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Economic Models and Growth Trajectories of BRICS+ and G7: A Comparison

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Executive Summary

With the expansion of BRICS+ in January 2024, the bloc has been increasingly depicted as a rapidly growing counterweight to the G7 by politicians and academics alike and is often projected to overtake the G7 by 2050. This paper provides its own prediction of both groups' future growth trajectories, and concludes that while the robust growth of BRICS+ is likely to continue, it will not be as substantial as many experts forecast. To derive this judgement, the paper examines how conducive the economic and political conditions within the G7 and BRICS+ are for growth, and it determines that BRICS+ is still lagging far behind in several crucial aspects, such as key infrastructure gaps and institutional development, which are often dismissed in the existing literature. The paper also finds that the G7's shortcomings, notably its aging population, high debt levels and difficulties in addressing the renewable transition, will also hinder its growth, but likely by a smaller margin than the aggregate problems of BRICS+. The conclusions are buttressed by analyzing how BRICS+ will likely benefit less from future trends such as the rise of artificial intelligence (AI) and innovation than the G7, and that its collective vision of de-dollarization would face numerous impediments even if other shared projects will be effective. This review seeks to add to a relatively scant body of existing literature on this subject. As competition between the two groups intensifies over the coming years, analysis of the dynamics and potential outcomes will grow ever more important.

Introduction

While the G7 (Canada, France, Germany, Italy, Japan, the United Kingdom and the United States) has been paramount in shaping the global economic and political landscape of the last few decades, the nine emerging economies in the growing BRICS+ (Brazil, Russia, India, China, South Africa, Egypt, Ethiopia, Iran and the United Arab Emirates [UAE]) have increasingly sought to present an alternative to the status quo. Both blocs prioritize growth to maximize their global influence; this paper will forecast the economic trajectories of these groups by detailing how favourable their economic and political circumstances are, and will be, to this end. This paper is split in three sections: the first analyzes how the internal economic models of the G7 and BRICS+, including their export complexities, state economic involvement and national debt, alongside external drivers such as their trade partners and cohesion between bloc members, will impact their growth. Second, the paper comparatively examines the constraints of both groups, namely political turbulence, demographic shortfalls, the need to transition to the green economy and infrastructure deficits. Finally, it assesses the effectiveness of future G7 and BRICS+ initiatives in accelerating economic growth, which encompasses the advancement of technology and innovation, BRICS+ de-dollarization and initiatives such as the New Development Bank (NDB) and Contingent Reserve Arrangement (CRA).

As this paper was drafted in late 2024, it omits Indonesia's accession to BRICS+ and only speculates on the Trump administration's return to power in the United States, potentially understating its rapid dismantling of the multilateral system through the sweeping tariff measures against both G7 and BRICS+ members.

Literature Review and Analytical Framework

Most of the existing literature on BRICS+ and the G7 focuses on whether BRICS+ can reshape the global economic order but fails to directly compare their economic models, constraints and future growth (Mooradian 2024; Afota et al. 2024; Starrs 2024). Given how recent BRICS+ expansion was to the writing of this paper, many articles also only contrast the G7 with the five original members of BRICS+. The overarching contribution of this paper is therefore twofold: it makes a more pessimistic prediction of the bloc's future economic trajectory relative to the G7's based on manifold economic and political factors, highlighting previously overlooked empirical evidence to support this claim. Second, this paper includes the four new members within this assessment and demonstrates that while they present some opportunities for BRICS+, including by drastically increasing the bloc's fossil fuel reserves, their underdevelopment (with the exception of the UAE) will render their contribution to overall future economic prospects for BRICS+ fairly insignificant.

The authors who predict excessively rapid economic growth for BRICS+ often cite its abundant natural resource deposits and its members' young, expanding populations. Some point to the bloc's technological advancement but offer considerably selective evidence, such as Ben Aris' (2024) observation that China filed twice as many patents as America did in 2023, and Golam Md Mostafa and Monowar Mahmood's (2015) finding that more Chinese and Indian students are obtaining science and engineering degrees. Meanwhile, D. K. Srivastava (2024) claims that the bloc's relatively low government debt levels, along with the advent of the CRA, will enable it to provide more stimulus during financial crises than the G7 can, and therefore increase its long-run economic growth.

Conversely, most of the existing literature agrees that political divisions within BRICS+ will hinder intra-bloc cooperation and thus growth, a liability that has grown with its expansion in early 2024 (Mostafa and Mahmood 2015; Aris 2024; Yousuf 2024). They tend to mention the Sino-Indian border split and disagreements over further expansion and future ties with the West, factors that will also contribute to the bloc's dim prospects for de-dollarization. Furthermore, Thorvaldur Gylfason (2023) uses a plethora of indicators concerning the quality of human capital, robustness of political institutions, preparedness for the renewable transition, inequality and export patterns to conclude that the G7 still has considerable advantages over BRICS+ for growth.

This paper is largely based on the factors underpinning the Global Innovation Index's five indicators (political institutions, human capital and research, infrastructure, market sophistication, and business sophistication) to assess the economic models and constraints of both blocs.[1] Additionally, it analyzes intra-bloc relations to determine how they will impact their economic growth. Using both of these elements enables this paper to directly address the points made in the existing literature; for instance, Mostafa and Mahmood use the following five indicators from the World Economic Forum Global Competitiveness Index (WEFGCI): economic growth, market size, savings and investment, labour force with science and engineering education background, and

1 See www.wipo.int/gii-ranking/en/.

innovation. Of these, three (market size, savings and investment, and labour force with science and engineering education background) are encompassed in this analytical framework. It also allows for the assessment of elements, such as health care and infrastructure quality, that have been overlooked by most economists. In addition, most of the empirical data was taken from primary sources such as the World Bank and the International Monetary Fund (IMF) to ensure reliability.

The main body of this paper is structured as follows: economic models, constraints and trajectory. Factors feature as part of the blocs' economic models if they are intangible economic outcomes directly stemming from recent government policies, and constraints otherwise (namely political obstacles, demographic shortfalls, the adoption of renewable energy and infrastructure shortages). The other two factors within WEFGCI (innovation and economic growth) are described in the trajectory section, which details future trends that will impact the growth of both blocs, as the former will lead to higher production efficiencies and industry creation while the latter will be estimated by taking all of the aforementioned factors into account.

Other future developments include BRICS+ initiatives to develop financial institutions independent from the existing ones led by the United States, including the CRA, the NDB and de-dollarization. Moreover, given how important digital technologies will be in increasing economic growth, this paper also assesses how effectively the G7 and BRICS+ will adopt them. It specifically details their ability to obtain semiconductors, which are a key component of today's technologies, and AI, a pivotal development that is expected to generate US$19.9 trillion globally by 2030 due to the vast productivity gains it will induce.

Economic Models and Growth: Key Elements and Impact

The Level of Diversification and Complexity in Industries

The G7's first economic advantage over BRICS+ stems from its more diversified and complex output; according to the IMF's export diversification index, which runs from 0 (full diversification) to 10 (no diversification), the G7 has an average of 1.87 while BRICS+ has one of 2.64.[2] Even though this disparity will decrease with the introduction of four new BRICS+ members, with Iran bringing unique expertise in aerospace, industrial technology and nuclear energy, and the UAE in investment and banking, a few factors will likely continue this trend (Ashby et al. 2023). As BRICS+ nations are "emerging" and typically endowed with abundant natural resources, these countries tend to rely on a narrow selection of goods, whereas the G7's advanced economies possess a host of additional capabilities, from better human capital to greater investment flows to wealthier consumer bases, that enable them to develop a varied set of industries (Delechat et al. 2024, 2). This impact is especially pertinent within various BRICS+ members that were colonized, notably Egypt, India and South Africa, as their suzerains invariably built infrastructure that was primarily designed to support a few industries, for example, a railway from a mine to a port, thereby increasing their colonies' reliance

2 See https://legacydata.imf.org/?sk=a093df7d-e0b8-4913-80e0-a07cf90b44db&utm.

on these sectors. Moreover, colonial powers often prevented these countries from developing local industries as they wanted to cultivate strong markets for their exports, as shown by Great Britain's suppression of India's locomotive and Egypt's cotton production (Bent 2017, 6). Since such diversification increases resilience to external shocks and thus encourages foreign investment and government spending, and because it often reduces unemployment by offering a wide range of jobs for different skills, it is a pivotal contributor to the G7's economic growth especially (Acemoglu and Autor 2011; Cerdeiro and Plotnikov 2017).

The greater complexity of the G7's output compared to that of BRICS+ also favours the former in terms of economic growth. Many BRICS+ countries rely heavily on their exports of a few categories of foodstuffs, rare metals and fossil fuels (Hache and Roche 2024). The latter two are finite and accelerate environmental degradation; they also put the countries at risk of "Dutch Disease," where an increase in commodity prices leads to appreciation of the local currency, making other exports less competitive. This is exemplified by South Africa's current situation, since discoveries of minerals have severely stunted the local manufacturing industries (Harvey 2024). Conversely, the prevalence of services in G7 economies assists economic growth in two major ways. Since they typically require less capital investment than goods manufacturers, service-oriented businesses are easier to scale and start up, increasing market competition and dynamism. The rise of digitalization has also made service-based economies more resilient to supply chain bottlenecks and enables them to reach a global customer base (Dadush and Wyne 2011). Given that it will take decades for BRICS+ countries to develop the needed infrastructure and human capital and fulfil other requirements to adopt such a diversified service-based economic model, this will be one of the G7's unique drivers of growth for the near future.

