1.4	2.2	-0.8
4QFY17	10.3	11.9	6.1	2.1	2.4	-0.3
1QFY18	5.9	16.0	5.7	1.2	3.4	-2.2
2QFY18	6.5	5.4	6.5	1.3	1.2	0.2
3QFY18	2.5	8.7	7.2	0.5	1.9	-1.4
4QFY18	-0.4	4.8	7.1	-0.1	1.0	-1.1

Source (Basic data): Central Statistical Organisation, Ministry of Statistics and Programme Implementation, GoI

For India, these developments imply both an opportunity and a challenge. India's exports have been weakening in recent times as indicated in Table 17.2. Export growth has been consistently declining from a six-year high of 30.5% that had been reached in November 2017. Global trade is expected to slow down if these tariff and trade skirmishes between the US and China further escalate. Both countries may look for alternate destinations for imports. With suitable policies in place, India may be able to increase its exports to the US as also cut its trade deficit with China.

All is fair in love for trade and war of tariffs (April 2025)

Abstract

The US imposed enhanced tariffs across all countries with whom it conducts international trade, leading to disturbances in global trade. The US initiatives are changing frequently, and uncertainty prevails because the new tariff structure is not stable yet. Countries are responding in different ways to the US tariff initiatives. Some are responding with reciprocal tariffs and others are looking at working out trade deals with the US. India has to examine this matter that best serves its own interests. In this chapter, we focus on the impact of the ongoing tariff impositions on global trade as well as on the growth and trade prospects of the Indian economy.

The stated objective of the levy of reciprocal tariffs by the US is to reduce its trade imbalance with respect to major global economic powers, thereby establishing an overall balance of trade. Countries like China and Canada are retaliating to the US tariffs, leading to an escalation of trade tensions. Alongside, the US has embarked upon a major program to increase the output of crude oil and gas. India is likely to be affected by the ensuing global economic slowdown and the possible adverse impact on its exports. It would do well to work out a comprehensive trade agreement with the US, calibrate suitable monetary and fiscal stimulus policies to protect its GDP growth while also taking advantage of the falling global crude prices.

From a medium- to long-term perspective, India may continue its efforts to attract investments by accelerating land and labor reforms, investment into human resources, skill building, and AI and Generative AI, selecting additional sectors for PLI support, and minimizing regulatory overload. India may continue to work towards free trade agreements (FTAs) with the UK, the EU and select countries in its neighborhood.

Our assessment is that with suitable macro policies, India may be able to sustain a real GDP growth of about 6.5% in FY26 as well as in the medium term, while maintaining a CPI inflation below 4%. We also expect that global crude prices to remain in the range of US$60-65/barrel in FY26, which may be advantageous for India.

Introduction

The US unleashed a major upheaval of global trade through an imposition of enhanced tariffs across all countries with whom international trade with the US occurs. The US initiatives are changing frequently, and uncertainty prevails because the new tariff structure is not stable yet. Countries are responding in different ways to these US tariff initiatives. Some are responding with reciprocal tariffs and others are looking at working out trade deals with the US. India has to examine this matter that serves its own interests best. In this writeup we focus on the issue of the impact on global trade resulting from the ongoing war of tariffs from the viewpoint of its impact on the growth and trade prospects of the Indian economy.

Timeline

On 02 April 2025, the US announced a comprehensive list of revised tariff rates for all countries with which it maintains international trade. The announced tariff rates are based on a formula which has been worked out with the objective of reducing the trade surplus of every country with the US to zero. A total of 57 countries were assigned reciprocal tariffs that ranged between 11% to 50%[97]. For the remaining countries, a floor 10% tariff rate was applicable. These rates were applicable on all commodities except for those where a tariff rate had already been announced or is likely to be announced by the current US government. For example, on 10 February 2025, the US reinstated 25% tariff rate on steel and aluminum imports[98]. Further, on 26 March 2025, automobiles and auto parts, were subjected to Section 232 tariffs at 25%[99]. In the case of copper, semiconductors, lumber and pharmaceuticals, there is a likelihood of the imposition of Section 232 tariffs in the future. The reciprocal tariff rates were to be effective from 09 April 2025.

Subsequently, just as the country specific reciprocal tariffs were about to become effective, the US government, on 9 April 2025, temporarily suspended this measure for a period of 90 days (until 9 July 2025)[100]. This temporary suspension, however, excluded China. On the contrary, the reciprocal tariff for China was increased from an initial rate of 34% (as announced on 2 April 2025) to 84% on 8 April 2025[101] and further to 125% on 9 April 2025[102].

Further, on 11 April 2025, the US Customs and Border Protection published a list of 20 commodities that would be exempted from reciprocal tariffs[103], including those from China. These items include computers, smartphones and other electronic devices. On 15 April 2025, China was subjected to tariff rates up to 245% on imports to the United States. This includes a 125% reciprocal tariff, a 20% tariff to address the fentanyl crisis, and Section 301 tariffs on specific goods, between 7.5% and 100%[104].

