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EMERGING MARKET MULTINATIONALS REPORT (EMR) 2017

EMERGING MULTINATIONALS IN A CHANGING WORLD



Emerging Markets Institute

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Preface

The second Emerging Market Multinationals Report, co-authored by Dr. Casanova and Dr. Anne Miroux, is an important resource for researchers, students and investors in emerging markets. The report covers the 20 biggest emerging markets by the size of their economies, what the authors term the “E20”, and how they have become the drivers of outbound capital flows. We learn about the largest E20 multinational companies, “eMNCs”, which come from a diverse group of industries and exhibit remarkably different fundamentals. These eMNCs drive outbound foreign direct investment flows to a wide range of target markets. Half of the E20 countries are home to companies in the Fortune Global 500; indeed, their 149 firms represent about a third of the total list. Chinese companies hold the dominant position and account for about 20% of companies in the overall ranking. A special chapter features the global rise of eMNCs initially competing on low prices for their products/services but increasingly moving beyond a low-price strategy by building brand and emphasizing innovation.

The Emerging Markets Institute, which publishes this report, is a focal point within the Cornell SC Johnson College of Business for research, teaching and public engagement around emerging markets. The College enjoys an enviable reputation for the influence its faculty have among private and public-sector leaders in low- and middle-income countries. These economies play an increasingly central role in multinational firm growth strategies, and as engines of global economic growth necessary to meet the United Nations’ sustainable development goals. The Emerging Market Multinationals Report makes a valuable contribution to our understanding of how emerging markets and multinationals from these markets are becoming an important source of global capital, competitiveness and innovation.

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ACE	ASEAN Centre for Energy
ADB	Asian Development Bank
AEC	ASEAN Economic Community.
AIIB	Asian Infrastructure Investment Bank (AIIB)
APG	ASEAN Power Grid
ASEAN	Association of South East Asian Nations: Brunei, Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam
AUD	Australian Dollar
BNDES	Brazilian National Development Bank
BRIC	Brazil, Russia, India, China
BRICS	Brazil, Russia, India, China and South Africa
CCS	Carbon Capture and Storage
CEEF	Clean Energy Equity Fund
CEEW	Council on Energy, Environment and Water
CNG	Compressed Natural gas
COP	Conference of the Parties
E20	Emerging Markets 20: Argentina, Brazil, Chile, China, Colombia, Egypt, India, Indonesia, Iran, Malaysia, Mexico, Nigeria, Philippines, Poland, Republic of Korea, Russia, Saudi Arabia, South Africa, Thailand and Turkey
ECLAC	Economic Commission for Latin America and the Caribbean
EMI	Emerging Market Institute
EMR	Emerging Market Report
eMNC	Emerging Market Multinational Corporation
EMnet	OECD Emerging Markets Network
ETS	Emissions Trading System
EU	European Union
FDI	Foreign direct investment
FIT	Feed-in tariffs
FSDC	Financial Services and Development Council

Abbreviations and Acronyms

GDP	Gross Domestic Product
G7	Group of 7: Canada, France, Germany, Italy, Japan, US & UK
HAPUA	Heads of ASEAN Power Utilities/Authorities
ICT	Information and communication technology
IEA	International energy Agency
IFC	International Finance Corporation
IFDI	Inward Foreign Direct Investment
IMF	International Monetary Fund
IRENA	International Renewable Energy Agency
LCR	Local Content Requirements
LNG	Liquefied Natural Gas
M&A	Mergers and acquisition
MDB	Multilateral Development Banks
MNC	Multinational Corporation
MSCI	Morgan Stanley Capital International index
NAFTA	North American Free Trade Agreement
NASDAQ	National Association of Securities Dealers Automated Quotations
NDB	New Development Bank
NRDC	National Resources Defense Council
NYSE	New York Stock Exchange
OBOR	One Belt One Road
OECD	Organization for Economic Cooperation and Development
OFDI	Outward FDI
OPEC	Organization of Petroleum Exporting Countries
PPA	Purchasing power Agreements
PPP	Purchasing power parity
PV	Photovoltaic system
R&D	Research and development
ROA	Return on Assets

SGCC	State Grid Corporation of India
SME	Small and Medium-sized Enterprise
SOE	State Owned Enterprise
TANAP	Trans Anatolian Natural Gas Pipeline
TAGP	Trans- ASEAN Gas Pipeline
TPES	Total Primary Energy Supply
TEV	Total Enterprise Value
TNC	Transnational Corporation
TNI	Trans-nationality index
TPP	Trans-Pacific Partnership
TTIP	Transatlantic Trade and Investment Partnership
UHV	Ultra-High Voltage
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
WTO	World Trade Organization
WIR	World Investment Report

Executive Summary

The Emerging Market Multinationals Report (EMR) series is a comprehensive exploration of the rise of Emerging Market Multinationals (eMNCs) and its broader implications. This report is the second edition of the series. It examines the resilience of emerging economies in today's challenging global environment and their growing importance as foreign investors across all regions of the world (Chapter 1). It also unpacks the role of outward FDI policies and their development phases as reflected in the

cases of China, South Korea, and Brazil (Chapter 2). In turn, it explores how these trends impact the expansion of eMNCs and their breakthrough in the global corporate world (Chapters 3 and 4).



Given the diversity of emerging economies and emerging market multinationals, EMI has decided to include specific country case studies in its EMR series. This year, the report includes contributions on Brazilian (Chapter 5) and Colombian (Chapter 6) multinationals. Finally, the OECD also contributed to this report, with a chapter on energy challenges and business opportunities in Asia.

As in last year's report, this volume examines emerging economies through the experience of the E20—the top 20 Emerging Markets (EMs) selected on the basis of GDP, demographics, and influence in global trade and investment. The E20 includes countries from Africa, Asia, Latin America and Europe (see box).

Emerging Economies: Shared Resilience, Diverse Trajectories

Since the early 2000s, EMs benefited from an extended period of favorable international conditions: external demand increased, global trade growth was strong, financial markets were buoyant

and capital inflows grew, while soaring commodity prices boosted investment in commodity-exporting countries. Most of these economies registered high growth rates between 2000 and 2013. More recently, however, many of these propitious conditions have faded partly as a lingering consequence of the global financial crisis. Indeed, EMs are now facing a new paradigm, marked by a slow recovery in advanced economies, a slowdown in global trade, lower commodity prices, a general tightening of external financial conditions, strong protectionist tendencies, as well as severe geopolitical tensions in some parts of the world.

Notwithstanding the more challenging environment in the last three years, the E20 has proved quite resilient. Their growth rate is still quite favorable relative to those of major developed countries, which at best barely exceeded 2%. Nevertheless, not all trajectories were similar, as illustrated by the cases of Brazil and Turkey, which endured difficulties exacerbated by political conflicts.

While 2016 appears to have been the most difficult year of the decade for many EMs, it would seem that, overall, the worst has passed. Indeed, for most E20 countries, short-term forecasts (for 2017-2018) are on the way up. Short-term prospects seem improved even for countries that experienced declines in growth in the past two years (e.g., Brazil, Turkey, Nigeria and Russia), if only barely.

Against this backdrop, the group's contribution to global production increased, accounting today for almost half of global GDP (48% in 2016 on a GDP at PPP basis), compared to 30% in 2000. This surge illustrates the impressive shift that has taken place in the world economy in less than two decades, as emerging markets become drivers of global growth. Today, the E20 countries not only serve as centers of production or trading hubs for advanced economies, but also as massive consumer markets.

Beyond economics, the increasing clout of EMs—and their growing promise in the post-2008 crisis era—has manifested itself in the realm of multilateral institutions, wherein EMs have shown unprecedented leadership. Even during the post-2015 slowdown observed in a number of E20 economies, two new multilateral financial institutions of consequential size and scope were created by emerging economies: The Asian Infrastructure Investment Bank (AIIB), a Chinese led initiative, and the New Development Bank (NDB), an effort championed and owned by the BRICS nations (Brazil, Russia, India, China and South Africa) to strengthen cooperation among themselves and beyond. The advent of these new multilateral development banks is emblematic of a decentralization of power from the Bretton Woods system. It reflects a shift in terms of soft power distribution beyond the G-7. Their potential role and influence stems from: 1) the size of their lending activity, even relative to long-established institutions such as the World Bank and the Asian Development Bank (ADB); 2) their relatively high capitalization; and 3) their focus on infrastructure—a sector that is vital for growth and development and whose financing demands are enormous.

The E20 remains a very diverse group of countries, whose economies are volatile. Altogether, however, extended periods of strong growth have propelled them to carve out new roles in the global economy. No matter the volatility ahead, the influence these countries wield will only expand into new territories. Changes in global governance illustrate this trend: these include not only the above-mentioned creation of new development financial institutions, but also the new role China has assumed in international economic diplomacy, as well as the stance adopted by major emerging economies in

defense of global trade openness precisely at a time when key international players are showing signs of withdrawal. In more than one respect, the rise of emerging economies is disruptive. As in the case of technological changes, it is still too early to predict how and when disruption will occur, but we anticipate it will be massive and ultimately challenge current paradigms.

The remarkable rise of emerging countries as investors in all regions of the world and the breakthrough of their multinationals as global corporate leaders examined in this report illustrates the major changes that have been taking place in the world economy since the turn of the century.

Changing Features of OFDI: New Directions in Investment Strategies for eMNCs

While inward FDI appears to plateau for many of the E20 economies recently (at around 27% of global FDI inflows over the past three years), much of the dynamism is now taking place in outward FDI. The surge in OFDI from the E20 after the global financial crisis was particularly impressive: from 7% share of global FDI in 2007 to about 19% in 2016 (\$274 billion). Asia led this trend, outperforming all other regions: E20 Asian countries accounted for about 17% of global OFDI flows in 2015-2016, compared to 12% in 2010 and less than 1% in 2000. China stands apart as the driving force behind the highly positive Asian OFDI trend and is now ranked second among the top 15 investors in the world, just behind the U.S. The performance of Latin America—a region that used to spearhead outward investment during the initial waves of OFDI from emerging economies—has been strikingly different. In 2016, its OFDI flows fell again. Two countries in particular—Brazil and Mexico, whose OFDI flows were negative in 2016—contributed to the region’s poor performance.

A detailed analysis of the composition of FDI flows from emerging economies by geography and industry, in particular OFDI, is difficult due to the lack of relevant and readily available data. However, detailed information is published for announced Greenfield projects and mergers and acquisitions (M&As). Notwithstanding some of the shortcomings of such data, they offer insight into the evolution of eMNCs’ overseas expansion, their mode of entry, targeted countries and sectors of activity:

- While eMNCs engage in both Greenfield and M&As to enter overseas markets, the former has long been the preferred mode of entry. Since the global financial crisis, however, M&As have grown in importance, in particular for two of the largest E20 outward investors: Korea, and China. In the latter, for instance, the amount of M&A deals announced in 2015-2016 tripled relative to 2007-2008.
- Both in Greenfield FDI and outbound M&As, Latin America is receding in relative terms, just as Asia—driven by China—gains prominence. Meanwhile, the U.S. and other major developed countries have not kept up with the dynamic pace of growth in outward M&As relative to Asia.
- Greenfield FDI by emerging economies is predominantly of a South-South nature: more than 70% of their Greenfield FDI projects are still directed towards developing and emerging economies in Asia, Africa and Latin America. The share of developed countries in the E20 Greenfield FDI portfolio, however, has increased, especially since the global financial crisis.
- In contrast to Greenfield FDI, outbound M&As by eMNCs had long been largely directed to Europe and North America (about 60% of the value of the M&A deals) and have remained so over the years. The volume of M&A deals by E20 firms targeting these regions has increased

remarkably in value terms since the global financial crisis. In the process, Europe has taken the lead as the primary target of M&As by emerging market multinationals (36% of the value of M&As by E2O multinationals in the post-crisis period), followed by North America.

- Overall, both in Greenfield FDI and M&As, available data suggest the growing attractiveness of service-based and consumer-related industries for emerging market multinationals, while heavy or more traditional E2O industries, such as Energy (Oil, Coal and Gas) or Materials (such as Metals), either stagnate or decline in importance. This is suggestive of a broader trend in the overseas expansion of emerging market multinationals that will increasingly prioritize consumer markets around the world. It illustrates a shift in eMNCs' investment strategies, partly led by the desire to meet a growing and changing consumption demand in emerging markets. The emergence of the Alternative and Renewable Industry as a significant part of the E2O OFDI project portfolio is also notable. Together, these trends point to the new ambitions of eMNCs both in terms of markets and industries and in the capabilities these firms are building.

The Role of the State and the Outward Investment Phases of Emerging Economies (Brazil, China and Korea)

It was only in the late 1980s that many emerging economies began to progressively liberalize outward investments. While most developing and emerging economies have designed policies to attract inward FDI, others are still shy about putting forward equally bold outward FDI policies. Only a few have adopted pro-active policies to support OFDI. In our overview of the role of the state in OFDI expansion, which we break into five phases, we focus on three countries: 1) Brazil, the largest investor from Latin America; 2) China and 3) Korea, the two top investors from Asia. These five phases did not affect all three countries equally. In fact, the first phases of OFDI development (up to the early 1990s) were largely felt in Latin America, with economic forces as the main drivers. The following phases have seen Asia first catch up and eventually lead in the OFDI expansion of EMs, with the state playing a significant role in the process. Such phases were marked by economic, institutional and political reforms in Korea and China, which laid the ground for an increasingly supportive posture towards OFDI in those countries.

Indeed, China and Korea stand out among emerging economies in terms of OFDI policies. They both experienced a sequential process of OFDI expansion: first, through the relaxation of foreign investment controls and/or prohibitions coupled with administrative reforms to streamline approval procedure; second, through pro-active support and direct assistance (whether it be knowledge-based, financial or otherwise). While OFDI support-promotion policy began in Korea slightly earlier than in China, the latter has become very active in this area in recent years. For both economies, strong policy support was instrumental to the observed surge in OFDI flows. Brazil has also encouraged outward FDI, but the nature of its support has been less pro-active and consistent compared with that of China and Korea—a divergence that partly explains the difference in their OFDI performance.

The jury is still out on the rationale to support OFDI. The prime argument in favor of OFDI is its impact on the competitiveness and performance of investing firms and the spill-over effects on home

economies, while opponents point to opportunity costs and negative impacts on jobs, export and tax revenues, among others. In spite of the increasing attention paid to the issue, empirical evidence on the overall impact of OFDI on home economies, especially emerging economies, is still limited and inconclusive.

In today's highly integrated global economy, a key question is whether emerging market multinationals can do without internationalization. Competition for the consumer markets of EMs—the new centers of middle-class growth—is likely to become even more intense in the future as established multinationals (often from developed economies) eye those large and increasingly prosperous markets. In this context, outward investment is not only a way for eMNCs to access overseas markets, but also to develop new products and acquire global brand recognition. This is important for consumers back home who are gaining purchasing power and aspiring to higher value-added products. Therefore, OFDI is becoming key for eMNCs seeking to protect or enhance their domestic or regional market positions. It is also worth noting that, while eMNCs are still competing largely based on prices, they are also gaining global brand recognition as seen later.

Emerging Multinationals, Growing and Conquering the World

While the previous chapters analyzed the increased clout of emerging markets in the global economy, this chapter focuses on eMNCs' improved standing vis-a-vis their counterparts in the G-7 and other developed economies. The past 15 years have seen a major breakthrough for eMNCs among the largest firms in the world. Today, nearly a third of the Fortune Global 500 companies are from the E20 (149 firms). In many ways, the rise of eMNCs at the turn of the millennium is reminiscent of the emergence of U.S. companies after WWII, though many of the firms are from China. Their rise has been meteoric, as reflected in their participation in the Fortune Global 500, which tripled in just eight years—a remarkable feat considering most Chinese companies were founded post-1950. While other emerging economies are still catching up, there is no doubt that the rise of eMNCs overall is capable of upending the hitherto dominant position enjoyed by the G-7 multinationals.

Emerging market multinationals have made their presence felt in more than just numbers. This year's analysis confirms eMNC leadership in a number of the sectors observed in last year's report. E20 firms now account for more than half of the top five firms across major industries (Banking, Automobile, Crude Oil Production, Engineering and Construction, Logistics, Metals, Mining, Petroleum Refining and Telecom), a significant achievement given the relative youth of these companies. This year's report also shows how high revenues are linked to international presence, and builds on the conclusions of the previous year's report on the significant international presence of the Fortune Global 500.

And yet, more work still lies ahead before the achievements of eMNCs stand to match those of their G-7 counterparts. As illustrated by the difference between the E20 and G-7 firms' performance, eMNCs' profit margins are still lower than those of their developed market counterparts in the G-7, even if in a few very specific industries eMNC's results are superior, or similar. The average eMNC return on assets is closer to that of their G-7 counterparts, though there are still relatively significant differences between industries and countries (e.g., Chinese and U.S. firms). One could argue that eMNCs operate

differently than Western multinationals, whose priority has been the optimization of profits and value for shareholders. For eMNCs, easier access to key resources such as cheap labor counterbalances their need to maximize profits—or productivity—per employee as U.S. or European companies do. State-owned enterprises (SOEs) are also still prevalent in EMs (albeit decreasingly), for which profits are not necessarily as important as for private and public companies.

All in all, eMNCs are on track to “catch up.” In addition to investing beyond their natural markets, including in advanced economies, and expanding strategically into service-based, consumer-related or other “new” industries such as renewable energies, they are becoming the largest companies in the world. Their increased involvement in global M&As is one illustration of their rise in power, along with their emergence among leading global brands, as illustrated in the following chapter, which examines how eMNCs leveraged their unique strength and position to become cost leaders in their particular industry and ultimately invented a whole new way of doing business.

eMNCs: Beyond Cost Leadership

This chapter looks at the various factors related to the emergence of eMNCs that are popular in their home countries and known mostly as cost leaders outside their domestic boundaries. It explores the evolution of eMNCs beyond this framework as they expand into advanced economies and new industries.

Emerging MNCs have traditionally been considered low-cost competitors relative to their G-7 counterparts. They have focused on efficiency and productivity. Over the years, multiple factors have driven the continued cost leadership of eMNCs. First, they usually have lower production costs compared to their counterparts in advanced economies, in many cases due to lower labor costs or the availability of natural resources. This may not entirely be true today for some emerging economies, such as China, where the cheap labor advantage—long considered the bedrock of manufacturing success—is slowly eroding. Second, eMNCs follow a strategy in which they maximize revenues but achieve growth at the expense of gross margins. Third, a majority of customers in emerging economies still have low purchasing power and hence eMNCs tend to design products/services in the most cost-effective way. eMNCs’ focus on cost and price has proven fatal to industry leaders who fail to resist the price competition. This is vividly illustrated in the cases of textile and shoemaking manufacturing, among others, which have virtually disappeared in the U.S. and Europe.

Today, however, there are some signs of change. While it is not wrong to say that eMNCs are cost leaders, a price comparison of several goods and services provided by advanced economy firms and eMNCs show that the price differential is shrinking. In some cases, (e.g., cell phones, computers, or air conditioners) price ranges are similar. Likewise, eMNC brands are also shifting their focus to branding. These companies are progressively entering the world of global brands, as illustrated by Lenovo in laptops, Samsung and Huawei in smartphones, the Brazilian Havaianas/Alpargatas in flip-flops, to name a few. While in 2009, emerging market brands accounted for only 12% of the firms in the top 500 ranking of global brands (published by Brandirectory), this ratio rose to 19% in 2016.

In concert with these changes, eMNCs developed increased innovation capabilities, which have surpassed the imitation phase in a number of industries (such as air transport, telecommunications, IT related services, etc.). Together, these shifts point to significant changes on the horizon, with eMNCs on their way to become serious contenders in global business.

Brazilian Multinationals, Moving Ahead

Focusing on the international trajectories of four large Brazilian MNCs—Marcopolo, Petrobras, Europharma and Embraer—the chapter on Brazilian multinationals examines the internationalization strategies these companies followed before and after the recent Brazilian political and economic crises, as well as the ongoing challenges that the companies face.

The four Brazilian MNCs we focus on have consolidated positions within the domestic market, but internationalization strategies have also been critical to their competitiveness. Expanding operations abroad enabled these companies to reduce their vulnerabilities to the volatility of the Brazilian market. A study by Fundação Dom Cabral shows that, even with the domestic crisis, the top 20 Brazilian multinationals managed to increase their levels of internationalization in 2014 and 2015. State-owned Petrobras is an exception, however, as the company announced divestments, partly as a result of internal political crises and corruption scandals. Except for Petrobras, the three other case studies presented in the chapter confirm Brazilian firms' tendency to expand into foreign markets as way to escape the domestic crisis.

Whether internationalization has a positive impact on the performance of MNCs depends on how they conduct their internationalization process, including how they choose their target locations abroad. The volatility of foreign markets can also threaten financial performance. However, the literature shows that "country risks are to be managed, not avoided." In the cases of Marcopolo and Embraer, the real challenge was building a core portfolio in target markets that can provide reasonable risk diversification and revenue and profit growth. Another benefit of internationalization is that it can help enhance a company's innovation capabilities. Marcopolo and Embraer have both successfully taken advantage of opportunities available in other countries by fostering relationships with critical players for technological learning.

The Largest Colombian Multinationals: A Snapshot of the National Context, Strategies and International Focus

The chapter on Colombian MNCs offers an overview of Colombia's economic and investment perspectives as well as an assessment of the recent internationalization strategies from its largest firms. Traditionally Colombia has not been a popular host for foreign investment flows due to a lack of strong tax incentives and the presence of internal armed conflict. However, since 2011, Colombian trade and investment indicators have consistently improved and grown. The peace agreement signed in 2016 is one of the drivers of these new developments, just as the increasing internationalization of Colombian MNCs fuels positive trends in OFDI.

Though OFDI flows from Colombia have been on an upward trend since the turn of the century, they still are, by world standards, relatively limited. There are a number of factors that explain why the largest Colombian companies (i.e., those controlled by Colombian capital) do not necessarily engage regularly in FDI, while many of the companies that generate top revenues on the Colombian market are foreign-owned. The size of the national market, the oligopolistic structure of a number of industries, and the relatively late opening of the Colombian economy to international trade are three explanations for this phenomenon. In 2016, only six of the largest Colombian companies figured in the ranking of the top 100 Latin American MNCs published by *AméricaEconomía*. In 2016, the largest Colombian *multilatinas* were on average present in eight countries, mostly in the region. Colombian MNCs exhibit a level 1 internationalization pattern, characterized by their presence in neighboring Central American and the Caribbean countries as well as in Hispanic South America.

Through its examination of the internationalization strategies of the six largest Colombian multinationals, this chapter argues that even though Colombian companies are not as large as their Brazilian and Mexican counterparts, they have become successful examples of growing internationalization. However, expansion beyond their regional hub remains a challenge.

OECD Contribution on “Energy Challenges and Business Opportunities in Asia”

The OECD contribution on “Energy challenges and business opportunities in Asia” provides insights and policy recommendations from the business sector on energy opportunities and challenges in Asia. It highlights the surging energy needs of emerging Asia, with demand forecasted to more than double in India and Southeast Asia from 2013 to 2040. China is expected to continue to be the largest global energy consumer. The chapter also stresses that energy infrastructure shortages are one of the biggest barriers to growth in Southeast Asia and India. Indeed, underdeveloped transmission and distribution grid infrastructures are limiting the benefits of increased generation capacity. In contrast, China faces excess capacity and pollution challenges and is prioritizing clean energy and improved efficiency.

In this context, Asia provides impressive growth opportunities for both energy and non-energy companies looking to invest in energy generation, energy efficiency and related technologies. For the business sector, renewable energy in particular holds great potential due to the abundance of natural resources as well as strong political support and ambitious renewable targets. In that respect, the chapter argues that, despite a rapid ramp up in coal energy production, renewable energy will attract the majority of new private investments in energy in the future.

Overall, however, a number of barriers continue to inhibit investment decisions. Public sector reforms to ease investment restrictions and efforts to lower administrative hurdles are necessary to improve Asia’s investment outlook. Additionally, increased access to affordable long-term finance would ease the flow of further investment from the private sector, a critical step to closing the infrastructure gap in the region. Ultimately, the public and private sectors will need to work together to overcome the skills shortage arising from the massive growth in green jobs in the region.

Chapter 1

Emerging Economies: Shared Resilience, Diverse Trajectories

- 1.1. Emerging Markets and the World Economy
- 1.2. New Global Governance Structures for Emerging Economies
 - A. *The new multilateral institutions: governance and power structure*
 - B. *The new multilateral institutions: lending activity*
- 1.3. Emerging Economies and the New Geography of Foreign Direct Investment
 - A. *Recent Inward and Outward Investments Trends in the E20*
 - B. *Greenfield investments from the E20*
 - C. *Mergers and Acquisitions by firms from the E20*
- 1.4. *Emerging Economies Are Faced with a New Paradigm*
Annex 1.1: E20 AND G-7 countries – GDP growth rates

Executive summary

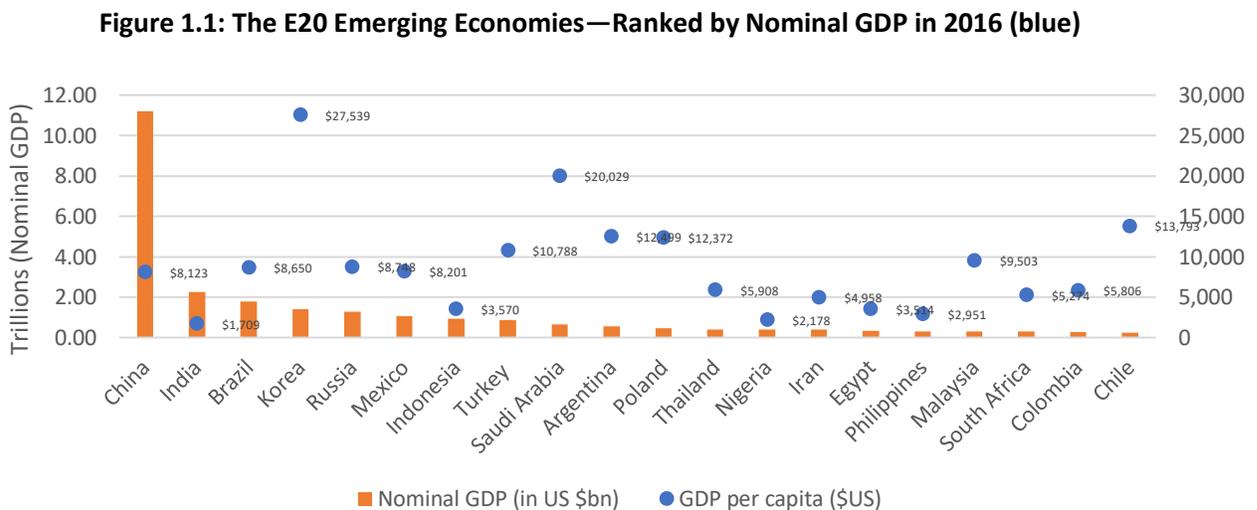
This chapter examines emerging economies' shared resilience as they face a less favorable global environment. We show that emerging economies have increasing global economic clout and their influence in global governance is expanding. The chapter examines the remarkable rise of emerging economies as global investors, an illustration of the profound transformation in the global economy since the turn of the century. We analyze the changing features of OFDI from emerging economies, which point to new investment strategies among emerging market multinationals.

1.1. Emerging Markets and the World Economy

Between 2015 and 2016, policymakers and analysts from across the political spectrum voiced growing concern regarding the deceleration of economic growth across emerging markets. The 2016 Emerging Markets Institute Report (later referred to as EMR, or as EMI report) investigated the underlying unease and explored the ongoing strengths of emerging economies. Notwithstanding the climate of general skepticism, we concluded our analysis with a positive outlook. We argued that the deceleration—or even recession, in some cases—was more indicative of a cyclical downturn, as opposed to a generalized economic crisis among emerging economies.

This resilience was borne out as the signs of a cyclical recovery in investment, manufacturing and trade surfaced this year. The International Monetary Fund (IMF) expects world economic growth to increase from 3.1% in 2016 to 3.5% in 2017 and to pick up markedly thereafter—a trend attributed in part to the initial recovery in commodity prices and the relief it provides to commodity exporters in the emerging world (IMF, 2017).

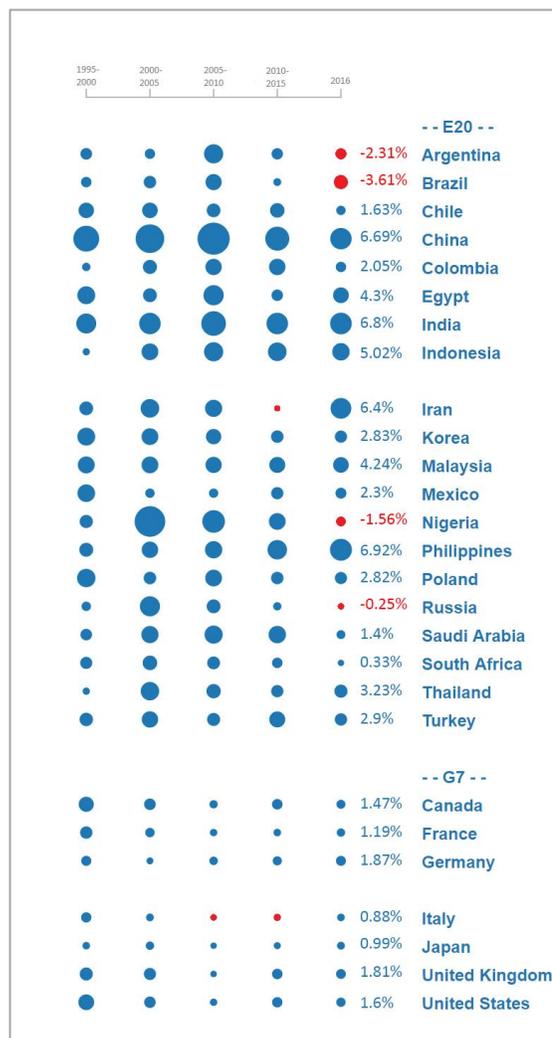
Emerging markets make up a diverse landscape. International organizations (such as the IMF and the United Nations) include countries as varied as Bangladesh, Brazil, Morocco, Sri Lanka, Ukraine and Venezuela in their list of “emerging economies”.¹ For the purpose of our analysis, the E20 refers to the top 20 emerging economies selected on the basis of Gross Domestic Product and weight in the world economy (see Figure 1.1).²



*For Iran, values are from 2014. Source: Based on data from the World Bank (World Development Indicators/accessed July 2017)

The growth performance of E20 members has varied greatly in the past few years, but the growth rates of many E20 countries compare quite well to those of major developed countries, which at best barely exceeded 2% (Figure 1.2 and Annex Table 1.1). While 2016 was the most difficult year of the decade for many emerging economies, it appears the worst has passed. Indeed, for most E20 countries, short-term forecasts (for 2017-2018) are on the way up (Annex Table 1.1). Not all countries have shown equally promising signs, but even for E20 countries that experienced significant growth decline in the past two years (e.g., Brazil, Turkey, Nigeria and Russia), short-term prospects have improved. In the cases of Brazil and Nigeria specifically, projected growth rates for 2017 are only barely positive due to ongoing vulnerabilities to political turmoil and commodity prices.

Figure 1.2: E20 and G-7 Growth Rates: Various Periods and 2016



Note: The size of the circles is proportional to the growth rates. Figures in last column refer to 2016 growth rates. Source: Annex Table 1.1

Comparatively, E20 Asian economies have been the most dynamic. India has been the new emerging market darling, as its growth rates have hit a consistent high, around 7% since 2014. In China, a recent loss of economic momentum prompted many to expect further deceleration, which ultimately did not come to pass. The country managed to sustain growth at its target rate of 6.5%. However, the significant increase in China's domestic debt, on which such growth partly depended, has been a cause for concern (IMF, 2016 and 2017).

Meanwhile, Latin America has underperformed relative to expectations. Since 2015, negative economic developments in Brazil and Argentina, triggered by the collapse in commodity prices, and

impacted the region as a whole. The fall in Brazil's oil prices was particularly devastating: it exacerbated a political crisis awakened by a sweeping corruption probe over Petrobras, the Brazilian state oil company. The investigations were pivotal to Brazilian president Dilma Rousseff's impeachment and the proliferation of further corruption probes across Latin America, which contributed to greater political and economic uncertainty in the region.

Due to the sluggish growth of two of its largest economies, Africa was the worst-performing region. Slowing global demand, political challenges, and a poor labor market significantly impacted South Africa. The decline in oil prices also weighed substantially on the performance of Nigeria, the continent's largest economy. Oil's uptick in the wake of the September 2016 deal³ among OPEC members to cut production has the potential to improve growth rates for countries such as Nigeria and Saudi Arabia, which are expected to recover by 2018, but at lower levels than before the historic drop in oil prices in 2014.

The E20's contribution to global production has continued to increase, despite significant declines in growth rates by some members in the past two years. In fact, the E20 accounts for nearly half of global GDP (48% in 2016 on a GDP at Purchasing Power Parity basis),⁴ compared to 30% in 2000. This economic surge represents an impressive shift in the world economy in less than two decades, as emerging markets became drivers of global GDP growth. Today, the E20 not only serve as centers of production or trading hubs to advanced economies, but also as massive consumer markets. These economies now feature among the world's top investors and are increasingly making their mark as innovators (EMR, 2016).⁵

1.2. New Global Governance Structures for Emerging Economies

Emerging markets have shown unprecedented leadership in the realm of multilateral institutions, even after the 2008 global economic crisis. During the post-2015 slowdown observed in many E20 economies, two new multilateral financial institutions of consequential size and scope were created: The Asian Infrastructure Investment Bank (AIIB), a Chinese-led initiative, and the New Development Bank (NDB), an effort championed and owned by the BRICS nations (Brazil, Russia, India, China, and South Africa).

The advent of the new multilateral development banks is emblematic of a decentralization of power from the Bretton Woods system. What is worth noting about these developments is not just the growing relevance of the E20 as a share of the global economy, but also the shift it has engendered in terms of soft power distribution beyond the G-7. The significance of these multilateral development banks is manifested in: 1) the size of their lending activity, even relative to long established institutions such as the World Bank and the Asian Development Bank (ADB); 2) their relatively high capitalization; and 3) their focus on infrastructure—a sector that is vital for growth and development and whose financing demands are enormous. In short, these new multilateral development banks are expressions of the growing soft power of the E20.

A. The new multilateral institutions: governance and power structure

These new multilateral institutions were conceived not as a usurpation of the old system, but rather as a corrective for—and response to—its limitations in the changing global economy. The AIIB, for instance, has built a big tent of 77 members,⁶ including four G-7 countries. These new institutions represent a break with the G-7's concentration of voting power characterized by the Bretton Woods model. While the AIIB is basically in the hands of the Asian regional members, such as China (27.5%), followed by India (7.2%), the New Development Bank challenges the limited representation that the BRICS receive in the IMF and the World Bank by sharing its voting power equally among its members (see Table 1.1).⁷

During its first year of operations, the AIIB had already invested about \$1.7 billion in nine projects,⁸ exceeding the target \$1.5 to \$2 billion set by its president for 2016.⁹ By September 2017, its loan commitments exceeded \$3 billion.¹⁰ As per its mandate, it has cooperated with existing multilateral development banks. Several of the projects supported by AIIB were co-financed by the World Bank and the ADB, among others. Its recent \$600 million loan to build the Trans-Anatolian Natural Gas Pipeline (TANAP) connecting Azerbaijan to Europe is an example of such a partnership. Despite its global scope, the AIIB should not be viewed as fully independent from China's national strategies. Some even cast the AIIB as an instrument for implementing China's One Belt One Road (OBOR) policy. China's influence notwithstanding, such an undertaking would reshape trade and the financial landscape for emerging markets across the Asian continent and beyond.

While the focus of AIIB is on infrastructure that privileges further regional integration, especially among Asian nations, the NDB emphasizes infrastructure development that promotes sustainable development. The NDB structure promotes partnerships, especially with national and regional development banks.¹¹ Operations have thus far reflected this drive and a number of partnership agreements have been signed since the NDB's founding.¹² Much of the evolution of the operations of the bank will depend in part on the expansion of the NDB membership. Whereas advanced economies are entitled to participate as a lender, emerging economies can both lend and borrow. Per the bank's founding agreement, emerging economies and developing countries will hold at least 80% of the votes and together the BRICS must have at least 55%.¹³ NDB's mandate hence denotes that its founders will always govern the bank, a radical departure from how the largest emerging markets were represented in the Bretton Woods institutions.

B. The new multilateral institutions: lending activity

To date, the total loan commitments of new development institutions are smaller than those of well-established development banks such as the World Bank and the Asian Development Bank. By September 2017, the AIIB had committed loans totaling \$3.1 billion and the NDB \$ 2.5 billion, compared to the World Bank's \$28 billion to Asia (Table 1.1). Nevertheless, for some countries, such as Azerbaijan, Indonesia, Pakistan, Bangladesh or India, the funding offered by the AIIB and NDB is far from negligible. For instance, AIIB loan commitments to Indonesia and Pakistan in its first 20 months of operation

amounted to about 13% of the World Bank commitments to each of these countries and, for 2016 alone, to more than 20% what they received from the Asian Development Bank. In the case of Bangladesh that latter ratio reached 14%¹⁴, while India's commitments from the AIIB between 2016 and September 2017 are equivalent to 16% of the WB loan commitments during the same period.

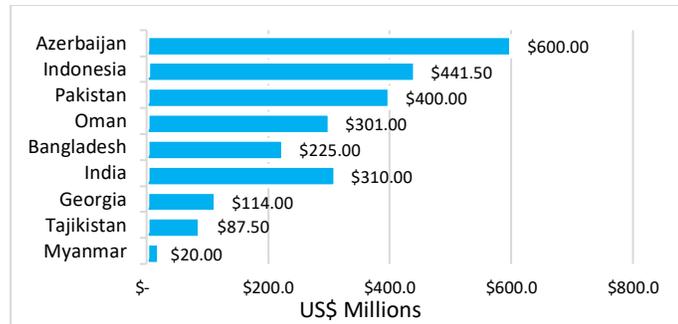
To date, Azerbaijan is the second largest beneficiary of AIIB financing (Figure 1.3); the TANAP project alone accounts for about a quarter of the total financing committed by the bank in 2016-2017.

Table 1.1: Some basic information on AIIB, NDB, the World Bank and the Asian Development Bank

	Asian Infrastructure Investment Bank	New Development Bank	World Bank	Asian Development Bank (ADB)
Founding Year	2014 (Launch Year) 2016 (Opening)	2015	1944	1966
Member Countries	77 Members, Includes 4 members of the G-7	The BRICS: Brazil, Russia, India, China, South Africa	188	67
Leading Country <i>(voting power in parenthesis)</i>	China (27.52%) India (7.92%) Russia (6.5%) Voting power of regional members: 77% Voting power of non-regional members: 23%	Power Equally Shared	USA (16.32%) Japan (7.04%) China (4.55%) Germany (4.12%)	Japan (12.78%) USA (12.78%) China (5.45%) India (5.4%) Australia (4.89%) Regional members: 65% of voting power Non-regional members: 35%
Short Description	Multilateral financial institution founded to address infrastructure needs across Asia.	Established with the goal of financing infrastructure and sustainable development projects in BRICS and other emerging economies and developing countries.	Provides financial and technical assistance to promote development in the world. Twin goals: end extreme poverty by 2030 and boost shared prosperity.	Financial institution whose purpose is to promote social and economic development in Asia.
Paid-in Capital to date	\$19 billion	\$10 billion	\$16 billion	\$17 billion
Subscribed capital	\$90 billion	\$50 billion	\$269 billion	\$143 billion
	Lending commitment: - all in Asia - 2016 - September 2017: \$3.1 billion	Lending commitment - all in BRICS (to date) - 2016 –September 2017: \$2.5 billion of which \$0.2 billion in Asia (India and China)	Lending commitments - Global -2016 - September 2017: \$73 billions of which \$28 billion in Asia	Lending commitments: - Asia - 2016: \$32 billion

Source: Based on information available as of September 30, 2017 at: https://www.aiib.org/en/news-events/news/2017/20170616_002.html) and <https://www.aiib.org/en/about-aiib/index.html>; <http://www.worldbank.org/en/about/what-we-do>, IBRD Management's discussion and financial statements 30th June 2017 and <http://projects.worldbank.org/advancedsearch>; <http://www.ndb.int/about-us/essence/history/> and <http://www.ndb.int/projects/list-of-all-projects/>; <https://www.adb.org/about/main>

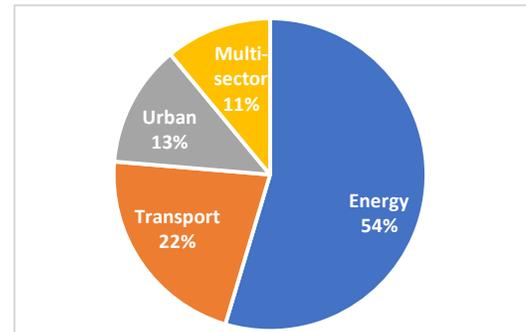
Figure 1.3: AIIB Lending Commitment by Country, Approved Projects 2016-2017



Source: Authors' analysis based on data from AIIB.
(<https://www.aiib.org/en/projects/approved/index.html> / accessed September 30, 2017)

New development institutions can play an important role in emerging economies precisely because they focus on infrastructure development—an area that is vital for development and where financing needs are especially acute. AIIB and NDB have both prioritized Energy and Transportation. Since its founding, AIIB has allocated 54% of its loans to Energy and 22% to Transportation Infrastructures Figure 1.4), and about half of the NDB's financing has been in Energy.¹⁵ This trend contrasts with the loan portfolio of the World Bank, which diversified its financing into a variety of areas, including social issues, government affairs and public administration.

Figure 1.4: AIIB Lending Activity by Sector



Source: Authors' analysis based on data from AIIB.
Available at: <https://www.aiib.org/en/projects/approved/index.html> (accessed June 30, 2017)

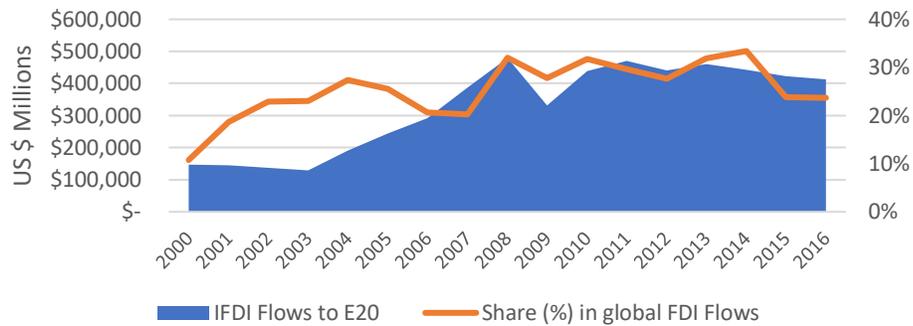
1.3. Emerging Economies and the New Geography of Foreign Direct Investment

Inward and outward Foreign Direct Investments are powerful metrics to use to make sense of development and growth patterns in the global economy. This is especially true for emerging economies, which are strategically positioned not only as receivers of major investments from advanced economies but also as prospective investors themselves, accounting for a growing share of investment flows in the world economy.

Last year's EMI Report detailed how emerging economies became a driving force behind global FDI flows. In what follows, we update recent trends, paying particular attention to outward investments and the increasing role of emerging economies in outward Greenfield investments and acquisitions.

A. Recent Inward and Outward Investments Trends in the E20

Figure 1.5: Inward FDI Flows to E20 Countries and Share in Global IFDI Flows 2000-2016



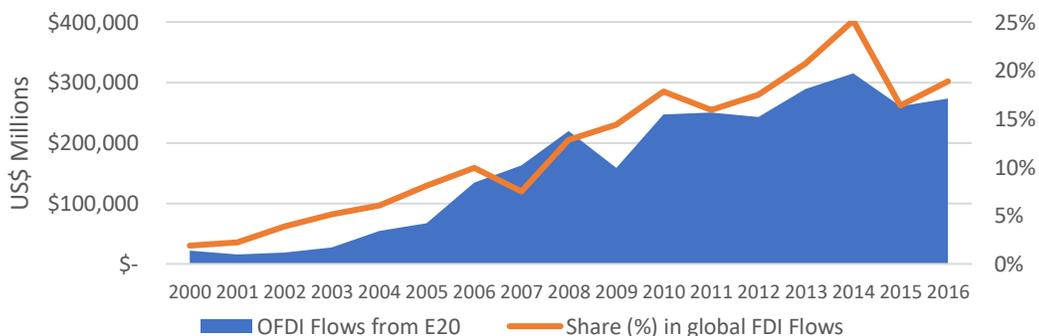
Source: Authors' analysis based on data from UNCTADstats. Available at: <http://unctadstat.unctad.org> (accessed June 2016) and UNCTAD, World Investment Report (WIR) 2017.

Building on last year's report, Figure 1.5 shows how global inward FDI flows have evolved. The E20 today receive more than three times the amount of FDI flows they received in the early 2000s. Following a peak in 2014, inflows in 2016 accounted for virtually the same share of global FDI flows as in 2015 (about 24%). Indeed, the marginal decline in FDI flows that they registered (from \$423 billion in 2015 to \$414 billion in 2016) took place in the context of a global decline. Overall, in the past five years, the E20's share of global FDI inflows hovered between 24-32%.

While flows to China and India remained virtually constant in 2016, some emerging economies registered significant declines: Indonesia (-85%), Argentina (-50%) and Turkey (-36%), as well as Mexico (-22%) and Brazil (-10%)¹⁶. In comparison, FDI flows to G-7 economies such as the U.S. and U.K. grew since 2015. In 2016, the top E20 destinations for FDI were China, Brazil, India and Russia; China alone accounted for nearly one third of all E20 countries' inward FDI flows.

Since 2000, between three and four E20 countries were listed in the top 15 host countries in the world (based on FDI flows), again mostly represented by China, India, Brazil, and either Mexico or Russia, depending on the year. Likewise, inward FDI stock data have consistently ranked between two and three members of the E20 in the top 15 since 2000, with China ranking third in 2016.

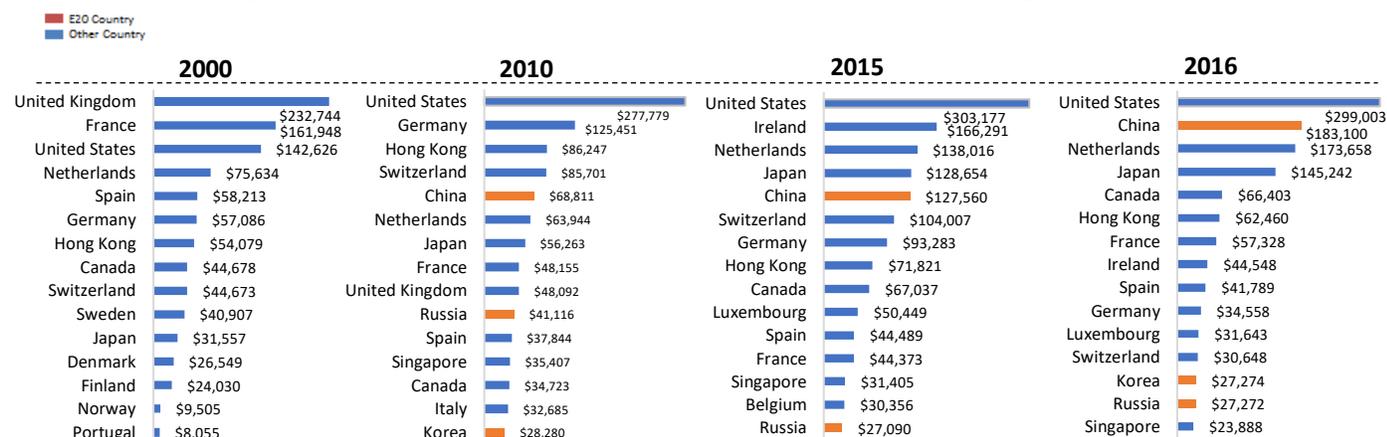
Figure 1.6: Outward FDI Flows from E20 Countries 2000-2016 and Share in Global OFDI Flows



Source: Authors' analysis based UNCTADstats <http://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx>

Figure 1.6 illustrates the E20's increasingly significant role in FDI outflows since the turn of the century. The global financial crisis in 2007-2008 marked a turning point in OFDI from the E20: its share of global OFDI has almost constantly increased since then, from 7% in 2007 to 19% in 2016. While global FDI outflows declined in 2016, largely reflecting a decline in OFDI from developed economies (-11%), OFDI from the E20 increased by 5% to almost \$275 billion. The 2016 uptick is due primarily to China, whose outgoing flows grew by 44% compared to 2015, in addition to other emerging markets such as Thailand, Poland and Korea. In 2016, China accounted for approximately 12% of global outward investment flows.¹⁷ On the other hand, the performance of Brazil, Mexico and Indonesia had a net negative effect on E20 OFDI flows for 2016.

Figure 1.7: Top 15 Economies by OFDI Flows 2000-2016 (\$ Millions)

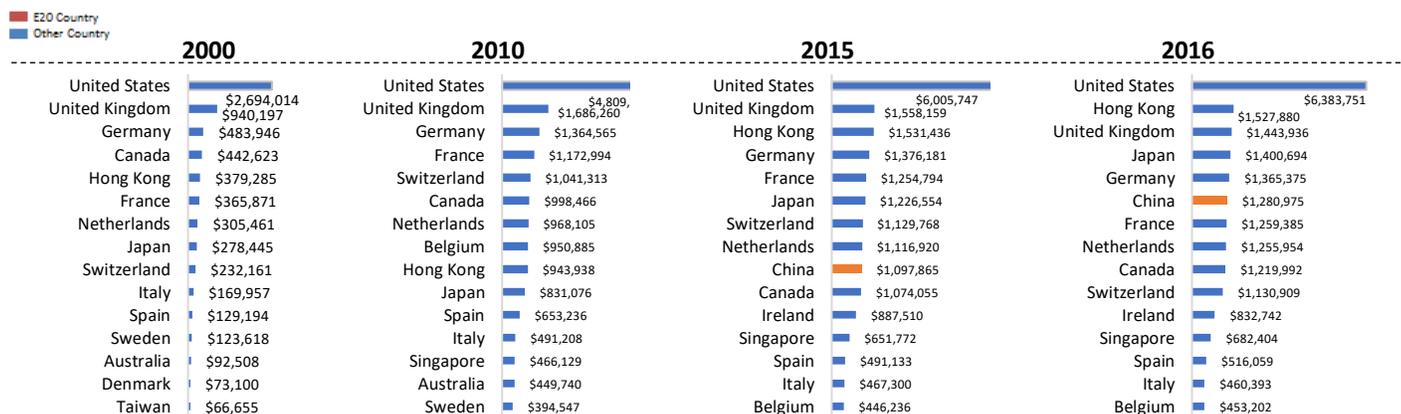


Note: Excludes financial centers in the Caribbean

Source: Authors' analysis based UNCTADstats <http://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx>

Not a single E20 country made the ranks of the top 15 investors in 2000 (Figure 1.7). However, these economies made significant progress over time. Nearly every year since 2010, China, Korea and Russia were listed among the top 15 investors. China clearly stands out with \$183 billion OFDI flows in 2016 and ranking 2nd for the first time behind the U.S., due to a surge in outward investment (+44%) that outpaced every other featured country. Even more remarkably, since 2010, Chinese outward FDI flows have increased 166%, compared to only an 8% in the US.