In addition to such intra-economy diversification, the G7's exports are more distinct from global output than that of BRICS+. This can be evidenced by the Finger-Kreinin index, which compares the absolute deviation of a country's trade structure from the global structure, where $FK=(\sum|p_c - p_w|)/2$ (Dergachova et al. 2020, 31). In this formula, p_c denotes the share of a certain export of a bloc, while p_w illustrates this product's share in total world exports. With a "complete disparity" therefore equating to a score of zero and "no disparity" to one, the G7's rating of 0.33 indicates it exports more specialized products than BRICS+ does, since the latter has a substantially higher score of 0.53 (Gylfason 2023). Such uniqueness benefits the G7 economically as it translates into less international competition against its industries, enabling them to charge higher export prices.

Trade Protectionism

BRICS+ also displays a much higher level of trade protectionism than the G7. In 2021, the average tariff rate of BRICS+ countries was 6.94 percent and was even more than 10 percent in Ethiopia, Egypt and Iran, whereas that of G7 nations was substantially lower at 1.51 percent.[3] Additionally, BRICS+ countries generally tend to give out higher subsidies per GDP than their G7 counterparts; while both heavily shield sectors such as agriculture, renewable energy and "strategic sectors" including defence and semiconductors, many BRICS+ nations also uniquely protect their fossil fuel and

3 See https://databank.worldbank.org/source/world-development-indicators/Series/TM.TAX.MRCH.WM.AR.ZS.

manufacturing industries.[4] This is complemented by regulations within BRICS+ countries that restrict foreign investment in numerous sectors, force them to find a local sponsor, or dictate their corporate governance procedures, most notably China's Foreign Investment Law, India's Companies Act and the UAE's Commercial Companies Law.

The protectionism of BRICS+ will constrict its economic growth in several ways; most crucially, shielding local industries from foreign competitors may protect local jobs and revenue but will ultimately champion inefficient firms with higher prices (World Bank 2023). The resulting consequences have been illustrated, for example, by the power blackouts created by South Africa's Eskom and the limited oil production of Brazil's Petrobras. Moreover, such protectionism often worsens working conditions for employees within BRICS+ countries, since limiting the number of existing companies gives workers less bargaining power to negotiate for better wages and associated benefits, decreasing internal consumer spending and thus GDP growth. For example, the rise in Egypt's tariffs in the 2000s and 2010s decreased real wages and the probability of workers holding permanent positions, impacts that have also disproportionately affected the lowest-income workers and increased Egypt's inequality (Giovannetti, Marvasi and Vivoli 2021, 117).

However, this disparity is likely to dwindle due to the ongoing rise of populism in many G7 countries, as shown by the popularity of the far-right Alternative for Germany in state elections, the election of Giorgia Meloni in Italy and the meteoric ascendancy of Donald Trump and his acolytes in the United States. Most of these developments stem from a backlash against the decline of traditional industries such as manufacturing due to globalization, which populists address by promising a slew of protectionist measures (Kazazis 2024). Even if they are not elected, moderates may adopt some of their policies to retain support, as shown when Joe Biden enacted the Industrial Relations Act, which introduced tax credits for domestic manufacturing and electric vehicles that were redolent of Trump's economic policy. Hence, while G7 members currently enjoy the economic growth driven by free trade more than BRICS+ countries and will likely continue to because of their robust existing free trade agreements, such as the United States-Mexico-Canada Agreement and the EU customs union, this will not be as significant in the long run.

Welfare Spending

G7 countries substantially outspend their BRICS+ counterparts on supporting their welfare states through public services and cash transfers. In 2018, G7 governments on average spent 11.31 percent of their GDP on health care, whereas BRICS+ governments only spent 5.67 percent of GDP (with the data only updated to 2021 statistics, more recent figures are not used as they are skewed by the impact of COVID-19).[5] This disparity materializes in the top-tier, universal health care coverage provided by all G7 countries bar the United States, from the United Kingdom's National Health Service to the social insurance schemes of Germany and Japan, whereas some BRICS+ countries, such as Ethiopia, China and India, do not have universal coverage at all and others experience significant shortages in personnel and equipment (Rao et al. 2014). The difference in education spending and thus provision is smaller, as both BRICS+ and G7 countries spend roughly four to six percent

4 See www.energypolicytracker.org/; https://data.worldbank.org/indicator/GC.XPN.TRFT.CN.

5 See https://apps.who.int/nha/database/ViewData/Indicators/en.

of GDP and all of them provide free education to varying degrees.[6] Conversely, the latter group still offers more extensive coverage; for example, Germany offers free schooling from primary school to university, whereas India's government only covers eight years of education. This assessment also does not account for the lax enforcement of school attendance in various BRICS+ countries, hence the absence of 13 million Ethiopian and 800,000 Iranian children from schools in 2022 and 2024, respectively (Miller 2024).[7]

The greater welfare spending by G7 countries has been widely documented to assist their economic growth and offset this expenditure in two crucial ways. It typically drives aggregate demand by expanding consumer demand, especially among individuals who do not participate in the labour market, and the lower and middle classes, who have a higher propensity to spend than their richer counterparts (Shen and Zhao 2022). Robust welfare systems also tend to help supply-side growth by strengthening human capital and increasing productivity nationwide, as well as stabilizing industrial relations to prevent production losses brought about by strikes. These impacts are illustrated by the trajectory of Organisation for Economic Co-operation and Development (OECD) countries, as GDP per capita increased from US$2,600 in 1970 to US$39,700 in 2019 by today's money, while social expenditure simultaneously rose from 10.4 percent to 20.0 percent of GDP.[8] Governments are also starting to use benefits to strengthen, instead of weaken, incentives to work by providing a safety net for individuals taking up new jobs or training, usually by making them conditional on recipients looking for work beforehand (Büchs 2021). With these sizeable differences in the welfare states of BRICS+ and G7 countries, the associated benefits will continue to be pivotal and unique drivers for the latter's GDP growth.

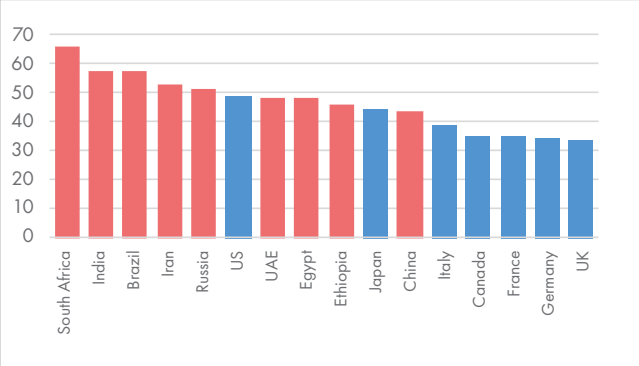
The strength of welfare systems in the G7 is only one reason why inequality is considerably lower than in BRICS+ countries (see Figure 1). Apart from the absence of demand maximization and supply-side boosts, these inequities decrease economic growth by contributing to political instability within the latter group. For example, economic grievances sparked the July 2021 unrest in South Africa and the 2013 protests in Brazil, which both resulted in looting and violence, and in the latter case instigated a recession by decreasing investor confidence (Watts 2013). In Ethiopia, this effect was so extreme that it partially led to a devastating civil war between 2020 and 2022, in which approximately 600,000 civilians died. Inequality is also likely to remain significant within BRICS+ countries because widespread corruption enables local elites to increase their wealth, and extraneous social factors, such as the caste system in India and race in South Africa, undermine efforts to reduce such financial disparities. Indeed, inequality has only consistently fallen in the UAE and Brazil, in which inequity was rampant to begin with (Gu et al. 2016).

6 See https://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS?end=2023&most_recent_yeardesc=true&start=2023&view=bar&year=2012.

7 See www.unicef.org/ethiopia/learning-and-development.

8 See https://data.worldbank.org/indicator/NY.GDP.PCAP.KN; https://data-explorer.oecd.org/vis?fs[0]=Topic%2C1%7CSociety%23SOC%23%7CSocial%20protection%23SOC_PRO%23&pg=0&fc=Topic&bp=true&snb=12&df[ds]=dsDisseminateFinalDMZ&df[id]=DSD_SOCX_AGG%40DF_NET_GDP&df[ag]=OECD.ELS.SPD&df[vs]=1.0&pd=2010%2C&dq=.A..PT_B1GQ.ES50._T._T.&to[TIME_PERIOD]=false&vw=tb.

Figure 1: Top 10 Percent of National Income Share in G7 and BRICS+ (2022)



Data source: https://wid.world/world/#sptinc_p90p100_z/US;FR;DE;CN;ZA;GB;WO/last/eu/k/p/yearly/s/false/24.781000000000002/80/curve/false/country.
Note: G7 countries are represented with blue, BRICS+ ones with red, and those in neither bloc with green in all figures.