Transitional difficulties and pause for 90 days

The reciprocal tariff rates, however, as per an announcement from the office of the US President, have been put on hold for 90 days and replaced by a common rate of 10% for all countries other than China. For China, this rate was revised to 125% taking the overall tariff on Chinese imports to 145%. Further, all electronic goods into the US have been exempted from the levy of reciprocal tariffs including the 10% common tariff rate.

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[97] https://www.federalregister.gov/documents/2025/04/07/2025-06063/regulating-imports-with-a-reciprocal-tariff-to-rectify-trade-practices-that-contribute-to-large-and
[98] https://www.whitehouse.gov/fact-sheets/2025/02/fact-sheet-president-donald-j-trump-restores-section-232-tariffs/
[99] https://www.whitehouse.gov/presidential-actions/2025/03/adjusting-imports-of-automobiles-and-autombile-parts-into-the-united-states/
[100] https://www.whitehouse.gov/presidential-actions/2025/04/modifying-reciprocal-tariff-rates-to-reflect-trading-partner-retaliation-and-alignment/
[101] https://www.federalregister.gov/documents/2025/04/14/2025-06378/amendment-to-reciprocal-tariffs-and-updated-duties-as-applied-to-low-value-imports-from-the-peoples
[102] https://www.whitehouse.gov/presidential-actions/2025/04/modifying-reciprocal-tariff-rates-to-reflect-trading-partner-retaliation-and-alignment/
[103] https://content.govdelivery.com/accounts/USDHSCBP/bulletins/3db9e55
[104] https://www.whitehouse.gov/fact-sheets/2025/04/fact-sheet-president-donald-j-trump-ensures-national-security-and-economic-resilience-through-section-232-actions-on-processed-critical-minerals-and-derivative-products/

Calculating US Reciprocal Tariffs

The idea underlying US reciprocal tariffs is to reduce its imports from a country to a level that would just match US exports to that country so that the US trade balance becomes zero. The amounts to encouraging 'Import-substituting reindustrialization'. Trade balance, however, can also be established by increasing US exports to the concerned countries. The formula is defined below[105]:

$\Delta\tau_i = \frac{X_i - M_i}{\varepsilon * \varphi * M_i}$ ... equation (1)

Δ = Delta represents change

τ_i = Tau, tariff rate to be levied on country i

X_i = Total exports to country i from the US

M_i = Total imports from country i to the US

ε = Epsilon, price elasticity of import demand; set at 4

φ = Phi, elasticity of import prices with respect to tariffs; set at 0.25

$$Change\ in\ \ import\ tariff\ rate = (-1) * \frac{exports - imports}{4 * 0.25 * imports}$$

Since $4 * 0.25 = 1$, we have

$Change\ in\ \ import\ tariff\ rate = \ (-1) * \frac{exports - imports}{imports}$ ... equation (2)

The discounted change in tariff rate was based on equation (2) and fixed at half the above value. Thus,

$\text{USA discounted tariff rate} \ = \ (-1) * \left(\frac{1}{2}\right) * \frac{exports - imports}{imports}$ ... equation (3)

Wherever, the discounted reciprocal tariff rate was estimated to be below 10%, a floor rate of 10% was applied.

In India's case the value of exports from the US to India was equal to US$41.8 billion in 2024 and the value of imports into the US from India was at US$87.4 billion leading to a trade deficit for the US of US$45.7 billion[106]. Using these values in equation (3), the discounted reciprocal tariff rate for India works out at 26%.

$$Change\ in\ \ import\ tariff\ rate\ for\ India = (-1) * \left(\frac{1}{2}\right) * \frac{(41.8 - 87.4)}{87.4} = 26.1\% = 26\%$$

These tariff rates would be added to the commodity specific tariff rates that may be prevailing prior to the announcement of these reciprocal rates. In other words, the new effective tariff rates are commodity specific rates plus a country specific penal rate.

Table 18.1 provides the country-wise reciprocal tariff rates of countries where the applicable tariff rate is higher than floor rate of 10%. Countries such as Cambodia, Vietnam, Bangladesh, China, Indonesia and South Africa have been subjected to relatively higher additional reciprocal tariff rates implying that their comparative disadvantage on account of their reciprocal rates would be more than that of India.

Table 18.1: Country-wise reciprocal tariff rates

Country	Tariff	Country	Tariff	Country	Tariff	Country	Tariff

[105] https://www.whitehouse.gov/presidential-actions/2025/04/modifying-reciprocal-tariff-rates-to-reflect-trading-partner-retaliation-and-alignment/