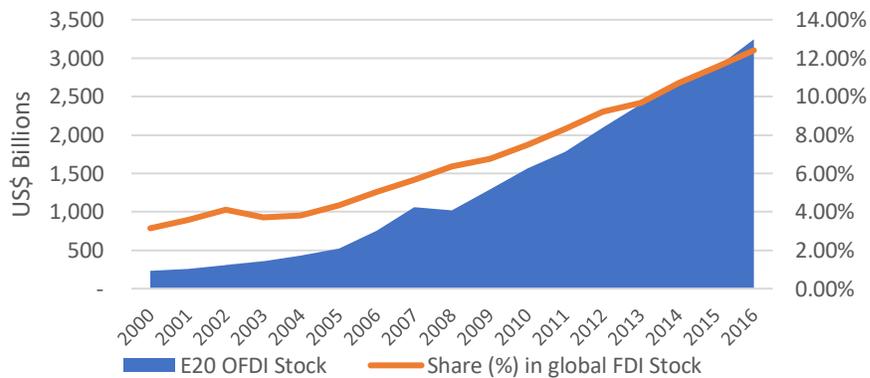
Figure 1.8. Top 15 Economies by OFDI Stock (\$ Millions)



Source: Authors' analysis based on UNCTADstats (<http://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx>)

China's leap is also reflected in the top 15 OFDI stock. Despite constant growth among the E20 as a whole, it is the only E20 country ranked with an estimated \$1.3 trillion OFDI stock (Figure 1.8). Nevertheless, there was a steep increase in OFDI stock of the E20 since 2008 both in absolute number and as a share of global OFDI stock as illustrated in Figure 1.9.

Figure 1.9: Outward FDI Stock from E20 Countries 2000-2016 and Share in Global OFDI Stock

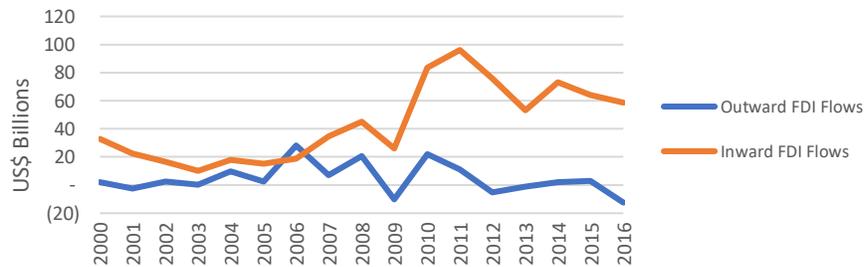


Source: Authors' analysis based on UNCTADstats (<http://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx>)

In 2016, outward flows from Asian E20 countries represented about 17% of global OFDI flows, compared to less than 1% in 2000 and 12% in 2010. China stands apart as the driving force behind the highly positive OFDI trend in Asia, a region that outperformed all other E20 regions. In that respect, the divergence between the Asian OFDI performance and that of Latin America—a region that spearheaded outward investment during the initial waves of OFDI from emerging economies—is particularly striking. Over the years, Latin American performance failed to catch up, and recently declined. Brazil and Mexico in particular negatively contributed to the region's performance. Today, the difference in OFDI flows between the two regions has reached \$250 billion, compared to \$7 billion in 2000.

Figure 1.10 demonstrates Brazil's reversal of fortunes in terms of FDI flows, which affected the Latin American region as a whole. Unlike China, which has fueled much of the Asian expansion in both inward and outward FDI flows and stock, Brazil is suffering from an important decrease in both its FDI outflows and inflows since 2011. This decline can be partly attributed to complex political and economic developments in the country,¹⁸ which we expand upon in Chapter 2.

While inward FDI appeared to plateau for many of the E20 economies in recent years, outward FDI has been dynamic. The countries performing best in OFDI are also showing the most resilient economic growth in recent years. We suspect this factor will become even more salient in time, as a result of the E20 integrating into each other's consumer markets. We also anticipate that OFDI will become a more telling growth and development metric as emerging market multinational corporation (eMNC) investments grow as a proportion of global FDI flows.

Figure 1.10: Brazil FDI Flows 2000-2016

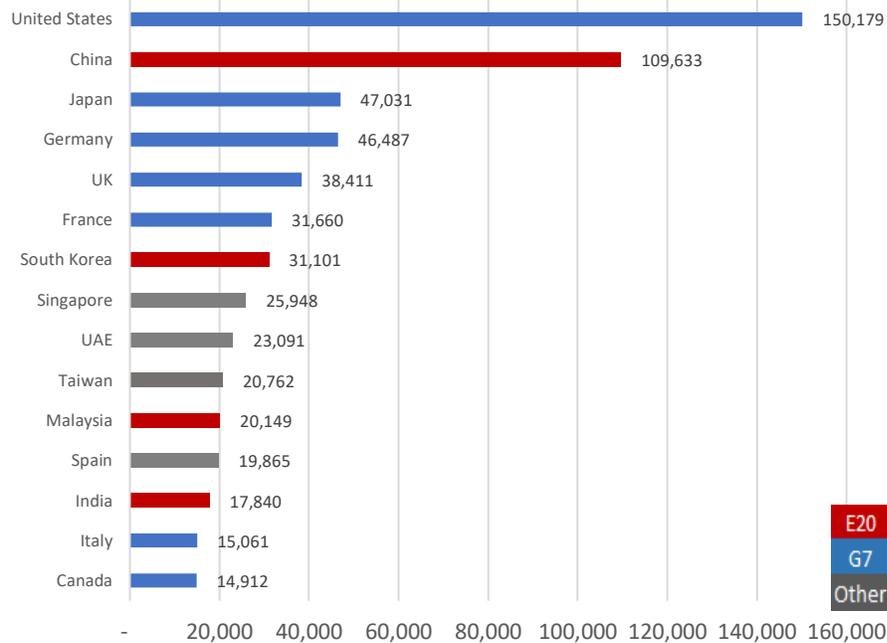
Source: Authors' analysis based on UNCTADstats (<http://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx>)

Corporations primarily undertake FDI through Greenfield investment, or mergers and acquisitions (M&As). In the next section, we examine data on both Greenfield FDI and M&A by emerging market multinationals for insight into the evolution, mode of entry and targets of eMNCs' overseas expansion.

While undertaking such an analysis, one should keep in mind that available data on Greenfield FDI and M&As relate to announced projects that may, or may not, be completed. In addition, data for a given year refer to the announced transaction's total value while actual disbursements may take place over several years. Therefore, it is not possible to compare *stricto sensu* such data to those based on balance of payments that relate to the actual FDI flows such as those published by the IMF and United Nations Conference on Trade and Development (UNCTAD).

B. Greenfield investments from the E20

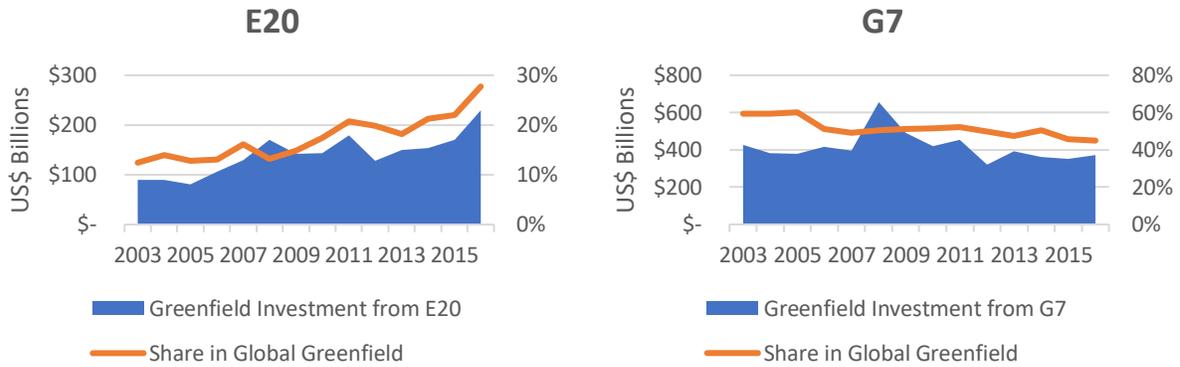
A detailed analysis of the geography and industry composition of FDI, in particular outward FDI, is made difficult by the lack of relevant and readily available data. This analysis is especially complex for emerging economies. Only some emerging economies (such as China, Brazil and Korea) provide detailed data regarding the "to" and "from" of both their inward and outward FDI. However, detailed information—published by FDIMarkets¹⁹—exist on announced Greenfield projects for a large number of countries. Although such data refer only to announced projects, they nevertheless offer insight into FDI characteristics from emerging economies.

Figure 1.11: Top 15 countries Greenfield FDI Outflows in 2016 (\$ Millions)

Source: Authors' analysis based on data from FDI Markets

As shown in Figure 1.11, China and the U.S. account for \$259 billion in Greenfield FDI outflows, which is nearly equal to the total investment of the next eight countries in the ranking combined (\$286 billion). Malaysia and India, two E20 countries that never appeared among the top 15 investors based on total OFDI flows (Figure 1.3 above) are included in the 2016 top 15 Greenfield investors. India's case is particularly striking: based on the total Indian FDI outflows before and after the global financial crisis (as illustrated in Figure 1.9), India appears in the list of the top 15 Greenfield investors, even climbing up to rank 11th in the world. This suggests that Greenfield investment is an important mode of entry for Indian multinationals compared to M&As. By contrast, countries like China—and to a lesser extent Korea—rely more heavily on M&As.

Figure 1.12: Announced Greenfield Investment from E20, G-7 Countries and Share in Global Greenfield Investments 2003-2016

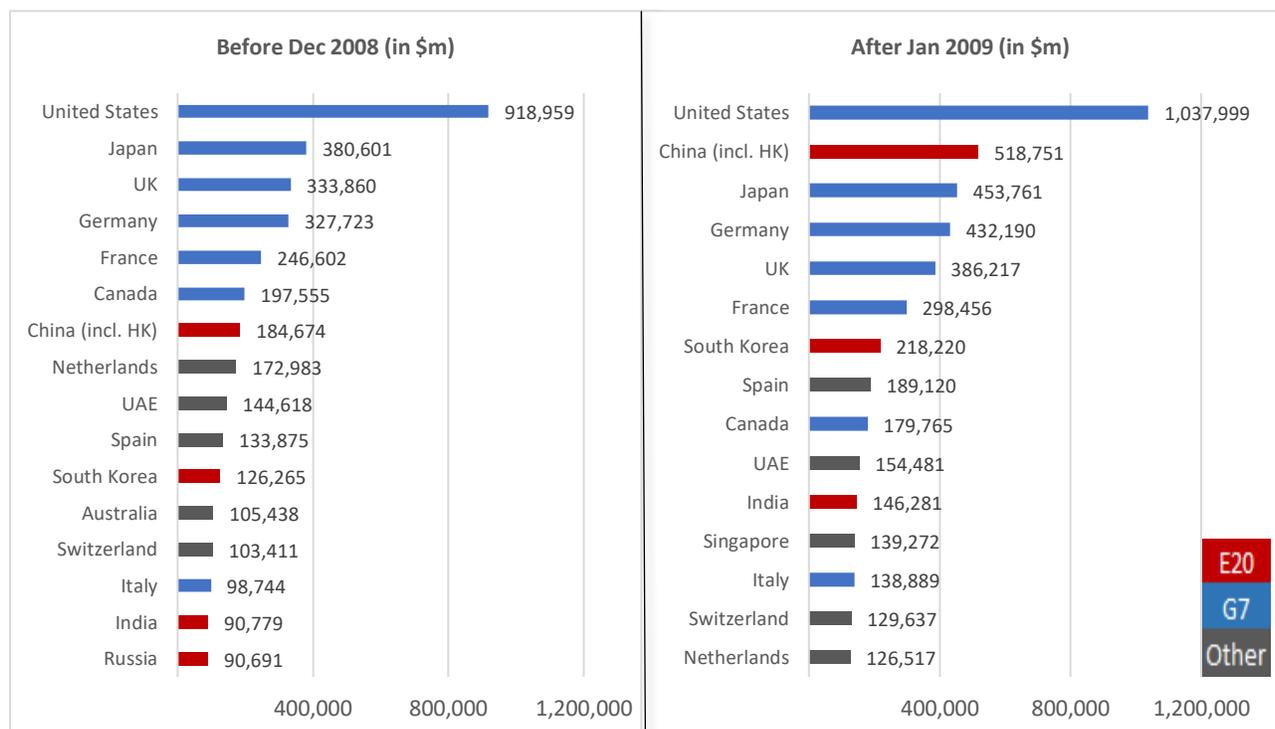


Source: Authors' analysis based on data from FDI Markets

An examination of Greenfield investment trends from the E20, both before and after the financial crisis, underscores the shift in the OFDI landscape and the new economic might of emerging economies and their multinationals (Figures 1.12 and 1.13). China, Korea and India all improved their positions among the top 15 Greenfield investors, with China surging to the 2nd position for the whole 2009-2016 period from the 7th rank for the 2003-2008 period. Meanwhile, Korea and India climbed from 10th to 7th and from 14th to 11th, respectively. Only Russia, which saw a decrease in flows between the two periods, dropped from the list.

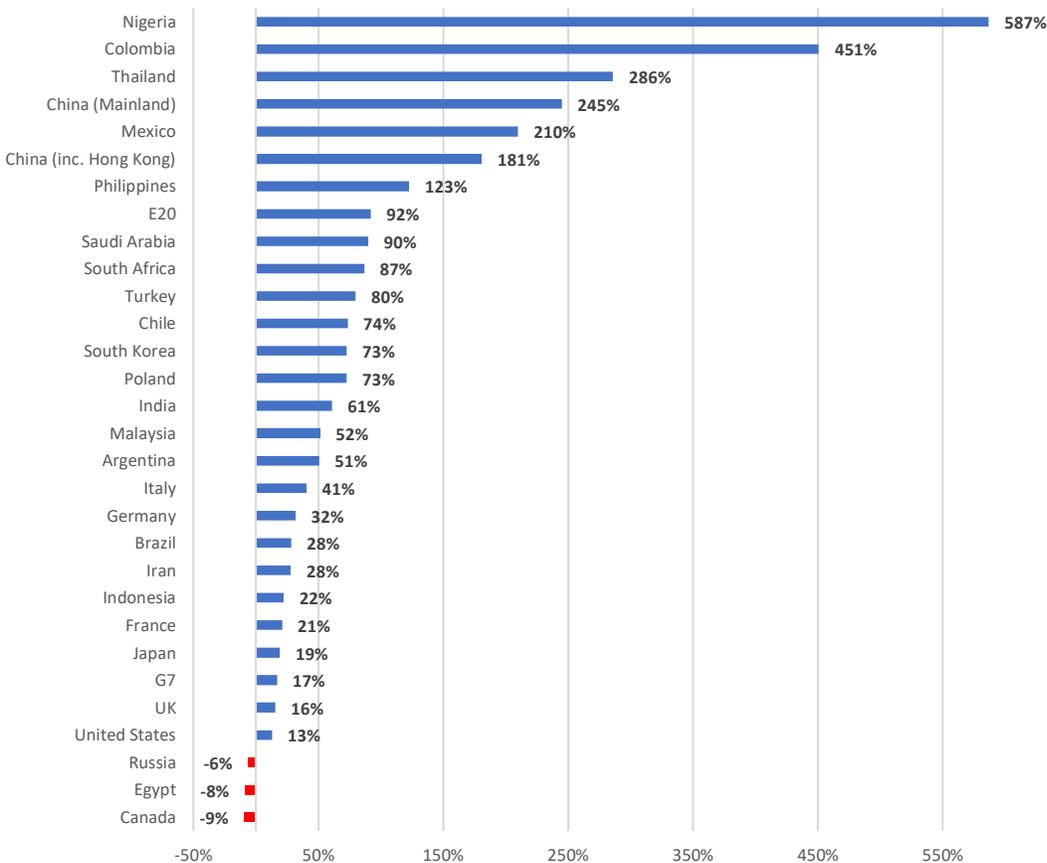
Figure 1.14 breaks down the growth in Greenfield outflows in terms of their percent change over time. As shown above, China was not the only country to see a significant increase in Greenfield FDI outflows. In fact, Nigeria, Colombia and Thailand are ranked even higher, with increases of 587%, 451% and 286%, respectively.

Figure 1.13: Top 15 Countries by Greenfield Outgoing FDI before the Financial Crisis (2003-2008) and After the Financial Crisis (2009-2016)



Source: Authors' analysis based on data from FDI Markets

Figure 1.14: Percent Change in Greenfield FDI Outflows of E20 and G-7 after 2008



Source: Authors' analysis based on data from FDI Markets; percent change in the total value of Greenfield projects between the pre-crisis period (2003-2008) and the post crisis period (2009-2016)

Further analysis of available data on announced Greenfield FDI projects points to changes taking place in the geographic and sectoral distribution of emerging market firms, in comparison to major developed economies.

- As illustrated in Figure 1.15, E20 countries continue to primarily invest South-South in other emerging and developing economies, as most emerging economies' regional markets serve as the primary destination for their outward Greenfield FDI flows. However, the share of the E20 group OFDI projects (in value) directed to the Asian-Pacific region has declined while the shares of Africa, Latin America and especially North America increased –the share of the latter almost doubled to 9%. As shown below, this reflects in particular the evolution of Chinese outward FDI over the past 10 years. In spite of its decline, the Asian share remains very high in the E20 FDI project portfolio— 47% from 2009-2016. Moreover, Greenfield investment projects to Asia from E20

emerging economies grew significantly over the years, totaling an estimated \$663 billion over the post-crisis period.

- By comparison, the Asia and Pacific share of the G-7's OFDI did not register any decrease (Figure 1.16): it remained at about 40%. The share of North America and Latin America augmented, both in similar proportions (3 to 4 percentage points).
- An analysis of the E20 OFDI announced Greenfield projects suggest the continued importance (in value terms) of the Oil, Coal and Gas industry, though its share in the E20 portfolio declined after the global financial crisis to 21% (Figure 1.15). The share of that industry in the E20 portfolio reflects the growing energy needs of emerging economies. Other sectors of relative importance include Metals, Chemicals, and Automotive Original Equipment Manufacturing; their share however either remained the same or registered a small decline. The Real Estate and "Alternative and Renewable Energy" industries have been particularly prized in the post-crisis period. The latter is an interesting case, as an industry of the future that saw its share more than double from 2.7% to 6.1% (or \$90 billion) over the post-crisis period, reflecting the significant development of emerging market firms in this industry. The rise of service and consumer related industries such as Business Services, Consumer Electronics and Food and Tobacco is also worth noting.
- The relative importance of Coal, Oil and Gas in the E20 portfolio contrasts with the trend in the G-7 firms' FDI Projects (Figure 1.16). The share of Coal, Oil and Gas fell significantly from 22% of the value of such projects over the 2003-2008 period to 14% for the post-crisis period. Automobile and Real Estate as well as Metals (between 7-8% each) continued to attract G-7 OFDI projects. The Communications and Alternative and Renewable Energy industries were especially valued, and doubled their share in the G-7 portfolio.

Homing in on specific countries, Figures 1.17-20 provide a closer analysis of the destinations for the outgoing Greenfield FDI of individual E20 countries.

- *China*: Since 2008, all regions have seen a significant increase in announced Greenfield FDI projects from China. The value of such projects doubled in Asia (to \$245 billion), more than tripled in Africa (to \$60 billion) and Europe (to \$70 billion), and experienced an eight and tenfold increase respectively in the U.S. (to \$44 billion) and Latin America (to \$80 billion). While China still follows the traditional pattern of emerging economies first investing mostly in their natural markets—in this case, in Asian neighboring markets with geographical or cultural proximity—its FDI projects increasingly targeted countries outside this zone, in developed markets and Latin America. North America's share of Chinese OFDI projects quadrupled in the post-2008 crisis period while Latin America's share increased by 66% (Figure 1.17).

Metals and Coal, Oil & Natural Gas industries have become less important in China's portfolio compared to other/new industries in China's radar: both sectors saw their shares halved from their pre-crisis period levels. The sectors that most benefited

from China's Greenfield OFDI are less traditional sectors, for China. These sectors include Real Estate, and strikingly, Business Services and Renewable Energy; the latter two registered a nine and twofold increase respectively in their portfolio share while Warehousing and Storage tripled its share.

- *Korea* maintained—and even reinforced—its intense Asian focus, to some extent reflecting the strength of the value chains set up by Korean firms in the region. Today, about two-thirds of Korean OFDI projects target the Asia-Pacific region (Figure 1.18). Unlike the G-7 economies and China, who shifted away from Coal, Oil and Natural Gas, Korea's investments in that industry have tripled in amount and grown as a proportion of total Greenfield outward FDI since 2008 (from 8% to 14%). Korea also significantly increased the number of Greenfield FDI projects in industries such as Consumer Electronics, Electronic Components and Alternative/Renewable Energy.
- Meanwhile, the value of *Brazil's* outgoing Greenfield investment projects has grown at much slower rates (Figure 1.20). A marked re-orientation towards intraregional investment characterizes the trends of these projects in the post-financial crisis period. Latin American and Caribbean shares in the value of such projects increased from 37% in the 2003-2008 period to 56% afterwards (Figure 1.19). With the increased importance of North America in the Brazilian OFDI projects portfolio, the strategy of Brazilian multinationals favored the Western Hemisphere to set up new activities abroad. Throughout the post-2008 crisis period, there was a strategic shift in preferred investment sectors. As in the case of China, the relative importance of the Coal, Oil and Gas industry declined significantly (from 41% to 29%). On the other hand, Alternative and Renewable Energy surged, its share almost quadrupling in the post-crisis period to 11%, the highest of all E20 countries. Such a shift in two of the largest emerging economies is quite remarkable. Beside Coal, Oil and Gas, a few otherwise traditional Brazilian industries also saw their shares decline: Metals, Chemicals, Transport and Automotive OEM (the latter falling to less than 2%). Meanwhile, consumer related industries came to the forefront: Textiles, Consumer Products, Plastics and Food and Tobacco surged as firms in these industries boosted their international expansion to serve the regional Latin American market.
- *India's* Greenfield OFDI remained mostly South-South in nature: Asia, Africa, Latin America and the Middle East accounted for almost 80% of the total value of India's Greenfield OFDI projects during both the pre- and post-crisis periods (Figure 1.20). Its focus, though, has been less intra-regional than that of China, Korea or Brazil. Indeed, Africa and the Middle East have accounted for a significant share of Indian Greenfield OFDI, together hovering around 40% during both periods (Figure 1.20). Of particular note is Africa's increasing importance in such a portfolio. North America and Western Europe have also been increasingly attractive to Indian

investors, with a combined share reaching 19% in the post-crisis period versus 13% before. The sectors most targeted by Indian Greenfield OFDI have remained essentially the same between the two periods. Contrary to China, the Coal, Oil and Natural Gas industry has retained prominence. Only Metals registered a significant fall, almost halving its share to 7%. Additionally, the rise of service-based industries such as Business Services and Communications is significant, as is that of Renewable and Alternative Energies.

Figure 1.15: E20 Outward Greenfield FDI Pre- and Post-2008 Crisis

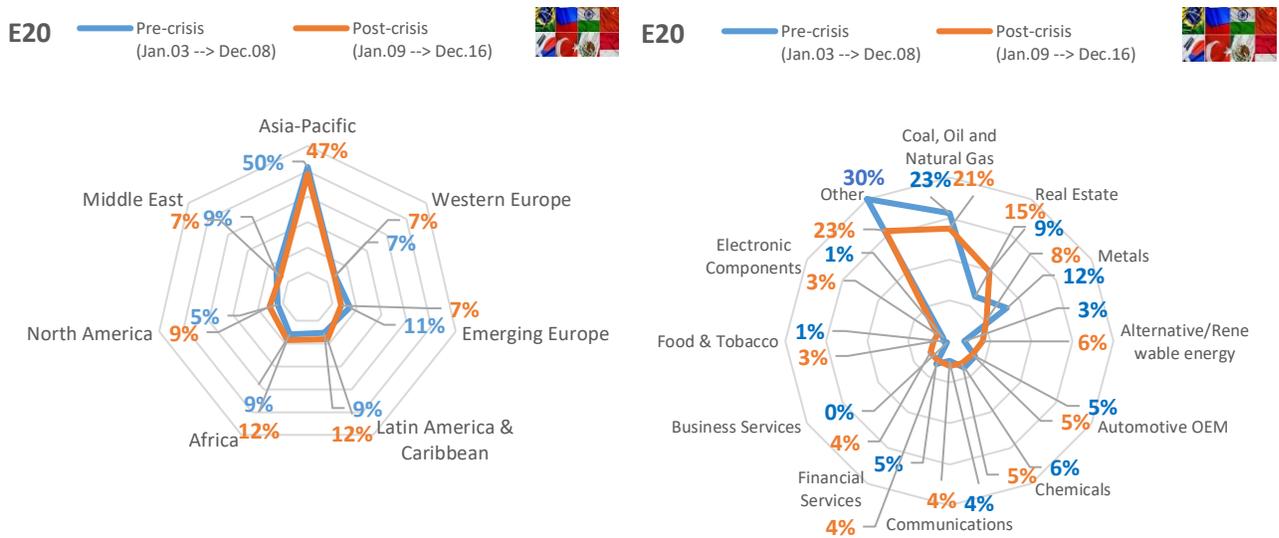


Figure 1.16: G-7 Outward Greenfield FDI Pre- and Post-2008 Crisis

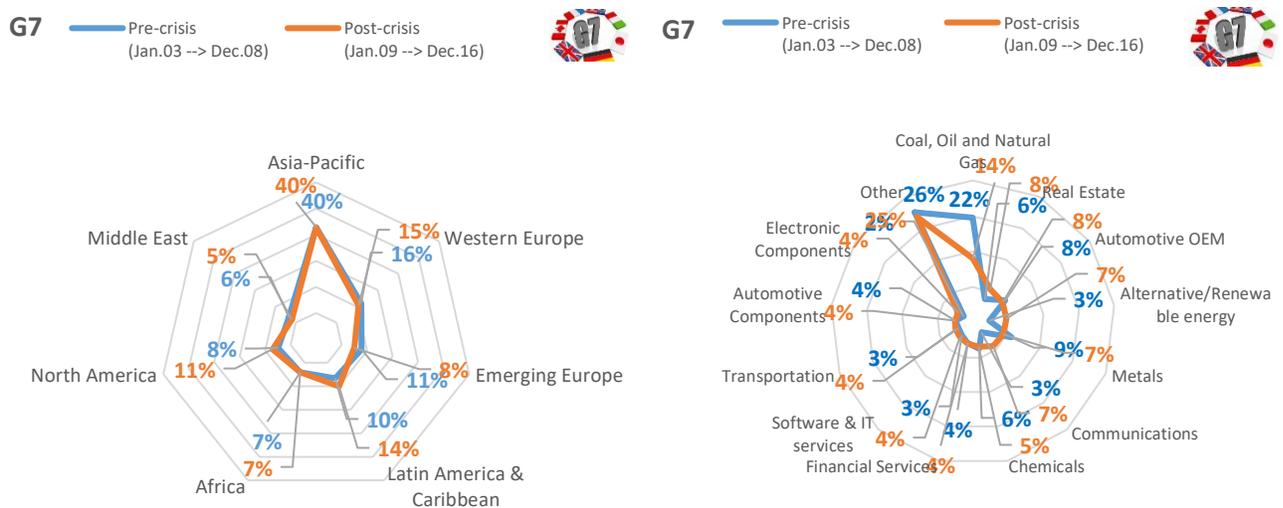
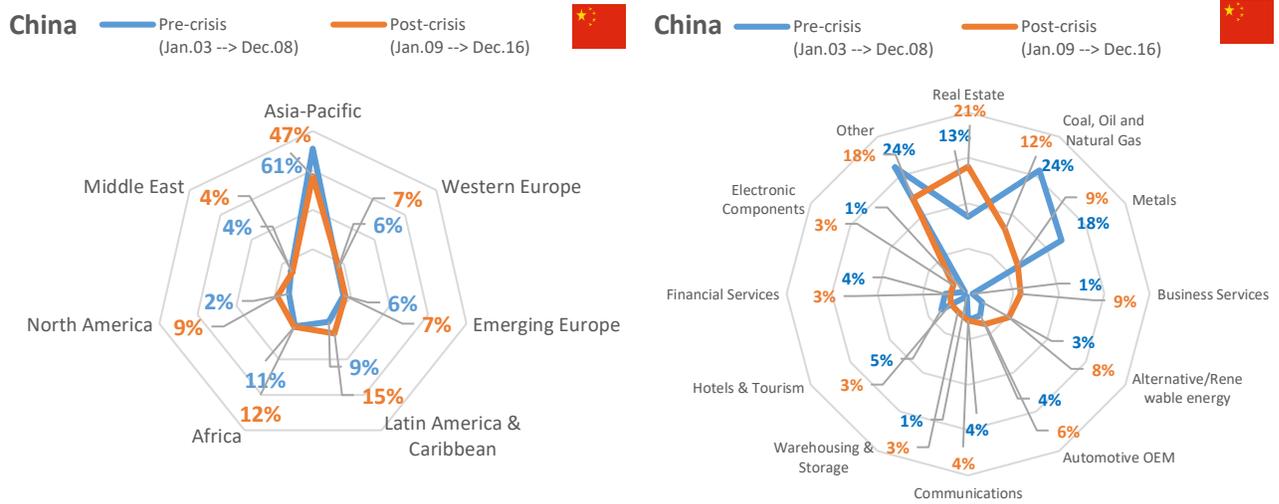


Figure 1.17: China's Outward Greenfield FDI Pre- and Post-2008 Crisis



Note: Data include Greenfield FDI projects from China and Hong Kong

Figure 1.18: Korea's Outward Greenfield FDI Pre- and Post-2008 Crisis

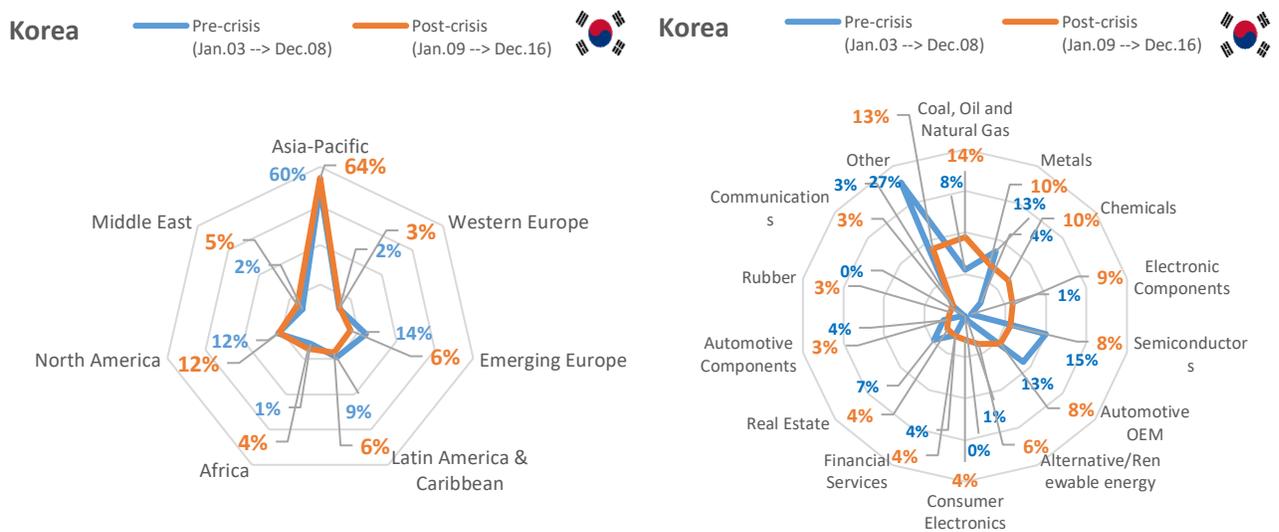


Figure 1.19: Brazil's Outward Greenfield FDI Pre- and Post-2008 Crisis

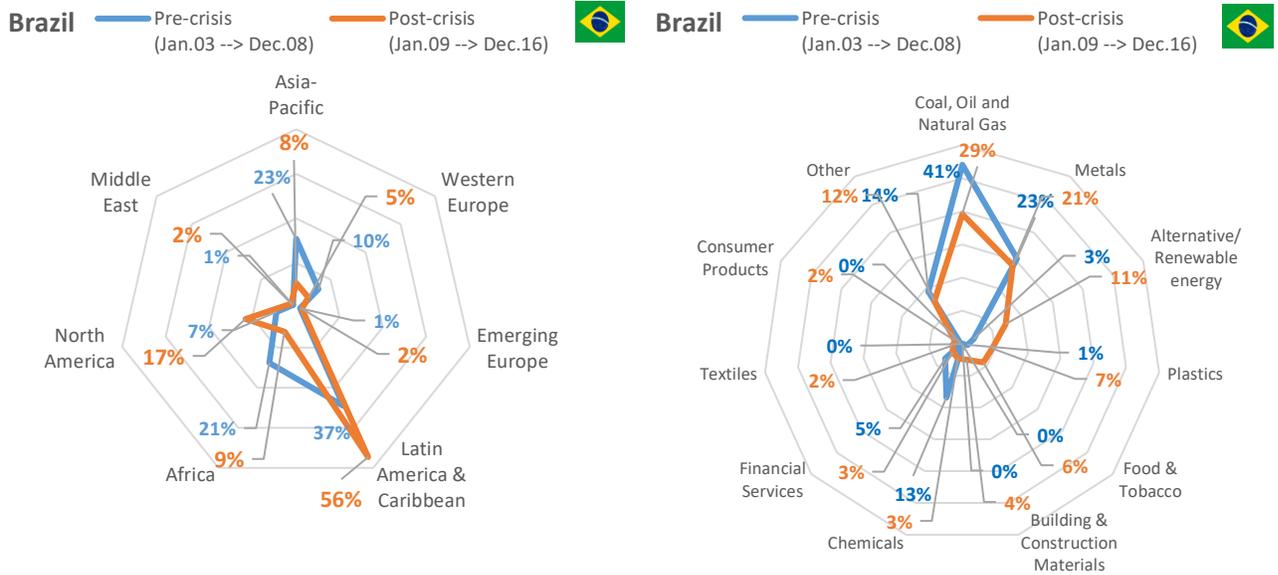
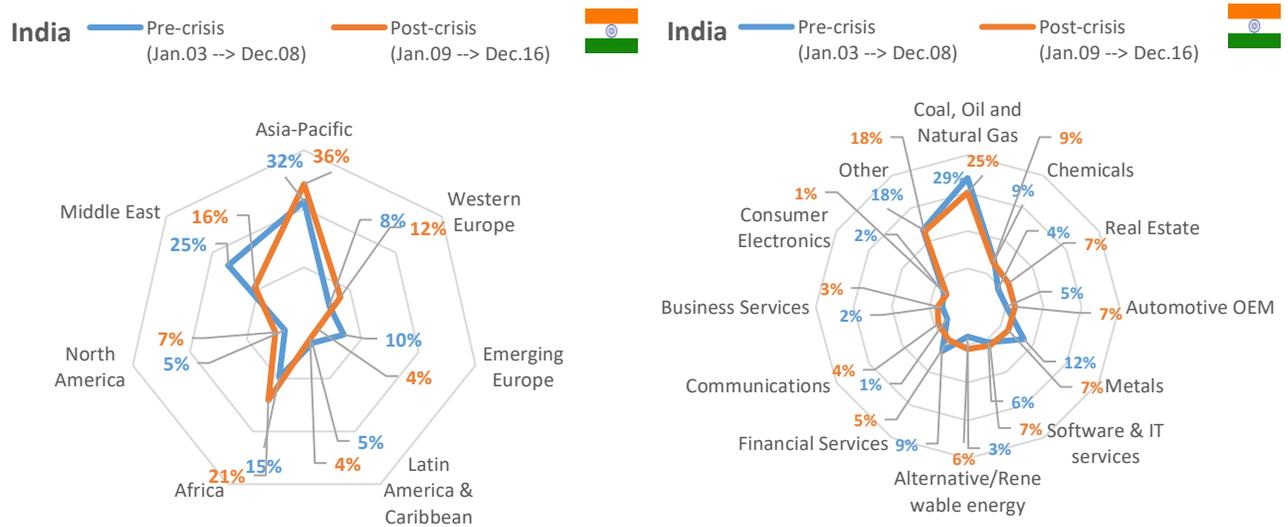


Figure 1.20: India's Outward Greenfield FDI Pre- and Post-2008 Crisis



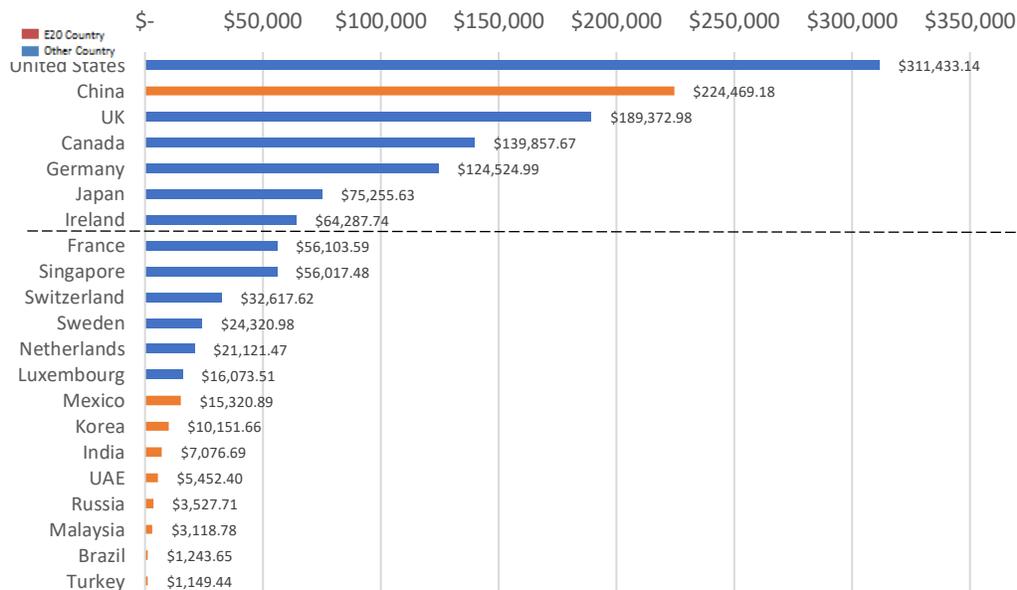
Source (Figures 1.15 to 1.20): Authors' analysis based on data from fDiMarket.

Although Greenfield data vary by region, destination and economy of origin, the growing attractiveness of service-based and consumer related industries reflects the increased consolidation of the E20 as important consumer markets. E20 investments in Coal, Oil and Natural Gas, which grew in absolute terms during this period, have declined as a proportion of overall Greenfield FDI just as new industries such as Alternative and Renewable Energy show consistent growth.

C. Mergers and Acquisitions by firms from the E20

In the pursuit of overseas expansion, a growing number of emerging market multinationals have become global acquirers. This reality is particularly evident in China, which has risen remarkably among global acquirers in recent years. While G-7 countries continue to dominate the global M&A landscape—all but Italy are among the top 15 global M&A investors—China has climbed the ranks to become the second largest global acquirer in 2016, with an estimated acquisition value of \$224 billion (Figure 1.21). Nor is China alone among emerging markets, in 2016, Korea and Mexico were also among the top 15 M&A investors (Figure 1.21). This trend represents a significant shift from a decade ago, when hardly any emerging economy ranked among the top M&A investor countries.

Figure 1.21: Top 15 Economies, Other Selected E20 by Announced Outbound M&A Deals in 2016 (\$ Millions)



Source: Authors' analysis based on data on M&A transactions from S&P Capital IQ. Excludes financial centers in the Caribbean.

The growing importance of M&As in terms of OFDI, however, is not common to all E20 countries, as illustrated by the case of India, which is among the top 15 in Greenfield OFDI but much less present in M&As. The value of announced M&A deals by Indian firms increased by 25% between the pre- and post-financial crisis periods, versus 69% for Greenfield projects (Table 1.2). Brazil notably has not emerged as a global power in terms of M&A. In the last six years, reported M&A deals by Brazilian firms have actually decreased in value compared to pre-2008 crisis activity. By contrast, China's M&A growth was significant, with post-financial crisis activity increasing by 380% relative to pre-crisis levels. In Korea, the increase reached 300%. Meanwhile, the U.S. showed a more moderate uptick of 47%.

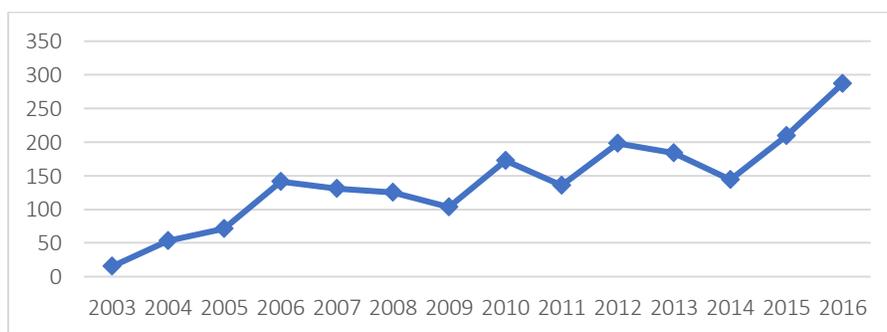
As illustrated in Figure 1.22 below, E20 emerging economy firms started increasing M&As in the early 2000s, a first phase that extended up to the global financial crisis. The crisis was a turning point: M&As resumed their upward trajectory in the crisis' aftermath and registered a period of intense growth over the past two years (2015-2016) to reach an estimated \$287 billion in 2016. This largely reflects the surge in acquisitions by Asian firms (especially Chinese) whose announced outbound M&As for the post crisis period total almost \$800 billion (Figure 1.23).

Table 1. 2. Selected E20 Countries and USA: Announced Greenfield OFDI Projects and Outbound M&As Total Amount, pre-crisis and post crisis-periods (2003-2008 and 2009-2016) (\$ Millions)

Investor	Greenfield OFDI (Total amounts)	Outbound M&A (total amounts)
China	Pre-crisis: \$184,674 Post-crisis: \$578,751 Growth: +181%	Pre-crisis: \$166,325 Post-crisis: \$798,013 Growth: +380%
Korea	Pre-crisis period: \$126,265 Post-crisis: \$218,220 Growth: +73%	Pre-crisis period: \$26,324 Post-crisis period: \$111,165 Growth: +322%
India	Pre-crisis period: \$90,779 Post-crisis period: \$146,281 Growth: +61%	Pre-crisis period: \$63,250 Post-crisis period: \$79,165 Growth: +25%
Brazil	Pre-crisis period: \$29,416 Post-crisis period: \$37,789 Growth: +28%	Pre-crisis period: \$60,767 Post-crisis period: \$28,866 Growth: -3%
USA	Pre-crisis period: \$918,959 Post-crisis period: \$1,037,999 Growth: +13%	Pre-crisis period: \$1,518,855 Post-crisis period: \$2,186,658 Growth: +44%

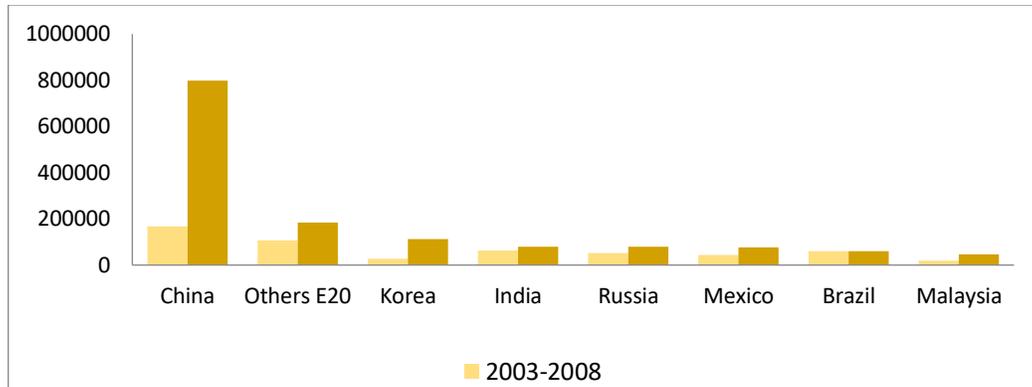
Source: Authors' analysis based on data from FDI Markets and S&P Capital IQ

Figure 1.22: Total value of M&A deals by E20 firms 2003-2016 (in \$bn)



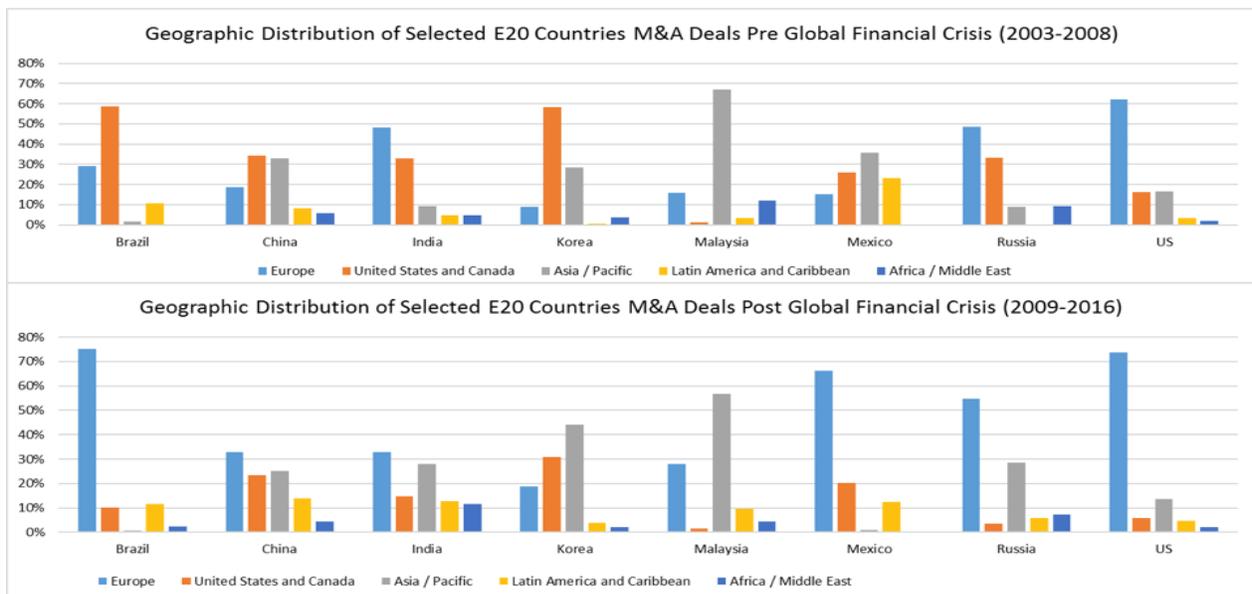
Source: Authors' analysis based on data on M&A transactions from S&P Capital IQ

Figure 1.23: E20-M&A Deal Value, Pre- and Post-Crisis Period (US \$million)



Source: Authors’ analysis based on data on M&A transactions from S&P Capital IQ

Figure 1.24: Geographic distribution of M&A deals



Source: Authors’ analysis based on data on M&A transactions from S&P Capital IQ.

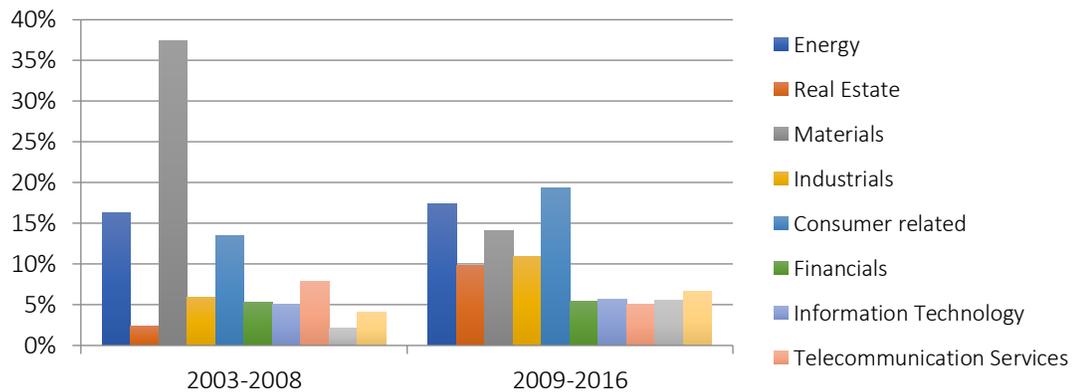
Despite the great variance that can occur in M&A activity due to exceptional investments, we can observe consistent trends in the M&A landscape of emerging market multinationals, in both geographical and sector distribution.

Figure 1.24 provides an overview of M&A investment target countries. In contrast to Greenfield, the South-South nature of overseas M&A by emerging market multinationals is much less pronounced. M&A deals are not directed predominantly towards other emerging and developing economies, but rather toward developed markets in North America and Europe that together account for about 60% of the value of the M&A deals by E20 multinationals. North America (mainly the U.S.) was already an attractive market for M&As during the pre-crisis period for most of the big E20 investors. During the post-crisis surge, the value of North American acquisitions continued to increase, but there was also a significant pivot to Europe, which dethroned the U.S. as the largest M&A recipient from the E20. The

average annual value of M&As by E20 in North America in the post-crisis was 25% higher than the pre-crisis period; in the case of M&As in Europe, it was more than double. Only Korea, and to a lesser extent India, re-centered their M&A activity on countries in their region.

Available information also suggests a diversification in the sector distribution of E20 M&A deals away from heavy industries under “Materials”;²⁰ such a shift particularly benefited Consumer Related²¹ Industries and Real Estate (Figure 1.25).

Figure 1.25: Sector Distribution of M&A Deals by E20 firms



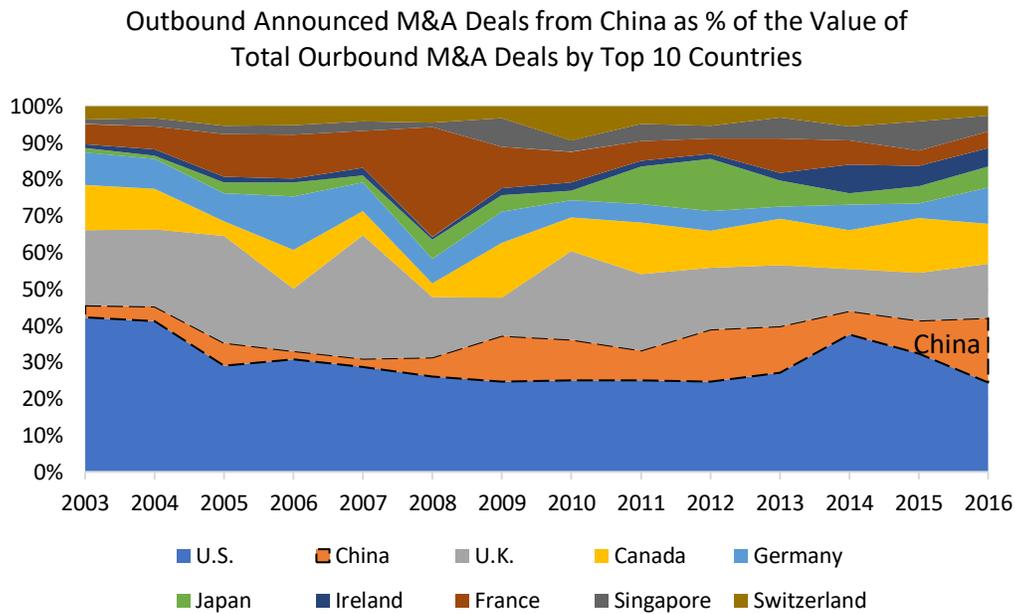
Note: “Consumer related” includes “consumer discretionary” and “consumer staples” (see footnote 21 in this chapter). “Materials” and “Industrials”²² are defined in footnotes 20 and 22.

Source: Authors’ analysis based on data on M&A transactions from S&P Capital IQ.

