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FINANCIAL MARKETS DEVELOPMENT AND ECONOMIC GROWTH IN BRICS COUNTRIES

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PAGES SUMMARY

ABSTRACT

In this dissertation I will try to give an answer to the following question: How is development of financial markets in BRICS countries (Brazil, Russia, India, China, and South Africa) influencing their economic growth?

The mentioned countries are all considered to be newly advanced economies at the similar stage of development. Even though they are very different in terms of economy, politics, history, and society, they share one single characteristic – a rapid economic growth during the last few decades.

I will be focusing on several aspects of quite various financial markets in these emerging economies, such as stock, bonds, foreign exchange and derivatives markets. My mission is to analyse the impact that development of those markets left on the GDP growth of each of the BRICS countries. The general conclusion that can be drawn from my research is the following: financial markets development usually has a very positive impact on economic growth. However, in some cases, developed markets are not always a necessary precondition for growth. The situation of every country is very specific and what can be applied to one country, shouldn't necessarily be applied to the other.

INTRODUCTION

In August 2007, Rodrigo de Rato, then Managing Director of the IMF gave a speech at the 3rd International Derivatives and Financial Market Conference in Campos do Jordão, Brazil. Intention of his speech was to underline the importance of developing wide and deep financial markets, especially for the emerging economies. It was a rather inconvenient moment for such a statement, given that the Great Recession had just started to shake the world's economies. And, as it was perceived by many, massiveness and abundance of financial markets and instruments resulted in lack of transparency and poor understanding of markets, which partly set the ground for development of the 2007/2008 financial crisis.

Even if newly invented financial derivates and complex markets had a fair share in causing the crisis, we should not forget the benefits they brought. These innovations enabled us to hedge against risk, which in turn lowered the cost of credit and allowed access to credit to a much broader population. More and more people could afford more consumption, which had an extremely positive impact on global growth. On the other hand, we have highly underestimated the risks inherent in complex financial innovations- such as the dangers of speculations on a massive scale, and lack of transparency and understanding of those instruments, which has brought us to the meltdown of the financial system. A strong *post ante* regulation and transparency of complex financial markets is strongly needed, according to many experts, and we should take into account previous mistakes and omissions. However, as Mr. Rato concluded, ''these innovations provide an important and essential contribution to the sustained and rapid growth of both advanced and emerging market economies''[1].

Well-developed financial markets are often one of the most important prerequisites of a sound economic growth of a country. There are several reasons that justify this statement[2]; first, financial markets have ability to allocate resources in the most efficient places in the economy, through channels such as price information or investors' risk sharing that eliminates idiosyncratic risk. Second, markets encourage specialization. For an ever-growing specialization (such as technological specialization) to exist, there has to be an efficient

[1] ''Economic Growth and Financial Market Development: A Strengthening Integration'' speech by Rodrigo de Rato, then Managing Director of the IMF. The speech was given at the ''3rd International Derivatives and Financial Market Conference'' in Campos do Jordão, Brazil, August 2007.
[2] ''Financial markets in development, and the development of financial markets'', Jeremy Greenwood and Bruce D. Smith, ''Journal of Economic Dynamics and Control'', 1997.

market in which very specialized goods can be traded. Third, market structures are affecting one's incentives to accumulate assets, and such incentives in individuals are important for economic growth.

To attract valuable foreign direct investment (FDI) and capital flows from developed countries, a developing country is recommended to work on providing deep, accessible, efficient and stable financial markets to investors[3]. "Depth" of markets means sufficient size, "access" is related to the usage of financial services by economic participants, "efficiency" depicts successfulness of financial intermediation, and "stability" means low volatility and low fragility of financial institutions[4].

However, it is extremely important to highlight that what works for one country doesn't necessarily work for another. The mainstream prescription for achieving economic growth is always recommending more markets and less government, which is indeed true in a fair amount of cases. But we cannot apply the exact same solution to every country, because countries defer in various macroeconomic, political, and social aspects. We should start from the problem (which is the need for capital in developing countries), not from the solution. Even though markets are important and often essential for attracting capital in many countries, forcing markets can result badly (for example, in rising protectionism). Thus, the solution should be tailored to a country-specific situation. China is a great example; the country was managing to grow at rapid speed for decades, without even having developed financial markets. China didn't need foreign capital since they already had enough current account surpluses from their manufacturing exports. Even though the Chinese situation is changing now, the idea is that opening markets doesn't have to be the best choice for every country, at each point in time. Markets are often crucial, and their importance is obvious, but the suitability of execution is as important. Even if we agree that opening markets is, at some point, indispensable for economic rise of a country, we must recognize that implementation should be country-tailored. China, as a great example again, ''turned to markets, but did not copy western practices''[5]. Instead, it ''properly adapted to local context''. The bottom line is that we cannot apply the same ''recipe'' for every unique country.

