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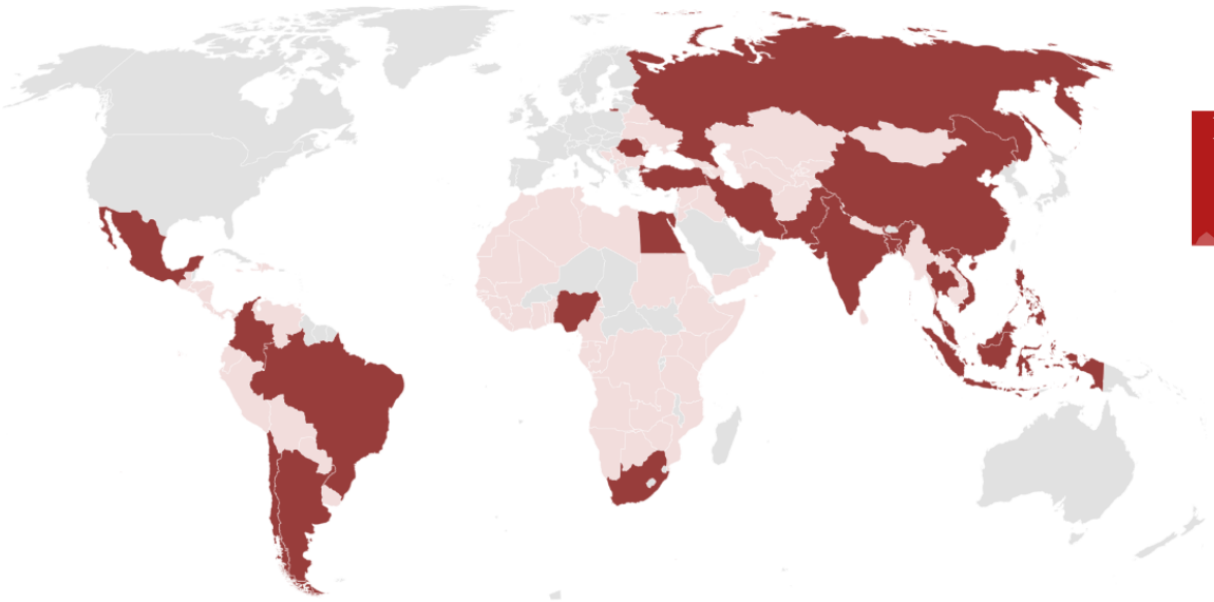
& Contributors

EMERGING MARKET MULTINATIONALS REPORT 2023

RISKS & REALIGNMENTS



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Anne Miroux is a Faculty Fellow at the Emerging Markets Institute, Johnson School of Management at Cornell University. She has over 30 years of experience in international trade and finance. She began her career in the United Nations Centre on Transnational Corporations in New-York, and later joined the United Nations Conference on Trade and Development (UNCTAD) where she specialized on developing country debt, foreign direct investment and transnational corporations, and technology and innovation policies. For several years she headed the Investment Analysis Branch in UNCTAD and directed the World Investment Reports (WIR), the United Nations flagship report on FDI and transnational corporations and served as the Editor of the UN Transnational Corporations Journal. She published several papers and articles and led research projects and technical assistance activities in developing countries on debt, FDI and development.
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Carles Brasó Broggi (PhD) is a sociologist and economic historian. His research covers economic and business history of China and some themes on global contemporary history. Recently he is investigating connections between the Spanish civil war and China's war with Japan. He is a Ramón y Cajal Fellow at Universitat Oberta de Catalunya.

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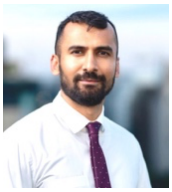
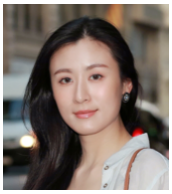


Meraj Husain, is a financial services specialist focused on inclusive financial services and technology – particularly in the areas of small business lending and digital payments. Serving in various roles including investment officer, business development lead, strategy consultant, and project manager, Meraj has lead investments in fintechs, banks, non-profits, and other innovative financial service providers across emerging markets. Before joining IFC in 2016, Meraj worked in emerging markets finance, market intelligence, and consulting. Meraj holds a Bachelors in Economics from the University of California Irvine and a Masters in Applied Economics from Georgetown University



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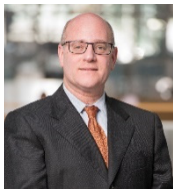

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Georges Ugeux is the founder and CEO of Galileo Global Advisors. Throughout his 40 years career in global business and finance, he has served, among others, as General Manager of the investment banking and trust division of the Société Générale de Banque (now Fortis Bank), Managing Director of Morgan Stanley's Mergers and Acquisitions department, President and Managing Director of Kidder, Peabody Europe, and Group Executive Vice President, International & Research at the New York Stock Exchange. He was also a member of the European Corporate Executive Council of General Electric, and President of the European investment Fund, a public private partnership financing infrastructure and SME. Georges Ugeux holds a Doctorate in Law and is Licentiate in Economics from the Catholic University of Louvain. For several years, Georges has been teaching European banking and finance at Columbia University Law School. He writes editorials and blogs for, among others for The Huffington Post and the French leading newspaper Le Monde. He is the author, among others, of *Intentional Financial Regulation, the Quest fore financial stability* (Wiley, 2014) . He published in 2024 a new book with Springer: "Wall Street's Assault on Democracy: how financial markets exacerbate inequalities".

Preface

Andrew Karolyi, Dean and Professor of Finance and Harold Bierman Jr. Distinguished Professor of Management
Founding Co-Academic Director, Emerging Markets Institute
Cornell S.C. Johnson College of Business, Cornell University

2023 has seen an escalation of geopolitical tensions around the emerging markets world. Long-standing regional conflicts have risen to the fore in the Middle East, Taiwan Strait, Ukraine, various parts of sub-Saharan Africa. Brewing nationalist sentiments are revealed in the ballot boxes with greater intensity. No part of our globe is untouched by the tensions. Research in international business and economics over several decades has affirmed the adverse consequences of heightened geopolitical temperature for cross-border trade and direct and portfolio capital flows. Bank flows recede, trade disputes flare up, global supply chains are disrupted, the pace of cross-border acquisition deals diminish, and institutional investors retreat. And what we know well is how emerging markets are most vulnerable to these reversals of globalization.

What the Emerging Market Multinationals (EMM) Report for 2023, the 9th edition of this report, focuses on is how these reversals of globalization are revealed in new outbound strategies for large companies domiciled in emerging markets. Authors and co-editors, Anne Miroux and Lourdes Casanova, refer to this as a reset moment, a new paradigm. The core chapters they write discuss the growing expectations that EMMs adopt - through a more domestic-centered lens – toward important social and environmental goals, the greater attention paid to growth strategies linked to domestic government policy shifts. It is about shifting priorities and redesigned business strategies, they argue. The overarching theme is about the competing pressures from globalization and the diminished opportunities from rising geopolitical tensions and from growing national demands by local governments of these EMMs as home-grown corporate champions. Drs. Casanova and Miroux lay the arguments out clearly and effectively, all built around the requisite stock-taking of EMMs around the world, trends and key attributes of success and failure, that is the annual staple of the EMM report.

Beyond the core chapters by Miroux and Casanova, there are features by teams of scholars from the OECD Development Center, Universidad de los Andes (Colombia), University of Barcelona, University of Ottawa, University of Ljubljana, and even a feature article by longtime Emerging Markets Institute (EMI) Advisory Council member, Georges Ugeux. These articles focus on the creation and enlargement of the BRICS (Brazil, Russia, India, China, South Africa), the establishment of new National Development Bank, China's Belt-and-Road initiative, the drive by China to further internationalize the renminbi, potential digital BRICS currencies designed to unseat the hegemony of the US dollar, among others. My takeaway from these articles is that emerging markets – and the EMMs, as their national corporate champions - see now an opportunity to re-evaluate alliances, partnerships and global engagements, a distinct shift in power dynamics. For a special treat, direct your attention to Ugeux's article on the emerging market debt overhang problem and the new challenges associated with emerging market debt structuring.

I congratulate Editors Miroux and Casanova for offering us all another thought-provoking EMM Report for 2023. One that accurately reflects the times and one that is so notably different in tone about economic and capital market prospects in emerging markets from the very first edition the EMI put out in 2015. As dean of the Cornell SC Johnson College of Business, I well know that nothing we do happens without the wind in our sails provided by our generous benefactors. The EMI has a wonderfully supportive advisory board, generous support from benefactors Rob and Gail Canizares and Henry Renard and the Ada Kent Howe Foundation, among others, and it is fueled by the energy and enthusiasm of current and past EMI Student Fellows who help make our collective efforts vital and meaningful.

I wish you a stimulating read of the Emerging Markets Multinationals Report for 2023 with active and informed debate about the views shared in it!

Acknowledgements

The Emerging Market Multinationals Report (EMR) 2023 has been authored by Lourdes Casanova, Senior Lecturer, Gail and Rob Cañizares Director, and Anne Miroux, EMI Faculty Fellow, at the Emerging Markets Institute (EMI), Cornell S.C. Johnson College of Business, Cornell University.

The authors are grateful to Daniel dos Anjos, Dimitrios Nerantzinis, and to Tianchang Wang. Special thanks to Marcelo Kawabata, Visiting Scholar at EMI for his unvaluable inputs for the report. Our thanks also go to the EMI 2023 summer interns, Juan Felipe Benítez, David Chaparro, Bryan Cheung, Ashley Chiang, Juliette Echahamian, Julián Garzón, Laura González, Feifei Hung, Kaleb Kavuma, Shivas Khera, Miriam Mendoza, Sebastián Molina, Theo Kergere, Luis Morales, Aryaman Anupam Thareja, David Zheng, as well as to the following MBA researchers for the summer 2023, Deepen Kothari, Yongky Arief Kristando, Sharwari Rajesh Pandit and Lingke Wang for their contribution to the report.

The report benefited from comments and discussions with Andrew Karolyi, Dean of the Cornell S.C. Johnson College of Business, and the Members of the EMI Academic Advisory Board. We also wish to express our gratitude to the EMnet team at the OECD Development Center, a close partner of EMI and a regular contributor of the Report that contributed this year again with chapter 5 written by Lorenzo Pavone and Daniel Kefer. Thanks to the International Financial Corporatation (IFC) of the World Bank's team Momina Aijazuddin, Matthew Saal and Meraj Husain for their contribution in chapter 6.

Members of the Emerging Multinationals Research Network (EMRN) as well as experts from academia, business, and international organizations contributed chapters to the Report: Veneta Andonova and Juana García (EMRN and Escuela de Administración at Universidad de los Andes, Colombia), together with César Rosales and Juan Pablo Soto (Escuela de Administración at Universidad de los Andes) contributed Chapter 7, Yuan Jia-Zheng , Patricia García-Duran, Paloma Fernández-Pérez (Faculty of Economics and Business, University of Barcelona) (Faculty of Economics and Business, University of Barcelona) and Carles Brasó Broggi (Universitat Oberta de Catalunya) Chapter 8; Fred Olayele (Board Chairman, Economic Club of Africa Network) Chapter 9; Marcelo Kwabata (University of São Paulo) Chapter 10 and Georges Ugeux (Columbia University and Galileo Global Advisors) Chapter 11.

Finally, and as always, our monthly discussions with the Emerging Multinationals Research Network partners - Veneta Andonova and Juana García at Universidad de los Andes (Colombia), Armando Borda at ESAN University (Peru), Ricardo Buitrago at Tec de Monterrey (Mexico), Fernanda Cahen at ESPM (Brazil), Anabella Dávila at Tec de Monterrey (Mexico), Diego Finchelstein at Universidad de San Andrés (Argentina), Kalman Kalotay at Institute of World Economics (Hungary), Andreja Jaklic at University of Lubjiana (Slovenia,) Andrei Panipratov at EMLV Business School (France) and Moacir de Miranda Oliveira Jr. at Universidad de São Paulo (Brazil) inspired the content of the Report.

Executive Summary

Chapter 1. Taking stock of the EMI reports: From optimism to uncertainty
Lourdes Casanova, Cornell University, United States
Anne Miroux, Cornell University, United States

We are pleased to present the 8th edition of the Emerging Markets Report, published by the Emerging Markets Institute at Cornell University. Over the past decade, this series of the Emerging Markets Report has played a crucial role in documenting and gathering benchmark data on the rise of global companies from emerging markets. The report has also enhanced our understanding of the complex dynamics of business in emerging markets and their vital role in supporting global growth. The global landscape has undergone substantial transformations since the first edition of the report almost a decade ago, transitioning from the prevailing optimism of that time to the uncertain and complex world of today, a world barely emerging from the COVID, confronted with mounting geopolitical tensions, and embroiled in two major conflicts.

Chapter 2. Emerging Market Multinationals: trends and corporate features
Lourdes Casanova, Cornell University, United States
Anne Miroux, Cornell University, United States

Chapter 2 compares the performance in terms of growth of emerging market multinationals with companies in the United States and Europe. It examines the concept of 'billionaire companies' those companies with more than USD 1 billion in revenues. Within this group, the chapter also includes an examination of the top 500 largest companies from emerging markets, the top 500 EMNCs.

Chapter 3. Emerging Market Multinationals, between globalization and national demands
Lourdes Casanova, Cornell University, United States
Anne Miroux, Cornell University, United States

In this chapter, we document the global presence of emerging market multinationals. We analyze the greenfield and cross-border merger and acquisition deals and identify the drivers for globalization across firms in different countries.

Chapter 4. Emerging Markets: Confronting risks, seeking a stronger voice
Lourdes Casanova, Cornell University, United States
Anne Miroux, Cornell University, United States

In just a few years, the global economy has been hit by two major crises, the COVID pandemic and the war in Ukraine - each leaving a lasting impact on the global economy. As shown in previous Emerging Market Multinationals Reports, this succession of crises has exacerbated many of the risks faced by economies and holds profound geopolitical implications, possibly leading to new alliances and realignments. This chapter will examine some of these risks and explore the changes taking place in global geopolitics.
Consistent with our approach since the first Emerging Market Multinationals Report in 2016, we will examine developments within emerging markets through the lens of the E20+1 group. This group encompasses China and the top 20 emerging economies providing a comprehensive framework to analyze and comprehend the intricate dynamics at play.

Chapter 5. Navigating Business Risk in Emerging Markets
Lorenzo Pavone, Emerging Markets Network (Emnet), OECD Development Centre, France
Daniel Kefer, Emerging Markets Network (Emnet), OECD Development Centre, France

Emerging markets are facing challenges to economic growth including persistent supply chain bottlenecks, inflationary pressures, tighter monetary policies, and an increasing risk perception which have hindered post-COVID-pandemic recovery. Looking forward to 2024, if inflation continues along with tight economic policies in emerging markets, the risk associated with new investment will remain high. This article provides the views of the companies participating in the meetings of the OECD Development Centre's business platform Emerging Markets Network (EMnet) on strategies to address high-risk perception and improve investment, despite tepid predictions for future economic growth.

Recommendations range from increasing and harmonizing regulations, to encouraging more sustainable finance and more robust value chains, to promoting public-private partnerships and a focus on long term policies, digital innovation and inclusion.

Chapter 6. Digital Payments Drivers and Adoption Rates in Emerging Markets

Momina Aijazuddin, Matthew Saal, Meraj Husain
International Finance Corporation, United States

Increasing digital connectivity has encouraged the growth of both global and localized payment solutions. The adoption – and ultimate success – of these solutions depends on a range of factors, including a country's financial infrastructure, comprising efficient payment systems and accessible banking services; technology and communications infrastructure and the resulting access to internet and mobile networks; government support and payments regulation; and product-market fit that aligns payments instruments with the needs of users. The combinations of those individual foundational components vary across countries. This paper evaluates the adoption of digital payments schemes in Brazil, India, and Kenya through the lens of these drivers, and suggests common factors that seem to accelerate adoption. Whether government-led or private sector-led, a digital payments revolution is helping to bridge the financial inclusion gap.

Chapter 7. The Risks that Artificial Intelligence Brings to Latin America

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Juan Pablo Soto, Universidad de los Andes School of Management, Colombia
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Artificial intelligence comprises an array of powerful technological tools that are transforming business processes, services, and the basis for value creation in most spheres of life at a scale and speed that entails significant risks. These risks are larger in regions such as Latin America, where income inequality, translating into educational and infrastructural inequality, can be augmented instead of diminished by the power of AI. We highlight these risks by analyzing the relative institutional weakness of countries in the region and present the current AI adoption patterns of Latin American companies. There is an urgent need to build awareness and an ethical code for AI in order to preserve social peace and the social contract in a region that is separated by inequalities, avoiding further exclusion and marginalization.

Chapter 8. From Car Makers to Commanders of the Global Electric Vehicle Industry

Yuan Jia-Zheng, Patricia García-Duran, Carles Brasó Broggi, Paloma Fernández-Pérez
Department of Economic History, Institutions, World and Economic Policy, Faculty of Economics and Business, University of Barcelona, Spain

This chapter examines the emergence of China as a prominent world force in the automobile industry in the last decades. It shows that, in this process, industrial policies and state intervention have resiliently been embedded in the Chinese car-making industries. The Chinese government facilitated the establishment of the early automobile companies during the Maoist era, with an emphasis on commercial vehicle production. Later on, the central government granted permission, to foreign manufacturers, to enter the market by establishing production subsidiaries, albeit subject to stringent joint venture conditions. The domestic market gradually opened up in the late 1990s, ultimately leading to China's entry into the World Trade Organization in 2001. In the last two decades, the "technology for market" strategy has persisted, leading to a rise in inbound foreign investment. Simultaneously, the Chinese government has encouraged domestic players to expand their presence abroad and helped establish the Chinese automobile industry as a leader in the design and production of environmentally friendly vehicles or electric vehicles (EVs).

Chapter 9. Multinational Divestment and Nigeria's T*rillion*-D*ollar Economy:* Four Implications for Industrial Policy

Fred Olayele, Board Chairman, Economic Club of Africa Network. NYC

The recent episode of multinational divestments from Nigeria is generating a lot of concerns. With limited fiscal space and rising financing costs, this may further constrain the country's ability to mobilize the resources needed to fund its development priorities. By the same token, it is difficult to divorce the trend in multinational divestments from the global paradigm of trade and technological decoupling. Given the resurgence of industrial policy, geoeconomic fragmentation poses a challenge to countries, with disproportionate impacts in the global South, due to limited access

to global *capital markets.* Following years of economic stagnation and distortions in foreign exchange markets, which slowed foreign investment attraction efforts, the new government has embarked on a comprehensive reform program. Nigeria wants to more than double its GDP to USD1 trillion in less than eight years, and the government has embarked on a series of painful but necessary reforms to reposition the economy for trade and investment. Without the right conditions in place, this seems like a *herculean task, albeit not impossible.* Nigeria's potential as an economic powerhouse has never been in doubt; realizing the full potential remains its key challenge. Viewed against the backdrop of its recent economic history, this paper underscores four key issues *that* Nigerian policymakers must address: fiscal incentives, post-divestment value maximization, integration into global value chains, and the differential economic performance of subnational regions. These are not collectively *exhaustive.*

Chapter 10. Fostering Public Services and Inclusive Growth Through E-Government Innovative Initiatives: Insights from India, Brazil, U.S., and Japan

Marcelo Kawabata, Visiting Scholar, Emerging Markets Institute, Cornell University, United States

Digital public services have the potential to enhance inclusivity and stimulate inclusive growth. Across advanced and emerging market countries, innovative e-government initiatives comprise national digital identification, digital payments, CBDC, tax returns, and customs agility. Developing countries can leverage these initiatives to narrow the public service quality gap compared to advanced countries. This presents an opportunity for emerging market countries to make significant strides in fostering remarkable inclusive growth through e-government.

Chapter 11. The challenges of Emerging Markets sovereign debt restructuring

Georges Ugeux, Lecturer, Columbia Law School, United States

This chapter considers one of the most pressing issues for emerging markets - debt. It focuses on the sovereignty of the borrowers, conditionality and burden sharing, lack of transparency, political considerations, interest rates increase, hedge funds and others that make emerging market sovereign debt restructuring a deeply complex task. The diversity of creditors also makes the negotiations particularly difficult. The chapter puts forwards a few policy considerations, highlighting that a set of principles like transparency, dialogue and cooperation; ‘‘good faith’’ and fair treatment of all parties, as embodied in the "Principles for Stable Capital Flows and Fair Debt Restructuring", may help address the EM debt restructuring issue.

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Abbreviations and Acronyms

AACSB Association to Advance Collegiate Schools of Business
AMBA Association of MBAs
BPM Business Process Management
BRI Belt and Road Initiative
BRICS Brazil, Russia, India, China and South Africa
CARI China-Africa Research Initiative
CDB China Development Bank
CDEEE Dominican Republic State Electric Utility
Chaebol Korean family-run conglomerate
CNCPC National Petroleum Corporation
DOI Degree of Internationalization
DRAM Dynamic Random Access Memor
EBITDA Earnings Before Interest, Taxes, Depreciation, and Amortization
ECLAC United Nations Economic Commission for Latin America and the Caribbean
EQUIS European Quality Improvement System
EMI Emerging Markets Institute
EMNC Emerging Multinationals
EMNET OECD Development Centre's Emerging Markets Network
EMR Emerging Markets Report
ESG Environmental, Social and Governance requirements
FATA Foreign Assets to Total Assets
FDI Foreign Direct Investment
FDI RRI Foreign Direct Investment Regulatory Restrictiveness Investment
FERE Foreign Employees to Total Employees
FSTS Foreign Sales to Total Sales
FTAs Free Trade Agreements
GDP Gross Domestic Product
GDPR General Data Protection Regulation
GEIDCO Global Energy Interconnection Development and Cooperation Organization
GEGI Global Economic Governance Initiative
GFC Global Financial Crisis
GII Global Innovation Index
GICS Global Industry Classification Standard
GSM Global System for Mobile Communications
GVCs Global Value Chains
HACCP Hazard Analysis and Critical Control Points
HCBM Human-Centered Business Model
HMETC Hyundai Motor Europe Technical Center
IB International Business
ICT Information & Communication Technology
IDB Inter-American Development Bank
IEA International Energy Agency
IMF International Monetary Fund
INST-OUT Outer institutions
KEPCO Korea Electric Power Corporation
LAC Latin America and the Caribbean
M&As Mergers and Acquisitions
MDGs Millennium Development Goals
MNE Multinational Enterprise
NAFTA North American Free Trade Agreement
NOC Number of countries hosting overseas subsidiaries
NOS Number of overseas subsidiaries
OECD Organization for the Economic Cooperation and Development
OFDI Outward Foreign Direct Investment
OSTS Overseas Subsidiaries to Total Subsidiaries
PBX Private Branch Exchanges
PPP Purchasing Power Parity
RBC Responsible Business Conduct
RES-IN Inner Resources
RES-OUT Outer Resources
RES-OUT-RAW Raw material-seeking
RES-OUT-TECH Technology-seeking outer resources
ROA Return on Assets
ROE Return on Equity
ROS Return on Sales
S&T Science and Technology
SAIS Johns Hopkins University School of Advanced International Studies
SDGs (United Nations) Sustainable Development Goals
SKMS SK Management System
SOE State-Owned Enterprise
SMEs Small and Medium-size Enterprises
STEM Science, Technology, Engineering & Mathematics
TPA Trade Promotion Authority
UN United Nations
UNCTAD United Nations Conference on Trade and Development
USMCA United States-Mexico-Canada trade agreement
VCR Video Cassette Recorders
WB World Bank
WCDMA Wide-Band Code Division Multiple Access
WEF World Economic Forum
WTO World Trade Organization

PART I
EMERGING MARKETS INSTITUTE

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Chapter 1

Taking Stock of the EMI Reports: From Optimism to Uncertainty

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Executive Summary
We are pleased to present the 8th edition of the Emerging Markets Report, published by the Emerging Markets Institute at Cornell University. Over the past decade, this series of the Emerging Markets Report has played a crucial role in documenting and gathering benchmark data on the rise of global companies from emerging markets. The report has also enhanced our understanding of the complex dynamics of business in emerging markets and their vital role in supporting global growth. The global landscape has undergone substantial transformations since the first edition of the report almost a decade ago, transitioning from the prevailing optimism of that time to the uncertain and complex world of today, a world barely emerging from the COVID, confronted with mounting geopolitical tensions, and embroiled in two major conflicts.
Keywords: geopolitical risk, global growth, emerging markets.

1.1. New questions in a world of turmoil

The contrast in the global landscape from the 1st edition of this report in 2016 to the current 8th edition is remarkable. The choice of the cover image for the 2016 edition featuring a Chinese Costco ship navigating the newly enlarged Panama Canal, captured the prevailing optimism of that time. The mood was largely positive as seen by:

- The celebration of the successful enlargement of the Canal: the biggest infrastructure project in the world that had taken place in an emerging market (Panama)
- The new power of Chinese companies, in this case, Costco Shipping which had paid for the privilege to be the first ship to cross the enlarged Panama Canal
- Growing South- South investments with China signaling its interest in investments in other Emerging Markets such as Latin America

The global context for this 8th edition of the report is an emerging markets scenario that is constrained by increased geo-political tensions. As the report goes to production, the world is embroiled by wars in Ukraine and the Middle East. Growing tensions between the USA and China have led the world's largest emerging market to focus more on domestic matters. Questions are being raised about the effectiveness of the investments that China has been making in the BRI initiative over the last decade. The mood in emerging markets has become more uncertain and inward-looking. Against this backdrop, emerging markets such as India and Brazil are being forced to tread delicately on the global stage to avoid antagonizing western powers.

In the context of the new geopolitical and societal realities of 2023, the traditional drivers for internationalization are being questioned and the paradigms for the study of international investments are changing. On one hand, the presence of governments in business is growing and, on the other hand, there is growing expectation that companies should look beyond pure economic gains to address important social and environmental goals at home. During the COVID-19 pandemic, governments had to intervene to shore up the economies of their countries. Notably, western countries are implementing industrial policies to maintain competitiveness, coupled with protection for local industries. This interventionist approach is particularly evident in sectors like semiconductors, where governments are actively shaping the market through trade sanctions and strategic investments.

Additional scrutiny of foreign investments, protection by governments of national champions, and the pressure to reorganize value chains are becoming common as companies respond to shifting priorities and redesign their business strategies. From the search for efficiencies via offshoring, we see the emergence of near-shoring to achieve value chains

within geographical proximity, or to friend-shoring and ally-shoring, that is, to investing between countries that are friends and allies. This report will review how and why we got to this point and what have been the underlying economic and geopolitical forces that have led us to these radical changes.

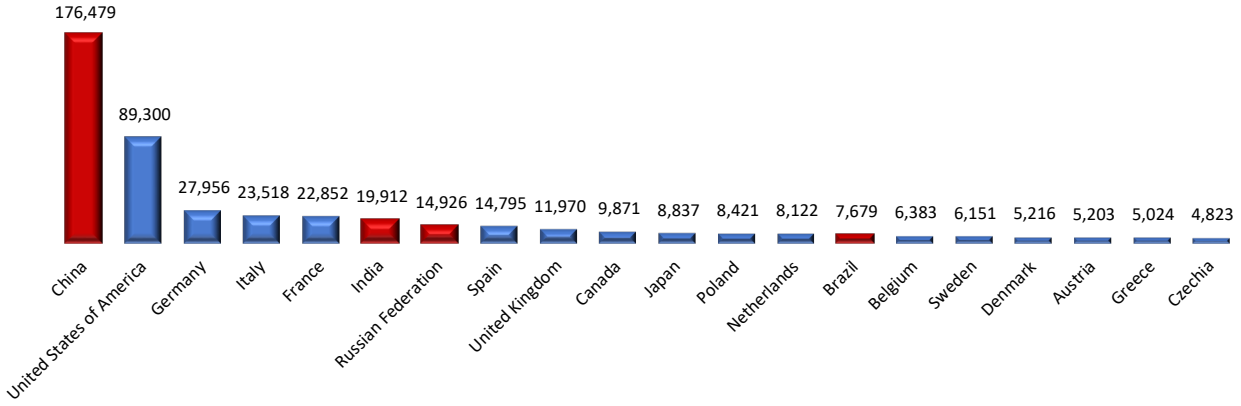
1.2. A stronger role for governments

The first signs of a new economic stage were seen with the Financial Crisis of 2008-09, which required rapid and costly state intervention throughout the Western world. The primary objective was to avert a recurrence of a catastrophe akin to the Great Depression of 1929. Faced with an imperative for urgent action, the U.S. government departed from the established orthodoxy of the Washington consensus, which advocated for the self-regulation of markets without extensive government intervention. In direct contravention of the Washington consensus, the U.S. government opted for decisive intervention, injecting substantial financial resources into major institutions. Notable recipients included financial giants like Citi bank, mortgage providers Fannie Mae and Freddie Mac, and the insurance behemoth AIG. Moreover, interventions extended beyond the financial sector to encompass critical players in the automotive industry, exemplified by the rescue efforts directed towards General Motors and Chrysler. Since then, the changing global context has turned what was thought to be an exception into the new rule.

With the global financial crisis of 2008, we entered a new era in which, initially, the government had to bail out and nationalize companies. Although companies soon managed to regain private ownership and the government seemed to withdraw, it had to intervene again due to the COVID health crisis in 2019, the Russia-Ukraine war in 2022. Strategic and national security concerns with the rise of China have led to a whole series of trade sanctions by the United States and Europe. Societal demands like respect for the environment and social equity have also contributed to a greater participation of governments in the economy.

The European Commission launched for the first time since its foundation an industrial policy with the aim of boosting the European Economic Security Strategy in the defense industry, protecting its own technology and returning to the production of goods considered strategic within the continent. What began as an urgent remedy during the 2008 financial crisis is here to stay. It is a global phenomenon including not only the developed markets of the European Union and the United States but also key emerging markets such as China. A study by the Singapore-based Hinrich Foundation (Hinrich Foundation, 2023) covers the number of distortions caused by subsidies in different regions and countries from 2008 to the first quarter of 2023. As shown in Figure 1.1, China tops the ranking by country with 176,479 distortions, followed by the United States with 89,300. Europe, as a region, is the leader with 101,222. India is far behind with 19,912 and Latin America lags with 11,591. Near the bottom is Japan with 8,837 and, at the bottom, Africa with only 1,548. The distortions are of different kinds in different markets. In China, 95% of the distortions are translated into financial subsidies to its companies, while in the US 14% are production subsidies (a recent case being the CHIPS and Science Act that provides 39 billion USD to companies to build new semiconductor plants). Meanwhile, in Germany with 27,956, the European country with the highest number of subsidies) 30% of the distortions are state loans. Germany announced in 2022 that it would provide 109 billion USD worth of loan guarantees to the corporate sector, in addition to another 68 billion USD to the energy sector.

Figure 1.1. Number of corporate subsidies by country 2008-2023Q1



Source: Authors based on data from Global Trade Alert, Corporate Subsidy Inventory 2.1 (https://www.globaltradealert.org/) accessed in November 2023.

When examining the role of governments in the economy, we find different intensities in the continuum that goes from the United States, a country where the laws of the market operate most strongly, to China, an example of a more state-run economy. In Europe, we have an intermediate model, with governments still retaining a stake in the large, privatized service companies. Germany holds a 32% shareholding in Deutsche Telecom, France a 23% stake in Orange (formerly France Telecom), Electricité de France, after being nationalized again, owns 100%, Italy a 23% stake in Enel. Even in Spain, during the pandemic, the government regained the golden share in large, privatized companies such as Telefonica. This golden action gives the government the right to veto a hostile or unwanted takeover. In the case of Latin America, where privatization in the 1990s was one of the most radical in the world, large companies such as Mexico's Pemex, Colombia's Ecopetrol, Chile's Codelco or Brazil's Petrobras and Banco do Brasil are wholly or partially state-owned. In India, the largest companies that are part of the Fortune Global 500 have a similar shareholding profile, with a large state stake: Indian Oil Corporation, Oil and Natural Gas Corporation (ONGC) and State Bank of India (SBI). In Russia, Gazprom, the largest company, is also state-owned. In this country, the divestments of Western multinationals that followed the invasion of Ukraine increased the power of the government, which bought many of these companies. The same is true in Indonesia with PT Pertamina (Persero), in Malaysia with Petronas or in Nigeria with The Nigerian National Petroleum Corporation (NNPC)–all of which are state-owned.

Finally, China represents a distinct and contrasting pole to the United States on the spectrum of government influence in the economy, either directly as in the case of the big banks or, indirectly, through strict regulation as in the case of technology companies. If we compare the ownership of the 100 largest companies in the United States and China, among the former there is only one public company (Casanova and Miroux 2020): USPS, the American postal service, while among Chinese companies almost 85% are partially or totally state-owned. In this evolving equilibrium, the pendulum is swinging towards a more prominent role for governments in the economy and in the day-to-day life of companies.

1.3. An Increased Emphasis on Resilience

While the financial crisis of 2008-09 led to a wave of international acquisitions, particularly by Chinese companies, governments had a more direct and protective intervention favoring national interests in the case of the COVID health crisis. Had globalization gone too far to render it inoperative in the times of pandemic and health crisis we were experiencing? First, governments intervened in healthcare. It was also necessary to support citizens who were left without resources or job opportunities, and companies forced to a minimum activity due to closures or reduced operation. With the fall in the value of companies, European governments established measures to veto possible hostile takeovers at bargain prices to preserve national champions of the industry and the service sector.

In the context of vital emergencies, the lack of masks and basic medicines at the beginning of the pandemic led to a revision of the fundamentals on which value chains had been designed. For long, efficiency objectives based on low costs and just-in-time production processes that optimized inventories to minimum levels had prevailed. From efficiency, there has been an increasing shift towards resilience. The focus in the design of value chains shifted from efficient global production to resilient manufacturing that could function in emergencies (such as health or geo-political) and protect vital national interests. Western countries decided that the pharmaceutical industry was strategic for the countries. Agriculture, also essential, had already been receiving direct or indirect subsidies for decades in the rich countries: the United States, Japan, and Europe. Industries that were henceforth defined as essential to the basic functioning of a country could be subject to favorable industrial policies and subsidies to maintain them or bring them back to the domestic market. In addition to pharmaceuticals, semiconductors, energy transition, defense and telecommunications also became considered essential.

The COVID health crisis showed the Western world its dependence on China as a supplier of manufacturing and basic necessities. Coinciding with the time, Donald Trump's presidency in the United States (2017-2021) and the European Union (European Commission, EU-China Strategic Outlook, 2019) defined China as an economic competitor and a rival that promoted alternative models of government. What until then had been a laissez-faire attitude and taking advantage of low manufacturing costs, gave way to sanctions. At first it was Chinese drones and from there it went to Huawei, the world's largest supplier (with Sweden's Ericsson) of telecommunications equipment, and other companies. Against a backdrop of rising tariffs and trade barriers, the Biden administration has gone further and throughout 2022 has passed a major industrial policy legislative package. This includes the CHIPS and Science Act, with a 280 billion USD endowment

through 2026 to promote chip research and manufacturing in the country and the Inflation Reduction Act (Inflation Reduction Act, or IRA), with a budget of more than 400 billion USD in public spending and tax credits over the next ten years, aimed at lowering the price of medicines, as well as a set of far-reaching measures to combat the climate crisis, which also contains a strong commitment to industrial policy. The European Union's response has been approving the European Chips Act in June 2023, which will allocate 47 billion USD with the aim of doubling the weight of European industry in global semiconductor production (which barely reaches 10%). Thus, this will reduce its almost total dependence on the US and, especially Asia. Within the framework of this technological race not based on market forces, but with a strong component of public subsidies, South Korea and Japan have also launched initiatives to favor their local industry in the technology sector.

In February 2022, the Russia-Ukraine war accelerated the trend. Several European leaders said it was time for countries to put strategic concerns over corporate profits. And so, European countries boycotted Russian gas and, together with the United States, forced their companies to divest their assets in Russia. The Central Bank of Russia's reserves of 300 billion USD and gold were frozen, and transactions through SWIFT were banned. While the initial panic resulted in stock market falls and a sharp rise in commodity prices, the situation gradually normalized. Despite the vote condemning the war at the United Nations, sanctions have not extended beyond Europe, the United States and Japan. Currently, it is too early to know the consequences of the war, but protectionist tendencies in economic matters have accelerated.

1.4. A shift in values

In 2012, in Rio de Janeiro, coinciding with the United Nations Conference to define a set of Sustainable Development Goals (SDGs), society assumed the need for greater scrutiny of business practices. The SDGs were adopted by the United Nations General Assembly in 2015. Slogans against what some saw as 'privatizing profits and nationalizing losses' had already become popular as states bailed out banks in 2009. The scant accountability of the executives who had been behind the corporate bankruptcies didn't help either. The public began to demand greater transparency about the accounting gimmicks that had reduced risk by packaging and selling subprime financial products that included mortgages as risk-free products. A type of globalization that had led to a significant reduction in poverty, but which had excluded a large part of society and led to an increase in inequality, began to be questioned. Not only did companies have to increase shareholder value, but they also had to be held accountable to employees, customers, suppliers, and society at large. Environment, sustainability, and governance (ESG) goals had to be part of companies' objectives and had to be accounted for in reports issued to the public and regulators.

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Chapter 2

Emerging Market Multinationals: Trends and Corporate Features

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Executive Summary[1]
As in previous editions, Chapter 2 compares the performance in terms of growth of emerging market multinationals with companies in the United States and Europe. It examines the concept of 'billionaire companies' those companies with more than 1 billion USD in revenues. Within this group, the chapter also includes an examination of the top 500 largest companies from emerging markets, the top 500 EMNCs.
Keywords: Emerging Markets Multinationals, Billionaire companies, Top 500 EMNCs

2.1. The Billionaire Companies

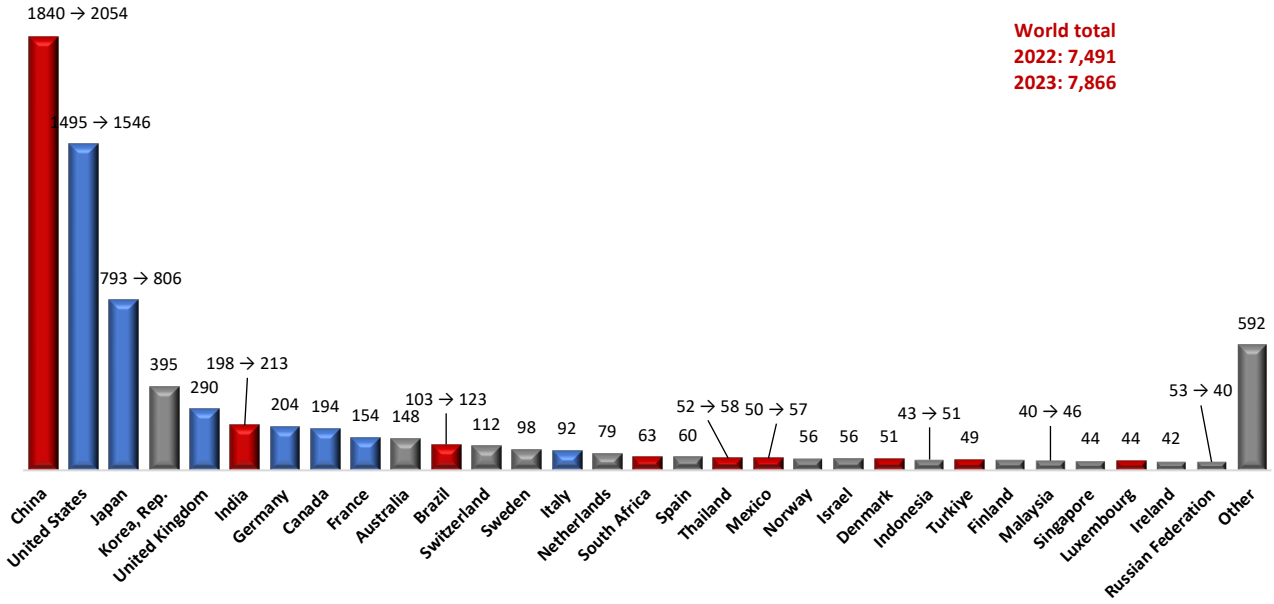
As in previous editions, the report focuses on big companies, such as those exceeding 1 billion USD in revenues. Such companies hold a paramount position in modern economies. They have capabilities to invest in innovation and create ecosystems with small and medium size companies (SMEs), jobs, and profits. As a result, they influence the development trajectories of countries. Their capacity to disrupt industries through technological innovation and operational efficiency underscores their importance as change agents. Moreover, billionaire companies have the potential to attract substantial investment, not only from individual and institutional investors but also from governments seeking to harness their economic influence. However, their dominance raises questions about monopolistic power and wealth distribution. This is due to the fact that, fundamentally, billionaire companies inspire entrepreneurs, navigate uncertain economic and political environments, and influence global affairs, underscoring their multifaceted importance in contemporary economies.

As observed in previous reports, China leads the countries with the most significant number of billion-dollar companies, followed by the United States, Japan, Korea, and the United Kingdom. Together they make up the top five in 2022 (Figure 2.1). Overall, even with global negative externalities, such as the Russia-Ukraine war, the energy crisis in Europe, inflation spiking, climate-changing effects intensified, the slowdown in the Chinese economy, the total number of billionaire companies increased by 375, jumping from 7,491 in 2022 to 7,866 in 2023. The countries in the top 10 positions, involving developed countries and emerging markets, saw an increase, except for the United Kingdom, which recorded a slight decrease from 283 to 252 (Figure 2.1).

In 2023, if we take a regional focus; among the 7,866 billionaire companies, Asia dominates with 3,972, Europe has a total of 1,541, almost the same as the United States 1,546, Latin America 322 and Africa 94. Turning attention to emerging market multinationals, India takes the sixth position globally boasting a total of 213 firms. Brazil follows closely in the 11th position with 123, while South Africa secures the 16th position with 6. Thailand and Mexico also make significant contributions, claiming the 18th and 19th positions with 58 and 57 firms, respectively.

[1] The help of Marcelo Kawabata in this chapter is gratefully acknowledged.

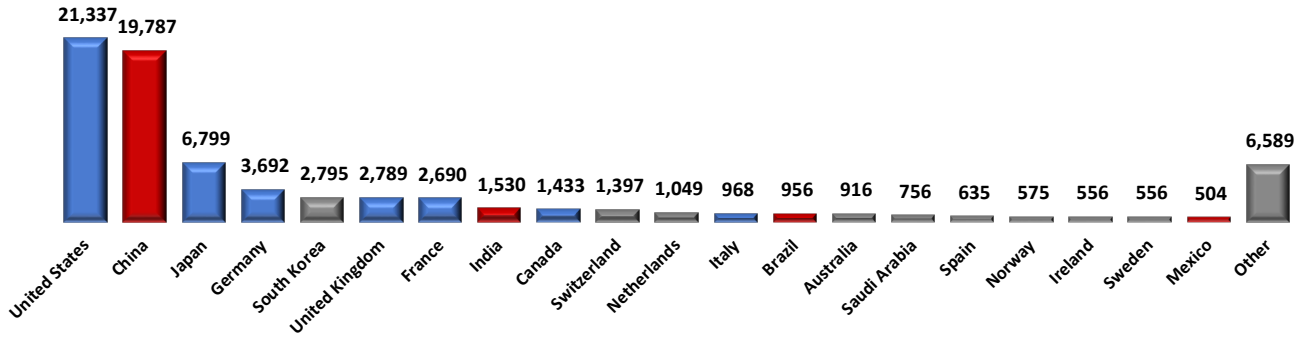
Figure 2.1. Number of Billionaire Firms in 30 top countries (2023 and 2022)



Source: EMI research team based on S&P Capital IQ (https://www.capitaliq.com/), accessed in July 2023.

If we examine the billionaire companies by total revenues, we get a better idea of which country has the largest companies. As of July 2023, the United States comes first: its billionaire companies had, as a group, the highest total revenues revenue (Figure 2.2). Hence, the United States billionaire firms are bigger than the Chinese ones. Japan is number three and Germany number four. In the context of emerging market multinationals, a notable trend emerges as these entities are assessed on a global scale. The data indicates a downward shift in the rankings for all emerging markets, signaling that, on average, companies from these regions tend to be smaller compared to their counterparts in Western countries. Comparing Figure 2.1 and Figure 2.2 we observe that India and Brazil move down two positions, South Africa and Thailand are not among the 20 top countries in terms of total revenues (Figure 2.2) while Mexico goes down one position.

Figure 2.2. Total Revenues of Billionaire Firms in 20 top countries in million USD (2023)



Source: EMI research team based on S&P Capital IQ (https://www.capitaliq.com/), accessed in July 2023.

As we have shown in previous reports, there is a positive correlation between the number of big companies, Gross Domestic Product (GDP) and GDP per Capita. High-income countries benefit from a vibrant group of companies that 'in turn' contribute to the development and growth of their home countries. In the next section, we explore trends in emerging market multinationals in 2023, paying particular attention to the top 500 EMNCs.

2.2. 2023 Top 500 EMNCs

In 2021 EMI launched the top 500 Emerging Markets Multinationals (EMNCs) by revenues. In this case we consider all emerging countries, not only the E20+1 (see Chapter 3 for definition). As we compare the evolution of these firms since 2021, we observe that China dominates this list, consistently maintaining its position as the country with the most billionaire companies (Table 2.1). This pattern underscores China's economic might, the second biggest economy in the world, as well as the robustness of its corporate sector. India demonstrates a steady performance, maintaining a consistent number of billionaire companies across all three years.

Regarding Latin America, the number of Brazilian and Mexican billionaire companies in the top 500 EMNCs list grew from 2021 and 2022 but decreased between 2022 and 2023. By contrast, Russia observed a declining number, with its billionaire companies decreasing from 18 to 10 in 2023. It is important to note that from the E20+1 countries, five have no presence in the top 500 EMNCs ranking: Nigeria, Egypt, Bangladesh, Iran and Rumania.

These trends highlight the dynamic nature of the global business landscape, where economic factors, government policies, active support to the corporate sector, and geopolitics contribute to the fluctuations in the number of billionaire companies across different nations. The influence of currency fluctuations, as highlighted in Figure 4.5 (Chapter 4), is a critical factor that should not be underestimated when evaluating company performance. While companies may demonstrate growth in their local currencies, the impact on results measured in US dollars can vary significantly due to currency exchange rate dynamics. The US dollar has appreciated in 2023 with respect to the euro, the British pound, the Japanese yen and several emerging market currencies. It continues to be the world's most important reserve currency and much more so in times of uncertainty and crisis.

Table 2.1. Top 500 EMNCs Billionaire companies in emerging countries (2023, in parenthesis position regarding nominal GDP in the E20 + 1 list)

	Country	Category	2021	2022	**2023**
1	**China (1)**	E20+1	378	363	**381**
2	**India (2)**	E20+1	30	35	**30**
3	**Brazil (4)**	E20+1	18	23	**21**
4	**Mexico (5)**	E20+1	13	14	**12**
5	**Russian Federation (3)**	E20+1	18	14	**10**
6	**South Africa (14)**	E20+1	10	10	**9**
7	**Thailand (9)**	E20+1	8	8	**8**
8	**Chile (21)**	E20+1	4	6	**6**
9	**Turkiye (7)**	E20+1	4	3	**4**
10	**Indonesia (6)**	E20+1	5	5	**3**
11	**Ukraine**	Other emerging	0	2	**2**
12	**Philippines (15)**	E20+1	2	2	**2**
13	**Argentina (8)**	E20+1	1	1	**2**
14	**Malaysia (14)**	E20+1	3	3	**2**
15	**Vietnam (13)**	E20+1	0	1	**1**
16	**Pakistan (18)**	E20+1	0	1	**1**
17	**Morocco**	Other emerging	0	1	**1**
18	**Kazakhstan**	Other emerging	0	1	**1**
19	**Uruguay**	Other emerging	0	0	**1**
20	**Colombia (19)**	E20+1	2	1	**1**
21	**Bulgaria**	Other emerging	0	0	**1**
22	**Azerbaijan**	Other emerging	0	0	**1**
	Saudi Arabia	Advanced	4	4	0
	Oman	Other emerging	0	1	0
	Lebanon	Other emerging	0	1	0

Note: Saudi Arabia is no longer part of the list of E20+1 (see Chapter 3). 2021 analysis considers only E20+1 countries.
Source: EMI research team based on S&P Capital IQ (https://www.capitaliq.com/), accessed in July 2023.

Chinese companies dominate the list of top ten billionaire companies from emerging markets, except for Gazprom, a Russian company, in the 10th position (Table 2.2). The largest Chinese companies in terms of revenues span various industries: the largest one, State Grid Corporation of China (SGCC), a state-owned electric utility, plays a crucial role in the energy sector by managing its extensive electricity distribution network (Table 2.2). SGCC is the third biggest company in the world by revenues, the biggest utility company by far, and is operating in 10 counties including Brazil, Chile, Portugal, Australia, Philippines, Italy, Greece, Oman and Pakistan.

The top 10 list also includes oil and gas players like China National Petroleum and China Petrochemical Corporation, which are vertically integrated enterprises engaged in exploration, production, refining, and marketing energy resources

(Table 2.1). China Construction Engineering Corp is a critical participant in construction and engineering, contributing to China's extensive infrastructure development and international projects. The China Communication Construction Group also plays a significant role in infrastructure construction, particularly in transportation and telecommunication projects, further exemplifying China's strategic investments in critical sectors. These companies illustrate the strength of China's state-owned (SOEs). There are also private companies like Ping An, the biggest insurance company in the world, and Hon Hai in China (Foxconn in Taiwan), is Apple's biggest supplier. Apple and Foxconn have a very close relationship and one depends on the other. These Chinese billionaire companies are all multinational firms. They facilitate (and benefit from) China's economic growth and exert global influence across various industries.

Russia's Gazprom, originally the Soviet Ministry of Gas and Industry, is the biggest gas company in the world. It has mixed ownership: the majority is state-owned and it is also quoted in the stock market. In 1989, it was converted in a company in a process like the one that saw the establishment of the Chinese SGCC, formerly the Ministry of Power and Electricity.

Table 2.2. Top ten billionaire companies from E20+1

	Billionaire	Country	Latest Annual Revenue (USDMM)
1	State Grid Corporation of China	China	516,912
2	China National Petroleum Corporation	China	492,955
3	China Petrochemical Corporation	China	488,150
4	China Construction Engineering Corp.	China	297,955
5	China Communications Construction Group (Ltd.)	China	271,652
6	Hon Hai Precision Industry Co., Ltd. (TWSE:2317)	China	215,716
7	Ping An Insurance (Group) Company of China, Ltd. (SEHK:2318)	China	176,702
8	China Railway Group Limited (SHSE:601390)	China	167,366
9	China State Railway Group Co., Ltd.	China	163,435
10	Public Joint Stock Company Gazprom (MISX:GAZP)	Russia	160,175

Source: EMI research team based on S&P Capital IQ (https://www.capitaliq.com/), accessed in July 2023

Considering the top 20 billionaire companies from emerging markets (excluding China), India has seven firms in the list operating in different sectors: technology, energy, materials, retail, chemicals, textiles, entertainment, digital services, oil, and gas, signaling the robustness of the economy in those sectors (Table 2.3). Other emerging markets are present in the list but with smaller number of firms: six from Latin America, where four are from Brazil and two are from Mexico. Russia, Thailand, Indonesia, Turkey, South Africa, and Azerbaijan have one each.

Table 2.3. Twenty top Billionaire from Emerging Countries (excluding China)

	Billionaire	Country	Latest Annual Revenue (USDMM)
1	Public Joint Stock Company Gazprom (MISX:GAZP)	Russia	160,175
2	Petróleo Brasileiro S.A. - Petrobras (BOVESPA:PETR4)	Brazil	121,298
3	Petróleos Mexicanos	Mexico	116,452
4	HCL Technologies Limited (NSEI:HCLTECH)	India	113,992
5	Reliance Industries Limited (NSEI:RELIANCE)	India	107,094
6	Indian Oil Corporation Limited (NSEI:IOC)	India	102,502
7	PTT Public Company Limited (SET:PTT)	Thailand	97,405
8	Life Insurance Corporation of India (NSEI:LICI)	India	97,179
9	Oil and Natural Gas Corporation Limited (NSEI:ONGC)	India	83,393
10	Petroliam Nasional Berhad	Malaysia	76,028
11	JBS S.A. (BOVESPA:JBSS3)	Brazil	70,906
12	State Oil Company of the Azerbaijan Republic	Azerbaijan	70,134
13	PT Pertamina (Persero)	Indonesia	69,004
14	Bharat Petroleum Corporation Limited (NSEI:BPCL)	India	57,621
15	Raízen S.A. (BOVESPA:RAIZ4)	Brazil	48,550
16	Koç Holding A.S. (IBSE:KCHOL)	Turkey	48,195
17	AECI Ltd (JSE:AFE)	South Africa	43,301
18	América Móvil, S.A.B. de C.V. (BMV:AMX B)	Mexico	43,294
19	Vale S.A. (BOVESPA:VALE3)	Brazil	42,846
20	Tata Motors Limited (BSE:500570)	India	42,129

Source: EMI research team based on S&P Capital IQ (https://www.capitaliq.com/), accessed in July 2023

2.3. Billionaire companies, a regional approach

Asia hosts 51% of the billionaire companies (Figure 2.3). In line with their high GDP per capita level, the G7 countries as a group have the highest number of billionaire companies, more than the 'E20 + 1' (Figure 2.3) together.

Figure 2.3. Total number of billionaire companies by region, and G7 versus E20 + 1 countries

Source: EMI research team based on S&P Capital IQ (https://www.capitaliq.com/), accessed in July 2023

2.4. Examining the 2023 Fortune Global 500

Since the first edition of the EMI report in 2016, we have been examining the list of the Fortune Global 500 companies. Established in 1995, the Fortune Global 500 provides a comprehensive ranking of companies worldwide based on their annual revenue. It also allows an analysis over time spanning almost 30 years.

It is not always easy to get data on Emerging Market Multinationals (EMNCs), largely due to their ownership characteristics. EMNCs are often SOEs, mixed ownership and private companies. Such companies are not required to make information publicly available, contrary to public companies quoted in major exchanges that need to be transparent about their revenues, profits, and employees, among others. For instance, the above-mentioned Chinese electricity firm, SGCC, only publishes a Corporate Responsibility (CSR) report and not an annual report. Fortune needs to rely on the information provided by the company and, based on that, the magazine elaborates its rank. Hence, we know SGCC revenues because of Fortune Global 500 data (Appendix Table 2.6). Another case in point is the Venezuelan oil company PDVSA which used to be the biggest Latin American company, ranked number 36 in the Fortune Global 500 in 2011. However, after President Maduro became President in 2013, the company ceased to provide data to Fortune. While there are several reasons for this, one is that they did not find it important to be in the ranking. In addition, the company's oil production declined drastically from 2.9 million barrels/day in 2014 to 1.8 million in 2017. Hence, we do not know the exact status of PDVSA as Fortune does not cover it anymore.

Fortune Global 500 ranks companies that report to a government agency or directly discloses the information to the Fortune magazine, as in the case of SGCC. Most companies do so because they consider it a privilege to be part of such a list, kind of 'coming of age' and 'to have made it'. EMI has studied the Fortune ranking in each one of the Emerging Markets Multinationals reports. However, the list covers only 500 firms and not many EMNCs are included. Since 2016, the year when the EMI report was launched, we have observed how the coverage of EMNCs by databases like Standard & Poor's Capital IQ has improved. Recognizing the limitations posed by the Fortune Global 500, especially with its focus on a limited set of 500 companies, the EMI launched in 2021 the top 500 EMNCs based on the list of billionaire companies with data from Capital IQ (see previous section 2.3).