I. The case of China

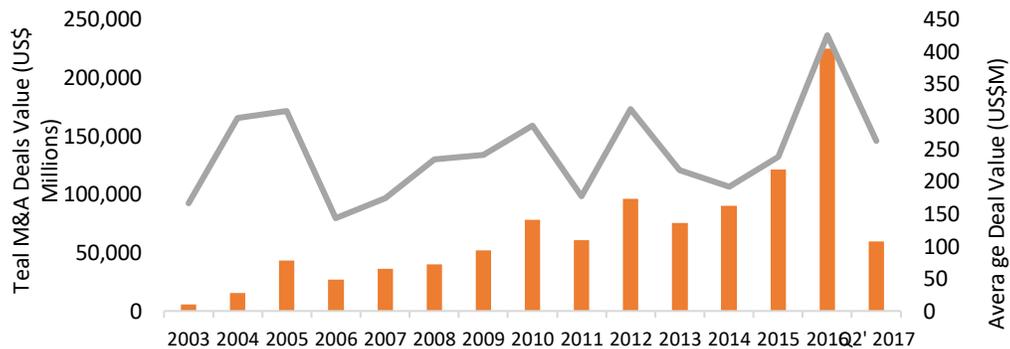
M&A has become a significant mode of entry for Chinese multinationals. In 2016, China emerged for the first time as the second biggest global acquirer after the U.S., at which time Chinese M&A deals represented 18% of the M&As of the top 10 countries (Figure 1.26).²³ This is a remarkable development if one considers that China was hardly visible as a global acquirer in the early 2000s. The sudden and remarkable increase in Chinese M&As, especially in 2016 when the value of announced M&A deals reached an estimated \$224 billion (Figure 1.27), contributed to Chinese authorities’ reaction to curtail the trend in capital outflows from China. This led to a number of restrictions that targeted M&As in particular (see Chapter 2). Despite the decline in M&A activity that ensued (Figure 1.28), China was still a leading global acquirer by mid-2017, accounting for 9% of M&A deals and ranked third (following the U.S. and the U.K.) in terms of M&A activity for the first semester of 2017.

Figure 1.26: China—Outbound M&A Deals as % of the Value of Total Outbound M&A Deals by Top 10 Countries (2003-2016)



Source: Authors’ analysis based on data on M&A transactions from S&P Capital IQ. China’s figures include transactions made by both China- and Hong Kong-based companies.

Figure 1.27: Chinese M&A Activity - Announced Outbound M&A Deals (2003-Q2 2017)

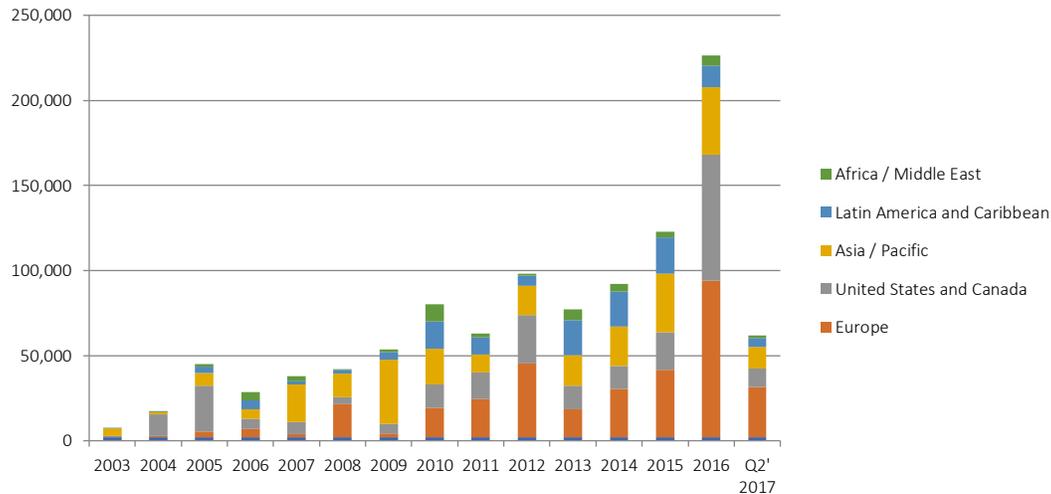


Source: Authors’ analysis based on data on M&A transactions originating from China and Hong Kong (\$ value in millions) from S&P Capital IQ. 2017 data deals announced through June 30, 2017.

Figure 1.28 below breaks down Chinese M&As by region. Overall, Asia has not occupied a predominant place in the M&A activity of Chinese firms. This was reinforced in the post-crisis surge, as Chinese M&A activity increasingly focused on Europe and the U.S.; the increase since 2015 is particularly striking. Meanwhile, M&A activity in Latin America, the Asia-Pacific and Africa have either stagnated or decreased. This change is in line with Chinese M&As’ sectoral shift away from Energy and Materials—which together accounted for almost two-thirds of the value of M&A deals between 2003-2005 and less

than 20% from 2014-2016—towards consumer related, Real Estate and Information Technology industries. The share of the latter reached more than half between 2014 and 2016.²⁴ In 2017, Real Estate became the primary target industry of Chinese M&As.

Figure 1.28: Chinese Announced Outbound M&A Value by Region 2003-Q22017 (\$ Millions)



Source: Authors' analysis based on data on M&A transactions originating from China and Hong Kong (\$ value in millions) from S&P Capital IQ. 2017 data deals announced through June 30, 2017.

In conclusion, the above analyses point to the following:

- While eMNCs use both Greenfield and M&As as modes of entry in overseas markets, Greenfield has been for long the preferred mode of entry. Since the global financial crisis, however, M&As have gained importance as a mode of entry, specifically for Korea and China, two of the largest E20 outward investors.
- Both in Greenfield OFDI and outbound M&As, while Latin America is receding in relative terms, Asia—fueled by China—is gaining prominence. The U.S. and other major developed countries are not keeping up with the dynamic pace of growth in outbound M&A deals that we observe in Asia.
- Greenfield FDI by emerging economies is predominantly of a South-South nature. Though the share of developed countries in the E20 Greenfield FDI portfolio has notably increased post-crisis, more than 70% of their Greenfield FDI projects are still directed towards developing and emerging economies in Asia, Africa and Latin America. In contrast, since the pre-crisis period their M&As have been largely directed towards Europe and North America (about 60% of the value of the M&A deals) and have remained so over the years. The value of M&A deals by E20 firms targeting these regions has increased remarkably since the global financial crisis. In the process, Europe has taken the lead as the primary target of M&As by emerging market multinationals, followed by North America.
- In both Greenfield FDI and M&As, available data indicate the growing attractiveness of service based and consumer related industries for emerging market multinationals, while heavy or

more traditional E2O industries such as Energy (Oil, Coal and Gas) or Materials (such as Metals) have either stagnated or declined in importance. This suggests a broader trend in the overseas expansion of emerging market multinationals that will increasingly prioritize consumer markets around the world, it illustrates a shift in their investment strategies. The emergence of Alternative and Renewable Industry as a significant part of the E2O OFDI project portfolio is also worth noting. All combined, these trends point to the new ambitions of emerging market multinationals, both in terms of markets and industries, and to the capabilities these firms have built—and will most likely continue to build—over the years.

1.4. Emerging Economies Are Faced with a New Paradigm

From the early 2000s on, emerging economies benefitted from an extended period of favorable external conditions: external demand increased, global trade growth strengthened, financial markets buoyed and capital inflows grew, while soaring commodity prices boosted investment in commodity-exporting countries. More recently, however, many of these propitious conditions have faded. Emerging markets are now facing a new paradigm, marked by a less favorable international economic environment, severe geopolitical tensions in several parts of the world and major technological disruptions, the implications of which have yet to be fathomed for the world economic order.

The slowdown in global trade, and the pro-protectionist rhetoric coming from countries that used to be champions of free trade, is perhaps the most striking of the changes that have affected the previous paradigm, a sign of waning global trade integration. Global trade grew on average almost twice as fast as GDP in the 20 years before the financial crisis; in the past five years, it has increased at rates well below such historical norms, barely keeping pace with GDP growth. In the aftermath of the global financial crisis, the slow recovery in advanced economies weakened demand for exports from emerging market and developing economies. The slowdown in Chinese imports, especially for commodities and intermediate inputs, also reduced growth rates among commodity exporters. The pullback of the U.S. from the Trans-Pacific Partnership (TPP), the stalling in the negotiation of the Transatlantic Trade and Investment Partnership (TTIP), the announcement of a renegotiation of the North American Free Trade Agreement (NAFTA), as well as multiple calls for protectionism in some advanced economies contributed to increased tensions and uncertainties in the global trade arena, with predictable negative effects for emerging economies. Indeed, a number of these economies, especially in Asia, are vulnerable to trade shocks because they generally have high trade openness ratios, and are major players in global value chains. Declines in commodity prices, especially energy prices, and a general tightening of external financial conditions also negatively affected emerging economies.

Despite the challenging external environment, the E2O economies proved quite resilient. Clearly, not all trajectories have been similar. In the case of Brazil or Turkey, difficulties were often amplified by political challenges. As shown in last year's EMI report, many of the E2O economies possess several characteristics (such as their sheer economic and demographic size and, for some, their significant efforts and investment in education, technology and innovation) that should help them face future

challenges.²⁵ Obviously, the E20 remain a very diverse group of countries, whose economies are volatile. Altogether, the strong growth that they have experienced for an extended period has helped them carve out new roles in the world economy. No matter how much volatility the E20 may experience in the coming years, the influence that these countries wield will continue to increase and expand into new territories. A harbinger of this trend can be found in the area of global governance, with the establishment over the past three years of new development financial institutions such as the NDB and AIIB, the new role assumed by China in international economic diplomacy, and the stance adopted by major emerging economies in their defense of global trade openness, precisely at a time when some key international players are showing signs of withdrawal. In more than one respect, the rise of emerging economies is disruptive. As in the case of technological changes, it is still too early to predict how and when disruption will occur, but we anticipate that it will be massive, and that it will challenge some of the paradigms in which we currently live.

Annexes

Annex 1.1: E20 AND G-7 countries – GDP growth rates

E20 AND G-7 countries – GDP growth rates. Various periods from 1995 to 2016, and projections

	GDP growth rates*					**Projected	
	1995-2000	2000-2005	2005-2010	2010-2015	2016	2017**	2018**
E20							
Argentina	2.58%	1.99%	5.73%	2.46%	-2.31%	2.7%	3.2%
Brazil	2.09%	2.95%	4.47%	0.98%	-3.61%	0.3%	1.8%
Chile	4.16%	4.20%	3.49%	3.83%	1.63%	1.8%	2.0%
China	8.61%	9.76%	11.26%	7.81%	6.69%	6.5%	6.3%
Colombia	1.21%	3.62%	4.53%	4.59%	2.05%	2.0%	3.1%
Egypt	5.20%	3.53%	6.18%	2.51%	4.30%	3.9%	4.6%
India	6.08%	6.72%	8.08%	6.74%	6.80%	7.2%	7.5%
Indonesia	0.70%	4.73%	5.74%	5.51%	5.02%	5.2%	5.3%
Iran	3.50%	5.50%	4.89%	-0.17%	6.40%	4.0%	4.1%
Korea	5.19%	4.73%	4.11%	2.96%	2.83%	2.8%	3.1%
Malaysia	4.79%	4.74%	4.48%	4.38%	4.24%	4.9%	4.9%
Mexico	5.09%	1.64%	1.60%	2.84%	2.30%	1.8%	2.2%
Nigeria	3.25%	10.59%	7.21%	4.70%	-1.56%	1.2%	2.4%
Philippines	3.56%	4.59%	4.93%	5.86%	6.92%	6.9%	6.9%
Poland	5.41%	2.97%	4.72%	2.94%	2.82%	3.3%	3.2%
Russia	1.62%	6.13%	3.54%	1.17%	-0.25%	1.3%	1.4%
Saudi Arabia	2.57%	4.90%	5.30%	5.00%	1.40%	0.6%	2.0%
South Africa	2.79%	3.83%	3.10%	2.09%	0.33%	0.6%	1.1%
Thailand	0.72%	5.44%	3.74%	2.85%	3.23%	3.2%	3.3%
Turkey	3.36%	4.55%	3.19%	4.39%	2.90%	3.5%	3.9%
G-7							
Canada	4.02%	2.57%	1.14%	2.13%	1.47%	2.2%	2.4%
France	2.91%	1.66%	0.77%	0.85%	1.19%	1.2%	1.2%
Germany	1.92%	0.57%	1.23%	1.52%	1.87%	1.4%	1.3%
Italy	2.00%	0.94%	-0.31%	-0.72%	0.88%	0.9%	1.0%
Japan	0.84%	1.20%	0.34%	0.61%	0.99%	1.5%	1.0%
United Kingdom	3.21%	2.81%	0.39%	2.10%	1.81%	1.7%	1.5%
United States	4.30%	2.53%	0.76%	2.03%	1.60%	2.1%	2.2%

* Based on GDP, constant, in local currency

Source: Authors' calculation, based on World Development Indicators <http://databank.worldbank.org/data/home.aspx> (accessed September 2017); for 2017-2018 projections: World Development Indicators.

NOTES

¹ See for instance the list of countries considered as emerging economies in the Global Financial Stability Report (IMF, 2015) and UNCTAD (<http://unctadstat.unctad.org/EN/Classifications.html>). See also the EMR 2016, Chapter 1, Table 1.

² For more on the E20, see the EMR 2016, Chapter 1.

³ OPEC reaches a deal to cut production », The Economist, December 3, 2016, <https://www.economist.com/news/finance-and-economics/21711088-oil-prices-surge-saudi-arabia-and-iran-sign-deal-opecs-meeting>.

⁴ Based on IMF data on GDP at PPP.

⁵ On this, see for instance Casanova, L. and A. Miroux, Emerging Markets Multinationals Report 2016 Emerging Multinationals in a changing world, Emerging Markets Institute, Johnson School of Management, Cornell University, www.johnson.cornell.edu/Emerging-Markets-Institute (EMR 2016)—Chapter 1.

⁶ AIIB has now 77 approved members (Source: President of the AIIB Jin Linqun’s opening address at the Meeting of the AIIB Board of Governors, June 16, 2017 at https://www.aiib.org/en/news-events/news/2017/20170616_002.html). The AIIB website however still mentions 56 members (as of September, 2017).

⁷ This may change if new members join the NDB, a possibility envisaged under the Articles of Agreement of the NDB. But, as per Article 8 of Agreement, the voting share of the founding members cannot go below 55% (Article 8) and the share of the non-borrowing members cannot exceed 20%.

⁸ Source: <https://www.aiib2017.org/eng/sub/aiib/about.php>.

⁹ Financial Times, May 9, 2016, <https://www.ft.com/content/e83ced94-0bd8-11e6-9456-444ab5211a2f>

¹⁰ Based on data from the AIIB approved projects list, at: <https://www.aiib.org/en/projects/approved/index.html> (accessed on September 30, 2017).

¹¹ As stated by K.V. Kamath, President of the NDB: “Clearly our mandate is to cooperate with other MDDBS and to learn from them. In that context, we have reached out to all MDDBS and we have received great cooperation from our friends in MDDBS”. See <http://www.ndb.int/partnerships/partnership-approach/> (accessed on July 24, 2017).

¹² See “partnerships” at <http://www.ndb.int/partnerships/partnership-approach/> (accessed on July 24, 2017).

¹³ NDB’s Article 8 of Agreement (<http://www.ndb.int/wp-content/themes/ndb/pdf/Agreement-on-the-New-Development-Bank.pdf>).

¹⁴ Based on data on approved projects and operations from the World Bank (http://projects.worldbank.org/search?lang=en&searchTerm=&countrycode_exact=IN, (accessed on September 30, 2017); from AIIB (<https://www.aiib.org/en/projects/approved/index.html>, (accessed on September 30, 2017) and ADB country fact sheets for 2016 (<https://www.adb.org/publications/series/fact-sheets>).

¹⁵ Based on data from NDB. Available at: <http://www.ndb.int/projects/list-of-all-projects/> (accessed September 1, 2017).

¹⁶ Based on data from UNCTAD, UNCTADstats at <http://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspxra>.

¹⁷ Statistical data on FDI in and out of China should be considered with some caution, mostly because of round-tripping (in particular through Hong Kong) that may lead to an overestimation of flows in and out of China. On this, see inter alia EMR 2016, Chapter 2, notes 22 and 24.

¹⁸ In the case of outward investment, the significant loans received by Brazilian firms from their subsidiaries abroad has also contributed to the very low or even negative OFDI flows registered by Brazil in recent years.

¹⁹ FDI markets data refer to projects of cross-border investment in a new physical project or expansion of an existing investment, which creates new jobs and capital investment. Joint ventures are only included where they lead to a new physical operation. Mergers & acquisitions (M&A) and other equity investments are not tracked. (See <https://www.fdimarkets.com>). The FDI markets data series starts in 2003.

²⁰ Based on data from S&P Capital IQ database. In this database, “Materials” is defined as including the following: Chemicals, Construction materials, Containers, Metals and Mining, and Paper and Forest Products.

²¹ “Consumer Related” includes “Consumer Discretionary” and “Consumer Staples”. “Consumer Discretionary” is defined in the SP Capital IQ database as including Automobiles and Components, Consumer Durables; Textiles,

Apparels and Luxury Goods; Consumer Services; Media and Retailing while “Consumer staples” includes Food and staple retailing; Food, Beverage and Tobacco; and Household and personal products.

²² Industrials is defined in the Capital IQ S&P database as including: Capital goods; Construction and Engineering; electrical equipments; Industrial conglomerates; Trading companies; Machinery; and Commercial and Professional services.

²³ We considered the top 15 investors based on 2016 OFDI flows (based on UNCTAD data) and then analyzed their outbound 2016 M&A gross data (announced transactions) to find out the top 10 countries by outbound M&A activity for 2016.

²⁴ Source: Author’s analysis based on data from SP Capital IQ.

²⁵ Some projections suggest that by 2050 emerging economies will overtake all G-7 countries (except for the U.S.) in the top 10 economies ranking (Source: PwC, The World in 2050, “The long view: how will the global economic order change by 2050” <http://www.pwc.com/gx/en/world-2050/assets/pwc-the-world-in-2050-full-report-feb-2017.pdf>), with China and India as the two leading economies.

According to the World Bank growth among the world’s seven largest emerging market economies is forecast to increase and exceed its long-term average by 2018. (Source: Global economic prospects, <http://www.worldbank.org/en/news/press-release/2017/06/06/global-growth-set-to-strengthen-to-2-7-percent-as-outlook-brightens>).

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Chapter 2

The Role of the State and the Outward Investment Phases of Emerging Economies (Brazil, China and Korea)

- 2.1. Introduction
- 2.2. Phase One of OFDI Expansion — The Beginning of Emerging Market OFDI and The Time of Latin America (1970s–1982)
- 2.3. Phase Two — The Opening up of Asian Emerging Markets, the Start of Asian OFDI and the Debt Crisis in Latin America (1983–1992)
- 2.4. Phase Three of OFDI Expansion — The Liberalization and Integration of Emerging Markets in the Global Economy (1993-2003)
- 2.5. Phase Four of OFDI Expansion — The Golden Decade of Emerging Markets (2003-2014)
- 2.6. Phase Five of OFDI Expansion—New Times for Emerging Markets (2015-Present)
- 2.7. The rationale for OFDI support
Annex 2.1: The Development Phases of OFDI from China, Korea and Brazil

Executive Summary

This chapter examines the state's role in OFDI expansion from emerging economies through three case studies—Brazil, China and Korea—and gives an overview of what we refer to as the five phases of OFDI development. We illustrate the crucial part played by broad public policies as well as specific OFDI support measures in such an expansion. This chapter also highlights OFDI's importance for emerging market multinationals in today's highly integrated global economy.

2.1. Introduction

In the past 20 years, emerging economies have made a clear shift towards less restrictive policies on outward foreign direct investment (OFDI). Initially, when not banned outright, OFDI was subject to stringent foreign-exchange controls, lengthy approval processes, cumbersome reporting requirements, and sectoral or geographic restrictions. This only began to change in the late 1980s, as many emerging economies progressively liberalized outward investments. Yet, while most developing and emerging economies had already designed policies to attract inward FDI, others were still shy about putting forward equally bold outward FDI policies. This chapter takes three countries as case studies for OFDI policy trends among emerging markets: Brazil, the largest investor from Latin America, as well as China and Korea, the two top investors from Asia.

China is a remarkable example of the dramatic shift that occurred—from outright restriction to enthusiastic promotion of OFDI. The Chinese government’s “Go Global” strategy set in motion a marked increase in outward investment by Chinese multinationals over the past 15 years. This strategy led to several specific measures and incentives aimed at facilitating OFDI and promoting Chinese multinationals’ competitiveness abroad.

Korea is another success story, though its approach to OFDI promotion differed from that of China. During the 1990s Korea had boldly liberalized its OFDI policies for nearly all investment and was already very pro-active in its support to Korean firms investing abroad. Today, the country’s only requirement is prior notification and approval by a foreign-exchange bank. As a result, Korea now stands as one of the top investors amongst emerging economies. Other Asian emerging markets such as Singapore and Malaysia have followed Korea’s lead in OFDI support.

In Latin America, governments have increasingly liberalized OFDI requirements, but most have not engaged in truly proactive promotion policies—Brazil is the exception, though to a much lesser extent than in China and Korea. Brazil encouraged OFDI through financial support from the Brazilian National Development Bank (BNDES) to further internationalize Brazilian companies (ECLAC, 2013). Industrial-development policies played an important role in the country’s successful internationalization strategy by encouraging the proliferation of national champions, and in turn, their consolidation as serious competitors vis-à-vis the big international players. A few successful cases include Petrobras (See Box), the state oil company; Vale, the world’s largest iron-ore producer; and Embraer, the aircraft manufacturer.

In this chapter, we give an overview of what we refer to as the five phases of OFDI development among Emerging Markets, for which we pay special attention to China, Korea and Brazil. These five phases did not affect all three countries equally. In fact, only Latin America really felt the first phase of OFDI development but lost out in the following periods; we analyze Brazil’s case to illustrate this point. The last phase of OFDI development has yet to come to an end and is still marked by uncertainty. We restrict our analysis of this later phase only to observed trends. A summary table on the phases is included in this chapter (see Annex 2.1).

Petrobras www.petrobras.com.br 	
<p>Petróleo Brasileiro S.A. - Petrobras operates in the oil, natural gas, and energy industries. Petróleo Brasileiro S.A. - Petrobras was founded in 1953 and is headquartered in Rio de Janeiro.</p> <p>The company's Exploration and Production segment engages in the exploration, development, and production of crude oil, natural gas liquids, and natural gas. Its Refining, Transportation and Marketing segment is involved in refining, logistics, transportation, and trade of crude oil and oil products; exportation of ethanol; extraction and processing of shale, and holds interests in petrochemical companies. The company's Gas and Power segment engages in the transportation and trade of natural gas and liquid natural gas; generate and trade electricity; holds interests in transportation and distribution of natural gas, thermoelectric power plants and fertilizer businesses. Petrobras' Biofuels segment produces biodiesel and its co-products, and also invests, produces and trades ethanol, sugar, and electric power generated from sugarcane bagasse. The company's Distribution segment sells oil products, ethanol, and vehicle natural gas in Brazil, as well as oil products in South America. Petrobras has also operations in Africa.</p> <p>The company has been going through a major downsize due to the corruption scandal in Brazil and may be considering selling its operations in Africa and elsewhere. As a result, it may become more centered on its domestic market and major extraction operations.</p>	 <p>Fortune Global500 2017: 75th</p> <p>Ownership: Public</p> <p>Founded: 1953</p> <p>Chairman: Pedro Pullen Parente</p> <p>Industry: Energy</p> <p>Employees: 68,829</p> <p>Revenue: \$81.4bn</p> <p>Assets: \$247bn</p> <p>Ticker: BOVESPA (PETR4)</p>

2.2. Phase One of OFDI Expansion — The Beginning of Emerging Market OFDI and The Time of Latin America (1970s–1982)

The expansion of Brazilian companies is not new: starting in the 1970s, Brazilian companies established operations in their so-called “natural markets”—i.e., countries with a shared cultural affinity and/or a geographical proximity (see Casanova and Kassum, 2014). Target markets included not only Latin American countries but also Spain and Portugal, as well as Portuguese-speaking African countries.

Many family-owned companies such as Odebrecht, Votorantim, Camargo Corrêa, Andrade Gutierrez, Tigre, and WEG began business operations abroad during this period. This trend was made possible by the “economic miracle” of the 1960s-70s, during which expansionist policies unleashed a prosperous cycle of industrialization-focused growth. The process began during the Juscelino Kubitschek (1956-1961) administration, which promoted protectionist policies to develop local industries, yet also opened the economy to foreign companies, especially in the global automobile industry. These economic forces incentivized small family companies to expand from regional centers into the entire domestic market to fend off foreign competition—paving the way for experiments in international expansion.

Meanwhile, China and Korea were (comparatively) far behind. In Korea, from the 1970s to the mid-1980s, OFDI remained quite negligible. Several regulations and conditions (such as pre-approval and strict foreign exchange controls) substantially constrained outward investment. During the same period, China maintained the classic characteristics of a “closed country.” From 1979-1985, China only had a few state-owned foreign trade companies, whose investment projects were highly regulated by the Ministry

of Foreign Trade and only approved on a case-by-case basis. Except for a few projects undertaken in partnership with state-owned companies, foreign investment into China—not to mention OFDI—was rare. It was only in the second phase—the 1980s—that the Chinese economy began its shift towards OFDI.

2.3. Phase Two — The Opening up of Asian Emerging Markets, the Start of Asian OFDI and the Debt Crisis in Latin America (1983–1992)

Following the boom period of the 1960s and 1970s, Brazil suffered a long period of economic stagnation triggered by the 1980's debt crisis. Hard pressed by free falling sales at home, internationalization became the only viable option for companies to keep growing. Construction firms were especially vulnerable in the face of public investment cuts, and as a result, foreign markets became a lifeline. Odebrecht, for instance, which already had infrastructure projects in Chile and Peru, entered Africa with the construction of an Angolan hydroelectric power plant in 1984.

During this period, swift and comprehensive institutional and political reforms signaled a major sea change in China—decentralizing power from the central government and propelling public institutions towards further transparency vis-à-vis market actors and international economic organizations. The central government established various transitional institutions to guide this policy innovation and experimentation. One important step in the process was the gradual reform of the agricultural sector and the partial liberalization of certain goods markets. Ultimately, this move provided a significant opportunity for the private sector to flourish in particular market segments. The early signs of success fueled the momentum for what would become an unprecedented (albeit gradual) process of opening the state economy.

As Chinese state-owned enterprises were hardly involved in foreign trade, China broke ground by establishing new special economic zones, giving Chinese authorities a unique means to attract foreign enterprises (Martinek, 2014). In the first four special economic zones, created in 1980 in the country's southeastern coastal region, local governments could offer new tax benefits and other incentives to attract foreign investors and develop their own infrastructure without the approval of the central government. Chinese private business enterprises boomed in this region. This strategy altered the previous paradigm by creating private sector success stories that served as the economic bellwethers for a transformative new era in China.

Only in the mid-1980s was a series of regulations introduced in China *for* OFDI, which established the principles and administrative processes governing the examination and approval of overseas investment by Chinese enterprises.

OFDI from China, almost exclusively undertaken by state-owned enterprises, remained extremely limited throughout the 1980s, (barely reaching \$300 million on average), partly because the radical change in China's economic policy was still fairly recent. Foreign firms had a competitive advantage in China's domestic market, which they made use of to invest in. This ultimately yielded a

positive effect for Chinese firms; the homegrown firms learned from their foreign partners and improved the quality of their own products, while also protecting themselves from the disruptive force of international competition in the domestic market as a whole. The special economic zones were strategic in that respect, as they led to an infusion of new capital, technology, and skills into parts of China's economy, while protecting Chinese enterprises from international competition at home. State-owned enterprises flourished against this backdrop.

In 1992, Premier Deng Xiaoping delivered his "South speeches" during a tour of Southern China. In these speeches, he reassured the public that the economic reforms underway would accelerate. He declared that the special economic zones were permanent and that the reforms would expand into the inland regions.¹ In many ways, this was a landmark event, with the emphasis on "reform and opening" as the key mantra for what would follow in China: a cycle of economic prosperity, among other bedrock transformations.

Compared with China, Korea approached OFDI reforms by openly and swiftly embracing liberalization. The turn to overseas investment was deemed more urgent for a country like Korea, which faced increased production costs and a limited home market in addition to the need to secure access to natural resources. Korea had a history of state-led development until the early 1980s. When the demand for economic reforms was felt, a major pro-liberalization policy swing took place; it was reflected, among other domains, in Korea's OFDI policy. Following a period of strict controls and restrictions, the first phase of liberalization of OFDI by Korean firms began in the 1980s. At this time, a number of restrictions and controls (including specific requirements on investors' business experiences and host country conditions) were relaxed and the requirement for pre-approval of outward investment by the Bank of Korea was removed and replaced with a more flexible system, including a notification system for investment in non-restricted areas. This latter system was further simplified over time.² OFDI from Korea increased between 1983 and 1992 for instance, from \$169 to \$1,376 million.³

2.4. Phase Three of OFDI Expansion — The Liberalization and Integration of Emerging Markets in the Global Economy (1993-2003)

The third phase of internationalization (1990-2002)—which emerged alongside the rise of the "Washington Consensus"—marked a time of tectonic shifts across Latin American governments. The IMF and World Bank encouraged (if not obliged) these governments to abandon their import-substitution policies and to adopt pro-market strategies, including the privatization of state-owned enterprises in the telecommunications, mining, energy, and transportation sectors.

In Brazil, the impact of this "competitive shock" was two-fold (Cyrino and Tanure, 2009). First, the best-positioned Brazilian companies restructured their operations by consolidating their domestic positions, pursuing comparative advantages and foreign financing, and accelerating their international expansion to survive the threat of heightened competition from local subsidiaries of foreign multinationals (Casanova, 2009). Second, the most fragile companies were exposed to acquisitions by foreign firms, which meant (in practice) that weaker companies faced extinction.

Much of the Washington consensus also revolved around implementing a series of fiscal and monetary policy reforms. Policymakers were advised to loosen capital account restrictions and ensure that exchange rates would fluctuate in accordance with market forces—a break from the period of “command and control” that marked much of the post-WWII era in which currencies were fixed to other currencies or pegged to the gold standard. To do so, a new central banking regime was consolidated, which would use interest rates as a primary means to control the value of a currency by setting an annual inflation target.

This had an especially substantial impact especially in Latin America, where it was an effective method for securing FDI, but not always OFDI. In Brazil, for instance, the exchange rate that resulted from regulating interest rates around a previously determined inflation target did not always secure favorable conditions for firms to invest abroad. However, by ending hyperinflation and creating more credibility around the value of the currency, policymakers attracted more FDI to the economy. Between 1995 and 2000, FDI inflows in Brazil grew from \$4.9 billion to \$32.9 billion—far surpassing the growth of OFDI in the country during the same period.

Meanwhile, China adopted some international political trends, especially in the realm of economic policymaking. For instance, China’s accession to the World Trade Organization (WTO) confirmed Beijing’s commitment to international law. This move, combined with the privatization of a number of state-owned enterprises, as well as the restructuring of the financial sector, enhanced China’s credibility to foreign investors, economic partners and international organizations alike.

Crucially, the central government implemented new trade regulations and laws, among them seven major rules released from 1988-1998 by the State Council and Ministry of Foreign Trade. These rules progressively instituted measures to support investing abroad, in line with the government’s goal of nurturing national champions in strategic sectors. For instance, incentives took the form of export tax rebates or financial assistance for specifically targeted industries or large state-owned enterprises (SOEs) at the forefront of Chinese outward investment expansion. By 2001, China entered the WTO, thereby unleashing its foreign trade power as more foreign companies poured into China’s market—a reality that accelerated the internationalization process for Chinese companies and their insertion into the global economy (Tian & Deng, 2007).

The ‘Zou Chuqu’ (or ‘Go Global’) policy that was introduced in 1999 to promote Chinese investments abroad is a notable example of China’s commitment to internationalize its companies. Beijing was concerned about the dependence of the manufacturing sector on trade and was encouraged by the demands of entrepreneurs for a new, more sustainable, model of business expansion. A fundamental shift was underway: from attracting foreign investment to actively engaging in it. This was groundbreaking for China, which had hitherto been a manufacturing hub based on FDI, thereby launching a new era for Chinese OFDI (see phase 4 below).

Throughout the 1990s Korea actively promoted OFDI as part of its broader industrial policy to increase firm competitiveness, especially regarding financing and support services. For example, the government implemented financial support for Korean firms investing abroad to facilitate foreign

exchange transactions (by simplifying procedures and relaxing conditions) and enhance overseas investment and export credit insurance. The notification system was expanded to apply to virtually all industries, and several services were set up to facilitate the collection of information for potential outward investors and to encourage cooperation abroad among Korean firms.⁴

2.5. Phase Four of OFDI Expansion — The Golden Decade of Emerging Markets (2003-2014)

The fourth phase began at the turn of the 21st century and marked a period of soaring commodity prices, high growth rates, and a more aggressive global expansion of emerging market Multinational Corporations (eMNCs), notably through the acquisition of foreign firms and assets (see e.g., Casanova, 2009). This phase particularly benefitted natural resource-based companies, whose strong cash position permitted large-scale acquisitions in both advanced and emerging markets. During the 2000s, commodities giants in Brazil such as Vale and Petrobras underwent their most intensive experiment with internationalization.

In the same period, Chinese political and economic institutions faced a turning point over how the country could sustain its soaring growth rates. Against this backdrop, the constitution was amended to, inter alia, include guarantees on private property in 2004, and a law on private property was enacted in 2007, implicitly recognizing the role of private business in the transformation of China's economy.⁵ At the same time, the preferential tax rates for foreign enterprises investing in China disappeared. In line with the aforementioned "Go Global" strategy, Chinese enterprises were increasingly encouraged to pursue overseas investments and extend manufacturing beyond their home-bases in China.

The "Go Global" policy only expanded over time as the government followed it with several measures to assist domestic companies in developing a global strategy capitalizing on opportunities across local and international markets. These measures improved OFDI support policies, streamlined approval procedures, simplified application requirements, relaxed restrictions on foreign exchange, and provided various types of assistance. Critical financial support measures included easier access to finance, interest-subsidized loans for investment in priority sectors and industries, subsidies in the context of aid programs, and tax incentives. Equally significant was the administrative, financial and commercial support of institutions such as The Ministry of Commerce (MOFCOM), the National Development and Reform Commission, the China Export and Import Bank, the China Development Bank (CDB) and the China Export and Credit Insurance Corporation.

Another significant driving force behind China's OFDI revolution has been its massive foreign reserves accumulated since the early 2000s. While mostly consisting of U.S. government debt, China's reserves have generated discontent from certain groups in China due to their low returns on investment. Following the global financial crisis in 2008, this discontent turned into widespread anxiety that China's holdings of U.S. dollar assets would lose value because of American economic problems and macroeconomic policies. In response, a consensus emerged that China would be better off by investing in other types of assets overseas.

These changes in attitude to OFDI and its support policy resulted in dramatic increases in OFDI, with OFDI flows in 2014-2015 ten times their level in 2005, making China the third-largest investor in the world today. In the process, though China had not yet become a net capital exporter (as Korea did), the gap between inward and outward FDI was substantially reduced. More recently, China has engaged in active investment diplomacy to promote its “Go Global” strategy, as demonstrated by the tours of the Chinese Premier in Latin America (two visits in 2015-2016) and in Africa (two visits in 2013 and 2014). Other major initiatives, such as the “Belt and Road Initiative”⁶ of which the Chinese government has been a central actor, are expected to fuel China’s OFDI expansion in the years ahead.

For Korea, the “Golden Decade” showed promising trends, including a surge in OFDI, which has continued virtually unabated. From 2000 to 2015, Korean FDI outflows increased more than sevenfold. The strong support for outward investment was only reaffirmed with the 2007 adoption of the Policy for Supporting Korean Firms to Invest Abroad and the creation of the Committee for Global Business Operation chaired by the prime minister. The support was provided through a significant network of agencies including, in particular, the Korea Trade and Investment Agency (KOTRA), the Korea Export Import Bank and a number of government related organizations. Today, Korea is a net exporter of capital: its OFDI flows exceed its inward flows. It figures among the top 15 international investors in the world (see Chapter 1) and is the second most active international investor among the E20 emerging economies.

In Brazil, this period was marked by high growth rates, increased public investments in infrastructure, and social policies that contributed to wage growth. This agenda supported further consolidation of the domestic market. The government seized on the expansion of demand by giving tax cuts and other incentives to companies that took advantage of the domestic market expansion to make foreign investments, especially in high-value sectors. The most significant tax benefit was the payroll tax cut, given to companies listed in 50 economic categories. This amounted to a significant loss of government income (on the order of \$100 billion between 2011 and 2015).⁷

The government also earmarked an unprecedented amount of funds for public banks to subsidize loans for Brazilian firms engaged in foreign investments. This was especially significant due to Brazilian companies’ long struggles to access cheap financing. The reduction of the benchmark interest rate facilitated the expansion of subsidized loans (TJLP⁸). Between 2005 and 2013, the SELIC⁹ dropped from 19.75% to 7.12%—its lowest recent point. Accordingly, subsidized rates became less fiscally onerous, even as loans grew in value (de Bolle, 2016). By 2016, the BNDES had about \$250 billion in outstanding TJLP loans (BNDES, 2016),¹⁰ an amount that enabled the expansion of highly strategic sectors such as energy, transportation and telecommunications.

Beyond the broad macro-economic factors, several firm-specific objectives fueled the international expansion of Brazilian firms. Petrobras’ and Vale’s, investments abroad were chiefly motivated by the desire to secure access to natural resources in foreign markets. Other companies such as Embraer and the bus manufacturer Marcopolo have “followed the client” by opening commercial offices abroad in order to better serve local markets and become more responsive to customers’ needs. Another major motive for investing abroad has been circumventing tariff and non-tariff barriers. By

opening production units in key markets instead of limiting themselves to exports, Brazilian companies such as Gerdau in the steel industry, and Cutrale, the orange juice producer, were able to overcome trade barriers and break into developed markets.

Brazilian firms also used the internationalization process as a way to learn and acquire new skills by competing in sophisticated markets with demanding consumers (Cyrino and Tanure, 2009). The cosmetics company Natura Cosméticos, for instance, opened a retail store in Paris in 2015. This enabled the company to connect with the latest consumer trends while disseminating its brand name in the world's most iconic perfume and cosmetics marketplace.

Despite a number of success stories, Brazil has struggled to reconcile its OFDI policies with its commitment to attracting foreign investment—a central pillar of the institutional reforms that took place in the 1990s at the height of the “Washington Consensus.” The country's policies of extraordinarily high interest rates for the sake of monetary stability and foreign investor confidence at times created a negative trade-off between inflation-targeting (for FDI) and growth (for both economic activity and OFDI). Even during the “Golden Years,” the central bank maintained a hawkish monetary policy stance, which limited fund allocation to public banks to subsidize foreign investments.¹¹

OFDI support was therefore restricted to tax incentives for strategic exporting sectors and subsidized loans to companies that made foreign investments. These policies, however, became less effective over time. The cost of these loans coupled with the reduction of government income through expanding tax incentives limited the discretionary spending capabilities of the federal government. Political headwinds exacerbated this trend as nondiscretionary spending grew and successive governing coalitions failed to make the reforms necessary to fiscally secure OFDI promotion.

2.6. Phase Five of OFDI Expansion—New Times for Emerging Markets (2015-Present)

With the collapse of commodity prices towards the end of 2014, emerging markets have faced more political and economic uncertainty. Economic growth in these economies, while still quite high for many, is less buoyant relative to the previous period. In the case of Brazil, the decline was amplified by the political crisis that involved some major Brazilian enterprises, the national champions of the country. In the process, government support for OFDI became somewhat unclear. In China's case, remarkable outflows of capital in 2016 and the surge in M&A transactions led the authorities to make decisions aimed at reining in the phenomenon.

Concerned by the downward pressure on the yuan, also known as the renminbi, and the risk of destabilization resulting from the significant capital outflows registered in 2015 and 2016, Chinese authorities increased scrutiny and tightened regulations on capital outflows, including closer monitoring of Chinese firms' M&As overseas in fall 2016. In addition to foreign exchange and destabilization concerns, authorities also feared that some recent acquisitions in the past two years, especially by private companies, were mainly motivated by the desire to transfer money abroad—in particular, when the acquired firm falls outside the buyer's core area of business.

As part of their move to rein in capital outflows, authorities announced stricter approval requirements for M&A deals worth more than \$10 billion (or \$1 billion if the acquisition falls outside the investor's core business area).¹² They also restricted real estate purchases abroad by State-Owned Enterprises for more than \$1 billion. In August 2017, China's State Council issued "guidelines on overseas investment" that formalized the fall 2016 announcements and clarified a number of issues. The guidelines classified overseas investments into three main categories, in line with the national economic and strategic interests of China: 1) encouraged investments; 2) restricted investments; and 3) prohibited investments.¹³ Interestingly, it is the nature of the transaction or the industry involved that determines how the investment will be treated.

Restricted investments include, among others, real estate, hotels, entertainment, and sport clubs—industries in which Chinese authorities flagged a number of deals as questionable regarding their true objectives and actual economic rationale. Additionally, outdated industries and projects in countries with no diplomatic relations with China or in chaotic regions have also been targeted for restriction. Prohibited investments include, inter alia, investments in gambling and "lewd industries" as well as those that provide access to sensitive sectors such as core military. On the other hand, firms are encouraged to actively engage in investments that promote the Belt and Road Initiative (in particular in infrastructure and connectivity projects), as well as investments that "strengthen cooperation with overseas high-tech and advanced manufacturing companies."¹⁴ They are especially encouraged to establish R&D centers abroad. For encouraged investments, the Chinese government intends to adopt a number of measures to provide further incentives in taxes, exchange rates, insurance, customs and other benefits.

Likewise, leveraged buy-outs by Chinese firms may be more difficult to undertake as Chinese authorities appear to tighten public financing policies. Such policies had previously enabled a number of firms, especially government owned (SOEs), to gain access to subsidized financing despite high debt ratios. The leverage ratio of SOEs increased from about 140 in 2007 to 170 in 2016, peaking close to 180 in 2012 (IMF 2016), 50% higher than in 2003.

The People's Bank of China introduced a number of steps to reduce these market risks, including changes to its Macro Prudential Assessment (MPA) risk-tool in order to control rising leverage in the country's financial system. The government also reduced its explicit support for SOEs to encourage healthier financing. Given that overseas acquisitions were largely credit-fueled; these restrictions will dampen the appetite of Chinese companies—especially government-backed firms—for large-scale acquisitions.

While the full impact of these new rules and guidelines on China's capital outflows remains to be seen, in the first half of 2017, the value of outbound M&As has already decreased 13% relative to the previous semester, and 50% relative to the same semester in 2016.¹⁵ This reflects the chilling effect of increased scrutiny on mega-deals, which combined with reduced access to financing (not to mention an outright ban in certain sectors), will likely depress the growth in the value of Chinese outbound M&As. At the same time, the increased transparency and support for "encouraged deals" under the new guidelines are bound to facilitate such transactions. In this latter case, however, the obstacle lies not in

China but on the receiving end—i.e. with the host country governments, some of which are already wary of Chinese investment in their high-tech industries.¹⁶ The “clarifications” brought about by the guidelines will likely not assuage those fears.

2.7. The rationale for OFDI support

As shown above, China and Korea stand out among emerging economies in terms of OFDI policies. They both experienced a sequential process of OFDI expansion: first through the relaxation of foreign investment controls and/or prohibitions coupled with administrative reforms to streamline approval procedures, then, second, through active and direct assistance (whether knowledge-based, financial or otherwise). While policies promoting OFDI began in Korea earlier than in China, the latter has become very active in this area in recent years. In both economies, strong policy support has been instrumental to the surge in OFDI flows. While Brazil has also supported outward FDI, its support has been less pro-active and consistent than that of China and Korea, a divergence which partly explains the difference in their OFDI performance (see Chapter 1).

The next question is why a government ought to allocate resources to outward FDI. This question is especially poignant for emerging economies, which need capital and technology to attain their growth and development objectives. This section considers the rationale for OFDI support policies.

There is a stark difference between the inward FDI promotion policies adopted by many—if not most—economies (emerging and developed alike) and the more cautious approach towards outward FDI followed in particular by emerging economies. There is also a major difference in the attention paid in the academic literature to the impacts of Inward FDI and OFDI respectively. The vast body of work published on the former over the past fifty years points broadly to the beneficial impact of FDI on host economies, while recognizing that the benefits are far from being automatic.¹⁷ On the other hand, the benefit of OFDI to home economies has been far less studied,¹⁸ and OFDI specifically from emerging economies even less. Today, the dramatic growth of OFDI among emerging economies, with the substantial role played by their respective governments, is generating further debate on the effects of outward investment on home countries and the rationale for OFDI support policy.

Opponents of OFDI point to the tension between the local investment needs of emerging economies and the cost of capital directed for outward investment, as well as to OFDI’s potential negative impact on jobs, exports and tax revenues.

These arguments overlook the prime argument in favor of OFDI: its impact on the competitiveness and performance of investing firms and the spillover effects on home economies. The impact depends largely upon the motivations behind the investment, which can be defined, using Dunning’s classification, as: natural resources seeking; market-seeking, efficiency-seeking and strategic asset-seeking (Dunning, 1993, and Dunning and Lundan, 2008).¹⁹ The search for natural resources, for instance, largely explains the expansion of emerging market multinationals, especially from Asia, into Africa and Latin America. Efficiency-seeking may become an increasing motivation in the context of labor cost increases, as was the case in some Asian countries for the development of global and regional value chains. Market seeking has been an important motivation in the outbound expansion of Latin

American firms; more recently it also contributed to the expansion of Brazilian, Chinese, or Korean multinationals in developed markets in industries such as consumer related products.

The search for strategic assets is of paramount importance to firms from emerging economies investing in developed countries. Through M&As, emerging market multinationals can access strategic assets such as technology, skill and know-how, brand names and distribution networks. The wave of Chinese acquisitions in Europe in recent years (see Chapter 1) illustrates this trend.

How much these varied motivations for OFDI translate into positive effects on home economies depends upon the strength of backward linkages with domestic enterprises at home and upon the absorptive capabilities of the home economy overall. Thus far, the evidence on the net impact of OFDI on home economies has been inconclusive. Some researchers conclude that, to date, “there is no sound evidence that OFDI has a detrimental effect on home economies” (Gorynia et al., 2015); others observe that “it appears that outward foreign direct investment has positive spillovers in the home economy” but nevertheless advise caution towards OFDI support policies (Cuervo-Cazurra and Pananond, 2015).

While empirical evidence on the impact of OFDI on home countries, especially emerging markets, is limited and still inconclusive, a few elements are worth considering. In today’s highly integrated global economy, a key question is whether emerging market multinationals can do without internationalization. Internationalization enables firms to withstand competitive pressure from foreign firms in their domestic markets. This competition is likely to become more intense in light of the changes taking place in the consumer markets of emerging economies—the new centers of middle class growth. In this context, outward investment is not only a way for emerging market multinationals to access overseas markets, but also to develop new products and acquire global brand recognition, an important step for consumers back home who are gaining purchasing power and driving increased global demand for higher value-added products. As established multinationals (often from developed economies) are eyeing the increasingly large and prosperous consumer markets of emerging economies, OFDI is central for emerging market multinationals seeking to protect or increase their domestic market position. It is noteworthy that while emerging market multinationals still compete primarily based on prices, they have improved their position among global brands (see Chapters 3 and 4).

In the current knowledge-based economy, technology and innovation are crucial determinants of success and progress. During a period of radical changes in the global balance of power, OFDI policy is not exclusively determined by short-term economic parameters; in some cases, long-term strategic considerations, as well as geo-political factors, also come into the picture, as illustrated in this chapter.

The following chapters examine the progress made by emerging multinationals in the global corporate world, illustrating to some extent the impact of strong OFDI policy support.

Annex 2.1: The Development Phases of OFDI from China, Korea and Brazil

CHINA	KOREA	BRAZIL
Phase ONE China closed; Emerging Market OFDI led by Latin America (1960s–1982)		
A “closed economy.”	State-led development.	Strong role of State; import substitution.
1979: some OFDI allowed. Hardly any OFDI.	Regulations and foreign exchange controls constrain OFDI. Outward Investment: quite negligible.	Emergence of large scale family-owned conglomerates. 1982: Mexico defaults; debt crisis begins. Brazil/Latin America leads OFDI from emerging markets.
Phase TWO Latin America crisis, Asia opens up and begins OFDI (1983–1992)		
Decentralization, partial liberalization, and opening.	Major pro-liberalization policy swing.	“Forced internationalization.”
1984: Special economic zones created with incentives to foreign investors. Impact of inward FDI on the economy. Principles and processes for approval of OFDI established. 1992: Deng Xiaoping’s South speech; “Reform and opening” OFDI remained very limited	Liberalization policy swing reflected in Korea’s OFDI policy. Controls relaxed, removed or simplified. OFDI increases from \$169 million to \$1.4 billions	Debt crisis; economic stagnation Internationalization: the only viable option for family-owned companies to keep growing. Low OFDI levels
Phase THREE Liberalization and Integration of Emerging Markets into Global Economy Latin America and Asian OFDI at similar levels (1993–2002)		
Reform continues.	OFDI support policy.	Washington consensus years.
Relaxation of laws and regulations on external trade. Measures to enhance credibility vis-a-vis foreign investors. Some measures to support OFDI. 1999 milestone: “Go Global” policy introduced. 2001: China enters WTO. OFDI begins to increase.	Pro-active FDI policy put in place: - Notification system adopted for virtually all industries; - A variety of financing and support services provided to Korean firms investing abroad. 1997: Asian financial crisis; dampens OFDI. OFDI increases by \$2.1 to \$3.4 billion.	Wave of privatization, with foreign investors coming in. Deregulation, and promotion of pro-market strategies resulting in large FDI inflows. New wave of internationalization by local companies as a defensive strategy. Latin American firms consolidate position in local and regional markets. OFDI rebounds.
Phase FOUR The Golden Decade of Emerging Markets (2003–2014)		
Golden decade; very high growth.	Golden decade.	Golden decade; commodity boom.
2004: changes to Constitution, including guarantees for private property. Need to maintain high growth. “Go Global” Strategy rolled out, expanded and supported by economic diplomacy; further support to OFDI. China increases soft power. Dramatic increase in OFDI over the period: Global financial crisis (2007-2008): a turning point; Major OFDI surge; wave of M&As; expansion in developed countries. 2014: China No. 3 global investor. Rise of Chinese multinationals (size and leadership).	Strong OFDI support reaffirmed 2007: “Policy for Supporting Korean Firms to Invest Abroad; creation of “Committee for Global Business Operation” chaired by Prime Minister. Network of supporting agencies (Korea Trade and Investment Agency – KOTRA with delegations all over the world; the Korea Export Import Bank, and others). Knowledge sharing program (KSP) launched by the government. Since 2006, OFDI consistently exceeds inward FDI. 2003-2014, Korean OFDI outflows increase more than six-fold to \$28 billion.	Economic prosperity thanks to high commodity prices, partly driven by Chinese demand. Support to OFDI through BNDES “National champions” strategy, including global champions. Growing role of Global Latins in regional M&As Brazil’s OFDI rises till mid-2000s; erratic afterwards; downward trend. Latin America’s OFDI falls much below Asia’s OFDI.
Phase FIVE Commodity boom ends; China OFDI surge continues (2015– now)		
Large OFDI continues; Chinese firms on a major acquisition spree. 2016: restrictions on capital outflows/M&As announced. 2017: “Guidelines on outward investment”; clarifies controls and restrictions on OFDI.	Stable and strong OFDI government support. OFDI continues rising.	Strongly affected by fall in commodity prices; Economic, political and ethical crises. National champions in the eye of the storm. Governmental support for OFDI unclear. Low OFDI; negative in 2016. China becomes major investor in Brazil.

NOTES

¹ “A look back at Deng Xiaoping’s speech in Southern China two decades ago”, by He Qinglian, January 2012, at <http://hqlenglish.blogspot.com/2012/02/deng-speech-20th-anniversary.html>; “The symbolism of Xi Jinping's trip south” by Zhuang Chen, BBC News at <http://www.bbc.com/news/world-asia-china-20662947>.

² UNCTAD (2007). “Global Players from Emerging Markets: Strengthening Enterprise Competitiveness through Outward Investment, United Nations, Geneva. Available at: www.unctad.org/en/Docs/iteteb20069_en.pdf and Jung, Min Kim and Dong Kee Rhe (2009). “Trends and Determinants of South Korean Outward Foreign Direct Investment.” *The Copenhagen Journal of Asian Studies* 27(1): 126-154.