[106] US Census Bureau

Lesotho	50	Serbia	37	Pakistan	29	Israel	17
Cambodia	49	Thailand	36	Tunisia	28	Malawi	17
Laos	48	Bosnia and Herzegovina	35	Kazakhstan	27	Philippines	17
Madagascar	47	China	34	**India**	**26**	Zambia	17
Vietnam	46	North Macedonia	33	South Korea	25	Mozambique	16
Myanmar (Burma)	44	Angola	32	Brunei	24	Norway	15
Sri Lanka	44	Fiji	32	Japan	24	Venezuela	15
Falkland Islands	41	Indonesia	32	Malaysia	24	Nigeria	14
Syria	41	Taiwan	32	Vanuatu	22	Chad	13
Mauritius	40	Libya	31	Côte d`Ivoire	21	Equatorial Guinea	13
Iraq	39	Moldova	31	Namibia	21	Cameroon	11
Guyana	38	Switzerland	31	European Union	20	Democratic Republic of the Congo	11
Bangladesh	37	Algeria	30	Jordan	20		
Botswana	37	Nauru	30	Nicaragua	18		
Liechtenstein	37	South Africa	30	Zimbabwe	18		

Source (Basic data): https://www.whitehouse.gov/wp-content/uploads/2025/04/Annex-I.pdf

India's trade structure: overall and with the US

India's exports to and imports from the US

The commodity composition of India's exports to the US is summarized in Table 18.2. At the level of 2-digit HS code, the highest share of India's exports to the US is that of electrical machinery and equipment followed by pearls and semiprecious stones and pharmaceutical products. These commodity groups each accounted for a share of 10% or more in India's exports to the US in FY24. Machinery and mechanical appliances and their parts, mineral fuels, articles of iron and steel, made-up textiles, auto components, apparels and organic chemicals are also commodity groups that accounted for a share higher than 3% in India's exports to US in this year. Together, these ten groups accounted for nearly 70% of India's exports to the US in FY24. At the level of individual commodities, that is, at the 8-digit HS code, some of the notable commodities exported by India to the US include smartphones, photovoltaic cells, diamonds, gears and related components, turbo jets, and motor spirit.

The main Indian exports that would be affected by the imposition of the additional 26% tariff would be electrical machinery, gems and jewelry, machinery and mechanical appliances, mineral fuels and textiles. Pharmaceuticals are not yet subject to the additional tariff. Articles of iron and steel would be covered by the provision under Section 232. Mineral fuels exported are refined oil products that are re-exported to the US after processing in India. The impact on gems and jewelry is likely to be minimal as its demand is relatively inelastic. The main items that are likely to therefore be affected include electrical machinery, machinery and mechanical appliances and made-up textiles. However, India's competitors in these three commodity groups such as China, Vietnam, Cambodia, and Bangladesh have also been subjected to reciprocal tariffs which are higher than that of India. South Korea is also a competitor in electronic goods but has been subjected to a 25% reciprocal tariff which is very close to that of India. However, with the 90 days pause, all countries, except for China, have been brought on par with India.

Table 18.2: Commodity composition of India's exports to the US (shares, %)

HS code	Item	FY22	FY23	FY24	FY25 (Apr-Dec)
85	**Electrical machinery and equipment and parts thereof *of which***	**4.7**	**8.7**	**14.3**	**14.9**
85171 300	Smartphones	4.0	6.2	7.2	8.4
85414 300	Photovoltaic cells assembled in modules or made up into panels	0.0	2.7	2.5	1.4
71	**Natural or cultured pearls, precious or semiprecious stones etc. *Of which:***	**19.3**	**16.0**	**12.8**	**11.7**
71023 910	Diamond (other than industrial diamond) cut or otherwise worked but not mounted or set	12.9	10.2	7.2	6.1
30	**Pharmaceutical products**	**8.5**	**8.7**	**10.4**	**11.0**
84	**Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof. *of which:***	**7.6**	**7.7**	**8.0**	**8.2**
84834 000	Gears and gearing, excl toothed wheels, ball screws, gear boxes and speed changers, incl torque c	0.4	0.6	0.7	0.9
84111 200	Turbo-jets of a thrust>25 kn	1.6	0.8	0.5	0.6
27	**Mineral fuels, mineral oils and products of their distillation *of which:***	**6.7**	**8.7**	**7.5**	**5.5**
27101 290	Petroleum oil including motor spirit	3.5	3.4	5.7	4.2
73	**Articles of iron or steel**	**3.5**	**3.9**	**3.6**	**3.7**
63	**Other made up textile articles; sets; worn clothing and worn textile articles; rags**	**4.5**	**3.3**	**3.6**	**3.7**
87	**Parts and accessories of vehicles other than railway or tramway rolling stock, *of which:***	**3.8**	**3.6**	**3.4**	**3.2**
62	**Articles of apparel and clothing accessories not knitted or crocheted.**	**3.5**	**3.7**	**3.2**	**3.0**
29	**Organic chemicals**	**3.9**	**3.8**	**3.1**	**3.2**
	Others	34.0	31.9	30.0	31.9
	Total	100.00	100.00	100.00	100.00

Source: Export Import databank, Ministry of Commerce and Industry, GoI

The composition of commodities that India imports from the US is summarized in Table 18.3. Many of the imported items are commodities in raw form, which are processed in India and then exported back. At the 2-digit level of HS code, India's major imports include mineral fuels (crude oil, coking coal and LNG), pearls and precious stones (diamonds), machinery and mechanical appliances, electrical machinery and equipment and parts, and aircrafts, spacecrafts and parts. Together, the eight items listed in Table 18.3 accounted for 75% of India's total imports from the US in FY24.