In the 2023 Fortune Global 500 edition, the United States clinched the top spot, edging ahead of China by one company. United States not only secured the first rank by number of companies (Figure 2.4), but also led it in the total revenues of firms. The second spot in both rankings is China. There are 21 countries (Table 2.4) with more than one company in the ranking, most of them being advanced countries (United States and Europe), but one third are emerging markets. Besides China, Asia is represented by Japan (ranked third), Taiwan China, Singapore, and Australia. Regarding Emerging markets, we find Latin America with 12 companies (Brazil with nine and Mexico with three), India eight and Russia three. The other 11 countries have one company, including among emerging markets: Indonesia, Thailand, Turkey, Colombia, and Malaysia.

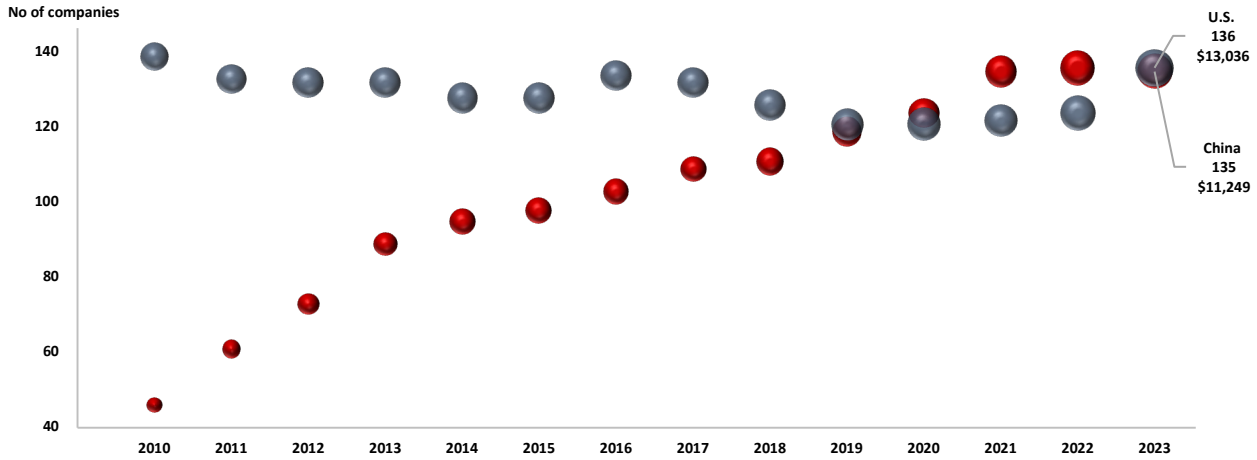
Table 2.4. Fortune Global 500: Number of companies and total revenues, profits, employees and assets (2023)

Country	Number of companies	Total Revenues (USD)	Total Profits (USD)	Total Employees	Total Assets (USD)
United States	136	13,035,959	1,088,272	19,193,819	38,934,446
China	135	11,248,734	527,977	22,835,520	48,077,633
Japan	41	2,773,826	131,081	4,774,972	14,695,397
Germany	30	2,491,166	103,315	5,139,004	6,159,171
France	24	1,707,892	75,515	3,759,155	12,180,758
Korea, Rep.	18	1,138,825	54,445	971,806	2,447,126
United Kingdom	15	1,274,333	137,120	1,964,084	6,476,646
Canada	14	654,243	82,554	1,134,499	6,060,018
Switzerland	11	757,741	68,869	970,653	2,470,494
Netherlands	10	667,567	47,906	1,360,887	1,657,165
Brazil	9	532,670	76,246	772,995	1,803,712
Spain	8	421,534	34,768	727,279	3,073,551
India	8	596,185	26,097	876,871	1,686,940
Taiwan, China	7	494,358	33,894	1,224,769	404,139
Italy	5	446,511	25,601	395,980	2,270,691
Ireland	3	126,648	15,763	891,800	183,432
Denmark	3	163,567	32,933	180,763	121,551
Russian Federation	3	257,558	22,002	1,039,661	935,417
Singapore	3	431,711	9,854	174,814	182,864
Mexico	3	194,743	9,971	650,377	239,319
Australia	2	115,628	36,654	236,983	118,141
Austria	1	65,523	3,897	22,308	60,210
Indonesia	1	84,888	3,807	33,596	87,811
Sweden	1	46,828	3,236	94,921	60,369
Saudi Arabia	1	603,651	159,069	70,496	663,541
Norway	1	150,806	28,746	21,936	158,021
Thailand	1	96,162	2,604	30,628	98,832
Turkiye	1	54,467	4,216	114,677	84,577
Poland	1	62,326	7,520	64,494	62,060
Belgium	1	57,786	5,969	166,632	212,943
Colombia	1	37,547	7,435	18,903	62,548
Luxembourg	1	79,844	9,302	154,352	94,547
Malaysia	1	85,365	20,999	49,771	161,493

Source: EMI Research Team based on Fortune Global 500 (https://fortune.com), accessed in August 2023.

As stated in previous reports, the turning point for the increased number of Chinese companies listed in the Fortune 500 was the Global Financial Crisis of 2009. Such a number grows exponentially after that mainly between 2010 and 2013, and more moderately after 2014. In turn, the United States has shown fluctuating numbers, with a renewed growth trend after 2020 (Figure 2.4).

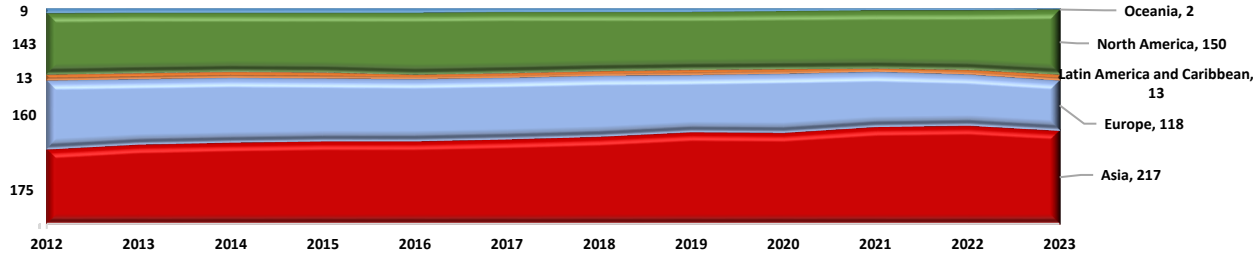
Figure 2.4. Number of U.S. versus China in Fortune Global 500, 2023



Source: EMI Research Team based on Fortune Global 500 (https://fortune.com), accessed in August 2023.

As the total number of companies in the Fortune Global 500 is fixed, which countries lost because of China's growth? Asia (mainly China) grew from 175 in 2012 to 217 in 2023. Whereas Japan lost companies in this period while North America (mainly United States) went up from 143 in 2012 to 150 today. Latin America kept the same number, 13 (Brazil gained two, Mexico lost/gained one and Colombia went from zero to one). Oceania (Australia) went down to two from nine and Europe (mainly UK) went down from 160 to 118. Economic volatility in the case of Latin America explains the losses. Government support in the case of China resulted in clear gains.

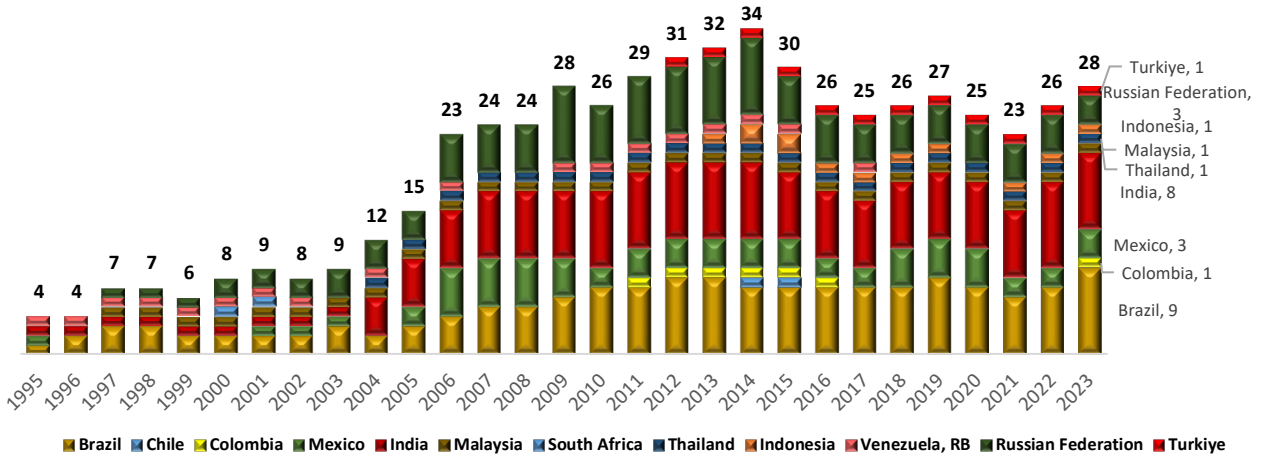
Figure 2.5. 2023 Fortune Global 500 number of companies per region (2012 to 2023)



Source: EMI Research Team based on Fortune Global 500 (https://fortune.com), accessed in August 2023.

We believe that growth of large companies is linked to economic growth and effective government policies. This is demonstrated by the substantial growth of Emerging Markets Multinationals in Fortune Global 500, which grew considerably in the 20 years since 1995. Since then and, in a phenomenon that should be further studied, the total number of companies from those markets (excluding China) has gone down from 35 in 2014 to 28 in the 2023 list. As emerging markets fortunes are influenced by commodity prices, we can observe a decrease during the pandemic period, and a recovery in 2022 and 2023 (Figure 2.6). It remains to be seen how these numbers will evolve in the coming years.

Figure 2.6. Number of companies from E20 countries Fortune Global 500 (2023)



Note: Given changes in the ranking of E20+1 (see Chapter3), the data in this figure may be different from previous editions of the EMI report.
Source: EMI Research Team based on Fortune Global 500 (https://fortune.com), accessed in August 2023.

Overall, the Fortune Global 500 list has been led for the past eleven years by the American retail company Walmart. With 611.3 billion USD revenues in 2022 and a 6.7% increase since the previous year, it is also the largest by number of employees and is present in twenty countries. Amazon, the ecommerce retailer, has become the fourth biggest company by revenues and is present in 58 countries. In between both retailers we find the most profitable ever company in the world, Saudi Aramco from Saudi Arabia, which rose four positions compared to the year before, and the above-mentioned Chinese utility State Grid Corporation of China (Appendix 1, Table 2.7). Completing the participation of American companies in the top positions, we find the biggest technology company, Apple, ranked eighth and UnitedHealth Group from the healthcare sector ranked 10th, demonstrating the sectoral diversity of the large American companies. All the other top 10 companies are from the oil and energy sector. Among the top 30 largest companies, only six EMNCs, all from China, are present in the list, down from nine in 2022. The Chinese insurance Ping An, the Agricultural Bank of China are no longer among the top 30.

2.5. Moving forward, what next for EMNCs in a nationalistic and protectionist environment?

As companies need to incorporate geopolitical risk in their business strategy, and show commitment to the development of their own country, how all this will affect EMNCs? Countries, both advanced and emerging, are imposing more and more regulations in their own national interest. How can companies adjust?

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Appendix 1. Methodology for the billionaire companies

The selection of the billionaire companies was done using Standard &Poor's Capital IQ database. The process was as follows:

Data collection and preliminary filters applied:

- The list of companies with revenues of more than 1 billion USD revenues was downloaded from Capital IQ on July 2023.
- Only the category of 'companies' (both private and public, see table below) was included (governments, trade associations, foundations and charitable institutions, arts institutions, public funds, educational institutions, NGOs among others). See list below.

Types of companies	Count of Company Name	Filter
Arts Institution	1	Out
Corporate Investment Arm	9	Out
Educational Institution	46	Out
Financial Service Investment Arm	6	Out
Foundation/Charitable Institution	13	Out
Government Institution	208	Out
Private and Public Companies (SOEs, publicly traded, private)	32,4957	In
Private Investment Firm	111	Out
Public Fund	39	Out
Public Investment Firm	121	Out
Trade Association	4	Out

- Only companies with disclosed revenues in the last five quarters were considered.
- Companies that grew more than 500% in the last three years were examined. Those whose data did not seem reliable (comparing with other databases such as Orbis, Refinitiv and FactSet) were removed.

  Sorting: Companies were listed by decreasing latest revenues.
- **Headquarter Adjustment:** Companies whose headquarters were territories like Hong Kong or British Virgin Islands, Gibraltar, Turks, Caicos, and Jersey were put under of China or UK as appropriate.

Table 2.5. Number of Billionaire Firms per country (2022 and 2023)

	Country	2022	2023		Country	2022	2023		Country	2022	2023
1	China	1840	2054	**33**	Austria	37	37	**65**	Iceland	3	4
2	United States	1495	1546	**34**	Chile	32	34	**66**	Bahrain	3	3
3	Japan	793	806	**35**	Philippines	32	34	**67**	Costa Rica	3	3
4	Korea, Rep.	350	395	**36**	Bermuda	25	29	**68**	Mauritius	1	3
5	United Kingdom	283	290	**37**	United Arab Emirates	27	28	**69**	Monaco	0	3
6	India	198	213	**38**	Vietnam	21	26	**70**	Malta	1	3
7	Germany	189	204	**39**	Poland	26	25	**71**	Bahamas, The	2	3
8	Canada	181	194	**40**	New Zealand	18	20	**72**	Sri Lanka	1	3
9	France	141	154	**41**	Greece	13	19	**73**	Uzbekistan	1	2
10	Australia	132	148	**42**	Portugal	13	18	**74**	Kenya	2	2
11	Brazil	103	123	**43**	Argentina	15	16	**75**	Croatia	2	2
12	Switzerland	104	112	**44**	Colombia	14	15	**76**	Isle of Man	2	2
13	Sweden	98	98	**45**	Cayman Islands	8	15	**77**	Lithuania	1	2
14	Italy	79	92	**46**	Cyprus	11	13	**78**	Azerbaijan	2	2
15	Netherlands	78	79	**47**	Qatar	9	12	**79**	Bangladesh	1	2
16	South Africa	63	63	**48**	Peru	12	11	**80**	Bulgaria	2	2
17	Spain	57	60	**49**	Czech Republic	7	10	**81**	Dominican Republic	1	1
18	Thailand	52	58	**50**	Kuwait	7	9	**82**	Curacao	1	1
19	Mexico	50	57	**51**	Pakistan	8	9	**83**	Slovak Republic	2	1
20	Norway	54	56	**52**	Romania	5	8	**84**	Paraguay	0	1
21	Israel	55	56	**53**	Egypt, Arab Rep.	9	7	**85**	Ecuador	1	1
22	Denmark	51	51	**54**	Morocco	6	7	**86**	Ghana	1	1
23	Indonesia	43	51	**55**	Nigeria	7	7	**87**	Estonia	1	1
24	Turkiye	36	49	**56**	Jordan	3	7	**88**	Zimbabwe	0	1
25	Finland	48	49	**57**	Ukraine	5	6	**89**	Jamaica	0	1
26	Malaysia	40	46	**58**	Slovenia	3	6	**90**	Togo	1	1
27	Singapore	43	44	**59**	Oman	5	6	**91**	Maldives	0	1
28	Luxembourg	44	44	**60**	Hungary	4	6	**92**	Trinidad and Tobago	1	1
29	Ireland	40	42	**61**	Uruguay	5	5	**93**	Barbados	1	1
30	Russian Federation	53	40	**62**	Kazakhstan	6	5	**94**	Tunisia	1	1
31	Belgium	34	39	**63**	Panama	5	4	**95**	Senegal	1	1
32	Saudi Arabia	34	38	**64**	Liechtenstein	4	4	**96**	Latvia	1	1

Source: EMI Research Team based on Fortune Global 500 (https://fortune.com), accessed in August 2023.

Table 2.6. 30 largest companies from emerging markets, Fortune Global (2023)

Company	Country	Sector	Rank	Change in Rank	Revenue (USD M)	Profits (USD M)	Employees	Assets (USD M)
State Grid	China	Energy	3	0	530,009	8,192	870,287	710,763
China National Petroleum	China	Energy	5	-1	483,019	21,080	1,087,049	637,223
Sinopec Group	China	Energy	6	-1	471,154	9,657	527,487	368,751
China State Construction Engineering	China	Engineering & Construction	13	-4	305,885	4,234	382,492	386,249
Industrial & Commercial Bank of China	China	Financials	28	-6	214,766	53,589	427,587	5,742,860
China Construction Bank	China	Financials	29	-5	202,753	48,145	376,682	5,016,806
Agricultural Bank of China	China	Financials	32	-4	187,061	38,524	452,258	4,919,030
Ping An Insurance	China	Financials	33	-8	181,566	12,454	344,223	1,614,738
Sinochem Holdings	China	Chemicals	38	-7	173,834	-1	223,448	229,659
China Railway Engineering Group	China	Engineering & Construction	39	-5	171,669	2,035	314,792	234,956
Gazprom	Russian Federation	Energy	41	11	167,832	17,641	468,000	352,199
China National Offshore Oil	China	Energy	42	23	164,762	16,988	81,775	219,416
China Railway Construction	China	Engineering & Construction	43	-4	163,037	1,800	342,098	221,617
China Baowu Steel Group	China	Materials	44	0	161,698	2,493	245,675	179,760
Bank of China	China	Financials	49	-7	156,924	33,811	306,182	4,192,115
JD.com	China	Retailing	52	-6	155,533	1,543	450,679	86,303
China Life Insurance	China	Financials	54	-14	151,487	6,859	180,619	888,306
China Mobile Communications	China	Telecommunications	62	-5	139,597	14,718	452,202	331,724
China Communications Construction	China	Engineering & Construction	63	-3	138,270	1,255	221,017	344,369
China Minmetals	China	Materials	65	-7	133,541	877	183,298	153,155
Alibaba Group Holding	China	Retailing	68	-13	126,813	10,625	235,216	255,263
Xiamen C&D	China	Wholesalers	69	8	125,971	454	40,959	104,907
Petrobras	Brazil	Energy	71	57	124,474	36,623	45,149	187,191
Shandong Energy Group	China	Energy	72	-3	124,089	33	232,841	137,900
China Resources	China	Health Care	74	-4	121,643	4,662	379,944	331,830
China Energy Investment	China	Energy	76	9	121,584	5,699	310,753	281,587
Pemex	Mexico	Energy	80	86	118,537	4,994	120,054	115,262
China Southern Power Grid	China	Energy	83	6	113,674	1,516	271,202	166,026
SAIC Motor	China	Motor Vehicles & Parts	84	-16	110,612	2,396	154,863	143,552

Source: EMI Research Team based on Fortune Global 500 (https://fortune.com), accessed in August 2023.

Table 2.7. 20 largest companies in the world, Fortune Global (2023)

Company	Country	Sector	Rank	Change in Rank	Revenue (USD M)	Profits (USD M)	Employees	Assets (USD M)
Walmart	United States	Retailing	1	0	611,289	11,680	2,100,000	243,197
Saudi Aramco	Saudi Arabia	Energy	2	4	603,651	159,069	70,496	663,541
State Grid	China	Energy	3	0	530,009	8,192	870,287	710,763
Amazon	United States	Retailing	4	-2	513,983	-2,722	1,541,000	462,675
China National Petroleum	China	Energy	5	-1	483,019	21,080	1,087,049	637,223
Sinopec Group	China	Energy	6	-1	471,154	9,657	527,487	368,751
Exxon Mobil	United States	Energy	7	5	413,680	55,740	62,000	369,067
Apple	United States	Technology	8	-1	394,328	99,803	164,000	352,755
Shell	United Kingdom	Energy	9	6	386,201	42,309	93,000	443,024
UnitedHealth Group	United States	Health Care	10	1	324,162	20,120	400,000	245,705
CVS Health	United States	Health Care	11	-1	322,467	4,149	259,500	228,275
Trafigura Group	Singapore	Wholesalers	12	7	318,476	6,994	12,347	98,634
China State Construction Engineering	China	Engineering & Construction	13	-4	305,885	4,234	382,492	386,249
Berkshire Hathaway	United States	Financials	14	0	302,089	-22,819	383,000	948,452
Volkswagen	Germany	Motor Vehicles & Parts	15	-7	293,685	15,223	675,805	602,612
Uniper	Germany	Energy	16	0	288,309	-19,961	7,008	129,616
Alphabet	United States	Retailing	17	0	282,836	59,972	190,234	365,264
McKesson	United States	Health Care	18	-2	276,711	3,560	48,000	62,320
Toyota Motor	Japan	Motor Vehicles & Parts	19	-6	274,491	18,110	375,235	559,765
TotalEnergies	France	Energy	20	7	263,310	20,526	101,279	303,864

Source: EMI Research Team based on Fortune Global 500 (https://fortune.com), accessed in August 2023.

Chapter 3

Emerging Market Multinationals, Between Globalization and National Demands

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Executive Summary
In this chapter, we document the global presence of emerging market multinationals. We analyze their greenfield investments and cross-border merger and acquisition deals, focusing on the evolution and the destination of these investments, and identify the drivers for globalization across firms in different countries.
Keywords: Internationalization, mergers and acquisition, foreign investment, Greenfield investments, FDI, OFDI, R&D investment.

3.1. Emerging Market Multinationals: are 'classic' internationalization drivers still valid?

The changing international context, characterized by an increasing scrutiny of foreign direct investment and geopolitical risk, has raised important questions regarding prevailing economic theories and research frameworks. In the field of international business can we continue using the traditional frameworks regarding internationalization drivers, institutional strength, agency, and others?

International investments respond fundamentally to four drivers (Dunning, 1993):

- The search for *efficiencies* such as access to cheaper labor which triggers the push for outsourcing. For example, Apple's iPhone (its most emblematic product, and the source of most of its profits) is based in Cupertino, California, but manufactured in China.
- The search for *natural resources* such as oil, gas, or minerals. For example, the Dutch oil company Shell is present in 70 countries and Exxon Mobil in 28.
- Access to *intangibles* (patents, knowledge, and technology at large or brands). A prime example of this type of driver is the Chinese Lenovo when it acquired the PC division of IBM in 2005. This allowed an unknown company to acquire a solid brand and use it as a platform to become number one in the world with a market share of 22%.
- Access to *markets and customers*. For example, Microsoft is present in 190 countries and many large Chinese companies have also successfully increased their geographical footprint. Huawei, for instance, is present in 170 countries.

These four drivers continue to be valid, but the scrutiny and the roadblocks on a company's expansion have multiplied including:

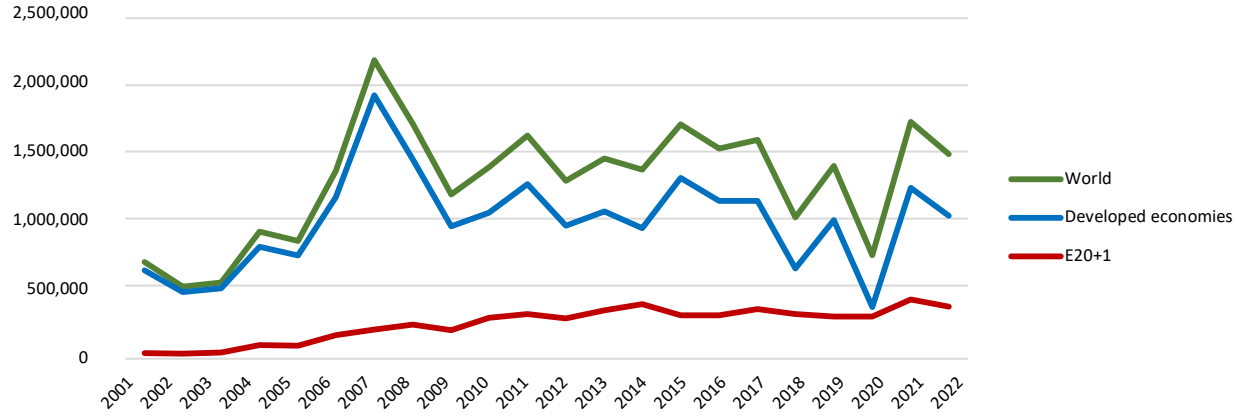
- *Mounting Geopolitical risks*. This has become increasingly apparent with the onset of Russia-Ukraine war in February 2022 leading to a series of companies' divestments (Chapter 3 and Casanova and Miroux 2022).
- *Trade war* with China. This includes bans on certain companies like Huawei and ZTE among others. As a result, Global Value Chains are no longer assessed based on efficiencies, but their resilience in times of crisis.
- *Industrial policies*. This often results in protectionist and nationalistic policies which The Economist fondly calls 'Home economics'. Recent examples include the 2022 CHIPS and Science Act in the United States which will give 39 billion USD in subsidies to chips manufacturing facilities in the United States and an additional 11 billion USD for supporting research on this area—policies that are similar to those in Europe and China.
- *The scrutiny of international investments*. In the United States, the Committee on Foreign Investment (CFIUS) exercises its authority to block foreign mergers and acquisitions (M&A) defined as not in the interest of the country. In Europe we see governments either nationalizing formerly privatized companies like Electricité de France or reviewing the purchase of 9.3% of the Spanish Telefónica by the Saudi Arabia Investment Fund (PIF).

When assessing risks, scholars and investors need to incorporate geopolitical risk, but how can you measure geopolitics or nationalistic factors? We are entering a new era of globalization where values and domestic interests have become prominent and the level playing field is gone (Casanova and Miroux 2022). Keeping in mind this new context, and as in previous years, we will review in this chapter the foreign direct investments of Emerging Market Multinationals.

3.1.1. In an uncertain investment climate, United States dominate investment flows, both inward and outward

In 2022, according to UNCTAD, global Outward Foreign Direct Investment (OFDI) flows reached 1.5 trillion USD, decreasing by about 13% compared with 2021. Developed countries continue to lead outward investment (Figure 3.1). However, the gap between E20 +1 countries and developed countries became smaller compared in 2021 (Figure 3.3). Following a significant increase in 2021, OFDI flows both from developed countries and emerging markets decreased slightly in 2022 (Figure 3.1). OFDI flows from the E20+1 countries amounted to 378 billion USD in 2022, accounting for about 25% of global FDI outflows.

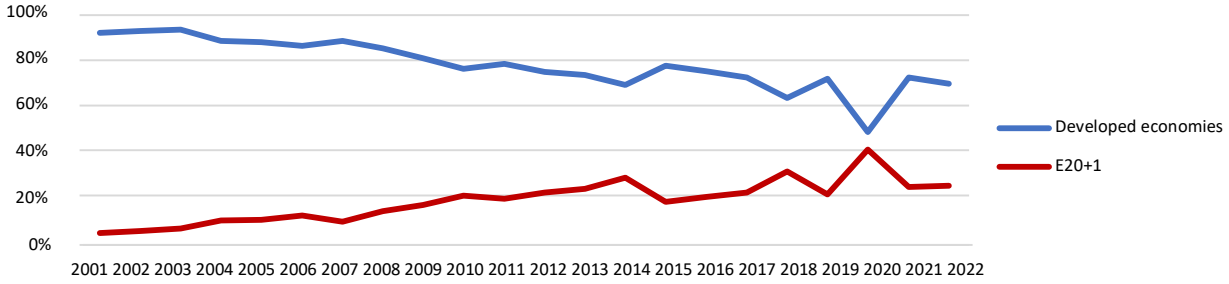
Figure 3.1. Global Outward Foreign Direct Investments flows (in million USD), 2001-2022



Source: EMI research team based on UNCTAD Stat (http://unctadstat.unctad.org/) accessed in July 2023.

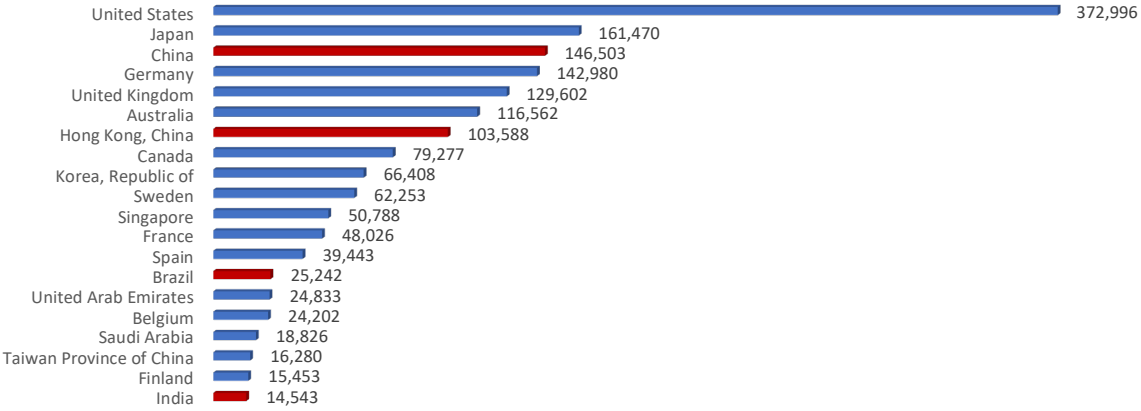
Concerning outward investment flows, most of the top countries are developed economies from Europe and United States. We find China in third (Figure 3.2 and Figure 3.3) and Brazil in position 13th. Russia and Thailand were also among the top 20 investors in 2021, but did not make the list in 2022. Emerging Markets (except for China) do not incentivize outward FDI because the focus is more on attracting investment for development.

Figure 3.2. Share in global outward FDI flows developed economies versus E20+1 (% of total), 2001-2022



Source: EMI research team based on UNCTAD Stat (http://unctadstat.unctad.org/) accessed in July 2023.

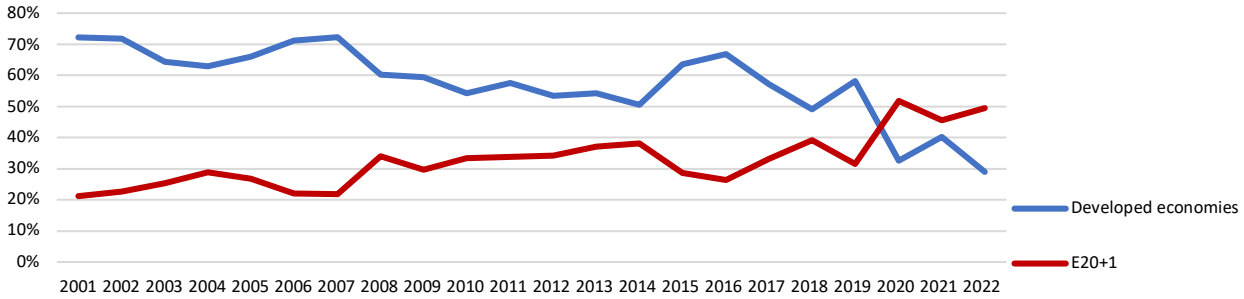
Figure 3.3. Top twenty countries outward investors 2022



Note: Excludes offshore financial centers.
Source: EMI research team based on UNCTAD Stat (http://unctadstat.unctad.org/) accessed in July 2023.

We turn now to inward investments where we find quite a few E20 + 1 countries. Throughout the years, these countries have implemented successful policies (tax discounts, improvement in infrastructure and others) to attract foreign direct investment. Hence, their share in global inward FDI flows increased from about 20% at the turn of the century to almost 50% in 2022 (Figure 3.4).

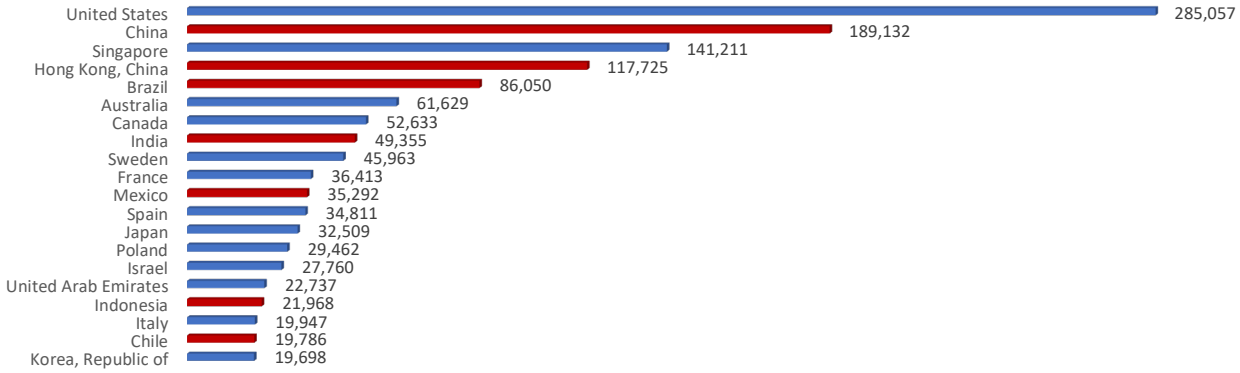
Figure 3.4. Share in global inward Foreign Direct Investment flows developed versus E20+1 economies (% of total), 2001-2022



Source: EMI research team based on UNCTAD Stat (http://unctadstat.unctad.org/) accessed in July 2023.

Seven of the top twenty FDI recipients are emerging countries. Besides China in second position, Brazil is in fifth, India in eighth, Mexico in 13th, and Indonesia in 19th. This list reflects the above-mentioned FDI promotion policies in those markets.

Figure 3.5. Top twenty countries recipients of investment flows 2022

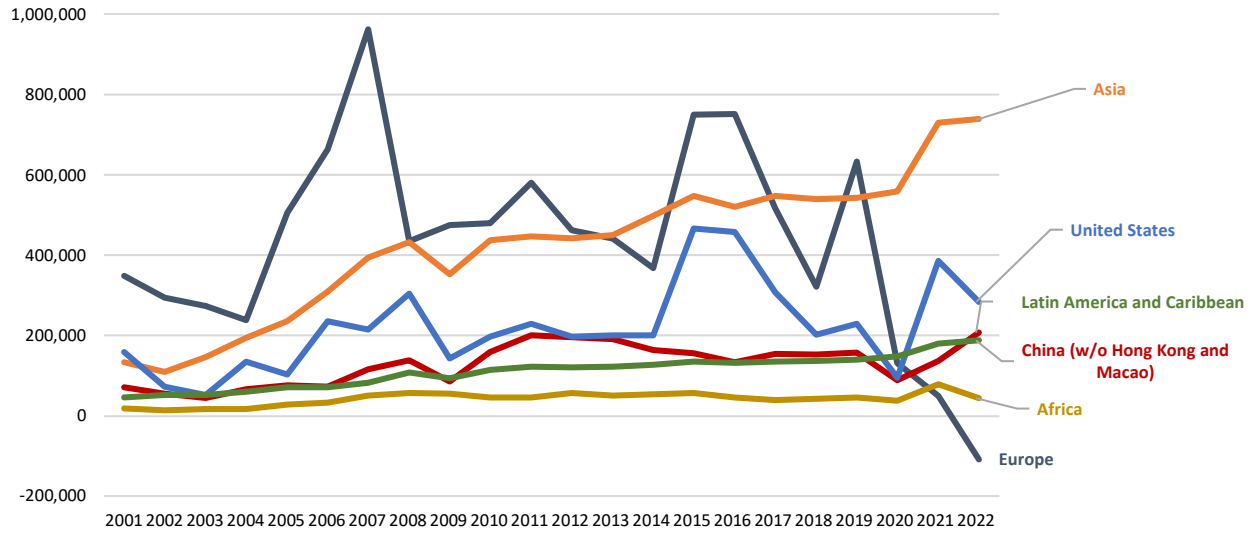


Note: Excludes offshore financial centers.
Source: EMI research team based on UNCTAD Stat (http://unctadstat.unctad.org/) accessed in July 2023.

Focusing more specifically on regions (Figure 3.6 and Figure 3.7), till the European debt crisis of 2014, Europe was leading in both inward and outward FDI. After that, the situation changed to both inflows and outflows becoming more erratic. Since the turn of the century, Asia has been on a continuous upward trend in both inward and outward FDI. Asia surpassed Europe as the main investor in 2020. Over the past two decades, Latin America and Africa investments have remained stable and at much lower levels than Europe or Asia. However, in inward FDI, Latin America does relatively well as seen above compared to its outward FDI. In 2022, the region registered its highest FDI inflows since 2001 (208 billion USD). Africa is consistently low in both inward and outward.

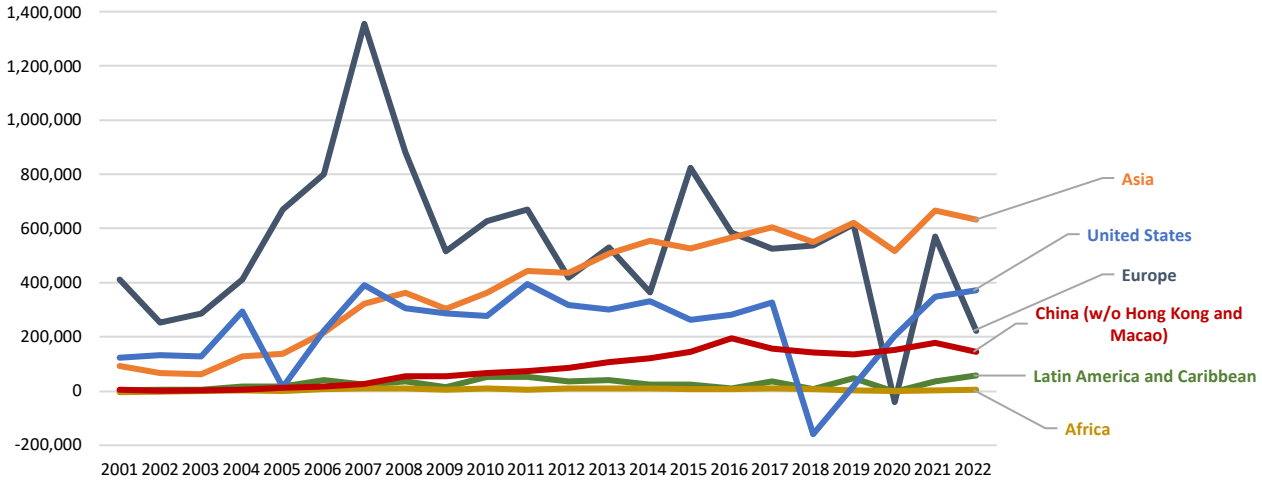
Overall, United States and China stand out on the FDI landscape. For China, the outward investments, began to take off after the Global Financial Crisis of 2008-2009 and continued to raise till 2016, when they reached almost 200 billion USD. Since then, they have remained relatively stable. China is now the number three global investor (and number four if we consider Europe). As for inward FDI, China seems to have reached a plateau (trade war may be one of the reasons) but remains in second place. Unquestionably, the United States dominates both in inward and outward FDI.

Figure 3.6. Regional inward FDI flows (in millions USD), 2001-2022



Source: EMI research team based on UNCTAD Stat (http://unctadstat.unctad.org/) accessed in July 2023.

Figure 3.7. Regional OFDI Flows (in millions USD), 2001-2022



Source: EMI research team based on UNCTAD Stat (http://unctadstat.unctad.org/) accessed in July 2023.

There are two main ways of investing abroad: one is Greenfield (new projects managed directly by the investing company or expansion of old investments) and Mergers and Acquisitions (M&A, when a company merges or buys another one outside its home country). We will explore how Emerging Markets are active mainly in Greenfield investments; we will also examine their participation in Mergers and Acquisitions (M&A).

3.1.2. Outbound Greenfield FDI Markets

This section analysis is based on data from Financial Times FDI markets database which follows announced Greenfield FDI projects. As in previous years, if we consider total Greenfield investments from 2010 to 2023, U.S. companies continue to lead followed by China, (including Hong Kong). However, in 2022 China fell to position six after the United States (the clear leader), the United Kingdom, Korea, France, Germany, and the United Arab Emirates (UAE). That was the year of the lockdown in China and GDP growth felt to 3.1%. While in Mergers in Acquisition the presence of emerging markets is quite subdued (see next section), in Greenfield projects we find five E20+1 countries in addition to China: India in 16th, Russia 18th, Malaysia 21st, Thailand 25th, and South Africa 29th (Table 3.1).

Table 3.1. Total value of announced FDI greenfield projects per country of origin- top 30 countries, 2010 to 2023, and 2018-1Q 2023 (million USD) (Red E20+1, blue, G7)

	Country	Total Invested (2010-2023)	2018	2019	2020	2021	2022	Q1 2023
1	United States	1,860,012	186,459	147,492	112,454	182,371	212,518	43,906
2	China (+Hong Kong)	893,671	110,958	73,562	66,648	68,132	68,747	63,643
3	Germany	767,559	81,591	71,935	39,475	67,651	61,023	31,435
4	Japan	626,168	62,673	48,042	30,545	28,052	42,612	4,798
5	United Kingdom	623,528	45,516	48,612	35,964	37,027	90,910	26,756
6	France	519,369	51,127	42,015	36,663	30,768	74,698	12,599
7	South Korea	400,291	31,035	31,161	8,727	32,925	75,712	9,222
8	UAE	328,217	27,696	14,619	7,692	14,879	80,567	47,059
9	Spain	285,396	21,909	25,766	20,837	21,784	23,490	5,224
10	Canada	269,871	19,054	20,976	16,778	19,285	29,450	7,067
11	Singapore	269,010	30,091	37,605	18,112	18,389	18,944	3,436
12	Netherlands	260,097	45,899	24,059	17,373	20,591	23,445	10,713
13	Taiwan	250,782	34,544	6,581	28,117	14,994	48,784	11,602
14	Italy	242,515	27,102	11,508	10,638	19,122	31,519	2,031
15	Switzerland	224,078	18,834	24,887	15,398	12,121	19,805	5,538
16	India	205,875	9,890	10,119	3,656	11,099	38,869	3,099
17	Australia	158,306	13,279	10,974	4,032	15,774	31,765	3,529
18	Denmark	137,722	8,584	8,187	7,933	11,672	25,808	11,347
19	Russia	132,138	11,056	7,159	1,806	2,618	1,366	1,486
20	Sweden	109,006	6,768	9,923	11,035	8,949	14,608	4,590
21	Malaysia	107,936	8,333	2,072	1,673	1,858	4,305	76
22	Norway	97,088	4,419	7,689	16,348	10,192	13,759	5,020
23	Saudi Arabia	95,024	4,102	11,545	3,276	4,467	21,763	3,310
24	Belgium	86,156	8,160	5,151	5,618	7,660	14,143	2,697
25	Thailand	85,986	14,839	9,953	1,971	1,351	691	26
26	Ireland	77,912	4,946	10,345	4,749	5,999	9,439	850
27	Austria	73,036	8,878	5,000	4,402	6,980	6,113	488
28	Luxembourg	71,918	7,535	6,951	4,449	5,124	15,223	3,042
29	South Africa	67,431	4,280	2,578	2,974	2,766	1,703	2,374
30	Finland	62,138	2,953	6,178	3,061	3,171	5,107	579

Note: Red for E20+1, Blue for G7

Source: EMI Research team based on Financial Times fDi Markets (https://www.fdimarkets.com/), accessed in July 2023.

The presence of E20+1 is even more striking as destination of announced FDI greenfield projects. Half of the top 30 destination countries is part of the E20+1 group, and three quarters of the E20+1 are among the top destinations of greenfield FDI (Table 3.2).

Table 3.2. Total value of announced greenfield projects per destination country. Top 30: 2010-2023Q1, and 2018-2023Q1 (millions USD)

	Country	Total Received (2010-2023Q1)	2018	2019	2020	2021	2022	2023
1	United States	1,005,141	77,482	96,929	61,852	90,543	156,053	29,679
2	China (+ Hong Kong)	900,325	126,310	54,049	33,561	31,940	19,141	6,008
3	United Kingdom	595,170	36,268	36,101	42,996	61,111	97,774	12,729
4	India	519,639	53,329	35,257	22,043	16,125	77,440	21,209
5	Mexico	320,193	31,006	25,571	12,857	16,368	40,755	5,569
6	Australia	319,619	21,297	33,168	19,232	11,868	68,435	2,688
7	Egypt	308,290	13,229	13,904	2,033	14,788	107,012	13,110
8	Brazil	294,302	18,422	32,454	16,617	22,728	17,838	12,795
9	Vietnam	268,011	29,830	37,970	10,898	11,595	25,810	4,151
10	Germany	263,413	19,012	23,843	24,886	58,752	32,831	10,664
11	Indonesia	246,827	22,481	13,645	20,110	8,139	14,982	979
12	Canada	241,543	50,544	12,058	16,028	20,738	19,701	3,539
13	Spain	210,484	31,744	18,997	12,335	30,180	39,293	9,194
14	Russia	192,617	16,994	21,966	7,315	14,408	278	43
15	Malaysia	185,705	13,754	9,469	7,053	24,905	16,580	6,867
16	Poland	168,510	16,687	20,882	19,454	19,686	17,472	3,840
17	France	159,971	18,207	16,956	14,554	12,643	20,305	9,742
18	Singapore	156,621	15,207	6,518	6,247	12,766	15,561	2,355
19	Saudi Arabia	131,123	17,009	11,568	9,198	8,757	12,895	5,471
20	Ireland	120,306	11,501	11,923	11,632	8,942	25,875	1,341
21	UAE	115,448	10,203	13,171	7,884	5,930	10,671	2,941
22	Japan	114,277	11,766	8,634	7,368	21,611	5,548	1,093
23	Italy	112,944	6,530	9,095	9,343	18,743	24,036	11,193
24	South Africa	109,910	5,271	4,819	6,634	5,225	25,693	4,739
25	Netherlands	108,941	10,657	8,969	6,181	8,200	8,853	3,792
26	Turkey	101,919	15,928	3,681	2,044	4,141	4,157	1,665
27	Chile	99,547	8,100	7,631	5,281	4,987	5,390	9,384
28	South Korea	97,985	8,366	3,854	3,392	4,589	12,960	3,693
29	Philippines	96,159	22,541	11,963	1,395	1,288	3,398	6,041
30	Nigeria	85,207	7,935	10,237	5,993	1,618	2,016	5,546

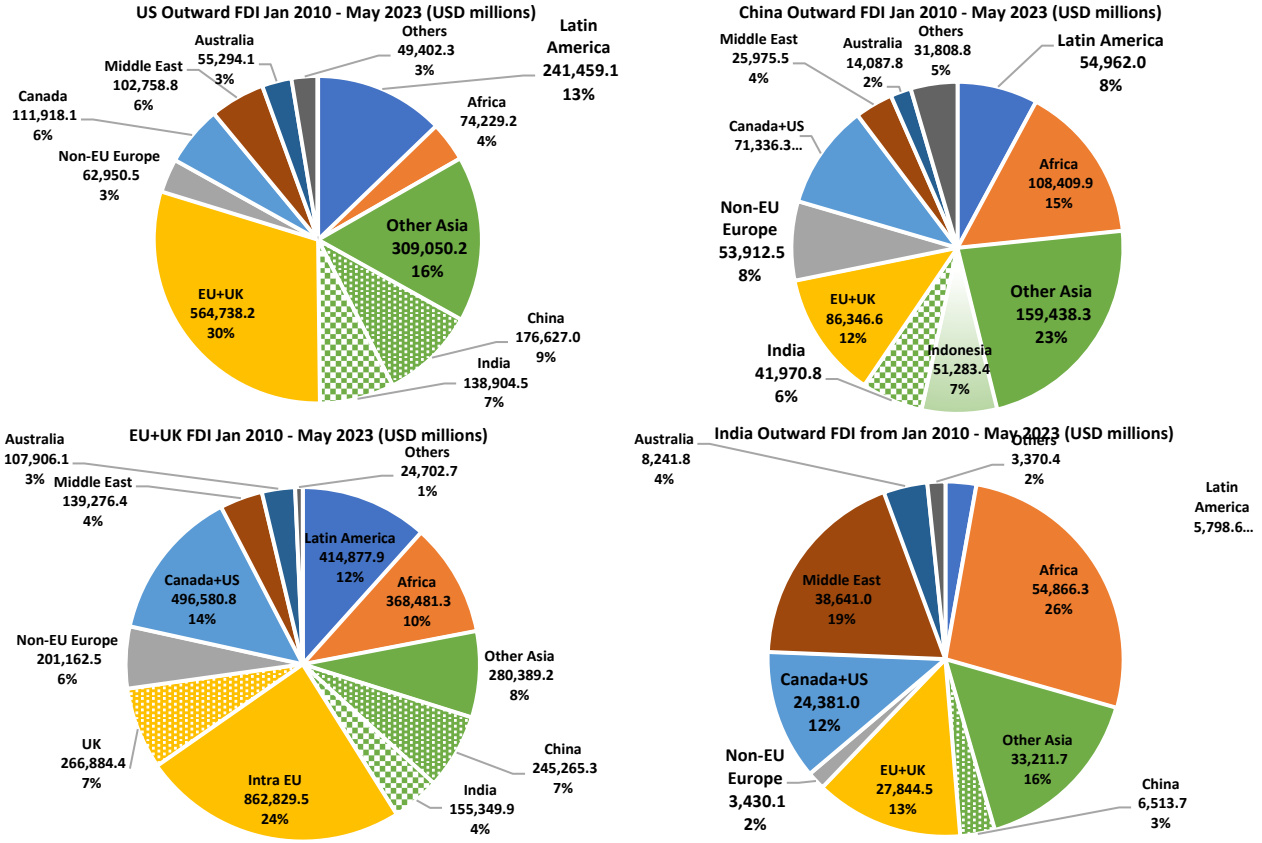
Note: Red for E20+1, Blue for G7

Source: EMI Research team based on Financial Times FDI Markets (https://www.fdimarkets.com/), accessed in July 2023.

In the following, we will focus on the destination of Greenfield FDI of major investors. For the United States, Asia (mainly China) has been the destination of about 40% of Greenfield FDI projects, followed closely by Europe (including United Kingdom) from 2010 to Q1 2023. For the United States, the first destination is Europe with 33%, followed closely by Asia with 32%, and then Latin America 13%. For Europe, the continent is the largest destination with 31%, followed by Asia with 19%, Canada and United States with 1%, followed closely by Latin America and then Asia. Africa occupies a substantial place as destination for European investments.

The total value of Greenfield FDI from the two most important emerging market investors, China and India, is considerably lower than those of the United States and Europe. Asia is the most important destination (about 36%) for China followed by Europe with 20%, Africa with 15%, followed with Canada and the U.S. with 10%, and Latin America with 8%. Interestingly, with about one quarter of the value of the projects, Africa is the first destination of India's greenfield FDI, followed by Asia and then Europe (Figure 3.8).

Figure 3.8. Geographical breakdown of Greenfield FDI Investments from US, Europe, China, and India. 2010 – Q1 2023 (billion USD)

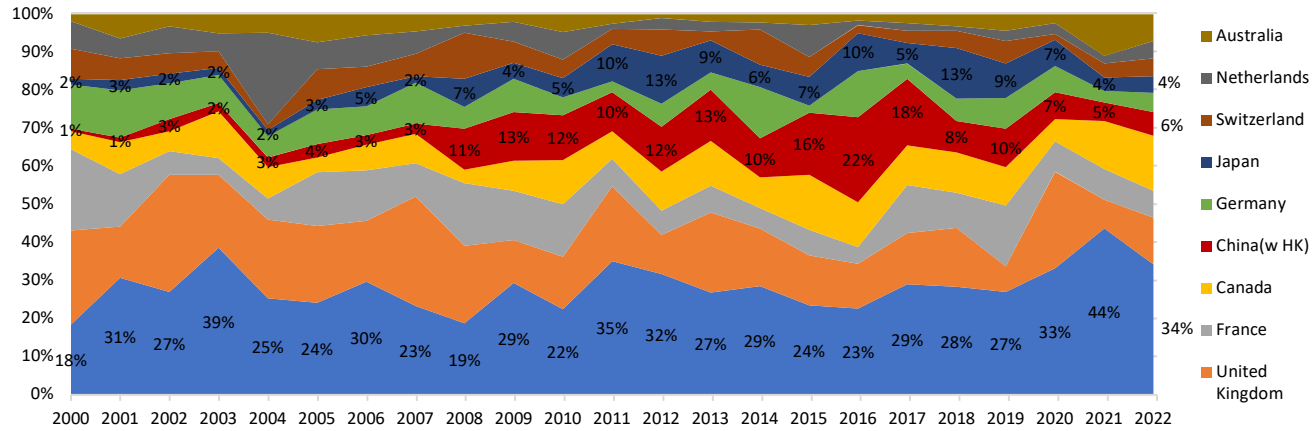


Source: EMI Research team based on Financial Times fDi Markets (https://www.fdimarkets.com/), accessed in July 2023.

3.2. Europe and United States dominate international Mergers and Acquisitions[2]

Mergers and Acquisitions is a rich country's game. In the past 22 years, the United States has been a strong leader of cross border M&A. In 2022, the United States accounted for 34% of the total outbound M&A transactions in terms of value, followed by the United Kingdom, France, and Canada. China's share increased significantly after the 2008 financial crisis but experienced a drop after 2017 (Figure 3.9).

Figure 3.9. Share of total Outbound M&A Deal Value by the 10 biggest Investor Countries: 2000-2022



Source: Tianchang Wang based on Refinitiv SDC Platinum (https://www.refinitiv.com/), accessed in July 2023

[2] The contribution of Tianchang Wang in this section is gratefully acknowledged.

We wanted to explore if the current geopolitical risks had changed the cross-border M&A activity of the different countries, comparing 2010-2019 with 2020-2022. A dramatic reduction in the value of cross border acquisitions of a country would suggest that the recent geopolitical developments, including increasing scrutiny of FDI may impact global acquisitions. In the developed world the changes are minimum: as a group, the share of developed markets in the total value of outbound M&A deals by the 10 biggest investor countries has been relatively stable in the past 12 years and in both periods. The only change in the 2020-2022 period was that Singapore replaced Netherlands ranking 10th in the top 10 investor countries, accounting for 4% of the shares and became the third player of Asia. In the last seven years, the rest of the countries remained the same with some slight change in their shares. The US, for instance, increased 9%, from 27% to 38%.

However, China dropped from 13% to 6% and became the sixth country from 2020 to 2022 (Figure 3.10a and Figure 3.10b). Increased scrutiny in host countries and tighter oversight by Chinese authorities seem to be limiting China's international M&A activity. As 2020-2022 has been a time affected by the COVID crisis, it remains to be seen if this is an exception or the trend will continue. More research needs to be done on this matter.

Figure 3.10. Share of Total Outbound M&A Deal Value by Country 2010-2019 (3.10a) and 2020-2022 (3.10b)

Figure 3.10a. 2010-2019

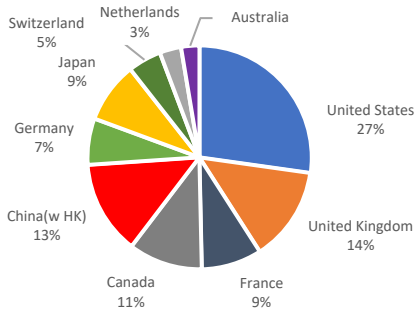
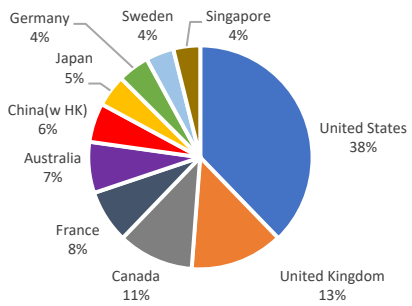


Figure 3.10b. 2020-2023



Source: Tianchang Wang based on Refinitiv SDC Platinum (https://www.refinitiv.com/), accessed in July 2023

From 2000 to 2022, the U.S. and European Union played a leading role in world outbound M&A (**Error! Reference source not found.**). In 2022, the U.S. completed deals amounting to 301 billion USD. Europe is slightly below at 295 billion USD. Interestingly, as a region, Europe conducted more outbound M&A deals than the U.S. in most of the years of this period. Trend wise, 2021, right after the pandemic, marked a peak for most regions, especially for the United States whose transaction value reached over 700 billion USD. In 2022, this figure dropped back to pre-pandemic levels.