[3] ''Global Financial Development Report 2017 / 2018: Bankers without Borders'', The World Bank.
[4] ''Merits of financial market development for developing countries'', Holger Görg, Christiane Krieger-Boden, and Peter Nunnenkamp, published in VOX, CEPR Policy Portal, August 2016.
[5] ''The fatal flaw of neoliberalism: it's bad economics'', Dani Rodrik, The Guardian, November 2017.

In this report, I will be analysing the evolution of financial markets in BRICS countries, and their impact on economic growth in the same countries. BRICS economies, Brazil, Russia, India, China, and South Africa are the largest emerging economies that, due to their fast growth, play an ever-growing role in the global picture. They represent over 3.1 billion people, or approximately 41.1% of the world population[6]. Combined nominal GDP of BRICS countries is US$18.6 trillion, which is about 23.2% of the gross world product[7]. China, India, and Brazil are in the top of 10 largest economies of the world[8]. China, the most significant one, is also the 3rd largest creditor in the world, after Japan and Germany[9].

BRICS have recognized the importance of developing sound and abundant financial markets in order to achieve economic rise and prosperity. It was important to simplify the procedures for foreign investors and enable them to use hedging tools, such as, for instance, foreign exchange derivatives. Financial regulations had to be modified to attract FDI from developed countries and, in this way, to develop stock markets and banking sectors or these economies. Governmental intervention was minimized, somewhere less and somewhere more, giving space to capitalization and privatization.

Not surprisingly, BRICS have become an appealing destination for economy-boosting investment. In ERSA's (Economic Research Southern Africa) research brief from 2016, the authors conducted an econometric analysis to compare the impact of financial market development on economic growth in BRICS and non-BRICS countries. They concluded that "1% increase in financial market depth causes BRICs economies to grow 13% faster than non-BRICS economies...a 1% increase in credit extended to the private sector causes BRICS economies to grow 2.32% faster than their non-BRICS counterparts. More financially open markets can accelerate growth for developing or emerging economies"[10]. In order to further stimulate economic growth, developing countries should consider deregulation of their financial markets in a way that allows access to international capital flows. If it is deemed that in a certain country private sector could contribute more than the public one to the economic development, more credit should be transferred from the public to the private sector. Even though larger private sector is generally considered a propeller of economic

[6] BRICS Joint Statistical Publication 2017.
[7] Wikipedia data, 2018.
[8]'' The world's 10 biggest economies in 2017'', World Economic Forum.
[9] SAFE Data and Statistics, 2016.
[10] ''The influence of financial market development on economic growth in BRICS countries'', research brief, Charles Wait and Tafadzwa Ruzive, Economic Research Southern Africa (ERSA), November 2016.

growth (and it often is), we must be careful since private sectors may also end up as monopolies in emerging economies. In India, for instance, airlines and automotive industries were part of the private sector in the past. This resulted in a low quality of products and poor supplier performance. Public sector, on the other hand, can be very efficient. Some of the most revolutionary innovations in history were a product of a public sector, such as the Internet. The crucial point is that each country needs to weight for itself which one of the two sectors is the most efficient allocator of capital in this specific country. There is no general prescription.

In this report, however, I will focus on the importance of financial markets development for economic growth in emerging countries.

FINANCIAL STRUCTURE TYPES: BANK-DOMINATED VERSUS FINANCIAL MARKETS-DOMINATED SYSTEM

It would be incomplete to talk about financial markets without dedicating some time to the banking system, since the two combined create a financial system of a country. Banks and financial markets are roughly the two places where agents can borrow money. Accordingly, countries can be classified by their preferences for borrowing capital in one of the two places. While Germany and Japan, for instance, are bank-based economies, the USA and the UK are more financial market-based. Traditionally, emerging economies are strongly relying on bank-oriented system, and there are logical reasons to justify this; their markets are not as developed and sound as in advanced countries, their economies and currencies are fragile and sudden capital withdrawals from the financial market could cause undesired instability. Developing countries' firms are facing significant exchange rate risk while issuing debt in a foreign currency. Funding in domestic banks and in domestic currency is, therefore, preferred.