³ Based on data from UNCTAD, <http://unctadstat.unctad.org/wds/TableView/tableView.aspx>.

⁴ Nicolas, Françoise; Stephen Thomsen & Mi-Hyun Bang (2013). “Lessons from Investment Policy Reform in Korea.” *OECD Working Papers on International Investment*.

⁵ See for instance: Chen Jianfu, “The Revision of the Constitution in the PRC”, *China Perspectives* [Online], 53 at <http://chinaperspectives.revues.org/2922>; Amendment 4 to the Constitution of the People’s Republic of China, at <http://www.lehmanlaw.com/resource-centre/laws-and-regulations/general/amendment-4-to-the-constitution-of-the-peoples-republic-of-china-2004.html>; “China’s next revolution, The Economist, May 8, 2007, <http://www.economist.com/node/8815075>.

⁶ The Belt and Road Initiative (BRI), formerly known as One Belt, One Road initiative was launched by the Chinese government in 2013. It aims to foster integration and cooperation by building infrastructure, developing cultural exchange, and increasing trade among countries in Asia, the Middle East and North Africa along two axes: the Silk Road Economic Belt (essentially the original Silk Road) and the 21st Century Maritime Silk Road.

On the initiative, see for instance D. Dollar, “China's rise as a regional and global power: The AIB and the 'one belt, one road'” <http://www.brookings.edu/research/papers/2015/07/china-regional-global-power-dollar>, and S. Kennedy and D. Parker, “Building China’s ‘One belt, One Road’”, Center for Strategic and International Studies (CSIS), April 2015, <https://www.csis.org/analysis/building-china's-one-belt-one-road>.”

⁷ The original law, which was passed in 2011, included benefits for only 15 sectors. This grew to 56 sectors due to political pressure. Originally, federal law in Brazil required executives to contribute 20% of worker’s wages to the social security fund (INSS). This was reformed. The new tax obligation is calculated differentially (depending on sector) as a percentage of total revenue (varying depending on sector), but that excludes external revenue. The exclusion of external revenue has provided an incentive to companies to invest abroad.

⁸ TJLP: “Taxa de Juros de Longo Prazo” (or: Long Term Interest Rates).

⁹ SELIC stands for Sistema Especial de Liquidação e Custodia (SELIC), i.e. Special Clearance and Escrow System. The SELIC rate, the Brazilian Central Bank’s overnight rate, is the basic interest rate used by banks to determine their own lending rates.

¹⁰ The total value in Real of these loans: \$513 billion *reals*. See BNDES at: http://www.bndes.gov.br/SiteBNDES/export/sites/default/bndes_pt/Galerias/Arquivos/empresa/download/2015_captacoes_tesouro.pdf.

¹¹ The high interest rates in Brazil also made financing abroad cheaper. During the period, firms in Brazil received large amounts of loans from their overseas subsidiaries; such intercompany loans reduce the value of country’s OFDI flows as per the methodology of the IMF Balance of Payments Manual. See for instance EMR 2016 and ECLAC 2015.

¹² See for instance “China to clamp down on outbound M&A in war on capital flight” Financial Times, November 29, 2016 <https://www.ft.com/content/2511fa56-b5f8-11e6-ba85-95d1533d9a62>; “The buying spree behind Beijing’s investment curbs”, Financial Times, November 29, 2016, www.ft.com/content/2f6849ba-b61b-11e6-961e-a1acd97f622d; “Chinese outbound M&As: 4 key questions”, Latham and Watkins LLP May 2017, <http://www.latham.london/2017/05/chinese-outbound-ma-4-key-questions>

¹³ See for instance “China issues guidelines on overseas investments”, August 21, 2017 <http://www.kwm.com/en/au/knowledge/insights/china-issues-guidelines-overseas-investments-capital-restricted-prohibited-20170821>; “China Steps Up Warnings Over Debt-Fueled Overseas Acquisition” New York Times, 18 August, accessed September 13, 2017, <https://www.nytimes.com/2017/08/18/business/dealbook/china->

[companies-deals-debt.html?mcubz=1](#), “New Rules Offer Clarity On China's Outbound M&A Crackdown” by Chelsea Naso, Law360, New York, August 22, 2017, <https://www.law360.com/articles/956390/new-rules-offer-clarity-on-china-s-outbound-m-a-crackdown> and “China State Council Rules on Outbound Investment” at <https://www.mingtiandi.com/real-estate/china-real-estate-research-policy/china-state-council-circular-on-overseas-investment-full-text/>.

¹⁴ <https://www.mingtiandi.com/real-estate/china-real-estate-research-policy/china-state-council-circular-on-overseas-investment-full-text/>.

¹⁵ Based on data from S&P Capital IQ database, accessed on 30 June 2017. See also chapter 1 in this report.

¹⁶ See for instance L. Casanova and A. Miroux “Chinese Multinationals, Global Acquirers?”, AsiaBrink, March 21, 2017, at <http://www.brinknews.com/asia/chinese-multinationals-global-acquirers/>; “Juncker to lay out plans for screening foreign takeovers in EU”, Financial Times, September 11, 2017, <https://www.ft.com/content/b59475aa-9701-11e7-b83c->; LES ECHOS – L’Europe fait un premier pas vers la supervision des investissements étrangers; <https://www.lesechos.fr/monde/europe/030565989233-leurope-fait-un-premier-pas-vers-la-supervision-des-investissements-etrangers-2114358.php>; “Le buzz des Etats-Unis: Trump bloque l’acquisition d’une entreprise américaine par des fonds chinois” <https://www.lesechos.fr/monde/etats-unis/030562220009-le-buzz-des-etats-unis-trump-bloque-lacquisition-dune-entreprise-americaine-par-des-fonds-chinois-2114215.php>.

¹⁷ A considerable number of articles have been published over the years by academics from universities all over the world as well as research centers and international organizations—such as the OECD, the World Bank and other development banks such as the Asian Development Bank and the African Development Bank, various bodies of the United Nations system (such as UNCTAD and ECLAC) and the IMF just to name a few.

¹⁸ As regards the impact of OFDI on home economies broadly speaking (essentially dealing with developed economies) see among others: Braconier et al. (2001); Chédor et al. (2002); Egger et al. (2001); Federico and Minerva, G. A. (2008); Gammeltoft et al. (2010); Globerman et al. (2000); Herzer (2008 and 2010); Hijzen et al. (2011); Kokko (2006) and Lipsey (2004), Mowery and Oxley (1995) and Sauvart (2012). As regards more specifically home country impact in the case of emerging and developing economies, see for instance: Buckley et al (2010); Chen et al (2012); Cuervo-Cazurra and Pananond (2015); Cuervo-Cazurra and Ramamurti (2014), Debaere et al (2010); Deng (2004); Dunning et al (2008); Dunning and Lundan, (2008); Globerman and Shapiro. (2008); Globerman and Chen (2010); Gorynia et al. (2015); Huang and Wang (2009); Knoerich (2017); Lee (2002); Mendes Borini et al (2012); Moran (2008); Narula and Dunning, (2000 and 2010); Sauvart (2008); Tang (2015); Trąpczyński and al. (2015); UNCTAD. (2006); Wen-Ching Hsu (2011) and Zhao (2010).

¹⁹ As per this classification, firms invest abroad either 1) to get access to natural resources (resource seeking FDI); 2) to serve foreign markets, thereby enhancing economies of scale (market seeking); 3) to lower production costs by accessing cheaper factors of production, such as labor (efficiency seeking); or 4) to acquire strategic assets such as technology and know-how, distribution and brands (strategic asset seeking). (Dunning, 1993, and Dunning and Lundan, 2008).

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Chapter 3

Emerging Multinationals, Growing and Conquering the World

- 3.1. Introduction
- 3.2. Representation of Major Economies in the Global Fortune 500
- 3.3. Greenfield FDI Projects and International Presence
- 3.4. Comparing G-7 and E20 in Revenues
- 3.5. Profitability of Selected Industries
- 3.6. Market Capitalization, Capital Structure and Valuation
- 3.7. Capital Structure Analysis
- 3.8. Conclusion

Executive Summary

While the previous two chapters analyzed emerging markets' increased clout in the global economy, this chapter focuses on Emerging Market Multinational Corporations (eMNCs), and their standing vis-a-vis their counterparts in the G-7 and other developed economies. In many ways, the rise of emerging multinationals at the turn of the millennium parallels the emergence of U.S. companies after WWII. The rise of Chinese companies has been particularly swift: their participation in the Fortune Global 500 tripled in just eight years, and now nears the U.S. total of 133 companies—a remarkable feat considering most Chinese companies were founded post-1950. While other emerging economies have not yet matched China, there is no doubt that the phenomenal rise of eMNCs threatens the hitherto dominant position enjoyed by the G-7 multinationals.

3.1. Introduction

After reviewing the rise of emerging markets and their role in investment flows in Chapter 1, we examined how emerging markets' investment policies vary in scope, scale and even timing in Chapter 2. In this chapter, we look at the implications of such policies through an examination of the growth of emerging market multinationals¹ (eMNCs), which we define as multinational companies headquartered in an emerging market. As we shall see, the rise of emerging multinationals at the turn of the millennium is reminiscent of the emergence of U.S. companies after WWII in many ways.

As in last year's report (Casanova, L.; Miroux, A. 2016), we draw on the Fortune Global 500 database that has existed in its current form since 1995² and provides data for chronological comparisons for the biggest companies in the world, ranked on the basis of revenue. It is not easy to find reliable data on Emerging Multinationals and our exploration of several databases suggested that the Fortune Global 500 was the most suitable for our comparative analysis. Although not all large companies listed are international, most of them are. We focus on the largest companies rather than the most internationalized mainly for the following three reasons. First, size matters: the level of internationalization does not fully reflect the true importance and potential impact of large enterprises in the world economy, in terms of research and development or as future industry leaders. Second, eMNCs, generally, do not perform as well in rankings as companies from the U.S., E.U., and Japan based on the level of internationalization. EMNCs' international assets are smaller because the companies are typically younger (see Figure 3.5) than their U.S. counterparts and their internationalization began later than the companies from the triad, in some cases within the last decade. Finally, when we look at the ratios of international to total assets/employees/sales, the ranking favors smaller companies and smaller economies.

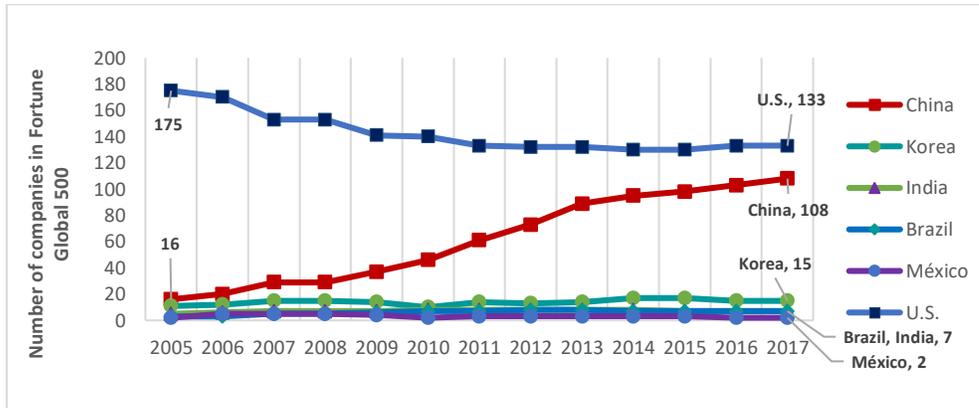
An example of the latter discrepancy is the Chinese electricity company State Grid, the second-largest company in the world by revenue after U.S.-based Wal-Mart. State Grid developed ultra-high voltage technology that is able to reduce energy losses during transmission, thereby facilitating the rapid transmission of energy over long distances. Besides the integration of national grids in China, this technology would facilitate grid interconnection between countries. (See box in Chapter 7 by OECD). The company, which is present in 13 countries and invests not only in South-East Asia but also in Brazil and Greece, envisions a Global Interconnection scheme that would create a super-grid spanning the world. State Grid does not appear in rankings of the most international companies in the world, but is rapidly expanding internationally, with far-reaching consequences.

3.2. Representation of Major Economies in the Global Fortune 500

Only 17% of the world's countries are represented in the 2017 Fortune Global 500, almost half of which only have one company listed. As demonstrated in Figure 3.1, U.S. representation has dropped for most of the past decade, from circa 180 companies about 10 years ago to 133 today. Meanwhile, the data show that China's presence first surged in the 2000s, further accelerating since

2008, approaching a convergence with the U.S.' volumes. In contrast to China, other major E20 countries like Brazil, Mexico and India have stagnated during this period.

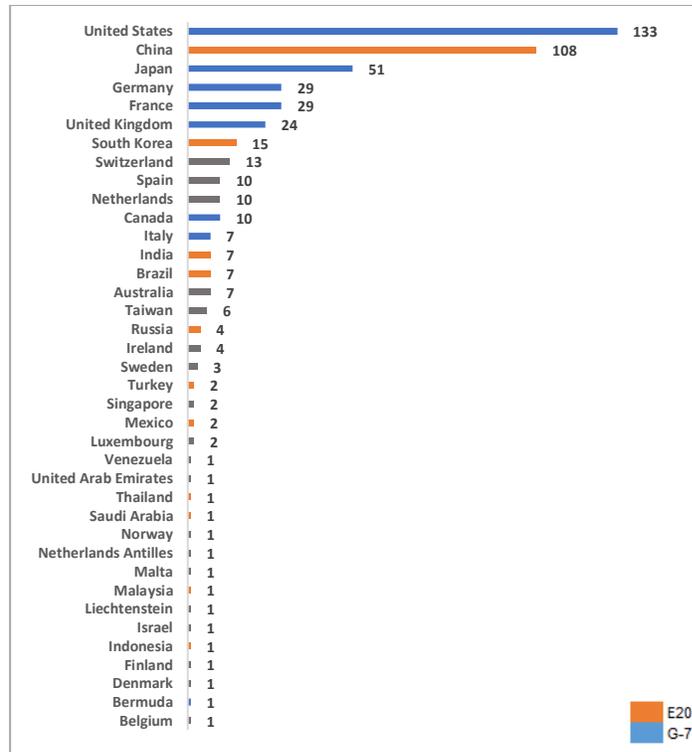
Figure 3.1: Growth in Representation on Global Fortune 500 (2005-17)



Source: Authors' analysis based on Fortune Global 500 data 2017, accessed by August 2017.

Figure 3.2 provides a more comprehensive picture of the 38 countries included in the ranking as well as their relative representation. Advanced nations continue to lead the ranking relative to E20 countries, with the significant exceptions of China (2nd) and, to a lesser extent, South Korea (7th with 15 companies). Today, of the Fortune Global 500 nearly a third (149 firms) are from the E20 emerging economies. Half of the E20 countries are home to companies in the Fortune Global 500.

Figure 3.2: Countries Represented in the Fortune Global 500 (2017)

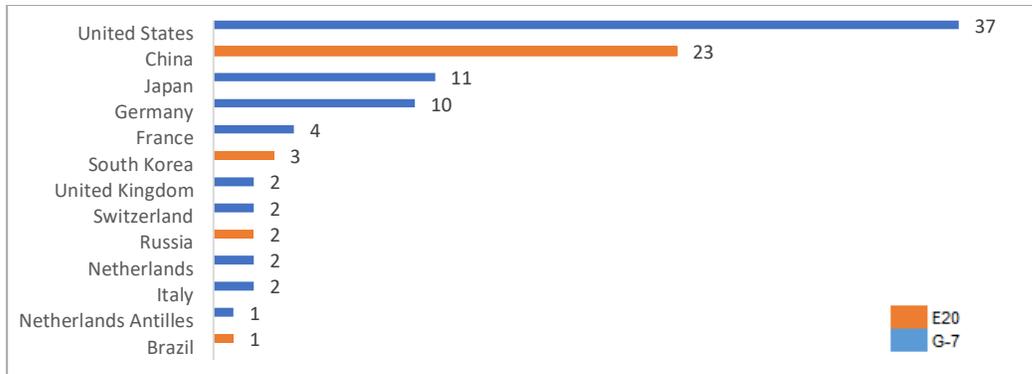


Source: Authors' analysis based on Fortune Global 500 data 2016, accessed by August 2017.

As seen in Figure 3.2, China's presence in the Fortune Global 500 is substantial and is growing once again relative to previous years. Indeed, China was the only E20 country that saw an increase in the number of companies in the Global 500: from 98 in 2015, to 103 in 2016 and 108 in 2017. The others either observed no change or a faced a decline in representation in the last few years. Korea had 15 entries, India and Brazil had seven each, and Russia four, while Turkey and Mexico each had two. Indonesia, Saudi Arabia, Thailand, and Malaysia each had one, completing the representation of 11 of the E20 countries in the Fortune Global 500 2017.

Not only do the E20 have a significant presence in the Fortune Global 500 overall, a number of E20 firms figure in the very top ranks as illustrated in Figure 3.3 below. Here again, China leads the pack.

Figure 3.3: Countries Represented in the Top 100 of the Fortune Global 500 (2017) excluding Financial Companies

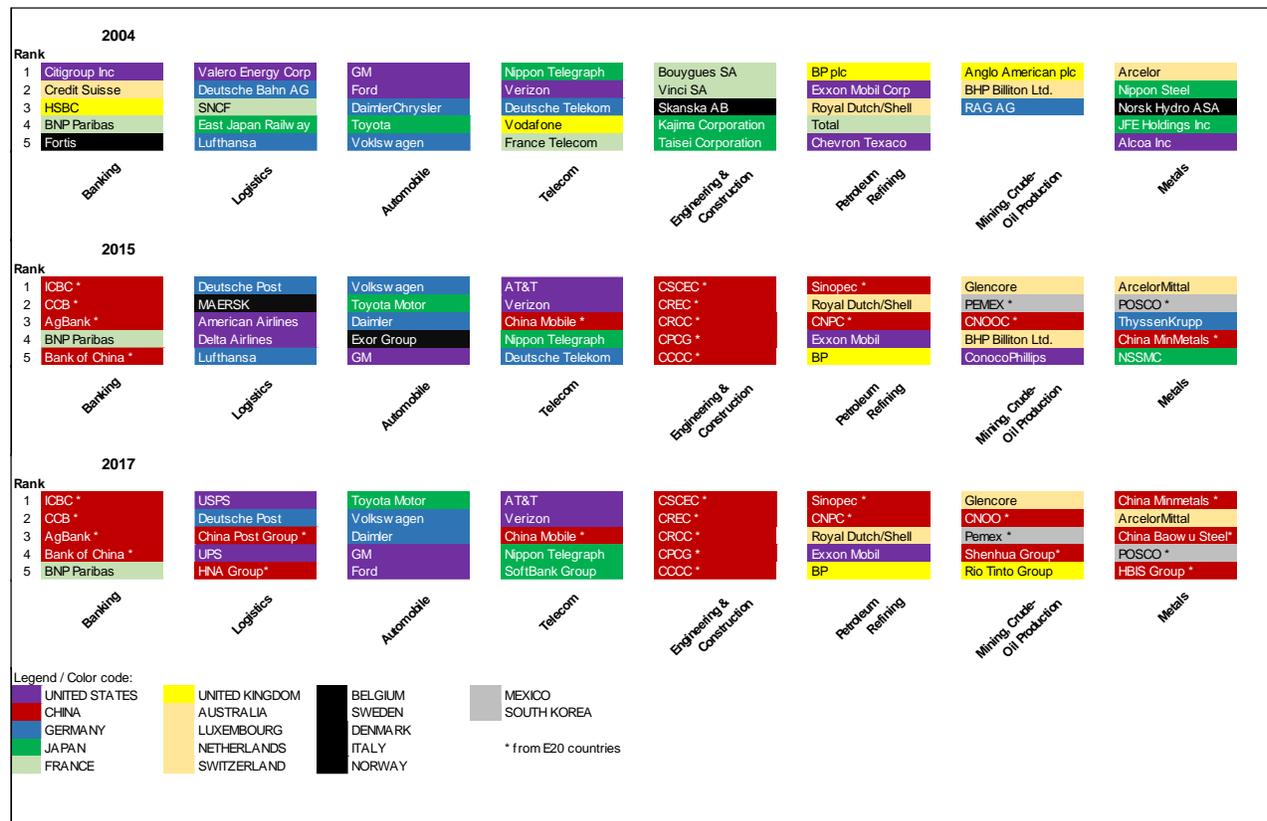


Source: Authors' analysis based on Fortune Global 500 data, accessed by August 2017.

A closer look at the top 20 firms of the E20 countries shows the growing and overwhelming presence of Chinese firms (Annex 3.1): they make up 16 of the top 20 firms in the E20, and nine of the top 10 (up from 12 and seven in the 2015 rankings). Chinese energy firms are particularly prominent, occupying the second, third and fourth ranks in the world based on revenues. With respect to last year, of these 16 Chinese companies, nine have improved their rankings, six have fallen, and one stayed the same. Gazprom, a Russian company, and Brazil's Petrobras have lowered their score—both countries suffered currency devaluations with respect to the dollar, and the latter faced political turmoil as well. Russia also lost out in terms of the number of companies positioned in the top 20. In 2017, Russia only had one company listed in the top 20, compared to two in 2016 and three in 2015. Similarly, Mexico and Malaysia—which each had one firm listed in 2015—were not represented in the 2016 or 2017 top 20 E20 firms. In general, we see a fall in the presence of companies from other E20 countries except for China.

Building on the 2016 EMI report, Figure 3.4 considers the top five companies in eight major industries, confirming the global leadership positions attained by a number of emerging market firms. In 2016, three E20 firms entered this group of leaders, while in 2017, more than half are from emerging economies, with Chinese companies leading again. This trend is not, however, consistent across sectors: while the top five positions in the sectors of Engineering and Construction, Banking, and Metals are dominated by E20 companies, in 2017, the Automobile sector remains exclusive to G-7 companies.

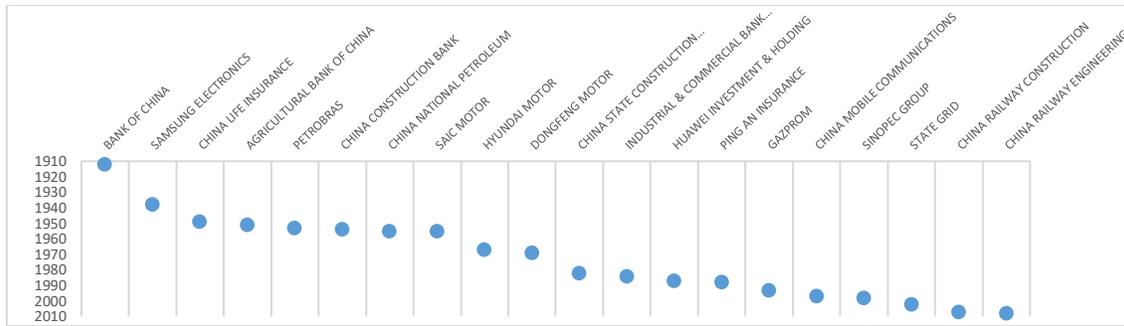
Figure 3.4: Top Five Companies and Country of Origin Across Different Industries in the Fortune Global 500 in 2004, 2015 and 2017



Source: Authors' analysis based on Fortune Global 500 data 2004-2017, accessed by August 2017

The increasing power of eMNCs is all the more remarkable considering their relative youth. Most were founded during one of two waves, the first in the 1950s and the second after 1982 (see Figure 3.5), and half of them are less than 30 years old. A comparison of the founding year of top Chinese and American companies (Table 3.1) in four key industries (Automobile, Banks, Chemical and Oil) strikingly illustrates this difference: while the American companies are more than 100 years old, their Chinese counterparts are typically between 20 and 60 years old.

Figure 3.5: Founding Year of Top E20 Emerging Firms (Fortune Global 500 2017)



Source: Authors' analysis based on Fortune Global 500 data 2004-2017, accessed by August 2017

Table 3.1: Foundation Year of Top Chinese and American Firms in Four Industries

Foundation Year (U.S. vs China biggest company in the sector by revenues)	U.S.	China
Automobile	General Motors 1908	SAIC Motor 1955
Banking	JP Morgan 1799	ICBC 1984
Chemicals	Alcoa 1888	China Minmetals 1950
Oil	Exxon Mobil 1870	China Petroleum and Chemical Corporation 1998

Sinopec Group
A completely vertically integrated energy conglomerate

China Petroleum & Chemical Corporation is a state-owned energy and chemical company with oil and gas, and chemical activities in China and internationally. The company was founded in 2000 and is headquartered in Beijing. China Petroleum & Chemical Corporation is a subsidiary of China Petrochemical Corporation.

The company is fully vertically integrated and its operations cover the entire value chain from oil exploration and extraction to final marketing and distribution of petrochemical products. The company explores and develops oil fields, as well as producing and selling crude oil and natural gas. Further downstream, it processes and purifies crude oil into refined petroleum products. It also owns and operates oil depots and service stations. In addition, the company manufactures and sells petrochemical products such as basic organic chemicals, synthetic resins, fiber monomers and polymers, rubbers, and chemical fertilizers. Further, it is involved in the pipeline transportation of crude oil and natural gas. Additionally, the company engages in the import and export of petroleum and gas and petroleum and chemical and other commodities. It is also involved in research, development, and application of technologies and information in the field of petroleum energy.

This company has extensive investments, primarily in Africa, sometimes as result of acquiring subsidiaries of major oil companies. It is present in Egypt, Gabon, Sudan, Ethiopia, Angola, Nigeria and Cameroon among others; outside of Africa it is in Latin America (Ecuador, Venezuela and Brazil) and Kazakhstan among other countries.

Fortune Global500 2017: 3rd

Ownership: State-owned

Founded: 2000

Chairman: Wang Yupu

Industry: Energy

Employees: 713,288

Revenue: \$267.5bn

Assets: \$310.7bn

Ticker: SEHK (386)

Bank of China

The largest lender to non-institutions and second largest lender in China.



Bank of China Limited, together with its subsidiaries, provides a range of banking and related financial services in China and internationally. It was founded in 1912 and is headquartered in Beijing. As of December 31, 2016, it had a total of 11,556 institutions, of which 10,989 are based in Chinese mainland and 578 in Hong Kong, Macau, Taiwan, and other countries.

The company operates in six segments: Corporate Banking, Personal Banking, Treasury Operations, Investment Banking, Insurance, and Other Operations. Its Corporate Banking segment offers current accounts, deposits, overdrafts, loans, trade-related products, credit facilities, foreign currency, derivatives, and wealth management products to corporate customers, government authorities, and financial institutions. Its Personal Banking segment provides savings deposits, personal loans, credit and debit cards, payments and settlements, wealth management products, as well as funds and insurance agency services to retail customers. The company's Treasury Operations segment is involved in foreign exchange transactions, customer-based interest rate and foreign exchange derivative transactions, money market transactions, proprietary trading, and asset and liability management. Its Investment Banking segment offers debt and equity underwriting and financial advisory, stock brokerage, investment research and asset management, and private equity investment services, as well as securities trading. The company's Insurance segment underwrites general and life insurance products and provides insurance agency services. It is also involved in the aircraft leasing business.



Fortune Global500 2017: 42nd

Ownership: Public

Founded: 1912

Chairman: Chen Siqing

Industry: Financials

Employees: 308,900

Revenue: \$113.7bn

Assets: \$2,600bn (5th)

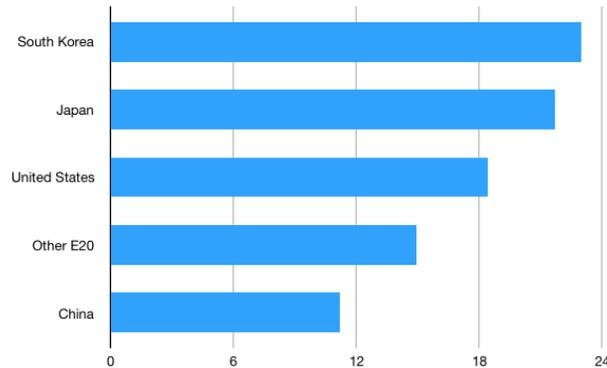
Ticker: SEHK (3988)

3.3. Greenfield FDI Projects and International Presence

Announced Greenfield FDI projects illustrate the E20 firms' expanding international presence (see data presented in Chapter 1). Using data from January 2003 to July 2017 published by fDiMarkets, we compared the average number of countries in which E20, U.S. and Japanese companies have announced projects over the period (see Figure 3.6). The results suggest that E20 firms have a sizable international presence. Though these firms announced projects in fewer countries than did Japanese or American firms, the gap is not very large. Among the E20, Korea has quite a high average number of targeted countries, followed by the "Other E20" group, with China lagging behind.

Last year in the Emerging Market Report (Casanova, L.; Miroux, A. 2016), we considered the number of countries in which firms are present based on data from S&P Capital IQ, and found similar trends. Data are necessarily different since the fDi Market database covers only Greenfield FDI, while S&P Capital IQ covers other forms of FDI entry in addition to Greenfield. Besides, fDi Market's data refer to announced projects while those published by S&P capital IQ relate to actual activities. Keeping in mind the differences between the two databases, one can note that both results converge (see Table 3.2 below), suggesting that the global footprint of emerging market multinationals is larger than expected.³

Figure 3.6: Average number of countries in which companies from South Korea, Japan, United States, E20 & China are present with Greenfield projects



Source: Authors' analysis based on fDiMarket

Another measure of internationalization is to look at the number of stock exchanges on which companies are listed (See Table 3.2). Here again, the Americans lead the way with an average of 5.4 stock markets, followed by other E20 companies⁴ and Japanese firms. China is behind with only two on average, usually Shanghai and Hong Kong (or U.S.). This may be explained by the fact that these companies have only been listed recently.

Table 3.2: Firms' International Presence by Average Number of Stock Markets Where Firms are Listed and Countries Where Firms are Present

Group or Country	Average Number of Stock Markets Where firms are Listed	Average Number of Countries where firms are present (fDI Markets 2017)	Average Number of Countries Where Firms are present (Capital IQ, EMR 2016)
Other E20	3.6	15	19
China	2.0	11	10
Japan	3.2	22	26
Korea	2.3	23	17
USA	5.4	18	28

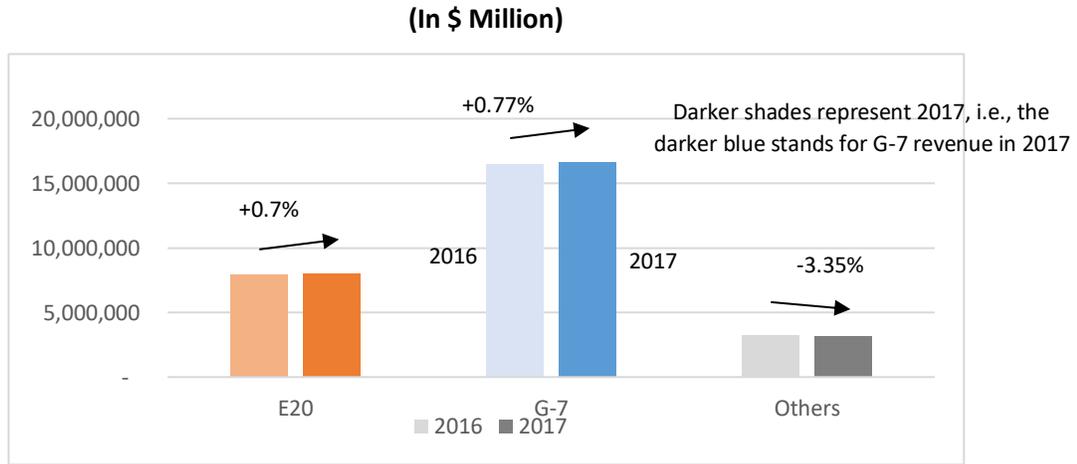
Source: Authors' analysis based on fDiMarket data and EMR 2016

3.4. Comparing G-7 and E20 in Revenues

As Figure 3.7 demonstrates, both G-7 and E20 firms in the Fortune Global 500 companies observed a slight increase in revenue in 2017 relative to 2016. Still, as illustrated by Figure 3.8 on profit margin⁵ distribution, the largest of the E20 are less profitable than their G-7 counterparts: almost 70% of the E20 firms have profit margins below 5% versus about 55% in the case of the G-7 firms. The

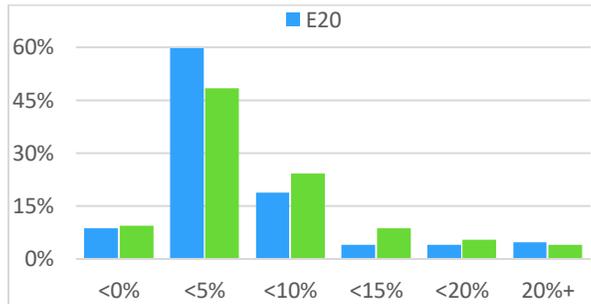
difference is even more striking when one compares, for instance, China and the U.S., for which the share of companies with profit margins inferior to 5% are 73% and 46.3% respectively (see Figure 3.9).

Figure 3.7: Change in Total Revenue of Companies in Fortune Global 500 (2016 vs. 2017)



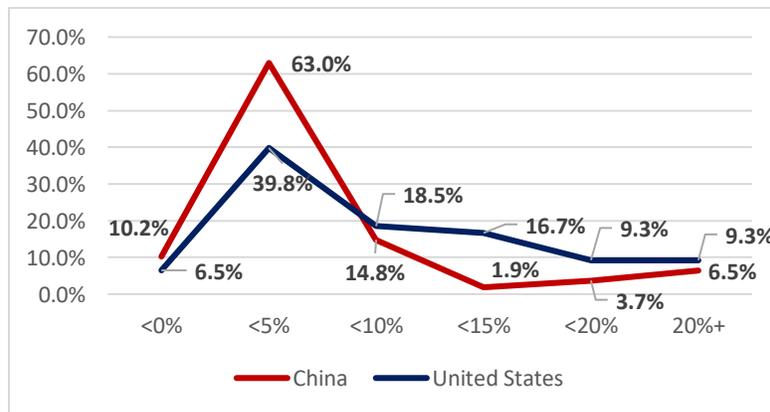
Source: Authors' analysis based on Fortune Global 500 data 2016, accessed by August 2017.

Figure 3.8: Profit Margin Distribution of Top 145 Companies from E20 & G-7 (Fortune Global 500 2017)



Source: Authors' analysis based on Fortune Global 500 data 2016, accessed by August 2017.

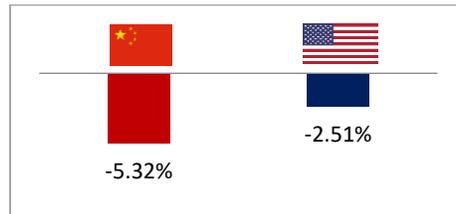
Figure 3.9: Profit Margin Distribution between U.S. and Chinese Companies



Source: Authors' analysis based on Fortune Global 500 data 2016, accessed by August 2017.

Figure 3.10 juxtaposes the average (non-weighted) change in profits for top companies from China versus the U.S. As shown below, the average profit change is negative for companies from both China and the U.S., but Chinese companies have decreased profits more than American ones.

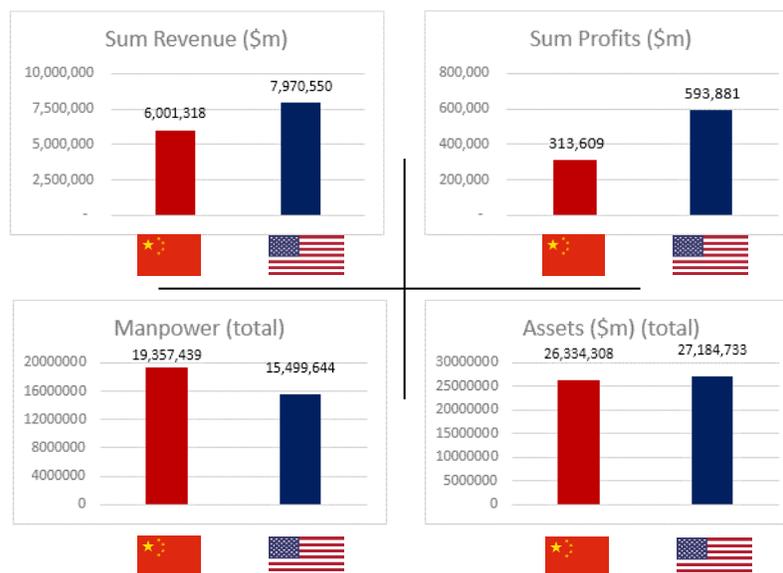
Figure 3.10: Average Change in Profits (Non-weighted) of the Top Companies from China (108 including Hong Kong) vs. U.S. Top 108 Companies.



Source: Authors' analysis based on Fortune Global 500 data 2016, accessed by August 2017.

Figure 3.11 further extends the comparative analysis to revenue, number of employees and assets for China and the U.S. As shown below, while the top-ranked 108 companies from China have more or equivalent assets and labor on the payroll than those from the U.S., they continue to generate less revenue and approximately half the profit of their U.S. counterparts. As we have seen in Figure 3.9, the profit margins of Chinese companies are lower than those of U.S. firms; their return on assets⁶ (profit to asset ratio) is also lower than that of U.S. firms (1.2% v. 2.2%). More importantly, the same gap exists in return on employment (1.6% for Chinese firms versus 3.8% for U.S. firms), which is not necessarily surprising given that enterprises from Asian emerging and developing economies have traditionally been more labor-intensive than their developed-country counterparts. Figure 3.11 shows the power of American companies, which perform better than Chinese companies on all dimensions measured.

Figure 3.11: Comparison of Chinese* and U.S. Companies Along Four Variables: Aggregated Revenues, Profits, Labor and Assets (Fortune Global 500 2017)



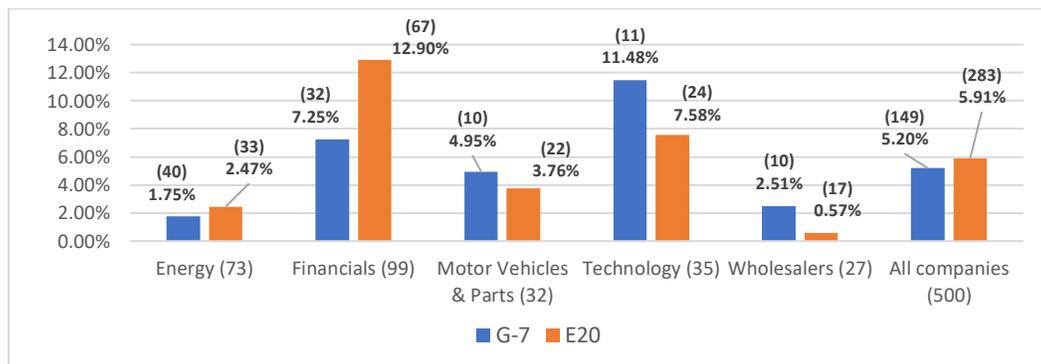
* including Hong Kong Source: Authors' analysis based on Fortune Global 500 data 2016 accessed, by August 2017.

3.5. Profitability of Selected Industries

We next examine margins and return indicators to compare firms' efficiency and operations. This serves as an introduction to eMNCs 'low-cost' strategy in the next chapter.

In the figures below, we examine both Gross Profit Margins and Return on Assets (ROA) indicators for selected industries.

Figure 3.12: Gross Profit Margin in Companies from G-7 versus E20 in Selected Industries* (Fortune Global 500 2017)



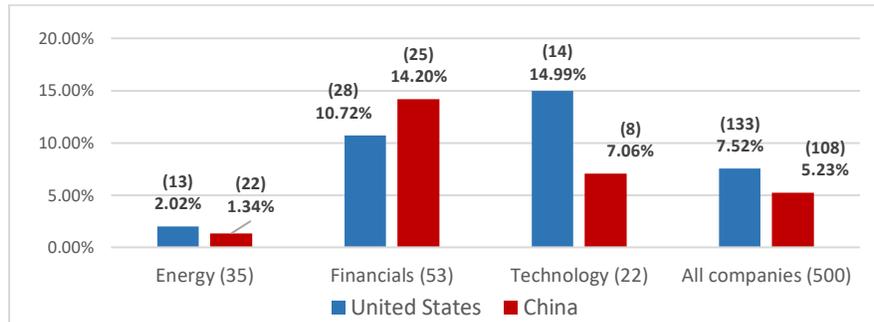
* Industries selection criteria: More than 25 companies per industry and more than 10 companies by industry for each group (either G7 or E20). Number of companies in parenthesis.

Source: Authors' analysis based on data from S&P Capital IQ—Fortune Global 500 Financials.

We observe in Figure 3.12 that the G-7 companies have higher margins than the E20 companies in Technology, Wholesale and Motor Vehicles and Parts. There are, however, two sectors in which this is not the case: Financials (where the profit margins of E20 companies are significantly higher) and Energy. This can be explained partly by the strong presence of SOEs in those industries in China, and by the high profitability of the Chinese banking sector as a result of the Chinese authorities' financial policies and high savings rates in China.⁷

A comparison of profit margins at the country-level between the U.S. and China (Figure 3.13), the two countries with the most firms in the Fortune Global 500, shows that the gap in the Technology industry between these two countries is quite wide, much wider than when comparing the E20 and G-7. In addition, while the U.S. clearly has better profit margins than its own group's average in all the selected industries, this is not the case for China. Financials is the only sector in which China has a better profit margin than the E20 average.

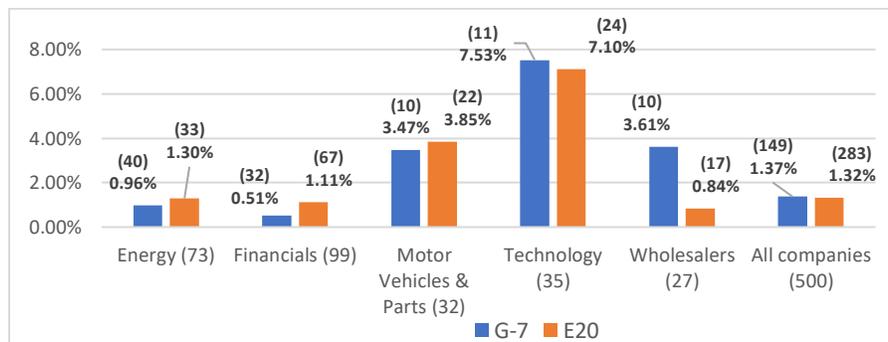
Figure 3.13: Gross Profit Margin of Companies from China versus U.S. in Selected Industries* (Fortune Global 500 2017)



* Industries selection criteria: More than 25 companies per industry and more than 10 companies by industry for each group (either G-7 or E20). Number of companies in parenthesis.

Source: Authors' analysis based on data from S&P Capital IQ—Fortune Global 500 Financials.

Figure 3.14: Return on Assets of Companies from G-7 versus those from E20 in Selected Industries* (Fortune Global 500, 2017)



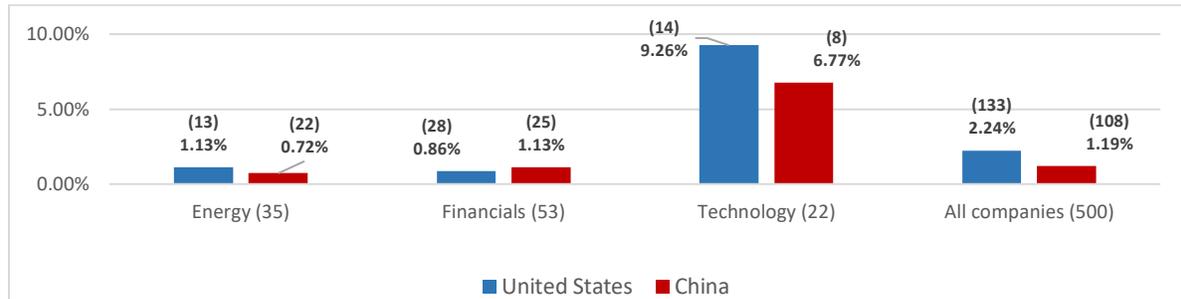
* Industries selection criteria: More than 25 companies per industry and more than 10 companies by industry in each group (either G-7 or E20). Number of companies in parenthesis.

Source: Authors' analysis based on data from S&P Capital IQ—Fortune Global 500 Financials.

The average ROA of the G-7 and E20 firms in the Fortune Global 500 are not significantly different: 1.37% versus 1.32% as illustrated in Figure 3.14. Among the selected industries, the exception is “Wholesalers”, for which the G-7 has the advantage in asset-efficiency. For both groups, the Tech industry is clearly the most profitable per dollar invested in assets.

While the gap between the ROA of the G7 and the E20 is small overall, there is a significant difference between the ROA of U.S. and Chinese firms in the Fortune Global 500 (Figure 3.15): at 1.19% the average ROA of Chinese firms is about half that of U.S. firms (2.24%). The difference is particularly marked in Technology. In addition, as in the case of profit margins, the U.S. stands out in its group, doing better than the G-7 average. This is not the case for China, whose return on assets is below its own group average.

Figure 3.15: Return on Assets of Companies from China and U.S. in Selected Industries* (Fortune Global 500, 2017)



* Industries selection criteria: More than 25 companies per industry and more than 10 companies by industry in each group (either G-7 or E20). Number of companies in parenthesis.

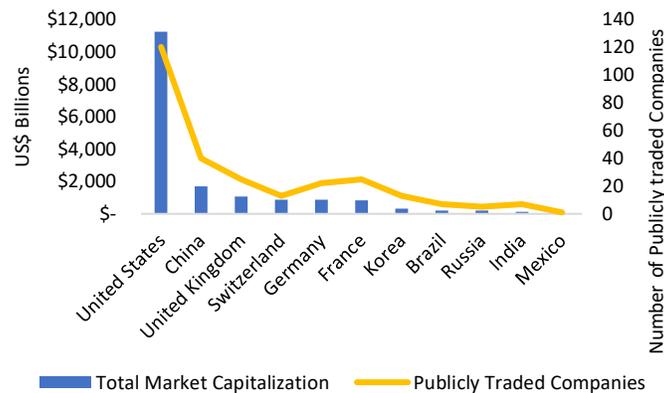
Source: Authors' analysis based in data from S&P Capital IQ—Fortune Global 500 Financials.

3.6. Market Capitalization and Valuation

In analyzing Market Capitalization and Total Enterprise Value we considered all available companies in Standard & Poor's Capital IQ database. For the capital structure, profitability and valuation analysis, we excluded companies classified within the financial services because of the difference in the way these companies operate, finance their activity and manage their assets and liabilities.

China is the second-largest country by Market Capitalization within the Global Fortune 500. According to Capital IQ in August 2017, Chinese Market Capitalization was around 15% of the U.S.' value at \$11,283 billion and has been achieved with one-third of the number of companies (40 Chinese versus 120 U.S. public companies) in the sample we studied. This result can be explained by the fact that the U.S. economy and company capital structure is heavily influenced by capital markets; two of the most important global Stock Markets (NYSE, NASDAQ) are in the U.S. Meanwhile, Chinese companies are younger and as yet do not rely as heavily on stock markets. Indeed, some of the biggest corporations, such as State Grid, are state-owned and do not trade on any stock exchange. The development of stock exchanges in China (see below), changes such as the recent inclusion of China in Morgan Stanley Capital International⁸ (MSCI) (which may encourage international pension funds to include Chinese stocks in their portfolios), and possible privatizations of Chinese SOEs might lead a greater proportion of China's largest corporations to trade on stock markets.

Figure 3.16 displays the average Total Market Capitalization for the public companies featured in the Fortune Global 500. Other than the U.S., only Switzerland presents a comparatively high average Market Capitalization per company: \$68 billion for Swiss firms versus \$93.6 billion for U.S. companies. The yellow line represents the total number of public companies included in the list.

Figure 3.16: Total Market Capitalization by Country for Publicly Traded Companies, Fortune Global 500

Source: Authors' analysis based on data from S&P Capital IQ—Fortune Global 500 Financials, accessed in July 2017 (latest data available).

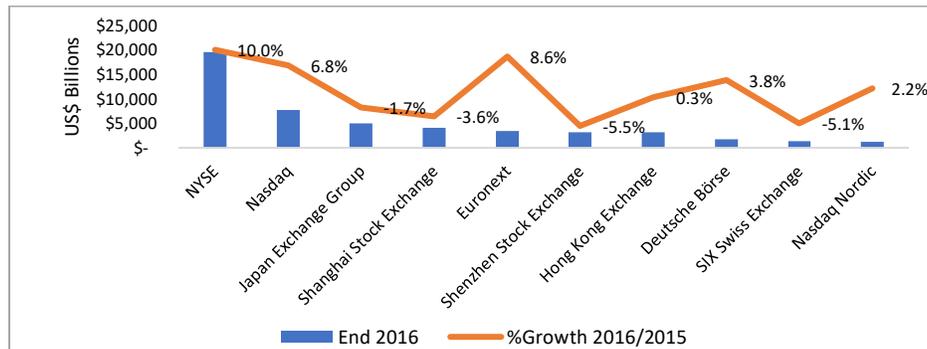
The average Market Capitalization for a Chinese company in the Fortune Global 500 is around \$42 billion—about 44% and 62% of the average market capitalization of American and Swiss companies, respectively. At the time we accessed the Capital IQ data (July 2016), the biggest Chinese company by market capitalization was ICBC with a Market Capitalization of \$223.6 billion, 16th in the world. The ranking of top 15 companies by market capitalization is overwhelmingly American, with 14 U.S. companies and Nestlé from Switzerland.

Overall, in 2016-2017 emerging markets' presence in the ranking of the top 100 firms by market capitalization declined. As shown in Figure 3.17, all of the previously ranked Brazilian companies dropped out as a result of the Brazilian political and economic crisis and China's presence decreased to eight companies within the top 100.

Figure 3.17: Number of Companies in the Top 100 based on Market Capitalization

Country	As of July 2016	As of July 2017
United States	51	56
China	10	8
United Kingdom	7	6
Brazil	6	0
France	5	3
Switzerland	3	3
Japan	3	3
Germany	3	8
Others	12	13

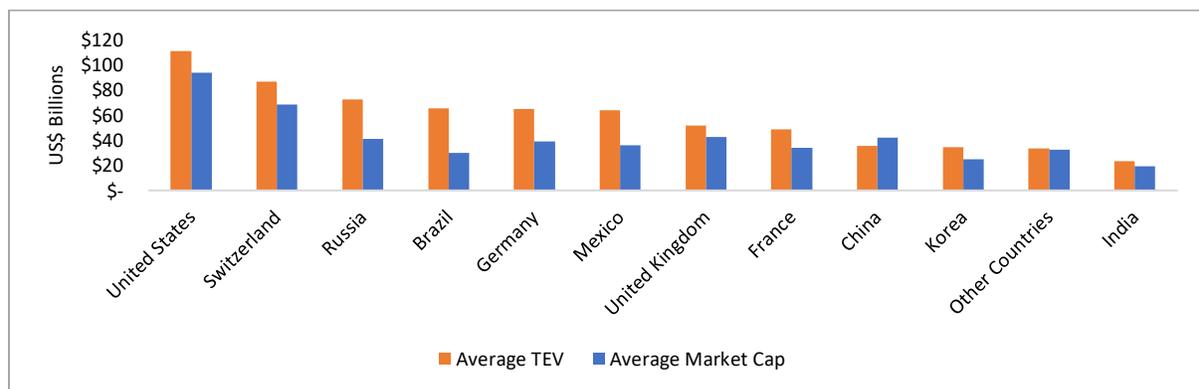
Source: Authors' analysis based on data from S&P Capital IQ—Fortune Global 500 Financials, accessed July 2017.

Figure 3.18: Total Value of Top 10 Stock Exchange Markets for 2016

Note: Excludes London Stock Exchange because it is not part of the World Federation of Exchanges.

Source: Authors' analysis based on data from World Federation of Exchanges, 2017. WFE Annual Statistics Guide 2016. Available at: <https://www.world-exchanges.org/home/index.php/statistics/annual-statistics>.