Table 18.3: Commodity composition of India's imports from the US (shares, %)

HS Code	Commodity	FY22	FY23	FY24	FY25 (Apr-Dec)
27	**Mineral fuels, mineral oils and products of their distillation *of which:***	**38.9**	**35.4**	**30.7**	**32.3**
27090010	Petroleum crude	22.0	20.0	11.9	14.2
27011910	Coking coal	2.3	5.2	5.6	4.1

27111100	Liquified natural gas	4.4	3.7	3.4	6.4
71	**Natural or cultured pearls, precious or semiprecious stones etc. *Of which:***	**15.8**	**15.1**	**12.2**	**12.1**
71023910	Diamond (other than industrial diamond) cut or otherwise worked but not mounted or set	12.9	9.0	7.3	5.4
84	**Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof. *of which:***	**7.9**	**7.7**	**8.9**	**9.1**
84111200	Turbo-jets of a thrust>25 kn	2.1	1.9	1.5	1.3
84715000	Digital processing units excl under HS 847141 and 847149	0.7	0.6	1.2	1.8
85	**Electrical machinery and equipment and parts thereof etc. *of which***	**4.2**	**4.5**	**5.6**	**6.9**
85176290	Telecom machines for the reception, conversion and transmission or regeneration of voice, images or other data, including switching and routing apparatus:	0.7	1.0	1.5	1.5
88	**Aircraft, spacecraft, and parts thereof.**	**0.4**	**4.3**	**5.3**	**3.4**
88024000	Aeroplanes and other aircraft, of an unladen weight exceeding 15000 kg	0.0	3.0	4.6	2.9
90	**Medical or surgical instruments and apparatus, optical, photographic, cinematographic, precision instruments etc.**	**3.6**	**3.5**	**4.6**	**4.4**
39	**Plastic and articles thereof.**	**2.7**	**3.2**	**3.9**	**3.5**
29	**Organic chemicals**	**4.6**	**4.1**	**3.5**	**2.8**
	Others	21.7	22.3	25.2	25.5
	Total	100	100	100	100

Source: Export Import databank, Ministry of Commerce and Industry

India's non-US exports and imports

Table 18.4 shows that India's non-US exports primarily consist of mineral fuels (refined oil products), machinery and mechanical appliances, electrical machinery and equipment and parts, gems and jewelry, motor cars and auto components, organic chemicals, pharmaceutical products and iron and steel. Many of these export items are common in the US and the non-US lists of exports, pointing to the possibility of switching some exports out of the US to non-US destinations.

Table 18.4: Overall commodity exports from India excluding those to the US (% shares)

HS Code	Commodity	FY22	FY23	FY24	FY25 (Apr-Dec)
27	**Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes.**	**18.6**	**25.3**	**22.7**	**18.8**
27101944	Automotive diesel fuel, not containing biodiesel, conforming to standard is 1460	7.0	10.2	7.8	5.9

27101 939	Aviation turbine fuels, kerosene type conforming to standard is 1571	0.0	4.7	4.5	4.7
84	**Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof.**	**5.7**	**5.8**	**6.6**	**7.5**
84111 200	Turbo-jets of a thrust>25 kn	0.8	0.7	1.0	1.4
85	**Electrical machinery and equipment and parts thereof etc. *of which***	**4.8**	**5.9**	**6.5**	**8.0**
85171 300	Smartphones	0.0	2.9	4.3	5.9
71	**Natural or cultured pearls, precious or semiprecious stones etc. *Of which:***	**7.1**	**6.9**	**6.4**	**5.5**
71023 910	Diamond (other than industrial diamond) cut or otherwise worked but not mounted or set	7.1	5.9	4.4	3.7
87	**Vehicles other than railway or tramway rolling stock, and parts and accessories thereof.**	**4.9**	**4.9**	**5.1**	**5.7**
87032 291	Motor car with cylinder capacity>=1000cc and < 1500cc, with spark-ignition	0.9	1.0	1.2	1.5
29	**Organic chemicals**	**5.5**	**4.9**	**5.0**	**4.9**
30	**Pharmaceutical products**	**3.7**	**3.5**	**3.9**	**4.1**
72	**Iron and steel**	**6.4**	**3.4**	**3.2**	**2.5**
	Others	43.3	39.5	40.6	42.9
	Total	100	100	100	100

Source (basic data): Export Import databank, Ministry of Commerce and Industry

India also imports various commodities from sources other than the US. At the 8-digit level (Table 18.5), the most important commodity is petroleum crude followed by machinery and parts including mobile parts, and diamonds. Most of these imports are at the raw material or intermediate stage that are brought into India for further processing and value addition for re-exports. Imports into India for final consumption may be limited. If India reduces import duties in general, the unit cost of these inputs would go down, benefiting Indian producers.