Debt Level

A fourth dissimilarity in the internal economic characteristics of the two blocs' members is that G7 governments tend to hold much more debt than those of BRICS+. The current average debt-to-GDP ratio of G7 members is 128.8 percent and is projected to rise to 135.9 percent by 2029, whereas that of BRICS+ countries is 59.6 percent and is actually expected to decrease to 59.3 percent by that year.[9] This also makes borrowing more expensive since debt servicing is complemented by staggering interest payments, which have amounted to US$952 billion[10] and US$65.1 billion in America and Japan (The Japan News 2024), respectively. Both of these factors may erode the potency of the G7's aforementioned economic growth drivers as deficit hawks become more vocal about limiting spending, an attitude that has become increasingly popular with the Republican Party in the United States and policy governors in France (Reuters 2024a). Conversely, greater risks that would apply to other countries with similar debt levels, such as reduced investment over fears of a debt crisis, are less relevant to the G7. There are several explanations for this, including having good financial reputations, the ability to limit debt by issuing it in their own currencies and, in the case of Japan, holding low interest rates and courting domestic creditors instead of foreign ones (Bahceli and Ranasinghe 2024). Nonetheless, lesser debt concerns will play a minor role in limiting G7 spending and thus dampening its growth prospects.

Foreign Economic Relations

G7 economies have a more diversified range of trading partners than BRICS+ do, a disparity that will likely continue to be prominent for three robust reasons. First, as mentioned before, the G7 produces a superior range of exports than BRICS+, resulting in it having a larger group of countries that want their products overall. Second, some G7 members, notably Britain and France, have also developed colonial patronage networks that maintain

9 See www.imf.org/external/datamapper/GGXWDG_NGDP@WEO/OEMDC/ADVEC/WEOWORLD/JPN.

10 See www.pgpf.org/article/what-is-the-national-debt-costing-us/.

close trade ties with their numerous former colonies, and these will likely be long-lasting due to the existence of common languages and legal frameworks (Athow and Blanton 2002). Finally, multilateral sanctions imposed on BRICS+ members such as Russia and Iran severely decrease their options for international trade, a trend that will be long-standing due to fervent discontent over their actions in Ukraine and the Middle East, respectively. Having fewer trading partners has crucial implications for BRICS+ economic growth, including the increased vulnerability to supply-side shocks and reduced demand from ailing partner nations, in addition to decreased bargaining power when negotiating trade prices (White et al. 2023). These phenomena are showcased by Russia's plight after the European Union limited importation of its oil and gas in retaliation for its invasion of Ukraine in 2022, forcing Russia to sell the excess to India and other allies at heavy discounts (Nadig 2024).

Ethiopia's accession to BRICS+ will also likely help the bloc's members develop deeper economic ties with other African nations, which can increase the group's inflows of numerous commodities. Ethiopia is uniquely positioned to facilitate this due to its regional centrality, as shown by its hosting of the African Union headquarters within its capital, a privilege it has gained from pan-African admiration for its successful resistance to colonial rule (Zelenova 2024). Additionally, due to its landlocked position it has historically relied on trade networks to thrive, encouraging it to become a major player within trade blocs such as the Intergovernmental Authority on Development and the Common Market for Eastern and Southern Africa.

Internal Cohesion: Collaboration in Economic, Financial and Other Policies

G7 countries also have an economic growth advantage as they collaborate more extensively on trade, research and financial harmonization than BRICS+ nations do. The latter group currently papers over various geopolitical disputes that undermine cohesion, including the two largest BRICS+ economies, China and India. Despite holding 15 rounds of talks, there is no end in sight to their border dispute, which claimed an estimated 60 lives as recently as 2020 and resulted in India banning several Chinese apps and issuing new restrictions on Chinese investment and imports (Broadman 2024). Ethiopia and Egypt are also engaged in a heated dispute over the Grand Ethiopian Renaissance Dam as it allegedly threatens the latter's water security, which has prompted Egypt to threaten economic retaliation and thus limit bilateral ties (Emam 2024). A third lesser, but still significant, rift is that between Iran and the UAE, which has grown due to the UAE's formal recognition of Israel, the advancement of Iran's nuclear program and Iran's increasing support for violent proxies such as the Houthis and Hezbollah. The UAE has therefore scaled back its economic engagement with Iran in line with sanctions issued by Saudi Arabia and the United States (*Financial Tribune* 2017).

The most salient factor undermining BRICS+ cohesion is that its participants share little in common apart from their status as "emerging economies," especially since the bloc is such a novel organization; Brazil, Russia, India and China only announced their union in 2006, South Africa joined in 2010, and the other four members in 2024 (Kenny 2024). As a result, only 11 out of the 45 possible country pairs are linked by regional trade agreements, most of which involve China. Furthermore, intra-BRICS+ trade is moderately low in general, with 15 percent of BRICS+ exports to other members within the bloc; for example, Russia is China's primary trading partner within BRICS+, but only its tenth-largest partner in the

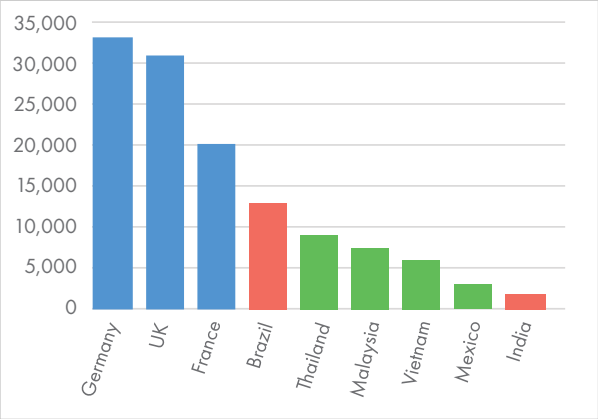
world (Afota et al. 2024). Disparate economic policies also create uncertainty and hinder intra-bloc investment and trade, as BRICS+ countries have varying types of exchange rate regimes and only a few have inflation targets, which also differ from each other. A final impediment to BRICS+ collaboration, and thus collective economic growth, is the geographical distance between their members, which is especially significant given their aforementioned reliance on goods exportation, even if this has been mitigated by the bloc's increased access to the Suez Canal owing to Egypt's entry.

In stark contrast, G7 countries are used to closely collaborating economically with each other. Although the initial G7 grouping was formed in 1975 (and Canada joined the year after), they have developed strong ties under the direction of the United States since the end of the Second World War. They are also a more homogeneous bloc; notably, they are all advanced democracies that heavily prioritize human rights, and they usually collaborate in organizations beyond the G7, for example, the North Atlantic Treaty Organization and the Comprehensive and Progressive Agreement for Trans-Pacific Partnership, which ensures that geopolitical tensions are often low. Economically, they all have fully floating exchange rates with inflation targets of around two percent, which facilitates easy intra-bloc economic initiatives, and (with the exception of Japan) all of the G7 countries are located close to the North Atlantic (ibid.). Such homogeneity has enabled 45 percent of G7 nations' total trade in 2023 to be conducted with other G7 members, a share that increased by 2.4 percent from 2018, whereas intra-BRICS+ trade only rose by 1.6 percent over the same time period (Wendling 2024). It has also allowed science and technology collaborations to flourish, which includes the creation of the Global Partnership on Artificial Intelligence. Moreover, it has enabled the participation of Canada and the United Kingdom in the latest Horizon Europe program, a mammoth project that has set aside €93.5 billion for research between 2021 and 2027, and one that Japan may soon join as well.[11]

Growing tensions between the United States and China will also have a modest positive impact on trade within the G7; while Donald Trump's volatile tariff strategy is expected to strain American trade with many countries, his most aggressive measures continue to target China rather than G7 allies. This trend builds on Joe Biden's agreement with European officials that American operations should be "de-risked" from China, and Janet Yellen's advocacy of "friend-shoring" — relocating the production of 2,400 sensitive products, namely public health and biological materials, information and communications technology, energy and critical minerals to trusted partners (US Department of the Treasury 2023a). Indeed, China's share of American imports in this sector has already decreased from 19.2 percent in 2017 to 15.2 percent in 2024, with the United States finding alternative partners within North America and the Asia-Pacific (Graham and Rashid 2023). Conversely, this trend is more likely to benefit Canada and Japan, along with other non-G7 countries and even BRICS+ members such as Brazil and India, than the G7's European members. This is primarily because of their relative geographic remoteness and high labour costs (see Figure 2), coupled with their lack of unique expertise in these sectors, unlike Japan's, South Korea's and Taiwan's world-class talent in semiconductor production, for example.

11 See https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en.

Figure 2: Salaries of Production Workers (US$) in G7 Countries and Beneficiaries of American "Friend-Shoring"



Source: Reshoring Institute (2022).

By contrast, the G7's unity was actively harmed during Trump's first tenure as president, especially since he implemented steel and aluminium tariffs on various G7 members, which goes against their principles of free trade, and refused to sign the economic section of their joint communiqué in 2018 in protest. The resulting friction escalated to the extent that then German Chancellor Angela Merkel described his behaviour as a "depressing withdrawal" and French President Emmanuel Macron pleaded with him to "be serious" (Sky TG24 2018). This is especially salient because with 87 percent of Republican voters having a favourable view of Trump in 2024, top Republican politicians such as Ron DeSantis and James Vance have embraced a Trumpian approach to foreign policy that they will likely continue to support and that will create similar divisions within the G7 should they be elected in the future (Stagwell Inc. 2024).