Three stock exchanges in China and Hong Kong (the Shanghai Stock Exchange, Shenzhen Stock Exchange and Hong Kong Exchange) are among the largest in the world, as illustrated in Figure 3.19. Besides the Chinese stock markets, all the other stock exchanges featured within the top 10 are from developed countries. This may contribute to Chinese firms' shifting their financing structures towards greater reliance on stock markets. Despite this possibility, growth in 2015-2016 was negative in terms of market capitalization for both the Shanghai and Shenzhen Stock Exchanges. In 2015, on Aug. 24 and 25 the Shanghai Stock Exchange lost 15.5% of its value, and again the following year, it lost 12.6%. In the first half of 2017, the Chinese stock market experienced gains, as have stock markets in other emerging markets. E20 Stock Markets (excluding Chinese ones) registered the highest growth rates in 2016: BOVESPA (Brazil) grew by 29%, Bolsa de Comercio de Buenos Aires by 39%, the Stock Exchange of Thailand by 23%, the Egyptian Exchange by 40%, and the Moscow Exchange by 31%, in dollar terms. This performance, however, is balanced by the fact that those markets had dropped significantly in previous years.

Figure 3.19: Average Total Enterprise Value⁹ and Market Capitalization by Country According to Companies in Global Fortune 500

Source: Authors' analysis based in data from S&P Capital IQ—Fortune Global 500 2017 Financials.

Total Enterprise Value (TEV)¹⁰ provides a more comprehensive valuation of a firm than Market Capitalization since, in addition to market capitalization, Total Enterprise Value also includes debt and preferred stocks minus excess cash and equivalents.

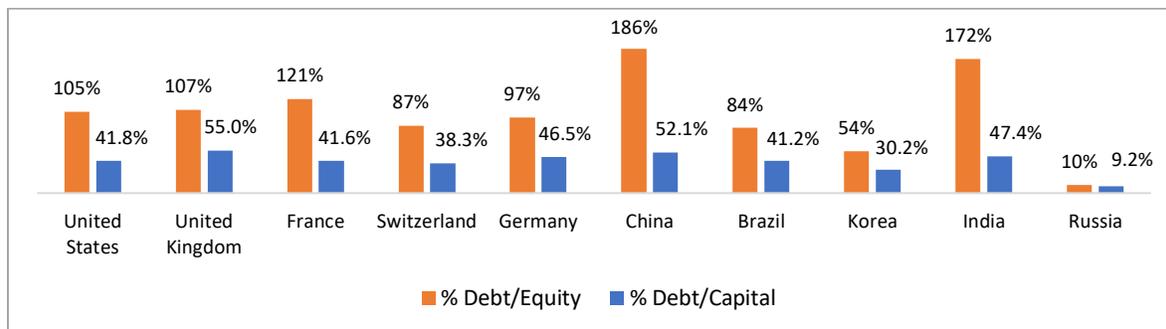
Figure 3.19 shows that the average TEV of the U.S. and Swiss firms are, not surprisingly, the highest of all countries represented in the Fortune Global 500. Interestingly, the difference between the average TEV and market capitalization is particularly high in the cases of Brazil, Mexico and Russia reflecting that the companies from those countries rely heavily on debt and hold less excess cash. E20 companies are not the largest by average TEV, but their valuations are closer to those of companies in developed economies than in the case of market capitalizations.

China is the only country that has a lower average TEV than Market Capitalization. This is due to the excess cash held by Chinese companies, largely for precautionary motives.¹¹ Excess cash represents a cost, but it is indicative of how Chinese companies operate in order to avoid financial default, especially in an era of slower growth.

3.7. Capital Structure Analysis

We see in Figure 3.21 that, on average, companies from emerging economies such as China rely heavily on debt compared to equity, partly explaining the differences in Market Capitalization observed above (see Figures 3.17 and 3.19). For India and China, the average debt to equity ratio is very high, though U.S. companies also rely on debt for several reasons: low interest rates, lower perception of risk and the wider availability of financing options.

Figure 3.20: Capital Structure Analysis by Country for Non-Financial Companies in the 2016 Fortune Global 500



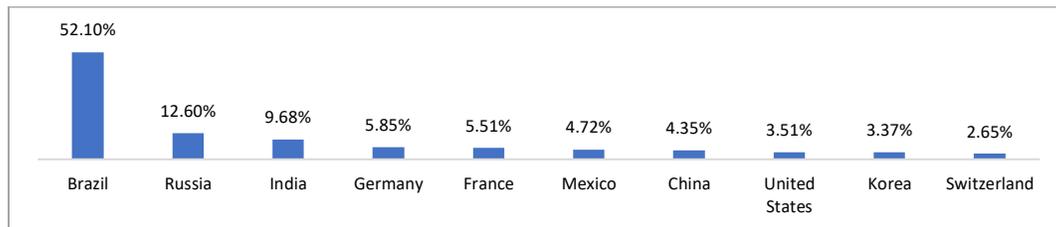
Note: Excludes financial services companies

Source: Authors' analysis based on data from S&P Capital IQ—Fortune Global 500 Financials 2016, accessed by July 2017.

The above results cannot be fully explained by the differences in interest rates in emerging economies (see Brazil, Russia and India in Figure 3.21) compared to Western countries (where the interest rates are comparatively quite low). China is a notable exception, where the low level of interest rates supports high debt-to-equity ratios. In addition, a number of the largest Chinese firms are SOEs, which do not rely on stock market financing. The cases of India and Brazil are more remarkable because

in spite of high lending rates (especially in Brazil), their debt to equity ratio is comparatively high, very high in the case of India. In both countries, stock exchanges are less developed. Brazilian multinationals' headquarters have also borrowed heavily through their subsidiaries abroad to circumvent the high interest rates prevailing at home.

Figure 3.21: Lending Interest Rate* (%) From Selected Economies with 2016 Data from the World Bank



*The lending rate is the bank rate that usually meets the short- and medium-term financing needs of the private sector. This rate is normally differentiated according to creditworthiness of borrowers and objectives of financing. The terms and conditions attached to these rates differ by country, however, limiting their comparability.

*Source: Authors' analysis based in data from World Bank (International Monetary Fund, International Financial Statistics and data files). Available at: <http://data.worldbank.org/indicator/FR.INR.LEND>, accessed in July 2017.

3.8. Conclusion

eMNCs have made their presence felt not merely in numbers but also in scale and scope, representing half of the five largest firms in major industries and increasing their global presence substantially. Despite this growth, notable differences remain between eMNCs and their G-7 counterparts. The profit margins of eMNCs are still generally lower than those of their developed market counterparts in the G-7, even if in a few very specific industries eMNC's results are similar or superior. Financing structures differ in every country, which may make maximizing profits less of a priority for eMNCs than for American companies, partly explaining the difference in profit margins between Chinese and U.S. firms. The average eMNC's return on assets is closer to that of their G-7 counterparts, though some industries maintain relatively high differences.

All in all, eMNCs are catching up to G-7 MNCs. Their increased power has enabled greater involvement in global mergers and acquisitions, as seen in previous chapters, and helped them to emerge among leading global brands (as illustrated in the following chapter). We will explore how eMNCs have leveraged their unique strengths and positions to become cost leaders in their industries and introduced the rest of the world to a whole new way of doing business.

As shown in this chapter and further explored in the next one, eMNCs operate with a different philosophy than Western multinationals whose focus has been on maximizing profits and value for shareholders. EMNCs have easier access to key resources such as cheap labor, and due to differences in cost structures, they may not need to optimize profits or productivity per employee as much as U.S. or European companies. SOEs are still prevalent in Emerging Markets (though their numbers are decreasing), and for those companies, profits are not necessarily as important as for private and public companies.

For the second consecutive year, we have shown that most of the highest-revenue companies have a significant international presence. Further studies will need to confirm these preliminary results.

NOTES

¹ EMI follows the UNCTAD definition of multinationals (or Transnational, the term used by UNCTAD) which states that ‘a transnational corporation is an enterprise that controls assets of other entities in countries other than its home country, usually by owning a certain equity capital state (usually 10% or more).’

² The ranking of international companies started earlier but is published in its current form only since 1995.

³ For more on this subject see Rugman, Alan and Quyen T.K. Nguyen (2014) “Modern International business theory and emerging market multinational companies”, in Cuervo-Cazurra and Ravi Ramamurti (2014) “Understanding Multinationals from Emerging Markets”, Cambridge University Press. Some authors consider a company to be multinational when it is present in three or more countries and has 10% foreign sales, as does Rugman. In this report, we follow UNCTAD’s criteria and consider a company to be multinational if it is present in a country beyond its home country. Further work considered has been Casanova (2009), Cuervo-Cazurra (2012), Dunning (2005), Fleury and Fleury (2012) and Guillén and García-Canal (2012).

⁴ Emerging multinationals typically go public in their home country stock market and then in the U.S. in the form of American Depositary Receipts (ADRs). Sometimes they choose the London stock exchange. Latin American companies also trade at the Bolsa de Madrid’s Latibex where they have the possibility of being listed in euros.

⁵ Refers to Gross Profit Margin defined as a company’s total sales minus its cost of goods sold (COGS), divided by total revenue, expressed as a percentage.

⁶ Return on Assets indicates how profitable a company is relative to its total assets. ROA gives an idea as to how efficient management is at using its assets to generate earnings.

⁷ As a result of the policy enforced by the Chinese Central Bank, Chinese banks have benefited from large spreads between lending and deposit rates.

⁸ As a consequence of the inclusion of China in the MSCI index in June 2017, Chinese stocks rallied to a new high in the following months. It remains to be seen if the rally will continue. Source; <https://www.ft.com/content/f648b8f6-550f-11e7-80b6-9bfa4c1f83d2>, accessed by August 2017.

⁹ Total enterprise value (TEV) is used to compare companies with varying levels of debt. $TEV = \text{Market Capitalization} + \text{Interest Bearing Debt} + \text{Preferred Stock} - \text{Excess Cash}$.

¹⁰ $TEV = \text{Market Capitalization} + \text{Interest Bearing Debt} + \text{Preferred Stock} - \text{Excess Cash}$. TEV is useful to compare companies with different capital structures (for instance with different levels of debt) since the value of a firm is unaffected by its choice of capital structure.

¹¹ See for instance, <https://www.bloomberg.com/news/articles/2016-08-02/china-inc-has-1-trillion-in-cash-that-it-s-too-scared-to-spend>, August 2, 2016.

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Annex 3.1: Top 20 E20 Companies in Fortune Global 500 (2017)

Rank 2017	Company	Industry	Revenue (\$M)	Profit Margin	Country of Ultimate Parent	Short Business Description	Year Founded	Ownership
2	State Grid	Utilities	\$315,199	3.04%	China	State Grid Corporation of China, a state-owned enterprise, constructs and operates power grids, primarily in China, the Philippines, Brazil, Portugal, Australia, Italy, etc. The company serves 1.1 billion people in 26 provinces, autonomous regions, and municipalities.	2002	State-owned
3	Sinopec Group (See Box)	Petroleum Refining	\$267,518	0.47%	China	China Petrochemical Corporation, a state-owned enterprise, operates as a petroleum and petrochemical company in China and internationally.	1998	State-owned
4	China National Petroleum	Petroleum Refining	\$262,573	0.71%	China	China National Petroleum Corporation, a state-owned enterprise, produces and supplies oil and gas.	1955	State-owned
15	Samsung Electronics	Electronics Electrical Equip.	\$173,957	11.10%	South Korea	Samsung Electronics Co., Ltd., together with its subsidiaries, engages in the consumer electronics, information technology and mobile communications, and device solutions businesses worldwide.	1938	Public
22	Industrial & Commercial Bank of China	Banks: Commercial and Savings	\$147,675	28.36%	China	Industrial and Commercial Bank of China Limited provides various banking products and services worldwide.	1984	Public
24	China State Construction Engineering	Engineering Construction	\$144,505	1.73%	China	China State Construction Engineering Corporation Limited operates as an integrated construction and real estate company in China.	1982	State-owned
28	China Construction Bank	Banks: Commercial and Savings	\$135,093	25.79%	China	China Construction Bank Corporation provides various banking and related financial services in the People's Republic of China.	1954	Public
38	Agricultural Bank of China	Banks: Commercial and Savings	\$117,275	23.61%	China	Agricultural Bank of China Limited provides corporate and retail banking products and services in the Mainland China and internationally.	1951	Public
39	Ping An Insurance	Insurance: Life Health (stock)	\$116,581	8.06%	China	Ping An Insurance (Group) Company of China, Ltd. and its subsidiaries provide various financial products and services focusing on insurance, banking, asset management, and Internet finance businesses primarily in the People's Republic of China.	1988	Public
41	SAIC Motor	Motor Vehicles and Parts	\$113,861	4.23%	China	SAIC Motor Corporation Limited researches, produces, and sells passenger cars and commercial vehicles in the People's Republic of China.	1955	Public

42	Bank of China (See Box)	Banks: Commercial and Savings	\$113,708	21.79%	China	Bank of China Limited, together with its subsidiaries, provides a range of banking and related financial services in the People's Republic of China and internationally.	1912	Public
47	China Mobile Communications	Telecommunications	\$107,117	8.98%	China	China Mobile Communications Corporation is a holding company operating through its subsidiaries that provide mobile voice communications services in China.	1997	Public
51	China Life Insurance	Insurance: Life Health (stock)	\$104,818	0.15%	China	China Life Insurance Company Limited, together with its subsidiaries, operates as a life insurance company in the People's Republic of China.	1949	Public
55	China Railway Engineering	Engineering Construction	\$96,979	0.95%	China	China Railway Engineering Equipment Group Co., Ltd. designs and manufactures tunnel boring machines (TBM).	2008	State-owned
58	China Railway Construction	Engineering Construction	\$94,877	1.26%	China	China Railway Construction Corporation Limited, together with its subsidiaries, engages in the construction of infrastructure projects in Mainland China and internationally.	2007	Public
63	Gazprom	Energy	\$91,382	15.56%	Russia	Public Joint Stock Company Gazprom, an energy company, engages in the geological exploration, production, processing, storage, transportation, and sale of gas, gas condensate, and oil worldwide.	1993	Public
68	Dongfeng Motor	Motor Vehicles and Parts	\$86,194	1.64%	China	Dongfeng Motor Group Company Limited manufactures and sells commercial vehicles, passenger vehicles, and auto engines and parts in the People's Republic of China.	1969	Public
75	Petrobras	Petroleum Refining	\$81,405	-5.94%	Brazil	Petróleo Brasileiro S.A. - Petrobras operates in the oil, natural gas, and energy industries.	1953	Public
78	Hyundai Motor	Motor Vehicles and Parts	\$80,701	5.77%	South Korea	Hyundai Motor Company, together with its subsidiaries, manufactures and distributes motor vehicles and parts worldwide.	1967	Public
83	Huawei Investment & Holding	Network and Other Communications Equipment	\$78,511	7.11%	China	Huawei Investment & Holding Co., Ltd. provides information and communications technology (ICT) solutions and services for telecom carriers, enterprises, and consumers worldwide.	1987	Private

Source: Authors based on Fortune Global 500 data 2016, accessed by August 2017.

Chapter 4

EMNCs, Beyond Cost Leadership

- 4.1. Introduction
- 4.2. EMNCs Competing on Price: Some Price Comparison Examples
- 4.3. How Far Are Emerging Markets Brands from Becoming the World's Top Brands?
- 4.4. The Way Forward

Executive Summary

This chapter looks at various factors pertaining to the emergence of eMNCs, which are usually dominant in their home country and known mostly as cost leaders beyond. This pattern is changing as eMNCs have started to focus on branding and product differentiation. While these companies retain their cost leadership advantage, the price gap between American companies and E20 companies is narrowing for many goods and services. Now, eMNCs are moving beyond just imitating G-7 technologies to compete as peers or even innovators.

4.1. Introduction

In this chapter, we explore the idea that the majority of eMNCs are mere cost leaders as opposed to brand or innovation leaders. Over the years, multiple justifications have been given for the ongoing cost leadership of eMNCs. First, it is generally perceived that eMNCs have lower production costs compared to their counterparts in advanced economies due to their lower costs of labor and/or greater availability of natural resources. Second, eMNCs are known for a strategy of maximizing revenues and growth rather than gross margins. Third, a majority of customers in emerging economies still have low purchasing power, encouraging eMNCs to design products and services in the most cost-effective way to cater to the mass markets of their home countries. Numerous examples come to mind: the prepay business model in mobile phones, though developed in the U.S., it was implemented in massive numbers in emerging markets where it is still widely used.

This focus on cost effectiveness has transformed entire industries. For example, textile and shoemaking manufacturing has gradually departed the U.S. and the European Union, initially for Latin America and then Asia as companies prioritized cost effectiveness. Maintaining and achieving logistics efficiency becomes the primary source of competitive advantage beyond low labor cost. Containerization has depressed transportation costs, and it is now cheaper to bring textiles from Asia than to produce them in Latin America where logistics can be slow and expensive.

Though eMNC brands are hugely popular in their home countries, they are relatively unknown elsewhere. That rule may not last, however, as eMNCs have begun to focus on building brand equity and closing the price gap with the G-7 multinationals (Chattopadhyay and Batra 2012 and Kumar, N. and Steenkamp, J-B E.M. 2013). This trend began with E20 firms gaining prominence in specific industries such as China's Lenovo in laptops (Peng 2012), Korea's Samsung (See Box) in mobile phones, and Brazil's Havaianas in casual wear retail, among others. These eMNCs are transforming their products from cheap knockoffs to brand names in their own right.

4.2. EMNCs Competing on Price: Some Price Comparison Examples

As shown above, E20 (and mainly Chinese) companies have historically competed on the basis of price, especially in the U.S., E.U. and Japan, since they lacked recognition for their brands in G-7 countries. In this section, we analyze data by comparing prices of E20 products and services (mostly Chinese and Korean) with those of G-7 products and services (mostly American and Japanese). Since companies have diverse price policies in different countries and market segments, we have tried to compare the same product or service sold on the same website for U.S. customers. Hence, we choose a product or service based on:

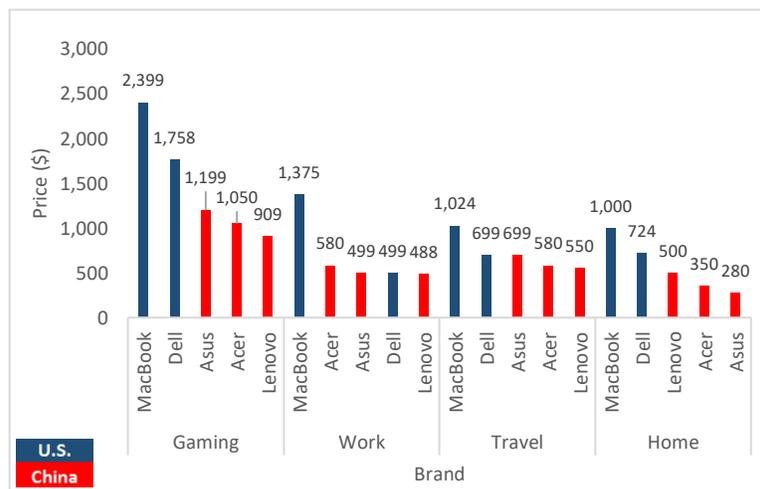
- 1) Comparable characteristics and functionalities;
- 2) Company origin;
- 3) Sales, i.e., most sold;
- 4) Availability for e-commerce;
- 5) Availability to the U.S. consumer;
- 6) Products or services where companies from E20 and G7 countries compete

This research was carried out in July and August 2017. As it was not easy to find a product or service with the above characteristics, we had to restrict the search to the following product categories:

- Technology products: laptops, desktops, tablets and mobile phones;
- White goods: fridges, air conditioners and televisions;
- Cars;
- Apparel: sports shoes;
- And Airline tickets.

Samsung Electronics www.samsung.com	
<p>Samsung Electronics Co., Ltd., together with its subsidiaries, operates in the consumer electronics, information technology and mobile communications, and device solutions businesses worldwide. Samsung Electronics Co., Ltd. was founded in 1938, is based in South Korea and has become a global company.</p> <p>It offers digital TVs, monitors, and printers; mobile phones, smartphones, tablets and accessories; communication systems; computers; memory system products; drives and memory card; audio and video equipment; and a variety of home appliances. The company is also involved in venture capital investments in technology related businesses and in the production of semiconductor equipment and components. It also provides a number of services including logistics, marketing and consulting services, mobile payment services and repair services for electronic devices among others. Additionally, it offers quality control systems for semiconductor, digital advertising platforms, cloud services and research of AI technology. Since 2012 Samsung has sold the most smartphones worldwide with a market share of 25%. It is also the second-largest chipmaker after Intel.</p>	 <p>Fortune Global500 2017: 15th Ownership: Public Founded: 1938 Chairman: Oh-Hyun Kwon Industry: Technology Employees: 325,000 Revenue: \$173.9bn Assets: \$217.1bn Ticker: KOSE (5930)</p>

Figure 4.1: Laptop Prices for Top U.S. and Chinese Brands (July 2017)

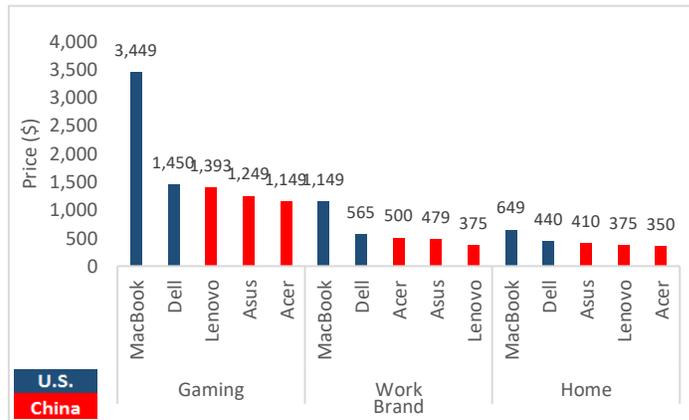


Source: Authors' analysis based on Amazon U.S., www.amazon.com accessed in July 2017.

Figure 4.1 lists prices for different laptop brands taken from the e-commerce retailer Amazon. We obtained data by defining a set of characteristics that a laptop should possess based on their different uses: home, work, travel, and gaming. Within each, we analyzed Amazon’s recommendations. Thus, the prices listed in Figure 4.1 refer to the average cost for a laptop within the category selected for each brand on Amazon.

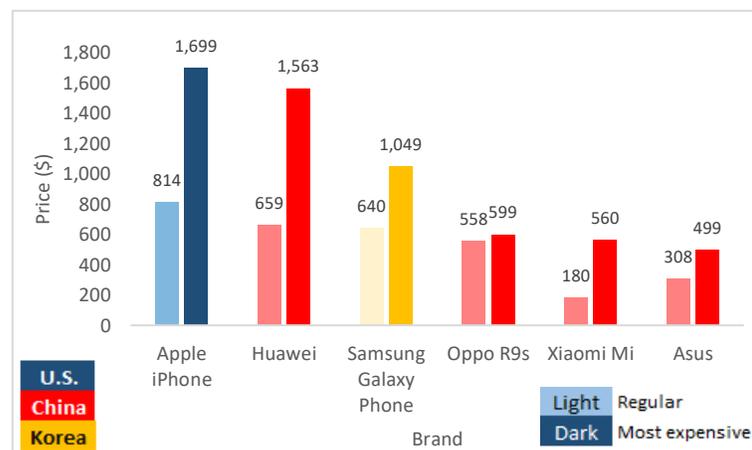
What we observe in Figure 4.1 is that Apple consistently stands out as the most expensive option for every category. Excluding Apple, especially in the case of gaming and work laptop products, the differences in prices are much lower. The range of prices for the rest of the American and Chinese brands listed is much narrower.

Figure 4.2: Desktop Prices for Top U.S. and Chinese Brands (July 2017)



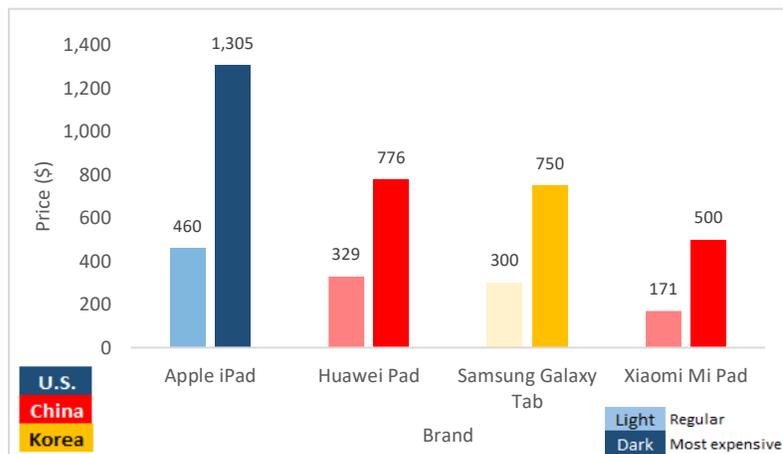
In Figure 4.2, we compare prices for different desktop brands. As in the previous Figure, we used prices from Amazon by defining characteristics similar to those for laptops. For desktops, we observe a similar price trend to that shown in Figure 4.1 for laptops. Apple is the most expensive in every category: Gaming, Work and Home, with Dell following. The prices for Chinese brands are now on the heels of Dell. One could anticipate possible problems for Dell in this fierce competitive environment.

Figure 4.3: Prices of Cheapest and Most Expensive Cellphones by Brand for Top U.S., Korean and Chinese Brands (July 2017)



Source (for Figures 4.2 and 4.3): Authors’ analysis based on Amazon U.S., www.amazon.com accessed in July 2017.

Figure 4.4: Prices for Cheapest and Most Expensive Tablets for Top U.S. Korean and Chinese Brands (July 2017)



Source: Authors' analysis based on Amazon U.S., www.amazon.com accessed in July 2017.

Figures 4.3 and 4.4 track the prices for each brand's latest versions of smartphones and tablets available on Amazon in the U.S. The chart gives an overall view of the price distribution for phones and tablets, with different configurations and aesthetic options. As with computers, the analysis shows that the most expensive brand is Apple, with remarkable differences between competitor brands. Samsung sells the most smartphones globally followed by Apple, which also boasts the highest profits and valuations in the stock market. Huawei (See Box) is another player of interest for the purposes of this analysis, as it has the second highest average price. The Huawei phone is the best-selling phone in China, and could be the starting point for further advances in technology and innovation as well as marketing campaigns. To date, we observe:

- A price differential between smartphones and tablets, with a narrower difference among phones than tablets. In fact, Huawei is on track to have these prices converge, unlike Samsung: indeed, the gap differential between Apple and Huawei for the most expensive phone is comparatively minimal, suggesting that Huawei may want to be positioning itself also on the higher end of the market.
- For smartphones, two different segments persist: those that compete primarily on price (e.g., Oppo, Xiaomi, Asus, etc.) and those that compete primarily on quality (e.g., Apple, Huawei, Samsung).

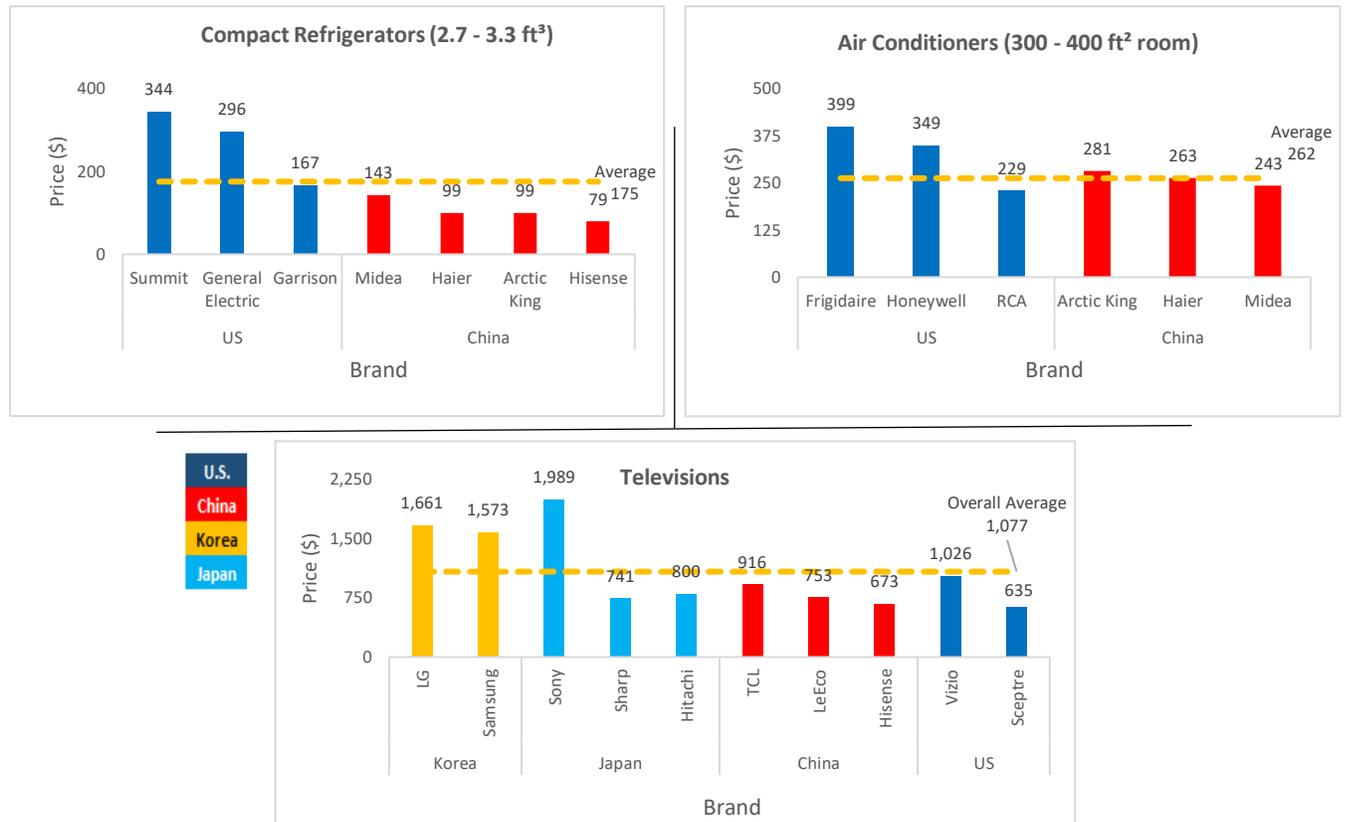
The Chinese brands of smartphones (e.g., OnePlus, Meizu, or Asus) are now entering other emerging markets, as well as Europe and the U.S. It is worth noting that their American and Korean rivals provide relatively similar features but charge much higher prices. These low prices are driven not so much by the cost of materials, production costs or wages but by new business models. All Android manufacturers source the majority of their components from China and assemble their phones in China. Though China offers lower wages for the bulk engineering jobs associated with product development

than South Korea, Japan, and the U.S., the difference in the cost of materials and production does not fully account for the price gap of \$350 between a ZTE Axon7 and the Google Pixel XL (as per Amazon). The price gap might be explained by the fact that these Chinese smartphone firms follow a similar price strategy in advanced economies as for their customer base in China. Chinese customers are less willing than U.S. customers to pay more for a relatively similar product, with similar characteristics and functions. The American customers' willingness to pay higher prices can be explained by their higher purchasing power, brand recognition and loyalty. We turn now to white goods.

Huawei Investment & Holding	
China's largest private group	
<p>Huawei Investment & Holding Co., Ltd. is a global company providing information and communications technology (ICT) solutions and services for telecom carriers, enterprises, and consumers worldwide. Founded in 1987, the company is based in Shenzhen, China. It is the second largest telecommunications company in the world.</p> <p>The company operates in three segments: Carrier Network, Enterprise Business, and Consumer Business. The Carrier Network segment develops and manufactures a range of wireless and fixed networks, carrier software and services solutions for telecommunications operators, among others. The Enterprise Business segment develops ICT products and solutions, including enterprise network infrastructure, cloud-based green data centers, enterprise information security, and unified communication and collaboration solutions for various types of users and industries. The Consumer Business segment develops and manufactures a variety of devices including smartphones, cellphones and related applications for consumer and business.</p> <p>The company is now offering top of the line smartphones. It is the top seller in China and making inroads in Europe and working on a possible partnership with AT&T in the U.S.</p> <p>About 65% of Huawei revenue in 2016 (\$75bn) were generated overseas. The Company has more than 170,000 Employees, 25% of them international and 45% of them in R&D. The company has 30 R&D centers in 21 countries in all continents. It holds almost 40,000 patents. It has strategic partnerships with China Pacific Insurance, IMEC, TeliaSonera, Vivacom, Sberbank Group, NXP Semiconductors N.V., Vodafone Group, Leica Camera, and T-Mobile Austria.</p>	<div style="text-align: center;">  </div> <p>Fortune Global500 2017: 83rd</p> <p>Ownership: Private</p> <p>Founded: 1983</p> <p>Chairman: Ren Zhengfei</p> <p>Industry: Technology</p> <p>Employees: 180,000</p> <p>Revenue: \$78.5bn</p> <p>Assets: \$63.8bn</p>

Figure 4.5 demonstrates the average price (orange line) of the brands selected. For the Chinese brands, the price for refrigerators is lower than the average, and certainly lower than that of American competitors. In the case of televisions and air conditioners, the price differential is not always to the benefit of the Chinese firms: In some cases, their products are actually more expensive than Japanese or American firms, suggesting that they are not confining themselves to the lower end of the market. American companies have started competing on price with their Japanese and Chinese counterparts. In the case of televisions, however, it is only the Korean sets that consistently exceed the average price, a trend we may observe more of as G-7 companies increasingly compete on price.

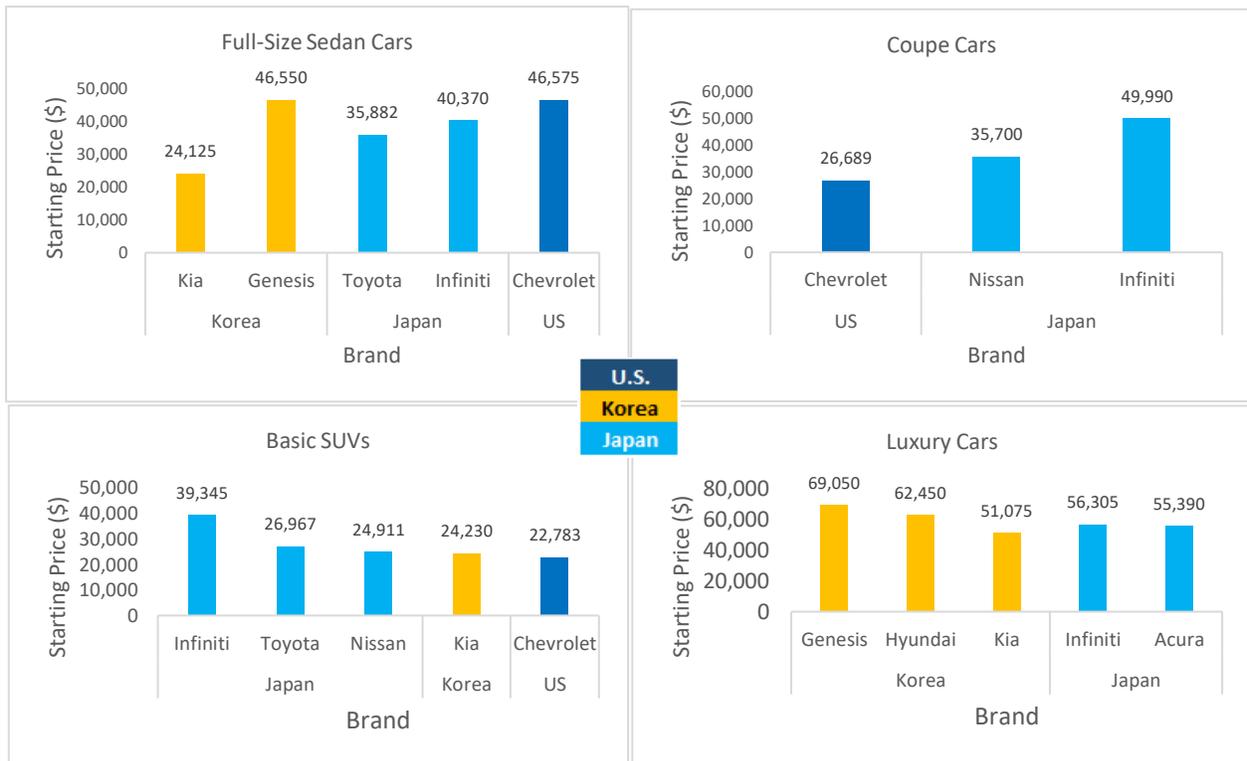
Figure 4.5: Prices for white goods by Top U.S. and Chinese Brands



Source: Authors' analysis based on Wal-Mart U.S.A, <https://www.walmart.com/> accessed August 2017

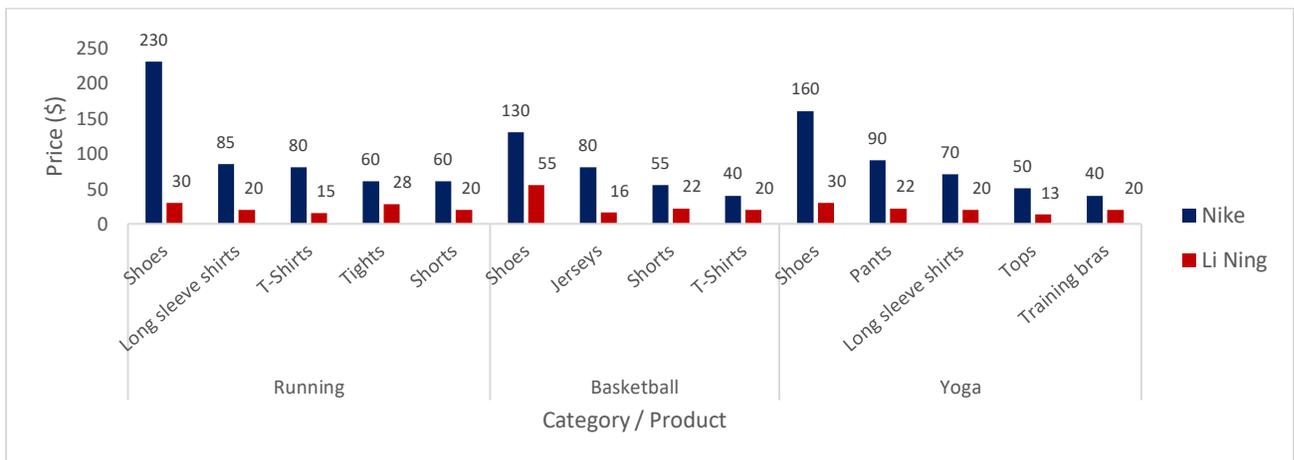
Figures 4.6 below offers an analogous price analysis for cars. As shown above, American brands such as Chevrolet observe similar or even lower prices relative to those of Japanese or Korean brands, which are more expensive than U.S. brands in some categories. The Chinese automotive industry still holds a modest presence in G-7 markets. As the industry moves towards electric and self-driving vehicles, we anticipate a different competitive landscape. China is moving ambitiously towards electric cars with companies like LeEco or NIO, which may become formidable competitors globally. It remains to be seen however which players will dominate the new automotive industry landscape at this stage. We turn now to sport merchandise, in which eMNCs' low prices persist.

Figure 4.6: Prices for Various Cars by Top U.S. and E20 Brands



Source: Authors' analysis based on <https://www.edmunds.com/> Accessed by July 2017
 Note: Blue for American Brands, Lighter Blue for Japanese and Yellow for Korean.

Figure 4.7: Comparison of Sports Merchandise Prices Between the Leading Brand in China and in America

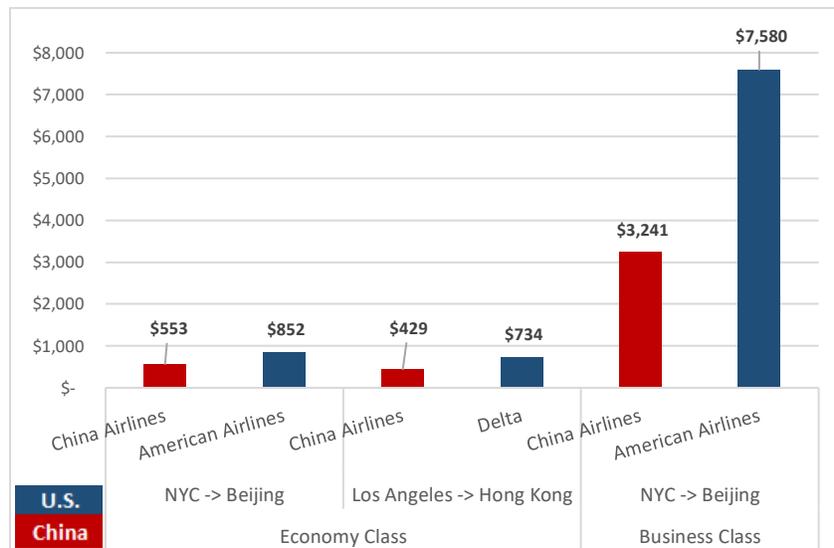


Source: Authors' analysis based on <http://www.nike.com/> and <http://www.lining.com/> Accessed by August 2017

As shown above, Chinese multinationals compete mainly on price in the sports merchandise market. Figure 4.7 offers a comparison of sports merchandise prices between a major Chinese company, Li Ning, and an American company, Nike. It is clear the Chinese brand is cheaper than the American competitor in all categories. Indeed, American prices are two to seven times higher than Chinese ones.

Finally, we turn to prices of airline tickets, looking at U.S. and Chinese carriers.

Figure 4.8: Airfare Comparison of One-way Prices Non-Stop between Chinese Airlines and American Carriers



Source: Authors' analysis based on <https://www.expedia.com/>, accessed in August 2017

As shown in Figure 4.8, Chinese airlines charge lower prices relative to American carriers, even as the airline industry becomes increasingly competitive. To date, Middle Eastern airlines such as Etihad, Emirates and Qatar appear in global rankings as among the best airlines in the world. Airlines from emerging markets arrived in the U.S. and Europe within the last five to 10 years, but have already substantially disrupted the global airline industry landscape.

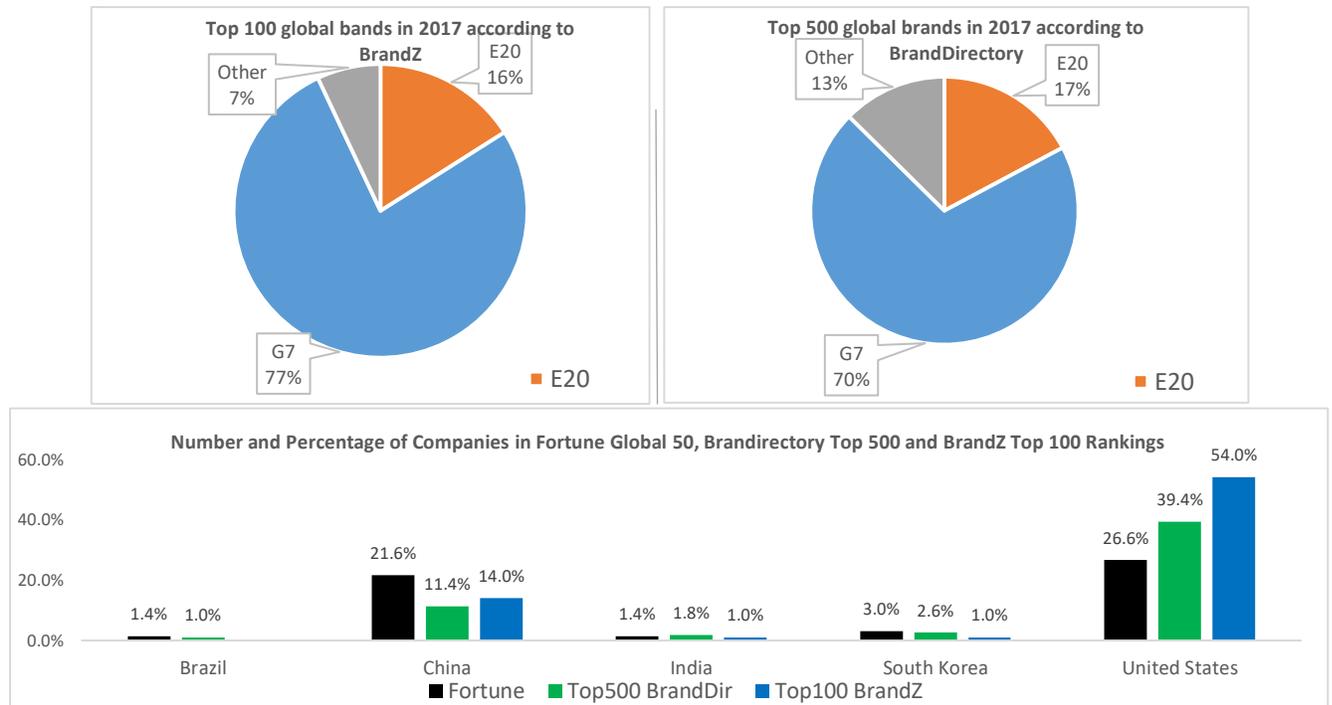
The above price comparison exercise is exploratory and would need to be replicated with a much larger sample. This preliminary analysis, however, tends to suggest that changes are taking place. Overall, and given the data shown in previous chapters, we anticipate that we have only observed the beginning of heightened competition among G-7 and E20 brands and services.

4.3. How Far Are Emerging Markets Brands from Becoming the World's Top Brands?

To further understand why emerging markets multinationals have long competed on price, while American and European firms did so on differentiation and branding, we analyze the presence of eMNCs in international brand rankings. In particular, we focus on the Brandirectory of the 500 most valuable brands and BrandZ, which ranks the 100 most valuable global brands. The former is built by valuing the brand behind a company—i.e., how much more a company can charge for a product or a service due to its brand recognition. Coca-Cola, for example, has linked itself to the 'fun' American way

of life, while Google, Facebook, and Apple have anchored their brands to Silicon Valley’s reputation for innovation and youth. Creating a valuable brand is part of a strategy to compete by differentiation for G-7 companies and the chart below illustrates a clear interest and measurable outcome for this focus. In what follows, we showcase some trends that BrandZ reports about the presence of eMNCs relative to G-7 firms.

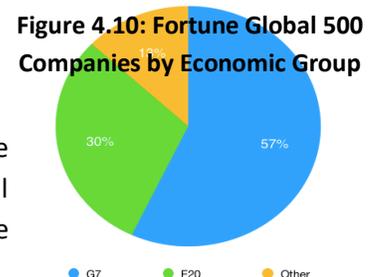
Figure 4.9: Top 500 (Brandirectory) and Top 100 (BrandZ) Global Brands and Their Distribution by Country (2017)



Source: Top 100: BrandZ www.brandz.com, accessed by September 2017.
 Global 500 2017: BrandZ, Brandirectory www.brandirectory.com/league_tables/table/global-500-2017, accessed by September 2017.

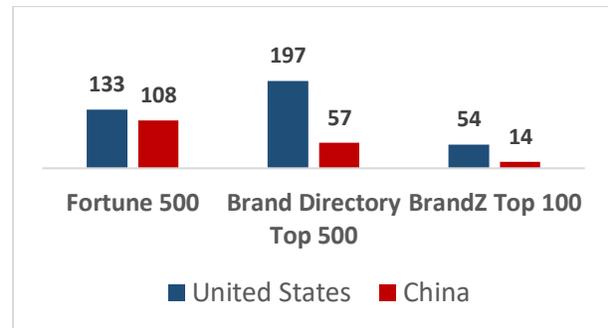
As shown in Figure 4.9, the G-7 developed economies dominate global brand rankings, with clear advantages in both rankings. They occupy 70% of the Brandirectory and 77% of the BrandZ. Meanwhile, E20 companies are only marginally represented in the rankings. To understand the relevance of this data, it is important to compare this with the presence of eMNCs in the Fortune Global 500 list.

As Figure 4.10 demonstrates, there is a notable difference in the concentration of E20 versus G-7 companies between the Fortune Global 500 and Brandirectory. We observe that the U.S. has 133 companies in the Fortune Global 500 list but 197 companies in the Brandirectory. Brazil, China, India and South Korea, by contrast, have a total of 137 companies in the Fortune list but only 84 in the Brandirectory. We



might hypothesize that E20 companies present in the Fortune 500 that are not listed in the Brand Value 500 have grown large without correspondingly strong global brand recognition. We cannot conclude that they compete exclusively based on prices, but these companies have not made as much progress as G-7 companies have in building their brands.

Figure 4.11: Number of U.S. and Chinese Companies in Fortune Global 500 and Brand Value 500 Rankings



Source: Authors' analysis Fortune Global 500 2017 and Brandirectory's Global Brand 500

Source: Authors' analysis Fortune Global 500 2017: Brandirectory www.brandirectory.com/league_tables/table/global-500-2017, accessed by September 2017. Top 100: BrandZ www.brandZ.com, accessed by September 2017.

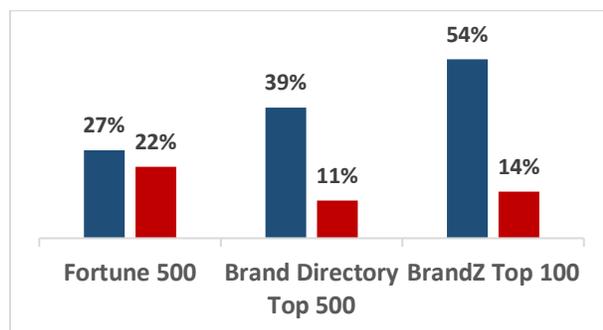


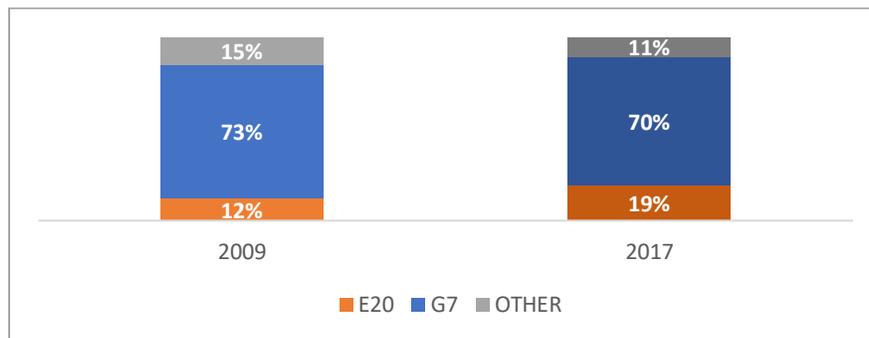
Figure 4.11 offers a similar comparison as Figures 4.9 and 4.10 between Chinese and American companies. We observe the same results. It is clear that while the number of Chinese companies in the Fortune list is converging with the number of U.S. companies in that list, Chinese companies still have a way to go to catch up with U.S. companies in brand equity and recognition.

As seen above, American companies are more competitive in terms of branding, which suggests that they are also more competitive in terms of differentiation. While Chinese companies have narrowed the gap with American companies in revenues and size, they do not yet rival American companies in terms of differentiation. Most Chinese companies, however, are much younger than their American counterparts and the idea of competing globally is relatively new for them. Given that context, some Chinese companies have made great strides in their brand value, albeit in small numbers. For

instance, the Chinese bank ICBC (See Box) occupies the 10th place (see table) in brand value for 2016 only 33 years since its foundation. An even more remarkable example is China Mobile, occupying the 15th place (2016) with just 20 years of existence under its belt.

Despite these limitations, we observe a clear tendency of E20 brands to improve in these rankings. G-7 brands still account for more than two-thirds of the companies in the ranking, but their share has declined slightly. On the other hand, the E20 now accounts for 19% of the top 500 brands in the world, up from 12% in 2009 (Figure 4.12). Further analysis of such a trend is important to assess how eMNCs are entering the world of global brands as part of their effort to grow business internationally. While the brands of the big four Google, Amazon, Facebook and Apple (the so-called GAFA) continue to grow, we can also observe how the Chinese BAT (Baidu, Alibaba (See box) and Tencent (See box) are starting to position themselves as technology powerhouses in China and beyond.