Table 18.5: Overall commodity imports to India excluding those from the US (% shares)

HS Code	Commodity	FY22	FY23	FY24	FY25 (Apr-Dec)
27	**Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes.**	**31.2**	**36.5**	**32.4**	**30.4**
27090010	Petroleum crude	18.9	24.3	21.1	20.4
27011920	Steam coal	2.2	3.4	2.5	1.9
27011910	Coking coal	2.2	2.5	2.1	1.6
27111100	Liquified natural gas	2.0	2.3	1.9	1.8
85	**Electrical machinery and equipment and parts thereof etc. *of which***	**10.6**	**9.8**	**12.1**	**12.2**

85423100	Monolithic integrated circuits - digital	1.4	1.5	2.0	2.1
85177990	Electrical machinery and parts thereof including mobile phones parts	1.3	1.2	1.5	1.8
71	**Natural or cultured pearls, precious or semiprecious stones etc. *Of which:***	**13.1**	**10.0**	**11.5**	**12.9**
71023910	Diamond (other than industrial diamond) cut or otherwise worked but not mounted or set	0.5	0.6	0.7	0.5
84	**Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof.**	**8.3**	**7.6**	**8.4**	**8.8**
84713010	Personal computer (laptop, palmtop, etc)	1.3	0.8	0.8	0.9
84111200	Turbo-jets of a thrust>25 kn	0.3	0.3	0.4	0.3
29	**Organic chemicals**	4.7	4.0	4.0	3.8
39	**Plastic and articles thereof.**	**3.3**	**3.2**	**3.2**	**3.1**
	Others	**28.7**	**28.8**	**28.4**	**29.0**
	Total	**100**	**100**	**100**	**100**

Source (basic data): Export Import databank, Ministry of Commerce and Industry

India's direction of trade – US and non-US

Countries that are sources of imports or destination for exports for India are listed in Tables 18.6 and 18.7. The US accounts for the highest share of exports from India followed by the UAE and Netherlands. India's exports to China accounted for only 3.8% of its total exports in FY24.

Table 18.6: India's major export destinations: US and non-US

	FY22	FY23	FY24	FY25 (Apr-Dec)
US	18.0	17.4	17.7	18.6
UAE	6.6	7.0	8.2	8.3
Netherlands	3.0	4.8	5.1	5.6
China	5.0	3.4	3.8	3.2
Singapore	2.6	2.7	3.3	3.2
United Kingdom	2.5	2.5	3.0	3.4
Saudi Arabia	2.1	2.4	2.6	2.7
Bangladesh	3.8	2.7	2.5	2.6
Germany	2.3	2.2	2.3	2.4
Italy	1.9	1.9	2.0	1.8
South Africa	1.4	1.9	2.0	1.8
Total	**100.0**	**100.0**	**100.0**	**100.0**

Source: Ministry of Commerce and Industry

As far as imports sources are concerned, China accounted for more than 15% of India's total imports in FY24, followed by Russia and the UAE. The US was in fourth place with a share of 6.2% in FY24. From Russia, the UAE and the US, the main imported commodity is petroleum crude, whereas from China, a mix of non-petroleum commodities are being imported.

Table 18.7: India's major sources of imports: US and non-US

	FY22	FY23	FY24	FY25 (Apr-Dec)
US	7.1	7.1	6.2	6.4
China	15.4	13.8	15.0	15.5

Russia	1.6	6.5	9.0	9.1
UAE	7.3	7.4	7.1	8.4
Saudi Arabia	5.6	5.9	4.6	4.1
Iraq	5.2	4.8	4.4	4.0
Indonesia	2.9	4.0	3.5	3.3
Switzerland	3.8	2.2	3.1	3.7
Singapore	3.1	3.3	3.1	2.9
South Korea	2.9	3.0	3.1	2.9
Hong Kong	3.1	2.6	3.0	2.7
Total	**100.0**	**100.0**	**100.0**	**100.0**

Source: Ministry of Commerce and Industry, GoI

Global growth slowdown and India's position

The global economy had evolved into a framework in which the US was running both a large current account deficit including a massive trade deficit and a large fiscal deficit. Corresponding to the US government's large current account deficit, China was running a large current account surplus. In China, this is also accompanied by a large fiscal deficit.

With the reciprocal tariffs, the US has attempted, after many years, to rebalance its books by bringing down its current account deficit and establish a balance on its current account. In fact, as long as there is current account deficit for a country, macroeconomic identities require that it would have a capital account surplus. This means that on the capital account, resources flow into the country from abroad. Thus, countries such as China, Japan, India etc. hold debt issued by the US in the form of US Treasuries and US$. This has resulted into accumulated government debt for the US. On these Treasury bills, some interest had to be paid which was only at a nominal rate. However, the volume of US debt and interest payments on it, have both become very large. In order to correct this longstanding imbalance, correction may happen on both accounts, in the sense that the US may have a better profile of trade balance and non-US countries may reduce their holdings of US Treasuries. The reduction of US Treasuries held by other countries, which had already started earlier, is now getting accelerated. As the price of US bonds go down, their yields would go up, making issue of additional US debt highly costly.

