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World Economy Is Bipolar, Not Multipolar

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A composite index of economic capabilities shows that the world economy is bipolar, not multipolar. The USA and China stand far ahead of all other powers, with leadership in knowledge and technology creation driving this polarity through multiplicative and winner-takes-most effects.

There is much discussion on the world economy being multipolar. While the fall of the Berlin Wall ushered in a unipolar world of the US, that hegemony has clearly declined over the last decade or so. The rise of China is the key factor in ending unipolarity. But, is there, along with the rise of China, also a rise of other poles, such as of the other BRICS countries, in the world economy? In discussions in India, including in official discourse, it is almost taken for granted that the world is multipolar and, in a wishful manner, that India is one of those poles.

Measuring Polarity

Can there be a way of measuring polarity to provide an answer to the question: Is the world multipolar or bipolar? In this empirical analysis we make two assumptions: (1) economic capability is the base of hard power, including military power, and leads to soft power with a lag; and (2) economic capability is based on, though broader than, leadership in the general-purpose technology of the era.

> At the base of polarity in the world economy lies domination of the general-purpose technology of the era, whether in Pax Britannica or Pax Americana.

A subsidiary assumption is that the economy of production of goods and services (the so-called real economy) is the base of finance, even of financialisation in the world economy. For instance, it is the global offshoring of production that has resulted in the extreme financialisation of US capital, which does not require to invest much of its revenue in production and is left with enormous profits invested as financial assets, including through stock buybacks.

As will be seen below, despite our assumption of the greater importance of the real economy, we have included two indicators of finance: foreign direct investment (FDI) and stock market capitalisation. We have not, however, attempted to include an indicator for the privilege and power of the US dollar as the world's reserve currency. At the base of polarity in the world economy lies domination of the general-purpose technology of the era, whether in Pax Britannica or Pax Americana.

We identify a central hub, or pole, of the world economy through economic capabilities and roles across several critical factors. Below we list the main economic capabilities considered, along with the indicators used in the statistical analysis.

Table 1: Dimension and Indicators to Measure Polarity

Markets (Goods and Services)	Gross Domestic Product (GDP) Exports of goods and services Manufacturing value added
Advanced Technologies	High-tech manufacturing exports Information and Communication Technology (ICT) service exports Industrial robots Artificial Intelligence (AI) ranking
Headquarter Firms	Firms in Forbes 2,000 Brands in Top 2,000
Critical Raw Materials	Balance of trade, crude oil Rare earths production
Finance	FDI outflow Stock market capitalisation
Knowledge	Patents granted (Patent Cooperation Treaty; PCT) R&D expenditure (Purchasing Power Parity; PPP) Companies in top 2,000 in business enterprise R&D (BERD) AI publications Universities in Top 250 as per QS Rankings
Source: Authors' creation.	

We set out the nature and roles of these factors in economic capabilities before going on to an empirical analysis of the global economy, answering the question of the extent of polarity in the world economy-is the world economy unipolar, bipolar, or multipolar?

Markets

The first factor is the size of the economy. A higher GDP means both a larger market for other economies' exports and, possibly, higher exports of one's own. Exports are of both goods and services. Economies that are the largest source of imports of other countries have an economic power, in that they can threaten to halt or restrict exports or imports.

With China being the largest manufacturing economy, and the largest trading partner of 120 countries, there is an obvious strength that can be used in conflicts. For instance, China is the largest producer of active pharmaceutical ingredients (API), which could become a source of power against countries, such as India, that manufacture generic or branded pharmaceuticals.

> After Japan made certain statements about Taiwan, it is reported that the release of Japanese films in China was delayed and performances by Japanese artists cancelled.

Access to large markets for imports can similarly be used as an economic weapon, and for purposes quite unrelated to economic issues. Donald Trump's tariffs illustrate this: whether deployed against Canada over an advertisement purportedly showing that former President Ronald Reagan supported a tariff-free trading system, or invoked in Trump's claim that he used the threat of tariffs to stop the India-Pakistan war.

China too has used access to its large domestic market as a weapon in international affairs. After Japan made certain statements about Taiwan, it is reported that the release of Japanese films in China was delayed and performances by Japanese artists cancelled. Earlier, China boycotted the Korean Lotte brand after South Korea conducted military manoeuvres with the US. India has also used exports as a weapon: Indians boycotted the Maldives as a tourist destination to protest anti-Indian positions. All these tariff and boycott actions demonstrate that access to large markets can be wielded as a weapon in international affairs.

Further, the above examples show that actions in markets, whether of export or import, can extend beyond those by states, such as imposing tariffs. There can be actions by domestic firms, and even by individuals, such as by boycotting certain products from a country.