However, BRICS countries are gradually but steadily shifting towards increased use of financial market funding. They need capital to grow, and this is the main reason why they have started working on developing their financial markets and opening them up to foreign investment.

There are other reasons, however. India, for example, has had a huge bad loan problem and it ranks 5th out of 39 global economies troubled by this issue[11] (*Figure 37*). Authorities have put some restrictions in order to release the burden from the banks; companies are permitted to borrow from banks up to a certain amount, the rest of the funding they should seek in financial markets. Another reason for such a policy is the fact that when banks fail, they are bailed out by the government, that is, by taxpayers. By putting restrictions on bank lending, we are also protecting taxpayers' money.

More liberalized capital flows could, of course, pose some risk on the stability of Rupee, Indian currency, and there is a certain trade-off. However, capital is undoubtedly a priority since there is no economic progress without it. Besides, if capital is used for strengthening of the economy, this will also reflect positively on the stability and the strength of Rupee.

China, on the other hand, had a current account surplus for a long period of time. They were benefiting from manufacturing exports and saving money at the same time, investing in the US Treasuries, and lending to the United States and other countries. Opening financial markets was not needed since they already had huge amounts of capital; and the country was very bank-dominated. As their living standards increased, the Chinese started to spend more, and their current account surplus started to decline. Therefore, China had to open financial markets to get access to the capital that its corporates need. Just as Indian International Council of Securities Association (ICSA) stated, ''a significant number of emerging market countries are aiming to develop their securities market as a key channel for corporate funding, even after the crisis''[12].

INDIA

Context

Indian economic liberalization initiated in 1991, as consequence of the balance of payments crisis[13] (*Figure 35*). The government decided to put into force various reforms in order to

[11] ''NPAs.. a global view'', CARE Ratings report, December, 2017.

[12] ''Market-Based Financing in Emerging Market Countries'', ICSA Emerging Markets Committee, Indian International Council of Securities Association (ICSA), April 2015.

[13] The 1991 Indian economic crisis had its roots in 1985 when the country began having balance of payments problems as imports escalated, leaving the country in a twin deficit: the Indian trade balance was in deficit at a time when the government was running on a large fiscal deficit. By the end of 1990 in the run-up to the Gulf War, the situation became so serious that the Indian foreign exchange reserves could barely finance three

open Indian markets, direct them more into services sector, and encourage private and foreign investment (*Figure 27 and Figure 50*). The initiative turned out to be very successful. Some of the specific measures the government undertook were the following: import tariffs reduction, taxes reduction, markets deregulation, easier access to foreign investment, allowing privatization and deregulation of industries, and financial sector liberalization. The government abolished the Foreign Exchange Regulation Act (FERA) that imposed very strict rules on dealings with foreign exchange (FX) and import and export of currencies. Consequently, FX investments increased significantly in the following decades.

Development of financial markets in India had a significant impact in putting the country's economy on track of high-speed growth (*Figure 31 and Figure 32*). Continuous efforts and post-liberalization reforms conducted by the Reserve Bank of India (RBI) directed capital flows in efficient and productive uses, transforming the country in one of the most promising emerging forces. Prior to the liberalization, Indian financial system was relying almost explicitly on the banking sector. It was only in the early nineties that the authorities gradually started introducing different market elements and building a more complex financial system. In 2014 the RBI established Financial Markets Regulation department which is in charge of both developing and regulating Indian financial markets. Three main areas taken into account are Money, Government Securities, and Foreign Exchange markets (including the related derivatives). There are three main principles that the RBI is following in the process of markets development:

1) Expanding the set of products that are enabling market participants to hedge their risks
2) Gradual and continuous introduction of new products (such as, for example, derivative products)
3) Improving robustness of market infrastructure for trading and settlement

The exchange-traded products in India are regulated by the RBI and the Securities and Exchange Board of India (SEBI). Greater responsibilities have been transferred to bodies such as Fixed Income and Money Market Dealers Association (FIMMDA), Foreign Exchange Dealers' Association of India (FEDAI), and Primary Dealers' Association of India

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weeks' worth of imports while the government came close to defaulting on its financial obligations. By July that year, the low reserves had led to a sharp devaluation of the rupee, which in turn exacerbated the twin deficit problem. The government was forced to borrow from the IMF. Investors' confidence played significant role in the sharp exchange rate depreciation.

(PDAI). These institutions are all in charge of developing specific areas of the market. There is also the Clearing Corporation of India Limited (CCIL) that was set up in 2001 in order to provide clearing and settlement of Money Market, G-Sec and Foreign exchange.