Countries such as China have imposed retaliatory tariffs. The combined effect of both higher US tariffs on imported goods and higher retaliatory tariffs on goods exported from the US is expected to reduce the related volume of trade. In other words, in equation (1), both X and M for such countries are expected to go down. As a result, total global trade may fall sharply. This is likely to adversely impact global growth. The IMF (April 2025) has projected a significant slowdown in global growth with global growth falling from 3.3% in 2024 to 2.8% in 2025, a downward revision of 0.5% points vis-à-vis its January 2025 forecast. IMF attributes this primarily to the direct effect of the new trade measures and their indirect effect through trade linkage spillovers, heightened uncertainty, and deteriorating sentiment.

The formulation of reciprocal tariff rates recognizes price effects for determining imports. However, it does not give any importance to income effects. Demand for imports into any country depends not only on price including the tariff component but also the per capita income of the importing country. If a global growth slowdown happens accompanied by retaliatory tariffs, exports are likely to fall both because of lower income of importing countries and higher prices of exported products.

The overall strategy of the US appears to be that of 'import-substituting reindustrialization' (ISRI). The expectation is that investment may flow back into the US from various countries where US investors had set up production facilities in order to take advantage of lower labor costs. Even if

investment moves back into the US, it may be difficult to get the requisite labor at a competitive rate. One advantage in favor of the US, however, would be likely lower energy prices.

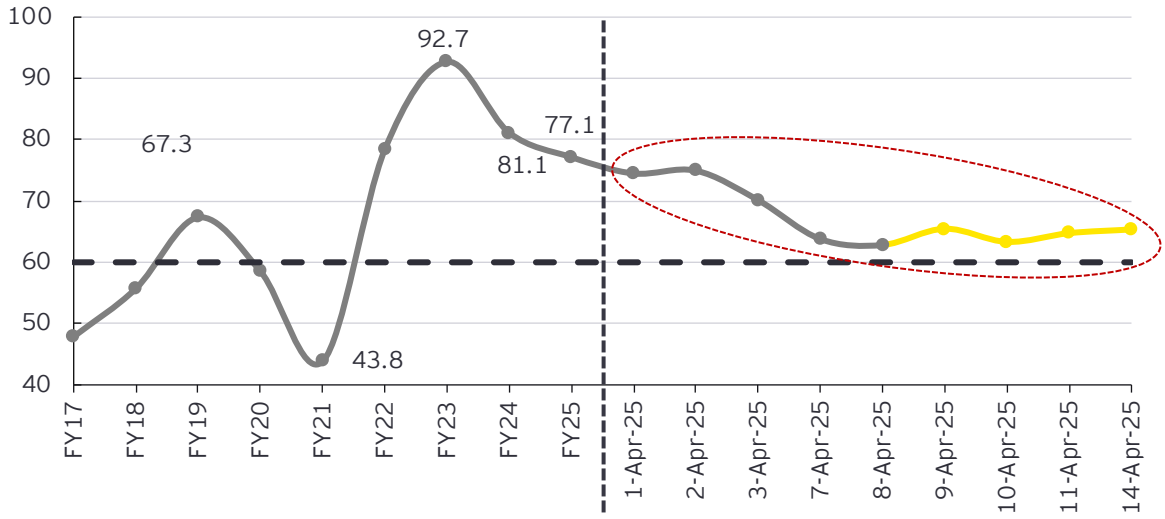
As the US attempts to increase its production capacity and as various exporters to the US find themselves with excess production capacities, there are likely to be important short and long-term implications. In the short-term, these exporter countries may try to find substitute destinations where they can 'dump' the output of their excess capacities. India, given its large market, may be targeted for such dumping [107]. Therefore, it has to consider the imposition of suitable anti-dumping policies including higher tariffs.

In the transitional period also, with the 10% common additional tariff rate there may be a reduction in the quantity of imports into the US and their prices are likely to go up. Within three months, it may be difficult to increase domestic production within the US except by a small margin. Thus, the adverse impact on global trade, involving reduction in its volume and increase in the prices of traded goods is likely to continue even in the 90-days pause period.

Impact of fall in crude prices

The US has been working on a joint strategy of reducing energy prices by increasing production of oil and gas. It is issuing new licenses and existing facilities are increasing their capacities so that the overall global supply of petroleum crude and natural gas can effectively increase. The expectation is that this would lower costs of production across the board and neutralise any inflationary effects of reduced imports into the US. As global crude prices fall, India is likely to benefit immensely.

Chart 18.1: Trends in global crude prices (US$/bbl.)