The E20+1 emerging countries play a subdued role with a total value of deals much below those of the leaders. China is the only emerging market player among the ten biggest global acquirers (Figure 3.9 and Figure 3.10). China's total value of cross border M&As reached 25 billion USD in 2022, India's 6.9 billion USD, an increase of 30% from 2021, Latin America 7.4 billion USD, and Southeast Asia 11.5 billion USD (Figure 3.10). The deal value for China has shown a downward trend since 2017 except for a short-lived rebound in 2021. Nevertheless, one should note that the total value can be rather volatile because of large deals taking place in certain years. For instance, India's increase value in 2010 reflects the acquisition of Mobile Telecomm Co KSCP in Kuwait, which caused an almost 20 times increase from 2009.

Figure 3.11a. Outbound M&A Total Deal Value China, U.S. and Europe (Billion USD)

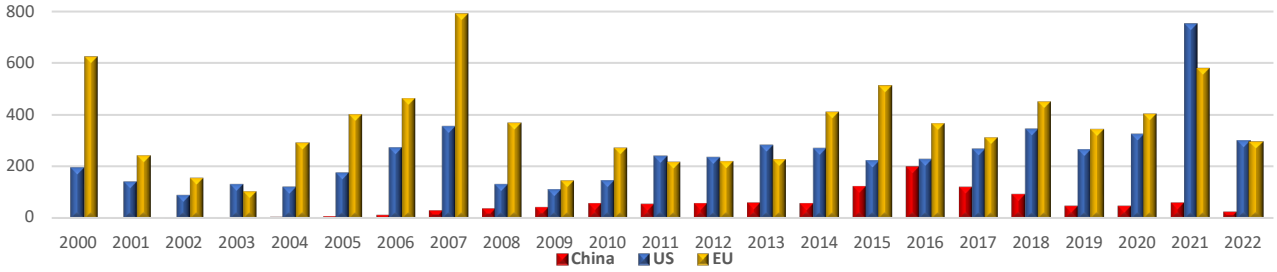
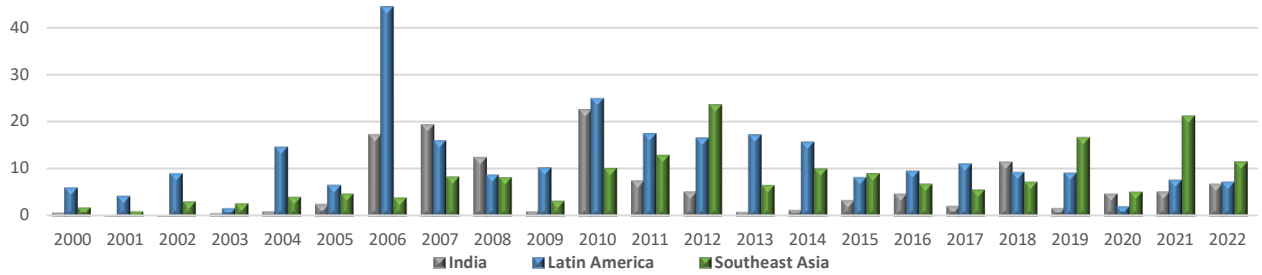


Figure 3.11b. Outbound M&A Total Deal Value India, Latin America and South East Asia (Billion USD)



(EU- with United Kingdom; Southeast Asia- without Singapore; China- with Hong Kong)
Source: SDC Platinum, Accessed June 2023.

In terms of deal count (**Error! Reference source not found.**a and Figure 3.12b), China has shown a clear bell-shaped curve, with 2016 being the peak year and gradually decreasing afterwards. A significant part of the decrease can be attributed to Beijing's implementation of stricter regulations on capital outflows, and the increasing regulatory scrutiny in the United States and Europe.
The United State's number of deals has been climbing since 2017 count. At a much lower level, and with a lot of volatility, Southeast Asian countries fluctuate with around 60 to 120 deals per year. India, in recent years, has shown a steady increasing trend. Latin America has around 40 deals per year.

Figure 3.12a. Outbound M&A Total Deal Count by Region China, U.S. and Europe

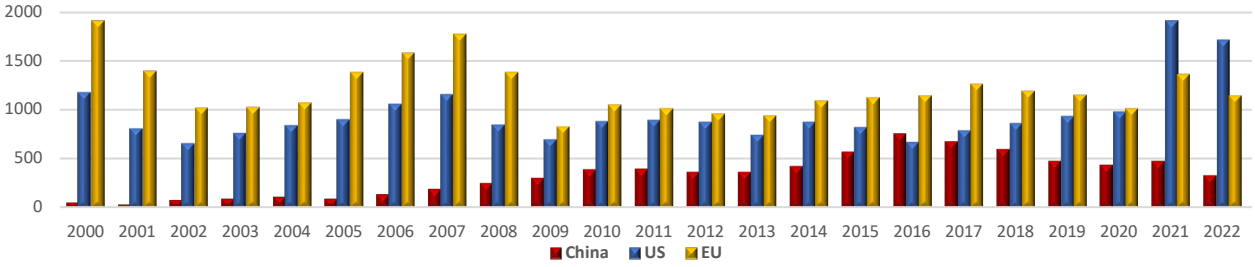
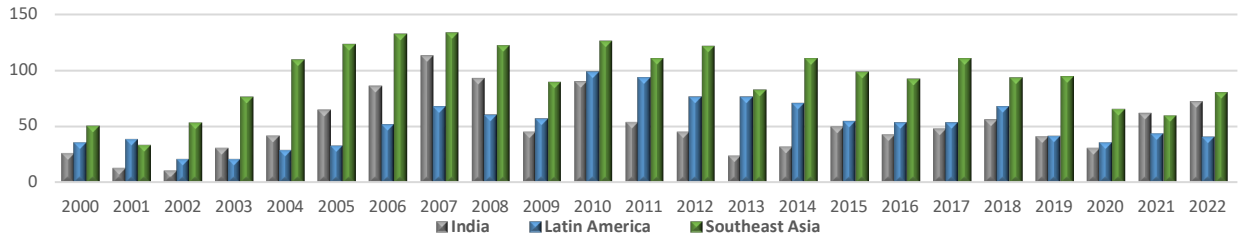


Figure 3.12b. Outbound M&A Total Deal Count by India, Latin America and Southeast Asia



(EU- with United Kingdom; Southeast Asia- without Singapore; China- with Hong Kong)
Source: SDC Platinum, Accessed on June 2023.

The gap between the average deal value of the United States and China's has widened in recent years count. In 2022, the average deal value for China at 79 million USD was almost half of the United States average at 176 million USD. Europe's average deal value was much higher than the United States at 257 million USD, the highest among all regions. E20+1 countries were in a much lower league. For India, Latin America and Southeast Asia, the average deal value fluctuates a lot (**Error! Reference source not found.**a and Figure 3.13b).

Between 2013 and 2022, only one M&A by an emerging market company appears in the list of the 20 largest deals: the acquisition of the Swiss Syngenta by the Chinese China National Chemical Corporation (ChemChina, Appendix). In 2022, India stands out in the M&A landscape with the largest acquisition by an E20+1 firm: the purchase of the US pharma firm Viatres Inc. by the Indian pharma Biocon.

Figure 3.13a. Outbound M&A Average Deal Value by Region (Billion USD) China, U.S. and Europe

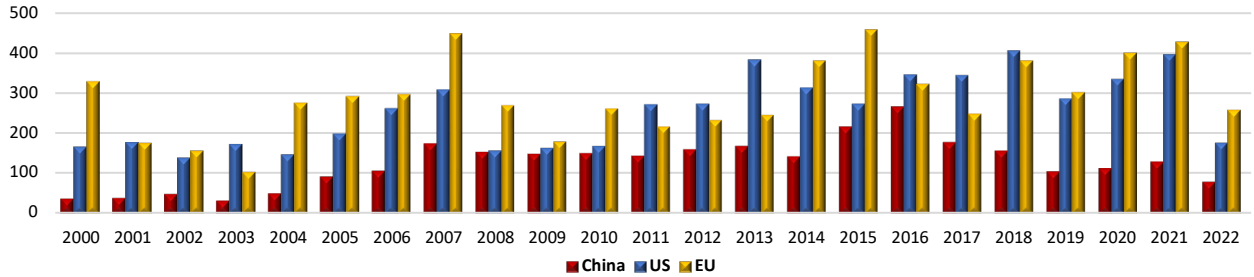
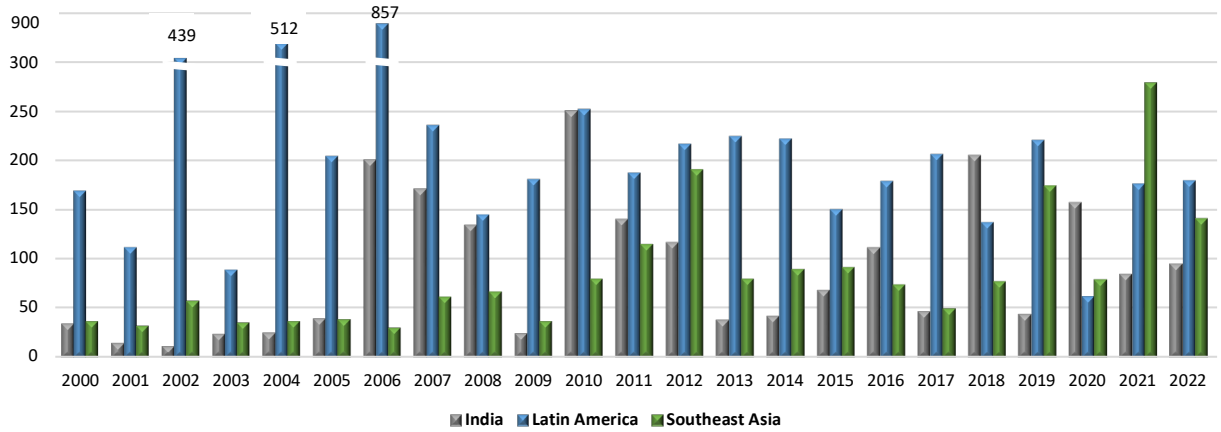


Figure 3.13b. Outbound M&A Average Deal Value by Region (Billion USD) India, Latin America and Southeast Asia

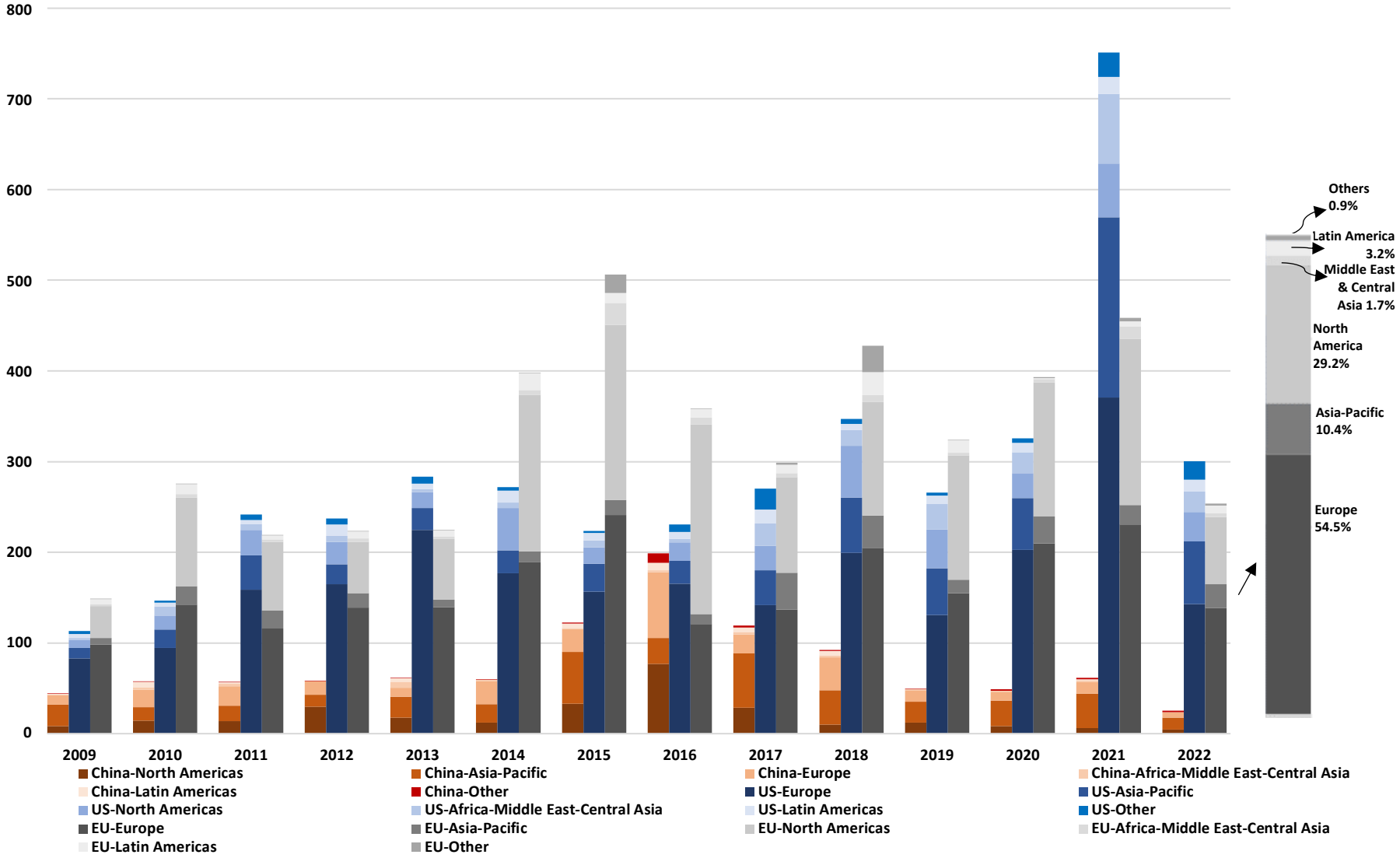


EU- with UK; Southeast Asia- without Singapore; China- with HK)
Source: Tianchang Wang based on SDC Platinum, Accessed in June 2023.

Geographical destinations of outward M&As varies a lot depending on the acquirer country (Figure 3.). The most attractive targets for United States investors have been firms based in Europe, which accounted for 47.5% of the deals in 2022. For the European countries, intra-European deals dominate. Europe accounted for 54.5% of M&A of the value of M&As made by European companies. Economic and cultural ties partly explain the geographical destinations of outbound M&As.

In the case of China, before 2017, outward M&As were rather diversified, with Europe and United States as the main targets. Since then, Chinese M&As have been increasingly directed to the Asia-Pacific region, that in 2022 accounted for more than half of the deals. It remains to be seen whether such a trend towards countries which are closer culturally and geographically will continue (Figure 3.14)

Figure 3.14. Outbound M&A Deal Breakdown China, United States, Europe with United Kingdom: 2009-2022 (US billion dollars)
(Europe with United Kingdom; Southeast Asia- without Singapore; China- with Hong Kong)



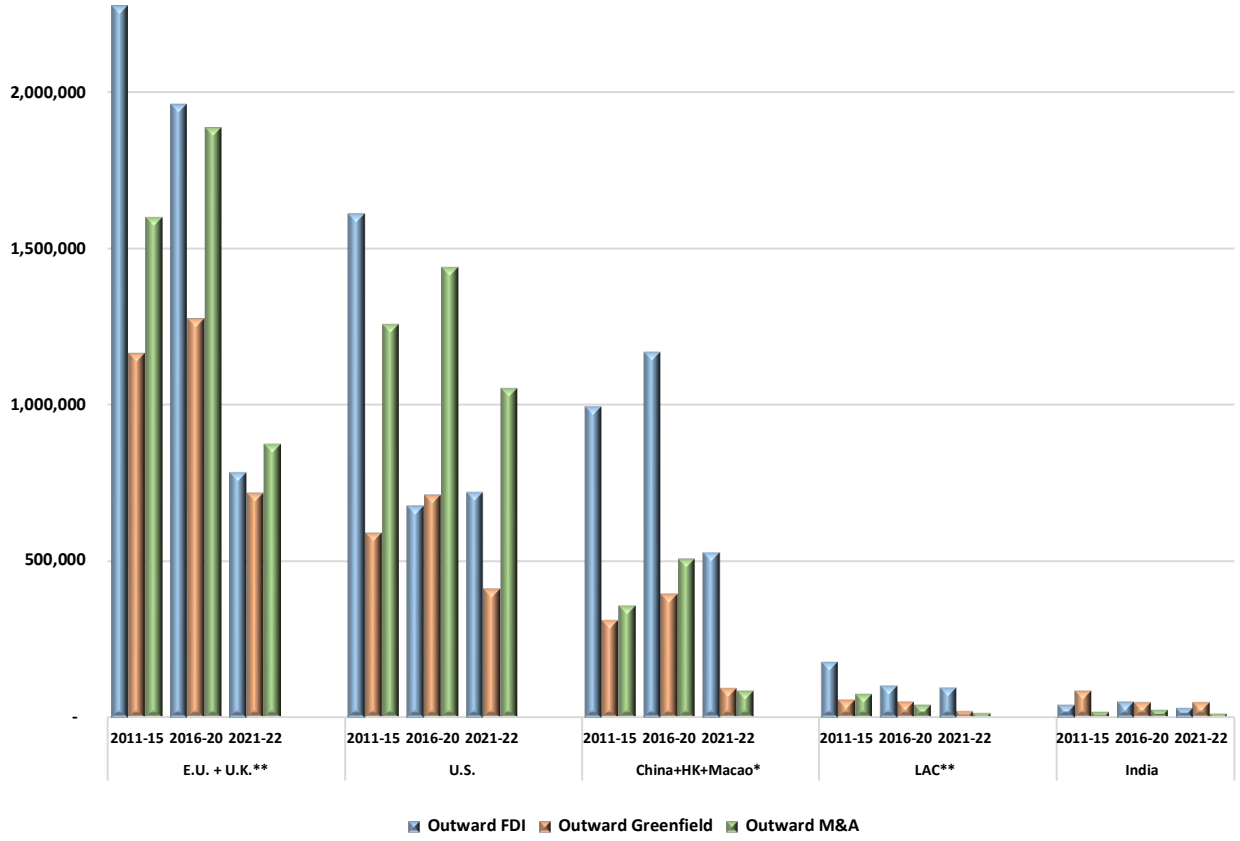
Source: Tianchang Wang based on SDC Platinum, Accessed in June 2023.

3.3. An overall view of FDI flows, announced greenfield and M&A

If we compare the investment panorama in the last decade, we see that Europe (including the investments within the region) is a powerhouse in the global investment flows. As an individual country, the United States continues to be the largest player. While China is close to the U.S. in flows, it is further away in both Mergers and Acquisitions and Greenfield. However, China investment flows both inward and outward have gone down significantly the last two years. It is important to note that Latin America continues attracting a lot of investments (at times more than China) thanks to the favorable promotion policies and the USMCA agreement of Mexico with Canada and United States. These numbers give us an overall idea but there are other investments that are not easy to uncover.

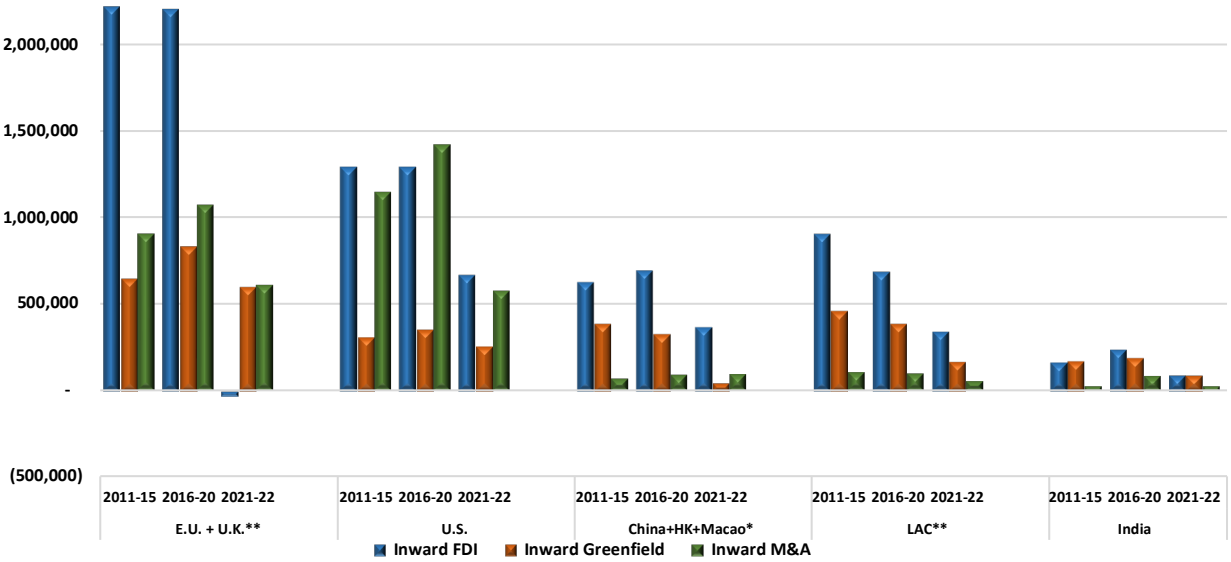
One should keep in mind that it is not possible to directly compare investments flows (FDI and OFDI) with announced greenfield and M&A deals because those may not be realized the year they are announced or could be cancelled (Figures 3.15, 3.16, 3.17, 3.18).

Figure 3.15. Outward investments (OFDI, announced Greenfield, announced M&A): European Union + UK, U.S. China, Latin America and India, 2011-2022 (USD millions)



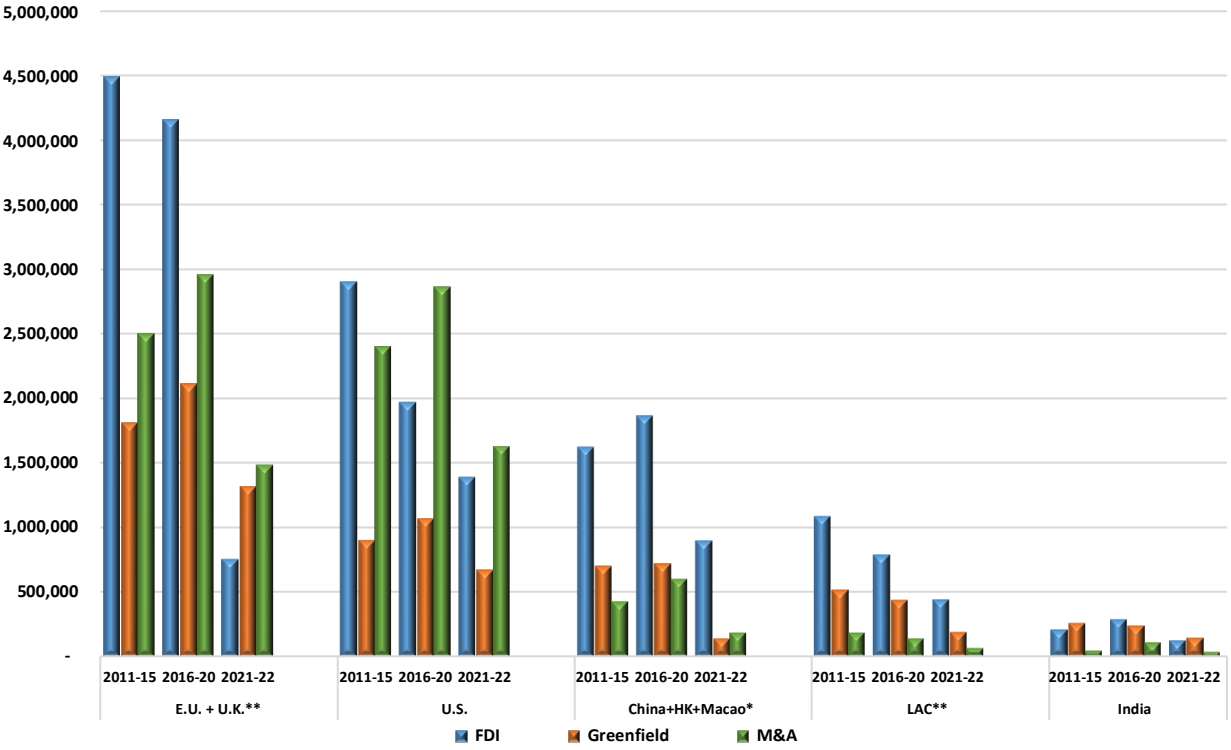
*China + Hong Kong + Macao do not include intra-regional investments, except for OFDI
**Includes intra-regional investments for OFDI, greenfield, and M&A
Source: EMI research team based on UNCTAD (https://unctad.org/), Financial Times fDi Markets (https://www.fdimarkets.com/), and LSEG SDC Platinum (https://www.lseg.com/), accessed in July 2023.

Figure 3.16. Inward investments (IFDI, announced Greenfield, announced M&A) European Union + UK, U.S. China, Latin America and India, 2011-2022 (USD millions)



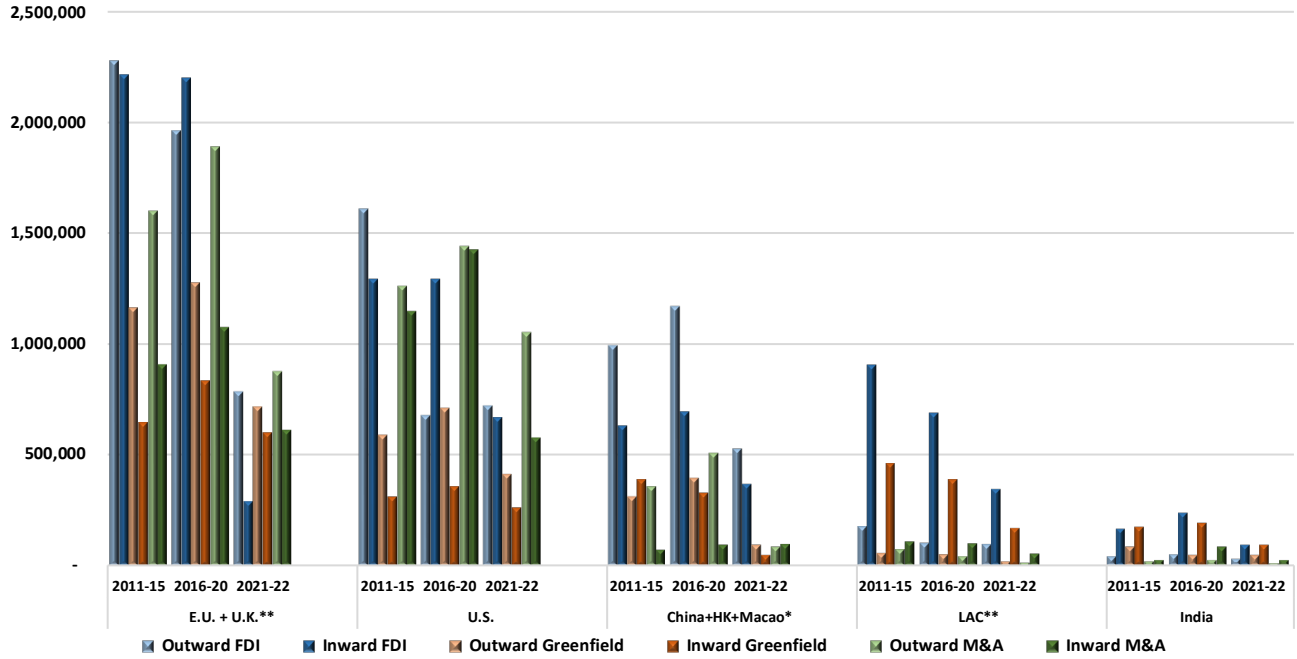
*China + Hong Kong + Macao do not include intra-regional investments, except for OFDI
**Includes intra-regional investments for OFDI, greenfield, and M&A
Source: EMI research team based on UNCTAD (https://unctad.org/), Financial Times fDi Markets (https://www.fdimarkets.com/), and LSEG SDC Platinum (https://www.lseg.com/), accessed in July 2023.

Figure 3.17. Investments (FDI, announced Greenfield, announced M&A – both inward and outward) European Union + UK, U.S. China, Latin America and India, 2011-2022 (USD millions)



*China + Hong Kong + Macao do not include intra-regional investments, except for OFDI
**Includes intra-regional investments for OFDI, greenfield, and M&A
Source: EMI research team based on UNCTAD (https://unctad.org/), Financial Times fDi Markets (https://www.fdimarkets.com/), and LSEG SDC Platinum (https://www.lseg.com/), accessed in July 2023.

Figure 3.18. Investments: FDI, Greenfield, M&A (both inward and outward combined) European Union + UK, U.S. China, Latin America and India, 2011-2022 (USD millions) Europe, United States, China, Latin America



*China + Hong Kong + Macao do not include intra-regional investments, except for OFDI
**Includes intra-regional investments for OFDI, greenfield, and M&A
Source: EMI research team based on UNCTAD (https://unctad.org/), Financial Times fDi Markets (https://www.fdimarkets.com/), and LSEG SDC Platinum (https://www.lseg.com/), accessed in July 2023.

3.4. Where is globalization going?

As we have seen in the chapter, international investments continue to be a game for the countries with the highest GD per capita. United States continues to dominate international business in greenfield and mergers and acquisitions. if we consider Europe as a region is equally powerful but most of its investments are intra-regional. China's appetite for international presence has gone down in the last four years due to a closer scrutiny from the United States and Europe in Chinese investments. At the same time, China is refocusing its interest in developing and emerging countries, mainly in China.

As countries are becoming more inward looking, it remains to be seen if international investments will go down in the near future or, as it is happening, and, despite the rhetoric as continuation of the current trend: an increasing concentration of the business power in the United States and, to a lesser extent in Europe.

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Appendix 1. Value of announced greenfield projects and M&A

Table 3.3. Total value of E20+1 announced greenfield projects per country of origin. Top 30. 2010 to Q1 2023, and 2019-2023Q1

	Country	Total Invested (2010-2023)	2018	2019	2020	2021	2022	2023Q1
1	China (+Hong Kong)	893,671	110,958	73,562	66,648	68,132	68,747	63,643
2	UAE	328,217	27,696	14,619	7,692	14,879	80,567	47,059
3	India	205,875	9,890	10,119	3,656	11,099	38,869	3,099
4	Russia	132,138	11,056	7,159	1,806	2,618	1,366	1,486
5	Malaysia	107,936	8,333	2,072	1,673	1,858	4,305	76
6	Saudi Arabia	95,024	4,102	11,545	3,276	4,467	21,763	3,310
7	Thailand	85,986	14,839	9,953	1,971	1,351	691	26
8	South Africa	67,431	4,280	2,578	2,974	2,766	1,703	2,374
9	Qatar	50,155	6,788	18,870	341	489	1,154	71
10	Turkey	47,940	3,576	6,120	3,283	3,067	2,968	753
11	Brazil	47,774	4,885	2,693	1,387	2,807	2,252	200
12	Mexico	44,898	4,680	7,251	1,994	1,870	3,286	198
13	Kuwait	35,547	2,998	552	209	2,051	414	1,080
14	Indonesia	35,226	897	24,648	28	284	875	53
15	Azerbaijan	25,523	7,182	105	264	341	94	8
16	Philippines	23,347	7,968	1,290	1,156	360	2,990	78
17	Vietnam	22,763	1,012	438	144	2,318	4,668	136
18	Poland	22,021	3,640	1,344	1,205	3,197	2,345	533
19	Chile	16,935	2,393	1,864	1,011	1,014	3,412	23
20	Mauritius	16,652	889	475	1,901	1,294	1,145	1,087
21	Morocco	15,802	1,047	3,249	98	1,450	152	64
22	Argentina	13,733	2,613	821	643	539	1,525	2,671
23	Nigeria	12,342	281	2,953	256	617	631	250
24	Egypt	10,124	782	228	296	189	315	41
25	Colombia	9,815	234	1,015	377	746	473	23
26	Kenya	9,602	387	183	125	607	474	1,131
27	Ukraine	9,325	2,879	30	72	41	1,075	368
28	Hungary	8,855	326	1,427	2,495	484	394	143
29	Bahrain	8,146	85	385	152	119	190	205
30	Oman	7,262	337	407	139	7	691	815

Source: EMI Research team based on Financial Times fDi Markets (https://www.fdimarkets.com/), accessed in July 2023.

Table 3.4. Total value of announced greenfield projects per destination country E20+1: 2010-2023Q1, and 2018-2023Q1 (million USD)

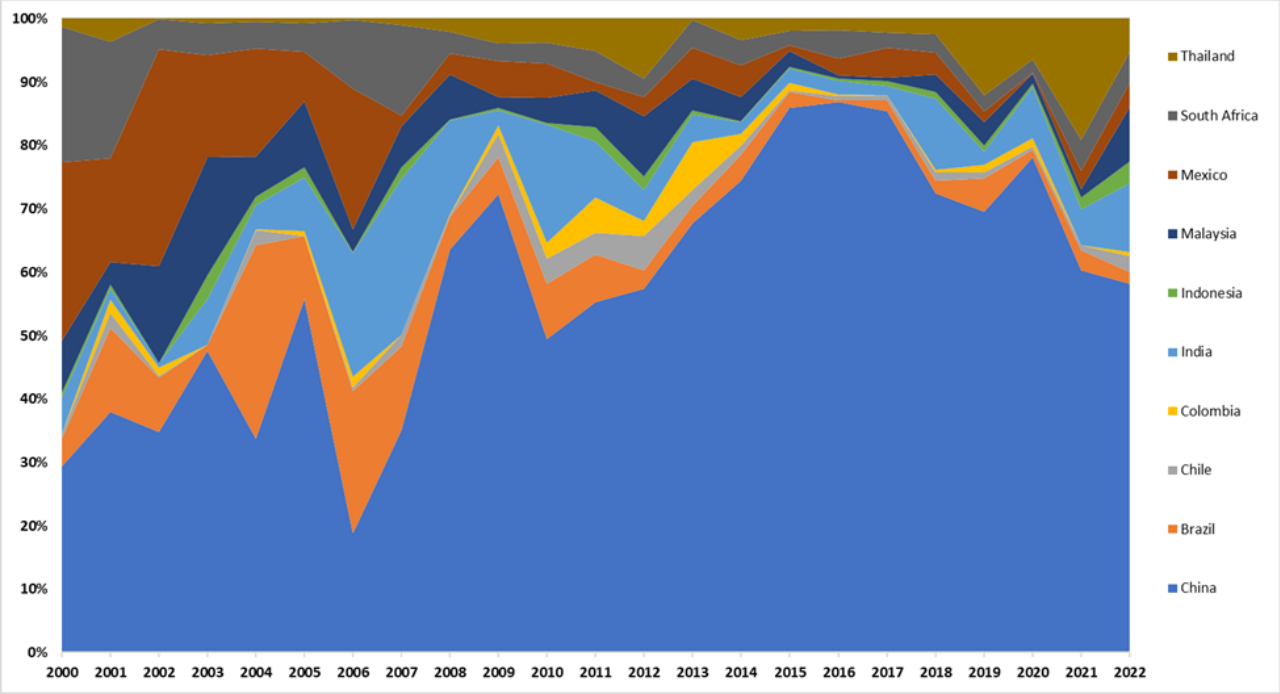
	Country	Total Received (2010-2023Q1)	2018	2019	2020	2021	2022	2023
1	China (+Hong Kong)	900,325	126,310	54,049	33,561	31,940	19,141	6,008
2	India	519,676	53,329	35,257	22,043	16,123	77,481	21,209
3	Mexico	319,154	31,006	25,571	12,857	16,326	40,207	5,545
4	Egypt	308,290	13,229	13,904	2,033	14,788	107,012	13,110
5	Brazil	294,145	18,422	32,451	16,615	22,580	17,838	12,792
6	Vietnam	267,953	29,827	37,970	10,898	11,595	25,810	4,096
7	Indonesia	243,827	22,481	13,645	20,110	8,139	14,982	979
8	Russia	192,604	16,994	21,954	7,315	14,408	278	43
9	Malaysia	185,638	13,753	9,468	7,053	24,905	16,580	6,813
10	Saudi Arabia	131,123	17,010	11,568	9,198	8,757	12,896	5,471
11	UAE	115,620	10,199	13,174	7,883	5,927	10,671	3,120

12	South Africa	109,910	5,271	4,819	6,634	5,226	25,693	4,739
13	Turkey	101,883	15,927	3,681	2,032	4,141	4,142	1,656
14	Chile	99,547	8,100	7,631	5,281	4,987	5,390	9,384
15	Philippines	96,156	22,541	11,963	1,395	1,285	3,398	6,041
16	Nigeria	85,207	7,935	10,237	5,993	1,618	2,016	5,546
17	Kazakhstan	81,971	7,617	5,994	850	828	361	1,065
18	Romania	80,594	5,410	5,046	3,266	4,921	8,407	4,781
19	Argentina	79,975	7,853	5,138	3,870	6,084	6,676	458
20	Thailand	77,842	6,749	4,698	1,941	3,875	8,230	1,247
21	Oman	73,362	19,574	3,262	6,198	4,610	9,432	1,098
22	Morocco	62,964	4,472	3,266	2,562	3,750	14,957	6,795
23	Pakistan	60,726	3,706	3,874	229	919	1,709	55
24	Peru	59,293	6,285	12,025	1,643	2,110	1,156	507
25	Myanmar	57,612	5,248	4,569	4,268	149	89	
26	Colombia	55,925	4,326	5,105	2,266	3,851	1,637	691
27	Mozambique	52,811	2,042	860	705	2,463	1,369	109
28	Qatar	45,925	242	1,498	803	1,108	29,775	12
29	Serbia	45,858	5,554	3,858	1,828	1,493	4,045	3,310
30	Nicaragua	44,967	643	562	295	76	142	0

Source: EMI Research team based on Financial Times fDi Markets (https://www.fdimarkets.com/), accessed in July 2023.

China accounts for most of the deals completed by the 10 E20+1 acquirer countries with 2016 being its peak year. Thailand has accounted for more shares in the recent five years while India's shares have been shrinking (Figure 3.)

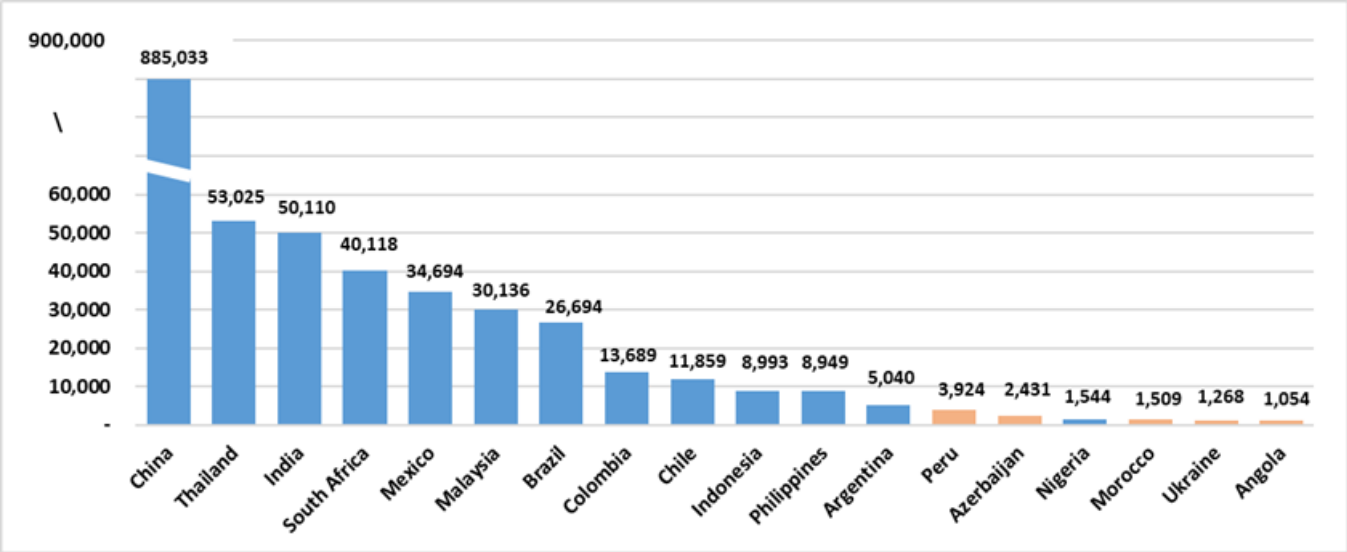
Figure 3.19. Share of total Outbound M&A Deal Value by the 10 biggest Foreign Investor Countries from E20+1 Group: 2000-2022



Source: Tianchang Wang based on Refinitiv SDC Platinum (https://www.refinitiv.com/), accessed in July 2023

For outbound M&A in emerging markets, other countries besides the E20+1 are also doing a good job such as Peru, Azerbaijan, Morocco etc. Some countries from the E20+1 group are more inward looking.

Figure 3.20. Emerging Market Outbound M&A with Value (Total of 2013-2022) larger than $10 billion (Orange are "Next 21"; Blue are E20+1)



Source: Tianchang Wang based on Refinitiv SDC Platinum (https://www.refinitiv.com/), accessed in July 2023

Table 3.5. Twenty Biggest international M&A Deals, by Selected Countries, regions and Global: 2013-2022.

- **United States**

Date Announced	Value of Transaction ($mil)	Acquiror Ultimate Parent Name	Target Name	Target Industry Sector	Target Ultimate Parent Nation
11/30/2020	43,478	S&P Global Inc	IHS Markit Ltd	Business Services	United Kingdom
6/15/2014	42,730	Medtronic Inc	Covidien PLC	Measuring, Medical, Photo Equipment; Clocks	Ireland-Rep
2/27/2018	39,913	Comcast Corp	Sky PLC	Radio and Television Broadcasting Stations	United Kingdom
4/13/2021	34,260	Altimeter Growth Corp	Grab Holdings Inc	Prepackaged Software	Singapore
8/16/2016	32,367	Praxair Inc	Linde AG	Chemicals and Allied Products	Germany
11/25/2016	29,540	J&J	Actelion Ltd	Drugs	Switzerland
8/2/2021	27,671	Square Inc	Afterpay Ltd	Other Financial	Australia
11/2/2015	21,355	Visa Inc	Visa Europe Ltd	Other Financial	United Kingdom
9/27/2021	20,003	Gores Guggenheim Inc	Polestar Performance AB	Transportation Equipment	Hong Kong
2/27/2020	18,712	Advent International Corp	Thyssenkrupp AG-Elevator Tech	Machinery	Germany
9/20/2017	17,933	Bain Capital LP	Toshiba Memory Corp	Electronic and Electrical Equipment	Japan
5/9/2018	16,000	Walmart Inc	Flipkart Group	Miscellaneous Retail Trade	India
3/13/2017	15,387	Intel Corp	Mobileye NV	Prepackaged Software	Israel
8/24/2014	13,397	Burger King Worldwide Inc	Tim Hortons Inc	Retail Trade-Eating and Drinking Places	Canada
3/27/2018	12,566	Starfruit Finco BV	Akzo Nobel NV-Specialty Chem	Chemicals and Allied Products	Netherlands
11/21/2021	12,086	KKR & Co Inc	Telecom Italia SpA	Telecommunications	Italy
9/27/2021	12,000	Air Products & Chemicals Inc	Saudi Arabian Oil Co-Jazan	Oil and Gas; Petroleum Refining	Saudi Arabia
4/30/2014	10,702	General Electric Co	Alstom SA-Energy Businesses	Machinery	France
3/21/2021	10,000	Thoma Bravo Advantage	Ironsource Ltd	Prepackaged Software	Israel
1/14/2019	9,966	Newmont Mining Corp	Goldcorp Inc	Mining	Canada

Source: Tianchang Wang based on Refinitiv SDC Platinum (https://www.refinitiv.com/), accessed in July 2023

- **China**

Date Announced	Value of Transaction ($mil)	Acquiror Ultimate Parent Name	Target Name	Target Industry Sector	Target Ultimate Parent Nation
2/3/2016	41,840	China National Chemical Corp	Syngenta AG	Chemicals and Allied Products	Switzerland
6/2/2017	13,742	Peoples Republic of China	Logicor Ltd	Transportation and Shipping (except air)	United States
7/14/2017	11,554	Nesta Investment Holdings LP	Global Logistic Properties Ltd	Real Estate; Mortgage Bankers and Brokers	Singapore
10/6/2016	10,380	Bohai Capital Holding Co Ltd	C2 Aviation Capital LLC	Business Services	United States
4/13/2014	7,011	China Minmetals Corp	Xstrata Peru SA	Mining	Switzerland
3/16/2016	6,500	Anbang Insurance Group Co Ltd	Strategic Hotels & Resorts Inc	Investment & Commodity Firms,Dealers,Exchanges	United States

2/17/2016	6,067	Tianjin Tianhai Invest Co Ltd	Ingram Micro Inc	Wholesale Trade-Durable Goods	United States
3/22/2015	5,943	China National Chemical Corp	Pirelli & C SpA	Rubber and Miscellaneous Plastic Products	Italy
1/15/2016	5,600	Qingdao Haier Co Ltd	General Electric Co-Appl Bus	Electronic and Electrical Equipment	United States
9/11/2018	5,343	Anta International Group	Amer Sports Oyj	Miscellaneous Manufacturing	Finland
5/29/2013	4,752	Shuanghui Intl Hldg Ltd	Smithfield Foods Inc	Food and Kindred Products	United States
7/30/2016	4,400	Investor Group	Playtika Ltd	Prepackaged Software	United States
2/26/2016	4,381	Midea Group Co Ltd	KUKA AG	Machinery	Germany
3/25/2021	4,370	Hillhouse Capital Group	Royal Philips NV-Dom Appln Biz	Retail Trade-Home Furnishings	Netherlands
11/25/2015	3,732	China Three Gorges Corp	ANNEL-Hydropower Concession(2)	Electric, Gas, and Water Distribution	Brazil
10/19/2020	3,608	Alibaba Group Holding Ltd	A-RT Ret Hldg Ltd	Retail Trade-General Merchandise and Apparel	France
9/30/2019	3,590	China Three Gorges Corp	Peruvian Opportunity Co SAC	Investment & Commodity Firms,Dealers,Exchanges	United States
1/11/2016	3,500	Dalian Hexing Investment Co	Legend Pictures LLC	Motion Picture Production and Distribution	United States
11/13/2020	3,106	State Grid Corp Of China	CGE	Electric, Gas, and Water Distribution	Spain
1/24/2017	3,100	Yankuang Group Co Ltd	Coal & Allied Industries Ltd	Mining	Australia

Source: Tianchang Wang based on Refinitiv SDC Platinum (https://www.refinitiv.com/), accessed in July 2023

- **India**

Date Announced	Value of Transaction ($mil)	Acquiror Ultimate Parent Name	Target Name	Target Industry Sector	Target Ultimate Parent Nation
7/20/2018	4,200	UPL Ltd	Arysta Lifescience Ltd	Chemicals and Allied Products	United States
2/28/2022	3,335	Biocon Ltd	Viatris Inc-Biosimilars Bus	Drugs	United States
7/26/2018	2,800	Hindalco Industries Ltd	Aleris Corp	Metal and Metal Products	United States
1/21/2020	2,725	Illuminate Buyer LLC	Lummus Technology LLC	Investment & Commodity Firms,Dealers,Exchanges	United States
12/6/2018	1,775	HCL Technologies Ltd	Intl Bus Mach Corp-Software	Prepackaged Software	United States
3/4/2021	1,450	Wipro Ltd	The Capital Markets Co NV	Business Services	United States
7/23/2015	880	Lupin Ltd	GAVIS Pharms LLC,Novel Labs	Drugs	United States
10/10/2021	771	Reliance Industries Ltd	REC Solar Holdings AS	Electric, Gas, and Water Distribution	China
10/5/2016	767	Intas Pharmaceuticals Ltd	Actavis UK Ltd	Drugs	Israel
9/3/2022	700	JSW Steel Ltd	Diego Calvo SpA	Construction Firms	Chile
1/19/2017	604	Motherson Sumi Systems Ltd	PKC Group Oyj	Electronic and Electrical Equipment	Finland
9/4/2015	500	Cipla Ltd	InvaGen Pharmaceuticals Inc	Drugs	United States
10/20/2016	500	Wipro Ltd	Appirio Inc	Prepackaged Software	United States
7/21/2021	500	Think & Learn Pvt Ltd	Epic Creations Inc	Printing, Publishing, and Allied Services	United States
11/28/2013	490	Lodha Group	MacDonald House	Real Estate; Mortgage Bankers and Brokers	United Kingdom
2/11/2016	460	Wipro Ltd	HealthPlan Holdings Inc	Insurance	United States
7/2/2015	400	Rajesh Exports Ltd	European Gold Refineries Hldg	Metal and Metal Products	United States
1/17/2022	354	Tech Mahindra Ltd	Com Tec Co It Ltd	Business Services	Cyprus
6/11/2016	350	Dr Reddy's Laboratories Ltd	Teva Pharm Inds Ltd-Drugs(8)	Drugs	Israel
4/12/2018	330	HCL Technologies Ltd	Actian Corp	Prepackaged Software	United States

Source: Tianchang Wang based on Refinitiv SDC Platinum (https://www.refinitiv.com/), accessed in July 2023

- **Europe (including United Kingdom)**

Date Announced	Value of Transaction ($mil)	Acquiror Ultimate Parent Name	Target Name	Target Industry Sector	Acquiror Ultimate Parent Nation	Target Ultimate Parent Nation
9/16/2015	101,476	Anheuser-Busch Inbev SA/NV	SABMiller PLC	Food and Kindred Products	Belgium	United Kingdom
6/11/2020	81,056	Unilever PLC	Unilever NV	Food and Kindred Products	United Kingdom	Netherlands
5/18/2016	56,598	Bayer AG	Monsanto Co	Chemicals and Allied Products	Germany	United States
10/21/2016	49,054	British American Tobacco PLC	Reynolds American Inc	Tobacco Products	United Kingdom	United States
12/12/2020	39,307	AstraZeneca PLC	Alexion Pharmaceuticals Inc	Drugs	United Kingdom	United States
3/9/2021	31,244	AerCap Holdings NV	GE Capital Aviation Svcs Inc	Credit Institutions	Ireland-Rep	United States
8/4/2015	30,952	Shire PLC	Baxalta Inc	Drugs	Ireland-Rep	United States
4/29/2018	26,761	Deutsche Telekom AG	Sprint Corp	Telecommunications	Germany	Japan
1/25/2016	22,660	Tyco International PLC	Johnson Controls Inc	Machinery	Ireland-Rep	United States
3/14/2018	22,527	Atlantia SpA	Abertis Infraestructuras SA	Transportation and Shipping (no air)	Italy	Spain
1/29/2018	22,250	JAB Holding Co SARL	Dr Pepper Snapple Group Inc	Food and Kindred Products	Luxembourg	United States
10/30/2019	22,120	Peugeot SA	Fiat Chrysler Automobiles NV	Transportation Equipment	France	United Kingdom
3/11/2014	21,025	Altice Sa	SFR	Telecommunications	Luxembourg	France
5/31/2022	20,720	Koninklijke DSM NV	Firmenich International SA	Soaps, Cosmetics, and Personal-Care Products	Netherlands	Switzerland
8/7/2015	20,433	Genesis Intl Hldg NV	Steinhoff International	Wood Products, Furniture, and Fixtures	Netherlands	South Africa
2/15/2018	18,974	RELX PLC	RELX NV	Printing, Publishing, and Allied Services	United Kingdom	Netherlands
11/10/2015	17,911	Kansai Airports	New Kansai Intl-Op Concession	Air Transportation and Shipping	France	Japan

2/1/2017	17,743	Reckitt Benckiser Group PLC	Mead Johnson Nutrition Co	Food and Kindred Products	United Kingdom	United States
9/22/2014	16,946	Merck KGaA	Sigma-Aldrich Corp	Chemicals and Allied Products	Germany	United States
8/2/2020	16,365	Siemens AG	Varian Medical Systems Inc	Measuring, Medical, Photo Equipment; Clocks	Germany	United States

Source: Tianchang Wang based on Refinitiv SDC Platinum (https://www.refinitiv.com/), accessed in July 2023

- **Southeast Asia**

Date Announced	Value of Transaction ($mil)	Acquiror Ultimate Parent Name	Target Name	Target Industry Sector	Acquiror Ultimate Parent Nation	Target Ultimate Parent Nation
7/12/2021	4,752	PTT Global Chemical PCL	Allnex GmbH	Chemicals and Allied Products	Thailand	United States
7/30/2021	3,712	Iweb Inc	Tingo Mobile Plc	Telecommunications	Thailand	United States
5/17/2022	2,540	Petroliam Nasional Bhd	Perstorp Holding AB	Chemicals and Allied Products	Malaysia	France
6/4/2014	2,406	Thai Beverage PCL	Australand Property Group	Real Estate; Mortgage Bankers and Brokers	Thailand	Australia
12/12/2019	2,282	Bangkok Bank PCL	PT Bank Permata Tbk	Commercial Banks, Bank Holding Companies	Thailand	Indonesia
3/21/2019	2,227	PTT PCL	Mrphy Swk Oil Co Ltd,Mrphy Sb	Oil and Gas; Petroleum Refining	Thailand	United States
8/7/2019	2,006	Canopus International Ltd	Huntsman Corp-Chem	Wholesale Trade-Nondurable Goods	Thailand	United States
10/9/2014	1,708	Malaysia	New Britain Palm Oil Ltd	Food and Kindred Products	Malaysia	Papua N Guinea
10/10/2013	1,675	NutriAsia Inc	Del Monte Foods Co-Business	Food and Kindred Products	Philippines	United States
6/5/2018	1,610	Minor International PCL	NH Hotel Group SA	Hotels and Casinos	Thailand	Spain
11/8/2013	1,433	Petroliam Nasional Bhd	Talisman Energy-Montney Asts	Oil and Gas; Petroleum Refining	Malaysia	Canada
12/21/2015	1,365	Axiata Group Bhd	Reynolds Holdings Ltd	Telecommunications	Malaysia	Sweden
11/8/2021	1,350	Sinar Mas Group	Dampier Coal (Qld) Pty Ltd	Mining	Indonesia	Australia
6/16/2021	1,300	Canopus International Ltd	Oxiteno SA Industria	Chemicals and Allied Products	Thailand	Brazil
9/13/2019	1,200	Hong Leong Co (Malaysia) Bhd	Columbia Asia Healthcare Pte	Health Services	Malaysia	United States
4/29/2016	1,135	Central Group of Cos	Casino Guichard-Perrachon-BigC	Retail Trade-Food Stores	Thailand	France
1/18/2013	1,111	Investor Group	Spire Healthcare Ltd-Hospitals	Health Services	Malaysia	United Kingdom
11/17/2016	1,075	Charoen Pokphand Foods PCL	Bellisio Parent LLC	Wholesale Trade-Nondurable Goods	Thailand	United States
9/30/2021	898	Charoen Pokphand Foods PCL	CP Pokphand Co Ltd	Food and Kindred Products	Thailand	Hong Kong
9/30/2015	833	Monde Nissin Corp	Marlow Foods Ltd	Food and Kindred Products	Philippines	United Kingdom

Source: Tianchang Wang based on Refinitiv SDC Platinum (https://www.refinitiv.com/), accessed in July 2023