Stock market

Indian stock market is one of the oldest ones in Asia, having started with its activity in the 1870's. For a long period of time it was quite closed and separated from the global economy. The first relevant reform of Indian stock market began with the establishment of Securities and Exchange Board of India (SEBI) in 1988. SEBI became an important rule-setter and provider of guidelines regarding Indian stock market operations. However, more serious development commenced only after the balance of payments crisis of 1991. Gradual deregulation and softening of capital controls have had a positive impact on development of stock market. In order to stimulate economic growth, India needed to attract flows of foreign capital, and this was the main reason behind opening its capital markets. The largest stock exchanges in India are Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE). India has the largest number of listed domestic companies among all BRICS countries, but it also surpassed the Euro area and the United States (*Figure 57 and Figure 58*).

In the recent decades, Indian stock market has been developing well and attracting foreign investment, especially in the early 2000's, prior to the Great Recession, when the general state of Indian economy was flourishing, growth was strong, inflation normal and government deficit low (*Figure 29 and Figure 51*). As it is often the case in emerging economies, stock market is quite sensitive to the turbulences in markets of developed countries, particularly United States, Japan, and United Kingdom (*Figure 28*).

It is interesting to notice that since the banknote demonetization of 2016[14], the amount of assets invested in stock market has been increasing (*Figure 30*) as mutual funds started to invest more in stocks. The RBI is curious to see whether this is only a temporary trend or a practice that will become more permanent. Moreover, India is a BRICS country with the second largest market capitalization of listed domestic companies (as a percentage of GDP),

[14] On 8 November 2016, the Government of India announced the demonetisation of all Rs.500 and Rs.1000 banknotes of the Mahatma Gandhi Series. The government claimed that the action would curtail the shadow economy and crack down on the use of illicit and counterfeit cash to fund illegal activity and terrorism. The sudden nature of the announcement and the prolonged cash shortages in the weeks that followed created significant disruption throughout the economy, threatening economic output.

surpassing China. However, in this term, South Africa is far ahead of each of these economies.

Money market

Money market is a market for buying and selling financial instruments which are characterized by very high liquidity and very short maturities. These instruments are, for instance, Treasury bills, commercial paper, Eurodollar[15] deposits, municipal notes and repo agreements. In other words, money market consists of financial assets that are close substitutes of money and that can be converted into money quickly and at low costs. Money market transactions involve large amounts of money and are typically conducted by banks, funds, big companies, and investors. One of the important aspects of money market is the fact that it enables central banks to intervene in the market by influencing the quantity, and thus the cost, of liquidity in the system.

The RBI has an important role not only in regulating and setting up prudential rules, but also in deepening and developing the money market in India. Some of the undertaken initiatives are the introduction of financial instruments such as the Certificates of Deposit (CD), Commercial Paper (CP), and Inter-bank participation certificates.
Back in 1988, the Discount and Finance House of India (DFHI) was founded to support the development of secondary money markets. In 1999, Interest Rate Swaps (IRS)/ Forward Rate Agreements (FRA) were introduced to broaden the money market, but also to enable market participants to hedge their risks. As market was gradually developing, the RBI was taking steps to support development of market infrastructure for trading, reporting, clearing and settlement. Besides banks, primary dealers, mutual funds and insurances, corporate companies were permitted to participate in some collateralized aspects of the money market. Further on, some relevant reforms undertaken recently are the following: introduction of re-repo and tri-party repo, introduction of trading platform for Rupee IRS at CCIL, laying out framework for introduction of Money Market Futures and Interest Rate Options, and more.

[15] Eurodollar refers to US dollar-denominated deposits at foreign banks or at the overseas branches of American banks. By being located outside the United States, Eurodollars escape regulation by the Federal Reserve Board, including reserve requirements.

Government securities (G-Sec) market

Government securities (G-Secs) are an extremely important aspect of any financial system. There are several explanations to that. First, they enable the government to collect resources to fund themselves, i.e. to fund projects of a collective benefit. Second, they can be a valuable tool for monetary policy of a country, since they are enabling execution of monetary policy through open market operations which are either expanding or contracting the amount of money in the system. Third, they are often regarded as a crucial part of fixed income securities markets and a benchmark for yields.

In India, the Central Government is issuing both Treasury bills and bonds (date securities), while the State Governments are issuing bonds solely.