Source (basic data): World Bank and https://oilprice.com/oil-price-charts/46

Note: Annual global crude price is the average of three spot prices - Dated Brent, West Texas Intermediate and Dubai Fateh. Daily prices are for Dated Brent only

A fall in crude prices is likely to be both growth-supportive and inflation-dampening in India's context. We expect that in FY26, global crude prices would average US$65/bbl. as compared to its FY25 average of US$77/bbl. This fall is expected in view of the ongoing US-China tariff retaliations and the across-the-board 10% hike of tariff levied on imported goods into the US, except for China

[107] Dumping is, in general, a situation of international price discrimination, where the price of a product when sold in the importing country is less than the price of that product in the market of the exporting country (WTO) (https://www.wto.org/english/tratop_e/adp_e/adp_info_e.htm)

and some other countries. As per an earlier RBI study[108], a fall of US$10/bbl. in crude prices, compared to a benchmark of US$75/bbl, is likely to increase India's GDP growth by about 30 basis points and reduce CPI inflation by about 40 basis points. Although an easing global growth and continued trade and tariff uncertainties would marginally dampen growth in India, this may be adequately neutralised by a fall in global crude prices and appropriate fiscal and monetary policies to support a real GDP growth of at least 6.5% and a CPI inflation rate of 4% or less in FY26.

Impact on India's GDP growth

We may consider the impact of ongoing tariff wars and related uncertainties on India's GDP growth prospects for FY26 in terms of four effects. Due to uncertainty and fast moving changes, our emphasis is on analysing the directional impact on India's growth prospects. These four effects are (1) export reducing effect, (2) slowdown in global growth effect, (3) fall in crude prices effect, and (4) excess capacities effect. These effects are expected to interact with each other.

Export reducing effect

India's exports are expected to go down due to the levy of higher tariff rates by the US. Although India's exports to other countries may not be affected by the tariff changes, as the incomes of other countries go down due to the negative impact on global growth, there would be an adverse effect on India's non-US exports. As exports go down, India's demand for imports may also go down since many of its imports are undertaken for processing and re-exporting. As such, there may be some fall in India's net exports but not by a large margin. Since the contribution of net exports to GDP growth in any case has been low in recent years, the overall export reducing effect on India's GDP growth in FY26 may be limited. As demand for imports from the US goes down, particularly in those countries where retaliatory actions are being undertaken, the demand for US$ as a reserve currency may also go down. If the INR appreciates with respect to the US$, this may also have an adverse impact on India's exports.

Fall in crude prices effect

India is a large importer of crude oil. A fall in global crude prices is expected to have positive effects on both real GDP growth and CPI inflation as discussed above. Further, as production costs go down, India's exports may become relatively more competitive, thereby neutralizing some of the export reducing effects discussed above. Global crude prices fell from a level of nearly US$75/bbl. in the beginning of April to about US$65/bbl. by the middle of April 2025.

Global growth slowdown effect

With the trade and tariff war between the US and China, the volume of global trade is expected to go down along with global growth. Many countries that are running high government debt and fiscal deficit levels, may not be able to launch any large fiscal stimulus to counter the likely tariff war driven slowdown. India may be one of the few countries which has the scope of launching a monetary stimulus supplemented by a limited fiscal stimulus.

Excess capacities effect

Many countries may have to suffer lower exports to the US resulting in excess domestic capacities. They are likely to then try to dump their goods into India. India has, therefore, to design suitable country-specific anti-dumping duties.

Calibrating India's response

[108] For details see In-focus section of September 2022 issue of EY Economy Watch

The global economy and intercountry trade and economic relations are due for a major overhaul. The US has taken an important initiative which has both short- and long-term effects. India may calibrate its response considering the levy of US tariff rates, the responses by some countries in the form of retaliatory tariffs, and other economic developments including an extended period of uncertainty.

As a short-term measure, India may attempt to reduce its reciprocal tariff rate as determined by the US, by switching its supply sources of crude oil from other countries to the US. As an example, an increase of US$ 25 billion of imports from the US, possibly on account of increased crude oil imports, India's reciprocal tariff rate is estimated to go down to 11.8% as shown below. This may happen when the US revises the reciprocal tariff rates after 90 days. In the meanwhile, it may be best for India to work out a comprehensive trade agreement with the US. As per available information, India has already signed with the US, a terms of reference agreement, for the first phase of the proposed bilateral trade agreement, which is likely to be finalised by September-October of 2025 [109]. This may not involve any increase in current account imbalance as this change involves only switching sources of imports and not increasing our imports. Available monthly data indicates that India has already undertaken steps in this direction in the months of January and February 2025.

$$Change\ in\ \ import\ tariff\ rate\ for\ India = (-1) * \left(\frac{1}{2}\right) * \frac{(66.8 - 87.4)}{87.4} = 11.8\%$$

Further, in order to ensure that India's GDP growth remains close to its potential growth of 6.5% in FY26, both monetary and fiscal stimulus may be utilized. In the context of monetary policy, the rate reduction cycle has already been initiated. This may be continued until the policy rate comes down to a level of 5-5.25%. On the fiscal side, while continuing the directional change of reducing the fiscal deficit to GDP ratio towards its sustainable level, its composition may continue to shift in favour of capital expenditure associated with relatively higher multipliers.

From a medium to long-term perspective, in order to attract higher investments, India may continue with its initiatives for land and labour reforms, investment into human resources, skill building and AI and Generative AI, selecting additional sectors for PLI support and minimizing regulatory overload. India may continue to work towards more free trade agreements (FTAs) with the UK and the EU as also with selected countries in its neighbourhood.