- **Latin America**

Date Announced	Value of Transaction ($mil)	Acquiror Ultimate Parent Name	Target Name	Target Industry Sector	Acquiror Ultimate Parent Nation	Target Ultimate Parent Nation
2/19/2013	2,100	Bancolombia SA	HSBC Bank(Panama)SA	Commercial Banks, Bank Holding Companies	Colombia	2/19/2013
3/27/2017	2,100	Grupo Mexico SAB de CV	Florida East Coast Railway Co	Transportation and Shipping (except air)	Mexico	3/27/2017
8/7/2017	1,895	Mexichem SAB de CV	Netafim Ltd	Machinery	Mexico	8/7/2017
8/31/2013	1,855	Coca-Cola FEMSA SAB de CV	Spaipa SA Bebidas	Food and Kindred Products	Mexico	8/31/2013
3/22/2019	1,850	Natura Cosmeticos SA	Avon Products Inc	Soaps, Cosmetics, and Personal-Care Products	Brazil	3/22/2019
2/12/2014	1,664	Grupo Bimbo SAB de CV	Canada Bread Co Ltd	Food and Kindred Products	Mexico	2/12/2014
8/3/2017	1,614	Grupo Lala SAB de CV	Vigor Alimentos SA	Food and Kindred Products	Mexico	8/3/2017
9/29/2013	1,557	Pacific Rubiales Energy Corp	Petrominerales Ltd	Oil and Gas; Petroleum Refining	Colombia	9/29/2013
4/23/2014	1,518	America Movil SAB de CV	Telekom Austria AG	Telecommunications	Mexico	4/23/2014
7/1/2015	1,450	JBS SA	Cargill Inc-US-Based Pork Bus	Food and Kindred Products	Brazil	7/1/2015
7/14/2014	1,400	BTG Pactual G7 Holding SA	BSI SA	Commercial Banks, Bank Holding Companies	Brazil	7/14/2014
12/18/2013	1,372	Banesco Banco Universal SACA	NCG Banco SA	Commercial Banks, Bank Holding Companies	Venezuela	12/18/2013
11/21/2014	1,256	JBS SA	P&M Quality Smallgoods Pty Ltd	Food and Kindred Products	Brazil	11/21/2014
7/5/2022	1,185	Fomento Econo Mexica SAB de CV	Valora Holding AG	Retail Trade-Eating and Drinking Places	Mexico	7/5/2022
6/9/2017	1,100	Natura Cosmeticos SA	The Body Shop International	Soaps, Cosmetics, and Personal-Care Products	Brazil	6/9/2017
6/26/2019	1,092	Cia Brasileira de Distribuicao	Almacenes Exito SA	Retail Trade-General Merchandise and Apparel	Brazil	6/26/2019
9/23/2016	1,090	Fomento Econo Mexica SAB de CV	Vonpar Refrescos SA	Food and Kindred Products	Mexico	9/23/2016
3/4/2016	1,001	Inversora Carso SA de CV	FCC	Construction Firms	Mexico	3/4/2016
12/26/2021	984	Cresud SA Comercial	Gav Yam Lands Corp Ltd	Real Estate; Mortgage Bankers and Brokers	Argentina	12/26/2021
6/17/2021	982	JBS SA	Kerry Grp PLC-Consumer Foods	Food and Kindred Products	Brazil	6/17/2021

Source: Tianchang Wang based on Refinitiv SDC Platinum (https://www.refinitiv.com/), accessed in July 2023

- **Global: 20 biggest M&A Deals in 2013-2022**

Date Announced	Value of Transaction ($mil)	Acquiror Ultimate Parent Name	Target Name	Target Industry Sector	Acquiror Ultimate Parent Nation	Target Ultimate Parent Nation
9/16/2015	101,476	Anheuser-Busch Inbev SA/NV	SABMiller PLC	Food and Kindred Products	Belgium	United Kingdom
6/11/2020	81,056	Unilever PLC	Unilever NV	Food and Kindred Products	United Kingdom	Netherlands
8/17/2021	80,689	BHP Group Ltd	BHP Group PLC	Mining	Australia	United Kingdom
3/28/2018	60,117	Takeda Pharmaceutical Co Ltd	Shire PLC	Drugs	Japan	Ireland-Rep
5/18/2016	56,598	Bayer AG	Monsanto Co	Chemicals and Allied Products	Germany	United States
10/21/2016	49,054	British American Tobacco PLC	Reynolds American Inc	Tobacco Products	United Kingdom	United States
11/30/2020	43,478	S&P Global Inc	IHS Markit Ltd	Business Services	United States	United Kingdom
6/15/2014	42,730	Medtronic Inc	Covidien PLC	Measuring, Medical, Photo Equipment; Clocks	United States	Ireland-Rep
2/3/2016	41,840	China National Chemical Corp	Syngenta AG	Chemicals and Allied Products	China	Switzerland
2/27/2018	39,913	Comcast Corp	Sky PLC	Radio and Television Broadcasting Stations	United States	United Kingdom
12/12/2020	39,307	AstraZeneca PLC	Alexion Pharmaceuticals Inc	Drugs	United Kingdom	United States
7/27/2015	38,750	Teva Pharm Inds Ltd	Allergan PLC-Generic Drug Bus	Drugs	Israel	United States
4/13/2021	34,260	Altimeter Growth Corp	Grab Holdings Inc	Prepackaged Software	United States	Singapore
8/16/2016	32,367	Praxair Inc	Linde AG	Chemicals and Allied Products	United States	Germany
7/18/2016	31,879	SoftBank Group Corp	ARM Holdings PLC	Electronic and Electrical Equipment	Japan	United Kingdom
4/3/2023	31,406	Glencore PLC	Teck Resources Ltd	Mining	Switzerland	Canada
3/9/2021	31,244	AerCap Holdings NV	GE Capital Aviation Svcs Inc	Credit Institutions	Ireland-Rep	United States
3/21/2021	31,186	Canadian Pacific Railway Ltd	Kansas City Southern	Transportation and Shipping (no air)	Canada	United States
8/4/2015	30,952	Shire PLC	Baxalta Inc	Drugs	Ireland-Rep	United States
11/25/2016	29,540	J&J	Actelion Ltd	Drugs	United States	Switzerland

Source: Tianchang Wang based on Refinitiv SDC Platinum (https://www.refinitiv.com/), accessed in July 2023

- **Global: 20 biggest M&A Deals in 2022**

Date Announced	Value of Transaction ($mil)	Acquiror Ultimate Parent Name	Target Name	Target Industry Sector	Acquiror Ultimate Parent Nation	Target Ultimate Parent Nation
5/31/2022	20,720	Koninklijke DSM NV	Firmenich International SA	Soaps, Cosmetics, and Personal-Care Products	Netherlands	Switzerland
5/9/2022	13,837	Philip Morris International	Swedish Match AB	Tobacco Products	Switzerland	Sweden
3/16/2022	7,587	EQT AB	Baring Private Equity Asia Ltd	Investment & Commodity Firms,Dealers,Exchanges	Sweden	Hong Kong
4/7/2022	6,595	Brookfield Asset Managemnt Inc	CDK Global Inc	Business Services	Canada	United States
11/7/2022	6,038	Ritchie Bros Auctioneers Inc	IAA Inc	Wholesale Trade-Durable Goods	Canada	United States
12/13/2022	6,000	Takeda Pharmaceutical Co Ltd	Nimbus Lakshmi Inc	Business Services	Japan	United States
2/15/2022	5,722	Intel Corp	Tower Semiconductor Ltd	Electronic and Electrical Equipment	United States	Israel
1/6/2022	5,185	Societe Generale SA	LeasePlan Corp NV	Repair Services	France	Singapore
3/24/2022	5,030	Brookfield Asset Managemnt Inc	Homeserve PLC	Construction Firms	Canada	United Kingdom
11/9/2022	4,604	Duchess Avenue Pte Ltd	PT Golden Energy Mines Tbk	Mining	Singapore	Indonesia
7/13/2022	4,422	Unity Software Inc	Ironsource Ltd	Prepackaged Software	United States	Israel
5/31/2022	3,987	Advent International Corp	DSM NV-Engineering Materials	Business Services	Germany	Netherlands
5/5/2022	3,970	MaxLinear Inc	Silicon Motion Technology Corp	Electronic and Electrical Equipment	United States	Taiwan
5/6/2022	3,803	Brookfield Asset Managemnt Inc	Watermark Lodging Trust Inc	Investment & Commodity Firms,Dealers,Exchanges	Canada	United States
1/31/2022	3,700	Sony Group Corp	Bungie Inc	Prepackaged Software	Japan	United States
1/13/2022	3,653	United Overseas Bank Ltd	Citigrp Inc-Consumer Bkg Bus	Commercial Banks, Bank Holding Companies	Singapore	United States
1/11/2022	3,500	Aptiv PLC	Wind River Systems Inc	Business Services	Ireland-Rep	United States
4/28/2022	3,498	KKR & Co Inc	Hitachi Transport System Ltd	Transportation and Shipping (except air)	United States	Japan
5/26/2022	3,400	Crescent Cove Acq Sponsor Llc	ECARX Holdings Inc	Electronic and Electrical Equipment	United States	China
2/28/2022	3,335	Biocon Ltd	Viatris Inc-Biosimilars Bus	Drugs	India	United States

Source: Tianchang Wang based on Refinitiv SDC Platinum (https://www.refinitiv.com/), accessed in July 2023

Table 3.6. Top 20 companies ranked by highest number of deals and total value globally: 2013-2022

Acquiror Ultimate Parent Name	Value ($million)	Country	Deal Count	Sector
Brookfield Asset Managemnt Inc	128,074	Canada	128	Investment Management
Anheuser-Busch Inbev SA/NV	108,624	Belgium	7	Drink & Brewing
Unilever PLC	93,171	United Kingdom	10	Consumer Product
Bayer AG	83,309	Germany	11	Pharmaceutical
BHP Group Ltd	80,697	Australia	3	Mining
Takeda Pharmaceutical Co Ltd	72,740	Japan	7	Pharmaceutical
KKR & Co Inc	66,859	United States	67	Investment Management
Vodafone Group PLC	65,424	United Kingdom	23	Telecommunications
AstraZeneca PLC	59,539	United Kingdom	15	Pharmaceutical
China National Chemical Corp	56,867	China	13	Oil & Gas
Advent International Corp	56,858	United States	49	Private Equity
Novartis AG	53,103	Switzerland	19	Pharmaceutical
British American Tobacco PLC	52,602	United Kingdom	4	Tobacco
Bain Capital LP	50,996	United States	51	Private Equity
Blackstone Group LP	50,513	United States	112	Investment Management
Shire PLC	48,557	Ireland-Rep	10	Biopharmaceutical
EQT AB	47,526	Sweden	55	Investment Management
Teva Pharm Inds Ltd	46,202	Israel	8	Pharmaceutical
Comcast Corp	43,763	United States	5	Telecommunications
S&P Global Inc	43,478	United States	1	Financial information

Source: Tianchang Wang based on Refinitiv SDC Platinum (https://www.refinitiv.com/), accessed in July 2023

Chapter 4

Emerging Markets: Confronting Risks, Seeking a Stronger Voice

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Executive Summary
In just a few years, the global economy has been hit by two major crises, the COVID pandemic and the war in Ukraine--each leaving a lasting impact on the global economy. As shown in previous Emerging Market Multinationals Reports, this succession of crises has exacerbated many of the risks faced by economies and holds profound geopolitical implications, possibly leading to new alliances and realignments. This chapter will examine some of these risks and explore the changes taking place in global geopolitics.
Consistent with our approach since the first Emerging Market Multinationals Report in 2016, we will examine developments within emerging markets through the lens of the E20+1 group. This group encompasses China and the top 20 emerging economies providing a comprehensive framework to analyze and comprehend the intricate dynamics at play.
Keywords: economic growth, emerging markets, E20+1, COVID crisis, economic crisis, geopolitics, Belt and Road Initiative (BRI), BRICS, New Development Bank (NDB), AIIIB, World Bank, IMF

4.1. The E20+1 as of 2023

In 2021, EMI revisited the group of the 20 top Emerging Economies, initially established in 2016, for a comprehensive analysis of the ascending prominence of emerging markets in the global economy. In this reassessment, EMI introduced the term "E20+China," also referred to as "E20+1," to underscore China's exceptional stature within the realm of emerging economies (Casanova and Miroux, 2021). The methodology utilized to compile the E20+1 list has remained consistent since its inception:

1. First, countries identified as advanced economies by the IMF are not considered[3].
2. Additionally, nations with populations under 1.5 million and those lacking recent GDP data (older than three years according to World Bank sources) are omitted.
3. Subsequently, a weighted score is computed for the remaining countries, considering the following factors:
    a. GDP per capita (weighted at 0.4)
    b. Global trade volume (weighted at 0.1)
    c. Poverty levels (weighted at 0.2)
    d. Extreme poverty levels (weighted at 0.3)

Based on these considerations, a list of emerging countries is established.

4. Countries are then ranked according to highest nominal GDP.
5. China, along with the subsequent 20 largest economies, collectively constitute the EMI's "E20+1" or "E20+China" list.

The 2023 E20+1 list, adhering to the outlined criteria, comprises the following countries, listed alphabetically: Argentina, Bangladesh, Brazil, Chile, China, Colombia, Egypt, India, Indonesia, Iran, Malaysia, Mexico, Nigeria, Pakistan, Philippines, Romania, Russian Federation, South Africa, Thailand, Turkey, and Vietnam. (Table 4.1). Notably, Chile, having the smallest GDP size among these countries, holds the last position in the list. There are about 40 countries that meet the

[3] The IMF list of advanced countries and territories include the following: Andorra, Australia, Austria, Belgium, Canada, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong SAR, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Luxembourg, Macao SAR, Malta, The Netherlands, New Zealand, Norway, Portugal, Puerto Rico, San Marino, Singapore, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Taiwan Province of China, United Kingdom, and United States (IMF, World Economic Outlook Database,April 2023, World Economic Outlook Database (imf.org))

above-mentioned criteria and those at the forefront of the 'waiting list' for E20+1 include Iraq, Peru and Kazakhstan. The E20+1 accounts for about 45% of Global GDP and 64% of the world population.

The E20+1 list has demonstrated notable stability. A noteworthy development is the re-entry of Iran, a country absent from the 2022 list. The significant disparity between GDP estimates from the IMF and the World Bank had precluded Iran's inclusion in 2022 due to varying exchange rates utilized in their respective calculations. However, the most recent data indicates a more convergent alignment in Iran's GDP figures reported by both institutions, resulting in Iran's reinstatement in the list.

Table 4.1. The E20+1 list

	Country	Region	GDP (bn USD)		Country	Region	GDP (bn USD)
0	China	Asia	17,963	11	Bangladesh	Asia	460
1	India	Asia	3,385	12	Vietnam	Asia	409
2	Russian Federation	Europe	2,240	13	Malaysia	Asia	406
3	Brazil	Latin America & Caribbean	1,920	14	South Africa	Africa	406
4	Mexico	Latin America & Caribbean	1,414	15	Philippines	Asia	404
5	Indonesia	Asia	1,319	16	Iran, Islamic Rep.	Asia	389
6	Turkiye	Asia	906	17	Pakistan	Asia	377
7	Argentina	Latin America & Caribbean	633	18	Colombia	Latin America & Caribbean	344
8	Thailand	Asia	495	19	Romania	Europe	301
9	Nigeria	Africa	477	20	Chile	Latin America & Caribbean	301
10	Egypt, Arab Rep.	Africa	477				

Source: Authors and EMI research team

Seven economies within the E20+1 Group are among the 20 largest economies globally, based on their nominal GDPs for the year 2022 (Figure 4.1). Notably, China continues to assert its dominance as the second-largest economy in the world. Some observers had postulated that by the year 2030, China might ascend to the top spot, though this speculation awaits validation.[4] India has also undergone a notable transformation in its global economic standing, ascending several ranks to secure the fifth position. In 2022, India's economy surpassed those of both France and the United Kingdom. Conversely, Brazil has experienced a less favorable trajectory, slipping four positions compared to its standing in the year 2010.

Figure 4.1. The 20 largest economies in the world, ranked by nominal GDP 2010 and 2022

2010	Country	Nominal GDP (USD bn)	GDP per capita (USD)
1	United States	15,049	48,651
2	China	6,087	4,550
3	Japan	5,759	44,968
4	Germany	3,400	41,572
5	France	2,645	40,676
6	United Kingdom	2,491	39,693
7	Brazil	2,209	11,249
8	Italy	2,136	36,036
9	India	1,676	1,351
10	Canada	1,617	47,562
11	Russian Federation	1,525	10,675
12	Spain	1,422	30,532
13	Australia	1,149	52,132
14	Korea, Rep.	1,144	23,087
15	Mexico	1,058	9,400
16	Netherlands	847	51,000
17	Turkiye	777	10,615
18	Indonesia	755	3,094
19	Switzerland	599	76,531
20	Saudi Arabia	528	17,959

2022	Country	Nominal GDP (USD bn)	GDP per capita (USD)
1	United States	25,463	76,399
2	China	17,963	12,720
3	Japan	4,231	33,815
4	Germany	4,072	48,432
5	India	3,385	2,389
6	United Kingdom	3,071	45,850
7	France	2,783	40,964
8	Russian Federation	2,240	15,345
9	Canada	2,140	54,966
10	Italy	2,010	34,158
11	Brazil	1,920	8,918
12	Australia	1,675	64,491
13	Korea, Rep.	1,665	32,255
14	Mexico	1,414	11,091
15	Spain	1,398	29,350
16	Indonesia	1,319	4,788
17	Saudi Arabia	1,108	30,436
18	Netherlands	991	55,985
19	Turkiye	906	10,616
20	Switzerland	808	92,101

Source: EMI research team based on World Bank (https://data.worldbank.org/), accessed in July 2023

[4] On a GDP nominal basis.

At a time when growth is being questioned--partly because of climate change ad environmental considerations--emerging markets need to grow to improve the lives of their citizens. That is the 'imperative of growth'. At the same time quality growth is also imperative because emerging markets need to also consider environmental (E), social (S), and governance (G) issues. In 2022, EMI launched a country ranking where we measured the progress and the current standing of emerging markets (D-ESG framework), considering their E, S and G performance (Bang, Casanova and Miroux, 2022). Some of these markets registered good scores in E (Brazil, Colombia, Chile, and Thailand), S (Thailand, Malaysia, and Chile), and G (Malaysia).

4.2. Growth performance: recent trends

Following a significant rebound in 2021, with global growth surging to 6% following the COVID--induced crisis trough in 2020, the global economy registered a growth rate of 3.1% in 2022--a level more in line with those observed in the late 2010s (Table 4.2). The outbreak of the war in Ukraine in February 2022 accentuated the slowdown that had already begun to manifest by the end of 2021. The global economy demonstrated resilience throughout 2022 but remains fragile, beset by an array of vulnerabilities such as inflation, mounting debt, and decelerating growth in China. Estimates for 2023 suggest a further decline in global growth, with expectations hovering around 2.1% (World Bank, June 2023). This represents the lowest growth rate recorded in the past 15 years, excluding the troughs observed in 2009 (due to the global financial crisis) and in 2020 (because of the COVID pandemic). A modest rebound is projected for 2024.

Table 4.2. Real GDP growth rates: world, advanced economies, emerging markets, and developing economies (%)

	2015	2016	2017	2018	2019	2020	2021	2022e	2023e	2024p
world	2.8	2.6	3.3	3.2	2.6	-3.1	6	3.1	2.1	2.4
advanced economies	2.3	1.7	2.5	2.3	1.7	-4.3	5.4	2.6	0.7	1.2
emerging markets and developing economies	3.7	4.1	4.5	4.6	3.8	-1.5	6.9.	3.7	4.0	3.9

*: real GDP growth

e: estimate; p: projections

Source: Based on data from World Bank, Global Economic Prospects June issues, from 2018 to 2023

Figure 4.2. Real GDP growth, E20+1 and G7 countries, 2000-2024

	2000-2004	2005-2009	2010-2014	2015-2019	2020	2021	2022	2023p	2024p
E20+1	5.7%	6.4%	5.9%	4.8%	-1.2%	7.3%	4.0%		
Africa	4.7%	5.3%	3.7%	2.7%	-2.4%	4.6%	3.8%		
Africa E20+1	5.1%	5.5%	3.9%	2.5%	-0.7%	3.8%	4.4%		
Egypt, Arab Rep.	3.9%	6.0%	2.8%	4.8%	3.6%	3.3%	6.6%	4.2%	3.6%
Nigeria	8.5%	6.8%	6.1%	1.2%	-1.8%	3.6%	3.3%	2.9%	3.1%
South Africa	3.6%	3.5%	2.5%	1.0%	-6.3%	4.9%	2.0%	0.9%	1.8%
Asia	5.0%	5.5%	5.8%	4.7%	-0.9%	6.3%	3.4%		
Asia E20+1	6.7%	7.9%	7.1%	6.1%	-0.3%	7.8%	4.6%		
Bangladesh	4.8%	6.3%	6.1%	7.1%	3.4%	6.9%	7.1%	6.0%	6.0%
China	9.2%	11.5%	8.6%	6.7%	2.2%	8.4%	3.0%	5.0%	4.2%
India	5.6%	6.9%	6.6%	6.7%	-5.8%	9.1%	7.0%	6.3%	6.3%
Indonesia	4.6%	5.6%	5.8%	5.0%	-2.1%	3.7%	5.3%	5.0%	5.0%
Iran, Islamic Rep.	5.8%	3.5%	1.6%	1.0%	3.3%	4.7%	2.7%	3.0%	2.5%
Malaysia	5.4%	4.1%	5.8%	4.9%	-5.5%	3.1%	8.7%	4.0%	4.3%
Pakistan	4.7%	4.3%	3.4%	4.7%	-1.3%	6.5%	6.2%	-0.5%	2.5%
Philippines	4.6%	4.5%	6.2%	6.6%	-9.5%	5.7%	7.6%	5.3%	5.9%
Thailand	5.5%	3.1%	3.8%	3.4%	-6.1%	1.5%	2.6%	2.7%	3.2%
Turkiye	4.5%	3.3%	7.5%	4.1%	1.9%	11.4%	5.6%	4.0%	3.0%
Vietnam	6.7%	6.5%	6.1%	7.1%	2.9%	2.6%	8.0%	4.7%	5.8%
Europe	2.5%	1.1%	1.3%	2.1%	-6.0%	5.7%	2.9%		
Europe E20+1	6.7%	4.0%	2.9%	1.5%	-2.8%	5.6%	-1.2%		
Romania	5.2%	4.6%	1.3%	4.8%	-3.7%	5.8%	4.8%	2.2%	3.8%
Russian Federation	6.8%	3.9%	3.1%	1.0%	-2.7%	5.6%	-2.1%	2.2%	1.1%
Latin America and Caribbean	2.6%	3.2%	3.5%	0.9%	-6.5%	5.0%	3.5%		
LAC E20+1	2.4%	3.0%	3.5%	0.7%	-6.1%	6.6%	3.7%		
Argentina	0.1%	4.6%	2.9%	-0.3%	-9.9%	10.4%	5.2%	-2.5%	2.8%
Brazil	3.1%	3.6%	3.4%	-0.5%	-3.3%	5.0%	2.9%	3.1%	1.5%
Chile	4.5%	3.9%	4.7%	2.0%	-6.1%	11.7%	2.4%	-0.5%	1.6%
Colombia	3.3%	4.5%	5.0%	2.4%	-7.3%	11.0%	7.5%	1.4%	2.0%
Mexico	2.0%	0.9%	3.3%	2.0%	-8.0%	4.7%	3.1%	3.2%	2.1%
G7	2.2%	0.6%	1.8%	1.9%	-4.5%	5.3%	2.3%		
Japan	1.4%	-0.5%	1.5%	0.8%	-4.3%	2.1%	1.0%	2.0%	1.0%
France	2.1%	0.8%	1.2%	1.6%	-7.8%	6.8%	2.6%	1.0%	1.3%
Germany	1.0%	0.5%	2.2%	1.7%	-3.7%	2.6%	1.8%	-0.5%	0.9%
Italy	1.5%	-0.5%	-0.5%	1.0%	-9.0%	7.0%	3.7%	0.7%	0.7%
United Kingdom	2.7%	0.5%	2.0%	2.1%	-11.0%	7.6%	4.1%	0.5%	0.6%
Canada	3.0%	1.2%	2.6%	1.9%	-5.1%	5.0%	3.4%	1.3%	1.6%
United States	2.7%	1.1%	2.1%	2.4%	-2.8%	5.9%	2.1%	2.1%	1.5%

Source: EMI research team based on World Bank (https://data.worldbank.org/), accessed in July 2023

We can observe the following trends in Table 4.2 and Figures 4.2, 4.3 and 4.4:

- In *developed economies*, growth slowed down in 2022. The projected decline in global growth for 2023 is concentrated within these economies, particularly Europe, whose growth rates are forecasted at 0.4% and 1.2% for the years 2023 and 2024--largely due to the war in Ukraine (World Bank, 2023).

- *Emerging economies* have exhibited resilience in the face of the twin crises of the past three years. Growth in those economies has declined compared to the unusual high levels registered during the economic reopening phase post-COVID. For the E20+1, GDP went from 7.3% in 2021 to 4.1% in 2022 (Figure 4.2), primarily due to China's slowdown. Although there is greater growth in the emerging world compared to the developed world, significant disparities among regions in the emerging world are evident, as detailed below.

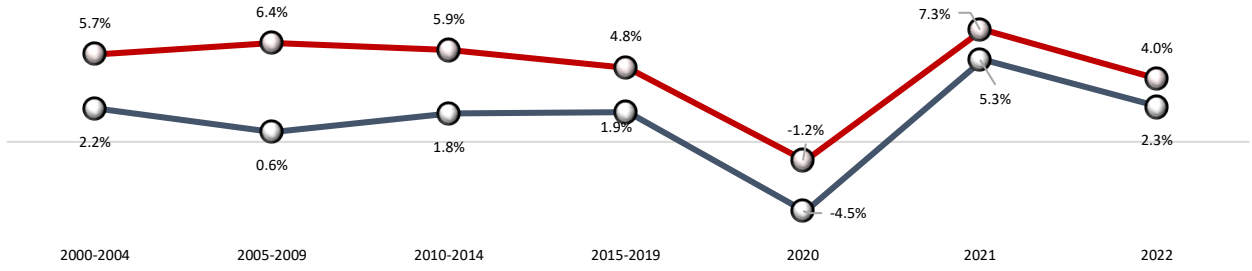
Across emerging *Asian economies*, growth rates in 2023 are anticipated to remain robust, though at lower levels than observed in the previous decade. Bangladesh, India, Indonesia, Philippines, and Vietnam, for instance, are expected to maintain growth rates around 5% to 6% in 2023. *India*, at around 6.4 % in 2023 and 2024, should be the fastest growing Asian emerging economy among the E20+1, closely followed by Vietnam. In China (which has one of the lowest growth rates in the region, at 3%) the rebound brought about by the reopening of the economy late last year has been swiftly fading. Factors such as declining consumer prices, weakened exports amidst trade tensions, a real estate crisis, and soaring government debt levels are collectively exerting downward pressure on the country's economic activity. To address the situation, the Chinese government rolled out a series of measures in Summer 2023 aimed at bolstering the economy and restoring confidence. Although the outlook remains still uncertain, the June 2022 estimates by the World Bank pointed to a rebound in China's growth rate exceeding 5% in 2023, before declining to 4.6% the following year.

From unusually high levels in 2021, Latin American countries in the E20+1 saw their growth rates decline in 2022 (Figure 4.2). It is important to note, however, that even with this decline, their performance has improved compared to the late 2010s. For instance, Brazil, that recorded negative growth in the latter half of the 2010s, managed to grow at almost 3% in 2022 and is estimated to remain at that level in 2023. Mexico grew above 3% and is expected to exceed that level in 2023. Social unrest and political instability in Latin America and the Caribbean, however, are casting a shadow over the future. Countries in the region are also highly vulnerable to climate change events. For instance, Argentina has faced a severe drought that significantly impacted soybean, maize, and wheat production. If oil prices continue to be high, the prospects will brighten for oil exporting countries: Brazil, Mexico, Colombia and Venezuela.

In Africa, Nigeria and South Africa registered some of the lowest GDP growth rates of the E20+1 group (Figure 4.2). Both countries grapple with high inflation, notably high food prices, and elevated levels of debt. Despite the upturn in oil prices, Nigeria faces major constraints in its production capabilities, and deficient infrastructure. Its growth prospect remains below the threshold required to combat extreme poverty within the nation. South Africa, experienced a marked deterioration in its growth performance, primarily attributed to an ongoing and severe energy crisis, characterized by persistent electricity outages. Furthermore, natural disasters such as floods, coupled with policy tightening, have compounded the economic challenges and growth is estimated to further decline to 0.9%. Conversely, Egypt emerges as one boasting one of the highest GDP growth rates in 2022, largely on account of high energy prices as well as increased remittances and investment from Gulf countriesDespite high inflation and a weaker global demand, it is expected to maintain a relatively robust growth rate of 4% in 2023 and 2024.

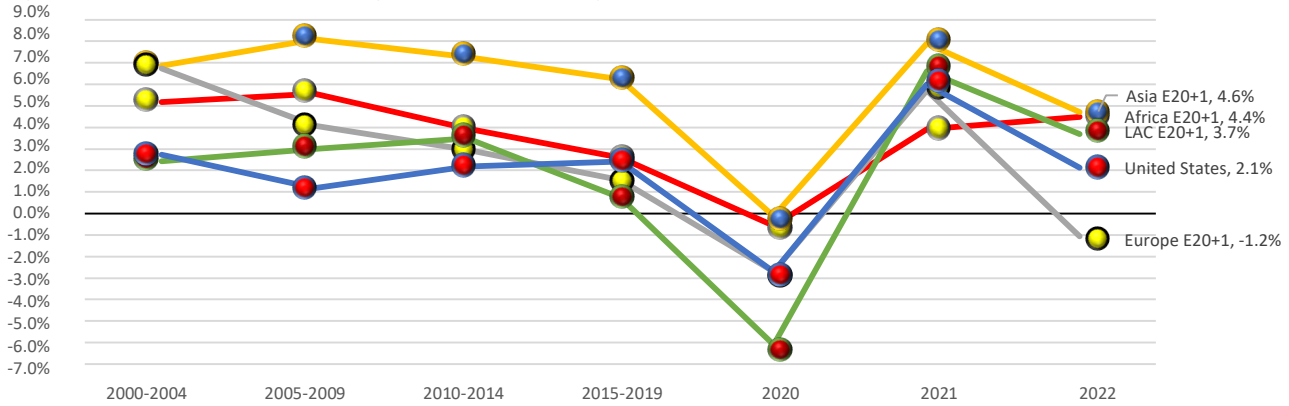
The war in Ukraine predictably had a marked and immediate adverse impact on two European countries (Figure 4.2 and Figure 4.4) within the E20+1 group: Russia and Romania. Nevertheless, its effect on Russia proved to be less severe than initially anticipated at the onset of the war, in February of 2022. This outcome can be attributed to the redirection of oil exports to India and China. While April 2022 forecasts had anticipated a substantial GDP decline for Russia, possibly reaching as high as -8.5% (IMF, 2022), the actual decline for 2022 amounted to -2.1%.

Figure 4.3. E20+1 and G7 countries, GDP Growth from 2000 – 2022



Red: E20+1 Blue: G7
Source: EMI Research Team, based on World Bank data, https://databank.worldbank.org/databases/gdp

Figure 4.4. GDP Growth, E20+1 regions, USA and Europe .



Source: EMI Research Team, based on World Bank data https://databank.worldbank.org/databases/gdp

4.3. Resilient emerging markets in a VUCA world

As highlighted earlier, the global economy remained resilient throughout 2022, with emerging markets, overall, showcasing commendable performance. Nonetheless, these economies remain exposed to a host of risks that could potentially disrupt their growth trajectories. Foremost among these are geopolitical risks, inflation, currency fluctuations, and increased high debt levels. Moreover, the growing phenomenon of geo-economic fragmentation, driven by a significant uptick in trade and investment-restrictive policies (see Chapter 1), and exacerbated by rising nationalist sentiments, raises legitimate apprehensions. Adding to the complexity of the situation is the daunting challenge of climate change.

In the following, we review some of these challenges: inflation, currency volatility, debt, and geoeconomic fragmentation.

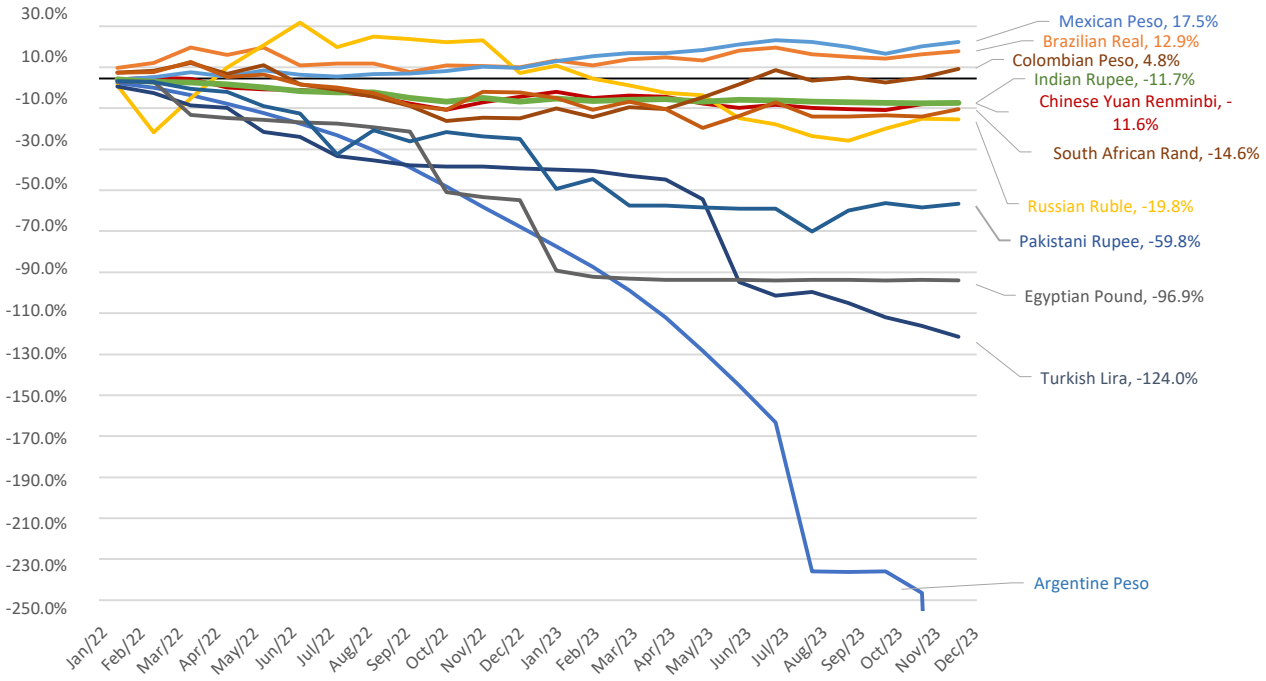
Inflation: Emerging markets have exhibited resilience in managing inflation, despite substantial increases in interest rates since late 2021, especially in advanced economies. Nonetheless, inflation levels have remained high in emerging economies, close to 7% in 2022 (IMF 2023a). While the United States temporarily halted its interest rate hikes in June 2023, it hinted at the possibility of further increases in the future. Additionally, several central banks in advanced economies, including those of Australia, Canada, and the European Central Bank, have continued to raise interest rates.

Currency volatility: This has consistently posed a significant challenge to emerging economies--a concern highlighted in previous Emerging Markets Multinationals Reports (Casanova and Miroux, 2021 and 2022). The impact of an appreciating US dollar on these economies can be substantial: it has been estimated that a 10% increase in the value of the US dollar can lead to a 10% reduction in output in emerging economies after just one year (IMF 2023b).

In 2022, the US dollar real effective exchange rate surged by 8.2%, reaching its highest level in two decades (IMF, 2023b). This ascent was primarily triggered by monetary tightening measures implemented in the US, in tandem with similar efforts in other advanced economies. The impact of this surge on emerging economies depends on their exposure to commodities as well as pre-existing economic difficulties and social and political uncertainties. Some saw their currencies tumble over 2022-2023. For instance, between January 2022 and November 2023, Turkey's lira fell massively (-124 %), as did the Egyptian pound (-96%), and the Pakistani rupee (-60%). The Argentina peso collapsed (-250%) largely due to political and economic uncertainties, the election of a new president and his drastic devaluation policy in December 2023. Others displayed resilience, even in the face of further increases in US interest rates. In fact, Brazil, Colombia, and Mexico, for instance, saw their currencies appreciate during the period (Figure 4.5).

The Russian ruble managed to avoid depreciation against the US dollar during most of 2022: during the first nine months of 2022, it even achieved a remarkable 25% increase in value. This resilience was attributed to reduced imports and the imposition of capital controls as protective measures. It waned however by late 2022. By the end of 2023, the ruble had fallen by almost 20 per cent compared to January 2022.

Figure 4.5. Exchange rates to the US dollar, selected emerging economies, January to August 2023 (percentage change).



Source: EMI research Team, based on data from S&P Capital IQ

Debt looms as a pressing concern. Debt levels in emerging economies had started to climb during the 2010s, but the arrival of the COVID-19 crisis markedly expedited this upward trajectory. Since then, they have remained substantially elevated compared to pre-pandemic levels (Table 4.3). While they remain below those observed in major advanced economies, they present a more pressing challenge in emerging markets because of constrained fiscal capacity (due to smaller tax bases and collection challenges), elevated borrowing costs, higher vulnerability to external shocks (such as fluctuations in commodity prices and global interest rates), and currency risks. Currency and interest rates take on critical importance for countries grappling with high external debt service ratios. In most countries in the E20+1, the debt service ratio was much higher in 2021 than in 2010 (Table 4.4), with levels reaching 30 to 40% in Brazil, Colombia, Egypt, and Pakistan. Restructuring emerging market debt is faced with several challenges, as seen in Chapter 10 in this report.

Table 4.3. Gross public debt as a percentage of GDP 2015 and 2019 to 2021

Country	2015	2019	2020	2021
Argentina	52.6	88.8	102.8	80.9
Bangladesh	28.1	31.7	34.2	35.5
Brazil	72.6	87.9	98.7	93.0
China, People's Republic of	41.5	57.2	68.1	71.5
Colombia	50.4	52.4	65.7	64.6
India	69.0	75.1	89.2	84.2
Indonesia	27.0	30.6	39.8	41.2
Iran	37.0	42.7	44.1	42.4
Malaysia	57.0	57.1	67.7	69.0
Mexico	52.8	53.3	60.1	57.6
Nigeria	20.3	29.2	34.5	36.6
Pakistan	57.0	77.5	79.6	74.9
Philippines	39.6	37.0	51.6	57.0
Romania	37.8	35.3	47.2	48.9
Russian Federation	15.3	13.7	19.2	17.0
South Africa	45.2	56.2	69.0	69.0
Thailand	42.6	41.1	49.5	58.4
Türkiye, Republic of	27.3	32.6	39.7	41.8
United Kingdom	87.0	84.8	103.6	103.8
United States	105.2	108.8	134.5	128.1
France	95.6	97.4	114.7	112.6
Italy	135.3	134.1	155.3	150.8

Source: Based on data from IMF, IMFdatasets, available at: https://www.imf.org/external/datamapper/d@FPP/USA/VEN; retrieved September 2023

Table 4.4. Debt service to export ratio, E20+1 countries, 2010 and 2015-2021 (percentage)

Country	2010	2015	2019	2020	2021
Argentina	18.6	24.7	50.8	42.9	28.8
Brazil	18.4	39.8	53.2	50.1	44.8
China	2.9	4.9	9.5	9.2	8.8
Bangladesh	5.1	5.0	13.1	10.5	11.4
Colombia	20.1	27.6	33.0	50.9	44.8
Egypt, Arab Rep.	6.2	10.0	16.5	33.9	31.5
India	6.8	11.2	9.0	15.2	7.3
Indonesia	18.7	34.6	39.4	36.7	28.8
Iran, Islamic Rep.	1.8	0.7	0.5	0.6	0.4
Malaysia	..	..	..	..	..
Mexico	10.2	12.7	13.8	16.1	14.5
Nigeria	1.5	3.2	7.1	13.3	16.2
Pakistan	15.0	14.1	35.5	35.6	34.1
Philippines	18.7	12.9	9.8	10.2	12.2
Romania	..	..	..	..	..
Russian Federation	11.6	24.2	18.0	25.8	16.0
Thailand	4.7	6.7	8.1	7.7	5.9
South Africa	5.9	26.0	18.7	27.3	18.7
Vietnam	2.3	3.8	5.8	5.6	5.9
Turkiye	36.5	26.0	34.6	41.5	25.4

Source: Based on data from World Bank, World Development Indicators, retrieved September 2023, https://databank.worldbank.org/reports.aspx?source=2&series=DT.TDS.DECT.EX.ZS&country=

Geoeconomic fragmentation

A concerning trend has taken hold: the fragmentation of the global economy driven by geopolitics, a phenomenon referred to as "geo-economic fragmentation" (IMF, 2023c). With increased trade and investment barriers, technological decoupling, growing nationalism, and mounting geopolitical tensions, the significance of this phenomenon has grown in recent years owing to a series of events. First, the trade disputes between the United States and China and a broader wave of mounting populism and increased skepticism about the benefit of globalization not only strained economic relations but also served as a catalyst for protectionist measures on a global scale. Second, the global COVID-19 crisis, a transformative event, brought to the forefront vulnerabilities within global supply chains. Finally, the conflict in Ukraine, combined with the imposition of sanctions and the tightening of trade restrictions, has acted as an accelerant, intensifying the process of geo-economic fragmentation.

Between 2019 and 2022, the number of trade restrictions surged, multiplying by 2.5 times and culminating in over 2,500 measures implemented in 2022 alone (see Figure 1.1 in Introduction)[5]. Specific industries such as semi-conductors and chemicals, have been targeted. Trade restrictions on critical materials increased more than fivefold since the onset of the war in Ukraine (OECD, 2023). Regarding FDI, the number of less favorable policies attained 129, or 32% of all FDI policies adopted globally between 2020 and 2022 (UNCTAD, 2023). By comparison, between 2017-2019, this figure stood at 21% (75 policies), and during the three-year span of 2014-2016, it was a mere 13% (40 policies).[6] In 2021, more than 80% of the FDI policies introduced by developed countries were less favorable, aimed at restricting or regulating the inflows of FDI into their respective economies. In 2022, this percentage remains high, at around 50%. Here again, driven by considerations of national security, restrictions have focused on specific sectors, especially critical infrastructure and core technologies.

Beyond trade and investment restrictions, the adoption of targeted industrial policies aimed at bolstering domestic production in specific sectors reinforces the growing trend of geo-economic fragmentation. One prominent example is the semiconductor industry where the US and the European Union have made strategic moves to reduce their reliance on foreign suppliers, particularly those based in Asia. For instance, in 2022, the U.S. government enacted the CHIPS and Science Act, funded with 280 billion USD, to advance chip research and manufacturing in the US. Similarly, the European Union introduced the European CHIPS Act, allocating 47 billion USD. The so-called “technology decoupling” resulting from all the trade and investment restrictions adopted by all sides is a key feature of the growing geo-economic fragmentation.

[5] https://www.imf.org/en/Blogs/Articles/2023/08/28/the-high-cost-of-global-economic-fragmentation

[6] Based on data from UNCTAD, World Investment Report 2023.

Signs pointing to the potential for geo-economic fragmentation are also evident within the financial domain, with emerging economies moving ahead to reform the international financial system. As detailed below (Section 4.4), these economies are taking steps to lessen their vulnerability to major reserve currencies such as the US dollar by encouraging transactions in local currencies. There are debates regarding whether these initiatives will eventually lead to the development of distinct payment systems. Nonetheless, they underscore the determination of emerging economies to challenge the prevailing status quo in the international financial arena.

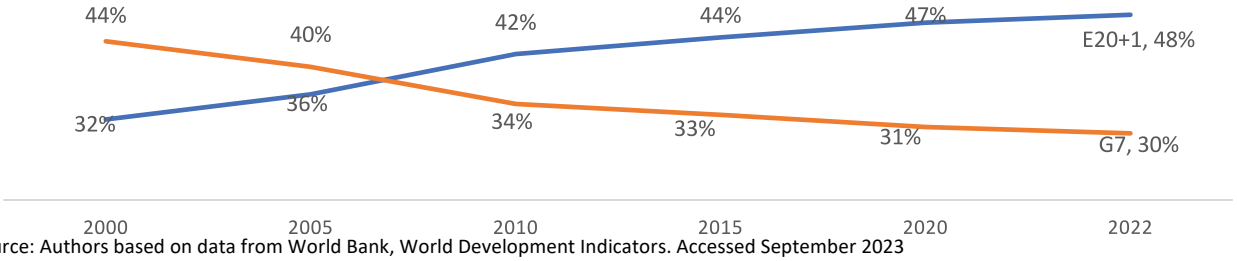
4.4. Towards re-alignment? Non-Alignment 2.0

The enlargement of the BRICS in August 2023 is a watershed moment. It is part of the overarching movement by emerging and developing economies to establish a world order where they would wield greater influence. The following will delve into key developments that exemplify this shift:

- the creation and enlargement of the BRICS
- the establishment of new developments banks where Western dominance wanes
- the Belt and Road initiative
- the efforts made to challenge the domination of the US dollar

The remarkable rise of emerging markets within the global economy offers them substantial support to amplify their voice and influence on the global stage. In two decades, the share of emerging economies' global GDP has surged significantly, soaring from 33% for the E20+1 in 2000 to 47% in 2022 (Figure 4.6). By contrast, the G7's share fell from 44% at the turn of the century to just below 30% in 2022. The E20+1 includes four of the world's most populous nations and is projected to swell to 5,28 billion people by 2030.[7] China and India alone collectively comprise approximately 2.8 billion people in 2022, representing nearly a third of the world's population. This demographic and economic transformation underscores the seismic shift in global dynamics that is reshaping the world.

Figure 4.6. Share of G7 and E20+1 in global GDP (at PPP), 1995-2022



Source: Authors based on data from World Bank, World Development Indicators. Accessed September 2023

4.4.1. The BRICS enlargement in 2023

The BRICS, a bloc comprising Brazil, Russia, India, China, and South Africa, was created in 2006[8] to advocate for a larger voice for its members in global economic, financial and security forums. The first meeting took place in 2009 in Russia. Over time, the scope of its activities has broadened. Initially centered around high-level summits involving Heads of States and Foreign Affairs Ministers, they now include an array of specialized meetings throughout the year--ranging from discussions among finance ministers and central bank governors to consultations involving security advisors, agriculture ministers, and health ministers, among others. The BRICS also has auxiliary bodies such as a Business Council and a Think Tank Council, among others. They stepped into action in 2014 with the creation of the New Development Bank (see below) and a Contingent Reserves Arrangement[9]. The five members of the BRICS collectively account for about 30% of global GDP (on a PPP basis) and 42% of the global population. [10]

[7] Based on data from Wolrd Bank, 2030 projections, World Development Indicators, https://databank.worldbank.org/Population/id/622a9444#

[8] The acronym "BRIC" - for Brazil, Russia, India, and China - was coined in 2001, by an economist at the investment bank Goldman Sachs, Jim O'Neill. South Africa joined in 2010 and the group became the BRICS.

[9] The BRICS Contingent Reserve Arrangement (CRA) is a "framework for the provision of support through liquidity and precautionary instruments in response to actual or potential short-term balance of payments pressures" (see the Treaty for the Establishment of a BRICS Contingent Reserve Arrangement', 21 June 2014, BRICS information Center, at http://www.brics.utoronto.ca/docs/140715-treaty.html). The CRA has been seen as "symbolic and exploratory" when it was created, though some observers believe that it holds the potential to be an alternative to the IMF in the long term. For more on this, see among others: Cattaneo & al. (2015), Wudermann (2018) and Nogeira Batista (2021).

[10] Based on IMF data

Through time mounting pressures for expanding the BRICS membership emerged. The COVID pandemic had contributed to a growing sense of frustration in developing and emerging economies: grappling with challenges related to vaccine access, they felt a profound sense of injustice in the way the global health crisis was handled. The war in Ukraine accentuated the divide. For instance, 35 countries (including China, India and South Africa) abstained on the vote of the UN General Assembly resolution ES-11/1[11] condemning the invasion of Ukraine in March 2022.[12] Most emerging countries have chosen not to align with the sanctions imposed by the United States and Europe against Russia. The freezing of Russian Central Bank reserves held in Western bank accounts and the banning of several Russian banks from the international payments system, SWIFT, following the outbreak of the war in Ukraine starkly exposed the vulnerability of these economies to external pressures.

In August 2023, at its Summit in Johannesburg, the BRICS took a major step towards broadening its global presence: for the first time in 13 years, it expanded its membership. More than 40 countries had expressed interest in joining and 23 had applied, including: Algeria, Argentina, Bahrain, Bangladesh, Egypt, Ethiopia, Indonesia, Iran, Saudi Arabia and UAE. In the end, six new countries were invited to join (Argentina, Ethiopia, Egypt, Iran, Saudi Arabia, and UAE) effective in January 2024, more than doubling the BRICS membership. Regarding Argentina, however, the new president elected in November 2023, Javier Milei, revised the decision taken by the preceding government; In line with his election campaign promises, he formally withdrew Argentina from its planned entry into the BRICS.

At the Johannesburg Summit declaration, the BRICS leaders committed to strengthening cooperation to promote peace, a more representative international order, a reinvigorated and reformed multilateral system, sustainable development, and inclusive growth. As in the past, they expressed support for a comprehensive reform of the United Nations, stating that they "support the legitimate aspirations of emerging and developing countries from Africa, Asia, and Latin America, including Brazil, India, and South Africa, to play a greater role in international affairs, in particular in the United Nations, including its Security Council." [13]

Reducing their dependence on the dollar has been on the agenda of the BRICS for some time, and the idea of a Common BRICS currency had been floated. At the Johannesburg summit, the President of Brazil, Luis Ignacio Lula da Silva, called for a common BRICS currency for trade and investment. However, not all BRICS leaders were prepared to delve into the complexities of establishing a common currency. Instead, the focus shifted towards promoting the use of national currencies in international transactions, with the Summit declaration encouraging the use of local currencies for trade and investment between BRICS members as well as their partners.[14] As detailed below, the New Development Bank (NDB) has taken significant steps to incorporate the use of local currencies into its operations, emphasizing its importance as a strategic element of the bank's agenda.

Impact of the BRICS enlargement

Some observers contend that the expansion of the BRICS could reshape global power dynamics. The enlarged group now commands about 36% of the global GDP (on a PPP basis), represents 46% of the world's population, and accounts for 43% of the global oil output. [15] Notably, the inclusion of two pivotal African nations, Egypt and Ethiopia, enhances the continent's standing within BRICS. There is some parallel between this development and the inclusion of the African Union in the G20. Furthermore, with the addition of two major oil producing countries--oil is likely to get increasing relevance in the BRICS agenda.

Others question the impact of the BRICS expansion on the coherence and effectiveness of the group, given the wide differences in political systems, economic power, and diplomatic objectives of its members. The new entrants are a rather disparate group and reaching a consensus--the basis on which the BRICS operate - in this enlarged assembly may be even more daunting. Beyond disagreements regarding the west, there are also specific conflicts among the new entrants such as the tensions between Egypt and Ethiopia over the Nile River, or the historical rivalry between Saudi

[11] (https://documents-dds-ny.un.org/doc/UNDOC/GEN/N22/293/36/PDF/N2229336.pdf?OpenElement)
[12] On this, see among others Pezzini (2022)
[13] https://brics2023.gov.za/wp-content/uploads/2023/08/Jhb-II-Declaration-24-August-2023-1.pdf
[14] The Declaration also tasks the BRICS Finance Ministers and Central Bank Governors to "consider the issue of local currencies" and report to the Group by the next Summit. See https://brics2023.gov.za/wp-content/uploads/2023/08/Jhb-II-Declaration-24-August-2023-1.pdf
[15] Based on IMF data

Arabia and Iran for regional dominance in the Middle East. Not to mention the Human Rights issue that the group has managed to avoid discussing to date.

In this context, one can note that Indonesia, the country with the fourth largest population in the world, did not join. Indonesia was one of the founding members of the Non-Aligned Movement during the Cold War. It is in Bandung, (Indonesia) that the non-aligned movement issued its first declaration in 1955. Indonesia has not yet submitted the "letter of expression of interest" that is required part of the BRICS membership process. While highlighting the important role of the BRICS in the fight for justice in the world economic order, the President of Indonesia emphasized at the Johannesburg Summit that the decision on BRICS membership "will be carefully considered and will not be taken hastily." [16]

Admittedly, adding countries of such diversity as the new entrants may not help the coherence or solidarity of the group. As much as an international organization, BRICS is a platform for emerging and developing economies to promote their vision of a world order that would better respond to their needs and aspirations. The fact that, as seen above, many countries have expressed interest and formally applied for membership, including many major emerging economies--underscores that the group's objectives resonate within the emerging and developing world. The future of the organization will largely depend on how effectively the challenges arising from its diverse membership are addressed.

4.4.2. The Emerging Markets-led development finance institutions

In 2014 and 2015, two multilateral development institutions, the Asian Infrastructure Investment Bank (AIIB) and the New Development Bank (NDB), were established. They marked a notable development in the realm of multilateral development finance by shifting decision-making power away from traditional western power (Casanova and Miroux 2018, 2019, and 2020). They can play a crucial role in fostering the emergence of a new global order, one where emerging economies would assume a more prominent role.

i) The *Asian Investment Infrastructure Bank (AIIB)*

Established in 2015, The AIIB has become a broad-based multilateral institution, global in both membership and operational reach. First and foremost, membership is open to all members of the World Bank and the Asian Development Bank. From 57 member countries at its creation, AIIB counted 109 approved members as of September 2023.[17] Forty-six of them are non-regional members (i.e., outside Asia and Oceania). Except for Japan and the US, all the other members of the G7 are members of the AIIB; and 14 out of the G20 are also members of the Bank. Second, while AIIB lending continues to focus on Asia the Bank has extended its operational scope, especially since 2021. This expansion has seen AIIB engaging in projects in Latin America, Africa, and Eastern Europe. Its annual conference was held in Egypt for the first time in September 2023, demonstrating the significance of the African continent for the institution going forward.

Emerging and developing economies control the AIIB's voting process. The Asian members collectively hold 75% of the total voting power. China holds the largest share with 26.6% of the voting shares, followed by India (7.6%), Russia (6.01%), and Germany (4.2%). In contrast, in the World Bank, China holds only 6% of the voting rights, India 3%, and the United States 15.6%, while the G7 countries together control nearly 40% of the voting power.

The primary purpose of the AIIB is to finance sustainable infrastructure and developmental projects. During the COVID crisis, the Bank assisted governments by providing loans to bolster their ability to finance increased public health expenditures and extend financial support to individuals and businesses. Climate finance is now the bank top lending priority. Following its 2020 pledge to cease financing coal-fired power stations and other coal-related projects, AIIB unveiled its climate action plan at its 2023 annual meeting. The Bank indicated that it would triple its annual lending for projects fighting climate change, allocating each year between 7 to 8 billion USD for this purpose--i.e. more than half of the funds disbursed by the institution.

[16] Ministry of Foreign Affairs of the Government of Indonesia, 24 August 2023, https://kemlu.go.id/portal/en/read/5120/berita/president-jokowi-invites-developing-countries-to-unite-at-brics-summit-indonesia-to-consider-membership,.

[17] Sixteen of the AIIB approved members are prospective members, i.e. members that have not yet fully completed their membership process, including the payment of their first capital installment.

The creation of AIIB was led by China and the Bank headquarters is in Beijing. In addition, while the AIIB has a governance structure like other multilateral development banks, it also has some specific features such as the absence of a resident board of executive directors.[18] Consequently, concerns regarding China's potential to exert undue influence within the Bank, particularly in terms of leveraging the institution to support its Belt and Road Initiative, have been raised. Such allegations of significant shareholders wielding disproportionate influence are not new to multilateral financial organizations. For instance, the Bretton Woods institutions, namely the IMF and the World Bank, have historically been subject to such accusations.

The AIIB has entered into co-financing framework agreements with major Multilateral Development Banks (MDBs), including the World Bank, the Asian Development Bank, and the European Bank for Reconstruction and Development. It has also established Memorandums of cooperation with many key development institutions such as the African Development Bank, the Inter-American development Bank, the Islamic Development Bank Group (IsDB Group) among others. For many observers, this collaborative approach underscores the AIIB's commitment to aligning its practices with established MDBs.