The RBI has taken a couple of significant measures in order to deepen and develop the Indian G-Sec market (*Figure 34*). They introduced auction-based issuance of G-Secs, which helped in price discovery and stimulated participation in the primary market of these instruments. After the issuance of G-Secs in 2006, they stretched the period of distribution, which enabled market to absorb the securities, and facilitated price discovery. The RBI introduced some new instruments that further deepened the market, such as Floating rate bonds, Capital indexed bonds, inflation-indexed bonds and STRIPS (Separate Trading of Registered and Principal of Securities). As a result of continuous efforts, the bid-ask spread of securities is continuing to narrow and liquidity is increasing. The Bond Turnover Ratio[16] is similar to those of developed countries.

NDS-OM is RBI's platform (operated by CCIL) that enables secondary market trading in Central and State G-Secs, Special Securities and Treasury Bills. The system can currently be used by banks, primary dealers (PR), insurance companies, mutual funds etc. Others may access the system through custodians.

Moreover, foreign portfolio investors (FPI) have been permitted a broader access to the Indian G-Sec market. Investments can go up to 5% of outstanding G-Sec stocks and 2% of outstanding SDL (State Development Loans).

Finally, repos are extremely important instruments for G-Sec market since they help buyers

[16] Bond Turnover Ratio is a measure of liquidity of bond market, shows the amount of trading in comparison to the amount of bonds outstanding.

to fund their long positions by borrowing funds against securities. Re-Repos have been introduced as well.

Corporate Bond Market

A developed corporate bond market is an important supplementary to the banking system, since it allows issuers to fund their business needs and their expansion in an alternative way. Indian corporate bond market has experienced a considerable growth (*Figure 33*), but it still needs to improve in order to catch up with other influencing countries. RBI has taken several actions with the mission of developing this market, in certain aspects which it is regulating. These aspects are, for instance:

1) participation of banks in corporate bond market (RBI permitted banks to issue long-term bonds with minimum maturity of 7 years for funding their long-term projects)
2) FPI investments in corporate bonds
3) repo in corporate bonds (increases market liquidity, enables institutional buyers to fund their long positions)
4) credit derivatives on corporate bonds

India still doesn't have a CDS market, even though efforts have been made in order to establish one. Credit risk hedging market is the least developed one, and it is important to mention the contemporary discussion on Bond-Currency-Derivatives (BCD) nexus. I will elaborate on this in the section on derivatives markets in India.

Foreign exchange market

As Foreign Exchange Management Act (FEMA) replaced a stricter Foreign Exchange Regulation Act (FERA) in 1999, the RBI gave powers to authorised dealers (AD) to practice foreign exchange for various purposes. The RBI has been expanding the range of instruments offered to investors to hedge currency risk. It is an extremely important aspect, since such hedging opportunities are broadly encouraging international inflows of capital. The instruments that are currently offered in the Indian FX market are Spot, Cash, Tom, Forwards, FX Swaps, Currency Swaps, FX options, and Exchange Traded Currency Futures and Options.
The RBI's efforts in setting up a market infrastructure resulted in founding of Clearing Corporation of India Ltd. (CCIL), which is reducing settlement risks in the market.
Access to OTC foreign exchange markets has been facilitated. Foreign exchange market in

India is the most developed and liquid one, preceding both interest rate and credit hedging markets.
In the recent decades, the country has significantly increased its reserve of gold and foreign currencies (*Figure 36*). The RBI is intervening in the market to smoothen up foreign exchange volatility. However, its mission is not to strengthen or weaken Rupee, but only to mitigate sharp swifts in exchange rates.

Derivatives market

The main concern of the Bank has been to restrict the use of hedging instruments for agents that truly wish to hedge their currency risk, as opposed to the agents of the speculative nature. However, the access to foreign exchange derivatives market has been facilitated in the recent years. Further on, the RBI has allowed access for non-resident investors, i.e. for FPIs (Foreign Portfolio Investment), FDIs, and NRIs (Non-resident Investor, for trades invoiced in Rupee). The FPIs are permitted to hedge currency risk for an entire investment in equity or debt in India. Multinational companies are allowed to enter into foreign exchange derivative contracts with AD banks in India, in order to hedge exposure of their Indian subsidiaries.