Even with Trump's populist politics overshadowing the G7, the bloc has shown more success in developing shared initiatives at summits than BRICS+ has. For instance, during the Great Financial Crisis, G7 countries coordinated monetary and fiscal policy to mitigate the downturn and implemented financial regulations, notably the Basel III Accord, to decrease the likelihood of a similar economic slump (Gratton 2024). More recently, they released the Global Minimum Tax Initiative to collectively set a minimum of 15 percent for corporation taxes, which is expected to raise tens of billions of dollars annually for the bloc, and the G7 Cyber Expert Group to protect its institutions against cyberattacks (World Economic Forum 2021). Such G7 collaboration does fall short at times since the bloc's members only follow through with 62 percent of the commitments that they make, with Italy, Japan and France being the least likely to honour these responsibilities.[12] This has been highlighted by the G7's inaction on its Build Back Better World initiative three years from its launch, as few investors have been courted and its infrastructure plans are short on detail (Garlick 2024). Nonetheless, the G7's ability to issue concrete plans of action puts it in a better position to stimulate economic growth than BRICS+, which is more likely to release pledges about overarching goals and affirmations of their positions on developments after their summits instead.[13]

12 See https://g7-utoronto.shinyapps.io/compliance-tool/.

13 See www.brics.utoronto.ca/summits/index.html#gauteng.

BRICS+ have not only been slow to include the four new members of the bloc in their landmark projects, the NDB and CRA, but as mentioned later in this paper, they have also been divided when creating them, even if these achievements were impressive in themselves. Intra-bloc relations are also strained over divergent views on the group's potential expansion, since China's advocacy for including more countries to counter Western dominance is opposed by India due to concerns over diluting unity and effectiveness in BRICS+, while Russia and South Africa are worried that this would give China disproportionate influence within the bloc (Patrick 2024). Despite these disputes, their summits have highlighted a few areas in which there has been close collaboration, namely global security and sustainable development; in the past four concluding declarations the bloc has released, these issues have been thoroughly assessed in four and three of them respectively.[14] While such cooperation has given rise to initiatives such as the BRICS Counter-Terrorism Strategy and BRICS STI Steering Committee, which will undoubtedly strengthen BRICS+ growth prospects, it is unclear whether it will be maintained after its addition of four new members, especially given their aforementioned heterogeneity and underlying tensions.

Constraints

The second section of this paper compares four major constraints for economic growth of both blocs, including political headwinds, demographic shortfalls, the net-zero transition and insufficient infrastructure.

Political Environment and Institutional Capacity for Economic Development

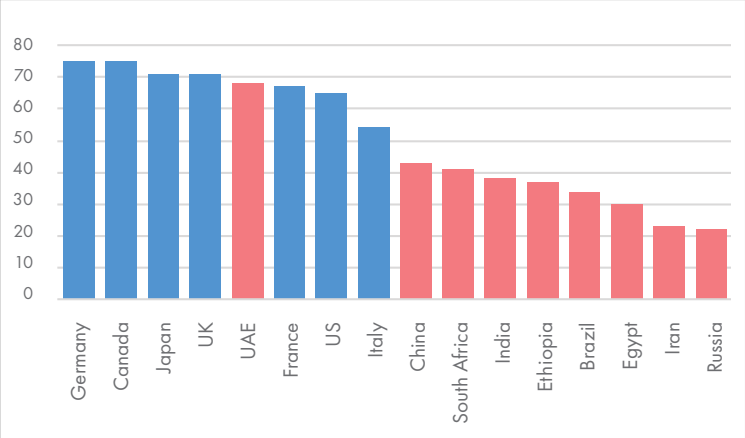
In many ways, the political atmosphere of BRICS+ is less conducive for development than that of the G7. One pivotal reason is that corruption is significantly higher in BRICS+ (see Figure 3), which not only reduces funding for supply-side initiatives and demand management, but also deters foreign investment by creating uncertainty around obtaining licences (da Silva, Garcia and Bandeira 2012).

G7 countries also rank considerably higher on other political measures that directly influence economic growth: the World Intellectual Property Organization assigned the bloc an average score of 69.5, while BRICS+ trailed behind with 38.8.[15] This includes operational stability for businesses and government effectiveness, which is hindered in BRICS+ countries by the relative lack of civil society participation, ministry intercommunication and government collaboration with independent academic experts (M&G Investments 2024). For example, the shunning of medical researchers during the early stages of the COVID-19 pandemic in China decreased the Chinese Communist Party's effectiveness in issuing a nationwide response. In authoritarian-leaning states such as China, bolstering political image sometimes takes precedence over upholding economic integrity, as shown by a seismic discrepancy of around US$230 billion between Chinese customs and balance-of-payments figures, adding even more uncertainty to investments (*The Economist* 2024b). Moreover, strong patronage networks,

14 Ibid.

15 Ibid.

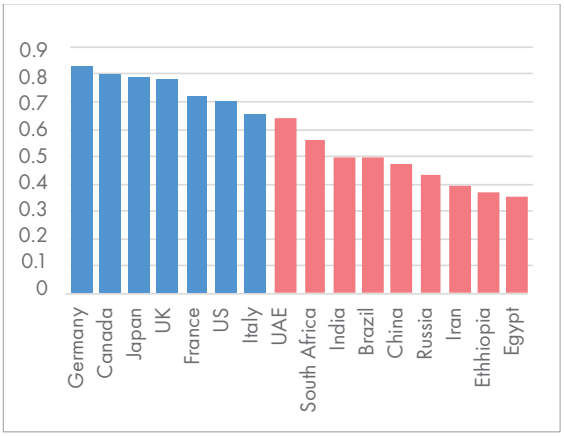
Figure 3: G7 and BRICS+ on the Corruption Perceptions Index



Data source: www.transparency.org/en/cpi/2023.

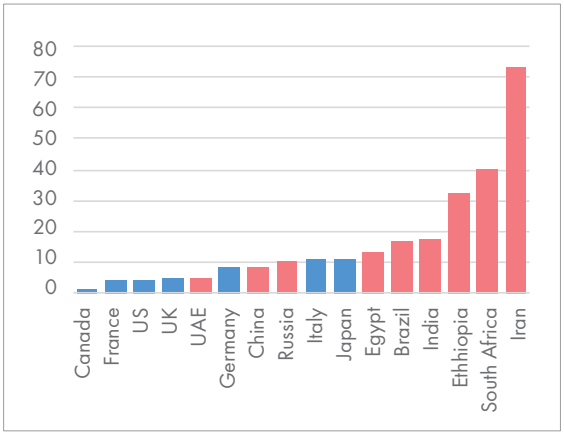
particularly in Russia and South Africa, ensure that the most effective politicians are rarely spearheading economic policy. The World Justice Project also concludes that rule of law is substantially higher within the G7 than BRICS+ (see Figure 4), underscoring the unpredictable and sometimes contradictory nature of legislation that deters investment within the latter (Smith 2022). These effects are amplified by regulatory hurdles for businesses within BRICS+ countries, which are epitomized by the duration required to create a business within them (see Figure 5). With additional challenges such as inconsistent regulatory enforcement, these political headwinds continue to stunt the economic growth of BRICS+ in relation to the G7's.

Figure 4: G7 and BRICS+ Rule of Law Score



Source: https://worldjusticeproject.org/rule-of-law-index/global.

Figure 5: Time to Start a Business (Days) within G7 and BRICS+



Source: https://ourworldindata.org/grapher/time-required-to-start-business.

The G7's institutional capacity has also gradually been weakening. In particular, the proliferation of European political parties has given rise to new coalitions entering office in France, Germany and Italy, which have been paralyzed due to infighting. For example, in Germany's "traffic-light coalition" under Olaf Scholz, the Greens have been unable to implement many of their climate-friendly policies due to opposition from the fiscally conservative Free Democrats, leading to the disapproval rate against the incumbent government soaring to 73 percent (von der Burchard 2023). The dearth of common ground within these governments is exacerbated by their pledge to shun the ever-increasingly popular far-right, creating coalitions with representatives from a wide range on the political spectrum (Pancevski 2024). In the United States, political inaction is fuelled by the frequent use of government shutdowns, but, more importantly, immense polarization makes it extremely difficult for a relatively evenly divided House and Senate to even gain a simple majority, let alone a two-thirds vote to make constitutional amendments (Epstein and Graham 2007). Japan's government is also plagued by volatility as it has had 18 prime ministers since 2000, making it difficult to pursue long-term strategies; this was clearly demonstrated when Shinzo Abe's successors failed to maintain his fiscal policies and pension reform, prolonging the country's chronically low growth and inflation (Power 2022). Nevertheless, since these political conditions are still significantly better than most of the world's, they will continue to be key in driving the bloc's economic growth.