Conclusions

The US has embarked upon a major overhaul of the global trading system. Its stated objective is to reduce US trade imbalance with respect to major global economies. The selected instrument for this purpose is the tariff rate that is charged on imports into the US. The idea is to increase the prices of these imports to reduce their volume and establish a balance of trade. A major war of tariffs has been initiated, with countries like China and Canada retaliating to the US tariffs. Alongside, the US has embarked upon a major program to increase the output of crude oil and gas. India is likely to be affected by the ensuing global economic slowdown and the possible adverse impact on its exports. It may do well to work out a comprehensive trade agreement with the US, calibrate suitable monetary and fiscal stimulus policies to protect its GDP growth while also taking advantage of the falling global crude prices. From a medium to long term perspective, India may continue its efforts to attract investments by accelerating for land and labour reforms, investment into human resources, skill building, and AI and Gen AI, selecting additional sectors for PLI support and minimizing regulatory

[109] https://economictimes.indiatimes.com/news/economy/foreign-trade/india-us-sign-terms-of-reference-for-first-phase-of-trade-deal/articleshow/120307227.cms?from=mdr

overload. India may continue to work towards free trade agreements (FTAs) with the UK and the EU as also with selected countries in its neighbourhood.

Our assessment is that with suitable macro policies India may be able to sustain a real GDP growth at about 6.5% in FY26 as also in the medium term, while maintaining a CPI inflation below 4%. We also expect that global crude prices may remain in the range of US$60- 65/barrel in FY26 which is likely to be advantageous for India.

List of abbreviations

Sr. no.	Abbreviations	Description
1	AD	aggregate demand
2	AEs	advanced economies
3	Agr.	agriculture, forests and fishing
4	AY	assessment year
5	Bcm	billion cubic meters
6	bbl.	barrel
7	BE	budget estimate
8	CAB	current account balance
9	CGA	Comptroller General of Accounts
10	CGST	Central Goods and Services Tax
11	CIT	corporate income tax
12	Cons.	construction
13	CPI	Consumer Price Index
14	COVID-19	Coronavirus disease 2019
15	CPSE	central public-sector enterprise
16	CRAR	Credit to Risk- weighted Assets Ratio
17	Disc.	discrepancies
18	ECBs	external commercial borrowings
19	Elec.	electricity, gas, water supply and other utility services
20	EMDEs	Emerging Market and Developing Economies
21	EXP	exports
22	FAE	first advance estimates
23	FC	Finance Commission
24	FII	foreign investment inflows
25	Fin.	financial, real estate and professional services

Sr. no.	Abbreviations	Description
26	FPI	foreign portfolio investment
27	FRBMA	Fiscal Responsibility and Budget Management Act
28	FRL	Fiscal Responsibility Legislation
29	FY	fiscal year (April–March)
30	GDP	Gross Domestic Product
31	GFCE	government final consumption expenditure
32	GFCF	gross fixed capital formation
33	GoI	Government of India
34	G-secs	government securities
35	GST	Goods and Services Tax
36	GVA	gross value added
37	IAD	Index of Aggregate Demand
38	IBE	interim budget estimates
39	ICRIER	Indian Council for Research on International Economic Relations
40	IEA	International Energy Agency
41	IGST	Integrated Goods and Services Tax
42	IIP	Index of Industrial Production
43	IMF	International Monetary Fund
44	IMI	Index of Macro Imbalance
45	IMP	imports
46	INR	Indian Rupee
47	IPD	implicit price deflator
48	MCLR	marginal cost of funds-based lending rate
49	Mfg.	manufacturing
50	MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
51	Ming.	mining and quarrying
52	m-o-m	month-on-month
53	Mt	metric ton
54	MoSPI	Ministry of Statistics and Programme Implementation
55	MPC	Monetary Policy Committee

Sr. no.	Abbreviations	Description
56	MPF	Monetary Policy Framework
57	NEXP	net exports (exports minus imports of goods and services)
58	NSO	National Statistical Office
59	NPA	non-performing assets
60	OECD	Organization for Economic Co-operation and Development
61	OPEC	Organization of the Petroleum Exporting Countries
62	PFCE	private final consumption expenditure
63	PIT	personal income tax
64	PMI	Purchasing Managers' Index (reference value = 50)
65	PoL	petroleum oil and lubricants
66	PPP	Purchasing power parity
67	PSBR	public sector borrowing requirement
68	PSU/PSE	public sector undertaking/public sector enterprises
69	RE	revised estimates
70	RBI	Reserve Bank of India
71	SLR	Statutory Liquidity Ratio
72	Trans.	trade, hotels, transport, communication and services related to broadcasting
73	US$	US Dollar
74	UTGST	Union Territory Goods and Services Tax
75	WALR	weighted average lending rate
76	WHO	World Health Organization
77	WPI	Wholesale Price Index
78	y-o-y	year-on-year
79	1HFY20	first half of fiscal year 2019-20, i.e., April 2019-September 2019

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Jaipur, Rajasthan - 302018

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IT Park, MIDC, Plot No. IT-5
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