Here it is important to mention the contemporary efforts regarding the Bond-Currency-Derivatives (BCD) nexus, whose establishment was an objective for the RBI. The idea was that foreign investors investing in Indian corporate or government debt should ideally be able to hedge all of the three risks; credit, interest rate, and currency risk. As the H. R. Khan, former deputy governor of the RBI said in 2015, ‘’it is an ideal objective in an open economy financial system’’[17]. In developed economies, markets allow investors to separate those three risks and price them independently in the market. Thus, investors can specialize in a single risk type while the other types can be hedged. The RBI attempted to establish a CDS market, so that investors could pass on credit risk by selling CDS contracts. However, it didn't work. The cited reason is the following: banks, natural credit risk holders, wanted to sell CDS contracts, but there were simply no buyers. The usual buyers of credit risk in developed countries are entities such as insurances and mutual funds. In India, however, they are not significant enough to create a relevant demand.
Another point regarding Indian derivatives market relates to the previously mentioned

[17] ‘’Derivatives Dynamics: Looking Back & Looking Ahead’’ speech by H. R. Khan, then deputy governor of the RBI. The speech was given at the Finance Conclave 2015 on ‘’Indian Derivatives Markets – Striking a Balance between Risk Protection and Liquidity’’.

‘’smoothening of volatility’’ by the RBI. Some argue that hedge market is suffering because the Bank took the role of managing volatility. This apparently deprives market participants of an incentive to hedge.

As it is seen from the previous pages, Indian government and RBI have applied a broad set of measures with the scope of developing Indian financial markets. The result was a booming growth and globalization of Indian economy in the post-liberalization era. Integration and liquidity of financial markets have attracted capital inflows from developed countries, accumulation of capital, and increased productivity. Foreign investors were allowed to invest in India, but also to hedge their currency risk, which amortized their positions and encouraged them to fund Indian economic growth. Development of FX market in India did its part in attracting investors. Indian companies were also permitted to access foreign markets to raise capital, which increased competition and stimulated growth. Appearance of a diverse range of financial instruments broadened investment possibilities. Better regulations and liberalising reforms have made market more efficient, which translated into development of robust and fast-growing economy.

In the 2000’s, prior to the 2007/2008 financial crisis, Indian economy was flourishing. In 2007, before the global downturn, the country achieved a fascinating 9.8% of annual GDP growth[18]. Inflation was at normal levels, government had no deficits, and FDI and non-resident Indian deposits (NID) were high. With the expansion of the US subprime mortgage crisis, picture started to change. Fortunately, due to responsible regulation and monitoring of the country, India was relatively insulated from the crisis, at least compared to the other countries. However, it couldn’t escape the consequences of the global catastrophe. When the crisis started to shake the world’s economies, India was already considerably involved with the United States and Europe, exporting its goods to these markets. With the arrival of the crisis, the exports naturally shrank, which reflected in the decrease of Indian growth rate to 3.8% in 2008. However, the growth quickly recovered and reached 8.5% and even more fascinating 10.2% in 2009 and 2010, respectively[19].

[18] The World Bank data, India, 2007.
[19] The World Bank data, India, 2008, 2009, 2010.

India experienced another economic deterioration in 2012/ 2013, when the growth fell below 5%[20], due to the fatal combination of internal and external factors such as inflation problems, decreased investments as a result of policy inaction, macro-economic turbulence in the US, etc. (*Figure 63*).

In the recent years, the country's economy has experienced several shocks such as banknote demonetisation of 2016, and the Good and Services Tax of 2017. However, the country has gradually recovered, and it seems to be on track again- according to IMF's report from 2018, India will be the 2018's fastest growing economy, with a growth rate of 7.4%, which has potential to rise to 7.8% in 2019[21].

CHINA

Context

From all the BRICS countries, China is undoubtedly the one that left the biggest impact on the global scene in the recent decades. It is the largest and the most important emerging economy, a developing giant known for fascinating and consistent growth records (*Figure 63*).

China is a unique case. Despite the country's fast economic rise, its financial markets were far from being open and developed for a long period of time (*Figure 1 and Figure 2*). ''China is an important counterexample to the common finding in the finance-growth literature, since China has enjoyed fast economic growth for more than 30 years while its financial sector is very much under state control and is still quite under-developed today''[22]. For decades, the government was holding a tight control over Chinese financial markets, foreign exchange was limited, and foreign investors had relatively little access to the market. Even though they were opening slowly and gradually, it was far away from what one would consider necessary for developing such an economic force.

An explanation for this uniqueness is the fact that China enjoyed a current account surplus for a long period of time (*Figure 6*). The country was benefiting from vast manufacturing

[20] The World Bank data, India, 2012, 2013.

[21] ''Regional Economic Outlook: Asia Pacific'' report, IMF, May 2018.