Demographic Challenges

BRICS+ experiences only a fraction of the immense demographic challenges that the G7 does. The average age within the G7 is 43.4 years whereas that within BRICS+ is 30.9 years, a disparity that is set to widen since their fertility rates are 1.53 (well below the replacement fertility rate of 2.1) and 2.04 respectively.[16] Economic factors, including the high cost of housing and child-rearing, have deterred many young adults in G7 countries from having children, an attitude reinforced by cultural shifts toward maintaining a career focus and retaining personal autonomy (Bottone 2024). Moreover, expensive initiatives within the bloc to encourage childbearing have yielded mixed results, as shown by the relative failure of subsidized childcare and cash incentives for families in Canada, Italy, Japan and the United Kingdom, leading to predictions that the G7's fertility rate will barely increase to 1.71 by 2090 (Tamir 2019).

These obstacles are partially lessened by immigration as all G7 countries experienced positive net migration in 2022, which totalled more than 100,000 for five of them. By contrast, many BRICS+ countries struggle with brain drain to these G7 countries, with many of them losing hundreds of thousands of emigrants every year.[17] While this phenomenon will likely continue due to the attractiveness of the welfare states and the adoption of popular languages (English, French, German, and so on) within the G7, it will not only fail to completely make up for the shortage of native-born individuals, but it is also threatened by the aforementioned rise of right-wing populism. Indeed, Britain's Conservative Party has promised to reduce net migration to zero amid similar pledges made by Alternative for Germany, and France's National Rally has advocated for

16 See www.unfpa.org/data/world-population-dashboard; https://population.un.org/wpp/.

17 See https://data.worldbank.org/indicator/SM.POP.NETM?end=2023&start=2021&view=map.

discriminating against immigrants in employment and accommodation, to name but a few examples (Chemin 2024; Reuters 2024b; Alkousaa 2025).

The G7's demographic shortfall will thus disproportionately increase its old-age dependency ratio. By 2040, only China will have a higher ratio than the United States, which has the lowest of the G7 countries.[18] Such an outcome decreases economic growth as the workforce shrinks, national savings decrease and more resources are allocated for the elderly (for example, improving pensions or retirement homes, which does not contribute to output). Indeed, then Italian Prime Minister Mario Draghi predicted that European countries would remain the same size by 2050 unless there were significant increases in productivity; for instance, pension expenditure totalled a worrying 16.5 percent of GDP for Italy in 2018 (Birot 2018; *The Economist* 2024a). Optimists may point out that reduced fertility rates do improve human capital, since parents can invest more into each child's education and health care and adults can work longer hours with a reduced need to focus on childcare (Abeliansky and Prettner 2023). Additionally, automation may potentially minimize labour shortages and bring productivity growth of three to eight percent, which may be crucial as it is predicted to take over 25 percent of jobs within the G7 by 2030 (Bughin et al. 2018). It is especially likely to take over repetitive tasks such as manufacturing and administrative tasks, giving the remaining workforce liberty to focus on higher-value, strategic activities; for instance, robots have already been extensively deployed to look after the elderly in Japan (Ronkin 2021). Yet such robotization can be associated with greater inequality and the need for upskilling, which G7 countries may be unable to adapt suitably to. Overall, it is also unlikely that both of these potential silver linings would completely negate the G7's demographic challenges and the associated harms to its growth.

Moreover, BRICS+ has a greater potential to supercharge its economic growth by increasing female workforce participation than the G7 does, with 44.2 percent and 71.2 percent of women between the ages of 15 and 64 having formal jobs within the two blocs, respectively. This would not only increase BRICS+' labour forces by tens of millions, but it would also bring additional synergies as they can complement the skills of male workers by bringing different perspectives on risk-taking and collaboration (Lagarde and Ostry 2018). It would also improve future human capital by increasing household purchasing power, and it would reduce the costs associated with poverty among women. In total, increasing female workforce participation in emerging markets by 5.9 percent could grow GDP by eight percent, a far higher proportion than in developing or advanced nations (Torkington 2023).

Despite these vast benefits, a plethora of barriers ensures that they will only be reaped very gradually. The trend toward female workforce participation has been inconsistent across BRICS+ countries, with large numbers of women leaving their jobs in Brazil, India and Russia, even if this was partially due to the COVID-19 pandemic and regional economic downturns. Stigma and stereotypes, sometimes inspired by Islamic and Confucian teachings, are a pivotal obstacle to such emancipation as they result in familial pressure to stay at home and discrimination involving pay and promotions. These impacts are complemented by the deficient state childcare services in many of these countries, as well as harassment at or when travelling to the workplace; for

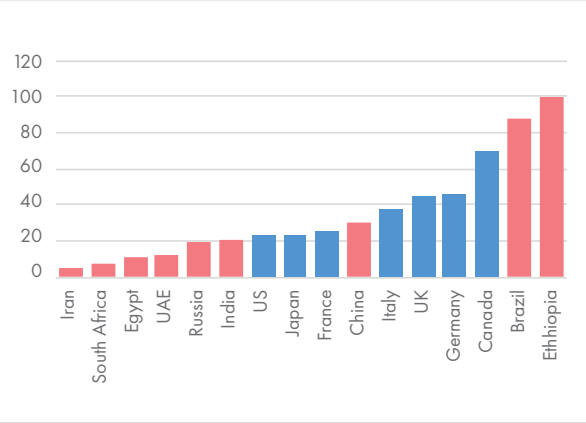
18 See https://genderdata.worldbank.org/en/indicator/sp-pop-dpnd.

instance, Indian women consistently choose to attend lower-ranked universities if the routes there are safer, which may impact their education and job prospects (Borker 2018). While there is a growing trend toward feminism in many of these countries, as demonstrated by the Iranian protests and the Chinese #MeToo movement, substantial social change will likely be distant due to its suppression by religious elites and other conservative groups (*The Economist* 2022). One bright spot is that more women are being educated in BRICS+ nations, as 84.4 percent of girls within the bloc had secondary education in 2017, excluding China and India (no data) and Ethiopia (a significant outlier with only 30.3 percent of girls enrolled in 2015), a shift which will convince employers to improve job prospects for women. However, this change will likely be slow and thus the immense economic benefits will barely be realized in the near future.

Transition Toward Sustainable Energy

The costs associated with the immediate need to transition toward renewable energy is another major constraint for both blocs. The G7 has eked out a slight edge in this regard (see Figure 6), partially because with 30 percent of the world's share of both oil and natural gas, BRICS+ countries, especially Iran, Russia and the UAE, have historically been economically dependent on exporting such energy sources, which will also decrease their revenues in the long run (Azevedo et al. 2024). Moreover, other BRICS+ members are still heavily dependent on coal, which is pivotal because it is the most polluting fossil fuel. For instance, notably China, India and South Africa use coal for 61 percent, 74 percent and 85 percent of their energy mixes, respectively, and they have not yet reached their peak consumption, whereas the United Kingdom, the United States and Germany are among the top 10 nations to have reduced coal reliance the most. Considerable methane emissions in China and India due to agricultural activities, along with BRICS+' hesitance toward implementing carbon capture and storage technologies, will also increase their future costs in transitioning toward renewables (World Economic Forum 2024b).

Figure 6: Renewables as Percentage of Total Energy Mix (2022) within G7 and BRICS+



Data source: Jain (2024).

It is unlikely that the G7 will maintain lower costs during this transition. One reason is because a few BRICS+ countries have already completed significant investments in renewable energy as well, as shown through the hydroelectricity generated by Africa's largest dam, the Grand Ethiopian Renaissance Dam, and the annual six billion gigawatts in solar power obtained by China's 200,000-acre 5GW solar farm (Cuthbertson 2024). The colossal natural gas reserves of Russia and China, which the new BRICS+ entrants Egypt, Iran and the UAE also possess, further cheapen this process by offering an additional "transition fuel" with lower emissions than oil or coal.[19] Furthermore, G7 countries have taken a leading role in financing developing countries' renewable energy projects, which is epitomized by the Accelerated Partnership for Renewables in Africa and estimated to cost more than US$4 billion (La Camera 2024). A third issue involves the G7's disproportionate costs regarding the adoption of electric vehicles (EVs) due to the heavy subsidization of carmakers such as Tesla and the imposition of strict tariffs, which amount to 37.6 percent in European members and 25–100 percent in the United States, on cheaper Chinese EVs. Incidentally, China's carmakers have cornered 58 percent of the world's EV market, and have begun to sell them in large quantities to other BRICS+ countries (World Economic Forum 2024a). Finally, and most importantly, BRICS+ countries hold an enviable 70 percent of the world's rare earth metals, including lithium and cobalt, which are crucial for technologies such as solar panels (Baskaran and Cahill 2023). Not only will this substantially cut BRICS+ transition costs, but the bloc's members may offset such costs by selling these rare metals at significant markups to G7 countries, similarly to how the Organization of the Petroleum Exporting Countries raises oil prices.

This will be especially painful for the G7 because of its prior commitments to independently monitored, ambitious climate targets, for example, expanding its renewable energy capacity sixfold by 2030 (International Renewable Energy Agency 2024). Fulfilling these pledges will not only decrease future growth by diverting sizeable portions of federal spending, but it will also place a significant financial burden on the G7's denizens. For example, Germany has ordered its citizens to replace fossil fuel heating systems with climate-friendly boilers, which cost more than €20,000, and the United Kingdom's environmental taxes skyrocketed to £623 per household in 2021 (Office for National Statistics 2024; Amelang 2023).