Initially met with some skepticism when established eight years ago, the AIIB has since evolved into a significant player in the realm of development finance. This transformation can be attributed to several key factors. Firstly, its focus is on infrastructure financing, which is desperately needed by developing nations with large budget deficits and limited ability to meet population needs. Second, its large membership and growing lending activities: as of 2023, AIIB members represented nearly 80% of the global population and two thirds of its GDP. By September 2023 it had lent about 45 USB billion to finance 263 projects, which is not negligible even if compared to the World Bank.[19] Its recent partnership with the World Bank announced in 2023--where AIIB would provide 1bn USD in credit guarantees against sovereign-backed loans made by the International Bank for Reconstruction and Development--enhances its standing among development banks. Thirdly, its commitment to fight climate change as its top priority reinforces its role within the broader development finance architecture.

ii) The *New Development Bank (NDB)*

Created in 2014, the NDB stemmed from the desire of the BRICS members to reform the global financial architecture which they perceived as biased towards the interests of the advanced economies. The idea was to create a bank where emerging and developing economies would hold the deciding power. Its core mission revolves around channeling resources into infrastructure and sustainable development projects within member nations and other developing countries. Often referred to as the “bank of the BRICS”, the NDB stands as the most substantial undertaking of the BRICS to date, aspiring to be a tangible manifestation of the group's collective capabilities and transformative potential.

The NDB, initially comprised of Brazil, China, India, Russia, and South Africa, underwent its first expansion in 2021. The inclusion of Bangladesh, Egypt, and the United Arab Emirates as full members, along with Uruguay as a prospective member, marked the initial steps towards the bank's expansion and its evolution into a global financial institution.[20] The next group of nations in line for membership includes Argentina, Saudi Arabia, and Zimbabwe. These countries have already received approval from the NDB's Board and are expected to join the institution soon.

With an initial capital of 50 billion USD, the NDB began operating in 2016 and has since then approved almost 33 billion USD of loans financing 96 infrastructure and sustainable development projects across its member countries.[21] This is still far smaller than the World Bank and even the AIIB. For instance, the World Bank Group committed close to 99 billion USD to its much wider community in 2021 alone (via loans, grants, and guarantee). The NDB cannot replace traditional development finance institutions but gives nations more options to source their funding.

Among the challenges that have constrained NDB’s growth is its limited access to funding compared to other established development finance institutions. As of July 2023, and despite a few MOUs signed with other financial institutions, the NDB has not entered co-financing arrangements. Hence, it had to rely on private finance, through for instance issuing securities on domestic and international capital markets, subjecting it to external pressure from these markets. The

[18] In the AIIB, the Boad of Directors is composed of non-resident directors.
[19] https://www.aiib.org/en/projects/list/index.html?status=Approved
[20] Prospective members have been approved by the Board of Governors They become members once they deposit their instrument of accession.
[21] https://www.ndb.int/

situation has grown even more complex in the wake of the conflict in Ukraine and the subsequent imposition of sanctions on Russia. The NDB had to suspend its operations in Russia, a founding member of the NDB. Expanding the membership with the inclusion of countries such as the UAE--and Saudi Arabia in the future--is a way to address these challenges. About 15 countries could join the NDB in the next few years.[22]
The NDB's commitment to lend more in local currencies is part of the BRICS strategy. NDB has succeeded to issue loans in China renminbi and South African rand thus far, and it plans to do so in Brazilian reals and Indian Rupee soon. Local currency lending, however, remains limited, comprising less than a quarter of the NDB's cumulative loan approvals by end 2021. The NDB's strategic blueprint for 2022-2026 aims to increase this share to 30% (New Development Bank, 2022).

The bank is not immune to criticism, particularly concerning issues such as transparency and funding projects that some contend do not fully align with sustainable development commitments. Nevertheless, the NDB is "a bank built by and for developing countries" states its recently appointed President, Dilma Rousseff. [23]

4.4.3. The BRI at 10, and beyond: greener, smaller and more digital?

2023 marks the 10th anniversary of the Belt and Road Initiative (BRI), formerly known as the One Belt, One road (OBOR), an ambitious program for infrastructure development and one of the largest in history (Casanova and Miroux, 2019). Launched in 2015 as *"a positive endeavor to seek new models of international cooperation and global governance..."* (NDRC, 2015), the BRI was written into the Constitution during the 19th National Congress of the CCP.[24] Described by China's State council on the occasion of the third Belt and Road Forum in September 2023 as "*paving the way towards shared development and prosperity* (SCIO, 2023), the BRI now counts about 150 member countries, compared to 60 at the beginning (Box 4.1).[25]

Box 4.1: Membership of the BRI

As of April 2023, about 150 countries had signed a Memorandum of Understanding with China under the BRI framework, including:

- 44 countries from Sub-Saharan Africa
- 34 countries from Europe & Central Asia
- 25 countries from East Asia & Pacific (including China)
- 22 countries from Latin America & Caribbean
- 19 countries from Middle East & North Africa
- 6 countries from Southeast Asia

Several Western developed countries have joined the BRI, including Austria, Greece, Luxemburg, New Zealand, Portugal, and Switzerland. Italy joined in 2019 but formally announced in December 2023 that it will not renew its membership and leave in March 2024.

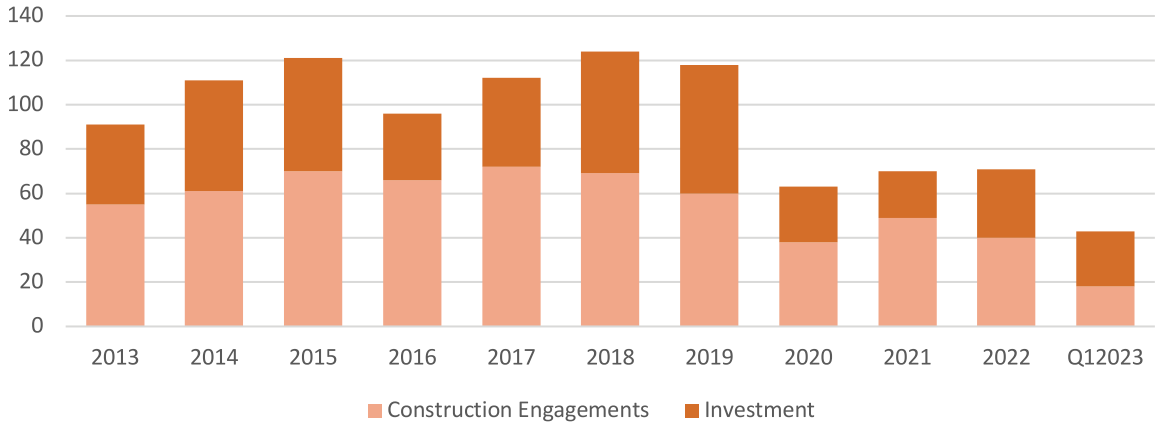
Source: Authors, based on information from Green Finance and Development Center, available at: https://greenfdc.org/countries-of-the-belt-and-road-initiative-bri/ (accessed December 2023).

Financing for BRI projects has come from multiple sources, including Chinese state-owned banks and state funds (such as the Silk Road Fund, founded in 2014), development banks--such as the AIIB that had devoted a third of its loans to BRI related projects by 2022 (EFSAS), foreign financial institutions and capital markets. Out of these, the two Chinese state-owned banks, the Export-Import Bank and the China Development Bank, played a key role by providing long-term and low interest loans. Over its 10 years of existence, cumulative engagements under the BRI are estimated at more than 1 trillion USD (Nedopil, 2023b). China's BRI engagements increased up to early 2016 and remained high up to 2019, reaching a peak in 2018 (Figure 4.7). They fell drastically in the aftermath of the COVID pandemic, partly due to the

[22] Financial Times, 22 August 2023, "Brics bank strives to reduce reliance on the dollar". https://www-ft-com.proxy.library.cornell.edu/content/1c5c6890-3698-4f5d-8290-91441573338a.
[23] Address by the president of the NDB, Dilma Roussef, at the opening of the the-plenary-session-of-the-8th-annual-meeting, May 2023, available at https://www.ndb.int/insights/address-by-ndb-president-dilma-rousseff-at-opening-of-the-plenary-session-of-the-8th-annual-meeting-of-the-ndb/.
[24] Resolution of the 19th National Congress of the Communist Party of China on the Revised Constitution of the Communist Party of China, October 24, 2017 available at http://www.xinhuanet.com//english/2017-10/24/c_136702726.htm The resolution states ". The Congress agrees to include into the Party Constitution the following statements: The Communist Party of China shall …… work to build a community with a shared future for mankind; follow the principle of achieving shared growth through discussion and collaboration; and pursue the Belt and Road Initiative."
[25] The exact number of countries having signed a MoU with China under the BRI is not known, due to uncertainties regarding the status of some of these MoUs; it is estimated that by December 2023 between 146 and 151 member countries had signed such agreements.

slowing down of the Chinese economy and the government's reduced fiscal space. The first half of 2023, however, saw a rebound, with engagements exceeding 40 bn USD, i.e. two-third of the total reached the year before.

Figure 4.7. China's engagements under the BRI, 2013-Q12023 (million USD)



Source: Authors, based on data from Nedopil (2023b)

The BRI concentrated on vital infrastructure, such as transport and trade related activities and energy; and as such it has a strong development potential. Many projects have been rolled out, for instance, for railways, roads, and ports development--especially in Sub-Saharan Africa and East, South, and Southeast Asia (see box 4.2). Poor infrastructure is a major bottleneck to growth and development. Needs are huge but resources are limited. Financing for the high-risk and long-term investment that the sector requires mostly comes from development institutions. Usually subject to strict rules and regulations, such financing often involves long processes of checking and approval. In such a context, the launch of the BRI represented a new source of funding that was bound to raise the interest of developing and emerging economies.

Box 4.2: Some major BRI projects in Asia and Sub- Saharan Africa, 2013 – 2023

In Asia

- China-Pakistan Economic Corridor (CPEC) – Pakistan
- Jakarta-Bandung High-Speed Railway – Indonesia
- Hambantota Port - Sri Lanka
- Kyaukpyu Deep-Sea Port and Special Economic Zone - Myanmar
- China-Laos Railway - Laos
- Bangladesh-China-India-Myanmar (BCIM) Economic Corridor - Multiple Countries
- Gwadar Port – Pakistan

In Sub-Saharan Africa

- Mombasa-Nairobi Standard Gauge Railway (SGR) - Kenya:
- Addis Ababa-Djibouti Railway - Ethiopia and Djibouti:
- Lamu Port (Kenya)-South Sudan-Ethiopia Transport (LAPSSET) Corridor
- Kribi Deep Seaport - Cameroon
- Zimbabwe-China Hwange Thermal Power Station Expansion – Zimbabwe

Source: Authors

The BRI, however, hasn't been without challenges. Concerns have been raised regarding the social, political and environmental implications of some large BRI projects, and accusations of lack of transparency and sustainability have been voiced (Politi, 2021). One of the main criticisms relates to the impact of BRI on the debt burden of participating countries. It is estimated that about 60% of the total value of the BRI projects over 2013-Q12023 were construction contracts that are typically financed through debt (Nedopil, 2023b). Several developing countries, particularly in Africa and South Asia, with important BRI projects have faced sharply rising debt burden, a situation that worsened with the COVID crisis (EFSAS, 2023). Laos, Pakistan, Sri Lanka, and Zambia are prime examples of such situations. In 2021, China held about 12% of the public and publicly guaranteed debt of countries at or near debt distress--compared to about 3%

in 2008 (Gallagher and al. 2023). While this is much below other creditors (multilateral development banks and private bondholders each held more than 30%), it shows how fast the share of China in those countries' external debt has increased.

Against this background, the BRI is changing. First, regarding debt, China has launched a debt sustainability framework at its second Belt and Road Forum (BRF) in 2019 and issued several guidelines on debt sustainability and risk management. Contrary to the approach of the BRI's earlier years (ESFAS), Chinese financial institutions have become less prone to lend to countries whose debt servicing capabilities are doubtful. China also promotes increased recourse to equity investment, and Chinese private firms like Huayao Cobalt, CATL and Huawei are increasingly involved in BRI projects. During the first half of 2023, investments accounted for about 60% of BRI engagements, exceeding for the first time ever the 50% threshold. In 2021, such a ratio was barely 21%. The past few years have also seen also a shift away from large-scale high-risk projects to smaller and more targeted ones (Ray 2023); a "small [approach] is [a] beautiful approach" illustrated among others by the promotion of small scale and impactful projects (SCIO, 2023). The average size of BRI deals in the first half of 2023—at 392 million USD--was 48% lower compared to the peak in 2018 (Carboncopy, 2023).

Furthermore, as the BRI enters its second decade, China is increasingly focusing on greening and digitalizing it, On one hand, smaller projects will help China to address the environmental concerns raised by mega projects. In addition, Chinese institutions have begun to develop their own mechanisms to address environmental and social risks, and the Chinese government has adopted changes over the past three years several guidelines to green the BRI, such as: the Green Development Guidelines for Foreign Investment and Cooperation; the Guidelines for Ecological Environmental Protection of Foreign Investment Cooperation and Construction Projects; and the Green Finance Guidelines for the Banking and Insurance Industry (Gallagher, 2023). A commitment to "open, green, and clean cooperation," is becoming a motto of the BRI (SCIO, 2023). On the other hand, while maintaining its infrastructure roots, the BRI is increasingly focusing on digitalization. China is pushing hard its Digital Silk Road (DSR), launched in 2015 to improve digital connectivity between BRI countries by enhancing digital infrastructure and cross border ecommerce, among others. It has launched several initiatives to this end, and further promoted the DSR at the second Belt and Road Forum.[26] It has worked to develop digital infrastructure connectivity in several BRI countries, building land cable systems, 5G base stations, data centers and contributing to the digital upgrading of traditional infrastructure (transport, energy networks, etc.). This is especially possible with the involvement of Chinese private firms, such as Huawei. One of its latest notable moves is the launch of the Artificial Intelligence Global Governance Initiative at the third Belt and Road Forum in 2023.

It remains to be seen how the BRI will look like eventually, but it is here to stay. As could be foreseen already a few years ago, Chinese authorities learn and adapt to respond to challenges, redirecting or scaling down the BRI as required, but they will not give up (Casanova and Miroux, 2019). Notwithstanding the challenges, and just as other initiatives mentioned in previous sections, the BRI contributes to the emergence of a new global landscape. It encourages economic collaboration outside of traditional western-led models, offers alternative sources of funding for infrastructure development, and encourages infrastructure integration among participating countries, especially from the South.

4.4.4. Challenging the dominance of the U.S. dollar?

The dominance of the US dollar in international trade and payments has been a challenge for emerging countries with volatile currencies. Countries with substantial external debt in U.S. dollars or large budget deficits (a situation faced by many emerging economies) are particularly exposed to global interest rate fluctuations and local currency depreciation. This issue became more prominent in the aftermath of the global financial crisis. The situation has been further exacerbated by trade barriers arising from the US-China trade dispute and sanctions imposed on Russia and Iran.

The idea of creating a common currency has been proposed at various times. However, as seen above (section 4. 4. 1), in their quest for reform emerging economies have been shifting their focus to promoting the use of their national

[26] For instance, China has launched the Belt and Road Digital Economy International Cooperation Initiative (2017); the Initiative for building the ASEAN-China Partnership on Digital Economy Cooperation (2018); the China-League of Arab States Cooperation Initiative on Data Security (2019); the Global Initiative on Data Security (2020); the BRICS Digital Economy partnership (2020), and the China+Central Asia Data Security Cooperation initiative (2021).

currencies in trade and payment transactions. The commitment of the NDB to lend more and more in local currency (see section 4.4.2) is part of this movement. Furthermore, several major emerging economies are actively working to boost the volume of transactions conducted in their own national currencies. Argentina, Brazil, India, and South Africa have begun to accept settling trade in national or alternative currencies. The agreement reached in April 2023 between Brazil and China allowing their respective companies to engage in trade using their domestic currencies instead of the US dollar is such an example.[27] Nevertheless, many analysts view these initiatives as largely symbolic in nature.

Efforts to transition to local currencies have particularly focused on commodity markets, and especially the largest of these markets, oil which had always been traded in US dollars. Russia and Saudi Arabia have begun engaging in oil sales paid in local currencies other than the US dollar, as illustrated by some Indian-Russian oil deals for instance.[28] China has been at the forefront of this trend, actively promoting non-US dollar transactions in the energy sector in line with its broader strategy to bolster the status of the yuan as an international currency. China's largest oil suppliers, including Russia, Iran, Angola and Venezuela, are accepting payments in yuan, and China is negotiating with Saudi Arabia for similar arrangements. In 2018, China introduced yuan-denominated oil futures on the Shanghai International Energy Exchange. These oil futures contracts priced in renminbi are in turn convertible into gold on both the Shanghai and Hong Kong Gold Exchanges. This creates a non-dollar denominated oil trading mechanism, allowing China's oil suppliers to immediately convert the proceeds of their sale into gold, effectively bypassing the US dollar. For countries under financial sanctions from the US and other major advanced economies, this provides significant advantages. However, the Shanghai-traded yuan oil futures market is relatively small compared to well-established counterparts like London-traded Brent and New York-traded WTI oil futures. The future of this market and its potential impact on the broader global energy landscape remain to be seen.

The introduction of central bank digital currencies (Casanova and Miroux 2022) and the development of their interoperability would enable nations to exchange financial data and conduct transactions without relying on the western-based global payments systems such as SWIFT. It could greatly expand emerging economies' ability to trade within their own currencies and bypass US dollar and euro usage and enabling them to avoid financial and economic sanctions. China, Russia, and India are aiming at introducing their central bank digital currency (CBDCs) by early 2025. Brazil and South Africa are also engaged in similar efforts, though with a later timeline.

Digital technologies can also be expected to diffuse to other emerging nations beyond BRICS and BRICS+. This is especially since the five original members of the BRICS are active participants and leaders of a number of regional organizations and trade agreements such as: Mercosur, South Asian Association for Regional Cooperation (SAARC), and the Regional Comprehensive Economic Partnership (RCEP), among others.

China has established its Cross-Border Interbank Payment System (CIPS) a payment and settlement clearing system for RMB-denominated international transactions, with the aspiration to offer alternatives to payments systems such as CHIPS or SWIFT.[29] Total settlements on CIPS reached Rmb97tn (about 14tn USD) in 2022.[30]

One should not underestimate the difficulties involved in seeking alternatives to major currencies, especially the US dollar. The US dollar is entrenched in the international financial system, benefiting from the so-called "network effect", which makes any effort to replace it particularly challenging. The status of a global currency lies in its full convertibility, a crucial feature that the yuan currently lacks. The dollar dominates foreign exchange transactions, accounting for 88% of such transactions by end 2022. Just as well, it plays a major role in trade, with about half global trade invoiced in US

[27] Its first implementation took place in October 2023: for the first time a commercial transaction between Brazil and China (the export of pulp by a Brazilian firm to China) was conducted using Yuans and Reais, without any involvement of US dollars. https://en.mercopress.com/2023/10/06/brazil-and-china-conduct-a-landmark-trade-operation-in-yuan-and-reais?utm_source=feed&utm_medium=rss&utm_content=main&utm_campaign=rss

[28] "India refiners start yuan payments for Russian oil imports", July 3, 202311:59
https://www.reuters.com/business/energy/india-refiners-start-yuan-payments-russian-oil-imports-sources-2023-07-03/

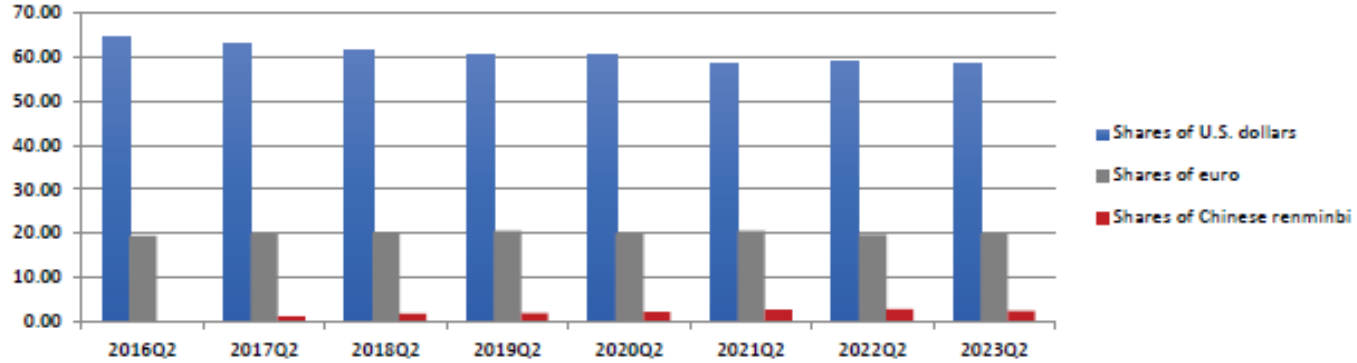
[29] CHIPS (Clearing House Interbank Payments System) is a US-based payment system used for clearing and settling payments denominated in U.S. dollars. It focuses primarily on interbank transactions within the United States. It settles and clears 1.8 trillion USD in domestic and international payments per day. SWIFT is a Belgium-based international network that facilitates international money transfers. It does not clear or settle funds itself but provides a platform for banks to communicate for international transactions.

[30] http://www.cips.com.cn/en/index/index.html.

dollars (BIS 2022)--well above the US share in world trade.[31] However, as of early 2023, the US dollar accounted for 59 per cent of global foreign exchange reserves (Figure 4.8), compared to about 72 per cent in 2000.

Overall, the development of financial technologies (FinTech and DeFI and CBDCs) in emerging economies could well be the real game changer in the international payment system. While the process will undoubtedly take time, the seeds of transformation have been planted.

Figure 4.8. Shares of US dollar, euro and Chinese renmimbi in official foreign exchange reserves



Source: Authors, based on data from IMF, International Finance Statistics, Currency composition of foreign Exchange Reserves (COFER), https://data.imf.org/?sk=e6a5f467-c14b-4aa8-9f6d-5a09ec4e62a4&sid=1408206195757

4.5. Re-alignment or non-alignment 2.0? The repositioning of emerging economies

Over the past twenty-five years, emerging economies have undergone a remarkable transformation, becoming major players in the global economy. Their ascent, marked by rapid industrialization and technological and innovation advancements, is reshaping the dynamics of the global economy. They are not only production centers: with their demography and rising purchasing power they have also become major consumption centers on their own.

Building upon their economic prowess, they have extended their influence to the geopolitical and soft power realms. Through cultural cooperation, diplomatic initiatives, and strategic alliances, they are asserting their presence on the world stage. They are reevaluating their partnerships, alliances, and international engagements, striving to forge connections that align more closely with their evolving interests and aspirations. Rather than re-alignment, the evolution is more towards a non-alignment--partly reminiscent of the non-aligned movement of the late fifties. The war in Ukraine made this repositioning of emerging economies particularly visible, with many emerging (and developing) economies not following the West in its condemnation of the invasion by Russia.

In the new configuration, the line is not so much to adopt in all circumstances the same position in favor of the west or China or Russia, but for some emerging nations to take a position in line with their own interest depending on the issue at stake.

In essence, the rise of emerging economies marks a pivotal moment in the evolution of the global landscape. Their journey from economic growth to influential global actors underscores a shift in power dynamics and a redefinition of international relations. At a time when the world is confronted with vital global threats, from climate change to conflicts that may get out of control, the diversity of interests and opinions among all members of the international community make global dialog ever more necessary, increasing the need for multilateral organizations where all will be able to voice their concerns and aspirations.

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[31] BIS Quarterly Review | December 2022 | Revisiting the international role of the US dollar, Bafundi Maronoti https://www.bis.org/publ/qtrpdf/r_qt2212x.htm

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Chapter 5

Navigating Business Risk in Emerging Markets

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Executive Summary
Emerging markets are facing challenges to economic growth including persistent supply chain bottlenecks, inflationary pressures, tighter monetary policies, and an increasing risk perception which have hindered post-COVID-pandemic recovery. Looking forward to 2024, if inflation continues along with tight economic policies in emerging markets, the risk associated with new investment will remain high. This article provides the views of the companies participating in the meetings of the OECD Development Centre's business platform Emerging Markets Network (EMnet) on strategies to address high-risk perception and improve investment, despite tepid predictions for future economic growth. Recommendations range from increasing and harmonizing regulations, to encouraging more sustainable finance and more robust value chains, to promoting public-private partnerships and a focus on long term policies, digital innovation and inclusion.
Keywords: Risks, sustainable finance, sustainable value chains, green transition, digital innovation, public private partnerships, inclusion

Emerging markets are facing challenges to economic growth including persistent supply chain bottlenecks, inflationary pressures, tighter monetary policies, and an increasing risk perception which have hindered post-COVID-pandemic recovery.[32] As a result, Foreign Direct Investment (FDI) flows into non-OECD G20 economies dropped by 15% in the first half of 2023.[33] Inflation remains high and widespread across advanced and emerging markets, though it has slightly decreased from near 10% at the end of 2022 to around 6.6% by June 2023 with predictions to stabilise by the end of 2023[34]. Regionally, global economic prospects are becoming increasingly imbalanced. Growth in Emerging Asia has shown resilience in the face of global uncertainty, due to appropriate monetary and macroeconomic policy responses, sound export performances and robust domestic demand in some countries.[35] After a strong rebound last year, growth will slow sharply in most Latin American economies in 2023, reflecting generally tight macroeconomic policies to tackle persistently high inflation, soft growth in export markets and lower prices for key export commodities. In Sub-Saharan Africa, real GDP growth is estimated to return to the levels before COVID-19, at 3.7% in 2023, the second highest rate in the world after Emerging Asia (5%) and before Latin America and the Caribbean (1.6%). However, Africa's inflation and the rising cost of capital in the continent have restricted investment[36].

Despite these global challenges, the members of the OECD Development Centre's business platform Emerging Markets Network (EMnet) have provided insights, to navigate the current levels of risk perception and increase investment across emerging markets. Messages mainly include scaling up sustainable finance, promoting sustainable value chains, accelerating the green transition, enhancing the digital economy, promoting inclusion and adopting a gender lens for their operations.

[32] OECD (2023), OECD Economic Outlook, Volume 2023 Issue 1, OECD Publishing, Paris, https://doi.org/10.1787/ce188438-en.
[33] OECD (2023), FDI In Figures October 2023 Update, OECD Publishing, Paris, https://www.oecd.org/investment/investmentnews.htm.
[34] Ibid.
[35] OECD (2023), Economic Outlook for Southeast Asia, China and India 2023 - Update: Resilience Under Uncertainty, OECD Publishing, Paris, https://doi.org/10.1787/cd94bcf6-en.
[36] AUC/OECD (2023), Africa's Development Dynamics 2023: Investing in Sustainable Development, AUC, Addis Ababa/OECD Publishing, Paris, https://doi.org/10.1787/3269532b-en.

5.1. Sustainable finance and value chains

The private sector is leveraging sustainable finance as part of the green transition. According to EMnet participants, to further encourage its development, emerging markets should address barriers like data inconsistency and lack of rigorous metrics, which are also present in many OECD countries as well.[37] Latin America has been an emerging market leader in sustainable finance. For example, Bancolombia prioritises projects that use clean technologies and efficient energy sources and that optimise resources. The bank also committed to spending COP 500 billion (Colombian pesos; approximately USD 110 million) before 2030 on projects aiming to build sustainable communities and promoting financial inclusion in the region.[38] The private sector is a leading issuer of sustainable debt, with a significant rise in green, social and sustainability-linked and labelled bonds, mainly among corporations in Brazil and Mexico.[39] The amount of green, social and sustainability-linked and labelled bonds have more than doubled in LAC since 2019 and is mostly used by the private sector, with green bonds playing an increasingly large role (e.g. the Iberdrola Framework for Green Financing). Examples of utilities and energy companies issuing wider sustainability-linked bonds to support the energy transition include Enel, with its corporate Sustainability-Linked Finance Framework; Eni, and Millicom, with its Sustainability Bond Framework, that accompany their sustainability-linked bonds.

Sustainability considerations can support greater financial and economic resilience when implemented across several areas of a business. EMnet participants highlighted shortcomings to sustainable value chains in emerging markets such as lack of harmonisation in regulations and risk of disruptions caused by geopolitical tensions. Integration of sustainability considerations into value chain strategies has the potential to de-risk supply chains and support more inclusion across emerging markets. EMnet participants also encourage a greater focus on regional supply chain networks. In Morocco and South Africa, emerging eco-industrial parks such as the Ouarzazate Solar Power Station and Cookhouse Wind Farm have helped attract green investments, integrate firms into sustainable value chains, and achieve social, environmental and economic targets. In Egypt, the Robbiki Eco-Leather Park develops the local leather industry while lowering local tanneries' environmental impact.[40] Future evolutions, such as the transition to a carbon-neutral economy, will have a profound effect on consumption patterns, posing a challenge for companies to de-risk their supply chains by transitioning away from fossil fuels without affecting the sector's workers. Finance can play a key role in building sustainable supply chains, with a growing demand following the disruptions caused by the COVID-19 crisis, as EMnet participants note that the transition requires significant financing and working capital.[41]

Finance can only support sustainable development when conditions within countries are stable enough to benefit from it. The OECD's FDI Qualities Policy Toolkit is structured around five principles for governments to address, in order to improve the effectiveness of foreign investment in their countries.[42] Additionally, the OECD Policy guidance on market practices to strengthen ESG invest in and finance a climate transition recommends, among other policies, that "policy makers, financial authorities and central banks should strengthen the availability of reliable and quality ESG data and metrics in line with global baseline standards."[43]

5.2. Green Transition

A renewed focus on energy security as well as shortages in the supply of essential commodities are putting pressure on economies to accelerate the green transition. According to EMnet participants, lasting solutions could be greater investment in efficiency, clean electricity and a range of clean fuels at a time when – according to the International Energy Agency's *Net Zero by 2050* road map – these technologies remain far short of the levels of investment required to meet the rising demand for energy services.[44] Recent OECD and IEA data show that subsidies for natural gas and

[37] OECD (2023), Assessing net-zero metrics for financial institutions: Supporting the monitoring of financial institutions' commitments, OECD Business and Finance Policy Papers, OECD Publishing, Paris (forthcoming).

[38] Bancolomia (2023), Bancolombia's Sustainability Model. Bancolombia, Colombia https://www.bancolombia.com/acerca-de/informacion-corporativa/sostenibilidad/reporte-de-sostenibilidad/modelo-de-sostenibilidad

[39] OECD et al. (2022), Latin American Economic Outlook 2022: Towards a Green and Just Transition, OECD Publishing, Paris, https://doi.org/10.1787/3d5554fc-en.

[40] AUC/OECD (2023), Africa's Development Dynamics 2023.

[41] OECD (2023), "Business Insights on Emerging Markets 2023", OECD Emerging Markets Network, OECD Development Centre, Paris, www.oecd.org/dev/emnet-emerging-markets-network.htm.

[42] OECD (2022), FDI Qualities Policy Toolkit, OECD Publishing, Paris, https://doi.org/10.1787/7ba74100-en.

[43] OECD (2022), Policy guidance on market practices to strengthen ESG investing and finance a climate transition, OECD Business and Finance Policy Papers, OECD Publishing, Paris, https://doi.org/10.1787/2c5b535c-en.

[44] IEA (2021), Net Zero by 2050: A roadmap for the global energy sector, IEA Paris, https://www.iea.org/reports/net-zero-by-2050.

electricity consumption more than doubled in 2022 compared with 2021, while oil subsidies rose by around 85%. The subsidies are mainly concentrated in emerging market and developing economies, and more than half were in fossil-fuel exporting countries.[45] According to EMnet participants, the current energy crisis is giving many emerging markets the opportunity to move from being exporters of commodities or components, to becoming technology producers for renewables and alternative clean energies. In order to achieve such a transition, regulations and policies (such as faster permitting and regulatory stability) should be adopted to avoid the pitfalls of resource nationalism in raw materials, particularly when global supply chains are vulnerable to geopolitical risks. In addition, agriculture and food systems have historically lacked innovation to become more environmentally sustainable in emerging markets, with EMnet participants highlighting these sectors as major opportunities for innovative financing in the future.

Accelerating the clean energy transition in the medium term will require substantial public and private investment, as foreign direct investment (FDI) currently accounts for 30% of global new investments in renewable energy.[46] National policies can help emerging markets attract investments for the green energy transition. The OECD's FDI Qualities Policy Toolkit provides guidelines on how to use national policies to attract investments for green energy and carbon emissions reductions.[47] For EMnet participants, solutions to attract the necessary investments must include stable long-term policies and official road maps with clear targets. EMnet participants see also potential in market-based mechanisms, such as carbon pricing, for the allocation of resources to the most scalable, cost-effective and environmentally efficient technologies. They underline the importance of focusing on the planning stage of infrastructure development in order to increase the pool of "bankable projects" and stress the importance of evaluation and permitting, estimating that these phases can require anywhere from 24 months up to 10 years in some extreme cases. Finally, the planning of green infrastructure projects should include a special focus on human rights, in order to address the operational, litigation and reputational costs of renewables projects and thus promote community support for them. Public-private partnership can be leveraged to mobilise green investments.

EMnet companies laid out a plan so that actors involved – such as policy makers, development finance institutions and the private sector – can create a virtuous circle by:

(i) dedicating more efforts to the planning part of infrastructure plans, to avoid unplanned costs and choose the right technologies (as an example, anticipating future risks such as the threat to the use of hydropower due to more frequent drought episodes, putting pressure on all energy systems and pushing electricity prices up);

(ii) addressing the energy transition in a holistic and progressive manner that takes into account the development needs of countries (these efforts imply setting realistic goals and deadlines for decarbonisation targets that allow countries to manage their transition step by step, by ensuring realistic budgets and avoiding supply chain disruptions);

(iii) bringing flexibility and nuance in funding decisions, avoiding a binary vision of what is considered green but tracking progress to decarbonise systems;

(iv) underlining the important role played by insurance in long-term planning, to ensure the viability of projects also in case of more frequents episodes of climate and weather related disasters.

5.3. New and digital technologies

EMnet participants reaffirm that green and digital transformations can go hand in hand, noting that technology could play a key role in helping reduce global emissions by around 20% by 2030.[48] Reaching this target will require investments in technologies and research around new energy solutions, which will allow industries to cut their emissions of greenhouse gases and other polluting or radioactive substances. Participants underline the opportunities for innovation brought by start-ups and the importance of multinationals to support this ecosystem.

[45] IEA (2022), World Energy Investment, IEA Paris, http://www.iea.org/reports/world-energy-investment-2022.
[46] OECD (2022), *FDI Qualities Indicators,* OECD Publishing, Paris, https://www.oecd.org/investment/fdi-qualities-indicators.htm.
[47] OECD (2022), "Policies for improving FDI impacts on carbon emissions", in FDI Qualities Policy Toolkit, OECD Publishing, Paris, https://doi.org/10.1787/bb662a1a-en.
[48] World Economic Forum (2022), Why digitalization is our best shot at saving the planet, World Economic Forum, https://www.weforum.org/agenda/2022/05/why-digitalization-is-our-best-shot-at-saving-the-planet/.

Digitalising 15-25% of global agriculture could increase production by 300 million metric tonnes by 2030 and reduce water consumption by up to 150 billion cubic metres every year.[49] Participants point to the important opportunities brought by data, science and application technologies to answer the pressing challenge of feeding everyone while preserving natural resources. For example, by using digital farming tools, farmers can be more productive, combining their expertise and knowledge of the land with digitally enabled tools that collect and make sense of data, providing them with actionable insights that allow for better decision-making. Digital transformation can also support better integration of SMEs, as several digital innovations are offering new opportunities for smaller and informal producers to improve the efficiency of logistics, simplify customs procedures and improve access to finance. Developing digital solutions such as e-platforms could allow SMEs in emerging markets to better engage with larger firms and integrate within global supply chains. According to EMnet participants, e-platforms could bring flexibility to larger companies in times of tensions and shortages in supply chains, by providing them with a better overview of alternative partners available within a region. Emerging markets must however be mindful of both the benefits of digital transformation and the potential risks associated with existing inequalities. In 2022, around one-third of the world's population (approximately 2.7 billion people) was still not connected to the Internet, according to the International Telecommunication Union, pointing to slower growth than expected in the number of Internet users.[50] Without ensuring that internet access increases with the expansion of the digital economy, more people could find themselves marginalised.

Many emerging economies still face technological barriers to unlocking the full potential of digital trade and EMnet participants noted that improvements can still be made in this area. Specifically, participants stress the need for harmonisation, digitalisation and reduction of regulations, as well as quick implementation across jurisdictions.

EMnet participants note five points to prioritise, in order to enable and sustain digital trade and e-commerce adoption:

(i) working on connectivity by expanding access to cheaper solutions for emerging markets (for example, Nokia is working on lighter equipment that can be brought to underserved areas);[51]

(ii) addressing the fragmentation of digital regulations around the world, and particularly the rise of digital protectionism, such as the data export or data localisation regulations creating barriers to trade observed in China,[52] the European Union[53] and Southeast Asia;[54]

(iii) harnessing the potential of regional trade agreements, such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) in Asia-Pacific or the African Continental Free Trade Area (AfCFTA) in Africa, to harmonise rules and provide international standards for digital trade;

(iv) working on the interoperability of platforms and digital payment systems for companies to authenticate and validate SMEs quickly through innovation; and

(v) addressing cybersecurity and data protection as a growing topic of concern. Indeed, attacks on small enterprises increased by 52% in 2021,[55] and the COVID-19 pandemic has escalated this problem even further, with Mastercard setting up a Trust Centre to provide solutions and Bancolombia a toolkit to protect SMEs.[56]

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[49] Ibid.

[50] ITU (2022), Internet surge slows, leaving 2.7 billion people offline in 2022, International Telecommunications Union, https://www.itu.int/en/mediacentre/Pages/PR-2022-09-16-Internet-surge-slows.aspx.

[51] Nokia website, https://www.nokia.com/about-us/news/releases/2022/06/13/nokia-launches-a-network-in-a-box-program-for-rural-broadband-builders (accessed 20 September 2023).

[52] WEF (2022), What do China's data export regulations mean for its trade competitiveness?, https://www.weforum.org/agenda/2022/11/china-data-export-regulations-threaten-trade-competitiveness/

[53] European Union website, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02016R0679-20160504&qid=1532348683434 (accessed on 20 September 2023).

[54] The Diplomat (2022), Southeast Asia's Data Localization Push Is a Double-Edged Sword, https://thediplomat.com/2022/10/southeast-asias-data-localization-push-is-a-double-edged-sword/.

[55] Mastercard website, https://www.mastercard.com/global/en/business/overview/safety-and-security/trust-center.html (accessed on 20 September 2023), citing an IBM study.

[56] Bancolomia (2023), Bancolombia's Sustainability Model. Bancolombia, Colombia https://www.bancolombia.com/acerca-de/informacion-corporativa/sostenibilidad/reporte-de-sostenibilidad/modelo-de-sostenibilidad.

5.4. Public-private partnerships

In order to promote private investment in emerging markets, and particularly in the digital sector, public-private partnerships are an essential factor. EMnet participants call for rethinking digital innovation as a cross-sectoral instrument promoting partnerships to reduce technology costs, while simultaneously reshaping processes and governance. Open collaboration between suppliers, industries, governments, and the civil society – for example, through working groups across different ministries and industries within a country or region – could help to assess the impact of projects on several dimensions and foster more innovation. These public-private partnerships can also support open government initiatives, based on transparency, integrity and accountability. The private sector can help governments provide better data, improve digital services and design more consistent regulations. Examples of investment in sustainable infrastructure, such as the Meridiam Infrastructure Africa Fund,[57] involve national governments and multilateral banks and showcase the role of public-private partnerships in promoting investment in the continent.

According to EMnet participants, traditional models to attract investments in connectivity are not sufficient to achieve universal coverage. There is a need for modern regulatory frameworks that encourage innovation and co-operation between different agents and enable different conditions for rural areas. Participants stress the need for harmonisation, digitalisation and reduction of regulations, as well as quick implementation across jurisdictions. The public sector has a role to play in promoting a more interconnected public-private innovation ecosystem and shaping the market for engaging the private sector in public innovation.[58]

5.5. Inclusion and gender lens

EMnet participants recognise the role the private sector can have in support of gender equality, through Diversity, Equality and Inclusion measures such as equal employment practices, or including a gender lens across the value chain. EMnet participants note that emerging markets face specific gender challenges, ranging from educational segregation (which still prevails in some markets) to the risk of talent leaving some regions to pursue career opportunities in more developed countries. The OECD's FDI Qualities Policy Toolkit outlines a set of good policy practices for governments to improve the impacts of FDI on gender equality including coherent strategic direction, eliminating information barriers and supporting women in the labour market.[59]

American Tower Corporation (ATC) has launched more than 300 digital communities in 8 countries since 2012 and has committed to building 2 000 communities over the next 5 years.[60] These sites with broadband connectivity and uninterrupted power aim to increase digital inclusion and access to digital services, providing job skills training as well as health and financial services to underserved communities, in particular to women who do not have access to information and communication technology training. ATC has partnered with NIIT Foundation in India to provide digital education and has seen a steady increase in female enrolment; as of early 2023, 43% of attendees of this training are women. In Latin America, Telefónica is leading the Mujeres en Red initiative that seeks to increase the participation of women in telecommunications. With over 1,000 women collaborating with the program, it has been hailed as a success in sustainable development in the region.[61]

EMnet firms agree that a special focus should be dedicated to increasing access to services and making digital tools available to a larger number of citizens. They also underline that the vulnerability of global banking systems weighs heavily on emerging markets, as the digital solutions that are currently available are often designed for developed countries. The fintech sector can help governments in their digital inclusion efforts, particularly in times of crisis. EMnet members note that the recent development of a multiplicity of platforms for banking has increased the pool of choices for consumers and citizens. However, while efforts were made on receiving income digitally, there is still a lack of use

[57] Meridiam (2019), Meridiam announces the closing of the reopening of its Africa fund at €546 million, 2.5 times its initial size, https://www.meridiam.com/news/meridiam-announces-the-closing-of-the-reopening-of-its-africa-fund-at-e546-million-2-5-times-its-initial-size/.
[58] United Nations (2022), UN E-Government Survey 2022: The Future of Digital Government, Department of Economic and Social Affairs, https://publicadministration.un.org/egovkb/en-us/Reports/UN-E-Government-Survey-2022.
[59] OECD (2022), "Policies for improving the impacts of FDI on gender equality", in FDI Qualities Policy Toolkit, OECD Publishing, Paris, https://doi.org/10.1787/6d220eb9-en.
[60] ATC (2023), Digital Communities, American Tower Corporation, https://www.americantower.com/us/sustainability/digital-communities.html.
[61] Telefonica (2023), 'Mujeres en Red' supera hito de 400 mujeres contratadas acortando así la brecha de género en áreas técnicas de telecomunicaciones, https://telefonica.com.pe/mujeres-en-red-supera-hito-de-400-mujeres-contratadas-acortando-asi-la-brecha-de-genero-en-areas-tecnicas-de-telecomunicaciones/.

of digital banking platforms in the payment side. In certain regions, communities still rely heavily on cash despite efforts to digitise transactions, thus limiting access to financial services.[62]

5.6. Conclusion

Looking forward to 2024, if inflation continues along with tight economic policies in emerging markets, the risk associated with new investment will remain high. The EMnet private sector participants see many strategies to address high-risk perception and improve investment, despite tepid predictions for future economic growth. These range from increasing and harmonising regulations, to encouraging more sustainable finance and more robust value chains, to promoting public-private partnerships and a focus on long term policies, digital innovation and inclusion.

[62] World Bank (2022), COVID-19 Drives Global Surge in use of Digital Payments, World Bank Group, https://www.worldbank.org/en/news/press-release/2022/06/29/covid-19-drives-global-surge-in-use-of-digital-payments.

Chapter 6

Digital Payments Drivers and Adoption Rates in Emerging Markets

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Executive Summary
Increasing digital connectivity has encouraged the growth of both global and localized payment solutions. The adoption – and ultimate success – of these solutions depends on a range of factors, including a country's financial infrastructure, comprising efficient payment systems and accessible banking services; technology and communications infrastructure and the resulting access to internet and mobile networks; government support and payments regulation; and product-market fit that aligns payments instruments with the needs of users. The combinations of those individual foundational components vary across countries. This paper evaluates the adoption of digital payments schemes in Brazil, India, and Kenya through the lens of these drivers, and suggests common factors that seem to accelerate adoption. Whether government-led or private sector-led, a digital payments revolution is helping to bridge the financial inclusion gap
Keywords: Digital payments, financial inclusion, financial and communications infrastructure, regulatory landscape, product-market fit.

6.1. Introduction

Money is dynamic and routinely reshaped to fit society's changing needs. As economies have grown more complex, money – fulfilling its three primary functions as a store of value, unit of account, and medium of exchange – has transformed with them. Commodities like gold and salt, once used as mediums of exchange across civilizations, over time became metal coins, paper money and checks, and eventually electronic money. Technology innovations have played, and continue to play, a vital role in money's evolution. Over the past two decades, the rise of the internet and mobile connectivity have spawned digital financial services. Digital payments, in particular, have reduced transaction costs for individuals, businesses, and governments while increasing the speed, security, and transparency of many transactions. The emergence of decentralized digital currencies, led by Bitcoin in 2009, have further challenged traditional notions of money by offering secure, peer-to-peer alternatives. National governments have in turn sought to adapt their legal tenders for the digital age by developing central bank digital currencies (CBDCs) of their own.

The history from stone rings and shells to cryptocurrencies reinforces that what is *used* as money *becomes* money. Thus it is important to understand the drivers of adoption of various payment mediums. While increasing digital connectivity has encouraged the growth of both global and localized payment solutions, their adoption – and ultimate success – has been influenced by a range of factors. These drivers include countries' financial and communications infrastructure, financial sector development, enabling policy environment, and other practical matters. Are there use cases that fit customer needs? Do conveniences outweigh costs for the user? Are transactions safe and secure, and do they offer a fraud or dispute settlement mechanism?

The domestic goals and priorities of national governments also impact the form and function of money. Seigniorage and the right to create the legal tender are intrinsically linked to taxation. With the recognition that financial inclusion supports economic development and prosperity, national financial inclusion strategies are increasingly focused on developing localized payment solutions tailored to local economic needs. Whether government-led or private sector-led, a digital payments revolution is helping to bridge the financial inclusion gap.

This paper will evaluate the adoption of several digital payments schemes through these lenses. We first introduce a framework for adoption covering infrastructure, policy, and market elements. We then look at adoption of digital

payments instruments across several markets, with reference to these drivers, and suggest common factors that seem to accelerate adoption.

6.2. Drivers of Adoption of Digital Payments

The adoption of digital payments can be driven by a country's financial infrastructure, comprising efficient payment systems and accessible banking services; technology and communications infrastructure, including widespread internet access and mobile networks; government support and regulatory landscape, which fosters a supportive payments environment; and product-market fit, that aligns payments instruments with the needs of users. The degree to which those individual foundational components drive payments adoption will vary across countries.

6.2.1. Financial Infrastructure

The adoption of digital financial services can be linked to the strength of a country's financial infrastructure, the underlying framework of systems, institutions, and technologies that enable the functioning of financial markets and services within an economy. Financial infrastructure includes both the physical components and the underlying legal and regulatory structures and governance of payment systems, clearing and settlement mechanisms, and the banking institutions supporting financial transactions. Thus within payments systems, the infrastructure would include the interbank payments switch and the rules governing access to the switch, interbank settlement, payment finality, rights of recission, etc. A robust financial infrastructure is essential for facilitating secure, efficient, and transparent financial activities, fostering economic growth and stability. Examples of financial infrastructure may include:

Banking and Payments

- Payments' infrastructure may include real-time gross settlement systems, national switches, clearing and settlement systems.
- Open banking rules and standardized APIs to promote collaboration between traditional banks and fintech firms to offer a variety of digital payment services.
- Legal and regulatory frameworks for cards, mobile wallets, and other digital payments products, to ensure that digital payments can be accepted and trusted for settlement of obligations.

Merchant Services

- Point of Sale (POS) infrastructure including card readers, QR code integration, and terminals
- Integration of on-line merchants into the digital payment ecosystem for acceptance of electronic transactions.

Physical networks

- Physical networks may include bank branches, ATMs, and mobile money agents. These financial outposts offer services such as account opening and cash-in and cash-out, which are key entry points for financial access. Even where transactions become extensively digital, the *ability* to get cash in or out of the system is necessary to build trust in digital money, and may continue to be necessary for usage in last-mile segments.

6.2.2. Technology and Communications Infrastructure

Technology and communication infrastructure encompasses the hardware, software, networks, and communication protocols that support communication and information systems within a nation. It forms the backbone for the development and deployment of digital services, applications, and connectivity. Robust technology infrastructure is crucial for fostering innovation, enabling digital transformation, and enhancing communication and collaboration. It plays a pivotal role in shaping the efficiency, competitiveness, and overall growth of various sectors in the modern digital era. Examples of technology and communications infrastructure may include:

Connectivity and Digital Access

- Extensive and reliable mobile network coverage ensures accessibility for users in urban and rural areas.
- High-speed and widespread internet connectivity is crucial for facilitating online and mobile transactions.

Digital Identification and Authentication

- Robust digital identification systems help establish the identity of individuals for secure transactions.

- Integration of biometric data (fingerprint, facial recognition) for secure user authentication.

Cybersecurity Infrastructure

- Secure data transmission to protect sensitive information.
- Measures to safeguard payment systems from cyber threats and attacks.

6.2.3. Government Support and Regulatory Landscape

The adoption of digital payments is significantly boosted by a clear and transparent regulatory framework that provides certainty for businesses and consumers. Governments play a pivotal role in ensuring digital transactions and documentation are accepted in the commercial codes and banking regulation, building trust through consumer protection regulations, promoting financial inclusion through initiatives targeting unbanked populations, and in some cases incentivizing digital payment adoption. Public awareness campaigns, supported by governments, contribute to dispelling misconceptions and encouraging the use of digital payment methods. Furthermore, investments in digital infrastructure and international collaboration on regulatory standards enhance the foundation for widespread digital payment adoption.

Government support can also take the form of direct provision of Digital Public Infrastructure (DPI). DPI involves government developing the protocols, frameworks, and governance arrangements for an interoperable, open system that may also be developed and operated by public entities. DPIs can play a critical role in accelerating digitalization in a country by allowing multiple private sector players to leverage a shared infrastructure to reach their customers with a diverse set of products and services. The exact dimensions that constitute a DPI will vary from country to country, but the foundations are generally built on digital identity, digital payments, and data exchange.[63] In some of the country examples below, governments/central banks provide and operate payment systems while in others governments removed roadblocks to private payments networks.

Examples of government support and a positive enabling environment include:

Clear guidelines

- Regulatory guidance on the issuance, management, and security mechanisms surrounding digital payment systems can boost their adoption.
- The alignment of these regulatory dimensions requires careful calibration. Governments must balance the – sometimes competing – priorities of policymakers and fintechs.

Consumer protection

- Regulations to address trust in the digital sphere.
- Policies that safeguard users against unauthorized transactions, misuse of personal data, low-quality service, lack of transparency, and excessive fees.

Policies on Financial Inclusion and Interoperability

- Establishing interoperability standards and supporting innovation in the fintech sector are additional ways governments foster an inclusive digital economy. Adoption of interoperable standards allowing different payment systems and providers to work seamlessly together, broadening usability and therefore adoption.
- Adopting a national financial inclusion strategy that defines a roadmap to greater financial access by working across stakeholders - including defining engagement with the public and private sector – to promote the uptake and use of a broad range of financial services.

Government Provision of Infrastructure

- Direct provision of infrastructure, e.g. operating a national payments switch through the central bank.
- Inter-government collaboration among neighboring countries to enable cross-border digital transactions, which may involve direct connections between central banks.

[63] Global Partnership for Financial Inclusion (GPFI). G20 policy recommendations for advancing financial inclusion and productivity gain through digital public infrastructure.

6.2.4. Product-Market Fit

Product-market fit of a digital payment service is the degree to which it aligns with the needs of its target market. Achieving product-market fit often involves refining and optimizing the offering based on customer feedback to ensure it meets their expectations and solves their problems for one or more use-cases. This alignment is crucial for a product's success, as it signifies that the market values and embraces the solution. Continuous assessment and adjustment based on customer insights are key to maintaining and enhancing product-market fit over time. Some components of product-market fit:

Use-cases

- Adoption often requires a credible solution with a clear value proposition for users that delivers a secure, convenient, and low-cost experience to meet one or more clear needs. A single product may have multiple use-cases, or there may be products tailored for specific use-cases. For example, one use-case for cards is paying for goods at a store when the buyer doesn't have cash; another is paying for goods online. A key use case that drove adoption of mobile money in East Africa was sending money from an urban worker to a family member in a rural area, but mobile money can also be used to pay taxes or in-person at a merchant.

Acceptance

- The degree to which merchants, service providers, and other individuals accept the payment instrument, influencing its usefulness and ubiquity in the market.

Scalability

- The payment instrument provider's capacity to scale operations efficiently with an increasing number of users, transactions, and market demands.

Adaptability

- The instrument's applicability to a wide enough range of use cases to displace alternative payment instruments
- The provider's ability to continuously improve and adapt the payment instrument based on user and market insights.

6.3. Growth of Digital Payments Across Markets

This section looks at the adoption of specific digital payments instruments in selected emerging markets: UPI in India, PIX in Brazil, and mobile money in East Africa, with particular reference to Kenya. Adoption rates are shown in Figure 6.1 and Figure 6.2, with UK Faster Payments included as a developed market comparator. Over a relatively short time, the value transacted through these digital payments has come to account for a significant share of GDP. The rate of adoption, however, has varied across markets and instruments.