[22] ''Financial development and economic growth: Recent evidence from China'', Journal of Comparative Economics, Jin Zhang, Lanfang Wang, and Susheng Wang (2012)

exports, investing in the US Treasuries, lending to the United States and other countries, and massively saving (*Figure 53 and Figure 54*). Opening financial markets was not needed since they already had huge amounts of capital; the country was very bank-dominated. As their standards increased the Chinese started to spend more, exports revenue ceased to be as lucrative as before, and the current account surplus started to decline (*Figure 6 and IMF's prediction of further decline of Chinese current account surplus in Figure 7*). Another contributing factor is slight declining and aging of population. This resulted in a decrease of labor force, which was an important competitive advantage of China and which produced current account surplus (*Figure 9*). In need of capital, China had to open financial markets to access international cash flows. As a result of opening markets, foreign investments increased significantly in the last two decades (*Figure 3*). In terms of private and inward direct investment, China surpasses other BRICS countries by far (*Figure 50, Figure 48, and Figure 60*). Chinese financial markets are also the most efficient ones, not only among the BRICS countries, but also compared to advanced economies such as the United States (*Figure 49*).

China is a very good example of a country that didn't follow the generalized prescription for fostering economic growth, which is ''always more market and less government''. Instead, it took advantage of its specific attributes; enormous work force and low-cost manufacturing, which resulted in generating vast amounts of capital from exports. Even though China is now in another stage of its development, which includes opening up to markets, it is still tailoring its policies to the local context. As Dani Rodrik put it. ''China's phenomenal economic success is largely due to its orthodoxy-defying tinkering. China turned to markets but did not copy western practices in property rights. Its reforms produced market-based incentives through a series of unusual institutional arrangements that were better adapted to the local context. Rather than to move directly from state to private ownership, for example, which would have been stymied by the weakness of the prevailing legal structures, the country relied on mixed forms of ownership that provided more effective property rights for entrepreneurs in practice''.[23] In addition, Chinese government invested a lot in the country, proving that ''less government'' is not always a necessary precondition for economic growth (*Figure 52*).

The first relevant economic reforms in China began in 1978, when reformists from the Communist Party of China undertook a range of measures. The first stage was including

[23] ''The fatal flaw of neoliberalism: it's bad economics'', Dani Rodrik, The Guardian, November 2017.

decollectivization of agriculture and allowing some access to the foreign investment. However, most of the industries continued to be state-owned. It is only during the second stage of the reform (late 1980s and 1990s) that the privatization took place and much of the state-owned industry was contracted. Price controls, protectionist policies and regulations were lifted. The government, however, kept dominating industries such as banking and petroleum industry. In the late 1990s, many state companies were liquidated and sold to private investors. Along with some other reforms that reduced trade barriers, tariffs, and regulations, privatization resulted in massive flows of money towards China, that is, a large increase in capital account (*Figure 8*). As a result of the reforms, the private sector grew significantly and from 1978 to 2013, a splendid growth occurred. Poverty was significantly decreased, and incomes increased. In the recent years though, China's economic growth is slowing down- this might be a sign that the country has reached a certain economic maturity.

Money market

The Chinese money markets can be divided in 4 categories: interbank lending market (which accounts for most of the money market trading), repo market, bond market, and bills market. The interbank markets, i.e. foreign exchange markets where banks trade currencies, are regulated by the People's Bank of China (PBC), a Chinese central bank. They are organized by the China Foreign Exchange Trade System (CFETS), which is the interbank trading and foreign exchange division of the PBC. In comparison to repo and bond markets, interbank lending market is much less open to foreign participation. In general, it is highly unlikely that the Chinese banking system will soon open to foreign institutions. The interbank market was quite weak for a long period of time, and money market derivatives appeared only around 2006. Gradually, but steadily, they are developing.

Repo (repurchase agreement) is a form of short-term funding for dealers in government securities (or other fixed income security). The cash borrower sells the security to the cash lender and buys it back the following day, at a previously agreed price. Repos are economically equivalent to secured loans and they are important instruments for short-term funding in many economies, as well as for financial institutions in China. Repo transactions in China can be traded on the Shanghai or Shenzhen stock exchange or over-the-counter (OTC) in the interbank market. In the recent years, repo market has become less volatile, which encouraged greater risk-taking in financial markets. The regulations are less strict, so the trading volume is higher.