Figure 4.12: Share of E20, G-7 and Rest of the World in Top 500 Brands (2017)



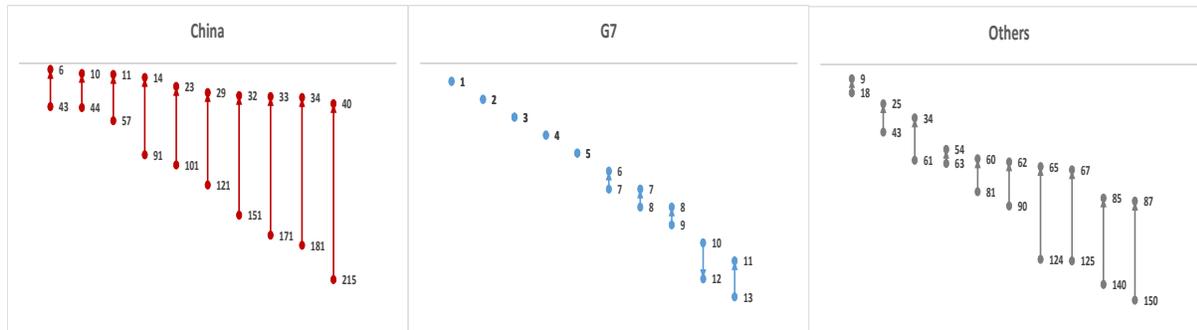
Source: Authors' analysis based on Global 500 2017: BrandZ, Brandirectory www.brandirectory.com/league_tables/table/global-500-2017, accessed by September 2017.



<p>Alibaba Group Holding Limited operates as an online and mobile commerce company in China and internationally. The company was founded in 1999 and is based in Hangzhou.</p> <p>The company operates in four segments: Core Commerce, Cloud Computing, Digital Media and Entertainment, Innovation Initiatives and Others. It operates Taobao Marketplace, a mobile commerce destination; Tmall, a third-party platform for brands and retailers; Rural Taobao, a program that enables rural residents and businesses to sell agricultural products to urban consumers; Juhuasuan, a sales and marketing platform for flash sales; Alibaba.com, an online wholesale marketplace; Alitrip, an online travel booking platform; 1688.com, an online wholesale marketplace; and AliExpress, a consumer marketplace.</p> <p>The company also provides pay-for-performance and display marketing services through its Alimama marketing technology platform and Taobao Ad Network and Exchange, a real-time bidding online marketing exchange in China. In addition, it offers cloud computing services, as well as big data analytics and a machine learning platform through its Alibaba Cloud Computing platform.</p> <p>It also offers Web hosting and domain name registration services; payment and escrow services, and develops and operates mobile Web browsers. Alibaba Group Holding Limited has strategic collaborations with Driscoll's and Thai Union/Chicken of the Sea to commercialize their food products in China.</p>	<div style="text-align: center;">  </div> <p>Fortune Global500 2017: 462</p> <p>Ownership: Public</p> <p>Founded: 1999</p> <p>Chairman: Daniel Zhang</p> <p>Industry: Technology</p> <p>Employees: 50,097</p> <p>Revenue: \$23.5bn</p> <p>Assets: \$37.5bn</p> <p>Ticker: NYSE (BABA)</p>
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<p>Industrial and Commercial Bank of China <i>The Largest lender in the world</i></p>		
<p>Industrial and Commercial Bank of China Limited (ICBC) provides various banking products and services worldwide. Founded in 1984, it is headquartered in Beijing. As of December 31, 2016, it operated approximately 16,788 domestic institutions and 412 overseas institutions.</p> <p>ICBC operates through Corporate Banking, Personal Banking, and Treasury Operations segments. The Corporate Banking segment offers financial products and services to corporations, government agencies, and financial institutions. The Personal Banking segment provides personal loans and cards, deposit-taking, personal wealth management, personal intermediary services, among other services to individual customers. The Treasury Operations segment is involved in money market transactions, investment securities, and foreign exchange transactions, as well as holding of derivative positions.</p>	<div style="text-align: center;">  </div> <p>Fortune Global500 2017: 22nd</p> <p>Ownership: Public</p> <p>Founded: 1984</p> <p>Chairman: Gu Shu</p> <p>Industry: Financials</p> <p>Employees: 461,749</p> <p>Revenue: \$147.6bn</p> <p>Assets: \$3,473bn (1st)</p> <p>Ticker: SEHK (1398)</p>	

Figure 4.13: Rank of Top 10 Brands in China, G-7 and Rest of the World 2009-2017



Source: Authors' analysis based on Fortune Global 500 2017: BrandZ, Brandirectory www.brandirectory.com/league_tables/table/global-500-2017, accessed by September 2017.

Between 2009 and 2017, virtually all of the top 10 brands were in the G-7. Over the same period, all of the top 10 E20 brands have improved (See Figure 4.13) but have not yet challenged the G-7 brands, which continue to be the most recognized in the world. However, Samsung, ICBC, China Mobile and China Construction Bank (See Box) are now already among the top 15 best ranked brands in the world.

Figure 4.14: Top 10 Brands for China, Korea and India 2017

2017 Rank	Brand
10	ICBC
11	China Mobile
14	China Construction Bank
23	Alibaba
29	Bank of China
32	Sinopec
33	PetroChina
34	Agricultural Bank of China
40	Huawei
47	Tencent

2017 Rank	Brand
6	Samsung Group
60	Hyundai
62	SK Group
112	LG Group
300	Lotte group
325	KT
339	Kia Motors
390	Korea Electric Power
426	Shinhan financial group
434	KB Financial Group

2017 Rank	Brand
103	Tata
191	Airtel
222	LIC
251	Infosys
294	State Bank of India
345	Reliance Industries
369	Indian Oil
378	HCL Technologies
498	Larsen Toubro

Source: Authors' analysis based on Fortune Global 500 2017: BrandZ, Brandirectory www.brandirectory.com/league_tables/table/global-500-2017, accessed by September 2017.

China Construction Bank
www.ccb.com



China Construction Bank Corporation provides various banking and related financial services. It was founded in 1954 and is headquartered in Beijing. It has approximately 14,985 institutions, including 14,956 domestic and 29 overseas. It operates through Corporate Banking, Personal Banking, and Treasury Business segments. The company offers personal banking products and services, such as personal accounts, personal business loans, car and housing loans, foreign exchange services, and a variety of financial products. It also provides corporate banking products and services including for instance corporate accounts, buyer credit, as well as consulting and advising, factoring services and custody services. In addition, the company offers corporate services for government agencies, services for non-banking financial institutions, social security, bank-securities cooperation and bank-insurance cooperation. Beyond Asia, China Construction Bank has several branches in the European Union (Germany, Luxembourg and Spain for instance), Africa (e.g. South Africa) the United States, and Australia.



Fortune Global500 2017: 28th

Ownership: Public

Founded: 1954

Chairman: Wang Hongzhang

Industry: Financials

Employees: 362,482

Revenue (\$bn): \$135.1bn

Assets (\$bn): \$316.6bn

Ticker: SEHK (939)

China, Korea and India (see box of Tata Motor) are the E20 countries with the highest number of companies in the rankings of the most recognized brands. All of China's current top 10 brands are in the top 50 positions of BrandZ (See Figure 4.14), up from only four in 2009. The most successful Chinese firm is the aforementioned ICBC Bank. Meanwhile, Korea has one firm among the top 50 (Samsung) and two among the top 100 (Hyundai and SK Group).

Overall, despite the G-7's continued strength, the progress made by E20 companies in global brand recognition is quite noticeable.

Tata Motors

www.tatamotors.com



Tata Motors Limited designs, manufactures, and sells a range of automotive vehicles. The company, founded in 1945 and based in Mumbai, was formerly known as Tata Engineering and Locomotive Company Limited and changed its name to Tata Motors Limited in July 2003. Tata Motors Limited was.

It operates through Automotive Operations and All Other Operations segments. The company offers passenger cars, utility and commercial vehicles, trucks, as well as related parts and accessories. It also manufactures engines for industrial and marine applications. The company is involved in the provision of engineering and automotive solutions; construction equipment manufacturing; machine tools and factory automation solutions; high-precision tooling, as well as automotive retailing and service operations. In addition, it provides engineering, design and management services as well as finance and insurance brokerage services.

The company markets its products under the Nano, Indica, Tiago, Indigo, Tigor, Sumo, Sumo Grande, Safari, Safari Storme, Hexa, Aria, Zest, Bolt, and Venture brand names; alternative fuel vehicles under the Nano and Indigo brands; and premium performance cars under the Jaguar Land Rover brand name.

Tata Motors Limited operates in India, China, the United Kingdom, the United States, and Europe.



Fortune Global500 2017: 226

Ownership: Public

Founded: 1945

Chairman: Guenter Butschek

Industry: Motor Vehicles & Parts

Employees: 79,558

Revenue: \$40.3bn

Assets: \$42.1bn

Ticker: BSE (500570)

Tencent Holdings	
www.tencent.com	
	
Tencent Holdings Ltd is a Chinese investment holding company based in Shenzhen that provides media, entertainment, online advertising services, Internet and mobile phone value-added services. The company was founded in 1998.	
With its two signature instant messaging products, QQ and WeChat, Tencent has about 1.7 billion active users in China, other Asian countries and beyond. This large user base allows Tencent to develop a strategy centered around social media, gaming and e-commerce.	
As of August 2016, Tencent is one of the most valuable internet companies, with a market capitalization of \$244 billion, ranked 4 th in the world after Google/Alphabet, Amazon and Facebook.	
	
	Fortune Global500 2017: 478 th Ownership: Public Founded: 1998 Chairman: Pony Ma Industry: Technology Employees: 38,775 Revenue: \$22.9bn Assets: \$56.9bn Ticker: SEHK (700)

4.4. The Way Forward

As we have seen in this chapter, eMNCs have traditionally been considered the low-cost competitors of their G-7 counterparts. They have focused on driving efficiency, quality and productivity across supply chains and building brand recognition in their home countries. Until recently, however, they have not concentrated on branding and innovation on a global scale. This pattern is changing. The price differential between G-7 and E20 firms is shrinking, and in some consumer market products prices are in similar ranges. In a few cases, like television sets, the emerging economy firms (such as China) are no longer priced below G-7 competitors. There are now signs of greater emphasis being placed on branding as eMNCs progressively enter the world of global brands, with firms such as Lenovo in laptops, Samsung and Huawei in smartphones leading the way. This transition may have very important consequences for G-7 companies like Apple which tremendous profits and high valuations based primarily on their brand value. It is also worth stressing that the cheap labor advantage, long-considered the bedrock of Chinese manufacturing success and mentioned earlier as one of the pillars of Chinese low prices, is slowly eroding.

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Chapter 5

Brazilian Multinationals, Moving Ahead

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- 5.1. Introduction
- 5.2. Brazilian Multinationals in International Rankings
- 5.3. National Rankings
- 5.4. Cases: Four Brazilian Multinationals
 - A. Marcopolo
 - B. Petrobras
 - C. Eurofarma
 - D. Embraer
- 5.5. Lessons from Internationalization

Executive Summary

In this chapter, we study challenges affecting Brazil's internationalization. Focusing on the international trajectories of four large Brazilian multinationals—Marcopolo, Petrobras, Eurofarma and Embraer—we explain the strategies and some managerial reactions to internationalization during and after the recent Brazilian political and economic crisis. All four companies presented in the chapter have consolidated positions within the domestic market, but internationalization strategies were critical to their competitiveness and reduced their dependence on the domestic market. We illustrate that the relative acceleration in the recent internationalization of some Brazilian companies is the result of external factors, local institutional weaknesses, and valuable organizational capabilities, such as innovation. State-owned Petrobras is an exception to the acceleration; the company is announcing divestments due to internal political crises and a corruption scheme.

5.1. Introduction

Brazil, Latin America's largest economy, was one of the world's fastest-growing emerging markets in the first decade of the new millennium. Now, the country is living through considerable political crises, with a former president impeached and the current president under investigation for corruption accusations. Investment activity in Brazil contracted around 10% in 2016 as the country's recession continued into its second consecutive year (UNCTAD 2017). Inward foreign direct investment (FDI) inflows also retreated, falling 9% to \$59 billion, while investment fell from \$3 billion to a net divestment of \$12 billion, a new reality for many Brazilian companies in 2015-2016.

In what follows, we provide a brief overview of Brazilian multinationals and their position in several important world rankings. We examine in detail four Brazilian multinationals by unpacking what is behind their internationalization strategies. We conclude with a discussion on the lessons learned from these four cases.

5.2. Brazilian Multinationals in International Rankings

Two international rankings are relevant for measuring the size and value of companies' international operations: Forbes 2000 and the Global Fortune 500. Some Brazilian multinationals are repeatedly listed in these rankings.¹

The Forbes Global 2000 ranking includes 20 Brazilian companies. The best ranked are the three largest banks: two private, Itaú and Bradesco, and one state-owned, Banco do Brasil, as well as Brazilian companies that are substantially concentrated in natural resources. Likewise, the Fortune Global 500 features seven of these Brazilian companies—the three largest banks, as well as Petrobras, Vale (privatized), JBS, and Ultrapar (See Table 5.1 for the complete list.)

5.3. National Rankings

In addition to the international rankings, we draw on three Brazilian rankings: 1) FDC ranking—Fundação Dom Cabral (FDC); 2) Fundação Getulio Vargas, (FGV), partnered with Columbia University's Columbia Center on Sustainable Investment (CCSI); and 3) GINEBRA.²

1) *The FDC Index*

The FDC index evaluates Brazilian multinationals in terms of assets, employees and foreign revenue, deploying the same methodology as UNCTAD. According to FDC, other than Petrobras, all Brazilian companies on its list belong to the private sector. The 2016 edition of the FDC ranking consisted of 64 companies, including:

- 50 Brazilian multinationals operating abroad mainly through their own units;
- 14 Brazilian companies operating abroad mainly through franchises.

Table 5.1: Brazilian Multinationals—International Rankings

Forbes 2000	Fortune Global 500	Company	Sector	Sales	Profits	Assets	Market Value
38	113	Itaú Unibanco Holding	Bank	\$61.3 B	\$6.7 B	\$419.9 B	\$79.2 B
62	154	Banco Bradesco	Bank	\$70.2 B	\$4.3 B	\$362.4 B	\$53.5 B
132	151	Banco do Brasil	Bank	\$57.3 B	\$2.3 B	\$430.6 B	\$29 B
156	370	Vale	Mining	\$27.1 B	\$3.8 B	\$99.1 B	\$45.4 B
399	75	Petrobras	Oil and Gas	\$81.1 B	\$-4.3 B	\$247.3 B	\$61.3 B
610	-	Eletrobrás	Electric Utilities	\$17.4 B	\$983 M	\$52.4 B	\$7.2 B
791	-	Itaúsa	Bank	\$1.3 B	\$2.4 B	\$18.1 B	\$23 B
895	191	JBS	Food	\$48.9 B	\$108 M	\$31.6 B	\$8.2 B
981	487	Ultrapar Participacoes	Oil & Gas Operations	\$22.2 B	\$448 M	\$7.4 B	\$12.5 B
1103	-	Cielo	Financial Services	\$3.5 B	\$1.1 B	\$9.4 B	\$20.9 B
1233	-	Braskem	Chemicals	\$13.8 B	\$-136 M	\$15.9 B	\$7.9 B
1325	-	BRF	Food	\$9.7 B	\$-107 M	\$13.8 B	\$9.3 B
1436	-	Sabesp	Diversified Utilities	\$4 B	\$846 M	\$11.6 B	\$7.4 B
1503	-	Oi	Telecommunication	\$7.5 B	\$-2 B	\$25.2 B	\$952 M
1515	-	Gerdau	Iron and Steel	\$10.8 B	\$-395 M	\$16.8 B	\$1.4 B
1545	-	Companhia Brasileira de Distribuição	Food Retail	\$12 B	\$-139 M	\$13.9 B	\$5.9 B
1572	-	CCR	Transportation	\$2.9 B	\$492 M	\$7.5 B	\$11.5 B
1597	-	BM&F Bovespa	Investment Services	\$666 M	\$415 M	\$9.7 B	\$12.8 B
1735	-	CPFL Energia	Electric Utilities	\$5.4 B	\$258 M	\$13 B	\$8.4 B
1895	-	Kroton Educacional	Educational & Training Services	\$1.5 B	\$535 M	\$5.4 B	\$7.1 B

Source: Global Fortune 500 list, 2017; Forbes 2000, 2017.

Acquisitions and joint ventures in foreign markets serve as the main entry mode among Brazilian multinationals, according to the FDC. In general, Brazilian multinationals tend to be very cautious in their internationalization process. Some may take more than two years conducting viability studies before making any international commitment.

The companies in the FDC Ranking of Brazilian Multinationals 2016 entered 29 countries in 2015. Approximately 25% of the companies in the FDC ranking started operations or established franchise agreements in a new country in 2015. In contrast, about 14% discontinued operations temporarily or completely in the same period. FDC data illustrate the growing movement towards internationalization of Brazilian multinationals, especially in a year in which the international market recovered from the global crisis, while the domestic market faced recession and economic challenges.

According to the FDC, despite the domestic crisis, the top 20 Brazilian multinationals managed to increase their levels of internationalization in 2015. The internationalization index observed a growth of approximately 7% of assets abroad over 2014.

2) *The IFM*

The Center of International Financial Management Studies (IFM) of Fundação Getulio Vargas, and the Columbia Center on Sustainable Investment (CCSI) are partners in a research report on the top 20 Brazilian multinationals, ranked in terms of foreign assets (see Table 5.2). The report identifies and examines only companies that are listed on the São Paulo Stock Exchange (BM&F Bovespa) and that have publicly reported data on foreign assets, foreign sales and foreign employees.

According to this report, Brazilian companies seek new markets mainly to be closer to strategic clients, reduce costs and access natural resources. The economic and political crises in Brazil since 2014 have affected the international operations of the top 20 Brazilian multinationals, half of which have made divestitures in 2015 and 2016. Petrobras, one of the most important Brazilian multinationals, has declared a massive divestment plan, around \$19.5 billion, in 2017-2018. Vale announced in 2015 a divestment plan of around \$2 billion in response to a decrease in demand for iron ore. Other important companies such as Gerdau and CSN (both steel companies), as well as BRF (the world's largest processed meat producer) divested from non-core business activities.

2) *GINEBRA*

All companies surveyed by GINEBRA were motivated to internationalize by the need to become more competitive in global. Based on GINEBRA results, the most important incentive for the internationalization of Brazilian multinationals is acquiring technological capabilities in advanced markets, where they will be exposed to new and more demanding types of consumers. The second most important motive for internationalization is seeking resources, including 1) natural resources to guarantee the supply and expansion of the company, 2) cheap labor through outsourcing and offshoring processes and 3) more favorable financing.

Table 5.2: Brazil: The Top 20 Non-financial Multinationals, by Foreign Assets, 2015 (\$ Million)

Rank 2015	Rank 2014	Company	Industry	Status (% of state ownership)*	Foreign Assets 2015	% of Total Assets
1	1	Vale	Mining	Listed (38.7)	21,116	23.9
2	4	JBS	Food	Listed (27.3)	13,901	44.6
3	2	Gerdau	Steel	Listed (Nil)	12,114	67.3
4	3	Petrobras	Oil and Gas	Listed (63.8)	11,182	4.8
5	-	CSN	Steel	Listed (Nil)	6,953	55.8
6	-	Fibria	Paper	Listed (29.1)	6,45	85.6
7	-	Braskem	Chemicals	Listed (30)	5,595	36.4
8	9	Embraer	Aircraft	Listed (5.4)	3,876	33.2
9	-	Suzano	Paper	Listed (Nil)	3,063	42.3
10	5	BRF	Food	Listed (22.1)	2,694	26.0
11	7	Minerva	Food	Listed (2.7)	2,021	94.9
12	-	Gol	Airline	Listed (Nil)	1,506	56.7
13	10	Tupy	Transportation	Listed (61.2)	1,017	69.0
14	11	lochpe-Maxion	Manufacturing	Listed (6.8)	997	48.7
15	-	Invepar	Transportation	Listed (75)	956	12.8
16	-	Klabin	Paper	Listed (2.3)	769	11.4
17	15	Marcopolo	Manufacturing	Listed (15.2)	638	49.4
18	14	Natura	Cosmetics	Listed (Nil)	402	16.7
19	16	Alpargatas	Manufacturing	Listed (Nil)	335	34.8
20	8	Magnesita	Mining	Listed (Nil)	317	19.0
				TOTAL	95,901	41.7

Source: Report—*The Top 20 Brazilian Multinationals: Divestment under Crises* (2017). Available at: <http://ccsi.columbia.edu/files/2013/10/EMGP-Brazil-Report-March-21-2017-FINAL.pdf>.

*State ownership: considered both direct and indirect state ownership through Brazilian National Development Bank (BNDES—*Banco Nacional de Desenvolvimento Econômico e Social*), pension funds of state-owned enterprises, state-owned banks, state-owned enterprises, state-owned funds, governmental agencies, and National Treasury.

5.4. Cases: Four Brazilian Multinationals

In this section, we provide an overview of the internationalization trajectories of four leading Brazilian multinationals, which were selected on the basis of their relevance in different sectors (Table 5.3).

Table 5.3: Selected Cases

Case	Ownership	Industry	Relevance
Marcopolo	Private	Bus Manufacturer	5 th largest bus maker in the world (BCG New Challengers)
Petrobras	State-owned	Oil and Gas	"The Brazilian SOE", oil & gas, Forbes 2000, Fortune 500s
Eurofarma	Private	Pharmaceutical	Top five Brazilian pharmaceutical company
Embraer	Privatized	Aircraft	World's third largest in the aircraft industry, BCG New Challengers

Source: BCG New challengers; Forbes 2000 (2017) and Fortune Global 500 (2017)

A. Marcopolo

Marcopolo is the largest Brazilian manufacturer of bus bodies, with an annual production of over 30,000 buses in 2013, 55% of which were produced outside Brazil. It ranks fifth among the top bus companies in the world, in an industry that is undergoing significant market consolidation. Marcopolo has engaged in a series of acquisitions, Greenfield ventures and joint ventures to obtain new brands, technological assets and other sources of competitive advantage that have expanded and diversified its competence base.

After 2014, with the recession in the Brazilian market, the company had a considerable reduction in its domestic sales, leading it to intensify its exports and redirect its international operations. In 2015, its exports from Brazil increased 43.8% compared to the previous year, an indication that the company benefited from its internationalization. Despite the recession, the consolidated net revenue of Marcopolo was \$2.574 billion *reals* in 2016, against \$2.739 billion *reals* in 2015. According to the company, the foreign market has compensated for the contraction of sales in Brazil. While most of its revenue previously came from the Brazilian market, there is now a reversal, with exports from Brazil and sales of buses produced and traded outside the country amounting to 68% of revenue (Marcopolo Annual Report, 2016).

Internationalization Process

The internationalization of Marcopolo is marked by three phases with distinct strategies (Table 5.4).

Table 5.4: Marcopolo's Internationalization Motives and Strategies

Country of Entry	Year of entry	Mode of entry	Partners	Resource-Seeking	Market-Seeking	Efficient-Seeking	Strategic Asset-Seeking
Phase I: Going to neighboring countries and Portugal							
Portugal	1991	Acquisition					✓
Mexico	1992 1999	Technology Licensing Greenfield	Dina Autobuses		✓		
Argentina	1997 2008	Greenfield Acquisition	Metalpar (33%)		✓		
Colombia	2000	Joint Venture	Fanalca (Superpolo) 50%		✓		
Phase II: Global sourcing strategies							
South Africa	2001	Acquisition			✓		
Russia	2005	Joint Venture	Ruspromauto (Russian Buses Marco) 50%		✓	✓	
	2011	Joint Venture	OJSCKamaz 50%				
China	2001	Technology Licensing	CBC/Iveco			✓	
	2005	Greenfield	Auto parts	✓			
India	2006	Joint Venture	Tata (Tata Marcopolo Motors Ltd.) 49%	✓	✓	✓	
Egypt	2008	Joint Venture	GB Auto SAE (GB Polo Bus Manufacturing Company SAE) 49%		✓		
Phase III: Going to developed countries							
Australia	2012	Greenfield	Marcopolo Australia Holdings Pty Ltd.		✓		✓
	2012	Acquisition	Pologren Australia (75%)				
U.S.A.	2012	Joint Venture*	San Marino - Navistar		✓		✓
Canada	2013	Acquisition	New Flyer (20%)		✓		✓

1) Domestic and Regional Market Expansion:

Until the late 1990s, the company's strategy was to produce bus bodies on chassis made by different manufacturers in order to supply the domestic market and export to nearby countries. Brazil was a large distribution center for all of Marcopolo's subsidiaries. In 1961, Marcopolo started to export to Uruguay followed by Paraguay, Argentina and Chile. In 1973, they acquired expertise with the Completely-Knocked-Down (CKD) process and expanded exports to other Latin American countries—Venezuela, Mexico, Colombia—and Africa.

In the early 1990s, Brazil implemented pro-market reforms, triggering Marcopolo's internationalization through FDI. The company engaged in acquisitions and partnerships with foreign players in neighboring countries in Latin America. Management saw Europe as an important target, so

Marcopolo acquired a company in Portugal in 1991 to set up a base in Europe and gain information on the technologies used by European bus companies.

2) Demand Driven Expansion:

From 2000, Marcopolo steered on two fronts: building a presence in highly populated, low-income countries where buses were the main urban means of transportation (South Africa, Russia, India, Egypt and China), and building its global value chain to source parts and components globally, particularly in response to the Brazilian currency appreciation. By 2009, Marcopolo was not only sourcing parts and components globally but also producing buses abroad through strategic partners. India, one of the largest markets for buses, was a target for such a strategy. Marcopolo approached Tata Motors, which had expertise in manufacturing low-cost, high-quality products, and Tata Marcopolo Motors Ltd. (TMML) was created. Tata Motors produces 22,000 units/year and holds a 49% market share, as well as a 51% stake in the new company.

China is the biggest bus market in the world. Chinese companies compete aggressively in the global bus industry through low-cost manufacturing and could threaten Marcopolo in overseas markets. While Marcopolo's presence in China enabled it to stay close to Chinese market trends, producing buses in China was not easy and involved many risks, which Marcopolo was ultimately unwilling to take. The company chose to limit its involvement, and only opened a parts and components business in 2005.

3) Advanced Market Expansion:

In 2010 Marcopolo announced its intention to pursue strategic global expansion in developed countries. In 2011, it acquired 75% of Volgren for AU \$53 million (\$47 million) and the company was renamed Pologren Australia Holdings Pty Ltd. Volgren was the largest bus body manufacturer in Australia, employing around 600 people, with more than 40% market share. It had four plants, specialized in urban buses, and held the technology for making bus bodies entirely out of aluminum, which reduced weight and was totally recyclable. In January 2013, Marcopolo acquired 19.99% of New Flyer, the leading manufacturer of urban buses in Canada and the U.S. Following Marcopolo's strategic investment, New Flyer acquired North American Bus Industries (NABI) in June 2013, which opened a U.S.-based manufacturing operation, a service center and an aftermarket parts distribution business.

Knowledge, Technology and Research and Development

Beginning in the late 1960s, the company invested heavily in its technical department to increase productivity. The results were the development of capacity for serial production of standard parts and components, equipment and special tooling, new industrial layout and changes in production and control programming. The company grew by developing technology to manufacture buses on any platform. This flexibility in production lines—working with several different chassis—is one of the reasons for its success.

Part of Marcopolo's innovation capacity success is due to its vertical integration. Until 2004, everything was developed internally except machinery, while the rest of the industry traditionally relied

heavily on outsourcing. Marcopolo's internationalization enabled it to access a variety of complementary technological assets within the industry value chain. In 2012, it launched its "Innovation Center," in which each plant has a research and development (R&D) team developing projects to meet specific needs, which reports to the central R&D committee and executes more complex and sophisticated projects. As competitors began copying solutions and components developed by Marcopolo, it decided to apply for patents. Between 2004 and 2013, the company had accumulated over 100 patents (Dhanaraj, Cahen, and Stal, 2014). Among the set of innovative capabilities acquired over the years, customization was key to their internationalization process and supported their international strategies. (Dhanaraj, Cahen, and Stal, 2014).

B. Petrobras

Petrobras, a state-owned enterprise (SOE), is the largest oil and gas company in Brazil. Today it is mired in a corruption scandal, which called into question its recent internationalization as corrupt political ventures, rather than efficient strategies for profitability or financial performance. In 2014, Petrobras plunged to a \$21.6 billion *real* net loss.

The company sought normality in the wake of the scandal in 2015, Moody's Investors Service downgraded Petrobras' ratings to Ba2 from Baa3 due to its very high debt burden as well as the police investigation over an alleged bribery and money-laundering scheme. In February 2016, Moody's further downgraded Petrobras to the lowest speculative level.

The appointment of the new chief executive, Pedro Parente, was part of an integrated strategy to allow Petrobras to reduce its debt. Other elements of the strategy include a new pricing policy by which the company would price oil based on international parity, greater efficiency in investments, cost reductions, and partnerships and divestments totaling \$21 billion in the 2017/18 biennium. As a consequence of the crises in the country and the company, Petrobras sold assets in Argentina in 2015 and intensified divestments in 2016, selling 67% stake in Petrobras Argentina and 100% of shares of Nansei Seikyu (NSS), located on Okinawa Island, Japan. In January 2017, 100% of Petrobras Chile Distribución Ltda was sold. The 2016 results show some progress. Petrobras generated operating profit of \$17 billion *reals* in 2016, with a 16% increase in adjusted EBITDA, giving it the highest EBITDA margin among the major players in the sector. In April 2017, Moody's rating agency upgraded Petrobras' credit rating from B2 to B1 and changed its outlook to positive, indicating that the rating could be raised again any time.

Internationalization Process

1) Searching for New Oil Reserves

After the first oil crisis in the early 1970s, Petrobras embraced an international strategy of oil exploration and production operations to minimize Brazil's dependence on foreign supply sources. In 1976, deep water oil reserves were discovered in the Campos Basin, in the state of Rio de Janeiro, a significant event for the company's competitiveness (Cahen, 2015). Petrobras began to internationalize in the Middle East, North Africa, and Colombia, concentrating on exploration and production.

Petrobras formed its subsidiary Braspetro (Petrobras Internacional S.A.), whose task was to expand the company internationally. Braspetro's activities centered on the upstream oil segments (exploration and production, but also engineering and well-drilling services) and, to a lesser extent, on the downstream segments (refining, marketing, transportation and logistics). In the late 1970s, Braspetro had 114 international trade negotiations with 17 countries. In the national context, after the Campos Basin oil discoveries, a successful policy of self-sufficiency in oil production was initiated.

2) Privatization and Increased Competition

In the early 1990s, Petrobras found itself in an intense struggle for autonomy from the Brazilian government, whereby it intensified its policy of self-sufficiency in oil production and increased its international expansion. However, as a direct result of economic liberalization, some of Petrobras' downstream subsidiaries were privatized, especially in petrochemicals. The company shifted away from the typical strategy of the industry's super-major players such as Exxon-Mobil, Shell, BP-Amoco-Arco, Elf-Total-Fina, and Chevron-Texaco. These super-majors, in addition to maintaining vertically integrated structures, also had diversified portfolios, as they pursued innovation and higher value-added products such as fine chemicals (Cahen, 2015).

In the late 1990s both the economic and political context stabilized and the Brazilian government embraced a series of institutional reforms in the oil sector. In 1997, the Oil Law was enacted, ending Petrobras' monopoly in Brazil and opening the oil industry to foreign rivals. Consequently, multinationals such as Shell, Exxon-Mobil, Texaco and BP started moving into Brazil, forcing Petrobras to implement internal changes and expand internationally to stay competitive (Cahen, 2015).

3) Expanding Downstream Operations

Petrobras continued to expand its geographic scope into new markets in the early 2000s through a series of acquisitions, particularly in Argentina, in accordance with the company's strategy of exploiting resource synergies in South America. In 2002, when Petrobras acquired the Argentine group Perez Companc (Pecom), its downstream assets abroad and its proven reserves both increased considerably.

In 2000, Petrobras integrated the activities and employees of Braspetro. These changes required a new corporate structure, more adapted to the new organization and management model. According to the new organizational structure, the company would operate in four business areas: 1) exploration and production; 2) supply; 3) gas and power; and 4) international, with two support areas: financial and services. This structure incorporated the concept of business units, already adopted by major oil and energy companies around the world.

Table 5.5: Petrobras' Internationalization Motives and Strategies

OFDI Motives:			Resource-seeking	Strategic asset-seeking		Market-Seeking
Country of Entry	Geographic Scope	Year of entry	Oil & Gas Exploration, Production	Energy and Gas	Refining/Petrochemicals	Retailing/Distribution
Phase I: Experimental Internationalization Prior to Market Liberalization in 1988 /Military Regime, State Intervention in Economy/						
Colombia	Regional	1972	✓			✓
Libya	Global	1974	✓			
Iraq	Global	1978	✓			
Angola	Global	1979	✓			
U.S.A.**	Regional	1987	✓		✓	
Phase II: After Market Liberalization: 1988-1997 /Democratic Government, Pro-Market Reforms, Oil Sector Still Regulated by the State/						
Argentina	Regional	1993	✓	✓	✓	✓
Bolivia	Regional	1995	✓	✓		
Ecuador	Regional	1996	✓			
Phase III: Strategic Internationalization After the Oil Sector Deregulation in 1997 /Democratic Government, Pro-Market Reforms, Oil Sector Deregulated/						
Nigeria	Global	1998	✓			
Venezuela	Regional	2002	✓			
Peru	Regional	2002	✓			
Mexico	Regional	2003	✓			
Uruguay	Regional	2004	✓	✓		✓
China	Global	2004				
Tanzania	Global	2004	✓			
Chile	Regional	2005				✓
Eq. Guinea	Global	2005	✓			
Turkey	Global	2006	✓			
Paraguay	Regional	2006				✓
Singapore**	Global	2007				
India	Global	2007	✓			
Portugal**	Global	2007	✓			
Netherlands**	Global	2009				✓
Curacao**	Regional	2010				✓
U.K.**	Global	2010				
Japan**	Global	2000			✓	

Australia**	Global	2010	✓			
N. Zealand**	Global	2010	✓			

Source: Cahen (2015): Company interviews and Petrobras, 2013. **High-income economies (World Bank, 2013). Regional (i.e., within home region) and global (i.e., outside home region) geographic scope—countries defined based on the United Nations Country Classification (2013).

Innovation

Since the discovery of the Campos Basin in 1976 in the state of Rio de Janeiro, Petrobras progressively developed its own deep-water exploration technology. It established its research and Development center (Centro de Pesquisas e Desenvolvimento—CENPES) in Rio de Janeiro in 1966 and has fostered research, innovation and development in deep-water oil exploration technologies. In the early 1990s, in parallel to a partial privatization, Petrobras shifted from its status as primarily a technology user to a leading technology innovator.

Petrobras has thrice received the highest award for an oil company from the Offshore Technology Conference (OTC) committee. The OTC Distinguished Achievement Award for Companies, Organizations, and Institutions recognized the set of technologies developed for oil and gas production in the pre-salt layer off the Brazilian coast, where the company achieved a new daily production record on December 21, 2014, extracting 713,000 barrels of oil. Petrobras received the same award in 1992 for its technical achievements related to the development of deep-water production systems in the Marlim field, Campos Basin, off the coast of Rio de Janeiro, and in 2001, for its advances in technologies and cost-effectiveness in deep-water projects for the development of the Roncador field and the Campos Basin.

C. Eurofarma

Founded in 1972, Eurofarma Laboratories S/A is a Brazilian pharmaceutical company based in São Paulo that is among the five largest in the sector. It operates in key market segments through nine business units: prescription medicines, generics, hospital tenders, oncology, services to third parties, veterinary, export and Euroglass (production of ampoules and glass jars).

The Brazilian pharmaceutical industry is ranked sixth globally in terms of value (IMS Health, 2014). With total revenues exceeding \$26 billion per year, Brazil is considered an emerging pharmaceutical market, with demand for pharmaceutical products growing approximately 10% per year in the last decade. Despite a slowdown in economic growth, price pressures and government cost containment measures, in 2014 alone, sales in the retail Brazilian market grew by 11.4% over the \$15 billion sold in 2013 (IMS Health, 2014). The recession in the local market has not shrunk the pharmaceutical market. In 2016, the sales growth was 11% (Deloitte, 2016). The growth of private healthcare, consumer medicines and the expansion of public healthcare will continue to drive a forecasted growth rate of 12.7% until 2017 (IMS Health, 2014).

The domestic market crisis was not a threat to Eurofarma's local businesses and could be interpreted as a growth opportunity for its international activities. At the height of recession in 2015,

the company recorded 11% growth in gross sales, with international units registering an increase of 41% (13% of the company's total sales). In 2016, the company maintained growth around 11%. The company's internationalization intensified during the Brazilian crisis, during which the company acquired a local generic company in Peru, considered buying assets in Africa and Asia, and invested in the construction of a new innovation center in Brazil (Eurofarma Annual Report, 2016).

Internationalization Process

1) Post-Financial Crisis

Eurofarma's initial focus on Latin America was due not only to markets' geographical proximity of the markets, but also due to the compatibility of the region's regulatory requirements with those of Brazil, which facilitated the approval of the drugs they produced. According to Eurofarma's annual report (Eurofarma, 2016), regulation in Latin American countries should become more rigorous in the coming years. The company states that its business model, combined with the quality of their products (100% bioequivalent), intends to build competitive advantage. As a regional company, it seeks to attract international partners in the production of medicines under license in these markets.

Eurofarma made its first step towards internationalization in 2009 by acquiring the Argentinean company Quesada Farmacêutica. Since then, it has made great efforts to integrate this operation, which was renamed Eurofarma Argentina in July 2010. Continuing the internationalization goal, in 2010 Eurofarma acquired Gautier Laboratories from Uruguay, which is also present in Bolivia, and the Chilean company Volta (including Farminindustria, a company from the same group).

Following its first international operations, in 2012 Eurofarma entered the Venezuelan market, the third biggest pharmaceutical market in Latin America, by opening a subsidiary and hiring a local collaborator. This approach was intended to speed up the register requests submitted, while allowing the parent company to focus on other possible acquisitions. Also in 2012, the company began operating in Colombia, the fifth largest market in Latin America, by acquiring a production site that belonged to Merck, Sharp & Dohme. Local activity initially included manufacturing products for third parties, with MSD as the main customer. In 2013, Eurofarma acquired Refasa Carrión, present for 57 years in Peru, and Laprin—the fourth-largest company in Guatemala for medical prescriptions, also present in Panama, Nicaragua, Honduras, El Salvador, Costa Rica and the Dominican Republic.

3) Brazilian Crisis

In 2015, the company acquired the Argentinean factory of the French laboratory Sanofi. The deal involved about \$18 million and an outsourced production agreement to Sanofi itself, which no longer holds manufacturing units in Argentina. The acquisition of Sanofi's factory was Eurofarma's second asset acquisition in the Argentine market, the first of which was Quesada Farmacêutica in 2009 as mentioned above.

In 2015, Eurofarma started a technological partnership with the South Korean lab DongA. This partnership allowed Eurofarma to introduce a medicine for the treatment of erectile dysfunction

developed by DongA into Brazil. At the same time, Eurofarma reached agreement with DongA on co-development and commercialization of evogliptina, a drug used in patients with diabetes, originally valid for the Brazilian market and for 17 countries in Latin America. The partnership with DongA represents another one in a series of agreements signed by Brazilian pharmaceutical developers in a radically innovative domain involving research on new molecules, with technology transfer for local production.

Table 5.6: Eurofarma’s Internationalization Motives and Strategies

Country of Entry	Year of entry	Mode of entry	Acquired companies	Resource-Seeking	Market-Seeking	Efficiency-Seeking	Strategic Asset-Seeking
Argentina	2009 2015	Acquisition Acquisition	Quesada Farmacêutica Sanofi		✓		
Uruguay	2010	Acquisition	Gautier Laboratories—also present in Bolivia		✓		
Chile	2010	Acquisition	Volta		✓		
Colombia	2012	Acquisition	Merck, Sharp & Dohme		✓		
Venezuela	2012	Local partner			✓		
Peru	2013	Acquisition	Refasa Carrión		✓		
Guatemala	2013	Acquisition	Laprin—also present in Panama, Nicaragua, Honduras, El Salvador, Costa Rica and Dominican Republic		✓		

Source: Eurofarma annual report

Innovation

Eurofarma's internationalization strategy is centered on the search for new markets in developing economies through acquisitions, rather than product and process innovations. Thus, there was no increase in investment in R&D due to the internationalization process (Dias, Caputo & Marques, 2012). To absorb new technologies, Eurofarma has established partnerships with several international companies. Currently, Eurofarma maintains license agreements with 25 companies from countries such as Argentina, Spain, the U.S., France and India (Eurofarma, 2016).

D. Embraer

Embraer is one of the leading airplane manufacturers in the world. The company was founded in 1969 as a SOE linked to the Brazilian Aeronautics Ministry. Embraer’s predecessors date back to 1941, when the Ministry of Aeronautics was created, and to 1950, when ITA, Brazil’s Technological Aeronautics Institute, was established. It was an international firm from its very inception due to the global market for aircraft (Fleury & Fleury, 2011). In this industry, the production of large aircrafts is dominated by Boeing and EADS—Airbus, but the regional aircraft segment was highly competitive until the early 2000s.

By the early 2000s, some regional aircraft manufacturers were already in decline and Embraer came out stronger while Fairchild Dornier and Fokker permanently closed. Embraer penetrated that

network not only as a manufacturer of regional aircraft but also as parts supplier for other producers. Currently, Embraer competes as a parts supplier with companies from Japan, Russia, China, India and Mexico (Fleury & Fleury, 2011), as well as in markets related to defense.

Embraer is redirecting its sales strategy according to new trends in the world market; the company sought buyers among operators, not private buyers. In the last five years, executives have resold jets purchased recently and, in Brazil's case, the fleet has shrunk due to the economic slowdown. Despite the domestic market crisis, the company maintained about 20% of the world small jet market, delivering about 125 aircrafts in 2017, which generated revenue of up to \$1.75 billion, equivalent to 28% of revenue forecast by Embraer. The intensification of its internationalization can also be interpreted as a reaction to the domestic slowdown. In 2015, Embraer began supplying the Super Tucano to the American Air Force, with assembly in the U.S. through a joint venture. The Phenom 300 was the most-delivered executive jet in the world in 2015, for the third consecutive year. The company then migrated its Executive Aviation factory to the U.S. (FDC, 2016).

The economic crisis in Brazil affected Embraer's valuation. In 2016, the rating agency Moody's Investors Service downgraded its ratings to Ba1, following Moody's decision to downgrade Brazil's government bond rating to Ba2 from Baa3. The company has consistently maintained a high level of cash balances approaching the level of its outstanding debt. By the end of September 2015, the company's cash-on-hand and short-term investments of \$9.8 billion *reals* (\$2.5 million) approximated 70% of total adjusted debt and 2.5 times debt maturities through 2017 (Embraer Annual Report, 2016).

Internationalization Process

1) Technical Support Expansion

Embraer's initial forays in international markets were intended to provide aftermarket services and technical support for its clients. In 1975, Embraer exported its first aircraft to Uruguay; two years later, it exported aircrafts to France and then U.S. In 1979, Embraer established its first overseas subsidiary in the U.S. with the objective of promoting and concentrating sales in the region as well as offering client support (Parente, Cyrino, Spohr, & Vasconcelos, 2013).

Embraer's first product, the Bandeirante regional aircraft, was a non-pressurized twin-engine turboprop developed for the domestic market, but it also found success in the U.S. market. Indeed, by 1982 it had gained a 32% market share in the segment of 10- to 20-seat planes. The Bandeirante's successor was the Brasilia, a 30-seater launched in 1985, of which Embraer sold 352 units worldwide (Fleury & Fleury, 2011). During the 1980s, Embraer formed several partnerships and alliances with aircraft manufacturing companies from Italy, Ireland, and Argentina. Then, in 1990, the company signed important partnerships with companies in Belgium, Spain, and Chile.

2) Privatized Expansion and Increased Competition

In the early 1990s, Embraer faced an unprecedented crisis, which forced a significant reduction in its number of employees, among other structural changes. In 1994, Embraer was privatized and began to concentrate efforts on a new product, the Jet 50-seat ERJ 145, to meet the expanding regional jet market (Fleury & Fleury, 2011). To gain international presence, Embraer opened offices in Australia (1997), China (2000), Singapore (2000) and a new distribution center in Dallas, Texas. After consecutive successes, the company became profitable again and shifted its focus to improve efficiency and management processes (Parente et al., 2013).

In 2000, Embraer entered the Chinese market (see Table 5.7). Embraer opened a plant in Harbin, China, as a precondition for delivering jets to Chinese airlines in an industrial offset agreement. These subcontracting relationships were a response to the industrial development priorities of foreign governments that control the purchasing decisions of their domestic airlines. The Chinese operation is a joint venture with a local manufacturer; it relies on an assembly system of the CKD type, and Embraer offered the local manufacturer opportunity to develop aircraft for regional markets. Embraer's involvement in international assembling, in the form of its joint venture in China, was essentially driven by political constraints (Fleury & Fleury, 2011).

Table 5.7: Embraer's Internationalization Motives and Strategies

OFDI Motives:						
Country of Entry	Local	Year of entry	Resource-Seeking	Market-Seeking	Efficiency Seeking	Strategic Asset-Seeking
Before privatization						
Partnerships in Belgium, Spain, and Chile.					✓	✓
USA	Fort Lauderdale	1979		✓	✓	
France	Le Bourget	1983		✓		✓
After privatization						
China	Beijing	2000		✓	✓	
Singapore	Singapore	2000			✓	
USA	Nashville	2002				✓
Ireland	Dublin	2002		✓		
China	Harbin	2002		✓		
Portugal	Evora	2004				✓
USA	Melbourne	2011		✓		
China	Harbin JV com AVIC	2012			✓	
U.K.				✓		

Source: Embraer annual reports

3) New Partnerships and Joint Ventures

Embraer's financial operations increasingly benefited from strong government aid via BNDES, Brazil's National Economic and Social Development Bank, which set up a specific program and an administrative office to support the financing of Embraer's products. In 2004, in partnership with EADS, Embraer acquired a 65% stake in OGMA, the former Portuguese SOE in the sectors of aircraft maintenance and repairs, manufacturing of structural components, and engineering. Embraer has 70% of the stake in OGMA, while EADS holds the other 30% (Fleury & Fleury, 2011).

In 2012, a new joint venture was established in China with the Aviation Industry Corporation of China (AVIC) for the manufacture of the Legacy 600/650 executive jets using the infrastructure and other resources of the existing joint venture Harbin Embraer. During that same year, two new plants were unveiled in Evora, Portugal, Embraer's first on the European continent. Embraer started to sell Super Tucano to the American Air Force, with assembly in the U.S. via joint venture. In another segment of the market, the Phenom 300 was the most-delivered executive jet in the world in both 2014 and 2015 (FDC, 2016). Today, Embraer has twelve units abroad, located in Nashville, Fort Lauderdale and Melbourne (U.S.), Villepinte and Le Bourget (France), Alverca and Evora (Portugal), Harbin and Beijing (China) and Singapore, Ireland, the U.K., Netherlands, and Dubai (United Arab Emirates). Except for Harbin, Melbourne (U.S.) and Evora, which also assemble planes, the other plants and offices focus on after-sales assistance, customer services and sales. The firm leads a complex international supply chain, coordinated by its international offices and logistics centers.

Innovation

Embraer's technological advances were critical for the development of the ERJ 145 project, which became a major international sales success. Embraer built up distinctive competencies in project development, implementation and coordination of globally decentralized production systems, and complex project managements. Embraer's competencies in this market were first internationally recognized by the French and British authorities (1977) and by the U.S. Federal Aviation Agency (1978). The company has developed an aggressive strategy of absorbing and learning technology. For example, they developed techniques for bonding rather than riveting the structural parts of the aircraft; the company created contracts under which its engineers would be trained on-site in order to assimilate sophisticated aeronautical technologies, and signed licensing agreements and joint ventures involving specific technological projects. The global aircraft industry comprises a relatively small number of companies whose network depends on the type of product and the company leading it. Embraer became part of that network not only as a manufacturer of small jets but also as a supplier of parts for other producers (Fleury & Fleury, 2011).

With its own technology, the company has opened new niches, seeking to reduce its dependence on commercial aviation. It expanded its product line to include defense and branched into the market for executive aircraft (Fleury & Fleury, 2011). Embraer was privatized in 1994 and shifted to a financial and market orientation to prioritize its regional jet, the ERJ-145, based on a global supply network in partnership with suppliers from Chile, Spain, Belgium and the U.S. One year after the first ERJ-145 delivery, Embraer engineers have begun work on designs for the next generation Embraer jets.

5.5. Lessons from Internationalization

In each of the four cases presented here, international markets present the most appropriate scenario for companies to grow. Internationalizing companies have to compete with not only established players from developed countries, but also large emerging market players.

International markets may be challenging for Brazilian multinationals, but so is the domestic market. Between 2013 and 2017, Brazil underwent significant policy uncertainty and many even feared reform reversals. The protests against the government have shaken the country since 2013. Because of the fiscal crises, BNDES (National Bank for Economic and Social Development) has stopped financing national companies. Regulatory issues exist in several industries.

Even though Brazilian companies are expanding their operations internationally, some companies are still at an early stage of internationalization. Even if Eurofarma has acquired companies in Argentina, Uruguay, Chile, Peru, and Venezuela, and established operations over South and Central America, the company has focused more on these acquisitions than on the internationalization of knowledge as other big pharmaceutical companies have done.

Currently, the Brazilian economic slowdown and currency depreciation are attracting inward investments seeking low-cost assets of Brazilian companies. The national companies are suffering from the economic slowdown and the political crises. In 2015 and 2016, however, Brazilian multinationals were expanding in global markets, according to a study by Fundação Dom Cabral (FDC Brazilian Multinational Ranking, 2015, 2016). Despite the domestic crisis, the top 20 Brazilian multinationals managed to increase their levels of internationalization in 2014 and 2015. Nevertheless, the FDC results indicate that the international strategies of Brazilian multinationals have been affected in different ways by the local economic crises.

All four of the companies discussed here have consolidated their positions within the Brazilian market, but their internationalization strategies are essential to their competitiveness. These strategies enable them to take advantage of their multinational footprint and not depending exclusively on the domestic market. Marcopolo has aggressively expanded to other emerging countries and more recently entered more stable developed countries, such as Australia and Canada. While the domestic crisis was not a threat to Eurofarma, as the pharmaceutical market and the company continued to grow in 2015 and 2016, the company saw this moment as an opportunity to increase its exports from Brazil and to strengthen its international operations. Petrobras is redirecting its international strategies, selling some international assets and increasingly divesting non-core activities. In 2015, Embraer migrated its Executive Aviation factory to the U.S.; the company changed its sales strategy to target buyers among airline operators, rather than private buyers. In Brazil, the fleet has shrunk due to the economic slowdown, but this is a worldwide trend, as buyers opt for air taxi services over plane ownership due to the high maintenance costs.

According to studies on the relationship between international expansion and the performance of eMNCs, the benefit a company acquires from internationalization depends on how it conducts its internationalization process (Contractor et al., 2007), including how it chooses international locations. The volatility of these markets can threaten financial performance if top management does not consider risks as opportunities after entering unstable emerging countries. According to the results of Parente et al. (2013), one of the lessons learned from Brazilian eMNCs is that “country risks are to be managed, not avoided” (p. 460). In the cases of Marcopolo and Embraer, the real challenge has been building a core portfolio in target markets that can provide reasonable diversification of risk as well as the required revenue and profit growth.

An international presence can help increase a company’s innovation, since it can use a wider range of resources available at the global level. It can benefit and innovate by capitalizing on the strengths of different countries. It can also establish alliances with suppliers, research centers and competitors. Some companies disperse R&D teams in several countries, increasing their innovation capacity through the ideas and knowledge of many international sources. Through acquisitions or joint ventures in developed countries, the company can reduce R&D costs by acquiring inputs from cheaper sources, besides settling facilities in lower-cost locations.