Infrastructure Insufficiency

A final constraint on economic growth involves infrastructure gaps, an issue that affects BRICS+ much more than the G7. This can severely hinder industry by reducing effective communication and geographical mobility of products and labour, while also worsening quality-of-life outcomes. For instance, the G7 has world-leading transport networks, from Germany's highly efficient Autobahn highway system to Japan's high-speed Shinkansen rail to the United Kingdom's Heathrow Airport, to name but a few. Additionally, access to clean water and sanitation systems are nearly universal within the bloc, and power outages are very infrequent due to the prevalence of modern electricity grids (Moss 2020). It is also comparatively easier for technology use to proliferate within the G7, as it has constructed some of the world's most advanced 5G and broadband systems. Of course, infrastructure is occasionally lower quality; some of Europe's railways are from the postwar era, and it is often especially deficient in rural

19 See www.eni.com/en-IT/strategic-vision/access-energy/natural-gas.html.

areas (American Society of Civil Engineers 2021). In particular, the United States will face an infrastructure gap of $2.9 trillion by 2029, as already shown by its lack of high-speed trains, underfunded subway systems and even rare cases of water contamination in various states.

Nevertheless, these infrastructure networks are still much more advanced than those within BRICS+ overall, with the exception of China and the UAE. The rural-urban divide regarding all types of infrastructure is much starker than that within G7 nations, as shown by 63 percent of Russians having internet access in towns with fewer than 100,000 people, 16 percent of Indians in rural communities being connected to an indoor piped water system, and the aging road and rail systems in Brazil (Belli and Magalhães 2025; Choudhuri and Desai 2021). While nearly all G7 households have access to power, only 45 percent of the Ethiopian population did in 2022, and South Africans must still regularly endure rolling blackouts (Chatterjee 2022). Not even cities are free of major infrastructure deficits, with Egypt and India in particular struggling to accommodate the rapid influx of migrants to major cities. The resulting road congestion delays commuters and increases air pollution; India has 13 of the 20 most polluted cities worldwide, while journey times are often doubled in Cairo, which is estimated to decrease the national GDP by four percent annually (World Bank 2011). Iran is the most afflicted by infrastructure gaps due to the heavy sanctions imposed on it, illustrated by its ranking as 156th out of 181 countries on the internet Speedtest global index (Iran International Newsroom 2024). As such, these deficits pose considerable challenges for business activity, thus reducing its economic growth.

Trajectory

Projected Digital Development of BRICS+ and G7

In an increasingly digitalized world, access to semiconductors will also be crucial for economic growth by facilitating development of public services and export production. Due to disparities in their production and importation abilities, BRICS+ struggles heavily with these acquisitions compared to the G7. Whereas many countries within the latter have created advanced semiconductor industries, notably the United States and Japan, only China, and to a lesser extent, India and Russia, have been able to replicate such success due to infrastructure and skills gaps within other BRICS+ members, problems that even forced Brazil to terminate its Centre for Semiconductor Technology initiative in 2020 (Lapedus 2021). The G7's capabilities will be further enhanced by the introduction of the European Chips Act, which has put aside €43 billion until 2030 for this purpose.[20] Meanwhile, the sweeping sanctions placed on China, Russia and Iran by the United States, the Netherlands and other key semiconductor component producers will exacerbate chip shortages within BRICS+. For instance, the Dutch company ASML must now obtain various licences to export extreme ultraviolet systems to China, while America's Foreign Direct Product Rule has severely limited China's ability to access any chip parts made in the United States, resulting in a nationwide shortage of the cutting-edge 3 nm and 2 nm semiconductors (He 2024). Russia's and Iran's comparatively greater reliance on foreign chemicals, intellectual property, silicon wafers and other components

20 See https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/european-chips-act_en.

has now forced them to produce even more outdated technology, at least 15 years behind the United States' (Feldstein and Brauer 2024).

Unsurprisingly, the dominant positions of the United States and Japan in semiconductor manufacturing enable the other G7 members to import them more easily than BRICS+ countries. A similar pattern is exhibited in the two blocs' relationships with other global chip powerhouses, particularly Taiwan, which has a 61.7 percent market share in the foundry market, and South Korea, which makes 60.5 percent of the world's memory semiconductors.[21] Most BRICS+ countries have limited trade ties with Taiwan to avoid angering Beijing, which was epitomized by South Africa's demand in 2024 that Taipei move its embassy out of Pretoria (DW News 2024). Conversely, the island is one of the G7's most important trading partners with dozens of billions in annual bilateral trade for most of its members, especially since they play a role in ensuring its security (International Trade Association 2024). Meanwhile, out of all the BRICS+ countries, South Korea only has free trade agreements with India and China, whereas it has signed such deals with all G7 countries.[22] As such, the bloc's relative difficulty in acquiring semiconductors will be pivotal to limiting its future economic growth.

The sharp contrast in semiconductor access between the two blocs is one reason why AI adoption will likely be faster, and therefore drive economic growth sooner, within the G7. Another factor is the difficulties associated with obtaining the vast quantities of data needed to train such systems; while English, French, German, Italian and Japanese were all within the top 10 languages used for web content in January 2024, only Russian was also able to make this list.[23] Moreover, there is a significant difference in AI engineering talent between the two groups (see Figures 7 and 8), and even then, the vast majority of BRICS+ elite researchers are concentrated within China. This will continue to be a long-standing issue for BRICS+ countries, because even if they invest more into specialized training, the current situation in Russia, India and China proves that the aforementioned brain drain will keep occurring to benefit G7 nations.[24] Other challenges, such as intermittent access to reliable power sources and patchy regulatory frameworks, will further complicate BRICS+ ambitions to catch up to the G7's AI capabilities.

According to Oxford Insights' Government AI Readiness Index, which assesses technological advancement and the robustness of AI legislation, data and infrastructure, the G7 therefore performed much better than BRICS+ (see Figure 9). The potential contributions of AI to economic growth are widely assumed to be seismic; not only will they increase business revenues by improving decision making, creating new products and enabling human employees to undertake higher-value jobs, but they are also estimated to cut costs by an average of 16 percent (Manyika and Sneader 2018). These qualities can also relieve fiscal pressure from sustaining the G7's overburdened public services, an effect that may be magnified with the introduction of "smart cities" (National Audit Office 2024). Indeed, AI is projected to add 10 percent to global GDP by 2032, which will thus provide more economic benefits for the G7 countries than the BRICS+ ones (Shrier and Escobales 2023).

21 See www.investkorea.org/ik-en/cntnts/i-312/web.do; www.statista.com/statistics/867223/worldwide-semiconductor-foundries-by-market-share/.

22 See www.privacyshield.gov/ps/article?id=Korea-Trade-Agreements.

23 See www.statista.com/statistics/262946/most-common-languages-on-the-internet/.

24 See https://archivemacropolo.org/interactive/digital-projects/the-global-ai-talent-tracker/.

Figure 7: Location of Top Two Percent of AI Researchers

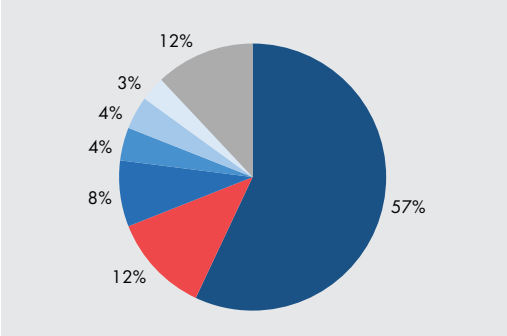
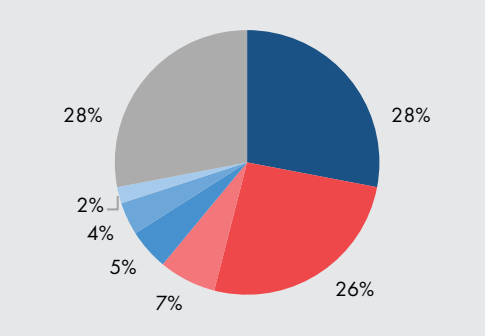
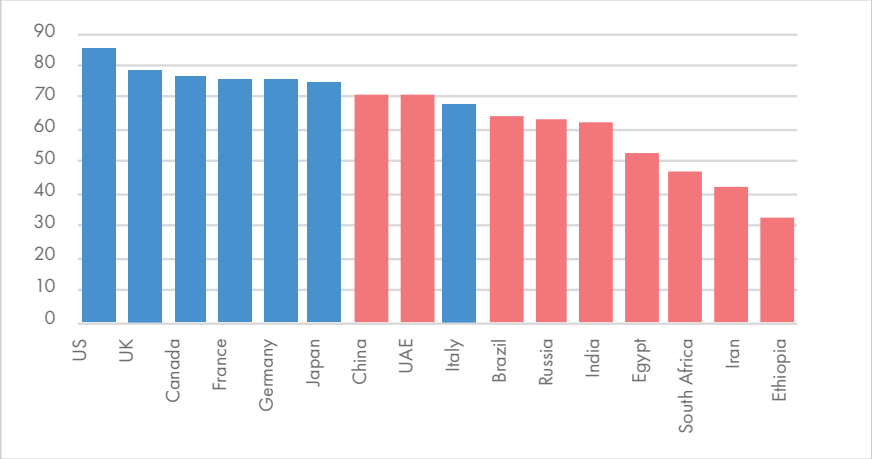


Figure 8: Location of Top 20 Percent of AI Researchers



Source: https://archivemacropolo.org/interactive/digital-projects/the-global-ai-talent-tracker/.