The indicators that we have used for market-based economic strength are GDP, manufacturing value added, and exports of goods and services.

Advanced Technologies

Within goods and services, exports of high-technology products-such as information technology (IT) and telecom equipment-can be assumed to carry greater economic power. High-tech equipment is of high value, and some of it, such as IT (including both equipment

and software services), constitutes general-purpose technologies, in the sense that they are used across virtually every sphere of economic activity. The indicators used for high-technology strength are high-technology exports and information and communications technology (ICT) service exports, both in current US dollars.

Within high technology, a further distinction can be drawn for cutting-edge technology. Current industrial systems are being reshaped by robots and AI, and leadership in these areas will provide an economy with growing strength in the present era's techno-economic paradigm. The indicators for cutting-edge technology are the installation of robots and the development of AI systems.

Headquarter Firms

With the spread of the global value chain (GVC) model of production, even high-tech production is often splintered between headquarter (or lead) firms and supplier firms. iPhones are now assembled in India, but while this shows up in trade data as high-tech exports, it represents only the low-tech task of assembly by suppliers. To identify leadership in high-tech production, it is useful to separate lead firms from suppliers. The growth of China as a technology power can be seen in its shift from merely supplying assembled IT and mobile phone equipment to developing its own brands in these areas.

> The importance of raw materials has varied over time. Historically, they have ranged from fertile land and water to coal and iron, and, more recently, oil and gas.

Leadership in high-tech production can be identified by the number of brands with high value-such as Apple (USA), Samsung (Korea), or Huawei (China)-or by the size of firms. Neither brand value nor firm size corresponds closely to leadership in high-tech production, but headquarter firms in this sector can be assumed to fall within both these groups. The indicators used for headquarter firms are the number of companies in the Forbes 2,000 largest brands and the number of companies in the top 200 brands.

Critical Raw Materials

The importance of raw materials has varied over time. Historically, they have ranged from fertile land and water to coal and iron, and, more recently, oil and gas. These have now been joined by rare earths as the critical raw materials of the digital economy. It is not only the raw materials themselves but also their processing that matters.

In the age of petroleum, oil refineries were critical; today, the processing of rare earths has become equally so. While China is not the only, or even the major, source of rare earths, it accounts for 90% of the world's rare earths processing capacity. The indicators used for critical raw materials are the trade balance of crude oil and rare earths production.

Finance

Besides flows of goods, services, and raw materials, there are also flows of finance. The three major forms of financial flows are FDI, foreign institutional investment (FII)-comprising investment in share markets, mutual funds, and government bonds-and overseas development assistance (ODA).

Financial flows matter not only on a regular basis but even more so in times of financial crisis. Crisis finance can also be accessed through multilateral organisations such as the International Monetary Fund (IMF) and the World Bank, which are US-controlled. These have now been joined by Chinese-controlled multilateral financial organisations such as the New Development Bank (NDB) and the Asian Infrastructure Investment Bank (AIIB). The indicators used for financial flows are FDI, while stock market capitalisation serves as an indicator of financial strength.

Knowledge

Knowledge is a critical input in production. Leadership in the general-purpose technology of an era can be argued to be the basis of earlier global hegemonies, whether of the UK or the US. Being a centre for the creation of new, cutting-edge technological knowledge confers centrality in the world economy.

> New centres of knowledge grow from universities that rank among the best in the world, but their translation into technologies depends on the extent of firm-level investment in R&D.

As the theory of scale-free networks (Barabasi and Albert 1999) argues, there is a preferential attachment to nodes, resulting in a power law distribution of connections: a few nodes have most of the connections while many have few-a "winner take most" phenomenon. Silicon Valley in the US has many more such connections than, say, Bengaluru in India. China too has developed new centres of technological knowledge around Shanghai, Guangdong, and Beijing.

New centres of knowledge grow from universities that rank among the best in the world, but their translation into technologies depends on the extent of firm-level investment in research and development (R&D), which we measure by the number of firms a country has within the top 2,000 R&D investors.

The indicators selected for knowledge are total R&D spending, number of firms in the top 2,000 R&D spenders, number of patents, number of universities in the top 100 in the world, and number of AI publications indexed in the Web of Science.

Countries Selected

The analysis naturally began with the US and China for polarity calculations. The other BRICS countries-Brazil, Russia, India, and South Africa, often grouped together as the major emerging economies-were included, as were Germany, Japan, the UK, and South Korea, all important centres of technology development. Saudi Arabia and the United Arab Emirates (UAE) were added for their role as exporters of crude oil and, reportedly, as emerging centres for technology development. Turkey was included as another emerging economy.