Figure 6.1. Monthly Transaction Volume as a percentage of GDP

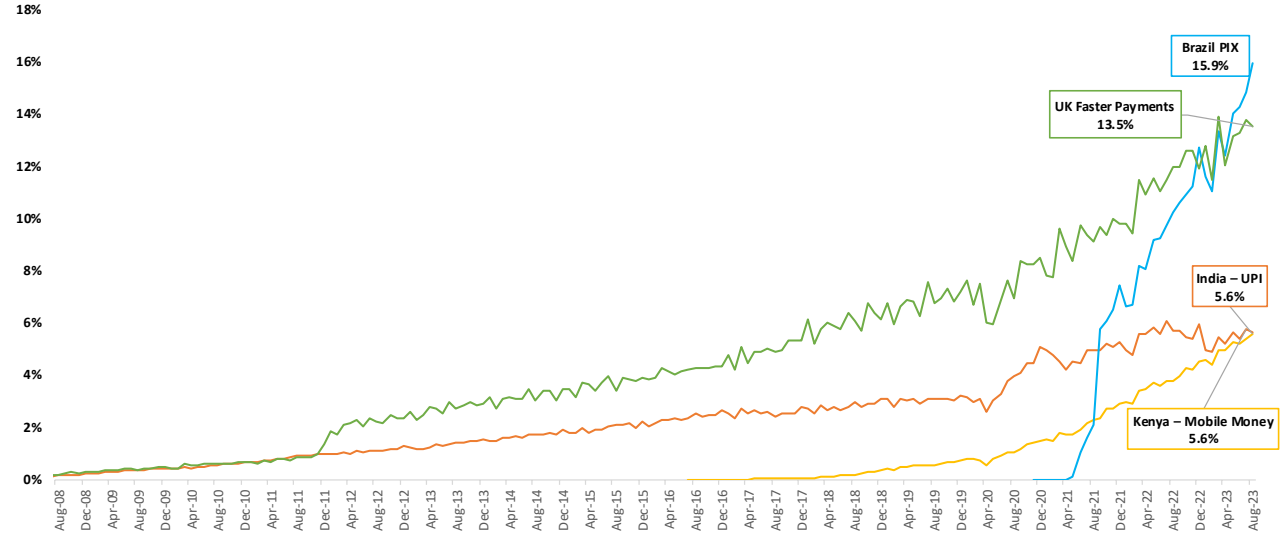
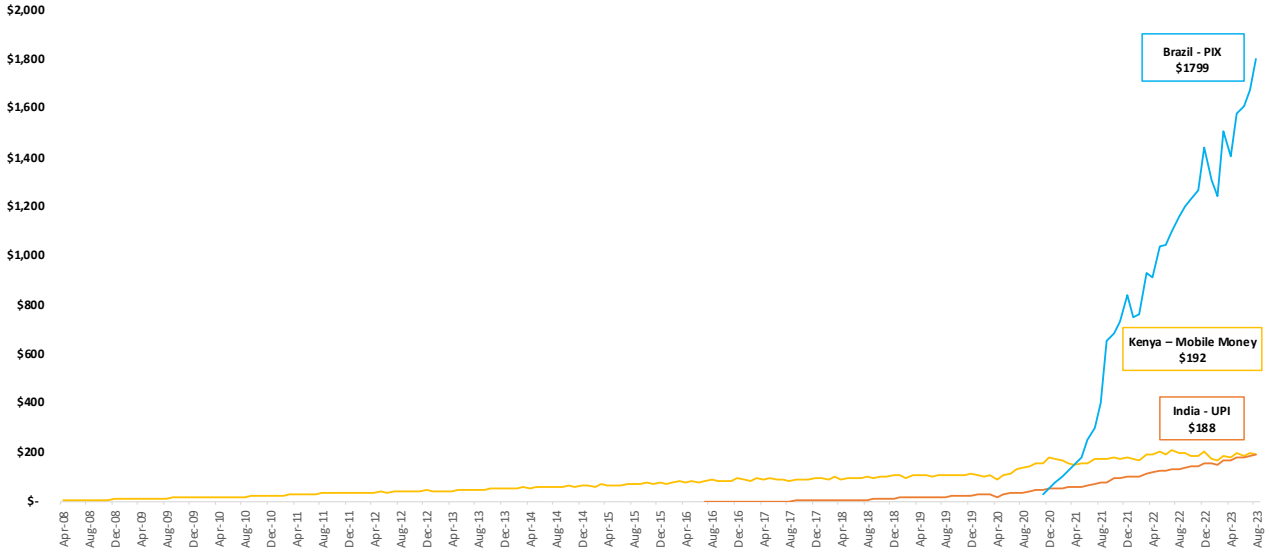


Figure 6.2. Monthly Transaction Volume ($ per capita, adult population)



The pace of adoption across countries may be accelerating as the embedded technical base improves. Brazil's Pix fast payments system launched in November 2020. After three years, this past December PIX processed 4.8 billion transactions, or an average of 156 million per day.[64] India's UPI-enabled apps became available in August 2016. After seven years, monthly volume is over 12 billion, or 380 million transactions per day in December 2023. [65] But at the three-year mark in August 2019, UPI was only processing 30 million transaction per day; it took over 5 years for a country with a larger population to reach the volumes that Brazil reached in 3. Greater penetration of smartphones in Brazil,[66] which aligns with better connectivity and can also be a proxy for user comfort with digital technologies, suggests the importance of technology infrastructure and connectivity as an adoption driver.

These adoption curves are not taking hold in all digital payment instruments. To bring cryptocurrency into the comparison, the first bitcoin transaction was in January 2009. After 14 years, daily volume in from 1-29 January 2024 ranged between 340,000 and 657,000, for an average daily volume of 475,000.[67] This may signify that users of bitcoin are less interested in transactional uses than in speculative investment.

6.3.1. United Payments Interface (UPI) in India

India's strategy to increase financial inclusion and digital payments adoption stands out in terms of its expansive and innovative approach built around digital identity, digital payments, and data-sharing – collectively known as India Stack, a prominent example of DPI. In 2009, the Indian government launched Aadhaar, a biometric database that has now provided digital identities for its 1.4 billion citizens. Aadhaar identity can be authenticated using documents like IDs, birth certificates, and tax statements, which are then stored on the cloud. This built-in authentication has made it easier for many to open a bank account. The government also launched Unified Payments Interface (UPI), an interoperable instant payments system for private-sector payments providers to offer services through. This open platform facilitates transactions across the banking and payments landscape. India's strategy to increase digital payments adoption is unique, differing from the closed-loop private payment offerings of companies like Alipay in China or PayPal in the US. This interoperability is facilitated by a data-sharing platform that allows individuals to manage their private data to access government services or apply for a loan.

[64] Banco Central do Brazil (BCB). PIX Statistics. https://www.bcb.gov.br/en/financialstability/pixstatistics
[65] National Payments Corporation of India (NPCI). UPI Product Statistics. https://www.npci.org.in/what-we-do/upi/product-statistics
[66] Statista. Penetration rate of smartphones in selected countries 2022. https://www.statista.com/statistics/539395/smartphone-penetration-worldwide-by-country/
[67] YCharts. Bitcoin Transactions Per Day. https://ycharts.com/indicators/bitcoin_transactions_per_day

India Stack has been a powerful driver of financial inclusion, particularly in poor and rural households. Its cloud-based infrastructure fosters private sector-led solutions from fintechs, non-bank financing companies (NBFCs) and commercial banks that can "plug in" to the digital architecture, resulting in an interoperable payment network that can offer diverse set of products and services. As of a result of its streamlined KYC procedures, banks have lowered their cost of compliance from $0.12 to $0.06, making low-income clients more attractive to serve and develop new products for.[68] Regulatory oversight is embedded into this DPI. The Indian government verifies network participants and mandates that customer data can only be accessed with their consent, among other efforts to address data privacy concerns.

Multinational payments networks are allowed onto the UPI, but only if they comply with the principles and obligations of the platform. In 2021, India temporarily barred Mastercard from adding new customers after claims that it had violated the country's 2018 data privacy laws requiring private customer data to be stored domestically.[69] (This requirement has also complicated operations for other international payment processors.) This has lead to foreign business groups accusing Indian regulators of "tilting the market in favor" of domestic payment solutions.[70] An important contributor to UPI's success are the Indian government's initiatives to promote a cashless economy, including, among others, a demonetization drive in late-2016.

India now aspires to export this system.[71] Negotiations are underway to connect its instant payments network in countries like Australia, Canada, UK, USA, and Singapore. Interoperability between other countries' payments rails will require standardized rules and regulations, particularly around data privacy. If successful, the new system may mitigate the current costs and complications of cross-border payments. Small- and medium-sized businesses will have an easier time connecting to overseas customers and suppliers, which can increase financial flows between countries. Indian and Singaporean authorities are working towards on "Nexus Network," an interoperable instant payments system that can help reduce the costs of cross border transactions.

Drivers of Adoption

UPI leverages financial infrastructure and technology infrastructure that is strongly backed by a government that is keen on financial inclusion. Since its release in April 2016, UPI adoption has been rapid, with the total transaction volume rising from 2 million transactions/month in December 2016 to nearly 12 billion transactions in December 2023. Financial institutions continue to onboard onto the UPI platform, from an initial 21 banks to over 500 in 2023. UPI monthly transaction volume has also steadily risen, equating to $188 per adult in India, or about 6% of GDP. This growth has been enabled by increased digital connectivity, digital ID, and other foundational technologies that have enabled mass market opening of bank accounts and digital access to those accounts. UPI's functionality meets key user needs including enabling peer-to-peer and peer-to-merchant transactions. Over 99% of UPI transactions are linked through a user's bank account. These bank account-to-account transactions are free for customers and merchants.[72]

6.3.2. PIX in Brazil

Like UPI, Brazil's PIX system is open to multiple participants and has been rapidly adopted. In November 2020, Brazil launched PIX as a real-time payment platform developed, managed, and owned by the country's central bank, Banco Central do Brazil (BCB). PIX enables its users – individuals, merchants, companies, and government entities – to send or receive payments. The PIX network can be accessed via mobile apps or internet banking, and transactions can be initiated using a user's alias (e.g. phone number) or a QR code that is associated with the beneficiary's transactional account. PIX transactions are executed against transactional accounts such as savings and prepaid payment accounts with few intermediaries, and transactions settle immediately. Similar to UPI, PIX was developed as an open-loop scheme in which multiple financial service providers can participate.

PIX was launched to increase competition in Brazil's highly concentrated banking system, respond to the evolving needs of the new digital economy, revitalize the payments market, and promote financial inclusion. To do this, BCB developed the payments scheme along with the rules and technical specifications required to participate in it. Since 2002, BCB has operated a real time gross settlement (RTGS) platform and utilized this experience in developing their state-backed

[68] Alonso, C. et al. Stacking up the benefits: lessons from India's digital journey. International Monetary Fund.
[69] New York Times. India bars Mastercard from adding new customers over a data violation. July 2021.
[70] Financial Times. How US payments groups ended up on the wrong side of India's plans. August 2021.
[71] Washington Post. India's third way. March 2023.
[72] National Payments Corporation of India (NPCI) Press Release. UPI is free, fast, secure and seamless. March 2023.

solution for digital payments in Brazil. To help automate and reconcile payments, the BCB has promoted the standardization of APIs to incentivize a more competitive ecosystem and better services.

Similar to India's promotion of UPI as a homegrown digital payments option, BCB designed and developed PIX to disrupt the costly payments sector of Brazil. Lower transaction costs has been one of the factors for PIX's exponential growth that has edged out credit cards as a dominant payment method in the country. At a conference in 2022, Roberto Campos Neto, chief of BCB, asserted that PIX will soon be a replacement for credit cards.[73] Since then, PIX has continued to have higher levels of usage than credit and debit cards in the country. A number of system design elements contribute to delivering lower costs. The central bank providing the core switching infrastructure, rather than a for-profit private network operator, is likely a primary factor. Another factor is the use of push payments and instant settlement, which reduce the exception handling costs associated with card transactions.

Drivers of Adoption

PIX's growth is built on the foundation of Brazil's financial and digital infrastructure, backing from the country's central bank, and a strong product that meets user demands. In just over three years, PIX has become a cornerstone of Brazil's digital payment infrastructure, offering users a swift, secure, and accessible means of conducting transactions. Total transaction volumes have increased to $305 billion in 2023, with a monthly per capita transaction volume of $1799.[74] The system's success is helped by its innovative open platform, ability to handle varying transaction sizes at low-cost, and integration into daily life, and its introduction into a relatively developed technology and communications environment: in 2022, smartphone penetration in Brazil was estimated at 67% (compared to 46.5% in India)[75]. Government policy pushed participation by big banks and fintechs, and used PIX for emergency payments during COVID, introducing tens of millions of users to cashless payments and driving a rapid reduction in the unbanked population.[76] More than 148 million customers and 14 million merchants have been onboarded. PIX is free to use for individuals and the majority of transaction volume on the platform is P2P. However, the government is encouraging merchant adoption by offering credit transfers and bill payments – including scheduled and recurring payments – at lower rates than card payments. BCB policymakers also give financial services providers the flexibility to set their own costs for merchants, leading to increased competition among banks. According to a report from the Bank of International Settlements (BIS), PIX costs an average of 0.22% of a transaction's value for merchants in Brazil, while debit cards are above 1% and credit cards at 2.2%.[77] For reference, the report cites average merchant transaction fees (including credit card fees) of 1.7% in the United States, 1.5% in Canada, and 0.3% in the European Union. These incentives have positioned PIX as a preferred choice for businesses and consumers. PIX's remarkable growth underlies this: In less than two years after its launch, it is the most used means of payment in Brazil with 30% of transactions, followed by roughly 20% for credit card payments.

6.3.3. Mobile Money in Africa

The mobile phone has been one of society's most rapidly adopted innovations in modern times, particularly in Sub-Saharan Africa (SSA). Not far behind it is mobile money, a service that allows users to store, send, and receive money using their mobile phones, usually through ledger systems operated by telcos with the cash balances held in trust accounts at regulated banks. Over the past 15 years, mobile money adoption has been rapid. The Global Findex database began tracking mobile money accounts in 2014, when only 12% percent of adults in SSA reported making mobile payments. That figure rose to 33% in 2021.[78] Over the same period, the percentage of adults with a financial institution account also grew, from 29% to 40%. Many mobile money services allow customers to link mobile money wallets to checking accounts, looping them into the banking system and increasing their access to other financial services. Additionally, mobile money services have significant reach even in rural areas, reaching communities that have not historically had bank branches or access to accounts.

[73] PYMNTS. Brazil's central bank head says PIX instant payments will replace credit cards. https://www.pymnts.com/credit-cards/2022/brazils-central-bank-head-says-pix-instant-payments-will-replace-credit-cards/
[74] Banco Central do Brazil (BCB). PIX Statistics. https://www.bcb.gov.br/en/financialstability/pixstatistics
[75] Statista. Penetration rate of smartphones in selected countries 2022. https://www.statista.com/statistics/539395/smartphone-penetration-worldwide-by-country/
[76] The Economist. Digital payments have gone viral in Brazil. May 2022
[77] Bank of International Settlements. Central banks, the monetary system and public payment infrastructures: lessons from Brazil's PIX
[78] World Bank Group. The Global Findex Database 2021: financial inclusion, digital payments, and resilience in the age of COVID-19. 2022.

While the mobile money sector has grown rapidly in the last decade, evidenced by the benchmark achievement of 1.6 billion mobile money accounts in 2022, significant challenges remain. Only 25% of mobile money accounts are active, as measured by 30-day activity rates.[79] A significant challenge to increasing the use of mobile money across the region is a lack of trust; most transfers of funds are cashed out via an agent upon receipt, rather than retained for future use. Relatively low merchants acceptance rates is another factor driving cash-out, although that is improving. While cash is subject to theft, mobile money users can also be subject to fraud and security breaches, especially in communities with lower levels of financial and technical literacy, where users may be taken in by unscrupulous agents or merchants offering to "help" them conduct transactions.

Kenya has one of the most developed and widely used digital payments systems in Africa. The country has 38.4 million mobile money subscriptions as of March 2023, representing a penetration rate of 76.0% for mobile money.[80] In 2007, Kenya's largest mobile phone operator, Safaricom, working in tandem with the UK's Vodafone, introduced m-Pesa as a mobile banking service that enabled users to store and transfer money through their mobile phones. The service quickly gained widespread adoption by offering a user-friendly and accessible platform that allowed individuals to perform a variety of financial transactions using basic mobile phones. M-Pesa's initial focus on P2P transfers addressed a common need in a society where domestic remittances and familial support played a crucial role. The simplicity and convenience in conducting transactions, such as sending money to family members in remote areas, played a pivotal role in its rapid adoption. M-Pesa's success can also be attributed to the limited banking infrastructure in Kenya, especially in rural regions, where the service served as a bridge, allowing individuals to access financial services without the need for bank branches. Kenya's mobile money transaction volume – measured as total agent cash-in/cash-out (CICO) volume – has been tracked by the Central Bank of Kenya since m-Pesa's inception in 2007. Over the course of 16 years, the data shows a steadily increasing monthly CICO volume – to $6.3 billion in 2023, with a monthly transaction volume of $192 per adult in the country.[81]

Drivers of Adoption

Leveraging expanding digital and communications infrastructure and a tight product-market fit, mobile money gained traction in Kenya because it allows individuals without access to traditional banking services to make payments using basic mobile phones. This contrasts with UPI and PIX, which operate through bank accounts. Mobile money has been a gateway to basic financial services because of its strong use-case that has enabled individuals to store and transfer money. Users with no bank accounts can access the numerous m-Pesa outlets located across the country, underscoring the need for a reliable physical network to build trust and usage in markets with low penetration of financial services. These brick-and-mortar agent stations have become part of Kenya's financial infrastructure as they offer account opening and cash-in and cash-out services, which are primary entry points of financial access. M-Pesa also leveraged the trust users had in Safaricom, a well-established mobile network operator. The perception of m-Pesa as a secure and reliable service contributed significantly to its adoption. The Kenyan government and regulatory authorities also played a supportive role in creating an enabling environment for mobile money adoption by implementing regulations that fostered innovation while ensuring the security and integrity of financial transactions (e.g. the requirement that mobile money balances be held by the operator in trust accounts at regulated banks).

Mobile money success was driven by user demand for internal payments transfer. However, it is not yet an adequate substitute for a well-functioning financial system. According to Findex, only 11 percent of adults in Kenya made a merchant payment, highlighting that online payments requires an ecosystem of supportive structures which can include credible digital infrastructure, security measures, and physical outposts. On the other hand, numerous other digital services have been built on top of the availability and ubiquity of fast, reliable, digital payments via mobile money. These include digital lending, digital savings accounts, pay-as-you-go solar panels, and even a digital offering of government bonds (M-Akiba)[82]. Kenya's sophisticated digital finance landscape, evidenced by its burgeoning fintech sector and range of available products, owes much to the role that mobile money has played in providing a foundation of reliable digital payments.

[79] GSMA. State of the Industry Report. 2023.
[80] Tech Cabal. Kenya mobile money rivals are no match for m-Pesa. June 2023
[81] Central Bank of Kenya. Mobile money statistics. centralbank.go.ke/national-payments-system/mobile-payments
[82] Nairobi Securities Exchange. M-Akiba. https://www.nse.co.ke/m-akiba/

6.4. Opportunities and Challenges

Government Support

Government support took different forms and played different roles in each of these countries. In India and Brazil, DPI, and in particular central bank provision of new digital payments infrastructure played key roles, although adoption also depended on by private sector product offerings. In Kenya, digital payments innovation was led by the private sector, accommodated and then reinforced by the regulator. In all three, however, there was strong policy support for inclusive payments innovation, stemming from ambitious national financial inclusion strategies that recognized the importance of greater financial access as a catalyst for economic growth.[83]

The successful examples of UPI, PIX, and mobile money showcase a combination of DPI and receptive regulatory environments with private sector collaboration and innovation. These cases underscore the pivotal role that governments can play in fostering digital payment adoption.

Product-Market Fit

An enabling policy environment is not always enough, as evident in the slow uptake of CBDCs[84], which are by definition fully supported by the authorities. The digital payments systems discussed above had policy support but also found product-market fit in one or more key use-cases: internal remittances, P2P transfers, receipt of government benefits, merchant payments. In Kenya, the internal remittance use case provided a clearly superior alternative to what had been previously available. An unbanked urban worker looking to send money to his or her unbanked family member residing in a village without a bank branch would have to arrange to send physical cash via an acquaintance who would be going to the village or via bus drivers or other travelers. This was expensive and risky. By the time m-Pesa was introduced, it was already common practice for people to transfer mobile phone credits. Turning this into a vehicle for person-to-person money transfers met a clear market need with a safe, convenient instrument for which users were willing to pay cash-in/cash-out fees.

Many fintech innovators have struggled to find product-market fit, and venture capital portfolios contain many failures for every success. Governments have less experience in creating market-oriented products and services, so it is not clear that they will be able to build on the success of digital payments infrastructure to drive adoption of a CBDC. BCB is developing a digital Real, dubbed Drex,[85] and it will be interesting to see whether Drex can replace the already popular PIX+bank accounts configuration. The track record of other CBDCs suggests that product-market fit that creates sufficient incentive for user adoption may be difficult to achieve. No CBDC has thus far demonstrated a strong use-case distinct from the existing applications of digital payments using existing currency via bank accounts or e-money wallets. Nigeria launched its e-Naira CBDC in 2021. Despite state-backing, the e-Naira has had very limited adoption, which is attributed to the lack of added value to most consumers, threat to incumbent banks, lack of public awareness, and lack of digital security.[86]

User Trust

The credibility of a digital payments scheme plays a big part in its adoption. To get there, market participants need a multi-faceted approach, including sound regulatory frameworks, regular and frequent cybersecurity assessments, and public awareness campaigns. After a cyberattack on an Indian government agency in early 2023, the personally identifiable information of 815 million Indian citizens, including Aadhaar numbers, were being sold on the dark web.[87] The compromise of Aadhaar data, which underpins UPI payments, has raised alarms about the vulnerability of the financial platform's security. The incident highlighted the crucial need for robust cybersecurity measures to safeguard sensitive data, as the success of digital payment systems like UPI is contingent on user trust and confidence. On the mobile money landscape, users face risks including unreliable service, lack of customer guarantees and transparency, and uncertainty with respect to how deposit insurance might be applied to mobile wallet balances backed by large trust accounts, in the event of a bank failure. While digital payments can be more secure than cash, they are not a panacea for all the risks inherent in carrying cash. In Brazil thieves have kidnapped and coerced people to transfer large sums,

[83] There was also, to varying degrees, an interest in the adoption of digital payments to reduce the use of cash, promoting transparency and efficiency; India's 2016 demonetization of the bulk of cash notes in circulation was an extreme manifestation of this.
[84] CBDCs are a form of legal tender for digital transactions using a payment instrument developed by a country's central bank.
[85] Banco Central do Brazil (BCB). Drex – Digital Brazilian Real. https://www.bcb.gov.br/en/financialstability/drex_en
[86] Bloomberg. Digital currency plan falters as Nigerians defiant on crypto. October 2022.
[87] The Hindu. How the personal data of 815 million Indians got breached. November 2023.

and "PIX gangs" have deployed social engineering scams.[88] New means of transferring value motivate new means to steal it, and police, financial regulators, and individuals must adapt.

6.5. Looking Forward

Adoption rates for specific digital payments instruments have varied across markets and instruments. Where there is product-market fit, adoption rates may be accelerating as the foundation infrastructure expands. A digital payment system leveraging today's cellphone and smartphone penetration rates can potentially get traction faster than even a simpler system could have achieved a decade ago. Some common factors that drive adoption of digital payments include sound financial and ICT infrastructure, the depth and reach of the banking sector, an enabling legal and regulatory environment, as well as the usefulness, convenience, and [low] cost of the digital instrument. An open, interoperable digital infrastructure can accelerate financial inclusion by bringing in competing private sector players to develop new products and services, lower transaction costs, and catalyze innovation. On the other hand, factors that hinder digital payments adoption include high costs, lack of compelling use cases, and weak recourse environments that fail to engender trust.

Shocks such as the COVID-19 epidemic and the policy shock of demonetization in India have also accelerated adoption of digital payments. Some of the adoption due to these shocks was unwound, however, when conditions normalized. Over the longer term, accelerating adoption is more likely to be driven by sound policy foundations, expanded public and private digital infrastructure, and the broader shift towards digitization of economic activities (e.g. e-commerce) that reinforce and expand the use cases for digital payments.

[88] Reuters. 'Pix gangs cash in on Brazil's mobile payments boom. June 2023

Chapter 7

The Risks that Artificial Intelligence Brings to Latin America

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Executive Summary
Artificial intelligence comprises an array of powerful technological tools that are transforming business processes, services, and the basis for value creation in most spheres of life at a scale and speed that entails significant risks. These risks are larger in regions such as Latin America, where income inequality, translating into educational and infrastructural inequality, can be augmented instead of diminished by the power of AI. We highlight these risks by analyzing the relative institutional weakness of countries in the region and present the current AI adoption patterns of Latin American companies. There is an urgent need to build awareness and an ethical code for AI in order to preserve social peace and the social contract in a region that is separated by inequalities, avoiding further exclusion and marginalization.
Keywords: Artificial Intelligence, Latin America, technology, ethics, digital transformation, global Innovation index

7.1. Why Does Latin America Offer a Unique context for Understanding AI?

Cutting edge technologies always move ahead of the regulators' ability to foresee their real and overarching impacts. The frontrunners are frequently companies that swiftly grab the technological opportunities that best serve their business goals. The rapid developments and transformational potential anticipated by the advance of artificial intelligence as a general use technology such as electricity or the Internet has triggered enthusiasm and fear.

One reason is that AI entities responsible for specific aspects of a process often lack comprehensive oversight or authority over other facets and their associated contexts. The intricate relationships between these tasks and the various AI entities involved can create challenges when attempting to accurately predict the consequences of AI systems. To illustrate, initial choices made during the identification of the purposes and objectives of an AI system can significantly influence its behavior and capabilities. Additionally, the dynamics of the deployment environment, including end-users and affected individuals, can mold the repercussions of decisions regarding AI systems. Consequently, even with the best intentions within one phase of the AI lifecycle, these intentions may be compromised due to interactions with decisions and circumstances in subsequent stages (U.S. Department of Commerce, 2023).

In addition to its unpredictability, the speedy rise of AI, its scalability and the potential for market dominance embedded in it have sparked heated controversies concerning its potential impact on social and business domains, out of fear that AI can destabilize societies faster than institutions can react to preserve peaceful social and economic equilibria. Such concerns have triggered the development of an array of initiatives, tools and whitepapers that aspire to create awareness, assess risk, and recommend risk mitigation mechanisms that range from adopting ethical principles specific to AI technology, to implementing cybersecurity measures and embracing tools that assess data bias, for example (AI Checklist: Self-Assessment Tool, 2023).

Moreover, the development of AI has not been evenly balanced across the world. In Latin America, at a tactical level, the absence of forward-looking regulatory frameworks raises concerns about decision biases, violations of intellectual property rights, improper data collection processes, and other considerations. At a strategic level, Latin America has

multiple risk factors such as a relatively fragile institutional setup, extreme income inequality contributing to recent social unrest, and the continued recovery from the costly repercussions of the COVID-19 pandemic. Against this inflammatory backdrop, AI could become a dangerous trigger of dramatic changes that institutions in most Latin American countries would be incapable of purposefully directing and molding in favor of larger societal good.

In Latin America, AI holds the potential to further shift the balance of power away from the relatively weak public domain to the benefit of closely held businesses that are agile and digitally savvy. Therefore, the need arises for a clear ethical code, regulations and enforcement mechanisms that enable companies to develop and deploy technology to address the pressing challenges of the region in a responsible way, while respecting the basic social contract. Nonetheless, for technology and innovation to foster universal progress, it requires an adequate and updated institutional and organizational structure that guarantees a balanced distribution of benefits. In this sense, the governance of AI technology is crucial to ensuring maximum benefits and the prevention and mitigation of potential harm. This could be achieved by both the implementation of innovation-friendly regulatory frameworks and self-regulatory standards for the responsible use of technology; an urgent pending task in the Latin American context.

This chapter presents an overview of the promise and risks of AI and offers compelling evidence derived from secondary data and exploratory focus groups conducted among companies, revealing the prevalent utilization of AI in Latin America in 2023. It delves into an exploration of some ideas for public policies as well as practices that companies are adopting, and it is a call for action for implementing responsible and sustainable AI.

7.2. Taking a Step Back from the Tree to Look at the Forest

Taking a step back from the specificities of the Latin American region, the global development of AI has revealed a set of questions that are crucial to implementing proper governance of the uses this technology brings. The aim is to ensure its alignment with democratic principles, shared values and international norms, and to allow for a fair distribution of the benefits of this technology, ultimately empowering all humankind. Critical philosophers and economists such as Daron Acemoglu, Simon Johnson, Shoshana Zuboff, Noam Chomsky, Yuval Noah Harari, and intellectuals such as Ian Bremer and Cathy O'Neil, among many others, have been vocal about the need for updates to current institutional and organizational architecture, as well as governance frameworks for dealing with the disruptions provoked by the ever faster and more disruptive developments that come from the technological arena.

We are confronted with an ever-widening set of AI-based technologies, with the advent of generative AI since early 2022 with the initial launch of AI generated images in March 2022 by companies such as Midjourney, StableDiffusion, OpenAI with Dall-E, Hugging Face and others (Llaneras, Rizzi and Alvarez, 2023). Nonetheless, the most significant disruption up until now came on November 30th, 2022, the date of the release of ChatGPT by Open AI, which set the record for the fastest growing user base reaching 100 million users in only two months. Since this major breakthrough, companies such as Google, Microsoft and AWS have focused on building more GenAI tools, including significant research in large language models such as Meta's LLaMA2 (Merino, 2023) and Stanford's Alpaca (Taori et al., 2023) (Kim, 2023). The most important facet of these recent developments is the speed with which users get access to advanced technology right at their fingertips on their mobile phones, computers, and laptops. This unprecedented availability of technology that can generate text, image, video, and sound has many implications not only for intellectual property (UNESCO, 2023), data (The Economist, 2023), or even the global economy - Goldman Sachs estimates GenAI could raise global GDP by 7 per cent (Goldman Sachs, 2023) -, but for the very foundations of present-day societies. According to Yuval Noah, modern societies are based on the use of language to transmit ideas and narratives, and with the advent of Generative AI there is a major risk of entering a phase of higher polarization, and lack of trust and common truths, ultimately having a serious negative impact on the foundations of democratic institutions, given the possibility to generate content that amplifies echo chambers and disinformation (Harari, 2023). While this might not be the only potential second-order consequence of AI adoption, it shows that it is a challenge that all societies face, regardless of economic and cultural specificities. This is one motivation for Ian Bremer's calls for an urgent reframing of innovation governance frameworks that move past traditional conceptions of sovereignty and the limitations of political borders. Additionally, Acemoglu and Johnson in their most recent book titled "Power and Progress: Our Thousand Year Struggle over Technology and Prosperity" (Acemoglu and Johnson, 2023) advocate for an intentional institutional and organizational design that allows for the benefits of technology to spill over the whole society instead of being concentrated within technological and economic elites. The idea is that workers and society as a whole are also prepared

with the necessary institutional safeguards and rights to take advantage of this technology for their own benefit, thus increasing productivity in an inclusive way.

Along the same line, at a macro level more deliberate approaches may enable a more balanced societal equilibrium (Buhmann and Fieseler, 2022) that includes governments, technology firms and civil society groups to steer the direction of digital transformation, thus having an impact on regulation and contributing to more inclusive governance frameworks. Furthermore, this democratic framing requires the establishment of robust actionable countervailing powers that allow for the control of public and private interests, therefore allowing for the maximization of the common good. This might imply drafting innovation friendly regulations, intellectual property protections, antitrust measures to prevent market concentration, and also empowering workers through stronger unions, collective bargaining, and fairness codes towards workers. At the market economy level, there is a need to better understand the global economic trends towards regionalism and shift efforts towards a new globalization that stresses sustainable inclusive development and reorients investment flows for critical infrastructure and eco-friendly computing power (UN, 2019). At the international organizational level, there is a growing body of research advocating for the establishment of international organizations that could support access to frontier AI systems and the setting of international safety standards (Ho et al., 2023). For example, during the United Nations General Assembly in late September 2023 hosted in New York, the UN Secretary-General's envoy on technology, Amandeep Gill, hosted a meeting entitled "Governing AI for Humanity", in which participants discussed how to achieve international cooperation for the governance of AI. The idea behind this was to establish a global authority that can inspect systems and require audits with safety standards regarding the uses of AI depending on different degrees of deployment (Henshall, 2023). While this kind of international cooperation seems hard to achieve given the current voting and veto composition of the UN, as well as highly entrenched geo-political interests, the organization aims to start discussions on the topic to achieve some initial traction for governance setup that influences AI innovation.

These are all examples of current discussions on how to update the current institutional, organizational and governance frameworks to tackle a disruptive and fast-evolving technology. Certainly, Latin America as a region could benefit from understanding the global and regional dynamics of AI governance to promote well-oriented policies and strategies to make the most out of this powerful technology, particularly given the multiple structural challenges for preserving social peace.

7.3. The Promise of AI in Latin America

AI has the potential to bring significant benefits to Latin America by improving advances in critical development sectors such as healthcare, agriculture, education, and the provision of public services (Economist impact, 2022). For example, the healthcare industry has garnered considerable investment interest. This heightened attention is primarily driven by the urgency to alleviate the strain on healthcare systems within the region, which are overwhelmed by patient demand. Additionally, there is a growing need to enhance the quality of healthcare services. The applications of AI in healthcare are extensive and encompass a wide range of functions, such as early disease detection and forecasting public health trends. Notably, the early detection of health conditions can be particularly advantageous in Latin America, where the accessibility of medical professionals and equipment is limited. Regarding agriculture, Brazil's national AI strategy underscores the potential of AI systems in real-time analysis of agricultural data. These systems have the capability to predict the impact of weather conditions, water utilization, soil health, and other variables. Such predictive analysis can be invaluable for farmers, enabling them to optimize crop yield and quality while making informed decisions regarding what to plant, how to plant it, and where to do so. In the realm of public services provision, all countries in the region, with the exception of Chile, have poor rankings on Transparency International's corruption perceptions index. The utilization of AI-based models holds the potential to mitigate this substantial economic impact while simultaneously reducing the resources required to combat corruption. Colombia, for instance, has taken an innovative approach by implementing a machine-learning (ML) model designed to draw attention to areas within public contractual processes that are most susceptible to corruption or inefficiencies. Leveraging ML algorithms, it scours through an extensive database of public procurement contracts at the district level to predict the level of corruption risk and inefficiency. The results are then integrated into an early warning system, allowing users to visualize the likelihood of irregularities in public contracts (Economist impact, 2022). Nonetheless, on the flipside of the promise of AI, this technology also holds the potential to increase harmful bias and discrimination, the spread of misinformation or false information and generation of disinformation deliberately designed to mislead, the undermining of individual and collective rights, as

well as the potential for displacement of millions of jobs, therefore worsening current socioeconomic inequalities (Bremmer and Suleyman, 2023).

In particular, Latin America and the Caribbean is a vulnerable region given its level of socioeconomic inequality and digital divide. According to the UN Development Program in their most recent studies for Latin America in 2021 and 2022, the patterns of economic inequality in the region over the past two to three decades could be summarized with a simple sentence: "there were improvements (early 2000's), they were not enough (from early to 2010s to mid 2010s), and they have slowed (since 2019 and probably worsened by the COVID-19 pandemic)" (Gasparini and Cruces, 2022; UNDP, 2021).

Since February 24th, 2022, as a consequence of the conflict between Russia and Ukraine, the world has witnessed a significant economic impact (UN, 2023), with has reverberated to Latin America in the form of high inflation and the resulting monetary policies most countries adopted to confront this challenge by increasing interest rates (Adler, Chalk and Ivanova, 2023). Yet, high-interest rates have a detrimental impact on poor people, and their effects can be particularly pronounced in low-income communities, further widening the wealth gap in society. High interest rates trap poor individuals in a cycle of debt, as they may cause the need to take out additional loans to repay existing ones, limit access to credit and increase the cost of borrowing. The economic consequences of a war on a different continent testifies to how structural inequality remains a burning economic and political issue for the region that causes a direct concern for the responsible use of AI, in order to prevent the amplification of these divides and further exclusion of, and discrimination against, people living under conditions of poverty and economic vulnerability (ECLAC, 2022).

In terms of the digital divide, it is well documented by international organizations such as OECD, ILO, ECLAC, CAF and IDB (OECD, 2020; CEPAL, 2021; CAF, 2020; Maurizio, 2021) that the region faces crucial challenges to reduce the digital divide, mostly related to the lack of high-quality connectivity. According to World Bank data less than 50% of the total population in the entire region has access to broadband connectivity and only 9.9% has access to high-speed internet, which is a challenge for the provision of critical services in education, health, financial inclusion, infrastructure and of course the improvement of digital skills (Gonzalez Rivas, 2021). According to the OECD at least 27% of the jobs in OECD economies call for an urgent update of the educational agenda to increase digital skills for employees from the region (OECD, 2023).

The harsh economic conditions with respect to low economic growth, high interest rates and an increasingly worrisome landscape of digital talent has also had an impact on the venture capital ecosystem. Regarding talent and skill gaps, the region's limited progress in the digital economy is attributed, to a smaller extent, to poor connectivity rather than to the lack of digital skills among its population, where the unequal access to digital skills reflects and may further deepen Latin America's high levels of income inequality (Oxford Analytica, 2023).

Figures of digital transformation since the 2020 global economic pandemic of COVID-19 have been positive for the region, showing a steady increase in investment flows since 2018 from USD5 billion to an estimate of USD15 billion to USD18 billion by the end of 2021. In fact, by 2022 over 24 tech unicorns, i.e., companies valued at more than USD1 million were born in the region (Becerra, 2022); the current estimate of Latin American tech unicorns in 2023 is around 26 to 28 (Startupable, 2022). However, as mentioned, higher interest rates increasing the cost of money and higher economic uncertainty drove investors to pull back on their deals in the region. According to CBInsights (2023) over 80% of AI mega-round funding goes to US companies (USD4 billion in 18 deals in 2023) with very little investment in Latin America, totaling USD8 million over only 6 deals in 2023. In fact, in terms of new unicorns in 2023, only 7 were born globally (5 in the US, 1 in Canada and 1 in the UK). This trend shows that global competitiveness in AI-based start-ups is very stiff and biased towards high-performing economies, with limited resources devoted to Latin America and the Caribbean for the continued development of this kind of technology, in a context of reduced availability of venture capital globally.

Despite all these difficulties, it is essential that policymakers find a way to support innovation in AI while safeguarding the rights and interests of the region's population. For this reason, many governments have started to take a more proactive role in the definition of national AI strategies that allow the establishment of a path that maximizes the benefits of this technology. Recently, the National Centre for Artificial Intelligence in Chile (CENIA: https://www.cenia.cl/en/home/) launched its Latin American Index on AI (ILIA) to assess the readiness of governments

to adopt AI-related technologies. The index includes the following three main subdimensions for the readiness assessment: 1) infrastructure, 2) data and 3) skills and talent. It also evaluates a set of enabling factors for the adoption of this technology, including the validity of national AI strategies, the establishment of dedicated bodies by the government to support the implementation of the strategy, the orientation towards a general common good within national strategies, as well as their alignment with OECD principles of responsible use of AI. The results show that Chile leads the ranking followed by Brazil, Uruguay, Argentina, Colombia, Mexico and Peru, with almost no advances in Bolivia, Costa Rica, Ecuador, Panama and Paraguay. A summary of the most recent scores, rankings, and core weaknesses regarding the AI Index of selected Latin American countries is presented in Table 7.1.

Table 7.1. Latin American AI Index

Country	Ranking	Score	Core relative weakness
Argentina	4	54.76	R&D
Brazil	2	65.31	R&D
Chile	1	72.67	R&D
Colombia	6	47.62	R&D
Ecuador	10	22.17	International scope; Institutional setup
Mexico	5	48.55	International scope
Peru	7	45.55	R&D
Uruguay	3	54.99	International scope

Source: Authors' own elaboration based on data from the Latin American AI Index, available at https://indicelatam.cl/ficha-pais/the potential alienation of humans.

7.4. Private Sector and AI in Latin America

While some countries are still drafting Data and AI-related regulations, the private sector is already developing and using AI technology for a wide array of applications, many of them in sectors with huge societal impact, such as health, finance, education, transportation, and security (Tracxu, 2023). However, most of these applications must start following AI ethics guidelines to ensure the robustness and trustworthiness of their processes and services and avoid negative externalities.

In Latin America, entrepreneurial drive and strong business culture tend to be relative strengths in the face of relatively weak institutional function. Using data from the Global Innovation Index 2023, Table 7.2 contains data of the relative global ranking (out of 132 countries) of selected Latin American economies in relation to their institutions, on the one hand, and the knowledge, technology and creative outputs of their innovation and entrepreneurial ecosystems on the other.

Table 7.2. Global Innovation Index 2023 Selected Pillars for Latin American Countries

Country	Institution ranking (out of 132)	Knowledge and technology outputs ranking (out of 132)	Creative outputs ranking (out of 132)
Argentina	123	79	**51**
Brazil	99	52	**46**
Chile	**49**	58	59
Colombia	78	**62**	80
Ecuador	109	102	**99**
Mexico	111	57	**45**
Peru	81	101	**74**
Uruguay	**31**	66	78

Source: Authors' own elaboration based on data from the GII (2023)

The global performance of Latin American economies in relation to knowledge, technology and creative outputs is modest. Notably, with the exceptions of Chile and Uruguay that score higher on institutions globally, all remaining large countries in Latin America score much higher (in relative terms) on innovation outcomes. This points to the relative weakness of institutions vis a vis the dynamisms of the entrepreneurial and business ventures that contribute to innovative results. These imbalances hide great risks for Latin America in the context of AI development and adoption.

In particular, AI developed by the private sector used in public services must be taken with serious caution. Take, for example, the challenges of the World Bank's "Takaful" project for the allocation of cash assistance using an algorithm

in the MENA region (Human Rights Watch, 2023). This project, though good in intention and spirit, has arguably threatened access to financial assistance for its beneficiaries given a number of structural challenges such as limited internet access, lack of digital skills, and poor feature selection (Ryan-Mosley, 2023). The algorithmic system categorizes families seeking aid from the least economically disadvantaged to the most impoverished using a hidden formula that assigns weights to 57 socioeconomic indicators. However, applicants have expressed concerns that this formula doesn't accurately represent their true economic situations, occasionally leading to inaccuracies, unfair assessments and reinforced biases and gaps. Specifically, a bias derived from a sexist legal code was denounced. The cash assistance program is exclusively available to Jordanian citizens, and one of the factors considered by the algorithm is the household size. Notably, Jordanian men who marry noncitizens can confer citizenship to their spouses, while Jordanian women who do the same are unable to do so. This discrepancy leads to a reduced reported household size for such women, consequently diminishing their likelihood of receiving assistance. Takaful has incurred costs exceeding $1 billion, with the World Bank supporting similar projects in eight other countries in the Middle East and Africa.

What such experiences show is the need for adequate frameworks, guidelines, tools, and advisory services to ensure the ethical alignment of powerful AI technology in order to prioritize a truthful representation of reality and desirable social principles, instead of hiding its shortcomings behind the mask of statistical objectivity. We argue that the balancing act between powerful algorithms and the social perception of fairness and ethical principles will be instrumental for the preservation of peace and the achievement of a greater societal good. In the context of Latin America, steps in this direction have been already taken.

Through its fAIr LAC initiative the Inter-American Development Bank has developed resources for public and private sector actors since 2019, executing technical cooperation in Chile, Mexico, Colombia, Uruguay, and Costa Rica (fAIr LAC). fAIr LAC is a partnership between the public and private sectors, civil society, and academic institutions, designed to influence public policy and the entrepreneurial ecosystem in the promotion of the responsible and ethical use of AI. The projects undertaken have a dual purpose. On one hand, to systematize the lessons learned from applications where AI have helped create greater social impact, and to foster a cooperative environment for scaling and emulating projects in the region, on the other.

Other international organizations such as UNESCO and CAF have also joined forces to support governments in the implementation of the AI ethics recommendations adopted in November 2021 by UNESCO's member states (UNESCO, 2022). CAF and UNESCO signed a letter of intent to work together on the implementation of this recommendation in Latin America and the Caribbean, and to support the creation of a regional council including governments of the region. In the context of such initiatives, fostering public-private exchanges on the implementation of AI governance recommendations is critical to informing policy sandbox exercises. These would allow regulations to be calibrated to the realities of the local ecosystem and specific context, while in line with international best practices.

Focus Group Exploration: Latin American Companies and AI Adoption

In order to gain a deeper understanding of the perspective of Latin American companies using AI, focus groups were convened in March 2023 with six regional businesses involved in the development of AI systems or the integration of AI into their market offerings.[89] A research team from Universidad de los Andes School of Management used a survey instrument as well as semi-structured interviews to collect information. The study was exploratory in nature and its primary goal was to shed light on AI adoption in the Latin American context, including future plans and challenges. The utilization of AI and the ethical practices in place meant to ensure responsible AI implementation were also discussed. The participants encompassed a spectrum of companies, ranging from those extensively leveraging AI to those that had initiated its adoption in niche applications. The key insights from the focus group study led to the following snapshot regarding AI adoption stage for Latin American companies:

In 2023, Latin American companies primarily used AI for customer service, business analytics, sales, and supply chain management. Tools such as chatbox, virtual assistants, email automation and social media monitoring were among the most common applications. Commonly used AI technologies included supervised learning, deep learning and active learning, with structured data, text, images, and video as training data. Companies reported that they embraced AI tools due to competitive pressures and increased customer demand but also as a result of a shortage of skilled labor and the

[89] The researchers who contributed to the focus group activity were Hamilton Lopez, Liliana Rivera, Chetna Chauhan and Juan Pablo Soto.

increased accessibility of AI technologies. Thus, the value proposition of AI is seen in two dimensions – in cost reduction and increased service agility. The most common business models for AI included AI software as a service and AI technology consulting. Companies reported that in 2023 they planned to allocate a minimum of 6% of their IT budgets for AI development.

In 2023 the biggest challenges for companies in Latin America regarding AI risks were related to the talent gap in AI skills, inadequate regulatory regimes, and a lack of auditing practices for AI/ML models. There were specific concerns regarding the lack of control over AI systems in relation to bias, error, and toxicity. Companies recognize that they often do not perform ethical risk analysis or institute formal governance bodies for addressing the specific challenges and risks of AI. While companies reported they were confident regarding personal data protection management, there was ambiguity as for the lack of regulation for impact assessment and data portability. Prior to AI adoption, companies had primarily assessed risks related to privacy and security but overlooked model degradation, fairness, bias, toxicity, safety, and reliability.

These practices show that Latin American companies are embracing AI technologies and successfully crafting solutions in different business areas that enhance competitiveness by reducing costs and improving service agility and decision-making. However, the absence of adequate regulation and internal governance structures pose risks for significant unforeseen externalities that could trigger societal unrest due to job displacement and infringement on rights and freedoms as a result of the widespread adoption of AI algorithms. The lack of awareness and thorough risk assessment of AI algorithms can result in uncontrolled issues, such as bias, errors, or the emergence of harmful AI outcomes especially in the context of the sharp divide and inequality that characterize Latin American countries. In sum, ensuring an updated and renovated alignment of institutions and business organizations in Latin America under the current context is critical if AI is to reach every person in the region in a positive way and not leave large segments of the population behind. This would allow these technological advancements to become actual drivers for human and societal progress.

Businesses in Latin America, through the adoption of AI, impose a sense of urgency on regulators and the wider institutional setup in charge of protecting the common good and peace. They also need to embrace the responsibility of adopting a more holistic view of their business models, given that the potency and speed of change embedded in AI could cause the fragile social equilibrium to break. Developing sound processes for AI risk assessment in favor of a responsible and sustainable AI adoption must top the agenda of political, business and social leaders alike.

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Chapter 8

From Car Makers to Commanders of the Global Electric Vehicle Industry

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Executive Summary
This chapter examines the emergence of China as a prominent world force in the automobile industry in the last decades. It shows that, in this process, industrial policies and state intervention have resiliently been embedded in the Chinese car-making industries. The Chinese government facilitated the establishment of the early automobile companies during the Maoist era, with an emphasis on commercial vehicle production. Later on, the central government granted permission, to foreign manufacturers, to enter the market by establishing production subsidiaries, albeit subject to stringent joint venture conditions. The domestic market gradually opened up in the late 1990s, ultimately leading to China's entry into the World Trade Organization in 2001. In the last two decades, the "technology for market" strategy has persisted, leading to a rise in inbound foreign investment. Simultaneously, the Chinese government has encouraged domestic players to expand their presence abroad and helped establish the Chinese automobile industry as a leader in the design and production of environmentally friendly vehicles or electric vehicles (EVs).

8.1. Introduction

China was the only automobile producer that sustained growth during COVID-19. The country's total output grew by 5% between 2019 and 2022 whereas Germany suffered a decrease of 26%, Japan of 19% and the United States of 8% (OICA, 2023). By so doing, China has maintained its position (since 2009) as the world's largest car manufacturer with one-third of total output (CATARC, 2010). In 2022, the number of cars exported from China reached above three million, surpassing Germany and making it the world's second-largest automobile exporter. It was only behind Japan, which exported three million eight hundred thousand cars (CAAM, 2023; Statista, 2023). Considering that China exported roughly 2 million cars in 2002, that rise is astonishing. It is worth noting that more than 636,000, equivalent to 22%, were new energy vehicles (NEVs, henceforth) (CAAM, 2023). China has a 12 % share of the Mexican market (Yoon, 2023), and China holds around 8% of Europe's EV share and the market specialists foresee a rising trend (White, 2023; Blenkinsop 2023). The best-selling budget electric car in China sells for about USD5,000, with a fall in prices that has doubled China´s passenger electric vehicle sales in 2022 (Yoon, 2023).

How and when, and also why, this revolution has unfolded in just a few decades, in one of the most capital and technology-intensive industries of the world, in China? Overcapacity? Monetary exchange rates and price structure of the industry? Tariffs? Edge in local investment in sodium-ion batteries cheaper than lithium-ion cells? Or the consequence of a path-dependent historical process of State coordination of long-term strategies in the Chinese car industry, dominated by a close synergy between global and local trends and opportunities?

Throughout seven decades of development, indigenous Chinese manufacturers and their national branded cars did not have enough competitiveness in foreign markets, in particular, those of developed countries (Jia-Zheng, 2023) until the recent upsurge of EVs globally. The energy transition and the rising weight of EVs made in China marks a turning point. Our study indicates this has been the result of a process that includes state intervention, with industry policies encompassing direct investment regulations and market controls.

[90] This chapter is based mainly on the findings of Yuan Jia-Zheng's Ph.D. dissertation, entitled "The Re-emergence of the Chinese Economy: Internationalization and Technological Catch-Up in the Automobile Industry (1953-2018)" defended at the University of Barcelona on May 31, 2023, supervised by Patricia García-Durán Huet and Carles Brasó Broggi. The committee evaluating the thesis was composed of Paloma Fernández Pérez, Rafael Castro and Jun Kajima.

The automobile industry was recognized as one of the pillar industries to be developed after the foundation of the New China in 1949. These general guidelines were included within the five-year plans since 1953 (see Table 8.1). The Chinese government facilitated the establishment of the early automobile companies during the Maoist era, with a specific emphasis on commercial vehicle production under Soviet aid. Later on, when economic reforms were introduced, the central government granted permission to foreign manufacturers to enter the market by establishing production subsidiaries, albeit subject to stringent joint venture conditions. The domestic market gradually opened up in the late 1990s, ultimately leading to China's accession to the World Trade Organization in December 2001.

Table 8.1. Timing of China's policy changes in automobile industry (five-year plans)

Five-year Plan	Period	Guidelines
1st - 4th FYP	1953-1975	Focus on commercial vehicles
5th FYP	1976-1980	Passenger cars began to be included as production category
6th - 7th FYP	1981-1990	Passenger cars need to be produced in China
8th FYP	1991-1995	Strengthen passenger car and passenger cars parts and accessories production, increase national content, FAW, SAW and SAIC to build foreign equity JV.
9th FYP	1996-2000	Continue developing automobiles sector.
10th FYP	2001-2005	Increase manufacturing capacity and quality of passenger cars and parts and accessories
11th FYP	2006-2010	Support to NEV development and international production cooperation.
12th FYP	2011-2015	Support to R&D activities in energy efficiency, indigenous capacity, production of NEVs and hybrid vehicles.
13th FYP	2016-2020	Further develop indigenous intellectual property made engineers, electronic parts and related accessories; encourage the use of environmentally friendly and new energy vehicles.
14th FYP	2021-2025	Encourage the use of environmentally friendly and smart vehicles, management and consumption innovation.

Source: Jia-Zheng (2023)

In the new millennium, inbound foreign investment continued followed by new strategic partnerships. Simultaneously, the Chinese government actively encouraged domestic players to expand their presence abroad through dynamic investment deals with a notable increase after the world economic setback in 2009. During the later decade, the government has paid most attention to upgrading the overall industry potential. The 'Made in China 2025' program, the 'Energy Technology Revolution Innovation Action Plan 2016-2030', as well as the 'Work Plan for Stable Growth of the Automobile Industry (2023-2024)' highlight the relevance of technology and innovation seeking environmental-friendly vehicles.

This reviews China's development as a prominent global force in the automobile industry and its emergence as a leading potential in the EV market. It shows that industrial policy has been resilient over the past half a century the primary instrument of the Chinese government to protect and support foreign strategic partnerships. The following section examines the early stage during the high socialism period. Section 3 then studies the post-Mao period when economic reforms began and the entry of foreign direct investment. Section 4 explores outbound investment strategies since the 'Go Out' policy, while Section 5 highlights the electrification process during the new millennium.

8.2. Building backbone automobile manufacturers

The Maoist period (1953–1976) witnessed the emergence of the backbone companies that have continued to lead China's car production to this day. While foreign collaboration was sporadic and short-lived during the Maoist era, it played a crucial role in establishing China's main domestic producers. Since the proclamation of the People's Republic of China (PRC) by Mao Zedong in October 1949, China's economy gradually came under the control of the Chinese Communist Party (CCP) and the socialist system of five-year plans (Bernstein et al., 2010). The government placed special emphasis on strategic sectors like mining, metallurgy, and the automotive industry, considering them as pillar industries that received significant public investment allocations during the first Five-Year Plan (FYP) from 1953 to 1957, coinciding with the peak of Sino-Soviet collaboration.

The production of automobiles in China during this period, in terms of both quantity and categories, was strictly regulated by the state, which established production quotas for each category of goods. Commercial or industrial vehicles (such as trucks and military SUVs) were given priority over passenger vehicles (Editorial Board, 1996). Until the

early 1970s, the yearly average production of passenger cars remained below one thousand units, representing less than one percent of China's total car production (see Table 8.2). During the Maoist period, all automobile companies were state-owned. The First Automotive Works (FAW), the Second Automotive Works (SAW), and Sinotruck, were directly managed by the central government through the First Machinery Industry Unit. Other companies, such as the Guangzhou Automobile Corporation (GAC), the Shanghai Automotive Industry Company (SAIC), and the Beijing Automobile Industry Company (BAIC), were controlled by local governments (Editorial Board, 1996).

Table 8.2. China's Automobile Production by Five-Year Plans, 1953 –1980 (yearly average)

Five-year Plan	Period	Total (units)	Passenger cars (units)	Commercial vehicles (units)
1st FYP	1953-1957*	3,206	-	2,648
2nd FYP	1958-1962	14,301	54	11,351
Restructuration	1963-1965	29,728	81	24,611
3rd FYP	1966-1970	48,322	217	40,056
4th FYP	1971-1975	116,013	1,136	90,498
5th FYP	1976-1980	163,530	3,430	122,949

Source: adapted from Jia-Zheng & Brasó Broggi (2023)

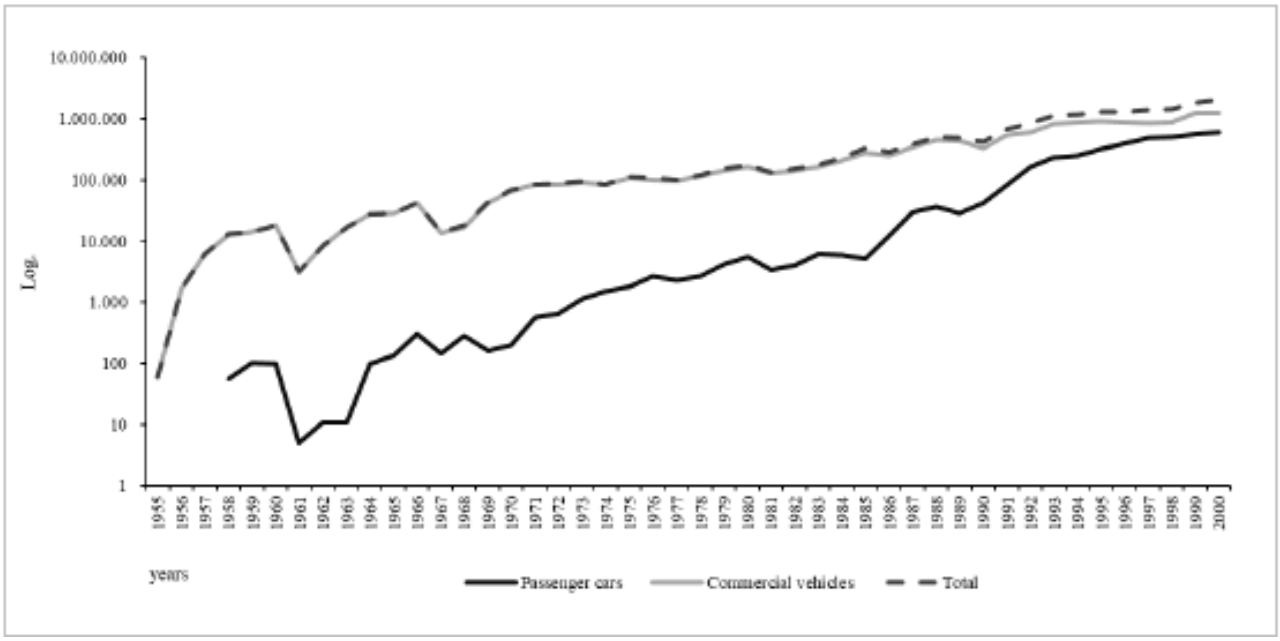
FAW was established in 1953 with Soviet assistance, strategically located in Changchun, Northeast China, near the Soviet Union. FAW mirrored the Soviet Zanov Imeni Likhachyova (ZIL) factory. The collaboration involved substantial imports of industrial equipment and the training of Chinese engineers in Soviet factories. Concurrently, Cantonese GAC, Shanghainese SAIC, and Pekinese BAIC emerged in the mid-1950s during the socialist transition. Despite limited experience in vehicle manufacturing, these companies copied Western brand models for passenger car assembly. Initially, passenger cars were a symbol of national pride, primarily consumed by a small elite of high-ranking Communist cadres. Most of the production focused on commercial vehicles, particularly trucks, essential for goods transportation.