Figure 9: G7 and BRICS+ AI Readiness Index Scores (2023)



Source: Oxford Insights (2023).

When it comes to innovation, BRICS+ countries still lag far behind those within the G7, with the exception of China. This conclusion is derived from the Global Innovation Index, which accounts for approximately 80 contributing factors, many of which have been examined in this paper. As Figure 10 demonstrates, only India and China enjoy similar innovation levels in knowledge and technology output, which is comprised of knowledge creation, impact and diffusion, to those of G7 nations. There is an even starker disparity for creative outputs, including intangible assets, creative goods and services and online creativity (see Figure 11). Such differences will greatly determine economic growth; since innovation drastically improves productivity and creates new industries altogether, it has been estimated to account for half of any GDP increases (McKinney 2023).

Figure 10: G7 and BRICS+ Scores on Knowledge and Technology Outputs

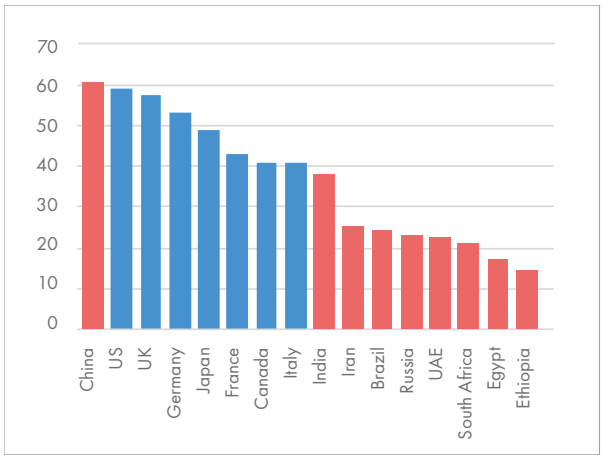
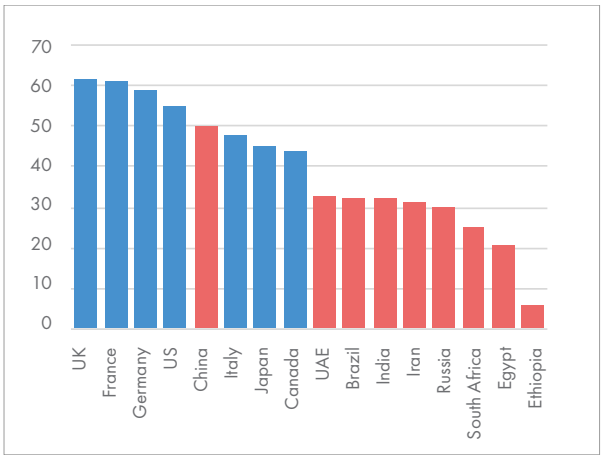


Figure 11: G7 and BRICS+ Scores on Creative Outputs



Data source: www.wipo.int/gii-ranking/en/.

These differences between the two blocs will inevitably narrow due to the diminishing marginal returns associated with economy size and development. Nevertheless, the speed at which this occurs might be slower than most economists predict, given that the G7 still allocates considerably more resources than BRICS+ on research and development, with 2.52 percent and 1.08 percent (a figure that excludes Ethiopia) of GDP spent in 2019, respectively.25 As such, all G7 countries are innovating better than expected according to their income level (except for Italy, which performs at its expected level). By contrast, only four BRICS+ countries (China, South Africa, Brazil and India) exceed such expectations, whereas two meet them (Iran and Egypt) and three perform below them (Russia, Ethiopia and the UAE).26 The economic models and constraints of both blocs thus create significantly more innovation within the G7, and this will continue to be pivotal to raising economic growth.

BRICS+ De-dollarization Efforts

BRICS+ also has ambitious plans to enhance economic growth by de-dollarizing, as was stated through paragraph 44 of the Johannesburg Declaration, "we stress the importance of encouraging the use of local currencies in international trade and financial transactions between BRICS as well as their trading partners" (BRICS 2023). This would terminate arrangements with intermediary banks that possess dollar reserves, speeding up intra-bloc trade and eliminating commission charges, which typically total one to three percent of the transaction value (UMB Financial Corporation 2024). Additionally, it would enable BRICS+ countries to bypass stringent American sanctions in an increasingly confrontational geopolitical landscape, which have included the freezing of half of Russia's foreign exchange and gold reserves, as well as banning Iran from using the dollar for investment (Sen 2019). For instance, the Russian financial sector reported a 90 percent decline in net profit year-on-year in 2022, after its invasion of Ukraine (US Department of

25 See https://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS?end=2022&start=2022&view=bar&year=2019.

26 See www.wipo.int/gii-ranking/en/.

the Treasury 2023b). Problems associated with dollar shortages in some BRICS+ countries, notably Egypt and Ethiopia, which face soaring inflation due to the resulting extended costs of importing dollar-denominated goods, would also be alleviated (Greene 2023).

Various ideas have been floated to this end, the most ambitious of which involves the creation of a "BRICS+ currency" similar to the euro, but unfortunately for the group, this seems unlikely due to several key problems. First, BRICS+ economies are much more heterogenous than those within the European Union, making it near impossible to agree on monetary policy that could accommodate for the highly divergent growth rates, levels of development and economic structures within the bloc. Creating such a currency would also involve BRICS+ nations surrendering financial sovereignty to a supra-national central bank, which would likely be dominated by China given its economic heft, a prospect that is unattractive to various members, especially India (Ismail 2023). Finally, BRICS+ would need substantial foreign investment to launch such a currency, which would be limited due to the volatility of existing BRICS+ currencies, such as the Russian ruble and South African rand, and the lack of transparency displayed by many of their economic policy makers (Dyer 2023). These high levels of intra-BRICS+ heterogeneity and fears of losing sovereignty also explain why widespread adoption of the yuan within the group is a far-fetched idea.

Another widely discussed alternative, which involves removing the dollar as an intermediary currency in intra-BRICS+ trade, is more viable but nonetheless faces pressing obstacles. Small steps toward this have already been taken, as shown by India's agreement with the UAE to directly denominate oil prices in rupees from 2023 onwards (Hamill-Stewart 2023). However, the ubiquity of the dollar in BRICS+ transactions would already make de-dollarization an upward battle; for example, in 2022 the greenback was used for 97 percent of Indian, 95 percent of Brazilian, 94 percent of Chinese and 88 percent of South African payments. Eliminating the dollar from this role would also make trade more costly due to its greater liquidity over emerging currencies, which comes about since the dollar is currently used for 90 percent of transactions (Greene 2023). It would also require BRICS+ monetary institutions to hold local currencies in reserve, an objective that would clash with some members' capital controls (Ismail 2023). A more salient impediment would be the dearth of financial infrastructure to support BRICS+ currency pairs, specifically payment-versus-payment (PvP) arrangements, which lower the cost and increase confidence in currency exchanges by ensuring that payments do not proceed if one party fails to deliver the currency that it owes (Committee on Payments and Market Infrastructures 2023). Only the rand is eligible for settlement via the dominant system supporting PvP, which accounts for 40 percent of such transactions, and local efforts to replicate this infrastructure in Brazil, India and China have been relatively unsuccessful (ibid.). The scope of economic benefits from replacing the greenback with BRICS+ currencies within the bloc would therefore be limited given the manifold difficulties in doing so.

The Future of the BRICS+ NDB and CRA

One BRICS+ plan is to scale up the NDB, which was established in 2014, to provide an alternative to the World Bank for funding infrastructure projects within emerging economies. The NDB does have sizeable advantages that make it an attractive creditor, notably its rigorous approach to meeting its goal of approving bids within six months, compared to the World Bank's average of 27, in addition to its comparatively competitive interest rates (Kenny 2023). Moreover, its unique emphasis on ignoring any controversial domestic developments within potential recipient nations is welcomed by many developing countries, which often have questionable human rights records, and starkly juxtaposes with the traditional "neocolonial" institutions that are dominated by Western players (Hickel 2020). Smaller lenders such as the Asian Development Bank and Asian Infrastructure Investment Bank will not act as fierce competition for the NDB; rather, they will likely work together, as was demonstrated during the initiation of the Mumbai Metro Rail Systems Project and the Delhi-Meerut Regional Rapid Transit System Investment Project (Nanwani 2023). Since the beneficiaries of NDB financing will primarily continue to be BRICS+ members themselves (seven out of the bank's current 10 members are part of the bloc), this will significantly help BRICS+ to fill their aforementioned severe infrastructure deficits, which is one of their most effective options to increase economic growth, while also generating substantial financial return for the BRICS+ members themselves (NDB 2024). Such infrastructure developments are particularly salient given that the NDB has targeted 40 percent of its funds towards projects that contribute to "climate change adaptation or mitigation" (NDB 2022).