In their internationalization processes, Marcopolo and Embraer have succeeded in seeking and taking advantage of opportunities available in other countries, which have fostered relationships with critical players essential to technological advancement. Several eMNCs have their technological and market strategies guided by technology imitation and often lack R&D capabilities (Amann & Cantwell, 2012). Rather than focusing on technology imitation, Marcopolo, Embraer and Petrobras progressively increased their technology development. Marcopolo, Embraer and Petrobras each developed core competencies in R&D in their headquarters and advanced a set of innovation capabilities. This has secured these companies’ competitiveness, positioning them among the world’s leading companies.

According to FDC’s 2016 study, 25.5% of the 50 largest Brazilian multinational companies believe that their international strategy was unaffected by Brazil’s current political-economic context. However, 74.5% claim that their international plans were affected in some way, with 28.5% of them saying that their international strategy was affected or greatly affected by the current context. But what shifted in terms of the international strategies of the 74.5% who stated some change as a result of the current context? Most (78%) increased their investments in the international market; according to the companies interviewed by FDC, these investments were designed to reduce operational risks and dependence on the Brazilian market. With the exception of Petrobras, a state-owned company massively involved in the government crises, the cases presented here follow the same logic of expanding internationally to escape domestic crises.

NOTES

¹ We accessed other international sources to investigate Brazilian multinationals (e.g., the World Investment Report (WIR, 2017) from UNCTAD, and the Boston Consulting Group—Global Challengers). WIR includes six

Brazilian companies among the 50 largest non-financial MNCs from developing nations, classified by assets abroad: Vale, JBS, Gerdau, Petrobras, Embraer, BRF (UNCTAD, 2017). The Boston Consulting Group considered eleven Brazilian companies: BRF, Brasken, Embraer, Gerdau, Lochpe-Maxion, Marcopolo, Natura, Petrobras, Tigre, Votorantin and Weg.

² GINEBRA: the project "Corporate Management for the Internationalization of Brazilian Companies" (GINEBRA) contributed to research in international business in Brazil. The GINEBRA project had financial support from São Paulo Research Foundation (FAPESP) from 2006-2010, and resulted in seven books, 15 master dissertations and 23 doctoral theses, and deepened cooperation between Brazilian research groups in the area while generated knowledge for Brazilian companies interested in operating abroad.

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Chapter 6

The Largest Colombian Multinationals: A Snapshot of the National Context, Strategies and International Focus

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1.1. Introduction

1.2. Colombia's Recent Trajectory—a Brief Review

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1.4. Colombia's Largest Companies and their Internationalization

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Annex 6.1: Top 10 Colombian Companies (Domestic Capital) by Revenues in 2016

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Executive Summary

In this chapter, the authors offer an overview of Colombia's economic and investment perspectives as well as an assessment of its biggest multinational companies' recent internationalization strategies. Traditionally, Colombia has not been a popular host for foreign investment flows, due to a lack of strong tax incentives and the presence of internal armed conflict. However, since 2011, Colombian trade and investment indicators have steadily improved even while the results for the Latin American region have not been encouraging. The peace agreement signed in 2016 is one of the drivers of these new developments, just as the increasing internationalization of Colombian multinationals fuels positive trends in outward foreign direct investments. The authors argue that even though Colombian companies are not as large as their Brazilian and Mexican counterparts; they have become successful examples of growing internationalization. Nevertheless, expansion beyond their regional hub remains a challenge for most Colombian multinationals.

6.1. Introduction

This chapter outlines the macro environment and investment dynamics in Colombia and describes the recent internationalization strategies of the largest Colombian multinational companies. The first section reviews Colombia's recent political and economic trajectory and delineates the challenges and opportunities that the country faces in the near future. The second section presents a brief review of the Inward Foreign Direct Investment (IFDI) and Outward Foreign Direct Invest (OFDI) dynamics. The third offers an overview of the internationalization of 10 leading Colombian multinationals, describing the milestones of the internationalization process, entry modes, and the scope of internationalization. Finally, the chapter concludes with a discussion of the performance of Colombian multinationals.

6.2. Colombia's Recent Trajectory—a Brief Review

Since the introduction of a new constitution in 1991, Colombia has experienced tremendous changes. With some rather difficult years behind it, the country emerged as an increasingly attractive economy, well positioned to expand. In particular, economic indicators improved considerably, turning the country into one of the most appealing investment destinations and the fourth-largest Latin American economy. For 2017 and 2018, the International Monetary Fund (IMF) expects economic growth of 2.3% and 3.0% respectively, which is significantly greater than the expected growth of other leading economies in the region such as Mexico (1.7% and 2.0%) or Brazil (0.2% and 1.7%). To some extent, these high growth expectations are buoyed by Colombia's ambitious infrastructure plan—Colombia's Fourth Generation roads—perhaps the most ambitious in Latin America. The plan involves constructing more than 5,000 miles of new roads to improve national competitiveness.

Politically, Colombia is a democracy and one of the most stable countries in the region. Since 1991, Colombia's government has worked on opening the economy and improving the country's global economic presence. More recently, the fall in oil prices led to a decline in Colombia's balance of trade due to the country's dependence on its oil exports. Foreign investment has also slowed, since the extractive sector is no longer attractive for investors. In 2015, the local currency depreciated by more than 40%, turning what had been the strongest regional currency into one of the weakest. Colombia-based businesses have had to overcome serious logistics challenges as a result of infrastructure underdevelopment marked by rugged terrain and heavy bureaucratic burden.

Even if confronted with ongoing challenges, Colombia is expected to weather difficulties with better results than most of its neighbors due to the strength of its domestic market. Colombian businesses are likely to further integrate into the global value chain of technological products, a major challenge for them since shifting to a higher value-added production basis requires better-educated employees and effective government policies. Investment in research and development has been steady at around 0.2% of Gross Domestic Product (GDP) while military expenditures since 2009 have oscillated between 3% and 4% of GDP.

Furthermore, after more than 60 years of a four-sided civil war, the Havana peace agreement between the Colombian government and the Revolutionary Armed Forces of Colombia (FARC) guerrillas in 2016 offers an additional positive outlook for Colombia's economy. The agreement is expected to stimulate investors' confidence in the economy and open up new opportunities for national and foreign investment. These expected benefits have led the National Planning Department to estimate a positive impact in the medium term on different economic indicators that can boost GDP growth by 1.1 percentage points. More specifically, the country's "peace dividends" are predicted to increase IFDI to \$23 billion, compared to the record achieved in 2013 of \$16.2 billion. It is foreseeable that many more multinationals would consider the country as a possible investment destination in the short and medium term. The absence of armed conflict in vast areas of the country would allow the entry of domestic and foreign companies to previously untapped areas, where they can find growth opportunities through new clients or new suppliers of raw materials.

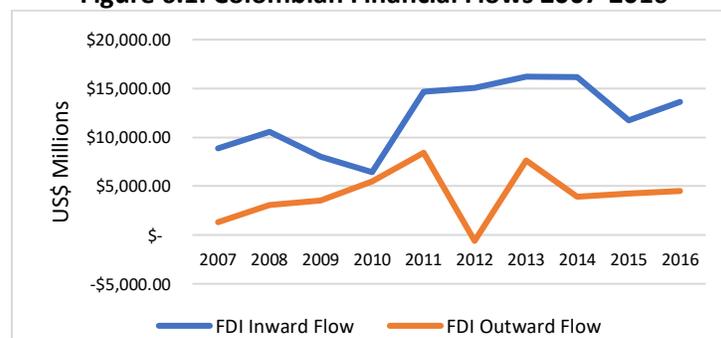
However, the general infrastructure and human capital underdevelopment in these vast territories presents challenges, and would demand companies' active involvement in the post-conflict period in ways not strictly limited to market-mediated transactions. Other essential variables that would affect the economic prospects of the country in the near future are fluctuating oil prices and instability in neighboring Venezuela. In the face of these uncertainties, Colombia's real challenge is attracting foreign capital, as the country has never been a top destination for investors in the region. Colombian FDI and trade indicators used to be among the lowest in South America. Since 2011, however, investment figures have markedly increased.

6.3. Colombian Investment Flows

Historically, Colombia has not been a popular destination for foreign investors for two reasons: first, a lack of strong government incentives for foreign investors, in contrast to the developments in neighboring countries such as Panama and Peru; second, instability associated with the internal armed conflict.

Between 2000 and 2016, Colombian IFDI increased by more than 400%, while for the same period the Latin America and Caribbean region's total IFDI increased 78%, and Brazil and Mexico's IFDI increased 45% and 79% respectively. The increase in Colombian outward FDI has been even larger, reaching more than 1200% for the same period. More recently, Colombian inward and outward FDI have continued to increase since 2011, in contrast to the poor performance of the region. These developments are consistent with the increasing investments from emerging economies within the E20, clearly led by China.

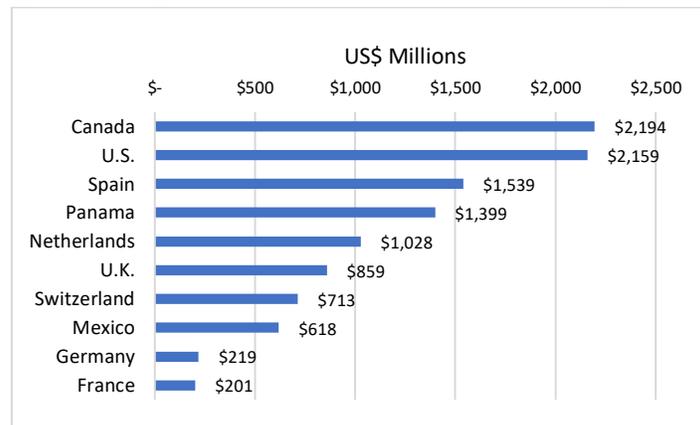
Figure 6.1: Colombian Financial Flows 2007-2016



Source: Authors' analysis based on data from UNCTADstats and World Investment Report (WIR) 2017. Annex tables 6.1 and 6.2. Available on: <http://unctad.org/en/Pages/DIAE/World%20Investment%20Report/Annex-Tables.aspx>

Investments in Colombia have increased significantly over the last decade (Figure 6.1). Government incentives and improved security have stimulated international investment, putting Colombia in fourth place in the region behind Brazil, Mexico, and Chile in terms of FDI inflows. Again, oil is very important for the dynamics of foreign investment in Colombia; high international oil prices were behind the rise of foreign investment. Since 2006, oil investments have accounted, on average, for 30% of yearly FDI inflows. Mining, Energy, and Manufacturing have also attracted sustained investor interest, and a few special projects related mainly to infrastructure attracted the attention of Chinese investors.

Figure 6.2: Top 10 Investor Countries in Colombia by IFDI Flows, 2016



Note: Excludes financial centers in the Caribbean

Source: Authors' analysis based on data from Banco de la República. 2017. Available at:

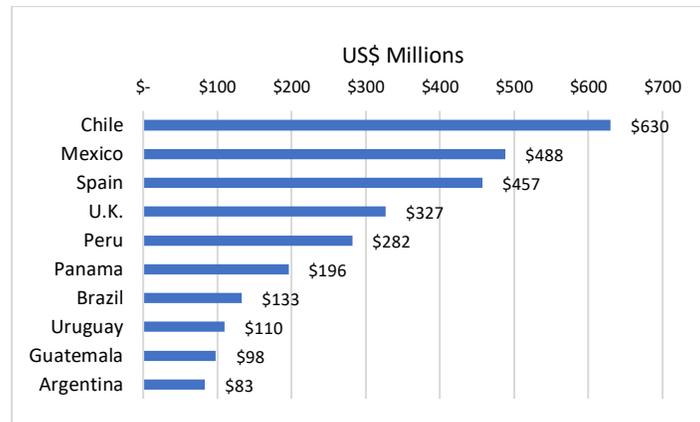
<http://www.banrep.gov.co/inversion-directa>

As seen in Figure 6.2 above, most of the inward investments were European in origin. The U.S. and the U.K. were also among the top five investor countries in the last 10 years. A non-negligible share of IFDI flows came from tax havens, which is common but also obscures the real origin of the investments. For example, in 2016 Bermuda became the third largest investor country in Colombia, while the Cayman Islands became the tenth largest. Moreover, occasional investments make an unusual country appear at the top of the list of the largest investors. For example, in 2012, Chile, which does not usually feature among the top 10 investors in Colombia, became the single largest investor thanks to the acquisition of Carrefour's operations in Colombia by Cencosud. The fact that a single business deal can have such a dramatic impact on the panorama of FDI inflows indicates that Colombia's absolute levels of FDI are still relatively small player in terms of FDI. In 2016, the only significant regional investor country was Mexico.

Since 2008, Colombian companies have increased their investments abroad, especially in the Latin American region (see Figure 6.3). These developments have been driven by increased access to finance, as well as foreign and domestic incentives and especially low deal prices. In 2016, the U.K. and Spain were the only non-regional destinations among the top 10. Colombian multinationals in Energy and Financial Services are leading this trend. Companies in these industries expanded to Central America because of cultural and administrative proximity, reasonable growth rates and lack of significant growth

opportunities in the domestic market. The expansion of large national banks to Central America and Hispanic South America went hand in hand with the interest of Colombian companies to start operations abroad. Moreover, since 2008, Colombian multinationals took advantage of the effects of the financial crisis, which caused withdrawals of foreign (mainly Spanish) firms from Latin America, to expand their business abroad. This positive inertia was partially offset by the devaluation of the *peso*, which led to a significant reduction in the Colombian OFDI.

Figure 6.3: Top 10 Destination Countries for Colombian by OFDI Flows, 2016



Note: Excludes financial centers in the Caribbean

Source: Authors' analysis based on data from Banco de la República. 2017. Available at:

<http://www.banrep.gov.co/inversion-directa>.

Colombian OFDI is mainly composed of Greenfield and M&As, leaving a small share for joint ventures and brownfield projects. Between January 2016 and March 2017, the Greenfield projects by Colombian companies represented only 0.01% of global Greenfield FDI. Most of these companies' Greenfield investments focus on the domestic market of host countries, while a smaller share of investments targets the regional Latin American market. Even fewer of these investments are meant to leverage the presence of Colombian companies in the U.S.

Between 2003 and 2017, 71 Colombian companies undertook 120 Greenfield projects, totaling \$7.7 billion and 18,329 new jobs. Among these companies, Bancolombia stands out as one of the most active Greenfield investors with its Central American subsidiaries. Grupo Sura has also been a very active investor in Greenfield projects, and has been the most acclaimed Greenfield investor by the media. Among the Greenfield projects announced for 2017 from non-service companies, the investment of \$8 million by the large sportswear manufacturer Supertex stands out. The host country is Nicaragua, in which a new apparel manufacturing facility is planned. The facility will be the company's third manufacturing site in Central America; it is expected to generate 1,500 jobs by 2020. With it, Supertex expects to increase its production capacity in order to attract new clients to the region. The current company clients include Patagonia, Adidas, Nike and Under Armor (fDiMarkets, 2017). Greenfield

investments by Colombian companies in 2017 appear to be increasing with Grupo Argos, Grupo Phoenix, Miguel Caballero y Proquinal leading this trend.

M&A activity in 2017 also appears to be recovering: total deal value for the first six months of the year already exceeded the total yearly value in 2016 of \$754.10 million. The average deal value for the first half of 2017 was \$251.37 million compared to \$71.38 million for the previous year. In 2016, Colombia was part of a regional trend pursuing small M&A deals, the only exception to this trend being Mexico. In 2017, most M&As by Colombian companies took place in Latin America. The pattern of the M&A deals undertaken by Colombian companies in 2017 is very similar to those in other emerging economies in the region, such as Mexico and Brazil. Regarding the valuation and size of the transactions, even Brazil's M&As have been severely affected by the political instability of the country.

Bavaria made the biggest M&A deal in 2017. According to some criteria, the company is a Colombian investor, but given that Bavaria is part of the global corporation that resulted from the merger between AB InBev and SABMiller at the end of 2016, this operation might also be treated as a European/U.S. investment to Latin America via Colombia. More generally, regional M&A activities by Colombian companies are on the rise. This was driven by favorable growth rates within the region between 2008 and 2012 and low transaction prices due to increased uncertainty in the region, mainly in Brazil. In particular, M&A activities seem to provide a channel for diversification as a way to counter economic slowdown and *peso* devaluation.

For example, in late 2016 there was a noteworthy transaction by ISA with a target company in Brazil, together with investment by ODINSA in an infrastructure project in the Cayman Islands. In addition, Grupo Sura and Avianca, which can be seen as Colombian companies even though currently the majority of their shares are held by international investors, were also active in the M&A market. Regional investments make up the majority of the value of M&A deals, with only about 10% of investments targeting U.S. and U.K. companies. Brazil was the preferred target in the last 18 months mainly because of the size of the transactions by Bavaria and ISA. The following section delves deeper into these transactions and strategies to demonstrate how the biggest players in the country have driven the increase in outward investment flows and increased their presence in international markets, while Colombia's OFDI share remains small compared to the total OFDI from emerging economies.

6.4. Colombia's Largest Companies and their Internationalization

There are a number of factors that explain why the largest Colombian companies (companies controlled by Colombian capital) do not necessarily engage regularly in FDI while many of the companies that generate the most revenues on the Colombian market are foreign-owned. The size of the national market, the oligopolistic structure of a number of industries, and the relatively late opening of the Colombian economy to international trade are three factors that contribute to this phenomenon. Annex 6.1 features the 10 largest companies in 2016 controlled by Colombian capital together with a brief description of their sectors and activities. The data is taken from the annual ranking of *Semana*

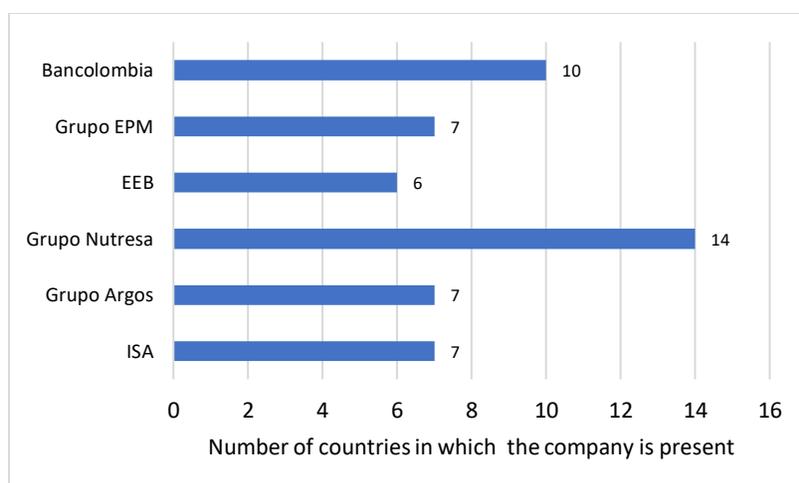
magazine, a respected and trusted national source, as well as EMIS database and the companies' websites, which are used for analyzing the international strategies of Colombian multinationals. Colombian companies have historically more frequently been targets—as opposed to buyers—in M&A operations. Thus, for this analysis, we considered only companies that were controlled by Colombian capital in 2016. This decision excluded significant multinationals such as Avianca, Grupo Éxito and Terpel, among others.

Furthermore, from this selection, AméricaEconomía¹ identified only six of the largest Colombian companies in the 2016 ranking as *multilatinas*—i.e., companies that engaged in FDI among the top 100 Latin American multinationals (see Figure 6.3). Annex 6.2 contains short case studies of the internationalization strategies of these large Colombian firms, which historically engaged in FDI but not as part of the top 100 multilatinas ranking.

The six largest multilatinas have, on average, an international presence in eight countries and mainly within regional markets (Figure 6.4). All of them are present in the Central American and Caribbean region, as well as in countries neighboring Colombia such as Venezuela, Peru and Ecuador, which are natural expansion targets. Only ISA and EEB, companies within the Energy sector, have a presence in Brazil, and Grupo Nutresa has the farthest-reaching expansion strategy, participating even in the U.S. and the Asia-Pacific region (Malaysia). Annex 6.3 compares the age of the biggest companies in Colombia, Brazil and China and shows that, surprisingly, Colombian companies are quite old compared to their counterparts in the larger economies. Whereas Colombian multilatinas are on average 90 years old, their Chinese counterparts are only 40 years of age.

ISA is Latin America's largest electrical energy transporter. It has four major business units: electric energy transportation, road concessions, telecommunications transportation and real-time systems intelligence management. In 2016, ISA had 33 affiliates and subsidiaries in seven countries in South and Central America. In its internationalization process, ISA relied on both solo investments and joint ventures with local companies. Simultaneously with the process of internationalization, ISA diversified in new business areas leveraging the knowledge it had of host countries' environment and taking advantage of Colombia's trade agreements. ISA is the most international of the Colombian companies, with 68% of its revenues produced overseas (Annex 6.4), a presence in seven countries, and the highest proportion of overseas employees—63.7% (Annex 6.5). A major challenge that the company has faced is the region's slowdown after 2014. However, this has not stopped ISA's aggressive expansion. In 2017, it benefited from the diversification of operations in Peru, Chile and Colombia, as well as a final resolution regarding a dispute in Brazil.

Figure 6.4: Internationalization of Selected Colombian Multinational Companies



Company	TRIAD			UNITED STATES & CANADA	MEXICO	CENTRAL AMERICA AND CARIBBEAN	HISPANIC SOUTH AMERICA
	AMERICA	EUROPE	ASIA				
ISA	Yes					Yes	Yes + Brazil
Grupo Argos	Yes			Yes (US)		Yes	Yes
Grupo Nutresa	Yes		Yes (Pacific)	Yes (US)	Yes	Yes	Yes
EEB	Yes	Yes				Yes	Yes + Brazil
Grupo EPM	Yes				Yes	Yes	YES
Bancolombia	Yes					Yes	YES

Source: Authors' analysis based on data from Multilatinas 2016, AméricaEconomía.

Grupo Argos is Colombia's leading cement company, formed by the merger of eight smaller companies. It controls 48% of the concrete market in the country. The internationalization of Argos started in 2006 with the acquisition of a mixing plant in the U.S. In parallel with its geographic expansion, Grupo Argos diversified to energy and thermal power. Argos' internationalization strategy consisted of a series of acquisitions of concrete plants in different countries. The strategy, at the beginning, was mainly driven by the market opportunities triggered by the global financial crisis, which enabled Argos to acquire assets from companies that decided to disinvest in the U.S. and Central America. After consolidation in these markets, the company continued to expand, and plans to participate in more than 20 markets in the near future. In 2016, Argos was the fifth largest cement company in Latin America and the sixth largest concrete producer in the U.S., with 50% of the group's income produced overseas. Since 2000, the company has gone through an ambitious reorganization process focused on investing in port development, construction and real estate as well as in establishing energy-producing facilities and geographically expanding its concrete business. One of the results is an increase in the percentage of employees abroad, which reached 46.2% in 2016. The company managed to balance the economic difficulties in Colombia with its global investments, effectively diversifying its risk.

Grupo Nutresa is a food manufacturing holding company that dominates 59.6% of the market for processed foods in Colombia. In 2016, it was present in 72 countries and its international sales

amounted to \$1.4 billion. Its first overseas investment took place in 1995 with the creation of a distribution company in Ecuador. Grupo Nutresa's internationalization strategy has consisted predominantly of acquisitions, first of distribution and then of production companies. The acquisitions included Nestlé's cookies and chocolate production in Costa Rica in 2004 and the acquisition of the leading cookie company in Costa Rica, Galletas Pozuela in 2006. Nutresa has also done Greenfield investments, as in the case of Cordialsa, a marketing and distribution company focused on the U.S. and Central American markets. Yet, in 2016, less than 40% of the revenues of Grupo Nutresa were attributed to foreign operations despite its broad geographical spread in 14 countries. Nowadays, one of the main challenges faced by the company is related to the price of raw materials. Since 2014, in parallel with the Colombian *peso* devaluation, prices for raw materials, such as cacao, have increased more than 40%, eroding the profitability of the company and its competitiveness in certain global markets.

Empresa de Energía de Bogotá (EEB) is part of GEB, a leading Latin American company in the sectors of electrical power and natural gas with a presence in Colombia, Peru, Guatemala and Brazil. EEB is dedicated mainly to the transportation and distribution of electrical energy. The electrical grid operated by the company consists of 1,447km and 16 substations. It is currently the second-largest electricity transportation company in Colombia, with a market share of 12.5%. The internationalization of EEB began in 2002 with the acquisition of 40% of REP in Peru. Likewise, the company diversified its portfolio into businesses related to electricity, transportation and gas distribution. Starting in 2008, the company began a massive acquisition wave in the region and in Colombia, consolidating operations in Peru, Guatemala, Brazil, and Panama. In 2014, EEB reached the European market by acquiring Transportadora de Gas Iberoamericana in Spain. Among the six largest Colombian multinationals, EEB has the smallest share of international revenues, below 20%.

EPM Group is a provider of public services including electric energy, natural gas, water, sewage and solid waste collection, information technologies, and communications. The group currently consists of 46 companies. Specifically, EPM is part of the EPM Group, a public utility company: a water, sewage, power and natural gas supplier, as well as a provider of wired and wireless telecommunications services. EPM Group has relied on the acquisition of different companies in related industry sectors to expand internationally. These acquisitions were mainly driven by the diversification strategy adopted by the company in the early 2000s, after the consolidation of the group and its transformation into a complete public services provider. Additionally, the company has created EPM Mexico and EPM Chile to manage its investments in those countries. EPM plans to invest \$3.6 billion in infrastructure projects from 2015-2018 to leverage the organization's sustainable growth in the form of expansion, modernization and growth projects in the energy, gas and water sectors, as well as accompanying social and environmental responsibility programs. For the same period, EPM Group's total investments are expected to reach \$5 billion, of which 80% are earmarked for the energy business unit and the remaining 20% for the water business unit. In geographic terms, 89% will be invested in Colombia and 11% in Central and South America. The effects of this aggressive internationalization plan are evident in the year-to-year increase in the share of overseas workers: for the 2014-2015 period, this indicator increased 60.8%. In 2017, the EPM Group is considering two new targets: the water and sewage business in the U.S., as well as the urban subsector in Colombia.

Bancolombia is a financial group that offers bank services such as deposits, credit and debit cards, funds, leasing, loans, investment banking, factoring and fiduciary, and trust services to both individuals and corporations. It is the largest bank in Colombia and is part of Grupo Sura. In 2016, Bancolombia had a presence in El Salvador, Guatemala, and Panama, where it acquired local banks. In 2007, Bancolombia took advantage of the economic slowdown that culminated in the 2008 global financial crisis and started acquiring banks in Central America (Banagricola in El Salvador, BAM in Guatemala and Banistmo in Panama). Prior to this, Bancolombia provided offshore banking services for Colombian citizens only, but with these acquisitions, it became fully operational abroad. The acquisition of Banistmo was the largest cross-border acquisition ever performed by a Colombian bank. In addition, in 2016 Bancolombia had offshore banking services for Colombian citizens in Peru, Miami, Puerto Rico and the Cayman Islands. Bancolombia, the largest national bank in the country, has focused on locally adapted strategies and kept different brand names in each country. This approach has enabled Bancolombia not only to benefit from consumers' trust in its purchased assets, but also to diversify country risk.

6.5. Conclusion

The Colombian economy has recently been affected by several factors including the drop in commodity prices, the devaluation of national currency and the political instability in the Latin American region related to corruption scandals, as well as the recent end to a long-standing civil war. While peace was greeted with optimism, it also increased uncertainty for the whole society. These developments required adjustments by Colombian multinational companies, many of which managed to keep a strong focus on international operations.

In 2016, the biggest Colombian multilatinas were on average present in eight countries, mostly in the region. Only two have recently invested in the U.S. market, and only one has invested in Europe and Asia. Colombian multinationals typically exhibit a level 1 internationalization pattern, which is characterized by presence in the neighboring Central American and the Caribbean countries as well as in Hispanic South America, as only two of the six multilatinas with recent investments abroad have invested in Brazil. Apparently the linguistic, administrative, and market challenges in Brazil are perceived as significant.

Taking the percentage of overseas revenues as a measure of commercial strength, ISA stands out as an extraordinary performer with almost 70% of its revenues generated abroad. At the other end of the spectrum is EEB, with less than 20% overseas share of its revenue, while the other four companies report overseas shares in the range of 30-45%. Among the six multilatinas, only ISA and Grupo Argos increased their share of revenues abroad in 2016 compared to 2014-2015.

Regarding the share of overseas employees, ISA reported the highest (63.7%), while EPM—the lowest (18%). EEB, EPM, Grupo Nutresa and Grupo Argos increased the share of overseas employees with respect to the 2014-2015 period (see Annex 6.5).

All in all, Colombian multinationals follow a path to internationalization similar to that of multinationals from other countries in the region. The top Colombian multinationals featured in this report are on average 90 years old, and in this they are identical to the age profile of the top multinationals from Brazil. Chinese multinationals, in contrast, are markedly younger. At the same time, Colombian multinationals show a high level of heterogeneity that can be attributed in part to industry-specific factors but most of all to differences in their resource base and strategic orientation. Learning to compete outside of their regional turf remains the next big challenge for most Colombian multinationals.

Annex 6.1: Top 10 Colombian Companies by Revenues in 2016

Rank	Company	Revenues	Net Income	Total Assets	Founding Year	Industry	Description
2	Ecopetrol	\$ 15,644,935	\$ 788,022	\$ 40,426,239	1951	Coal, Oil and Natural Gas	Ecopetrol's business includes exploration, production, transportation and refining of oil, petrochemicals and biofuels. The company drills 17 wildcat exploratory wells and seven foreign wells in association with other companies.
7	ISA	\$ 3,978,249	\$ 1,644,631	\$ 12,835,696	1967	ICT's, Energy transportation, Communications	Interconexión Eléctrica S.A (ISA) is Latin America's largest electrical energy transporter. Nowadays, the company has four major business units: electric energy transportation, road concessions, telecommunications transportation and real time systems intelligence management.
8	Nutresa	\$ 2,843,888	\$ 131,004	\$ 4,565,437	1920	Food and Beverages	Grupo Nutresa is a food manufacturing holding company that comprises 59.6% of the market share of processed foods in Colombia. Its international sales amount to \$1.4 billion and it is present in 72 countries.
9	Cementos Argos	\$ 2,791,689	\$ 184,371	\$ 6,384,090	1934	Cement, Concrete	Argos, was founded in 1934. In 2005, the company led the merger of eight cement companies in Colombia. Nowadays it controls 48% of the concrete market in the country.
4	EPM	\$ 2,294,372	\$ 665,052	\$ 11,963,872	1955	Energy transportation, Electrical Power, Telecommunications	Grupo EPM was founded in 1998 when EPM, the group's biggest company became a state-owned industrial and commercial company. EPM is a provider of public services including electric energy, natural gas, potable water, waste collection, information technologies and communications.
	Bancolombia	\$ 1,861,435	\$ 884,267	\$ 45,949,360	1875	Financial Services, Banking	Bancolombia is a financial group that offers several bank services such as deposits, credit and debit cards, funds, leasing, loans, investment banking, factoring and fiduciary and trust services to both individuals and corporations. It is the largest bank in Colombia and is part of the Grupo Sura.
35	Organización Corona	\$ 1,861,008	\$ 52,046	\$ 1,480,743	1881	Construction material and Retail, Ceramic	Corona is a Colombian multinational with 135 years of business history. It is composed of six strategic business units dedicated to the manufacture and marketing of products for the home and construction.
32	Promigas	\$ 1,339,295	\$ 202,489	\$ 3,087,652	1974	Transport and Distribution of Natural Gas	Promigas S.A. is a company dedicated mainly to transportation and distribution of natural gas, distribution and commercialization of electric energy, integrated solutions for industry and power generation.
39	EEB	\$ 1,026,827	\$ 444,424	\$ 7,828,080	1896	Energy transportation, Electrical Power, Telecommunications	Empresa de Energía de Bogotá (EEB) is part of GEB. EEB is a company dedicated mainly to the control, transmission and distribution of electrical energy. The infrastructure operated by the company consists of an electrical network with a length of 1,447km and 16 substations.
53	Alpina	\$ 675,497	\$ 6,867	\$ 349,854	1969	Food and Beverages	Alpina is dedicated to the manufacture, purchase, sale, import and export of all kinds of food products, especially dairy products and beverages. The company is also present in Ecuador, the U.S., Peru and Venezuela.

Source: Authors' analysis based on data from Revista Semana, EMIS and each company webpage. Ranking in Revista Semana of the biggest companies does not include financial services companies. Financials were taken from EMIS.

Annex 6.2: Large Colombian Companies with History of International Investments

Ecopetrol, the only Colombian company to appear in the Forbes annual rankings of the world's largest companies, has refrained from FDI since 2014, resulting in its absence from the 2016 ranking of the largest multinationals by AméricaEconomía. Founded in 1951, Ecopetrol is Colombia's national oil company and is one of the 30 largest oil companies in the world. Its business activities include exploration, production, transportation and refining of oil, petrochemicals and biofuels. In 2017, the company drilled 17 wildcat exploratory wells and seven foreign wells in association with other companies in Peru, Brazil, Angola and the Gulf of Mexico. Despite these long-standing foreign operations, Ecopetrol has not actively invested abroad for more than four years. Ecopetrol is not alone

in this; Corona, Promigas and Alpina are also in the top 10 list but have not been actively engaged in foreign investment recently.

Corona is a Colombian multinational holding with 135 years of business history. It is composed of six strategic business units dedicated to the manufacturing and marketing of construction and home products. In 2016, it had 19 manufacturing plants in Colombia, three in the U.S., three in Central America, three in Mexico and one in Brazil, as well as a global supply office in China and a marketing office in Mexico. It sells products throughout North America, Central America, the Caribbean, Brazil, Chile, Venezuela, Italy, Spain and the U.K. Corona's early internationalization process began in the late 1990s when the company started exporting to neighbor countries and countries belonging to the Andean Pact. It made its first investments in joint ventures in Chile (in association with Sodimac-Chile) and facilities in Mexico and the U.S. Corona consolidated its expansion strategy with the acquisition of companies in Central America (2013), Mexico (2014) and Brazil (2015) and the construction of production plants throughout the Latin American region.

Promigas S.A.'s business is the transportation and distribution of natural gas, distribution, and commercialization of electric energy, and provision of integrated solutions for industry and power generation. Promigas S.A. transports around 47% of Colombian natural gas. It also participates in a number of companies in the Colombian Energy sector. For example, through Compañía Energética de Occidente, in which Promigas S.A. has a majority stake, the company distributes electric power to more than 35 cities in Colombia. In 2006 it first internationalized by taking a 40% stake in Cálidda, a company in Peru, and acquiring Gas Natural de Lima y Callao S.A. (Peru). In 2007 Promigas continued to expand internationally by creating joint ventures in Mexico and Chile. In 2017, the company distributed natural gas to Colombia and Peru and exported gas to several countries in the region. Recently, the company has not made foreign investments except for the development of the Maurice Bonnefil LNG terminal in Lafiteau, Haiti.

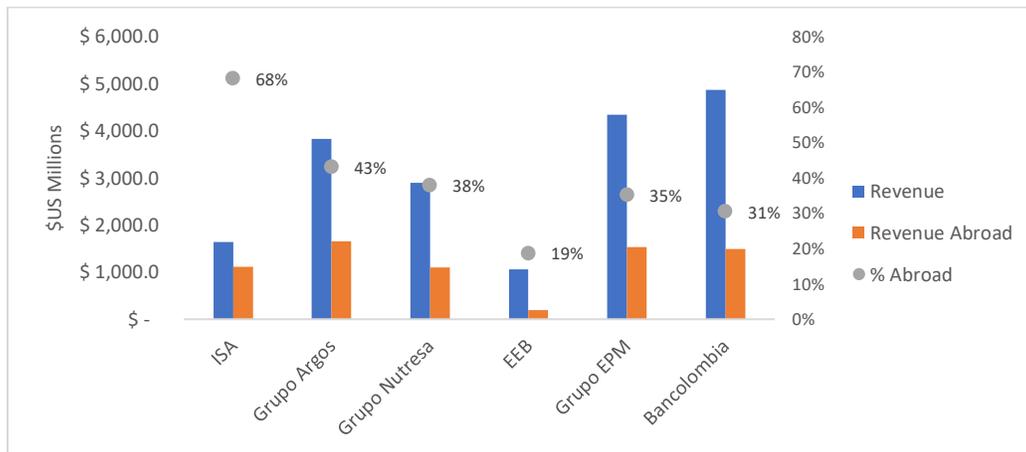
Alpina is dedicated to the manufacturing, sales, import and export of all kinds of food products, especially dairy products and beverages. The company has six factories in Colombia, two in Ecuador and one in Venezuela. The company offers cheese, butter, yogurt, milk drinks, buttermilk, flavored milk, and oatmeal, etc., as well as desserts and sweets and functional foods. In the 1990s, Alpina entered international markets via exports. The company expanded its industrial production in Colombia and initiated sales in Venezuela and Ecuador. In 2007, the company acquired Proloceki S.A. in Ecuador, which was the leading cheese company there. In 2011, Alpina began investing in the U.S. with the construction of the first Alpina Foods production plant in the state of New York. In May 2017, the company acquired Don Maiz S.A., a local producer of semi-ready corn products, which helped diversify its portfolio.

Annex 6.3: Top Seven Colombian, Brazilian and Chinese Firms: Age Comparison

Colombia		Brazil		China	
Ecopetrol	1951	Petrobras	1953	State Grid	2002
ISA	1967	Itau Unibanco Holding	1945	Sinopec Group	2000
Nutresa	1920	banco do Brasil	1808	China National Petroleum Industrial and Commercial Bank of China	1988
Cementos Argos	1934	Banco Bradesco	1943	China State Construction Engineering	1957
EPM	1955	JBS	1953	China Construction Bank	1954
Bancolombia	1875	Vale	1942	Agricultural Bank of China	1951
Organizacion Corona	1881	Ultrapar Holdings	1937		

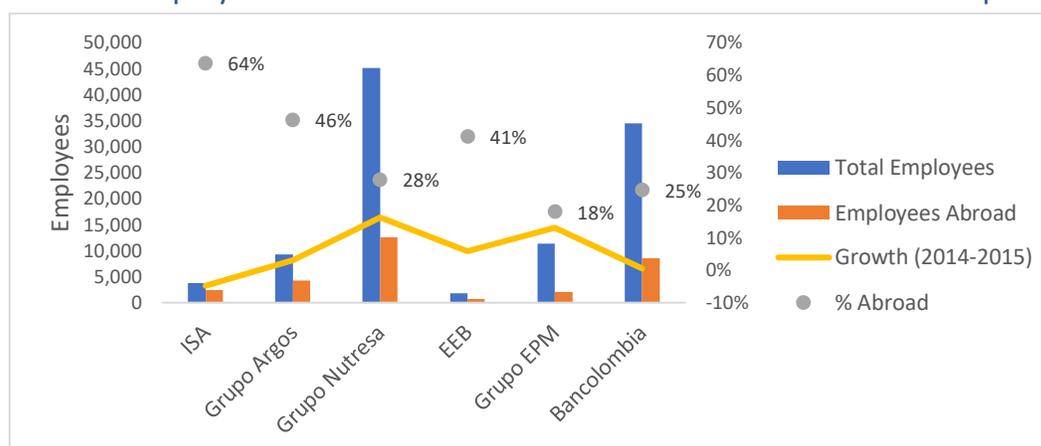
Source: Authors' analysis based on data from each company webpage.

Annex 6.4: Revenues Abroad of Selected Colombian Multinational Companies



Source: Authors' analysis based on data from Multilatinas 2016, AméricaEconomía.

Annex 6.5: Employees Abroad of Selected Colombian Multinational Companies



Source: Authors' analysis based on data from Multilatinas 2016, AméricaEconomía.

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NOTES

¹ AméricaEconomía is the most influential magazine of business, economy, and finances in Latin America. Annually, it publishes a ranking of the top 100 Latin American multinationals according to four criteria: commercial strength, foreign employees, international presence and expansion. Available at: <https://rankings.americaeconomia.com/2016/multilatinas/>.

Chapter 7

Energy Challenges and Business Opportunities in Asia

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- 1.1. Introduction
- 1.2. Public Policy to Expand Energy in Asia
- 1.3. Business Insights on Energy Challenges and Evolving Opportunities
- 1.4. Financing Asia's Energy Expansion
- 1.5. New Skills Are Needed for a Growing Energy Sector
- 1.6. Conclusion

Executive Summary

This chapter provides insights and policy recommendations from the private sector on energy opportunities and challenges in Asia. It examines the latest macroeconomic and energy trends and provides an overview of recent energy policies, highlighting how policy makers are supporting private-sector-led investments in energy generation and energy technologies.

Some key messages include:

- Emerging Asia's energy needs are expected to surge with demand, more than doubling in India and Southeast Asia from 2013 to 2040.
- China is expected to remain the largest energy consumer globally.
- Asia provides impressive growth opportunities for both energy and non-energy companies looking to invest in energy generation, energy efficiency or related technologies.
- Energy infrastructure shortages are one of the biggest barriers to growth in Southeast Asia and India.
- Underdeveloped transmission and distribution grid infrastructures are constraining the benefits of increased generation capacity, among others.

7.1. Introduction

Energy demand will surge across Asia in the coming decades, requiring significant investment from local and international firms. The International Energy Agency (IEA) projects large increases in Total Primary Energy Supply (TPES) in the region. The TPES is an indicator of energy demand and consumption and is expected to rise by 60% between 2013 and 2040 in Emerging Asia (i.e. the People's Republic of China (hereafter, "China"), India and the ten Association of Southeast Asian Nations (ASEAN) member countries). This growth in demand can be attributed to a number of socio-economic factors, including robust and sustained GDP growth, an increasing population, and an expansion of energy access and industrial needs (OECD, 2017a).

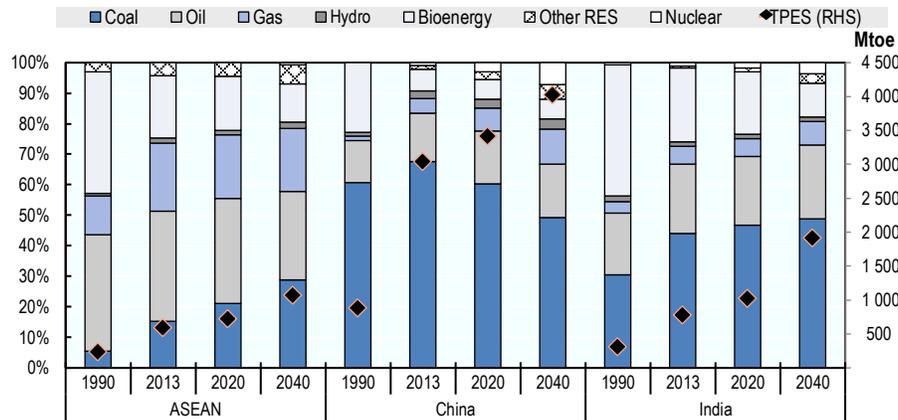
This surge will generate several energy challenges in terms of access, security and infrastructure. Private investment will be pivotal to unleash Asia's growth potential. Domestic large firms and multinational corporations are already playing a key role in scaling up investment. However, technical, administrative and economic barriers continue to hinder investment flows into the region (OECD, 2017a). This chapter provides insights on regional energy trends, public policy updates and private sector views on Asia's energy sector. The analysis builds on discussions at the OECD Emerging Markets Network (EMnet) meeting on doing business in Asia titled "Energy Challenges and Business Opportunities", held on March 14, 2017 at the OECD headquarters in Paris.

Energy challenges vary across the region

While energy is a fundamental factor for growth across Emerging Asia, substantial variation in natural resource endowments, existing infrastructure and technical capacities exist between countries. China, India and Southeast Asia vary substantially not only in energy supply mix, but also in energy demand and infrastructure capacities (Figure 7.1).

China will continue to have the largest share of energy demand in Emerging Asia in 2040. However, its share of the region's Total Primary Energy Supply will decline by 12% between 2013 and 2040 due to increased energy production in India and in ASEAN countries (IEA, 2015a; IEA, 2015b). India's energy supply has surged with large increases in coal, solar and wind. Still, the energy infrastructure gap is holding back social wellbeing and corporate investment in manufacturing (OECD, 2017c). To prevent shortages, energy supply needs to increase by 80% over the same period (IEA, 2015b). Consequently, Southeast Asia will face severe infrastructure constraints in the coming decades. The International Energy Agency (IEA) estimates that \$2.5 trillion is needed to close the infrastructure gap with an additional \$420 billion needed for energy-efficiency investments (IEA, 2015c).

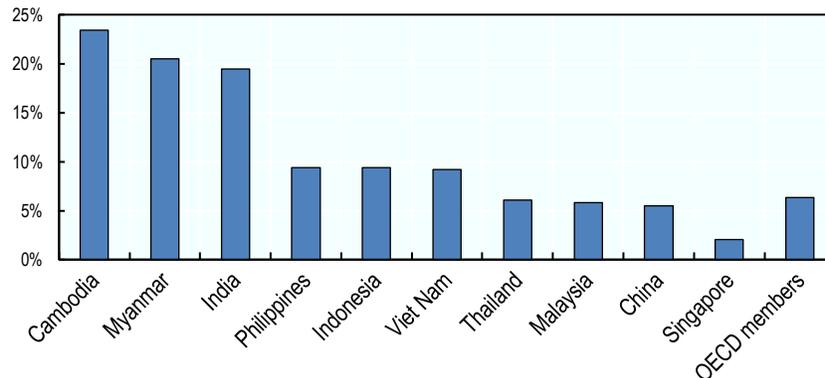
Figure 7.1: Total Primary Energy Supply in ASEAN, China and India, 1990-2040



Note: Other RES include wind, solar PV, and geothermal. Calculations are based on IEA’s New Policy Scenario.
 Source: OECD (2017a), *Economic Outlook for Southeast Asia, China and India*; OECD Development Centre, based on IEA (2015a), *World Energy Outlook 2015*; IEA (2015b), *World Energy Outlook 2015: Special Report on Southeast Asia*.

The quality of energy infrastructure is as vital as the quantity. Stressed grids and aging infrastructure have led to transmission and distribution (T&D) losses. Within Emerging Asia, Cambodia, Myanmar and India face considerable limitations to the quality of their grid infrastructure, while China’s grid sees low losses due to high investment in technological innovations such as ultra-high voltage (UHV) transmission. Singapore, Malaysia and Thailand’s low T&D losses also indicate robust grid infrastructure (Figure 7.2) (ADB, 2017).

Figure 7.2: Electric Power Transmission and Distribution Losses in Selected Asian Countries, 2014



Source: Authors’ analysis based on World Bank (2014), World Bank World Development Indicators database (accessed May 1, 2017)

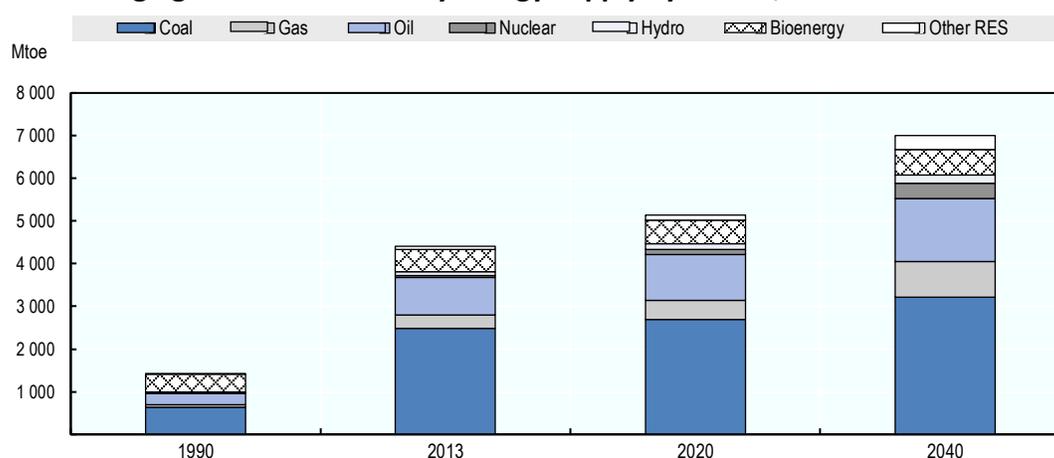
Fossil fuels will be the dominant energy source through 2040

Fossil fuels are expected to remain the most used energy source in Emerging Asia. Fossil fuels’ share of total primary energy supply will only decrease from 83% in 2013 to 79% by 2040, despite ambitious plans to accelerate renewable energy production in the region (Figure 7.3). Throughout Emerging Asia, coal is the preferred energy source, but this trend has already started to reverse in China

with efforts to transition from fossil fuels to cleaner sources. The continued use of fossil fuels has also prompted the adoption of clean energy technologies to curb carbon emissions.

India and China led growth in global coal investment, which increased by an average of 4.7% per year from 2000-10 (IEA, 2016a: 204). While coal investment declines globally, India and Southeast Asia are expected to continue to ramp up coal capacities to meet rapid demand growth as quickly as possible, while also increasing investment in renewables (Figure 7.4) (IEA, 2016a). Southeast Asia's coal demand will triple and see the fastest growth globally at an average of 4.4% per year from 2014 to 2040 (IEA, 2016a). In 2015, India surpassed China as the leading global coal importer and overtook the U.S. as the second largest coal consumer. India's coal consumption will rise from 540 million metric tons of carbon equivalent (MTCE) in 2014 to reach 1,340 MTCE by 2040, equal to 48% of primary energy demand (IEA, 2016).

Figure 7.3: Emerging Asia's Total Primary Energy Supply by Source, 1990-2040

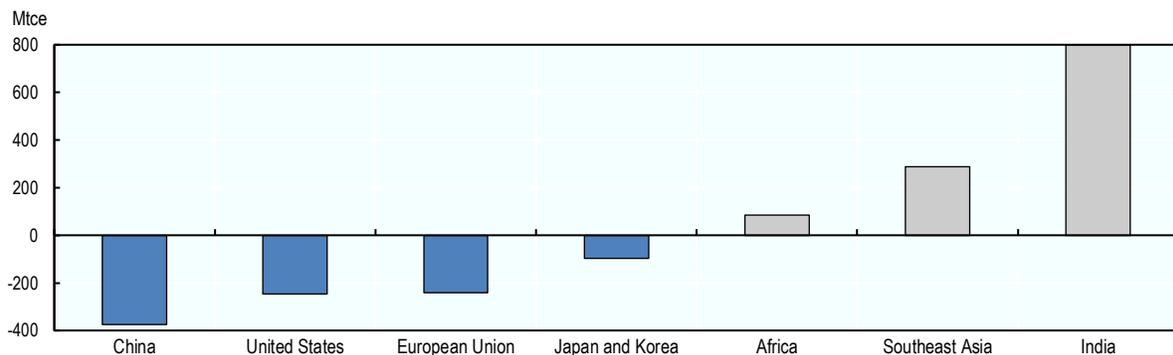


Note: Other RES include wind, solar PV, and geothermal. Calculations are based on IEA's New Policy Scenario.

Source: OECD (2017a), *Economic Outlook for Southeast Asia, China and India*; OECD Development Centre, based on IEA (2015a), *World Energy Outlook 2015*; IEA (2015b), *World Energy Outlook 2015: Special Report on Southeast Asia*.

Coal demand rises in India and Southeast Asia while declining in China

In contrast, China's coal use is in decline after peaking in 2013. This is due to slower economic growth and a transition to less energy-intensive sectors. The IEA estimates that over-investment in coal reached 50% in 2012. To resolve over-capacity difficulties, China made a clear pledge to cut investment and transition away from coal as an energy source (IEA, 2016a: 203). The construction of new coal power plants is also being halted; in 2017, China cancelled the construction of 103 plants to keep the country's total coal generation capacity limited to 1,100 gigawatts (GW) (Forsythe, 2017). China's coal mining capacity will also be reduced by 150 million metric tons (OECD, 2017b: 63). These actions ensure that coal use will decline by a further 13% by 2040 (IEA, 2016a: 203). This reduction in coal will help to curb dangerous air pollution levels that have a severe impact on the country's health and safety. Furthermore, China's shift away from coal investment has allowed global GDP growth to decouple from increases in coal demand (IEA, 2016a: 211).

Figure 7.4: Change in Coal Demand by Region 2014-40

Source: IEA (2016a), *World Energy Outlook 2016*, OECD/IEA Publishing, Paris, <http://dx.doi.org/10.1787/weo-2016-en>.