There was a significant decline in China's car production in the early 1960s, (see Figure 8.1). The drop in production during this period can be attributed not only to domestic policies like the Great Leap Forward (1958–1960) but also to the Sino-Soviet split (as noted by Schaufelbuehl et al., 2018, and Zhang, 2001), which led to the cessation of technical assistance, machinery supplies, and advisory services from the Soviet Union. However, in the mid-1960s, despite Soviet pressure to sever ties with China and Mao's self-reliance claims, some Eastern European countries, such as Czechoslovakia, Poland, and Romania, resumed exports of trucks and cars to China. In the third and fourth FYP (1966–1975), the total quantity of imported vehicles increased significantly to 139,000 units, particularly for heavy-duty trucks, while imports of passenger cars remained low (CATARC, 1994). Following the Sino-Soviet split, China exported a symbolic quantity of vehicles, such as SUVs, special vehicles, and trailers, to communist allies such as Albania, Cuba, Vietnam, and North Korea (Baranson, 1969; CNAIC, 1984).

Western European countries also sought to engage in trade with China, bypassing pressures from the United States and its trade embargo imposed on the People's Republic of China since the Korean War. Chinese delegations established contacts with Western European countries to purchase commercial vehicles during the Geneva Conference in 1954 (Knüsel, 2022). Despite these contacts not yielding significant business results, the Sino-Soviet split created opportunities for collaboration between China and Western Europe (Zanier, 2017). Similarly, China signed a crucial agreement with the French truck producer Berliet, marking the beginning of car and truck exports from France to China, supported by the establishment of full diplomatic relations in 1964 (Zhou, 2018). Italy also entered into business deals with China, particularly in the oil, petrochemical, and automotive sectors. For instance, Fiat played a significant role in the automotive collaboration (Zanier, 2017). Years later, in 1969, the second backbone automotive company controlled by the central government, SAW (nowadays known as Dongfeng Motors), was founded (Meyskens, 2020).

In summary, the Chinese automobile industry experienced modest growth during a period when the passenger car market was virtually non-existent, and state control was paramount. Both the central and local governments in China not only were the primary purchasers and distributors of all automobiles, including imported units, but they also had complete ownership of the industry. However, the foreign presence was significant from the beginning, first through international collaboration agreements during the Cold War era, and later through trade. While industrial growth during the Maoist period, characterized by higher production of commercial vehicles compared to passenger cars, was limited, it played a vital role in shaping the backbone companies that continue to lead China's car production.

Figure 8.1. China's total automobile industry output, 1955–2000 (by main category)



Sources: Jia-Zheng (2023); Jia-Zheng & Brasó Broggi (2023). Note: SUVs were included in commercial vehicles until 2001.

8.3. The 'market for technology' strategy and the establishment of joint ventures

Since December 1978, the Chinese government pursued a "market for technology" strategy, allowing foreign automobile manufacturers to establish production subsidiaries in China from the late 1970s, although under restrictive conditions. This strategy led to the formation of joint ventures (JVs) between state-owned automakers and foreign manufacturers, which would ultimately dominate the bulk of total production (Editorial Board, 1996).

The first Sino-foreign JV was formalized between the Chinese SOE Beijing Automotive Industry Corporation (BAIC) and American Motors Company (AMC) in 1983 (FAW, 1991). The new company, Beijing Jeep Corporation (BJC), would be the only one with a partner from the USA for a decade (see Table 8.3). Group Volkswagen was the second Western manufacturer and first European to access the Chinese automobile industry. SAIC and Volkswagen also participated in SVW's (Shanghai Volkswagen) foundation in 1984. Like AMC, Volkswagen committed to sharing updated technology with local Chinese engineers, modernizing industry equipment, and transferring trade experience. In 1991, FAW and Volkswagen created a new JV with a production plant in Changchun (see Table 8.3). France and Italy also made their presence felt in China. Peugeot established a JV with GAC in Guangzhou in 1985, with the French partner holding a minor stake of 34%. Fiat, however, missed the opportunity to be a pioneer in China's industry. Although Giovanni Agnelli, as Chairman of Fiat, negotiated with Chinese parties to create a new JV for light-duty commercial vehicles by 1975, it wasn't until 1985 that Fiat Iveco and the Nanjing Automobile Corporation agreed to produce light commercial vehicles in Nanjing (Editorial Board, 1996).

Table 8.3. Sino-Foreign Joint Ventures, 1983-1992

Partners			Joint Venture	Year	
Domestic	**Foreign**	**Foreign country**			**Location**
BAIC	Jeep American Motors Corporation (AMC)	USA	Beijing Jeep Corporation (BJC)	1983	Beijing
SAIC	Volkswagen	Germany	Shanghai Volkswagen (SVW)	1984	Shanghai
GAC	Peugeot	France	GAC-Peugeot	1985	Guangzhou (Guangdong)
Nanjing Automtoive	Fiat-IVECO	Italy	Nanjing-Iveco (NAVECO)	1985	Nanjing
Chongqing Qingling Automotive	Isuzu	Japan	Qingling Isuzu	1985	Chongqing
FAW	Volkswagen	Germany	FAW-VW	1991	Changchun (Jilin)
Dongfeng	Peugeot Citröen	France	Shenlong Limited	1992	Wuhan (Hubei)

Source: adapted from Jia-Zheng & Brasó-Broggi (2023)

The second wave of Sino-foreign joint ventures occurred in the early 1990s, marking the beginning of modest expansion in passenger cars and of Japanese involvement. The 1994 Policy on Automobile Industry Development was the first official policy directly targeting the structure of automobile manufacturing in China (SDPC, 1994). This policy consolidated the existing regulations regarding JVs. First, foreign stakeholders were restricted to no more than 50% ownership of the joint venture. Second, local content was required to reach 90%. Third, new foreign projects exceeding USD50 million required approval from the National Development and Reform Commission (NDRC). In either case, foreign carmakers were not free to choose their local partners.

Table 8.4. Sino-Foreign Joint Ventures, 1993-2001

Partners					
Domestic	**Foreign**	**Foreign country**	**Joint Venture**	**Year**	**Location**
Changan	Suzuki	Japan	Chongqing Changan-Suzuki	1993	Chongqing
Dongfeng	Nissan	Japan	Zhengzhou Nissan	1993	Wuhan (Hubei)
Chang'an	Suzuki	Japan	Changan Suzuki	1993	Chongqing
Nanjing Yuejin	Fiat	Italy	Nanjing Fiat	1995	Nanjing
Changhe	Suzuki	Japan	Changhe Suzuki	1995	Jingdezhen (Jiangxi)
Fujian Automotive	Yulon Taiwan		Fujian Yulon	1995	Fujian
FAW	Volkswagen	Germany	FAW-VW-Audi	1996	Changchun (Jilin)
Dongfeng Motors	UD Trucks	Japan	Dongfeng Nissan Diessel Motor (DND)	1996	Guangzhou (Guangdong)
SAIC	GM	USA	Shanghai GM Wuling	1997	Shanghai
Jiangsu Yaxing Motor & Coach	Benz	Germany	Yaxing Benz	1997	Yangzhou (Jiangsu)
GAC	Honda	Japan	Guangqi Honda	1998	Guangzhou (Guangdong)
FAW	Toyota	Japan	FAW Toyota	1998	Changchun (Jilin)
Tianjin Xiali	Toyota	Japan	Tianjin Toyota	2000	Tianjin
GAC	Isuzu	Japan	Guangzhou Isuzu	2000	Guangzhou (Guangdong)

Source: adapted from Jia-Zheng & Brasó-Broggi (2023)

Japanese manufacturers changed their internationalization strategies in China as they rapidly began establishing Sino-Nippon JVs from 1992 to 2000. Out of a total of 15 international JVs during this period, nine were Japanese, four were European, one was from the USA, and one was from Taiwan (see Table 8.4). The entry of Japanese manufacturers was somewhat surprising, as they had been unwilling to participate in Chinese joint ventures to avoid potential Chinese competition in the East Asian market (only Isuzu had created a JV with Chongqing Qingling to produce light-duty trucks). However, as economic reforms intensified, all major Japanese manufacturers, including Toyota, Nissan, Honda, Isuzu, and Suzuki, established production subsidiaries in China with Chinese SOEs. These Japanese manufacturers specialized in small or micro-passenger cars, while their European counterparts focused on comfort cars.

Among European automakers, PSA Group formed another JV with Dongfeng Motors in Wuhan, Hubei, in 1992, known as Shenlong, to produce sedans under two marques, Peugeot and Citroën. In 1995, Italian Fiat established a JV with Yuejing Automotive Group to assemble light commercial vehicles and passenger cars. Mercedes-Benz, a prestigious German automaker, entered the Chinese market relatively late, forming Yaxing Benz in 1997 with Jiangsu Yaxing Motor

& Coach. Meanwhile, SAIC established a JV with GM with the aim of pressuring Volkswagen to increase technology transfer (Jia-Zheng, 2023).
Independent Chinese Automakers (ICAMs) emerged from the mid-1980s (Li, 2014) as an alternative to the existing strategies of producing in partnership with foreign companies. However, these young automobile companies faced challenges in competing in a highly protected market dominated by large SOEs and the Sino-Foreign joint ventures that began to flourish during the same period. ICAMs, such as Great Wall Motor, Geely, Lifan, BYD, Brilliance, and Youngman, needed to develop their innovation and design capabilities to meet domestic demand for passenger cars. It was only after China's accession to the WTO that joint ventures were extended to non-SOEs. In 2003, the first ICAM, the state-owned Brilliance, established an equity joint venture with BMW. In 2010, for the first time, a non-SOE manufacturer established an equity joint venture with a foreign carmaker; Daimler Chrysler created Denza with BYD in Shenzhen with the main goal of producing electric vehicles. In 2013, Daqing Volvo established a joint venture for assembling SUVs, which was also a non-state-driven joint venture in China.

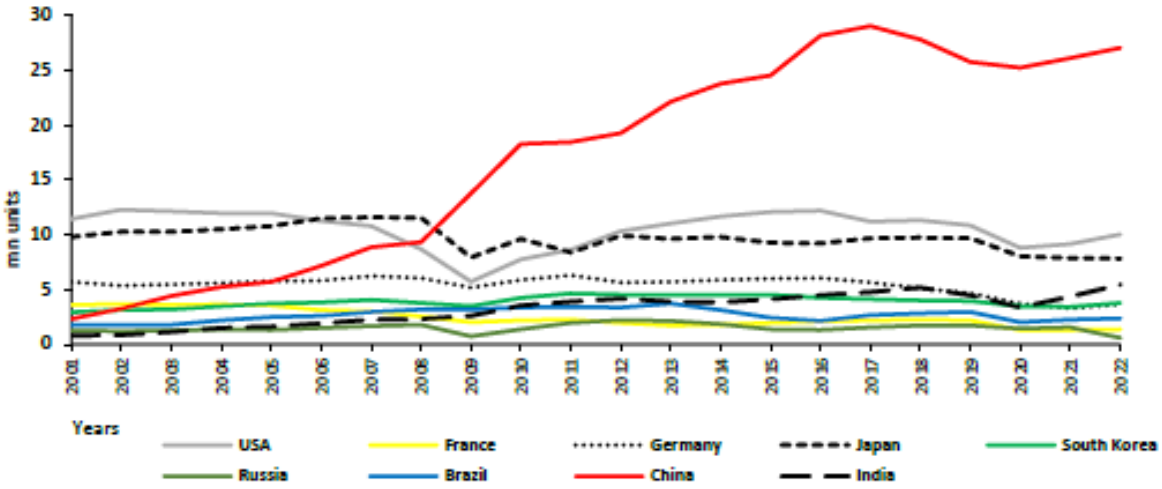
China issued more than 3,000 laws and regulations due to WTO admission, most of them regarding import tariff reduction and FDI flexibilization. Tariff reductions in the automobile industry were relatively more notorious than in other manufacturing industries since it was highly protected. For new foreign projects in the automotive industry, requirements regarding local content, foreign exchange, and technology transfer were eliminated. All investments in technology-intensive sectors, projects above USD30 million, and industries promoted by the Chinese Foreign Investment Catalogue would receive tax reductions of 15 percent (WTO, 2001). However, the conditions for FDI flexibilization in the automobile industry that were issued for WTO admission were soon revised to be more restrictive to avoid the foreign domination of its domestic market (Meier, 2018).

The new automotive industry policy introduced in 2004 replaced the previous 1994 Policy, which had maintained restrictive foreign equity participation and demanding conditions for technology transfer (NDRC, 2004). These changes did not deter foreign automakers from entering the Chinese market. In 2000, the Chinese economy represented only 1.5 percent of the global automobile market, while the United States, with just 5 percent of the world's population, had 25 percent of the world's automobiles (CATARC & CAAM, 2001). More European carmakers, primarily German, made their entry into the Chinese market, including BMW, Mercedes-Benz, and DaimlerChrysler. Competitors from the USA, Japan, or South Korea, such as General Motors, Toyota, Nissan, Honda, and Hyundai, also established joint ventures with local partners, which were still dominated by State-Owned Enterprises (SOEs) (Jia-Zheng, 2023).

China's large state-owned manufacturers continued to lead domestic production from 2002 to 2018. This is evident from the fact that SAIC and FAW surpassed one million cars assembled in 2006 (including the output of their joint ventures in China), and Dongfeng achieved the same volume in 2007 (CATARC & MOFCOM, 2014). The same three companies captured around 56 percent of total domestic sales in 2015 (CATARC & CAAM, 2016). Young manufacturers, both state-owned (Chery and Brilliance) and privately owned (Geely, BYD, and Great Wall), began however to gain market share. Their rising prominence is reflected in both increased production volumes and the introduction of new car models (CATARC & CAAM, 2011, 2018). Output performance between 2018 and 2022 experienced a slowdown in 2019-2020 due to the COVID-19 shock but recovered in 2021 (see Figure 8.2).

In summary, large SOEs benefited the most from the establishment of equity joint ventures, which explains the notable growth in output in China and the accumulation of knowledge over several decades. Non-SOEs faced less favorable conditions for attracting Foreign Direct Investment (FDI) but progressively gained a role in the market.

Figure 8.2. World production of automobiles by main manufacturing countries (2001–2022)



Source: adapted from Jia-Zheng (2023).

8.4. The outbound push of China in the car industry

The outward expansion of Chinese companies commenced with the "Going Out" or "Go Global" policy, which was initiated as part of the 9th FYP (1996-2000) and gained momentum during the global financial crisis in 2008. Chinese automotive companies followed state guidelines as they embarked on their international expansion. The "Go Global" 1.0 phase (1996-2012) witnessed domestic enterprises venturing abroad to establish sales networks and engage in low-end international trade, serving as a complement to efforts aimed at attracting foreign capital (China Org, 2003). In 2009, the Planning for the Restructuring and Revitalization of the Automobile Industry was introduced with the goal of stabilizing automobile consumption, expediting industrial restructuring, and enhancing innovation capacity to drive industry upgrades. As part of this initiative, the government supported the development of new energy vehicles and international production cooperation, once again emphasizing the "Go Out" policy (CATARC & MOFCOM 2014).

During the 12th Five-Year Plan (2011-2015), in 2013, the "One Belt, One Road" (OBOR) program was unveiled, representing a significant geopolitical expression of "Go Global" 2.0. The OBOR aimed to foster trade, investment, and human connections across Eurasia, which included countries such as Germany, Poland, and Italy, by establishing a "Silk Road Economic Belt" (China Policy, 2017). Additional financial support was allocated to outbound investment transactions, with the aim of expanding the new Silk Route (Economist Intelligence Unit, 2016). This program provided greater flexibility in cross-border investment transactions and assisted Chinese automobile manufacturers in exporting and acquiring specific assets.

The launch of the "Made in China 2025" program in 2015 marked the beginning of "Go Global" 3.0. This program aimed to transform China into a leading manufacturer by 2040 and identified essential tasks such as improving innovation, integrating technology, and strengthening the industrial base. In this context, private enterprises played a central role as they invested in foreign markets to establish factories, employ local labor, and acquire foreign companies. SOEs had enjoyed ownership advantages for decades due to institutional support that allowed them to create joint ventures for inward internationalization. However, in the outward internationalization process, the Chinese government encouraged both SOEs and non-SOEs to engage in outward investments.

While Sino-foreign equity joint ventures in China primarily aimed to secure technology and know-how transfers, it was expected that Chinese investors will seek access to updated technology and know-how in advanced economies to enhance their global competitiveness. Notably, while Asian regions have historically been the main recipients of China's investment, Europe has emerged as the ultimate destination for Chinese automotive-related investments. A notable surge occurred during the global financial crisis in 2009, prompted by capital liquidity shortages in developed countries and motivated by the National Development and Reform Commission (NDRC), leading Chinese firms to invest more dynamically abroad and steer the country's auto-industry development toward an international trajectory. By 2018, this

region accumulated 50% of total investment and equipment, as well as 33% of the total number of transactions (Jia-Zheng, 2023), which increased to approximately 56% in 2022 (see Table 8.5).

Moreover, Chinese investment transactions often involved larger investments per transaction, particularly through mergers and acquisitions (M&As). This becomes particularly significant in light of the global decline in outward foreign direct investment (FDI) due to COVID-19. China's proactive approach to acquiring technology in Europe is evident in countries such as Germany, Italy, Sweden, France, and the UK, which have been the primary recipients of China's automotive investment. This group of five countries attracted 87% (USD45,150 million) of total Chinese Outbound Foreign Direct Investment (OFDI) in the European automotive sector between 2005 and 2022.

"Chinese manufacturers are gaining valuable experience and making progress" (Shih, 2018), and they have been actively pursuing industry upgrading through M&As rather than greenfield operations, as full access to technology is best assured by complete M&As, thereby establishing ownership of intellectual property (see, for example, Buckley et al., 2016; Stiebale, 2016). Chinese investors have not limited their targets to automobile manufacturers but have also looked into component and accessory manufacturers, with a particular focus on the design and production of electric accessories and components. In a general trend, emerging multinational corporations utilize FDI as a platform for acquiring strategic assets (Luo and Tung, 2007; 2018).

Conversely, in developing or non-Western economies, Chinese investors often prefer greenfield operations that require lower investment amounts (average investment transaction USD496 million versus 694 million for M&As). These greenfield operations aim to establish new production plants to access local markets and distribution channels, with a substantial number of such operations primarily located in countries like Vietnam, Indonesia, Thailand, Laos, Cambodia, Brazil, Morocco, and the Russian Federation, accounting for 40 out of a total of 65 transactions.

Table 8.5. China's OFDI in the automotive sector by world regions, 2005–2022

World region	Number of transactions	Share %	Total investment (mn USD)	Share %
Arab Middle East and North Africa	3	1.86	1,000	1.07
East Asia	38	23.60	16,670	17.90
Europe	58	36.20	52,130	55.98
North America	8	4.97	1,830	1.96
South America	9	5.59	3,510	3.77
Sub-Saharan Africa	4	2.48	1,740	1.87
USA	25	15.53	10,670	11.46
West Asia	16	9.94	5,580	5.99
Total	161	100	93,130	100

Source: authors' own elaboration based on American Institute and Heritage Foundation (2023)

8.5. Competing in the electric race

The 'Auto Stimulus Program' introduced by the Chinese government in 2009 within the 11th FYP enhanced the earlier 2004 Auto Policy. This program marked the onset of a transformation in the automotive industry, emphasizing key objectives such as production concentration, the promotion of hybrid vehicles, and investment in research and development (R&D) activities to encourage the development of NEVs. Subsequent policies and initiatives, such as the New Energy Saving Protocol and the New Energy Vehicle Development Organization 2012-2020, followed (State Council, 2012). The transformation of China's automotive industry gained momentum in 2010 with the launch of the 'Strategic Emerging Industries' program, which aimed to fund and promote investment in new industries related to technology, including those associated with energy saving and environmental protection, new-generation information technology, new forms of energy, new materials, and new energy automobiles. The 'Made in China 2025' strategy also identified ten strategic sectors for promotion, reaffirming the importance of NEVs and smart vehicles with the goal of surpassing traditional technology leaders in renewable energy (State Council, 2015).

The electrification of the automotive industry in China continued to strengthen after COVID-19, with the government making substantial efforts to reduce dependence on fossil fuel energy. This is exemplified by the support for the growing number of electric battery manufacturers and the launch of the 14th FYP (2021-2025) and 'China's 2035' vision (CCPh, 2023). State Council (2021) also released "Action Plan for Carbon Dioxide Peaking Before 2030". This effort was

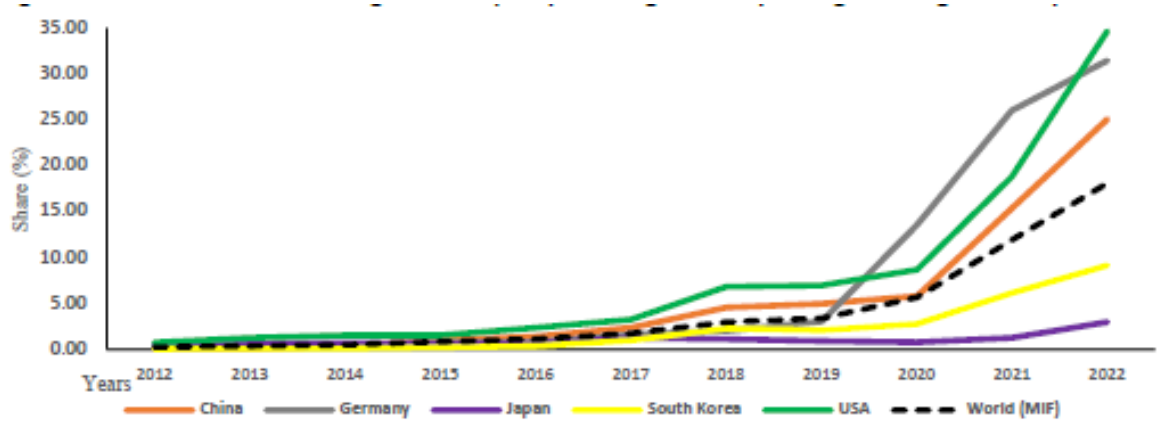
complemented by the "Energy Technology Revolution Innovation Action Plan 2016-2030," which encompassed oxygen energy development and fuel cell technology innovation. Additional measures like the recent work plans jointly issued by the Ministry of Industry and Information Technology and other ministries, highlight the importance of supply chain security, stability, and new energy infrastructure. The key issue appears to be the integration of electrification in the automotive industry and the energy revolution, with an increasing proportion of new energy use (CATARC, 2022).

Concerning foreign collaboration and partnerships, China has been continuously attracting Foreign Direct Investment (FDI) and seeking strategic partnerships. General guidelines were issued within the "Regulations for the Implementation of the Foreign Investment Law of the People's Republic of China" to further promote foreign investment and global market openness (State Council, 2019). Worth noting that new investment projects placed increasing emphasis on the development and manufacturing of NEVs. The most outstanding example is Tesla's investment in establishing a gigafactory in Shanghai in 2019 (CATARC, 2020).

As a result of these policies and initiatives, the output and sales of New Energy Vehicles (NEVs) in China experienced significant growth over the last decade, particularly accelerating from the 2020s onwards. Globally, the sales of NEVs increased by 68% year-on-year, and the share in the global market rose from 1 % in 2016 to 8.3% and 10% in 2021 and 2022, respectively (CATARC, 2022; Statista, 2023). China, alongside Europe, has become a major driver of the strong growth in global electric vehicle production and sales. In 2022, China's new energy vehicle sales reached around seven million units, ranking as the world's largest market for eight consecutive years. This not only makes China the largest producer of NEVs but also the largest market for these vehicles. Of these, over 4.6 million were Battery Electric Vehicles (BEV), representing a year-on-year increase of 86% (CAAM, 2023). The proportion of electric vehicles as a percentage of new passenger car registrations in China reached 25% in 2022, a year-on-year increase of 63%. In comparison, new car production in Germany accounted for 30% and in the USA, it reached 35% in 2022 (see Figure 8.3). Germany maintained its position as the European leader in the automotive industry and ranked as the largest European market for BEV sales in 2022.

The automotive manufacturing patterns of China, the USA, and Germany stand in contrast to those of traditional automotive exporting countries like Japan and Korea. While China's share of global EV sales is 60%, the USA and Germany have a share of less than 10%. Notably, China has consistently increased its market share (see Figure 8.4).

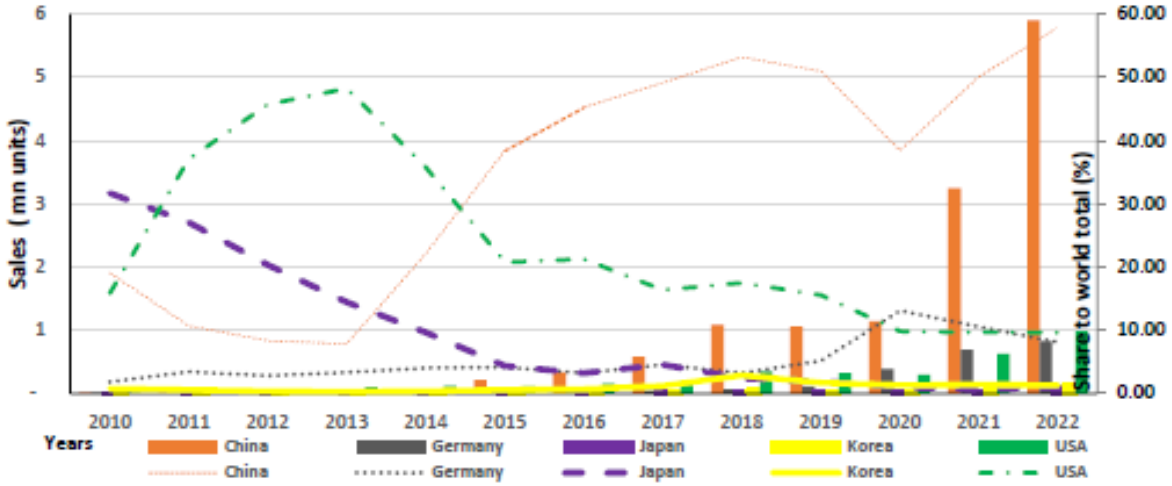
Figure 8.3. New electric-vehicle registrations (as a percentage of new passenger car registrations), 2012-2022



Source: Author's own elaboration based on EIU (Economics Intelligence Unit) Data (2023).

The influence of foreign brands has been significant in the Chinese domestic market for several decades. However, there has been a noticeable shift in recent years, with own-brand models gaining an increasingly substantial market share. This shift marks a departure from the previous development model characterized by Sino-foreign joint ventures, as the overall development strategy has become more independent. In this new landscape, established automakers have engaged in collaborative learning with foreign partners. Simultaneously, some of the younger, non-state-owned companies emerged in the 1990s, focus on the design and production of Electric Vehicles (EVs). For example, BYD, founded in 1995 as an electric battery manufacturer, has gained a competitive edge in the production of electric vehicles. BYD is currently the second-largest manufacturer of EV batteries in China, second only to the global leader, CATL, according to Battery Report 2021 by Volta and Intercalation Foundations (2022).

Figure 8.4. EV sales by selected countries. 2010-2022



Source: Author's own elaboration based on IEA statistics https://www.iea.org/data-and-statistics/data-tools/global-ev-data-explorer. Notes: Passenger cars, EVs refers to all electric vehicles (BEVs + PHEVs); Lines indicate the share of world output while bars represent sales in million units.

BYD also played a pioneering role in establishing non-state-owned Enterprise (SOE) joint ventures. The collaboration between BYD and Daimler Chrysler led to the creation of Denza in Shenzhen, with a primary focus on manufacturing electric vehicles. Although Shenzhen may not rank among the top cities in terms of overall industrial output (as per CATARC 2019, it is ranked 34th), it stands out as the city responsible for producing a remarkable 56% of the total new energy vehicles in China. Only about 5% of these vehicles come from joint ventures, a sharp contrast to cities such as Shanghai, Beijing, and Changchun, which are home to China's "Big Three," where joint ventures account for over 80% of vehicle production.

Several other manufacturers, including Xpeng Motors, and NIO, emerged in the new millennium and have demonstrated their ability to compete with well-established backbone automotive companies like SAIC and Great Wall, as well as the leading EV manufacturer BYD. Xpeng, a company originating from the telecommunications sector, has designed around 40 new car models that integrate updated internet technology, positioning itself within the smart and environmentally friendly vehicle category, with a market share of 9% in 2021 (Xpeng, 2023). NIO is a smart electric vehicle brand with a similar domestic market share as Xpeng, and it has expanded into foreign markets by establishing R&D and production facilities worldwide. NIO has also become a software supplier for international automotive manufacturers, and its EVs have won national and international awards for their design and energy efficiency (NIO, 2023).

BYD leads the pack with a market share of over 50% in 2021, as captured in Table 8.6. The domestic market share for own-brand cars or vehicles produced by national manufacturers stands at around 70%, in contrast to the 30% market share held by foreign brands, primarily Tesla (China), and the joint venture Shanghai General Motors Wulin. It is noteworthy that Tesla currently commands a substantial share of the global market at 45% of Battery Electric Vehicle (BEV) sales, with approximately 35% of the market in China (CAAM, 2023, and Statista, 2023). However, the dynamics shift when considering Hybrid Electric Vehicles (HEV) or Plug-in Hybrid Electric Vehicles (PHEV), where BYD emerges as the global leader with a market share of 33% (Zhou, 2023).

This chapter concludes with three key observations. Firstly, China has emerged as a pivotal force in the realm of new energy vehicles, exerting a significant influence on global production and market share. Secondly, within a remarkably short period of less than a decade, China has effectively transitioned out of its nascent stage and now competes vigorously with its own brands, showcasing its rapid growth and innovation in this sector. Lastly, the challenges posed by the availability of charging infrastructure and access to strategic raw materials for electric batteries are factors that will undeniably play a crucial role in shaping the future trajectory of the electric vehicle industry in China. Huge state subsidies, a big concern of the European Commission nowadays, may keep in coming months the prices of Chinese electric vehicles (EVs) low, in the objective of China of dominating sales of EVs in global markets. However, protection of Western EVs industry will make Western policymakers to face a difficult and contradictory issue: to be coherent in their aim to reduce carbon emissions with renewable energies in the car industry at affordable prices now offered by

the Chinese EVs; or to impose punitive tariffs to Chinese EVs to protect Western producers. Consumers interests and actions may have a stake in this process.

Table 8.6. Domestic market share of Chinese EV manufacturers, 2021

Ranking	2019			2021		
	Company	Sales (10,000 units)	Share (%)	Company	Sales (10,000 units)	Share (%)
1	BYD	17,9	20,9	BYD	52,6	18,1
2	BAIC new energy	9,9	9,9	SAIC GM Wulin	42,3	14,6
3	Geely	6,5	7,6	Tesla	31,2	10,7
4	SAIC	5,7	6,7	Great Wall	13,4	4,6
5	SAIC GM Wulin	4,7	5,5	Guangzhou Automotive	12,3	4,2
6	Chery	3,9	4,5	SAIC GM Wulin	11,4	3,9
7	Great Wall	3,6	4,2	Chang'an	10,2	3,5
8	Chang'an	3,5	4,1	Xpeng	9,7	3,3
9	Jianghuai	3,2	3,8	Li Auto	9,1	3,1
10	SAIC VW	3,1	3,6	NIO	9,1	3,1

Sources: Authors own elaboration based on the Blue Book of New Energy Vehicle 2022.

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Chapter 9

Multinational Divestment and Nigeria's Trillion Dollar Economy: Four Implications for Industrial Policy

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Executive Summary

The recent episode of multinational divestments from Nigeria is generating a lot of concerns. With limited fiscal space and rising financing costs, this may further constrain the country's ability to mobilize the resources needed to fund its development priorities. By the same token, it is difficult to divorce the trend in multinational divestments from the global paradigm of trade and technological decoupling. Given the resurgence of industrial policy, geoeconomic fragmentation poses a challenge to countries, with disproportionate impacts in the global South, due to limited access to global *capital markets.* Following years of economic stagnation and distortions in foreign exchange markets, which slowed foreign investment attraction efforts, the new government has embarked on a comprehensive reform program. Nigeria wants to more than double its GDP to USD1 trillion in less than eight years, and the government has embarked on a series of painful but necessary reforms to reposition the economy for trade and investment. Without the right conditions in place, this seems like a *herculean task, albeit not impossible.* Nigeria's potential as an economic powerhouse has never been in doubt; realizing the full potential remains its key challenge. Viewed against the backdrop of its recent economic history, this paper underscores four key issues *that* Nigerian policymakers must address: fiscal incentives, post-divestment value maximization, integration into global value chains, and the differential economic performance of subnational regions. These are not collectively *exhaustive.*

Keywords: *Multinational divestment, industrial policy, foreign direct investment, fiscal incentives*

9.1. Introduction

Nigeria's potential as an economic powerhouse has never been in doubt; realizing the full potential remains the key challenge faced by Africa's largest economy and most populous country. In its latest long-term growth projections for the 2050-2075 period, American multinational investment bank, *Goldman Sachs, tipped Nigeria to* become the *fifth-largest economy* in the world by 2075.[91] *In a way, this* evokes a sense of déjà vu. In 2014, Nigeria was identified as one of the four new emerging global economic giants under the MINT (Mexico, Indonesia, Nigeria, Turkey) acronym.[92] Unfortunately, due to policy missteps and exogenous shocks, particularly the 2014 crash in oil prices and the COVID-19 pandemic, the MINT endorsement rapidly dissipated and did not translate into rapid and sustainable economic growth.

Against the backdrop of economic underperformance in the face of immense potential, Nigeria's growth and competitiveness challenges cannot be fully understood without unpacking its political economy and structural challenges. Those who fail to learn from history are doomed to repeat it. Following years of economic stagnation and distortions in foreign exchange markets, which slowed foreign investment attraction efforts, the new government in Nigeria under President Bola Tinubu has embarked on a comprehensive reform program to create a more attractive environment for foreign investment. In addition to the removal of its annual USD10 billion fuel subsidy and liberalization of the foreign exchange market, the business regulatory environment and investment treaties are also being reviewed to address the dearth of international capital (Bloomberg L.P., 2023).

[91] The projections were released in December 2022 and cover 104 countries, with China, India, the U.S., and Indonesia in the first, second, third, and fourth positions respectively by 2075.

[92] The acronym became widely publicized partly because it was coined by former *Goldman Sachs* chief e*conomist and U.K.* Commercial Secretary to the Treasury, Jim O'Neill (the first economist to spot the huge potential of the BRIC economies in 2001).

Upon inauguration in May 2023, the Tinubu-led administration's Policy Advisory Council[93] unveiled a proposal to grow Nigeria's economy from USD450 billion to USD1 trillion within eight years, through a series of economic policy reforms targeted at achieving a consistent average annual GDP growth rate of 7% from the current rate of 3.5% (Businessday NG, 2023). However, in the face of structural macroeconomic challenges, such as *dwindling private investment* inflows and mounting debt vulnerabilities, more than doubling the size of an economy in less than eight years without the right conditions in place seems like a *herculean task, albeit this is not impossible.*[94]

In parallel, the recent wave of multinational divestments from Nigeria is generating a lot of concerns. From British fast-moving consumer goods company Unilever and French pharmaceutical manufacturer Sanofi to American Procter and Gamble and Estonian mobility company Bolt, no fewer than 15 multinational corporations (MNCs) have exited Nigeria in the last three years, resulting in a loss of 20,000 jobs (Vanguard Newspaper, 2023). With limited fiscal space and rising financing costs, multinational divestments may further constrain the country's ability to mobilize the resources needed to fund its development priorities. In many ways, this raises important questions on the long-term efficacy of fiscal incentives in investment attraction.

The ongoing foreign exchange crisis, high cost of raw materials, insecurity, corruption, and huge infrastructure deficit, among others, are driving up the cost of doing business in the country. With public debt stock as a share of GDP standing at 38% and 96% of the federal government's revenue allocated toward debt servicing (Debt Management Office, 2023), the finances of Africa's largest economy remain under stress.

To some extent, it is difficult to divorce the recent divestitures by multinationals from the global paradigm of trade and technological decoupling. Given the retreat from globalization and a resurgence of industrial policy, along with the growing dominance of inward-looking policies, geoeconomic fragmentation poses a challenge to countries. These outcomes are often asymmetric in nature, with disproportionate impacts on countries in the global South, due to limited access to global *capital markets.*

Across various regions, MNCs and national governments are increasingly de-risking supply chains from macroeconomic and geopolitical shocks by embracing the so-called reshoring, nearshoring, and friend-shoring. As industrial policy makes a dramatic comeback in the advanced industrial countries, emerging markets and developing economies (EMDEs) must adjust to the new reality. Competition policy remains inextricably linked to both development and international capital mobility. However, EMDEs must be careful before they jump on the *industrial policy bandwagon.* To be clear, there are many benefits associated with the use of fiscal incentives for attracting foreign direct investment (FDI), but the argument against inducements and other types of subsidies remains the welfare losses associated with incentives-*based competition for FDI.*

Given Nigeria's precarious foreign exchange situation, FDI remains one of the most reliable sources of a stable and predictable stream of financing to help offset fiscal deficits. In addition to creating jobs and injecting capital into the local economy, its positive impacts on productivity gains through supply chain *linkages* and *technology transfers* remain desirable. In the same vein, g*ood governance* and strong *institutions* are key drivers of FDI. Institutional and policy settings underpin the governance infrastructure of a country.

The need to appropriately model governance infrastructure and geopolitical risk in the study of FDI relocation has never been more important. While the beneficial impact of a robust governanace framework and strong institutions on FDI should be intuitive, the reality is more nuanced than what is depicted in most investment attraction paradigms. Apart from addressing major governance issues that serve as a deterrent for FDI inflows, to effectively leverage FDI for development, host countries need stable and transparent policy regimes for optimal investment attraction. This is situated broadly in the Nigerian context in this paper. Fiscal incentives and other investment promotion strategies are not a substitute for a business-friendly and stable regulatory environment.

[93] This body was established after the presidential election, but before inauguration on May 29, 2023.

[94] Based on IMF estimates, there are 19 trillion-dollar economies in the world, with Turkey, Switzerland, and Taiwan expected to join in 2026, for a total of 22. These countries share some common trends: https://www.nasdaq.com/articles/an-overview-of-the-trillion-dollar-economies-in-the-world

This analysis applies lessons from both developed and developing countries to highlight the imperfections in the governance-FDI discourse. Adopting this approach paves the way for a detailed analysis of multinational divestment and why it happens. The paper leans heavily on case studies and *a foundational review of existing conceptual frameworks and* other inductive comparative methodologies to synthesize, analyze, and present the relevant facts. In investigating multinational divestment, patterns are relied upon more than specific theories to *serve as a roadmap* for framing the central arguments and distilling the key takeaways.

The remainder of the chapter is organized as follows. Section 2 discusses governance infrastructure, investment treaties, the governance-FDI nexus, and other relevant paradigms that underpin the study. The third section unpacks a model of FDI relocation based on a multidimensional index of vulnerability. Section 4 presents the key takeaways and concludes with implications for industrial policy vis-à-vis Nigeria's trillion-dollar economic trajectory.

9.2. Governance infrastructure and capital flows

Governance infrastructure plays a critical role in the investment attraction debate. Not only does it underscore the role of the transmission mechanism through which governance impacts the ability of jurisdictions to attract capital, but it also explains why the outcomes of the interactions across and within jurisdictions and industry sectors matter in the analysis of foreign capital attraction and retention, particularly in EMDEs.

In theory, jurisdictions with strong governance performance should witness economic progress and political stability, which, in turn, should make them attractive to inward FDI. However, demographic and market nuances may have a much stronger impact under certain circumstances. Globerman and Shapiro (2002) explain the political, institutional, and legal environment of a country vis-à-vis economic performance in terms of governance infrastructure. The authors shed light on the impact of governance and institutions on the *attractiveness* of jurisdictions to investors.

From legislation and regulation to security and legal systems to private property rights and transparency, governance infrastructure is a key determinant of the internationalization pathways of MNCs. However, the effect of the institutional dimensions of governance on inward FDI is more nuanced than what is presented in many political economy paradigms. Moreso, in a global South context, political and institutional factors remain key drivers of economic and social structures which, in turn, reflect jurisdictional investment competitiveness.

BITs and asymmetry in investment relations

From the first Friendship, Commerce, and Navigation (FCN) treaty signed with France in 1778 to the negotiations concluded with Thailand and Togo in the 1960s, FCNs were a major tool used by the United States to steer symmetrical investment relations with like-minded countries in the global North.[95] The first series of FCNs were designed as bilateral commercial treaties to facilitate not only commercial engagements but to also foster human rights and military cooperation. However, after World War II, and more profoundly since the early 1980s, the US has pivoted to the European model of bilateral investment treaties (BITs).

BITs are a **special category of international investment treaties (IITs) that** grant specific protections and rights to foreign investors, including recourse to Investor-State Dispute Settlement (ISDS) in the event of disputes with host countries. In essence, BITs protect and establish the terms and conditions for investments made by nationals and firms of one country to another. The various ISDS mechanisms are firmly rooted in the provisions of the International Centre for Settlement of Investment Disputes (ICSID), a body established in 1966 following the adoption of the ICSID Convention.

At the core, BITs protect investments emanating from the global North to the global South where legal and institutional systems are deemed to be inadequate for guaranteeing legally binding rights and obligations that would ensure foreign investors are compensated in the event of a breach in treaty obligations that adversely impact anticipated returns on their investments. Conventional wisdom dictates that using legal mechanisms to resolve investment disputes between MNCs and their host countries will ensure the conduct of international *relations* recognizes varying *economic,* social, cultural, technical, and *trade* settings.

[95]Historical details are available on the US Department of State website: https://history.state.gov/historicaldocuments/frus1948v08/comp14

After the first **BIT** between Germany and Pakistan was concluded in 1959, BITs have proliferated as useful instruments for crafting more balanced international investment policies. Of the total 2,828 BITs available worldwide, 2,219 are in force.[96] To the extent that BITs are designed to help depoliticize investment disputes, this approach is key to preventing MNC-host country dealings from interfering with and escalating foreign relations between sovereign nations. This underscores why as a component of foreign policy, nations deploy their diplomatic assets abroad to foster commercial relations.

BITs are central to the non-market activities of MNCs by providing insights on the implications of varying FDI arrangements, given the rapidly evolving international governance landscape. By the same token, opinions remain divided in the academic and policy literature on the precise nature of the impact BITs have on investment inflows. Among other factors, varying political economy dynamics, conceptual framing, and data inconsistencies explain this trend. In essence, BITs are an important risk mitigation tool used by countries to create a conducive environment for FDI, but the specific benefits they confer in the context of the governance-FDI nexus remain uncertain. This has a major implication in the Nigerian context, and this is discussed further in the latter section of the paper.

9.3. Foreign divestment and industrial policy

Why does corporate divestment[97] happen? MNC divestment does not receive the same degree of attention that FDI gets in the literature, albeit foreign divestments are a corporate reality occurring fairly frequently. In a multinational context, the study of divestment provides insights not only into the key drivers of FDI, but also policy formulation around investment promotion, attraction, retention, and foreign subsidiary *divestiture*.

Foreign divestment is a change in an affiliate's ownership structure; as a necessary condition, such change must involve a transfer of majority-control over the firm from a foreign to a domestic owner (Javorcik and Poelhekke, 2017; Borga et al., 2020). This clarification is important since the sale of an affiliate is not necessarily the same as business closure. Borga et al. (2020) also note that since FDI divestment means the affiliate loses a foreign investor, this poses a challenge for capital formation and the host country's long-term economic growth prospects.

Why do firms divest or relocate FDI?

Economic theory explains the key drivers of business location decisions. Based on cross-country, firm-level data for 41 OECD and G20 economies over the 2007-2014 period, Borga et al. (2020) provide a compelling statistic on FDI relocation: multinational divestment affects every fifth foreign-owned affiliate. Berry (2013) establishes that 22% of the foreign affiliates of U.S. manufacturing MNCs with assets greater than USD30 million were divested between 1989 and 2004. Norbäck et al. (2015) conclude that 21.4% of the foreign affiliates of Sweden's MNCs were divested at least once between 1998 and 2003.

Simply put, reshoring happens when the intended objective behind a firm's internationalization decision via FDI has not been realized. In many ways, geoeconomic fragmentation negates offshoring, the dominant model in the globalization of production, based on the division of production due to labor and input cost differentials.

Javorcik and Poelhekke (2017) identify four sets of reasons for foreign subsidiary *divestiture*. First, a negative shock in the home country may lead to liquidation or rationalization of assets aboard. Productivity growth at home may also weaken the *economies of scale* argument of firm internationalization. The second set of reasons is based on the notion that "operating flexibility" can help an MNC to seamlessly take advantage of certain occurrences, according to Javorcik and Poelhekke (2017), based on "the relative changes in growth rates, production costs, regulation, and so forth in all countries of operation."

Third, in addition to affiliate-specific factors such as tax incentives, competition, or rising wages in the host country due to low capital intensity, uncertainty around the suitability of the MNC's products or technology vis-à-vis the host country's peculiar conditions can also explain relocation. This, in turn, means that as the multinational garners

[96] See UNCTAD'S International Investment Agreements Navigator: https://investmentpolicy.unctad.org/international-investment-agreements

[97] Borga et al. (2020) define corporate divestment as an adjustment in the ownership and business portfolio structure of a firm that involves a partial or full disposal of an asset or a business unit through a sale, spin-off, equity carve-out, leveraged buyout, or disinvestment.

knowledge in the host country over time, the uncertainty becomes less problematic since successful affiliates will thrive, while problematic assets are disposed. Last but not least is the impact of a positive shock. In this case, a booming indigenous company may make a lucrative offer that bodes well for a foreign affiliate.

The return of industrial policy

From the Inflation Reduction Act and the Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act in the U.S. to the European Chips Act and the *Made in China 2025 policy,* state-led industrial policies are dominating global value chains, with implications for the production and sourcing strategies of MNCs.

By some measures, the advanced industrialized nations and countries in the global South seem to differ considerably in their approach to industrial policy, particularly the U.S. for the former group. However, considering the geopolitical turbulence of the last few years, as national governments retreat from laissez-faire globalization in favour of clawing back autonomy from market forces, it appears there is a reasonable level of transatlantic convergence in the use of subsidies and fiscal incentives to remain competitive (Council on Foreign Relations, 2023).

While subsidizing FDI has become popular in the past few decades, the overall welfare effect on host countries remains highly contentious. This becomes even more complicated when such competition becomes a "race to the bottom." *There are pros and cons with the use of* subsidies, tax benefits, and other financial incentives to mitigate actual or perceived risks that may serve as deterrents to inward FDI. Therefore, in the face of geoeconomic fragmentation, industrial policy has become a key economic management tool. The ramifications are discussed under the major lessons.

A multidimensional model of vulnerability

The International Monetary Fund's 2023 World Economic Outlook (WEO) investigates the nature of FDI reallocation across countries through fragmentation patterns. The WEO analysis sheds light on the key drivers of the ongoing fragmentation of capital flows, particularly the concentration of bilateral investment among countries with similar geopolitical leanings. The implications of geopolitics and other risks for bilateral capital flows are examined vis-à-vis reshoring, nearshoring, and friend-shoring. The WEO methodology and results are based on non-parametric evidence on the geopolitics-FDI nexus and parametric results that generate estimates after controlling for key factors.

The vulnerability of countries to FDI relocation is modeled with the aid of a multidimensional index[98], along three dimensions: (1) geopolitical distance between the source and host countries (2) FDI in strategic sectors[99] as a share of total FDI inflows, and (3) host country's degree of market power (3). Both the geopolitical and strategic indices are reported for 21 out of the 178 countries included in the WEO paper based on specific features[100] of interest (see Table 9.1). The geopolitical index for a host country is the product of the share of investment from the source country and the geopolitical distance between the host and source countries. This index confirms a few anecdotes. FDI flows out largely from the advanced economies. These countries, in turn, receive much of their foreign capital inflows from their peers and are, in general, geopolitically closer to one another, compared to EMDEs in the global South.

[98] B*ased on a* 20-year bilateral greenfield FDI dataset from 2003 to 2022 from fDi Markets, a service from the Financial Times.

[99] A strategic sector in the WEO analysis is defined as a sector that may be considered for relocation by policymakers based on national and economic security interests. Also, strategic sectors in the paper are reported at the three-digit industry level.

[100] The six advanced economies included are representative of their peers. The BRICS economies are included to aid comparison on conventional emerging markets trends. The MINT countries are referenced in the paper. The five African countries are included as regional comparators to aid comparison on specific factors (e.g., Angola for oil exports; Ethiopia for population size; and Kenya, Cote d'Ivoire, and Morocco for sub-regional economic dynamics). Like Nigeria, policymakers in Bangladesh have unveiled a roadmap to turn *Bangladesh into a one trillion*-dollar economy by 2040. Bangladesh is included in the analysis.

Table 9.1. Geopolitical and strategic indices for five categories* of countries

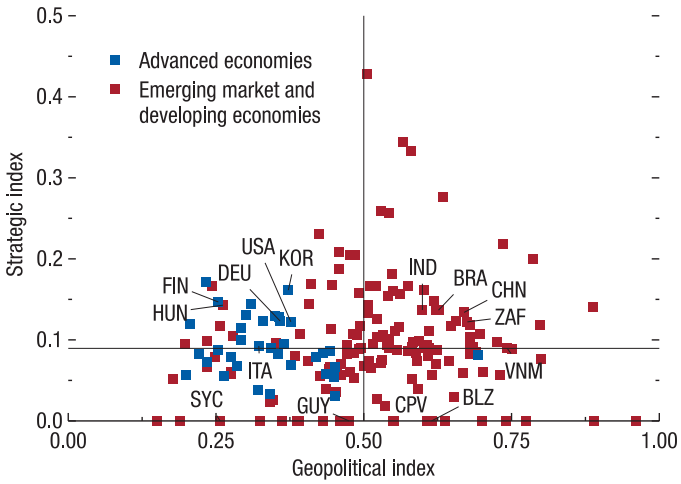
Country	Category	Geopolitical index	Strategic index
Japan	AE	0.44	0.09
Canada	AE	0.34	0.09
Germany	AE	0.36	0.12
France	AE	0.37	0.10
United Kingdom	AE	0.42	0.08
United States	AE	0.38	0.12
Brazil	EM	0.63	0.14
Russia	EM	0.55	0.16
India	EM	0.60	0.14
China	EM	0.67	0.13
South Africa	EM	0.68	0.12
Mexico	MINT	0.58	0.10
Indonesia	MINT	0.70	0.11
Nigeria	MINT	0.52	0.10
Turkey	MINT	0.41	0.14
Kenya	RC	0.59	0.10
Morocco	RC	0.69	0.09
Cote d'Ivoire	RC	0.56	0.09
Ethiopia	RC	0.45	0.17
Angola	RC	0.70	0.06
Bangladesh	RC	0.62	0.09

Source: World Economic Outlook: Navigating Global Divergences (*International Monetary Fund, 2023)*
**AE=Advanced economy; EM=Emerging market; MINT = MINT group member; RC = Regional comparator based on* categorical *features of interest discussed in the paper.*

The second category, strategic dimension of FDI relocation vulnerability, is a representation of the share of FDI inflows in strategic sectors. The narrative here is that when advanced economies decide to relocate FDI in strategic sectors for national or economic security reasons, geopolitical distance does not significantly influence the outcome. Consistent with the notion that a wide range of factors will determine what constitutes a strategic sector, there is a pronounced overlap between vulnerable countries both in the global North and the global South.

Based on Figure 9.1 below (culled from the WEO paper), the scatterplot shows no distinct correlation *patterns between the geopolitical and strategic vulnerability variables. While EMDEs are highly vulnerable to geopolitical risks, as depicted by the above-median concentration in the chart, the advanced economies (especially large ones like the US and Germany) are in the upper region of the strategic index axis.*

Figure 9.1. Strategic and geopolitical vulnerability analysis



Source: World Economic Outlook: Navigating Global Divergences (*International Monetary Fund, 2023)*
On the whole, both large emerging markets (e.g., India, Brazil, and China) and other EMDEs show a sizable degree of vulnerability on both the geopolitical and strategic vulnerability indices. This implies that the drivers of FDI relocation are heterogeneous in nature.

Finally, market power is based on the reasoning that when a country's market share of trade in a particular sector is high, the sector may be less vulnerable to relocation risks, since MNCs typically have fewer options for investment relocation, even in instances where fiscal *incentives* can tilt the investment decision. Basically, this implies that when a host country is a major player in a sector, FDI relocation out of the sector in the host country may be cumbersome. This part of the simulation notes that most economies show low levels of protection from market power, albeit due to the heterogeneous nature of their exports across sectors, large advanced and emerging economies like China, Germany, and the U.S. have some level of protection.

The analysis above underscores that *both advanced economies and EMDEs are* vulnerable to FDI relocation. Furthermore, when the FDI stocks involved are substantial, and in strategic sectors of the economy, EMDEs witness disproportionate impacts on supply chains, access to capital, and technological innovations. This is plausible considering that domestic suppliers in host countries derive several complimentary benefits from technology transfers and increased local demand for operational inputs in the downstream sectors.

Among others, foreign investors look at political stability, market size, macroeconomic factors, infrastructure, and talent and skills before committing their capital. Under such a risk-reward framework, particularly in developing countries, governance infrastructure (explained largely by political stability and the business environment) explains why most projects that pass economic feasibility, commercial profitability, and social acceptability tests do not proceed. In many ways, this is also true for corporate divestment.

Against this backdrop, the WEO discussion offers a template for understanding the ongoing multinational divestment from Nigeria. These nuances and their implications are discussed under the key takeaways below.