However, the NDB's efficacy in accelerating BRICS+ growth is also constrained in several ways. While its speed when approving projects is often praised, the trade-off involves less regulatory oversight compared to the World Bank, which could deter the NDB's potential aid recipients. Having seven decades fewer to establish robust regulatory frameworks, and oversight solely from boards composed of representatives from the founding BRICS+ members, has also given rise to infrequent public disclosure of NDB loan terms (Wang 2019). As such, the bank has received credit ratings of AA by Fitch and AA+ by Standard & Poor's, which is already slightly below those of other major development lenders.[27] The bank's operations are also stalled by infighting among the founding members, which is epitomized by India's accusation that China is siphoning the bank's funds to contribute to its Belt and Road Initiative (Chin 2024). Its final, and arguably most important, shortfall is that it is too small to offer a full-fledged alternative, as its capital base of US$100 billion is five to six times less than that of the World Bank (European Parliament 2024). Nevertheless, the NDB's appeal of catering to the Global South in a world dominated by "Western-controlled" institutions, along with its other advantages, will certainly ensure that the NDB will play a pivotal role in increasing BRICS+ growth.

The second BRICS+ landmark project, the CRA, has sought to replace the IMF in its role of increasing liquidity in indebted BRICS+ countries. Friction between the BRICS+ members was highlighted during its creation, especially regarding China's outsized influence over the institution's decision making, Brazil's and South Africa's concern that the disbursement criteria were too harsh, and whether the CRA would serve non-BRICS+

27 See www.ndb.int/investor-relations/credit-ratings/.

members in the future (Thornton 2023). Despite this, its potential to bail out BRICS+ countries during financial crises, while ordering fewer internal reforms than the IMF does in return, will be crucial for raising investor confidence and minimizing economic shocks within the bloc, thereby improving BRICS+'s long-term growth prospects (Würdemann 2018).

Table 1: Summary Table of BRICS+ and G7 Economic Models, Constraints and Ambitions

Factor	G7 Position	BRICS+ Position
Industry diversification and complexity	Service-based, diversified economies with specialized exports	Goods-based, less diversified economies with exports similar to average global output
Trade protectionism	Few tariffs, subsidies and foreign investment barriers, albeit proliferating	More protectionist measures covering a wider range of sectors
Welfare spending	Robust health-care and education coverage, more cash benefits	Patchier health-care and education coverage, fewer cash benefits
Debt level	High and growing yet manageable	Low and stable
Foreign economic relations	Greater range of trade partners	Smaller range of trade partners
Internal cohesion	Homogeneous economies with long history of collaboration and shared political values, despite Trumpian attitudes in the United States	Heterogeneous economies with moderate economic engagement and geopolitical tensions, but display modest intra-bloc collaboration
Institutional capacity for economic growth	Low corruption and strong rule of law, government effectiveness is high but diminishing	Greater corruption, weaker rule of law and government effectiveness
Demographic challenges	Ageing populations partially buoyed by uncertain levels of immigration, female workforce participation already high	Young and growing populations despite brain drain, gradual shift toward female workforce participation
Sustainable energy transition	Slight lead yet will incur relatively high costs in future	More reliant on fossil fuels, but transition will be relatively cheaper
Infrastructure insufficiency	Modern infrastructure with occasional gaps	Basic deficiencies in many countries
Digital development	Relative abundance of semiconductors and favourable conditions for AI adoption	Restricted access to semiconductors and limited capacity for AI adoption
Innovation levels	Global leaders in knowledge, technology and creative outputs	Except for China, generally lag behind, sometimes even for their development level
Future intra-bloc projects	Not discussed in this paper	De-dollarization faces many obstacles, NDB and CRA will enjoy more successes

Source: Author.

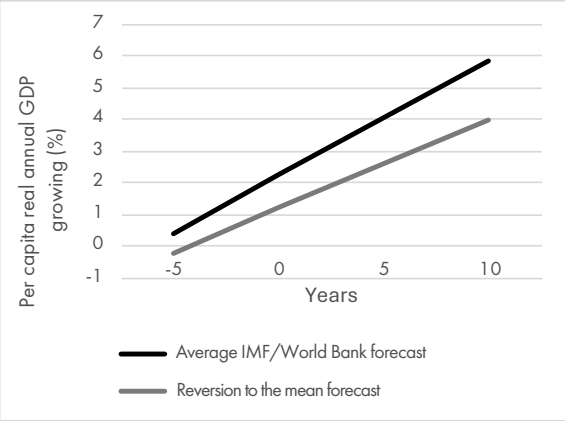
Conclusion: Final Predictions for the Growth of the G7 and BRICS+

The economic trajectory of BRICS+ has already been significantly overestimated, and it is probable that it might happen again. While Jim O'Neill, the Goldman Sachs chief executive who coined the term "BRIC" in 2001, predicted that its constituents would produce more economic output than the G7 by 2050, the company now predicts that it will only achieve the same outcome with the addition of five new members (O'Neill 2001; Conte 2023). Similarly, it was common belief 50 years ago that Japan's GDP would surpass that of the United States, and in the 2010s, economists predicted China would do just that before 2030 (Martin 2024). Today, China is only projected to surpass America by 2036 and be overtaken again 21 years later, and Japan's economy is less than one-sixth of the United States' size (Centre for Economics and Business Research 2023).

There are several reasons why predictions on BRICS+ economic growth, and on other emerging economies before it, may be overly optimistic. As mentioned before, the opaqueness of government proceedings and insufficient data collection capacity within BRICS+ countries gives them room to inflate their economic figures, whether to attract investment or to cement political power (Angrist, Goldberg and Jolliffe 2021). In particular, new studies conclude that official Chinese statistics overstated yearly growth by an average of 1.8 percentage points between 2010 and 2016, and that changes in data sources and methodology led to India's government overestimating its annual growth by 2.5 percentage points between 2011 and 2017 (Brandt et al. 2020; Subramanian 2019). However, a more persuasive explanation revolves around the "reversion to the mean" theory, which holds that previously rapid growth usually leads to a significant future slowdown. This occurs because initial growth is accompanied by a decrease in spare capacity, such as government spending resulting in future budget constraints, or diminishing marginal returns on investments (Mauro and Ho 2014). Conversely, IMF and World Bank forecasts rarely take this into account, leading to a substantial disparity between predicted and actual growth (see Figure 12). This effect is also more pronounced within BRICS+ countries as they previously had much faster growth rates, thus explaining the potentially misguided consensus that they will overtake the G7 within a generation.

This paper therefore agrees with the existing literature that BRICS+ will continue to enjoy faster economic growth than the G7, but such growth will be slower than many economists predict. The stark differences in economic models regarding output and trade partner diversification, welfare spending, protectionism, inequality levels and intra-bloc collaboration heavily favour the G7. Many BRICS+ countries also face substantial constraints to their growth that will likely take decades to resolve, including volatile political dynamics and a dearth of crucial infrastructure, and they will struggle to embrace technological developments and innovate. The bloc's ambitious collaborative projects to supercharge its economic growth will also yield mixed results, as de-dollarization will likely be limited while the NDB and CRA may be pivotal to raising investment and mitigating economic downturns. The G7 still faces a litany of nonetheless, such as a relatively difficult transition to renewables and a severe demographic shortfall, yet these are currently less pressing than the many shortcomings of BRICS+.

Figure 12: IMF/World Bank versus "Reversion to the Mean" Forecasts



Source: Ho and Mauro (2015).

Further research could include how the potential inclusion of other emerging economies, including Indonesia, into BRICS+ would increase the bloc's economic growth, which is especially likely due to China's ambitions for expansion and the applications of approximately 40 countries to join the organization. Moreover, one could discuss how rising geopolitical strife would impact future relations between the G7 and BRICS+, which may encompass the possible proliferation of sanctions on adversaries and economic incentives to court neutral nations, both of which would have substantial impacts on the two blocs' development. Finally, it is worth examining how the second Trump administration could create a significant headwind for members of both the G7 and BRICS+ groupings, particularly by eroding Bretton Woods institutions and the wider existing multilateral system.

About the Author

Sean Yi Xuan Tan is a former research intern at the Centre for International Governance Innovation (CIGI) and is currently interning at the Oxford Global Society, where he focuses on analyzing Central and Southeast Asia. He specializes in East Asian affairs, particularly Chinese foreign policy, and the domestic politics of his native Singapore, and has contributed bylines to the *Asia Times*, *Modern Diplomacy*, Oxford's *Political Review* and *St Antony's International Review*, Yale's *China Hands* and other notable publications. Before joining CIGI, Sean was a King's Scholar at Eton College, where he was recognized as the top student in economics and politics and served as editor-in-chief of Etonomics, one of the United Kingdom's largest student-run magazines. He was also president of the Eton Debating Society and enjoyed numerous successes as a competitive debater, including second-place finishes at Penn Schools and Oxford Schools, the world's largest debating competition with more than 1,500 participating teams.

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