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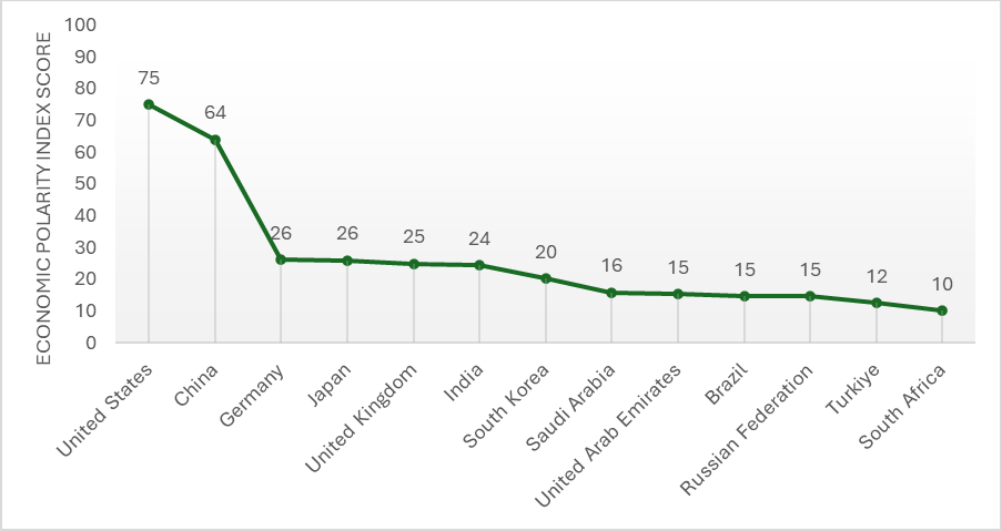
The methodology of calculating the Polarity Index is given in our detailed paper. The results are given below.

Table 2: Polarity Index Score and Rank

Countries	Polarity Score	Rank
United States	75	1
China	64	2
Germany	26	3
Japan	26	4
United Kingdom	25	5
India	24	6
South Korea	20	7
Saudi Arabia	16	8
United Arab Emirates	15	9
Brazil	15	9
Russian Federation	15	9
Turkey	12	12
South Africa	10	13
Source: Authors' computation from the compiled data.		

The heat map in Table 2 clearly separates the USA and China from the rest. This becomes even clearer when we define global economic hubs as peaks in Figure 1. Again, there are just two peaks in the world economy, the USA and China.

Figure 1: Peaks in the World Economy



Main Features

The world is certainly not unipolar-the relatively limited gap of 9 points between the scores of the USA (74) and China (66) shows this. But is it bipolar or multipolar? Multipolarity in the world economy can be defined as a situation of "relatively equal distribution of capabilities… with three or more consequential powers" (Posen 2009: 350). Table 2 shows a large difference between the economic capabilities of the first two and the next ranked powers Germany, Japan, the UK, India, and South Korea. There is no relatively equal distribution of economic capabilities between the USA and China on the one hand and the next ranked powers on the other, leading to the conclusion that the world economy is bipolar.

> What stands out is the difference between the first two countries-the USA and China-and the rest. Even if the differences among the other countries seem relatively minor, the gap between the two poles and the rest is stark.

Following the two poles is a group of what may be called middle powers: Germany, Japan, the UK, India, and South Korea. Next is a group of six largely resource-based economies, some of which have also made headway in critical technologies-Russia in armaments and Brazil in civilian aircraft and ethanol. Among the remaining countries studied are Turkey and South Africa, with Turkey notable for its advances in drone technology.

What stands out is the difference between the first two countries-the USA and China-and the rest. Even if the differences among the other countries seem relatively minor, the gap between the two poles and the rest is stark, and would not change in any calculation of economic capabilities in the contemporary world economy. A sensitivity analysis confirmed this: the position of the big two did not change, and the relative positions of the other powers remained largely stable as well. These results show that our index is quite robust.

Figure 1, with its two peaks and steep fall into a plateau, follows what is called a power law of distribution (Barabasi and Albert 1999), where few countries (two) have high values and many (11) have relatively low values.

Why is there such a power law distribution of economic capabilities in the world economy? This could be the subject of a whole paper. Our main point, as noted earlier, is that leadership in knowledge and technology creation drives polarity, with multiplicative and feedback effects-with the result that the US or China lead or come second in most indicators, producing the winner-takes-most phenomenon.

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References:

Barabási, Albert-László, and Réka Albert. "Emergence of Scaling in Random Networks." *Science* 286 (1999).

Posen, Barry. "Emerging Multipolarity: Why Should We Care?" *Current History* 108 (2009): 721.