9.4. Implications and lessons for industrial policy

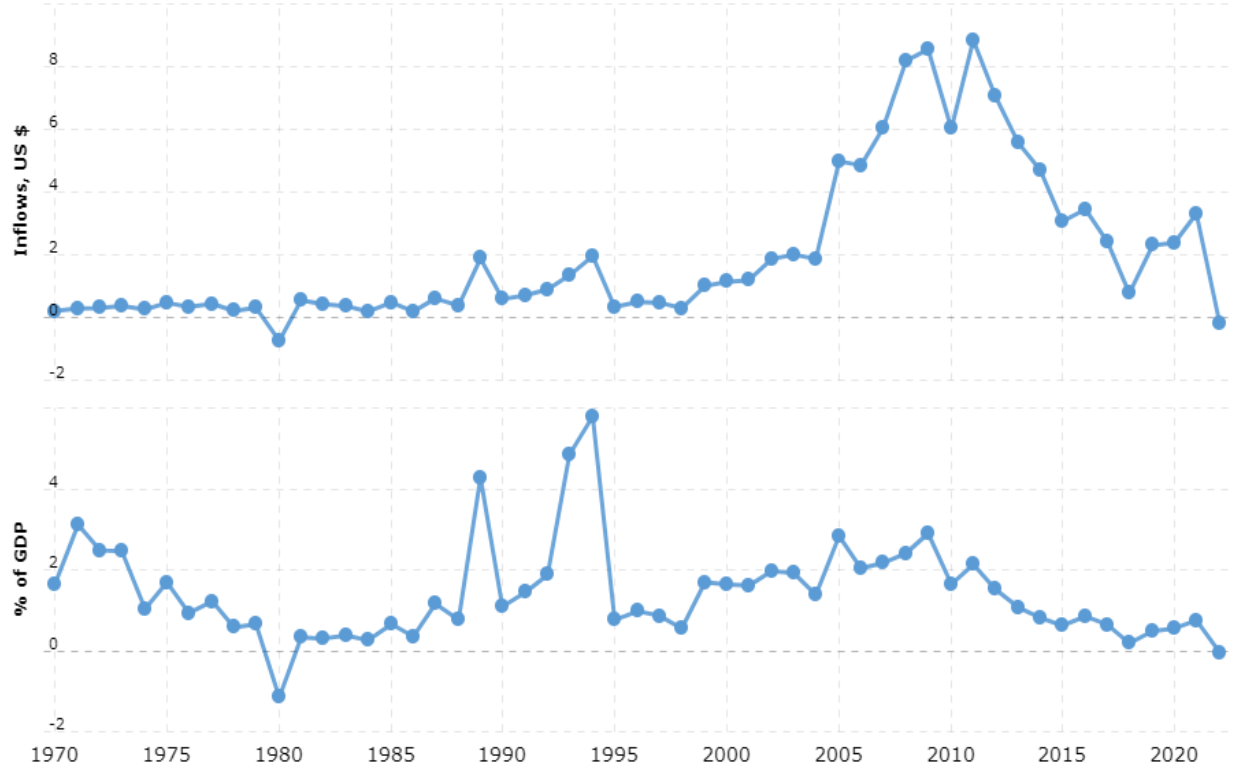
Analyzed through the lenses of governance infrastructure, BIT framework, and the FDI relocation model, this study presents a classic case of the nature of the asymmetric power dynamics that exist between MNCs and their host countries, with strong policy implications. These nuances are used to interpret the recent exits of multinationals from Nigeria.

First, an emphasis on political risk is key in explaining Nigeria's dismal economic performance over the last decade, despite being recognized as a high-growth market with immense opportunities. This lackluster performance merits further discussion. For context, b*y all accounts, during the decade from 2003-2013,* Nigeria was a rising African power that had become one of the world's fastest-growing economies and destinations for *foreign investors.* On the contrary, the period between 2014 and 2023 remains one of the most daunting in history for the Nigerian economy. With soaring debt levels, rampant corruption, ethno-religious conflicts, insecurity, extreme poverty, and an unprecedented exodus of its middle class and young people for greener pastures overseas, the cascading and connected crises revealed stress points in the country's economic system, with its huge growth potential constrained by structural and institutional barriers.

Several policy somersaults and lack of economic management coordination that characterized much of 2015-2017 did irreparable damage to investor confidence, and the gaffe reverberated with major implications (Bloomberg News, 2016). To put it mildly, the country regressed significantly during this period. Its troubled economy bled profusely, and combined with other panicky measures and looming uncertainties, foreign investors left its shores, companies laid off staff in droves, and this dramatic downturn exposed the superficiality of Nigeria's economic policy architecture (World Bank, 2017).

Before the current episode of foreign divestitures started in 2023, Nigeria's inward FDI in 2022 was negative (-USD187 million), compared to USD3.31 billion and a peak of USD8.84 billion in 2021 and 2011, respectively. Figure 9.2 presents Nigeria's inward FDI picture over the 1970-2022 period both in absolute terms and as a share of GDP. Since 2014, inward FDI has remained below the USD4 billion threshold (World Bank/UNCTAD, 2023).

Figure 9.2. Nigeria's inward FDI (1970-2022)



Source: World Bank/UNCTAD

On the bright side, the highly resilient nature of the Nigerian people offers a ray of hope for the country's economic rejuvenation and modernization. From self-sustained electricity generation and diaspora remittances to informal entrepreneurship and the dominance of Nigerian artists on the global music stage, this self-organizing[101] paradigm presents a unique opportunity for policymakers to harness and turn the corner. For instance, despite serious economic challenges which continue to aggravate structural *and financial stress, Nigeria consistently attracts* unprecedented levels of venture capital investments into its startup ecosystem.

Ultimately, Nigeria's central challenge is one of achieving a *fast*-growing *economy, with a growth* rate that is sustainable. This, among other things, will require strengthening fiscal conditions, improving the business regulatory environment, attracting and retaining foreign private capital, building strong domestic institutions, and broadly sharing the benefits of *growth. Any* strategic roadmap aimed at achieving these goals must coordinate fiscal, monetary, trade, and industrial policies. Based on the resource curse[102] thesis, without strong institutions and public sector governance, the oil economy will only continue to drive rentier capitalism. Industrial and trade policies can go a long way in fostering f*actor reallocation* towards *higher-productivity* sectors.

Viewed against the backdrop of its recent economic history, four key issues that Nigerian policymakers must address (which are *not* collectively *exhaustive)* are outlined below:

Recalibrating fiscal incentives

Apart from losing out on the positive macroeconomic impacts of the activities of MNCs through job creation and tax payments to fund government budgets, FDI relocation can send a wrong signal not only to potential foreign investors, but also cause local investors to become *disillusioned.* Some companies have already exited Nigeria; others like Procter & Gamble, Unilever, GlaxoSmithKline, and Equinor have announced plans to either relocate completely or cease on-ground operations and pursue an import-based model (*Punch Newspaper, 2023).*

[101] Nevin et al. (2022) describe the resilience of the Nigerian people in terms of their "self-organizing impulse," which also explains why the country has not become a failed state.

[102] The so-called paradox of plenty, which explains why developing countries often do not maximize the benefits that accrue from their natural wealth.

Based on insights from the FDI relocation analysis in the preceding section, EMDEs are more vulnerable to MNC relocation than developed economies, albeit disproportionately for the large emerging markets. While the huge subsidies and fiscal incentives deployed by affluent and large emerging economies like the US, China, and Europe may not be within the reach of poorer, developing countries, there is no justification that fiscally challenged economies should follow this trajectory.

UNCTAD (2022) provides a theoretical underpinning for understanding the links between tax and investment, as well as the spillover channels and directional impacts. The UNCTAD analysis establishes that under global capital mobility, corporate tax policies can affect multiple aspects of the global investment landscape through four channels: where a given investment flows (location of investment), how much is invested (scale of investment), how much taxes are paid on the income generated by the investment and where they are paid (profit shifting), and how countries compete in designing their tax systems so as to attract investment (tax competition).

Douglas Irwin at Dartmouth College succinctly captures this sentiment in a recent IMF blog: "Fiscally strapped developing economies cannot afford lavish subsidies for domestic producers when fiscal balances are precarious and the payoffs uncertain." As indicated in the earlier section on investment treaties, the efficacy of BITs as a driver of inward FDI remains unclear.

Nigeria's Minister of Industry, Trade, and Investment, Doris Uzoka-Anite, recently commented on ongoing plans to address two major issues of concern to foreign investors: double taxation and foreign capital remittances. According to Bloomberg L.P. (2023), the Minister said, regarding foreign investors, "We have the free-trade zones where they can situate their businesses, export and import their raw materials without any taxes."

Nigeria has 14 double taxation agreements already ratified and BITs with 31 countries, having terminated one with China, with 16 signed but not in force, and 14 ratified by both parties.[103] In many ways, this underscores the importance of ensuring policy designs maximize the marginal impact of financial incentives. For a country hoping to more than double its economic size in the next seven years, the necessary conditions for takeoff need to be firmly established without any further delays.

As stated under the introduction, assigning appropriate weights to governance infrastructure and disruptions in the study of emerging market multinationals is critical given the volatile nature of capital movements. Countries typically offer fiscal incentives to encourage investment inflows by reducing corporate taxes bills. The dynamics are nuanced; the overall impact always depends on jurisdictional differences in the supply elasticities of capital. This becomes even more nuanced in a global North-Global South context, particularly the asymmetric impact of the 'tax haven' business model in which MNCs shift incomes and divert profits to low- and no-tax jurisdictions.

In gauging the effectiveness of fiscal incentives as an investment attraction tool, it is important to note that the real costs of inducements are not always obvious. Also, incentives are not a substitute for industrial policy and investment measures that prioritize governance improvements and the overall business environment (Olayele, 2023). This calls for developing a detailed cost-benefit analysis for every location decision.

Post-*divestment* value maximization

British multinational energy company Shell recently agreed to divest from its *68-year-old* Nigerian onshore oil business, *Shell Petroleum* Development *Company*, to a consortium of local companies. Among other considerations, a challenging business environment in the Niger Delta informed this decision (Bousso, 2024).. Nonetheless, Shell's other business activities in the natural gas and deep-water oil fields will continue. Shell's decision mirrors a similar withdrawal from Nigeria in recent years by American multinational Exxon Mobil, Italian Eni, and Norwegian Equinor. Similar to Shell, Exxon Mobil stuck a deal for Nigerian oil and gas firm Seplat Energy to acquire its shallow-water oil assets.

[103] The Nigerian Investment Promotion Commission Act of 1995 was amended in 2004, resulting in the elimination of controls and limits on FDI, thereby permitting 100% foreign ownership in major sectors of the economy, except those prohibited by law for both local and foreign entities. See Nigeria's Investment Climate Statements at the U.S. Department of State: https://www.state.gov/reports/2021-investment-climate-statements/nigeria

Opinions remain divided on the *costs* and *benefits of divestment. Some* believe this should be a win-win as long as the retreat by the MNCs can enhance the activities of indigenous firms and help them achieve productivity growth, while others caution on the need for policymakers to consider the real costs of the onshore divestment plan since offshore activities are not affected (Deutsche Welle, 2024). In theory, one of the core arguments for FDI tax incentives is technology transfers and knowledge spillover opportunities for indigenous firms. Since the duration of tax incentives influences how the benefits from the investment will be calculated, Javorcik and Poelhekkee (2017) argue that if the productivity advantage conferred by an MNC's presence in the host country remains even after divestment, there is a superior argument for granting fiscal incentives, compared to a scenario where the benefits dissipate after FDI relocation.

Since current divestment plans by the MNCs in the energy sector require government approval, the Nigerian authorities should adopt a multi-stage monitoring approach in establishing not only economic benefits from the divestiture, but also the environmental and social dimensions to ensure value maximization.

Strategic integration into global value chains

Based on long-term simulations of the impact of FDI relocation in the WEO analysis in the preceding section, results show an uneven distribution of benefits, with countries in the global South worse off. Due to reduced access to capital inflows from advanced economies, the poorer countries are constrained both in terms of capital formation and their ability to harness productivity gains from technology transfer for wealth creation.

The analysis in the second section alludes to the sheer influence of the CHIPS and Science Act, the Inflation Reduction Act, and the European Chips Act vis-à-vis production, sourcing, and the global value chains. Being strategic about increased integration and participation in global value chains is key. This requires not only *openness to trade and investment*, but the willingness to facilitate transparent and predictable investment policies. Nigerian policymakers should pay attention to this. Nigerian diplomatic missions and other permanent *representations abroad have work to do.*

In addition to the private sector, policymakers should leverage these diplomatic assets to support the pursuit of commercial success in industrial sectors where Nigeria has market power. As the largest oil producer in Africa, Nigeria's degree of market power in the sector is obviously high. Following the WEO analysis, once a country's market share of trade in a particular sector is high, its exposure and vulnerability to multinational divestment risks should be minimal. Combined with the predictive stance of the analysis on the strategic risk dimension, considering the overlap between vulnerable countries in the advanced countries and EMDEs, commercial diplomacy can go a long way in creating a win-win outcome even when divestiture is unavoidable in strategic sectors for national or economic security reasons.

One of the major takeaways under the conceptual framework is that *the drivers of FDI relocation are heterogeneous*. Therefore, coalescing government diplomatic assets for the benefit of the private sector in global markets has never been more important. This means focusing on nurturing existing commercial relationships with traditional and established markets can help accelerate investment attraction based on existing opportunities across the global supply chains of MNCs. Effectively deploying government machinery to cater to the needs of exporters can help in the reconfiguration of supply chains for long-term competitiveness.

Differential subnational economic performance

Optimizing the allocation of economic resources is at the heart of the debate on fiscal decentralization. Contrary to the neoclassical approach of modeling economic growth through factor endowments and technology, Hidalgo and Hausmann (2009) analyze jurisdictional economic complexity via productive capabilities. This model recognizes inputs, technologies, and ideas as the key determinants of economic development; the complexity of the productive capabilities of a country or region determines the extent of economic growth that is achievable.

The governance-FDI nexus, under the governance infrastructure and institutional paradigms alluded to earlier, offers a nuanced view on how non-market instruments are used by MNCs and their home countries to minimize political and financial risks. As such, state-business relations, whether collusive or collaborative, are fundamental to industrial

competitiveness, particularly in EMDEs. The interactions among state and market institutions have implications for how economic agents and political actors shape institutions.

This highlights the need for a stable and credible state-business alliance which spells out in very clear *and unambiguous* terms the overarching goal of any public-private arrangements around economic management as corroborated by Page and Tarp (2017): "The institutions that shape government–business relations and foster close coordination are an integral element of industrial policy. Without an effective dialogue with the private sector the government is operating largely in the dark."

MNCs care more about market size, political stability, security, and the regulatory environment than fiscal incentives that may not only generate welfare losses by limiting the resources available for essential public services, but also impact domestic resource mobilization capacity. With the right dose of regulatory modernization and a fit-for-purpose governance arrangement, addressing these critical issues can help the country turn the corner.

In the context of political economy, pseudo-federalism has delivered sub-optimal results to the detriment of the Nigerian people, particularly those at the bottom of the economic pyramid. To ensure the various regions maximize their endowments, economic incentives must become the major driver of deconcentration. To harness the innovation economy for increased economic competitiveness, Nigeria needs a revamped, fit-for-purpose governance model that explains the differential economic performance of its 36 states and federal capital territory. To address the pervasive issue of rentierism, federalism needs retooling, powered by the innovation economy.

9.5. Conclusions

Nigeria wants to more than double its GDP to USD1 trillion in less than eight years, and the new Tinubu-led government has embarked on a series of painful but necessary reforms aimed at repositioning the economy to become a more friendly destination for trade, business, and investment. Apart from the current retreat by MNCs, the country faces a myriad of other macroeconomic challenges, ranging from a protracted foreign exchange crisis and negative FDI inflows to unsustainable debt levels and chronic structural imbalances. Clearly, these paradigms are not compatible with doubling the size of an economy in less than a decade. Yet, as daunting as it seems, it *is not impossible under the right set of conditions.*

Hopefully, the various reforms targeted at ensuring investors earn the *best returns* under a liberalized industrial policy will *help* address the dearth of capital inflows in recent years. While they are not collectively *exhaustive, four key issues for the attention of* policymakers are underscored in this paper. There is no one-size-fits-all approach to development; the differing nature of the practice of industrial policy across nations offers *a glimpse into* the inner workings of economic development. *Deep and* long-term reforms to rebuild confidence and foster sustainable and growth-friendly fiscal policy anchored on non-oil resource mobilization and *macroprudential management* will be key. *Nigerian p*olicymakers can leverage the ongoing digital transformation to create value in emerging sectors with high-growth opportunities.

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Chapter 10

Fostering Public Services and Inclusive Growth Through E-Government Innovative Initiatives: Insights from India, Brazil, U.S., and Japan

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Executive Summary
Digital public services have the potential to enhance inclusivity and stimulate inclusive growth. Across advanced and emerging market countries, innovative e-government initiatives comprise national digital identification, digital payments, CBDC, tax returns, and customs agility. Developing countries can leverage these initiatives to narrow the public service quality gap compared to advanced countries. This presents an opportunity for emerging market countries to make significant strides in fostering remarkable inclusive growth through e-government.
Keywords: e-government services, technological innovation, path dependency, financial inclusion, economic and social growth

10.1. Introduction

Digital public services are key to fostering inclusivity and driving sustainable economic growth, particularly in developing countries and emerging markets. Through innovative e-government initiatives, these nations can effectively narrow the public service quality gap with more advanced counterparts. Inclusivity is not optional, as public services must cater to all without discrimination. Greater participation, transparency, and alignment of the national development strategy and the private sector can contribute to sustainable growth. The ongoing digital transformation is reshaping interactions between companies and customers, as well as governments and citizens. While companies have historically been pioneers in adopting innovative technologies, the public sector, constrained by historical legacy and legal restrictions, requires more time for technology adoption. The COVID-19 pandemic accelerated the adoption of internet-based procedures by government agencies, confirming the irreversible trend of digitalization in public services. Virtual platforms now host many services, challenging the return to physical transactions even after the pandemic concludes.

The Internet has democratized access to information and public services, enabling citizens to interact directly with governments for various services without intermediaries. Remote access, facilitated through smartphone apps, allows individuals to handle tasks such as income tax declarations, driver's license applications, job applications, voting, and medical appointments. Even remote and challenging-to-reach areas can benefit from these services, with many local governments providing free internet access. Digital platforms are tailored to accommodate individuals with special needs. Governments prioritize digital education to bridge the digital divide, focusing on underserved and aging populations. Facilitating access to public services, expanding the service base, and greater dissemination of digital service centers, together with digital education, increases the efficiency of public services and citizen participation, creating dynamism and a more favorable business environment for the private sector's growth.

E-government functionalities not only enhance public services but also offer significant benefits to private services. Digital authentication of a citizen's identity makes it possible to open a bank account and participate in the digital economy. Platforms for foreign trade seamlessly connect public and private entities, streamlining imports and exports in adherence to regulatory standards and company requirements. In this way, improving the business environment through e-government functionalities contributes to economic growth by adding more participants to the formal economy and ensuring compliance with contracts more quickly and by legal requirements.

10.2. E-government is not only the digitalization of current operations

The digitalization of public services transcends current operations, ushering in a cultural shift towards citizen-centricity, emphasizing participatory, transparent, agile, and collaborative approaches Cultivating this cultural change poses the most significant challenge in the public sector's digital transformation. Citizen-centric services demand flexible organizational structures requiring data-driven decision-making processes that reshape how government agencies collect, store, and utilize data. The evolving dynamics of data use demand increased interoperability and data sharing within internal departments, across agencies, and among partner countries. Advanced countries need substantial public budget allocations to maintain outdated legacy systems while simultaneously modernizing for emerging needs. Developing countries, despite facing budgetary constraints, have the opportunity to leapfrog directly to the new model, minimizing the burden of scarce legacy systems. Cybersecurity and privacy concerns are on the rise in the digital transformation era. Ongoing changes, including the adoption of cloud technology for improved infrastructure and artificial intelligence (AI) for predictive capabilities, highlight the need for investments in secure data storage and responsible use. The trade-off between e-government initiatives promoting social and economic inclusion and ensuring data privacy is a complex and nuanced challenge. While such initiatives enhance inclusivity, transparency, and reduce administrative barriers, the collection and use of personal data raise privacy, security, and discrimination concerns. Establishing trust in digital governments and ensuring responsible data use with citizens' consent are crucial for advancing e-government in both advanced and developing countries.

Recognizing the potential of e-government initiatives to promote inclusive and sustainable growth, countries invest in implementing and improving e-government initiatives. The United Nations E-government Survey 2022 (United Nations, 2022) highlights examples such as the United Kingdom's digital inclusion initiative, which established accessibility standards to help underserved people enjoy the benefits of the Internet, and India's AgriMarket app that keeps small farmers informed about the average price of the crop nearby to support the negotiation of better production sales prices. India's MyGov platform fosters public engagement, while Ecuador invests in expanding the 4G network to connect schools and health centers, including rural areas. Each country tailors its e-government initiatives to its societal needs, adapting to historical infrastructure conditions and digital service usage levels. Contingency theory argues that there is no single solution to all organizational problems. Its effectiveness depends on the specific context (Fiedler, 1978), such as societal cultural characteristics (Zhao et al., 2014). The study applied this theory to nations as the administrative solutions of countries are influenced by their particular political, economic, and social context (Riggs, 1964).

10.3. How do innovative e-government initiatives benefit emerging markets?

The study explores how innovative e-government initiatives can contribute to more remarkable inclusive growth. The application of contingency theory underscores the importance of understanding the specific context in which these initiatives operate. For national e-government projects, this involves understanding the economic and social situation as well as the evolution of the ICT infrastructure to better understand the project's adoption rationale. In this sense, it is also necessary to examine how the historical evolution of e-government by local governments and the level of use and trust of these governments shaped the choice of that country. Thus, the theories of contingency and public governance, which use collaboration and networking among many stakeholders to address complex public problems and deliver efficient and effective services (Hood, 1995), are used in this study through the lens of path dependence as the system dependence of its history and the past institutions set influences its future (North, 1989).

To address the research question regarding the contribution of innovative e-government initiatives to inclusive growth, this study employs qualitative methodology and conducts case studies in four countries: India, Brazil, the United States, and Japan. This study explores these initiatives and contrasts emerging market countries and advanced countries to understand the diverse historical and evolutionary contexts of e-government that influence their chosen paths. Importantly, this is not a direct comparison between countries, as each follows its unique trajectory. Following the lens of path dependence, the study also aims to establish connections between these initiatives and the historical socio-economic needs of society.

This study delves into national e-government innovation initiatives, with a focus on case studies from India, Brazil, the U.S., and Japan. These countries were selected due to their diverse backgrounds and unique approaches to e-government initiatives. Specifically, India and Brazil are emerging market economies that have prioritized democratizing

internet capabilities and inclusive e-government projects to address historical, social, and economic demands. In contrast, the U.S. and Japan are traditional market-oriented advanced economies participating in prominent international organizations and fostering cooperation projects with developing countries. These latter countries have well-developed ICT infrastructure and a mature business environment while fostering countries that exhibit advanced ICT infrastructure in major cities and improving institutions.

The e-government initiatives examined in this study include national identification, digital payments, Central Bank Digital Currency (CBDC), tax returns, and customs agility. These services highlight innovative e-government initiatives transforming citizens' lives and businesses' operations, creating a more inclusive and sustainable society. While other countries and dimensions may be eligible for analysis, they fall beyond the scope of this initial exploratory study.

The study has several theoretical and practical contributions and underscores the need for more studies on e-government involving developing countries. In this sense, this study contributes to the literature by applying the theories of contingency, public governance, and path dependence in the contexts of advanced and developing countries while pointing out possible opportunities for the latter. Specifically, emerging market countries have modern ICT infrastructure and can quickly develop specific e-government applications. In this sense, this study contributes to a better understanding of the different solutions adopted by countries with other conditions and the evolutionary history of their e-government. A better understanding of these differences can shed light on future developments and improvements in e-government projects for policymakers and researchers.

10.4. E-government Innovative Initiatives

Digital authentication involves verifying an individual's identity using digital technology, creating a unique digital identity for online or in-person authentication. his method is widely utilized in various e-government and private services, online banking, and e-commerce, providing a secure and convenient way to verify identity and prevent fraud.

The digital finance dimension comprises of two key elements: digital payment and digital currencies. Digital payments facilitate real-time electronic fund transfers, offering a seamless and cost-effective 24/7 solution. Users can make payments through apps, internet banking, or ATMs, and transactions are processed almost instantly. This method is faster, more accessible, and more inclusive than traditional payment methods like checks and wire transfers. Central bank digital currency (CBDC) represents digital central bank money, offering advantages like settlement finality, liquidity, and integrity. Retail CBDC aims to create modern payment systems designed with the public interest in mind, which can foster open platforms and innovation competition. The success of new payment technology depends on the competitive structure and data governance. CBDC, when combined with digital identification can enhance cross-border payments and mitigate currency substitution risks, but multi-CBDC arrangements require international cooperation to address digital ID challenges.

The digital tax administration dimension assesses the level of digitalization of the tax administration. This study explores tax return digitalization and innovative tax administration initiatives, including data analytics capacity, chatbots, and AI for modeling and predictive analysis. The customs agility dimension, represents innovative e-government initiatives that demand high cooperation with other agencies and the private sector.

10.4.1. India Digital Government Framework and Initiatives

India's digital governance is characterized by a comprehensive set of strategic policies and initiatives aimed at leveraging digital technology for public administration.

The Digital India initiative (India, 2023a) is a cornerstone program designed to propel India into a digitally empowered society and a knowledge economy. It places significant emphasis on developing information technology infrastructure, mainly promoting capacity building and digital literacy. Emphasizing information technology infrastructure development, capacity building, and digital literacy, it places a particular emphasis on addressing disparities among rural and urban regions. The National e-Governance Plan (NeGP) is an endeavor to make government services accessible to citizens through digital channels. Initiatives such as Common Services Centers (CSCs) serve as critical service delivery points for government and private sector offerings (India, 2023d). In addition, the innovative citizen engagement platform, MyGov, facilitates stakeholder engagement and participation in governance by providing avenues for sharing ideas and suggestions and giving real-time feedback (India, 2023c).

Furthermore, India's national government is strengthening cybersecurity and data privacy measures to safeguard critical digital infrastructure and assets, promoting open government data platforms to serve as an instrument for ensuring transparency, encouraging innovation, and enabling public utilization through access to government data. The Make in India initiative focuses on stimulating domestic manufacturing, including electronics and technology products, thereby bolstering the digital sector's growth (Goswami & Daultani, 2022). Also, the government is directing efforts towards intelligent, technology-driven urban development through the Smart Cities Mission, utilizing digital solutions to enhance the quality of life for urban residents (Hayat, 2016).

Simultaneously, the India Stack initiative complements these digital governance policies by providing a comprehensive digital infrastructure framework. India Stack establishes a secure and open digital ecosystem, streamlining interactions and transactions for Indian citizens, particularly in digital inclusion and accessibility through digital identification, finance, and transactions(India, 2023b). The Aadhaar program, a unique identification system, plays a central role in this framework by assigning a 12-digit identity number to each resident, providing a secure and standardized mechanism for authentication across various services and transactions (Goel et al., 2022). Initiatives such as the Pradhan Mantri Jan Dhan Yojana (PMJDY) and the Unified Payments Interface (UPI), a real-time payment system, streamline peer-to-peer and peer-to-merchant transactions via smartphones and computers. These efforts promote digital financial inclusion and streamline digital payments and transactions (Fahad & Shahid, 2022). Other functionalities such as Know Your Customer (e-KYC) simplify identity verification processes through digital means, leveraging Aadhaar authentication for rapid completion of requirements in areas like bank account opening and SIM card issuance, and Digital Locker, a cloud-based platform, empowers individuals to securely store and share essential documents and certificates digitally, reducing the reliance on physical documentation, e-Sign, a digital signature service, facilitates electronic signing of documents through Aadhar based authentication, and e-Swasthya (Electronic Health Records), enhances access to medical histories, improving healthcare service delivery., (India, 2023b).

India Stack's integrated approach significantly contributes to financial inclusion, reduces paperwork, and enhances efficiency in governmental and private sector service delivery. This approach fosters an environment conducive to innovation, allowing startups and businesses to develop solutions leveraging digital infrastructure components. The Reserve Bank of India (RBI) addresses the growth of cryptocurrencies by introducing the digital rupee, aiming to simplify cross-border money transfers and enhance the efficiency of bank cash management (India, 2022). The digital rupee aligns with the government's vision for a cashless economy, potentially reducing the demand for physical cash and cutting operational costs (Gupta et al., 2023). While cash remains the preferred mode for small-value regular transactions, the UPI consolidates its position as a digital payment method, and the digital rupee improves its functionalities during the pilot phase (Table 10.1).

10.4.2. Brazil Digital Government Framework and Initiatives

In the context of Brazil, digital initiatives like the digital government policies align closely with Brazil's digital transformation principles encompassing a range of strategic policies and initiatives initiated by the national government to leverage digital technology to deliver public services, enhance transparency, and improve administrative efficiency (Brazil, 2023b). These policies are crucial in Brazil's ongoing efforts to modernize governance and promote digital inclusion. Key policies include embracing e-government initiatives through entities like the Federal Government Digital Service (Servico Federal de Processamento de Dados - SERPRO) and Dataprev (Empresa de Tecnologia e Informacoes da Previdencia Social) which play vital roles in developing digital platforms for efficient government operations and providing technology solutions to agencies. Private international players have been emerging in recent years. Also, Brazil has focused on enhancing cybersecurity measures to protect critical infrastructure and digital assets, including creating the National Cybersecurity Strategy that protects critical digital infrastructure and ensures the nation's cyber resilience in the face of emerging threats (Oliveira et al., 2018).

Brazil has launched campaigns and initiatives to promote digital literacy and inclusion among its citizens. These efforts aim to ensure that all segments of society can access and benefit from digital services and technologies. An important one is the Open Government data initiative. Brazil has made efforts to make government data more accessible and transparent through the Open Government Partnership (OGP) and the Open Data Portal, which serves as a repository of government data accessible to the public (Souza et al., 2022). It promotes transparency and supports data-driven innovation by making government datasets available for analysis and application development. These initiatives

encourage the release of government data for public use and innovation. Citizen-centric services, facilitated by digital platforms and apps, provide convenient access to services like tax filing and social benefits (Brazil, 2023c).

To drive economic development through innovation, the government incentivizes digital finance initiatives such as PIX, Brazil's instant payment system, enabling individuals and businesses to make real-time, unified, secure digital, low-cost transactions nationwide (Brazil, 2023d). Smart city initiatives in cities like São Paulo and Rio de Janeiro aim to enhance urban services and infrastructure through digital solutions. Digital identity initiatives, including the CPF national identification number, streamline access to government services and enhance security.

Electronic voting has been used for many years for stakeholder engagement and participation. Brazil is a pioneer in adopting electronic voting systems for its elections. The Superior Electoral Court (Tribunal Superior Eleitoral - TSE) oversees the implementation and security of electronic voting processes, granting secure, auditable, fast, rapid counting of electronic ballots even in remote locations with difficult access, compared to the paper votes.

The Central Bank of Brazil is pursuing the development of a digital Brazilian currency named Drex. Following the global trend of digital asset use, the bank outlined guidelines for Drex issuance as a digital token of the Brazilian sovereign currency through group studies since 2020. After revising the guidelines on 02/23 and using Distributed Ledger Technology (DLT), the bank set the directives for its tests through small projects conducted by banks, payment institutions, and fintechs, which are scheduled for completion in late 2024 (Brazil, 2023a). The Drex Platform, functioning as a DLT ecosystem, aims to enhance financial market efficiency and inclusively. The retail version, which can be used by individuals and merchants and provided by regulated financial intermediaries, will enable the public to access diverse financial transactions, ultimately supporting financial democratization by reducing transaction costs and fostering innovative business models. These initiatives collectively shape Brazil's digital landscape, fostering innovation, enhancing governance, and improving services for its citizens (Table 10.1).

10.4.3. United States Digital Government Framework and Initiatives

Digital governance in the United States encompasses a wide range of strategic policies and initiatives established by the U.S. government to leverage digital technology to deliver public services, enhance transparency, and improve administrative efficiency (United States, 2023b). These policies form an essential framework for the U.S.'s ongoing efforts to modernize governance and promote digital inclusion. Key initiatives include e-government programs, such as the U.S. Digital Service (USDS), which recruits top technologists to enhance the delivery of digital government services and improve user experiences (United States, 2023d). Another initiative is the U.S. government's promotion of health information technology initiatives, including electronic health records and telehealth services, to enhance healthcare delivery and patient access to medical records. In this way, the General Services Administration (GSA) is pivotal in coordinating these efforts and providing digital platforms for enhancing and efficiently delivering government citizen-centric services.

The U.S. tax administration, led by the Internal Revenue Service (IRS), has advanced citizen-centric services, offering prefilling tax reports, automation for call centers, Secure Access Digital Identity (SADI), A.I., and data analysis to improve performance and service quality (United States, 2023c).Although not a centralized initiative for a national digital identity, many federal agencies and states have implemented digital I.D.s for specific purposes. Some states accept driver's licenses when voting. The U.S. government has launched campaigns and programs to promote digital literacy and inclusion among its citizens, ensuring equitable access to digital services and technologies.

Initiatives like Data.gov encourage transparency and innovation by making government data available for public use, research, and application development. Many agencies, such as the Office of Management and Budget (OMB), coordinate these initiatives. The U.S. government strongly emphasizes enhancing cybersecurity and data privacy measures to protect critical infrastructure, digital assets, and sensitive information. The Cybersecurity and Infrastructure Security Agency (CISA) oversees serious cybersecurity efforts, safeguarding the nation's critical infrastructure and enhancing cybersecurity resilience. Further, the U.S. government agencies incentivize the government's multifaceted, widespread, and intensive use of A.I. and data analytics at all levels, promoting open data principles and encouraging innovation.

Concerning economic development through innovation, the United States has significant growth in the proliferation of digital payment innovation methods, including mobile payments, digital wallets, and digital currencies. used. Financial regulatory bodies like the Consumer Financial Protection Bureau (CFPB) monitor and regulate these developments. U.S. cities such as New York City and San Francisco have initiated smart city projects to leverage digital technologies for urban development and sustainability. These initiatives aim to enhance sustainability, transportation, and quality of life for residents, fostering innovation, enhancing governance, and improving services for its citizens (Table 10.1).

The U.S. Central Bank Digital Currency (CBDC) studies favor a future digital currency implementation because of its efficiency, technological innovation, faster cross-border transactions, and environmental sustainability. The current policy objectives for a U.S. CBDC system include protecting consumers, promoting economic growth, improving payment systems, ensuring interoperability, advancing financial inclusion, and aligning with democratic values (United States, 2023a). Ongoing research and collaboration among key departments, facilitated by the Federal Reserve and a Treasury-led interagency working group, support progress in CBDC and other payment innovations (United States, 2023a).

10.4.4. Japan Digital Government Framework and Initiatives

Digital governance in Japan is driven by strategic policies and initiatives promoted by the Japanese government aimed at harnessing digital technology for public service delivery, transparency, and administrative efficiency. The National Center for Incident Readiness and Strategy for Cybersecurity (NISC) is central to coordinating cybersecurity efforts and enhancing digital government services. This initiative includes Initiatives for the promotion of cybersecurity education and capacity building. A central and unified department or agency has extreme importance to the coordination and effectiveness of digital government projects.

Japan has initiated programs to promote digital literacy and inclusion among its citizens, ensuring equitable access to digital services and technologies. Open data initiatives encourage the release of government data for public use, research, and innovation, overseen by the National Strategy Office for Artificial Intelligence (AI).In the same way, Japan has introduced the My Number system, a unique identification number for residents and taxpayers (Japan, 2023b). The government signs to advance towards other services, serving as a critical component in streamlining administrative processes and enhancing the efficiency of government services.

Government agencies in Japan have launched digital platforms and services to provide convenient access to services such as tax filing, social benefits, and administrative procedures. Although Japan has a legacy paper money tradition, the country has witnessed the growth of digital payment methods and cashless transactions, with various digital payment platforms and mobile payment options gaining popularity. Furthermore, Japanese cities like Tokyo and Yokohama have initiated smart city projects to improve urban living through digital technologies, including transportation, energy efficiency, and disaster resilience. These initiatives enhance urban services and infrastructure through digital solutions and enhancing sustainability, transportation, and quality of life for residents. (Table 10.1).

The Bank of Japan is assessing some Central Bank Digital Currency (CBDC) functionalities through proof of concept tests. These tests confirmed the technical feasibility of the essential functions of a CBDC, completed in 2022, with a pilot program launched in April 2023 to evaluate the end-to-end process flow, measures, and potential challenges for connecting external systems. (Japan, 2023a).

Further, a a CBDC forum will facilitate institutional arrangements, drawing on ideas and insights from private businesses related to retail payments to deepen the study (Japan, 2023a).

Table 10.1. Case studies of countries' main digital government initiatives: India, Brazil, United States and Japan as of 2023

Digital Initiative	India	Brazil	United States	Japan
Digital Identification (Centralized or Dispersed)	Aadhaar – centralized citizen identification, 2009. 1.27 billion. Individuals. 12-digit number. Name, address, gender, birth; biometric - facial photo, iris scans, fingerprints. Email and cellphone are optional. E-KYC.	National Civil Identification System (ICN), 2017. Not fully implemented. Demographic from federative units and Biometric data collect from the electoral system.	No traditional ID solution in place. Several federal agencies and states have digital ID for specific purposes. Some states accept driver's license when voting.	"My number" (マイナンバー), 2015, is a 12-digit number attributed to all Japanese residents, including foreigners, designed for tax and SS purposes, added digital ID & authentication.
	Independent gov. body - the Unique ID Authority of India (UIDAI).	Controlled by the central gov. - the National Civil Register Record.	Dispersed by federal agencies and states.	Controlled by the central gov. - the Ministry of Internal Affairs.
Digital Finance (Payments/ CBDC)	Unified Payments Interface (UPI). Cheaper and more intuitive transactions.	Diverse digital payment methods. PIX is low-cost, fast, convenient.	Decentralized payment methods. Checks remains widely used.	Decentralized payment methods. Cash remains widely used.
	Central switch operated by a non-profit org. the National Payment Corporation of India (NPCI). All licensed banks are connected to NPCI.	PIX is operated by the Brazil's Central Bank in a centralized platform. Open bank API. Licensed banks are connected to PIX.	Many banks, credit unions, and financial institutions provide their own payment services.	Efforts to increase cashless payments. Cash is prevalent due to cultural, privacy concerns, and the avoidance of transaction fees.
	Digital Rupee – e-Rupee - digital token that represents the Indian Rupee, pilot launched on 12/22 restricted to some banks and cities, P2P & P2M transactions through digital wallet, like cash and can be converted in other forms of money	Digital Brazilian Real – Drex – tests with Drex platform, DLT technology, started in 03/23 and planned to be concluded by 2024. Retail version project to be provided by a regulated financial intermediary.	Ongoing working group studies of a future U.S. CBDC led by the U.S. Treasury. Some key features are customers protection, interoperability, financial inclusion, and democratic values alignment.	After two proofs of concepts, the Bank of Japan is testing end-to-end process flow and connections with external systems. Next, a CBDC Forum will take place to deepen the studies.
Digital Tax Administration (Tax Report/ INDITEC index)	Central Board of Direct Taxes. Separated direct and indirect tax administrations. No SSC collection or customs.	RFB, Ministry of Finance, manage all federal taxes, SSC collection and customs administration.	IRS is a Bureau of the U.S. Treasury. It collects federal income taxes, employment taxes.	National Tax Agency. Unified semiautonomous body. No SSC collection or customs.
	Prefilling tax report for individuals without income. Initial digital assistance - chatbot and RPA. ICT solutions - custom built, SaaS. Innovative tech. AI under implementation.	Prefilling tax report for individuals with income. Digital assistance, chatbot, custom built, SaaS. AI, Cloud, electronic compliance checks, behavioral analysis.	Prefilling tax report only for income under the threshold. Automation to improve call centers, Secure Access Digital Identity (SADI), AI, data analysis.	Prefilling tax report for individual's w/o income. Initial digital assistance – chatbot. ICT solutions are custom built. Innovative tech. - AI, Cloud.
	INDITEC (Miguez & Morán, 2022) – 0.56	INDITEC (Miguez & Morán, 2022) – 0.70	INDITEC (Miguez & Morán, 2022) – 0.56	INDITEC (Miguez & Morán, 2022) – 0.44
Customs Agility (Time Release Study)	CBEC set the goal of reducing release time for import goods to within 3 days for sea cargo, 2 days for air cargo. Use of e-Sanchit facility for online uploading of supporting documents.	In 2020 Brazil released its first TRS. High degree of customs procedures digitalization allows improvements through system optimization, and agencies collaboration.	U.S. Department of Homeland Security implemented significant changes since last TRS, such as Single Window and Automated Commercial Environment.	Japan Customs is a WCO member and one of the pioneer countries to conduct TRS. 24 major seaports/ airports. Collaboration with other government agencies.
	TRS 2023 for imports – 85h for sea cargo, 44h for air cargo (India, 2023e).	TRS 2020 for imports – 233h for sea cargo, 139h for air cargo (Brazil, 2020).	TRS 2015 for imports – 38h for sea cargo, 8h for air cargo (WTO, 2015).	TRS 2018 for imports – 60h for sea cargo, 12h for air cargo (Kanemochi, 2018).

Source: Author

10.5. Discussion

Innovative e-government initiatives have proven critical policy tools, offering diverse solutions to nations. Both advanced and developing countries have adopted unique paths, considering their historical conditions and social needs. In emerging markets, innovative e-government initiatives have demonstrated the ability to significantly improve citizens' quality of life within a brief period. Electronic services have proven valuable in these countries due to the lack or deficiency of traditional "brick-and-mortar" services, generating significant economic and social impact.

These systems, like Aadhaar in India and Brazil's national civil identification, hold great potential for increasing inclusivity and facilitating numerous public and private service applications in a secure and cost-effective environment. On the other hand, the United States relies on the driver's license issued by States with certain national functionalities as one of the identification documents, among other alternatives. In the same sense, Japan invests in its digital identification solution without the urgency of developing countries.

Centralized solutions implemented by the central governments of India and Brazil have also embraced digital finance. The Unified Payments Interface (UPI) in India and the PIX in Brazil are two prime examples of digital innovations that have transformed the payment landscape in their respective countries. These payment systems guarantee secure and economical transactions to citizens, effectively bringing hundreds of thousands of people into the formal financial system. In developed countries like the United States and Japan, electronic payments can be made through various apps provided by private financial institutions, each with its standards, such as Venmo, Zelle, PayPay, or other cashless payment methods. However, in the U.S., checks are still widely used, while cash remains the primary mode of payment in Japan, particularly for small transactions.

Despite being advanced economies with frontier technological infrastructure, developing CBDC in the U.S. and Japan may have advanced slower than in some emerging markets, such as India and Brazil. It can be attributed to the complex economic and regulatory environments in advanced economies, which require careful consideration of existing monetary policies and financial regulations. Central banks in advanced economies exercise caution and thoroughly study the potential economic and financial stability implications before deciding on CBDC. Moreover, the global reserve currency status of the U.S. dollar adds another layer of consideration, with authorities mindful of its impact on the global financial system and international trade. Furthermore, well-developed private-sector financial innovations in digital payments within advanced economies contribute to a nuanced assessment of the necessity and urgency of CBDC introduction, aligning with broader policy goals such as financial inclusion and economic stability. Although the U.S. Federal Reserve and the Bank of Japan actively research and discuss CBDC, these complex factors continue to influence the pace of development.

In contrast, India and Brazil seize the opportunity for faster CBDC development, driven by fewer barriers and immediate social demands for inclusivity and improved business environments. Simultaneously, social demands for greater inclusivity, reducing the shadow economy, and improving business environments pressure these governments to implement more firsthand and immediate solutions. Other developing countries, such as China, Russia, Nigeria, and Jamaica, also launched their CBDC initiatives in search of greater protagonism in international transaction facilitation and potential movements towards foreign trade de-dollarization.

Digital tax administration serves as an indicator of government service digitalization. Brazil's tax administration has been at the forefront of implementing digital income tax returns and has continued to enhance this service. Using an app with pre-filled information, compliance pre-checks, and the ability to send information via smartphone has facilitated the process for taxpayers. Similarly, the U.S. Internal Revenue Service has established guidelines for exchanging information with private companies that assist taxpayers in filing income tax returns. The Inter-American Center of Tax Administration (CIAT) publishes the Innovation, Digitalization, and Technology Index (INDITEC), which provides insight into the level of digitalization of tax administrations (Miguez & Morán, 2022). Brazil ranks high on this index, scoring 0.7 on a scale of zero to one. India and Brazil have leveraged technology to overcome infrastructure challenges, lack of human capital, and financial constraints, thereby improving the quality of services provided to the public.

The assessment of customs agility can serve as a valuable indicator for evaluating the effectiveness of e-government initiatives. The World Customs Organization (WCO) has formulated guidelines to measure the average duration required

to release cargo from the point of entry into a country, encompassing all customs formalities and relevant agent controls based on the cargo type. The resulting report, known as the Time Release Study, consolidates this data (WCO, 2018). The United States boasts the shortest cargo clearance time for ports and airports. This achievement can be attributed to its long-standing tradition of coordination, standardization, and exchange of information between the different stakeholders involved in customs clearance procedures, akin to Japan. Such a history of collaboration has facilitated the adoption of digitalization, often spearheaded by firms.

The analysis of e-government initiatives underscores the pivotal role of governments, particularly in emerging market countries. Governments in such markets are willing to take on innovation risks in less cohesive business environments with underdeveloped capital markets and greater social and sustainability demands. However, a potential drawback of this e-government framework is the concentration of a vast amount of data, leading to privacy concerns and misuse if democratic values are unobserved.

To further investigate the insights of this exploratory study, future research may conduct qualitative interviews with key stakeholders involved in e-government implementation. Additionally, quantitative studies could analyze the impact of e-government initiatives on inclusive and sustainable growth. These research efforts would contribute to a more comprehensive understanding of e-government strategies for policymakers and researchers.

10.6. Concluding Remarks

This study explores the transformative impact of innovative e-government initiatives on citizens' lives and the business environment across diverse countries. It highlights the vital role of governments, contingency, and path dependence influence in pursuing initiatives such as digital identification, payment systems, CBDC, tax returns, and customs agility. The overarching goal is to enhance the quality of public services, and these initiatives offer developing countries the opportunity to address social and economic demands efficiently. The study emphasizes the uniqueness of each country's evolutive path and the absence of a one-size-fits-all solution. While developing countries like Brazil and India have leveraged technology to overcome infrastructure challenges and improve financial inclusion, advanced economies like the U.S. and Japan exhibit a more cautious approach, considering the complexities of their economic and regulatory landscapes and opting for less risky digital innovations. Privacy concerns emerge as a crucial consideration, especially with the centralization and concentration of data.

To maximize the benefits of e-government initiatives while addressing potential challenges, robust regulations and strong institutional frameworks are essential. Striking a balance between economic efficiency and social inclusion is crucial for the successful implementation and sustainability of these transformative initiatives.

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Chapter 11

The Challenges of Emerging Markets Sovereign Debt Restructuring

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Executive Summary
This chapter considers one of the most pressing issues for emerging markets - debt. It focuses on the sovereignty of the borrowers, conditionality and burden sharing, lack of transparency, political considerations, interest rates increase, hedge funds and others that make emerging market sovereign debt restructuring a deeply complex task. The diversity of creditors also makes the negotiations particularly difficult. The chapter puts forwards a few policy considerations, highlighting that a set of principles like transparency, dialogue and cooperation; ''good faith'' and fair treatment of all parties, as embodied in the "Principles for Stable Capital Flows and Fair Debt Restructuring", may help address the EM debt restructuring issue.
Keywords: sovereign debt restructuring, emerging markets, debt policy, International Monetary Fund

Argentina has defaulted on its international sovereign debt nine times, including three times during the past two decades. In 2001, the government defaulted on more than USD132 billion of federal sovereign debt. By the end of 2019, Argentina owed about USD323 billion of federal sovereign debt to, among others, the International Monetary Fund (IMF), the Paris Club and private bondholders. In May 2020, Argentina defaulted (and restructured) again on the payment of its international sovereign bonds.[104]

Why is it that the brighter minds and the most powerful multilateral institutions have not found the key to stabilizing the debt of emerging countries in the past twenty years? Because there is no key: no shoe fits all. The complexity of the task is enormous, yet the elements of the challenges (such as the sovereignty of the borrowers, conditionality and burden sharing issues, lack of transparency, political considerations, interest rates increases, hedge funds and other predators, as seen below) need to be looked at in their singularity.

11.1. The sovereignty of the borrowers

Whoever lends to emerging market governments has a claim on sovereign States. It needs to be done with open eyes. There is no tool that allows lenders to force Governments to act if they refuse the measures that are being acted. Often enough, their public opinion reacted negatively to any call to the IMF. It has been the case for countries such as the Philippines and Mexico who were facing resistance from their populations.

A government or parliament change alone could destroy years of efforts by previous administrations, both in lending and borrowing countries. As we saw in Venezuela, it is easy for political candidates to campaign on the theme of a refusal of the IMF conditionality to distinguish themselves from the incumbent government who negotiated the terms of the agreement.

11.2. Does conditionality work?

Public sector restructuring loans come with a series of conditions. The loans are disbursed only when some milestones are met. Those conditions should improve the creditworthiness of the borrowing country.

[104] https://latinlawyer.com/guide/the-guide-restructuring/third-edition/article/lessons-argentinas-default-its-international-sovereign-debt

When a country borrows from the IMF, the government agrees to adjust its economic policies to overcome the problems that led it to seek financial assistance. These policy adjustments are conditions for IMF loans and help to ensure that the country adopts strong and effective policies, states the IMF.[105] Conditionality has been criticized, quite heavily in particular at the time of the debt crisis in the 80s and 90s. Often involving a substantial reduction of the fiscal deficit (a center point in adjustment programs), it led to a drastic downsizing in public sector employment and public services in a number of cases. Regardless of the need for fiscal discipline or austerity programs, there were harsh social consequences -which did not make conditionality popular and was a hindrance to the implementation of adjustment policies.

The case of Argentina is not encouraging: despite the country not respecting its commitments, it managed to obtain new credits from multilateral institutions. It is not a reason to condemn conditionality. A positive example is Egypt: the government accepted to include in the restructuring the companies that were owned by the military.

11.3. The economics of sovereign debt restructuring: who bears the risk?

A debt restructuring is fundamentally about allocating economic costs to someone. Borrowing countries want the burden of adjustment to fall on external creditors. Creditors want the burden to fall on the taxpayers. The problem is one of resource allocation and identification of why the debt is unsustainable, and to what degree, explains an EM debt portfolio manager. [106]

The negotiations between lenders and borrowers are caught between the existing financing, the restructuring and new sources of funds. This risk sharing exercise is painful and sometimes emotional. The increased diversity of creditors (i.e. governments, international organizations such as IMF, World Bank and other development finance institutions, private banks, bond holders, etc.) makes the negotiations particularly difficult. Free riding is a major concern, especially for international organizations and public sector creditors to which borrowers usually turn first to alleviate their debt burden.

11.4. The politics of debt restructuring

Most loans obtained by sovereign borrowers come from public sector sources, and especially multilateral institutions. The foreign relationships of the largest sponsors of those institutions do bear some influence on who gets what. This is the basic explanation of the multiple restructurings of Argentina, a country strategically critical to the Western Hemisphere.

The governance of multilaterals is an aggregate of individual countries. Their Executive Directors represent several countries, but national and international politics do influence their decision process. The Bretton Woods organizations are very much dominated by the largest members, and the leadership is “allocated” to some of them (e.g. the Head of the IMF is traditionally European, and the World Bank is American). Despite that structure, I can testify the integrity of their decision process.

The lack of transparency

Over the past years, the International Monetary Fund (IMF) drove an effort to create a world database of international debt. It enrolled the Institute of International Finance to include private lenders, mostly banks. The rationale is obvious: borrowers cannot expect restructuring of their debt unless lenders are treated pari passu.

The IMF Integrated Policy Framework was conceived in 2020 as a model to seek out the most appropriate mix of monetary, capital flow and macroprudential management, and foreign exchange policies to achieve macroeconomic

[105] https://www.imf.org/en/About/Factsheets/Sheets/2023/IMF-Conditionality#:~:text=When%20a%20country%20borrows%20from,adopts%20strong%20and%20effective%20policies
[106] https://www.ft.com/content/1f46e9ac-a930-4ec0-b399-0c042c9d147c

and financial stability [107] It is the last attempt to include countries who would be prepared to accept transparency.[108] It is so complex that countries hesitate to accept the framework. Africa's sovereign debt seems to be largely in the hands of the China Development Bank: China refused to take part to this effort.

The interest rates increases

As if it were not enough, the increase of interest rates following the eruption of inflation has increased the burden of the cost of the debt. For instance, US Fed' interest rate on the US dollar surged from 0.25- 0.50 % in March 2022 to 5.25-5.50% in December 2023. The effect on sovereign lending was not immediate, but since the multilateral institutions lend money they also borrow, their cost of new lending, in particular restructured lending, has been increasing.

Multilateral loans are generally at affixed rates, limiting the impact of increased interest rates: refinancing or new loans are determined by market conditions.

The hedge funds and other sharks

Hedge Funds sued sovereign borrowers, sometimes in foreign courts, and they often won beyond any form of equity. They managed to be repaid in full on their international bonds while most of them had acquired those bonds at deep discounts. The fact that it is legal does not make it right.

For instance, hedge funds sued the European Union in UK courts if they did not repay their Greek bonds at par while bonds domiciled in Greece lost 75% of the value of their asset. . They sued Argentina, blocking the restructured debt package in US courts. The biggest lender made a $ 2 billion profit. [109]

11.5. Some recommendations for policies

A few policy considerations to address the EM debt restructuring challenge must be integrated in any negotiation. Recently, a set of rules have been proposed to create a qualified majority rather than unanimity have been introduced

Recognize and prioritize the **unique combination of factors** that are currently affecting emerging markets international finance. The current situation is unstable at a level that has never been as threatening. Standard and Poor's indicated that credit conditions in emerging markets will likely deteriorate in 2024, as major economies slow down (the U.S., China, and the eurozone), the effects of rapid monetary tightening surface, and debt maturities pile up.[110]

Without transparency there is no trust: China's loans are pushing the world's poorest countries to the brink of collapse. Dozen countries are feeling an increased pressure to serve their Chinese loans, that are not public. The multilateral organizations should ensure that the $ 3 trillion of loans from China to Africa be disclosed. The same apply to industrial groups who extended credit against future revenues. With growing concern about sovereign debt vulnerabilities, higher borrowing costs and persistent geopolitical tensions that impact both borrower creditworthiness and their relationships with creditors, strengthening investor relations has proved to be crucial to promote sovereign debt and policy transparency, and attracting international investors says the Institute of International Finance. [111]

A sanction system that would penalize the countries who, like Argentina, never really implemented the conditions to their loans, is at the same time fair and impossible. There is no incentive for borrowing countries to execute their engagements. The only leverage is to reassess the conditions before disbursing a tranche of the loans. However, whatever the multilateral organizations can do does not affect the trade sanctions imposed on a bilateral basis, mostly by Western countries.

[107] https://www.imf.org/en/Publications/Policy-Papers/Issues/2020/10/08/Toward-an-Integrated-Policy-Framework-49813

[108] https://www.imf.org/en/Publications/Policy-Papers/Issues/2023/12/20/Integrated-Policy-Framework-Principles-for-the-Use-of-Foreign-Exchange-Intervention-542881

[109] https://www.washingtonpost.com/news/business/wp/2016/03/29/how-one-hedge-fund-made-2-billion-from-argentinas-economic-collapse/

[110] https://www.spglobal.com/ratings/en/research/pdf-articles/231128-credit-conditions-emerging-markets-q1-2024-not-getting-easier-101590130

[111] https://www.iif.com/Publications/ID/5437/Investor-Relations-and-Debt-Transparency-Report-2023

The Principles for Stable Capital Flows and Fair Debt Restructuring have been agreed in 2004 by financial institutions as well as public sectors agencies at the initiative of the Institute of International Finance. [112] Based on four pillars (transparency and timely flow of information; close debtor-creditor dialogue and cooperation; ''good faith''; and fair treatment of all parties) and updated in April 2022, they are a coherent set of rules that form the basis of the negotiations. But, albeit accepted by a great number of countries, they remain voluntary. , The negotiations are often led by the IMF, the IIF or the Club de Paris . Without these efforts, the Greek debt problem would never have been solved. We must recognize the difficulty of obtaining the consensus of lenders and borrowers. Yet, it is by far the only workable framework.[113]

Having evolved in the world of sovereign debt financing for half a century, I want to share my admiration for those institutions and individuals who, despite the difficulties, are dedicated to this activity. To the skeptics, I constantly say that things would be a lot worse if these endeavors had not been undertaken despite all odds. In times of war, inflation, over indebtedness and slow economic growth, the challenges are even more urgent to address. “It is not necessary to hope to undertake, nor to succeed to persevere” (Guillaume le Taciturne)

[112] https://www.iif.com/Publications/ID/4887/The-Principles-for-Stable-Capital-Flows-and-Fair-Debt-Restructuring-April-2022-Update

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