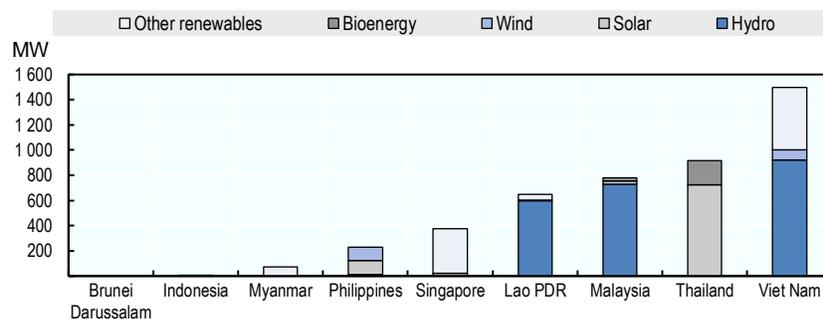
Notably, the IEA estimates that 50% of the coal infrastructure in use by 2040 will rely on outdated technology (IEA, 2015b: 9). For this reason, the continued growth of investment in coal power to ramp up energy supply risks creating a surge in CO₂ emissions. Introducing climate-mitigation technologies, such as carbon capture and storage (CCS), as well as retrofitting existing coal infrastructure (IEA, 2016c) is necessary.

Asia takes the lead in renewable energy investment and expansion

Asia has become the leading player in renewable energy, attracting more than half of global renewable energy investment (IEA, 2016a). Firms from Emerging Asia, particularly China, are also notably increasing their outward foreign direct investment in energy with a focus on renewables (Casanova and Miroux, 2017). Increases in renewable capacities will come from diverse sources (Figure 7.5). By 2021, a third of all solar photovoltaic (PV) capacity and onshore wind generation will be located in China (IEA, 2016e). India has rapidly expanded renewables to become the fifth largest global renewable energy investor in 2015 with a focus on wind and solar technology (OECD, 2017a). Renewables accounted for 17% of ASEAN's energy mix in 2016 (IEA, 2016e). Hydropower accounts for 70% of renewable generation in the region. Meanwhile, geothermal generation is expanding in Indonesia and the Philippines, and Thailand's attractive policies led to a surge in solar PV capacity (IEA, 2016e).

China is the primary investment destination, followed by India and Thailand. Investment in China totaled \$90 billion in 2015, with 70% going to solar and wind generation (IEA, 2016c). \$10 billion was invested in India in 2015, marking a 20% increase from the previous year (IEA, 2016c). Thailand attracted the third-largest share of investment in renewables in 2015 amounting to \$1 billion. Indonesia was also able to attract \$11.9 billion in Greenfield foreign direct investment (FDI) in renewables between 2003 and 2016 (OECD, 2017a).

Figure 7.5: New Installed Capacity of Renewable Energy, by Energy Source, in Emerging Asia, 2015



Note: Other renewables includes waste, solid, other biofuels, biogas, geothermal.

Source: OECD (2017a), *Economic Outlook for Southeast Asia, China and India*; OECD Development Centre, based on IRENA (2016), *Renewable Capacity Statistics 2016*, and Federal Ministry for Economic Affairs and Energy (2016), *Thailand Solar PV Policy Update 05/2016*.

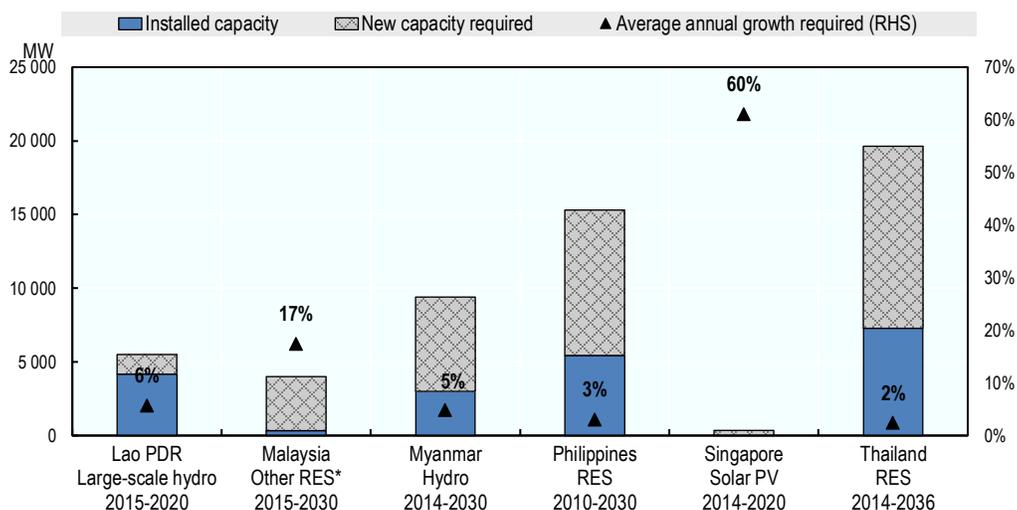
The rapid scale-up in renewable investment contributed to a decrease in costs, making the sector more competitive. For example, India's solar capacity increased by a factor of eight while contract prices halved (IEA, 2016c). The increased competitiveness of renewables is also shown in the rising outward FDI from Emerging Asia. While traditional energy investments in fossil fuels have continued, China and India have shown particular growth in outward FDI in renewable and alternative energies (Casanova and Miroux, 2017).

Despite Asia's progress in expanding the share of renewables in primary energy demand and success in attracting global investment, expectations need to remain realistic due to technological and natural resource constraints. Technological limitations such as inefficient battery storage capabilities prevent fully maximizing renewable resources. Regional disparities in natural resource endowments further constrain the adoption of renewable energy (IEA, 2015c).

Global trends and government support encourage this growing market. Following the Paris Agreement at the 21st Conference of the Parties (COP21), countries pledged to lower carbon emissions and increase renewable energy supply to contain the global increase in temperature to under 2 degrees Celsius (2°C). China's COP21 announcement outlines plans to increase wind energy to 200 GW and solar to 100 GW by 2020 (IEA, 2016a). India plans to expand renewable energy capacity to 175 GW by 2022 (IEA, 2015). ASEAN has committed to reaching 23% renewable in their energy mix by 2025 (IRENA & ACE, 2016). On national levels, Southeast Asian countries, with the exception of Cambodia, have adopted individual energy targets. For example, Lao People's Democratic Republic (hereafter, "Lao PDR") and Myanmar set targets aimed specifically at building up the hydropower sector (Figure 7.6) (OECD, 2017a: 145). These targets, in addition to physical infrastructure expansion plans and policies encouraging private participation in renewable energy markets, highlighted in the next section, will help to ensure that renewable energy continues to be an attractive investment opportunity. Finally, even following the June 2017 announcement that the U.S. will cease to implement the Paris Agreement

(White House, 2017), Asian economies remain engaged with their climate change goals. In July 2017, G20 economies also reaffirmed their commitment to the Paris Agreement (G20, 2017).

Figure 7.6: Targets for Installed Capacity in Renewable Energy in Selected ASEAN Member States



Note: RES = Renewable Energy Source, *Other RES include biogas, biomass, small-scale hydropower and solar PV. The average annual percentage point increase was calculated from the initial year to the end of the period.

Source: OECD (2017a), *Economic Outlook for Southeast Asia, China and India*; OECD Development Centre, based on national energy plans and Intended National Determined Contributions (INDCs).

7.2. Public Policy to Expand Energy in Asia

In order for energy supply to keep up with the growth in demand, Asian governments will need to attract further private investments from both local and multinational firms. Sub-national, national and regional initiatives to expand energy infrastructure grids provide strong building blocks for further private investment. In addition, governments have used policy reforms to promote renewable energy investment, ease administrative hurdles and facilitate a transition to a greener economy. The transition to cleaner energy sources will need to be accompanied by cuts in fossil-fuel subsidies and support for carbon pricing.

Infrastructure expansion is supporting private investment in energy

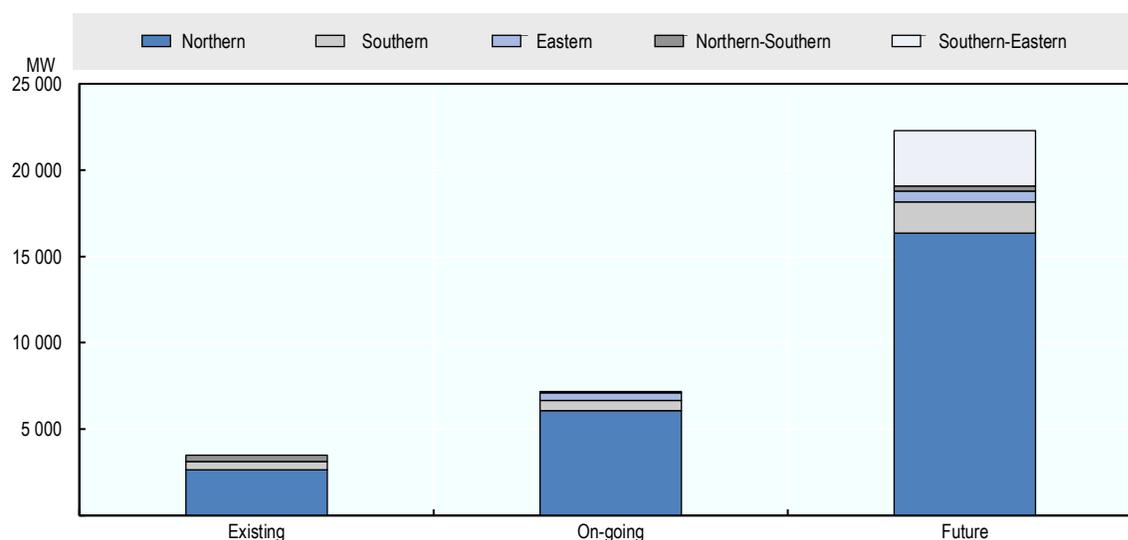
Asian governments have prioritized energy infrastructure expansion. This increase in generation capacities and grid networks will improve energy access and security and help to enhance the region's investment climate. Poor energy supply is cited as the number one obstacle to growth for firms in Southeast Asia, followed by other barriers such as access to finance, corruption and political risks (ADB, 2016).

Public efforts to expand grid policies are critical to support energy supply increases. Building grid infrastructure can be considerably slower than installing renewable generation capacities. Thus, even if investment in renewables expands, the increase in energy supply may not be realized if the necessary

grid infrastructure is lacking (IEA, 2016a). Finally, participants in the EMnet meeting highlighted how local authorities and local energy agencies have an important role to play to ensure effective and reliable power distribution.

Policies for regional integration initiatives, such as the ASEAN Connectivity Masterplan 2025, which includes plans for the ASEAN Power Grid (APG) and the Trans-ASEAN Gas Pipeline (TAGP), can further help catalyze infrastructure growth and attract private investment. The APG has a completed capacity of over 5,000 megawatts (MW) already with an additional 3,300 MW planned to become operational between 2018 and 2021 (Figure 7.7). Progress for the TAGP has been slow, though the construction of liquefied natural gas (LNG) terminals, which do not have the same need for regional co-operation, has progressed faster than the expansion of physical gas in recent years. To expand regional energy infrastructure, governments will need to work together to achieve better synchronization of legal, regulatory and technical standards (OECD, 2017a).

Figure 7.7: Transmission Capacity of the ASEAN Power Grid



Source: OECD (2017a), *Economic Outlook for Southeast Asia, China and India*; HAPUA Secretariat (2014), *ASEAN Power Grids Interconnection Projects for Energy Efficiency and Security of Supply*, http://www.carecprogram.org/uploads/events/2014/Regional-Energy-Trade-Workshop/Presentation-Materials/009_104_209_Session3-3.pdf.12 <http://dx.doi.org/10.1787/888933443628>

Sub-regional projects have also increased, and domestic multinational firms are playing a key role in this expansion. India has pursued sub-regional grids through its 2006 Integrated Energy Policy by connecting generation capacities in Bhutan and Nepal to consumption centers in India through interstate distribution networks. China has led efforts in expanding grid infrastructure through ultra-high-voltage transmission. China is using their state-owned multinational enterprise, the State Grid Corporation of China (SGCC), to lead grid development. The size and strength of State Grid is particularly notable, as it is the world's largest utility and second-largest company in the world, according to the Fortune Global 500 ranking (Fortune, 2017). (See Box 7.1).

Governments in Asia acknowledge that investment in off-grid and micro-grid energy technologies may be a more cost-effective option to close the energy access gap for remote areas disconnected from existing built infrastructure (IEA, 2016a). Governments encourage such off- and micro-grid options in areas where grid extension costs are very high. Indonesia's 1,000 Islands program, for example, aims to develop hybrid solar-diesel off-grid energy infrastructure in the outer Indonesian islands (IEA, 2015b). The private sector views off-grid solutions as an opportunity for growth due to their flexibility. Engie, a French multinational focused on electricity, natural gas and energy services, has partnered with Electric Vine industries to invest \$240 million over five years to build smart solar PV micro-grids for 3,000 villages in Indonesia, providing electricity to 2.5 million people (Engie, 2017).

Box 7.1: China's National and International Transmission Expansion

China has become a leading player in grid expansion in Asia, driven by its state-owned multinational enterprise, State Grid Corporation of China (SGCC). As the world's largest utility, SGCC has developed ultra-high-voltage (UHV) technology that has facilitated the rapid transmission of renewable energy over long distances. Projected UHV project plans consist of 89,000 km of grid networks by 2020; however, as of 2015, only 11,900 km were in operation.

These investments will facilitate energy transmission from the resource-rich western provinces to major demand centers in the east. Thus, renewable energy investment in rural areas will be able to access consumers in high-demand manufacturing regions, overcoming the geographic boundaries impeding the government's energy targets for decarbonization.

This technology is expected to further integrate China's national grid as well as help to connect other grids. Global Energy Interconnection Development and Cooperation Organization (GEIDCO), an NGO based in Beijing focused on sustainable energy development, aims to promote SGCC's grid and the 5+1 strategy that will connect five grids (Northeast Asian, Southeast Asian, Middle Asian, South Asian, West Asian) to the China grid. This grid interconnection will help to transmit clean energy produced in northern China, Mongolia and the Russian Federation to China and Japan as well as increase the development of grid infrastructure in South and Southeast Asia. GEIDCO envisions the creation of similar regional grids on other continents through the creation of development plans, standardization of technical requirements and by promoting international co-operation on research and innovation. These grids could eventually be merged to create a trans-continental "Global Energy Interconnection" (GEI).

Sources: GEIDCO (2016), *Intracontinental Interconnection*, http://www.geidco.org/html/qnycoen/col-2015100789/-column_2015100789_1.html; IEA (2016c), *World Energy Investment Report 2016*, OECD/IEA, Paris, <http://dx.doi.org/10.1787/9789264262836-en>; International Electrotechnical Commission (IEC) (2016), *Global Energy Interconnection*, White Paper, <http://www.iec.ch/whitepaper/pdf/iecWP-globalenergyinterconnection.pdf>; The Lantau Group (2016), *UHV Lines: Shaping the Future of China's Power Sector Landscape*, http://www.lantaugroup.com/files/tlg-china_uhv_jan16.pdf. Xinhua (2017), "Asian Energy Interconnection Inevitable For Cleaner Future: Chinese Expert", China Daily, January 18, http://www.chinadaily.com.cn/business/2017-01/18/content_27988738.htm.

Public policies to support investment in renewable energy

With grid infrastructure in place, a number of policies have helped to encourage private investment in renewable energy including feed-in tariffs, efficient pricing mechanisms and tax breaks. In addition, fossil-fuel subsidy reforms and carbon pricing further support energy efficiency and renewable energy expansion. (See Table 7.1).

Table 7.1: Renewable Energy Policy Supports in Emerging Asia

Country	Economic support policies and fiscal incentives								Regulatory Support	
	Feed-in tariff	Capital subsidy, grant or rebate	Public investment, loans or grants	Tax relief	Net metering	Auction schemes	Carbon pricing	RPS	REAct/Law(REA)/ (REL)	RE Action Plan/Roadmap
ASEAN										
Brunei Darussalam										
Cambodia										
Indonesia	✓	✓	✓	✓		✓			2014 Geothermal	Roadmap NRE 2015-25
Lao PDR				✓						
Malaysia	✓	✓	✓	✓		✓			2011 REA	2010 FIT RE Action Plan
Myanmar				✓						
Philippines	✓	✓	✓	✓	✓				2008 REA	NREP 2011-30
Singapore		✓		✓						
Thailand	✓	✓	✓	✓						AEDP 2015-36
Viet Nam	✓	✓		✓						REDS 2015-30
China	✓	✓	✓	✓		✓	✓		2005 REL	13th FYP 2016-20
India	✓	✓	✓	✓	✓	✓	✓			

Source: OECD (2017), Economic Outlook for Southeast Asia, China and India; OECD Development Centre, based on ASEAN Centre for Energy (2016), ASEAN: Renewable Energy Policies; REN21 (2016), Renewables 2016 Global Status Report

Feed-in tariffs (FITs) are a vital tool used by most Emerging Asian countries. Feed-in tariffs provide long-term purchasing power agreements (PPAs) to energy producers often with guaranteed access to the grid and priority dispatch (Table 7.2). As such, feed-in tariffs are able to reduce both price and volume risks for investors. Thailand's Adder program, launched in 2007, featured attractive fixed feed-in premiums for solar energy through PPAs, which saw solar PV investment expand rapidly. Subsequently, Thailand introduced a new feed-in tariff scheme in 2015 (OECD, 2017a: 148). Meanwhile, other Southeast Asian nations, such as Vietnam and Indonesia, have not yet set feed-in tariffs that are attractive enough for investors (IEA, 2016c: 128).

Policy instruments that are designed to achieve efficient energy pricing will help to attract private investors. Accurate tariff setting, particularly for renewable energy through FITs or long-term PPAs, will increasingly be achieved through competitive auctions. China, India and Indonesia have already used this tool to uncover accurate production costs for renewable energies and set feed-in tariffs accordingly (OECD, 2017a). Competitive auctions have reduced contract prices for renewable

energies. Better pricing has reduced the risk outlook for renewable energy and decreased financing costs (IEA, 2016e).

Table 7.2: Comparison of FIT systems in ASEAN-5, China and India

Country	Technology						Tariff differentiation					Funding			Design features		
	Bioenergy	Geothermal	Hydropower	Municipal waste	Solar PV	Wind power	Capacity size	Location	Technology	Voltage of grid	Peak/Off-peak	Rate payer	Tax payer	State electricity board	Duration (years)	Guaranteed grid access	Degression rates
ASEAN-5																	
Indonesia	✓	✓	✓	✓	✓		✓	✓	✓	✓			✓		20		
Malaysia	✓	✓	✓		✓		✓		✓			✓			16-21	✓	✓
Philippines	✓		✓		✓	✓			✓			✓			12-20	✓	✓
Thailand	✓		✓	✓	✓	✓	✓	✓	✓			✓			10-20		
Viet Nam						✓				✓		✓			20		
China and India																	
China	✓		✓		✓	✓	✓	✓	✓			✓			20	✓	
India*	✓		✓	✓	✓	✓	✓	✓	✓				✓		13-35	✓	
Recent policy highlights: Indonesia: New government decree on solar FITs in July 2016 Thailand: Replaced Adder programme with FIT PPAs in 2015																	

Note: *FIT systems have been introduced on a state-level in India.

Source: OECD (2017), Economic Outlook for Southeast Asia; OECD Development Centre, based on ASEAN Centre for Energy (2016), ASEAN: Renewable Energy Policies; Federal Ministry for Economic Affairs and Energy (2015), Wind Energy in Viet Nam: Potential, Opportunities and Challenges; Government of India Ministry of New and Renewable Energy (2015), Augmentation and Maintenance of the Indian Renewable Energy and Energy Efficiency Policy Database (IREED): March 2015 Summary Sheet—Policies and Regulation; The Climate Group (2015b), RE100 China Analysis: April.

Time-of-day pricing can also decrease pricing risks for investors. It helps to limit supply shortages by encouraging energy users to self-regulate around peak and off-peak energy times. Thailand, for example, differentiates between peak and off-peak pricing and has improved the investment outlook by increasing revenues for renewable producers who are active during off-peak hours and works in conjunction with FIT policies (OECD, 2017a).

Tax breaks and financial incentives are helping to draw renewable investment into Asia. India offered a ten-year tax holiday for companies that would be able to feed renewable energy into the grid before March 2017 (KPMG, 2015). India offers further tax and fiscal incentives by limiting taxes on engineering and construction procurement that can amount to 10-20% of renewable project costs (KPMG, 2015). Vietnam lowered its corporate tax from 22% in 2014 to 20% in 2016 and increased competition laws. China offers a corporate tax rate of 15% for new technology companies in solar, wind, geothermal and biomaterial energy. China includes value-added tax (VAT) refunds on the sale of wind power, self-produced solar PV and bioenergy as an additional incentive for investment in renewable energy (KPMG, 2015).

Public policies to reduce fossil-fuel subsidies and price emissions

Asian governments also recognize that to make renewable energy investment attractive, fossil-fuel subsidies need to be removed. This policy shift was facilitated by lower oil prices as well as by the political momentum arising from regional co-operation initiatives, the Group of Twenty (G20) pledge to phase-out inefficient fossil-fuel subsidies, which includes China, India, Indonesia, Japan, and Korea, as well as COP 21 commitments. In addition, carbon pricing and emissions trading systems will incentivize more green investments in Emerging Asia.

Many governments in the region have already started phasing out fossil-fuel subsidies. In 2014, fossil-fuel subsidies in Southeast Asia totaled \$36 billion but proved to be inefficient at targeting poor and vulnerable households (IEA, 2015b). Since then, Indonesia, Malaysia, Myanmar and Thailand have been very effective at phasing out fossil-fuel subsidies. Indonesia and Malaysia removed gasoline and diesel subsidies. Thailand regulated prices for compressed natural gas (CNG) in July 2016 (IEA, 2016a). India slashed its fossil-fuel subsidy expenditures from \$38 billion to \$19 billion between 2014 and 2015, while its subsidies for renewable energy increased by almost 40% to \$2 billion (IEA, 2016a).

Taxes on carbon emissions will also affect energy prices. However, only India and China have implemented carbon pricing policies to date. China will roll out its national cap and trade carbon emissions system in 2017, after a number of successive emission trading system (ETS) pilots. China's national ETS targets four billion metric carbon tons worth of emissions and can have a substantial global impact, as China is responsible for 27% of all carbon emissions (OECD, 2017b: 54). This will have wide-ranging effects on the country's economy as the ETS will cover six sectors across all provinces, with implications for 10,000 businesses (Hongliang, 2016). It is also likely that other emerging economies in Asia will follow suit and develop their own ETS.

7.3. Business Insights on Energy Challenges and Evolving Opportunities

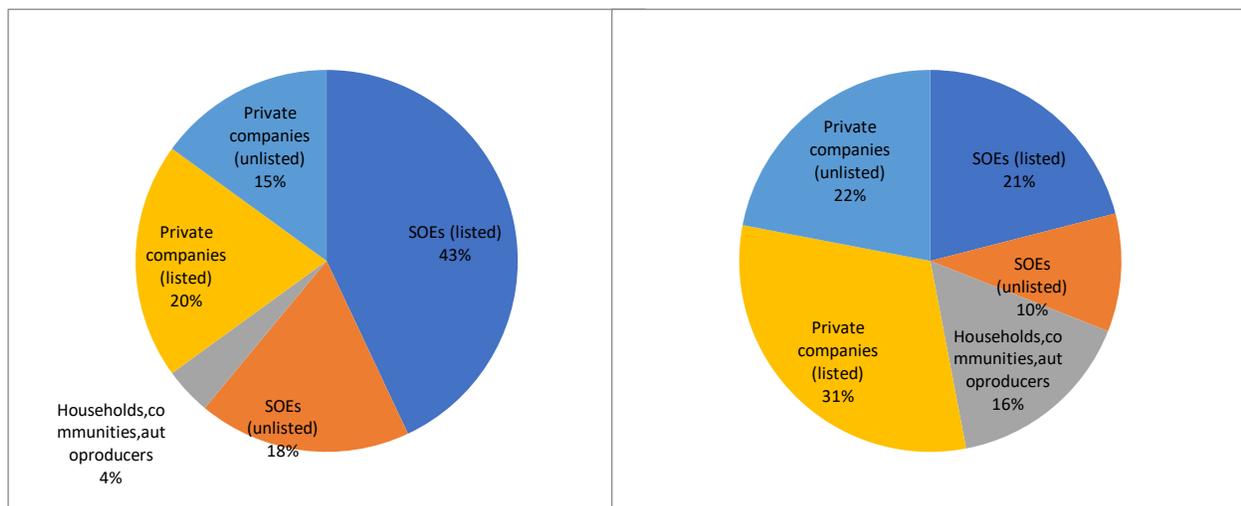
Participants at the EMnet business meeting agreed that Asia is at the heart of future opportunities for growth, including in the energy sector. A number of countries, including India, Myanmar and Indonesia, are undertaking policy reforms to attract private companies to bridge the infrastructure gap (OECD, 2017a). Ongoing progress in removing restrictive regulations and introducing more transparent legal frameworks has improved Asia's attractiveness for business. This section features insights from the EMnet Asia meeting held in Paris on 14 March, 2017, and explores where the private sector sees new opportunities for energy investment, particularly in renewable capacity expansion. It highlights barriers hindering investment, including unpredictable policies, regulatory constraints, limited financing tools and skills mismatches. Ultimately, it provides recommendations and solutions from business leaders' perspectives.

Asia's renewable energy market attracts the private sector

Energy expansion in emerging economies has principally been demand driven (IEA, 2016a). This is clearly the case for Asia's thriving energy sector. An ongoing surge in energy demand provides attractive opportunities for both large-scale global energy companies and small independent power producers. Participants highlighted that the slowdown in energy demand in other global economies has added to Asia's attractiveness as a main investment location. In addition, clear renewable energy targets set by governments send a signal to companies looking for long-term investment opportunities (OECD, 2017a).

The private sector favors investment in the renewable energy sector. After telecommunications, the power sector is the second-largest destination for private investment in infrastructure in Developing Asia,¹ based on analysis by the Asian Development Bank (ADB, 2017). China, India and Indonesia attracted more than 60% of the region's Greenfield FDI inflows in renewable energy (OECD, 2017a). Globally, 53% of renewable power generation capacity is owned by private companies, compared to only 35% private ownership of fossil-fuel generation capacity (Figure 7.8) (IEA, 2016c).

Figure 7.8 Ownership of Global Power Generation Capacity Commissioned in 2015



Note: SOE = state owned enterprise; Plants with mixed ownership are fully attributed to the majority owner.

Sources: IEA (2016c), *World Energy Investment Report 2016*. Calculations based on Platts (2016), World Electric Power Plants Database; Bloomberg LP (2016), Bloomberg Terminal; Bloomberg New Energy Finance (BNEF) (2016a), *Renewable Energy Projects*.

Asia is attracting the highest amount of private investment due to decreasing technology costs (e.g., solar PV technology costs in China are 15% lower than the global average (IEA, 2016c)) and innovation capacities. This rise in investment is producing new opportunities for the private sector. For example, the Spanish wind turbine company Gamesa has invested heavily in Asia, and its confidence has paid off as the company has realized substantial growth with a 34% market share in India. The region now constitutes 50% of Gamesa's sales, mainly in India, the Philippines and China (Reve, 2016). Asian firms are also increasingly looking to the energy markets for outward FDI both within neighboring Asian countries and beyond. There is strong growth in outward FDI from both China and India in renewable energies (Casanova and Miroux, 2017).

Non-energy companies see new opportunities in the energy sector to generate more profits

The investment potential of Asia's energy demand and growing consumer base will not only benefit energy companies; other international companies not traditionally involved in the energy sector are becoming energy producers. Diversification into energy is a strategic way for companies to access new revenue streams or cut costs by reducing energy consumption from the grid. Examples of companies that have entered the energy market include Indian multinational conglomerate Tata and Tereos, a French sugar, starch and ethanol company. Tata Power, a Tata group subsidiary, has an installed capacity of over 10,000 MW, a third of which is renewable, making it India's largest renewable energy company (Tata Power, 2017a). High-energy needs encouraged Tereos to find alternatives to fossil fuels by including co-generation facilities in their corn and wheat facilities in China. There, the company uses by-products to generate renewable energy, cut energy costs and reduce carbon emissions (Tereos, 2016).

Technology has opened up new market opportunities in environmental technologies

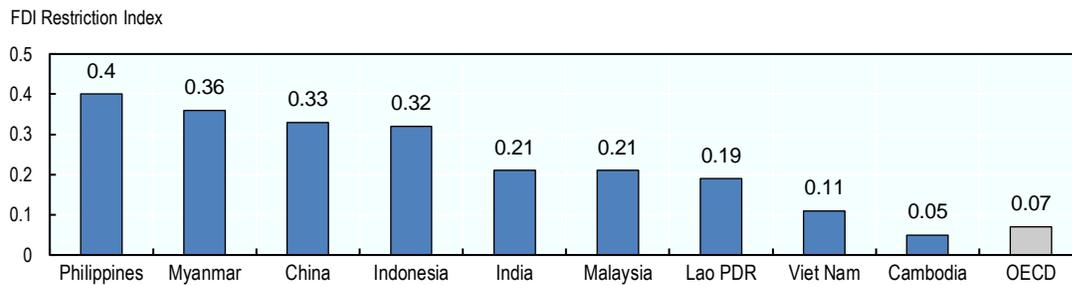
The private sector is well placed to lead innovation in environmental technology and energy efficiency solutions. The region's continued expansion of fossil fuels, predominantly coal, will create a large market for CCS technologies and techniques that allow for CO₂ to be captured, transported and stored. While EMnet participants were concerned about the high costs of these technologies, further national commitments to climate change adaptation and stringent emission limits are expected to support the development of new and more efficient environmental technologies.

The private sector also leads energy digitalization to increase energy efficiency through smart technologies such as sensors, smart grids and digital management systems, especially in cities. In 2016, Singapore signed partnership deals worth \$10 million with five private companies through the Singapore Power Centre for Excellence. The center was launched in 2015 to support innovative energy pilot projects. Companies such as GE's Grid Solutions, NEC and IJENKO will provide smart grids and energy analytic platforms for cities (GE, 2016; IJENKO, 2016).

Investment in Asia still faces challenges

While showing promising growth, investment in Emerging Asia continues to face policy hurdles including policy unpredictability, restrictions on foreign ownership and stringent local content requirements (LCR) that can significantly restrict foreign investment (Figure 7.9).

Participants at EMnet Asia 2017 highlighted these aspects as barriers to business expansion and provided insights on how governments can improve the overall investment climate.

Figure 7.9: FDI Restriction Index in selected Asian countries

Note: Includes all types of restrictions

Source: Author's design based on OECD (2016b), *FDI Regulatory Restrictiveness Index* (accessed May 15, 2017).

Predictable policies and stable environments can facilitate investment

Participants at EMnet Asia 2017 stressed the need for a predictable policy framework to attract more private investment in the energy sector (OECD, 2015b). Short-term policies and retroactive changes make investors wary about the unforeseen impact these sudden shifts can have on long-term fixed investments, such as power plants or grid enlargements. Even if policies are transparent and comprehensive, participants highlighted specific areas of concern including energy prices, grid access and carbon pricing. These three aspects crucially influence the private sector's long-term planning for investments as they impact the prospects of future returns.

With the marginal costs of renewable energy continuing to decline, combined with more accurate energy tariffs, energy prices are expected to decrease. However, how this will impact private energy producers who have signed long-term PPAs remains uncertain. Should governments enforce energy tariff reductions, companies may face increased difficulty to repay investment costs. Current policies for competitive bidding auctions for energy projects are also pushing energy prices to very low levels, which decreases the prospective return on investment in the energy sector. This combination is creating uncertainty and potential future risk.

FIT policies have been used as a mechanism to attract private energy producers into the grid through guaranteed grid access. However, after reaching renewable contribution goals, certain countries are removing support policies that prioritize private producers. For investment to continue, countries need to clarify the extent and lifespan of FIT policies as well as make sure that any policy changes regarding subsidies and grid access are foreseeable for companies making long-term investments (OECD, 2015b).

Carbon pricing will also benefit from predictable and transparent planning. Policy instruments like ETS or carbon taxes will help companies internalize the environmental costs of carbon emissions. Participants are in favor of carbon pricing and ETS and are aware that it will help to generate a more competitive and equal energy market. In 2016, the Indian multinational Mahindra & Mahindra was the first company in Asia to implement an internal carbon pricing at \$10 per metric ton of carbon emitted.

The carbon price will help the company achieve its pledge of a 25% reduction in greenhouse gas emissions in three years (Mahindra & Mahindra, 2016).

Restrictions on foreign investment remain a challenge

Foreign ownership restrictions for energy projects are a crucial barrier to FDI in Asia. For example, energy projects in the Philippines only allow a 40% foreign equity stake (OECD, 2017a). In Malaysia, energy companies may not exceed 49% foreign ownership if they wish to be eligible for FITs. Indonesia also inhibits foreign companies from participating in FIT bidding schemes unless they partner with local firms for tax registration purposes (OECD, 2017a). Policies limiting foreign ownership can act as a substantial deterrent for private sector investment in energy infrastructure as well as for FDI overall. Allowing majority ownership by foreign firms can attract regional and international multinational investors who are willing to share investment risks and provide new technology and innovations. On the opposite end of the spectrum, some countries have opened up the renewable sector to full foreign ownership in an effort to rapidly increase capacities. For example, Myanmar allows 100% foreign ownership in hydropower as it attempts to increase energy capacities in the sector.

Local content requirements need to be aligned with domestic capacities

LCRs are policies set by governments that require firms to use domestically-manufactured goods or domestically-supplied services to operate in an economy (OECD, 2016a). However, LCRs can act as a constraint on foreign investment (OECD, 2015a). The OECD's Policy Guidance for Investment in Clean Energy Infrastructure specifies that personnel requirements and other related LCRs might limit an important source of investment by preventing the integration of independent power producers in the energy industry. LCRs can pose the following problems for foreign investors: 1) Strong LCRs make investors dependent on the capacity and quality of local supply chains; 2) They may prevent cost-competitiveness as investors may not be able to import lower-cost inputs from other markets; 3) They pose a technology risk by requiring investors to use local technology from local manufacturers that may be less effective than technology from more developed markets (OECD, 2015b).

Companies at the EMnet Asia business meeting felt that certain LCRs may prevent foreign investment. This is because local manufacturing capacities may be at a lower standard or the quality of input goods may be insufficient. This can lead to inefficiencies, higher costs or poorer final products. While acknowledging the potential valuable contribution of LCRs for economic development, companies suggested that they should be carefully adapted to the local context to benefit both domestic communities and foreign investors.

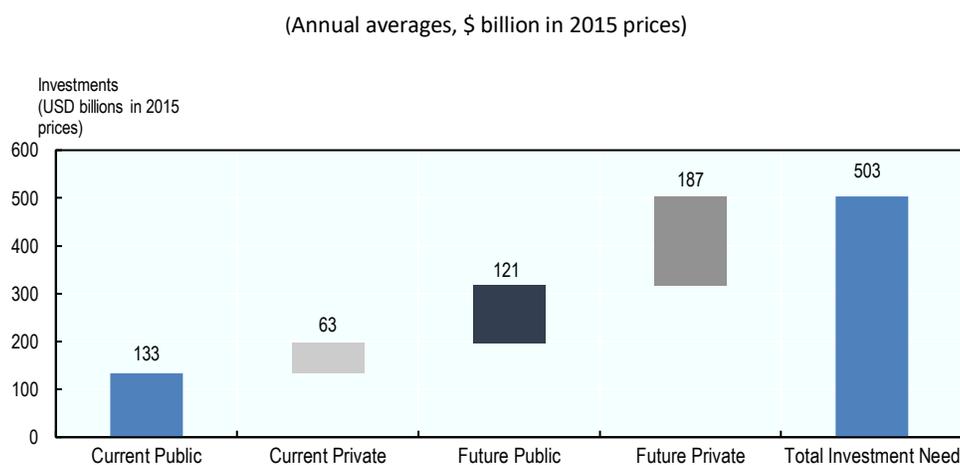
Some countries in Asia have more capacity and better-developed value chains to ensure that LCRs are not prohibitive for foreign investors. Participants suggested that India and China are markets in which LCRs are manageable. Sometimes, less developed economies decide not to implement LCRs as the government recognizes that the local capacity does not reach the required levels. Myanmar, for example, has made exemptions for LCRs in its oil and gas sector to attract foreign investment (IEA,

2015b). Participants highlighted that LCRs will not lead to substantial job creation necessarily, as manufacturing jobs account for less than 40% of total job creation in the clean energy sector (OECD, 2015a).

7.4. Financing Asia's Energy Expansion

Financing gaps for infrastructure investment in Asia are considerable. The Asian Development Bank estimates that Developing Asia² requires \$503 billion of infrastructure investment to meet future needs but faces an investment gap of \$308 billion between 2016 and 2020 — the majority of which the private sector is expected to meet (ADB, 2017: 59). Private investment in infrastructure in Asia only amounted to an estimated \$63 billion in 2016 (Figure 7.10) (ADB, 2017).

Figure 7.10: Meeting the Investment Gaps: Selected ADB Developing Member Countries*, 2016–2020



Note: *Selected countries include: Afghanistan; Armenia; Bangladesh; Bhutan; Cambodia; India; Indonesia; Fiji; Kazakhstan; Kiribati; Kyrgyz Republic; Malaysia; Maldives; Marshall Islands; Federated States of Micronesia; Mongolia; Myanmar; Nepal; Pakistan; Papua New Guinea; Philippines; People's Republic of China; Sri Lanka; Thailand; Vietnam.

Source: ADB (2017) *Meeting Asia's Infrastructure Needs*; ADB (2016a); Country sources; Investment and Capital Stock Dataset, 1960–2015, IMF; Private Participation in Infrastructure Database, World Bank; World Bank (2015a and 2015b); World Development Indicators, World Bank; ADB estimates.

However, companies looking to Asia for investment expressed that underdeveloped financial markets create difficulties for private investment. The lack of long-term finance for critical energy projects remains an obstacle that prevents many projects from taking place. Participants highlighted that this is due to local banks preferring short-term maturities, but other limitations include a lack of banking competition, poor risk assessment for projects and an aversion for lending to new actors such as foreign private firms (OECD, 2015b). Asia needs infrastructure and a number of innovative financing tools such as green bonds to improve the outlook for investment opportunities. However, a shortage of accessible local financing options for infrastructure projects in Asia can expose investments to currency risk if foreign capital is utilized. Furthermore, investment projects in risky geopolitical areas struggle to attract sufficient capital to break ground and will require strong partnerships to find financing solutions.

Public finance and new tools to attract private investment

Multilateral development banks such as the Asian Development Bank (ADB) provide an important source of financing. In total, these multilateral banks supported 2.5% of infrastructure investment in Developing Asia.³ This percentage increases to over 10% if China and India are excluded. The ADB sees infrastructure as an essential sector for growth and will increase its annual loan and grant approval to \$20 billion per year by 2020 (ADB, 2017). There are also new players among multilateral development banks, notably the New Development Bank (NDB) and the Asia Infrastructure Investment Bank (AIIB) launched in 2015 and 2016 respectively. The NDB, sometimes known as the BRICS development bank, is jointly owned by Brazil, the Russian Federation, India, China and South Africa. The New Development Bank has a strong focus on infrastructure, particularly clean energy, water and transport (NDB, 2017). It also uses green financing instruments such as green bonds (NDB, 2017). China leads the AIIB and aims to expand infrastructure and support regional connectivity projects. As part of its draft energy sector strategy Sustainable Energy for Asia, the AIIB will support renewable and clean coal investments in developing countries to promote sustainable infrastructure, cross-country connectivity and private capital mobilization (AIIB, 2017).

Governments are looking into how to leverage public funding to attract private investment, including through blended finance. For example, the Indian government has set up the Clean Energy Equity Fund (CEEF) for both private and public companies (\$2 billion) to attract investment into renewable energy generation for New Delhi. This project is part of a wider renewable energy program that seeks to attract \$175 billion in investment (Das, 2016). Domestic green investment banks have prioritized renewable energy expansion with a focus on solar PV and wind generation (OECD, 2016c).

Box 7.2. Hong Kong as a green finance hub for Asia

Hong Kong, China sees green finance as an opportune area for growth to increase its standing in the international bond and project finance market. The Financial Secretary's budget speech for 2016/2017 highlighted that the government will support the development of Hong Kong's bond and infrastructure financing markets. This commitment was influenced by the People's Bank of China's estimate that over \$1.5 trillion will be needed in China alone to finance green projects during the 13th Five Year Plan.

Hong Kong's green bond market will leverage financial capital for renewable energy investment. This capital will be crucial to achieve the goals outlined in Hong Kong's Climate Action Plan 2030+ that include reducing per capita carbon emissions from 6.2 metric tons to 2.3-3.8 metric tons and cutting overall carbon emissions by 26-36% by 2030. Notable green bonds that were issued in 2016 in Hong Kong include a \$500 million bond (2.875%) from Link Asset Management Ltd. It was the first green bond from an Asian property company and will be used to develop an energy-efficient office development in East Kowloon. MTRCL, the Hong Kong rail network operator, issued a 10-year \$600 million green bond (2.5%) to speed up investment in environmental performance.

Sources: Environment Bureau of Hong Kong, China (2017), Hong Kong's Climate Action Plan 2030+. www.climateready.gov.hk; Financial Services and Development Council, Hong Kong (FSDC) (2016), *Hong Kong as a Regional Green Finance Hub*. FSDC Paper No. 23. <http://www.fsd.org.hk/sites/default/files/Green%20Finance%20Report-English.pdf>.

The development of green bonds is another way to stimulate private investment in renewable energy and green technologies. Green bonds are fixed income securities that are pledged to projects with a positive environmental impact. Globally, the market for green finance has grown rapidly with \$95 billion of investment capital raised in 2016 through green bonds compared to \$3 billion in 2011 (OECD, 2017d). Green bonds can help increase available finance for infrastructure in Asia, but are still in their infancy in the region. However, Hong Kong has outlined a strategy to become a regional green finance hub (Box 7.2), and Japan, Indonesia, Malaysia and Singapore have made progress on their own initiatives (FSDC, 2016). As of 2016, China has also issued several green bonds to the value of \$8 billion, some of which are backed by renewable energy assets (IEA, 2016c).

Exposure to currency risk remains a challenge for infrastructure investment

EMnet participants noted currency risk concerns regarding infrastructure investment in Asian markets. Facilitating international borrowing for local infrastructure projects can ease financing roadblocks caused by illiquid local credit markets. While funds for infrastructure from international capital markets are increasingly available, borrowing substantial sums in a foreign currency increases a project's exposure to currency risk.

At present, participants highlighted that currency risk mitigation tools are underdeveloped in Emerging Asia. Still, a number of mechanisms can be implemented to limit exchange rate volatility risks including: private insurance for currency risk coverage, partial credit guarantees as well as syndicated loans to ensure that at least a portion of an infrastructure project is funded by local credit institutions (OECD, 2015b).

Risky regions in Emerging Asia face additional challenges

EMnet participants emphasized how political uncertainty can limit private investment in energy infrastructure projects. To overcome hesitations around geopolitical risks, partnerships between the public and private sector as well as other institutional actors can ensure that these projects break ground. An example includes the 720 MW Karot hydropower plant in Pakistan led by the independent power company China Three Gorges Corporation (CTGC). The International Finance Corporation (IFC) invested \$100 million for a 15% equity stake in the \$1.7 billion project that aims to reduce Pakistan's large power deficit (Birmingham, 2017). Other project partners include China Export Import Bank, China Development Bank and Silk Road Fund. The project is part of the wider China-Pakistan Economic Corridor (CPEC) that has contributed to a more stable risk environment for Pakistan (ICF, 2016; Energy Business Review, 2017).

7.5. New Skills Are Needed for a Growing Energy Sector

Job creation and skills development are vital aspects of the growing renewable energy market in Emerging Asia. FDI is contributing to rapid growth in green jobs. As a result, the private sector faces a

considerable skills shortage when hiring local labor. Manufacturing components for renewable energy, managing and maintaining infrastructure, and using new technologies will require a rapid scaling of skills capacities. To ensure that Emerging Asia's workforce is better adapted to the future needs of employers, the public and private sector have to look into new and innovative ways to further work together to bridge the skills investment gap.

The current shortage of relevant skills can limit the growth in green jobs generated by the renewable energy sector

Expansion in the energy sector can contribute to job growth throughout Emerging Asia. Boosted by private investment in the renewable sector, green jobs in China, India and Japan already employed 4.3 million people in 2015 (IRENA, 2016). Overall, Asia's global share of renewable energy jobs rose to 60% in 2015, up from 51% in 2013 (IRENA, 2016). In comparison, the number of jobs created through FDI in traditional fossil fuel energy sectors has declined (OECD, 2017a). Skills geared towards renewable energy and energy technology will be increasingly important. For example, India's goal of reaching 100 GW of solar energy production by 2020 could create up to 1.1 million job opportunities, and at least 30% would be for skilled labor (IRENA, 2016). This stresses the need for training schemes that develop the appropriate skills to implement energy projects.

Participants at the EMnet Asia meeting highlighted that a shortage of necessary skills is inhibiting opportunities for further growth. For energy projects to increase productivity, companies will need to find local labor with the right set of skills. Companies are competing with other sectors such as Information and Communication Technology (ICT) and Transport for workers with transferable skills applicable to the energy industry.

Analysis by the Council on Energy, Water and Environment and the Natural Resource Defense Council's survey of 40 solar companies in India noted similar findings. 83% of companies said that the largest impediment facing the labor market was that skilled workers were difficult to find. A diverse set of skills in renewable energy needs to be developed to fill jobs in manufacturing, business development, data management, design and construction (CEEW and NDRC, 2016).

Furthermore, finding staff for energy infrastructure investments in areas facing geopolitical risks can be challenging. Heightened safety concerns could lead to labor shortages if potential candidates are unwilling to work in these areas.

Technology advancements mean that energy workers will need digital skills

The rapid adoption of digital energy tools means that the labor market in Asia will need to develop new skills and invest in skills adaptation for changing roles. The digitalization of energy will increase the demand for skills in engineering, computer literacy and digital security. Digital technology itself, such as wearables, could reskill and upskill workers in this field by assisting them with technical aspects of their jobs (Spelman, 2016). Data management will become a critical skill companies need as smart grids and digital management become an integral part of the energy sector.

The private and public sectors can work together to improve training

Public-private partnerships could help to decrease the skills mismatch arising from the rapid energy transition in Asia. In a survey of 40 solar companies, questions about renewable energy skills found that 70% of workers are taught skills by internal company-run training programs, while only 46% received formal vocational training and 16% learned skills at academic institutions (CEEW and NDRC, 2016). However, companies and governments can work together to improve training programs and help to ensure that workers' skills are developed to match the private sector's needs. Tata Power, for example, provides a market-driven response through the Tata Power Skill Development Institute (TPSDI). It has trained 11,000 youth in critical skills needed in the power sector through four training hubs across India (Tata, 2017).

Governments are aware that current public training programs are insufficient. Solar companies in India also highlighted that training facilities are located too far from where workers are needed (CEEW and NDRC, 2016). To overcome this, online courses and educational materials are becoming key tools for training workers in the new skills needed in energy sectors (Spelman, 2016). For example, in 2017 the Indian government announced the launch of an online training certification for solar technicians (NIWE, 2016).

7.6. Conclusion

Energy is at the center of business opportunities in Asia, yet continues to pose a challenge. Robust economic growth has expanded the region's consumer base and driven up energy demand, thus creating vast opportunities. Renewable energy holds great potential in the business sector, due to abundant natural resources and strong political support from across sectors, as governments aim to bridge the investment gap with private capital or through blending resources. Opportunities abound in power generation, energy-efficient production, and the development of technological solutions that will help to improve energy access, efficiency and security, including smart grids, sensors and environmental technologies. Firms outside the energy sector are also becoming energy producers to generate revenues or reduce costs.

Asian firms and newly created development institutions are leading in developing energy infrastructure and making it a top priority. Asian multinationals, particularly those from China and India, are investing in energy not only within their home countries but also within their regions and beyond. Recently created multilateral development banks such as the New Development Bank and the Asian Infrastructure Investment Bank prioritize energy infrastructure development. Divergent energy capacities will have an impact on business opportunities in Asia. Companies looking to expand manufacturing capacities, particularly in Southeast Asia and India, will need to be wary of strained infrastructure capacity. While investors in China may not face critical infrastructure shortages, they will need to be aware of changing policies and stricter environmental regulations as the economy matures and growth slows.

Ongoing progress to remove investment barriers is necessary. This involves overcoming administrative hurdles and ownership restrictions and improving policy stability and access to finance.

Despite these challenges, the rapid growth of energy capacities and the political support for a regional transition to a sustainable low-carbon future signal that new investment opportunities for the private sector will continue to abound in Asia.

NOTES

¹ The Asian Development Bank (ADB) includes 45 member governments as part of Developing Asia and but has excluded India and China from this analysis. Developing Asia includes the following countries: Central Asia: Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, Uzbekistan; East Asia: People's Republic of China, Hong Kong (China), Korea, Mongolia, Chinese Taipei; South Asia: Afghanistan, Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan, Sri Lanka; Southeast Asia: Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam; The Pacific: Cook Islands, Kiribati, Marshall Islands, Federated States of Micronesia, Nauru, Palau, Papua New Guinea, Samoa, Solomon Islands, Timor-Leste, Tonga, Tuvalu, Vanuatu.

² See previous note for the list of the 45 countries that form part of "Developing Asia" according to the Asian Development Bank (ADB).

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Conclusions

This report is a demonstration of the resilience of emerging market economies even in the wake of recent challenges. While there have been new and ongoing roadblocks such as infrastructure deficits, political instability and increased protectionism, emerging markets continue to defy expectations as they prove to be the new engines of world economic growth.

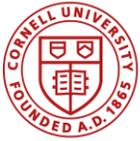
Today, the E20 represent not only major production centers or trading hubs, but also massive consumer markets. They are increasingly making their mark as investors and innovators, led by China and Korea. Strong policy support coupled with a desire to seek new markets, resources, efficiency and strategic assets have fueled much of China and Korea's surge among the Top 15 countries for OFDI flows. Following their lead, eMNCs have made their presence felt with an increased focus on internationalization, only in quantity of firms but also in terms of quality, as they dethrone about half of the Top 5 slots across the major industries.

Most of the eMNCs are still known as cost leaders and have yet to emerge as strong global brands like Apple or Google, but recently, we observe an increased focus for eMNC on branding and product differentiation, as these companies bridge the price gap between their brands (e.g., Huawei and Asus), and American brands (e.g., Dell). After nearly two decades of manufacturing experience with top American brands, eMNCs are beginning to transition from their role as suppliers and producers of cheap knockoffs, to formidable competitors for their Western counterparts.

However, the success of E20 countries is anything but uniform. Brazil had a promising start in the early 2000s, but now faces an economic slowdown triggered by currency depreciation, political instability and widespread corruption probes. Even so, multinationals in Brazil have only deepened their internationalization. In Latin America, Colombia has emerged as a significant investor, mostly through M&As – though its multinationals have yet to substantially expand beyond the region.

All this expansion and development is not free from costs. Indeed, energy demand is expected to double in India and Southeast Asia by 2040. While India and Southeast Asia are confronted with energy shortages due to underdeveloped transmission and distribution grid infrastructure, China has excess capacity, and in light of pollution-related issues has set ambitious targets for further investment in green energy. Other Asian countries have attracted major investments in this sector and committed to honoring the Paris climate agreement even after the U.S.' retrenchment. The growth of renewable investment has only contributed to further decreases in costs, as the share of renewable energy is projected to grow at a rate of about 5% until 2040.

Ultimately, the challenges that emerging economies face are the consequences of their pursuit of both rapid and sustainable development. In turn, eMNCs seek not only topline and bottom-line growth, but also to drive innovation, sustainability and branding. Progress towards this multi-pronged goal will eventually determine the success of emerging countries in achieving their prospective growth and development.



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