The interbank repo market plays a significant role in China. Chinese government bonds and bonds issued by China's policy banks account for 90% of repo collateral[24], as stated in the report of Kendall and Lees from the Reserve Bank of Australia. Not only that interbank repo market is a major source of short-term funding, but it is used by the PBC to adjust liquidity in the market through open market operations. In other words, the PBC uses it for transmission of monetary policy. The PBC's lending in the interbank repo market has increased in the last several years. According to the same report, ''this increase in the PBC's activity in the repo market is likely to be aimed at reducing the volatility of repo rates''. Interbank market may operate OTC.

Regarding bonds, China's $12 trillion bond market is the third largest in the world[25]. The market started to open only recently to the foreign investors. Bonds and bills in Chinese markets are also used in the purpose of short-term funding. A large amount of these securities is issued by the PBC and the treasury of the state.
China's current account surplus has been decreasing in the last years and Chinese authorities had no choice but to undertake some measures in order to allow capital inflows from international investors. Further development and opening of the bond market, but also of financial markets in general, is the way to achieve that. Besides attracting foreign capital, there are some other objectives that Chinese authorities have in mind while working rapidly on developing bond markets. First, they want to release burden from the banking system and reduce potentially systemic credit risk of banks, given that the massive Chinese credit expansion relies mostly on these financial institutions. Second, bonds allow longer pay-back period, which suits debt amortisation of their cash flow schedules. Third, they want to develop pension system by offering long-duration assets. Pools of bonds would help to achieve significant pension reforms.

Capital market

A capital market is a market in which long-term debt and equity is being bought and sold. Capital markets are channelling savers' capital to the ones that could use it for a long-term

[24] ''The Chinese Interbank Repo Market'' bulletin, Reserve Bank of Australia, by Ross Kendall and Jonathan Lees (2017).
[25] ''China: Unpacking the world's third largest bond market'', Research & Strategy Insights, by Aidan Yao and Shirley Shen, R&IS, and Jim Veneau and Asia Fixed Income, May 2018.

productive purpose, for instance companies who are investing in their business.
China's capital markets have been developing at an enviable speed, since 1990s when the stock exchange reform took place (*Figure 51*). The second wave of development commenced in 2007, as numerous state-owned companies were released for trade. Simultaneously, the number of mutual funds enlarged, which further increased demand for stocks. Growth was also stimulated by government's loan policies, and by the creation of Shibor (Shanghai Interbank Offered Rate), which increased liquidity of the market. Both local stock exchanges, the Shanghai and Shenzhen Stock Exchange, are among the largest ones in the world.

Chinese authorities have recently made a number of announcements to eliminate foreign ownership restrictions for securities, futures and fund management firms. One of the most significant acts that attracted foreign investors in Chinese capital markets was allowing them to hedge their foreign currency risks. The lack of hedging possibilities was one of the main obstacles that investors were facing in the previous years. China has also introduced the Financial Stability and Development Commission (FSDC) to coordinate financial market reforms, and launched BondConnect, a programme under which foreign investors can buy debt trading on China's interbank bond market directly through the Hong Kong exchange. Qualified investors are institutions such as banks, insurances, brokerages and asset management firms. Moreover, they have significantly reduced the number of occurring trading suspensions and welcomed foreign bond assessments.

Qualified Foreign Institutional Investor (QFII) is a scheme that allows foreign institutional investments under certain conditions. For instance, ownership by individual foreign investors in a listed company through QFII shall not exceed 10% of the total shares, and foreign investors cannot hold more than 30% of A shares[26] of a single company. The total investment limit for QFIIs is US$150 billion. There are, however, no restrictions regarding foreign investments in B shares (which are traded in foreign currencies) of domestically listed companies. Non-residents are allowed to sell A and B shares, but not issue them.
There is also a category of Renminbi Qualified Foreign Institutional Investor (RQFII). This is a very similar scheme that allows foreign investors to invest in Mainland equity or debt. The

[26] In China, A shares are shares traded on the two Mainland Chinese stock exchanges (Shanghai and Shenzhen stock exchanges). They are traded in Renminbi. B shares on these stock exchanges are shares traded in foreign currencies, US or Hong Kong dollars.

main difference is that RQFII is using Renminbi for purchases, while QFII is using foreign currency.

Even though China has made several reforms in order to open its capital markets to the world, according to certain economists it still needs to do more to reach its full potential.

Foreign exchange market

China has a long history of a strict currency and capital controls, which was reflecting in the form of extremely regulated foreign exchange markets. Traditionally, the country had been practicing a tough exchange rate policy, maintaining pegs and putting restrictions and caps on foreign currency holdings. From 1953 to 1979, during the period of planned economy, foreign trade was practiced explicitly by state-owned foreign trade companies. In the 1980s foreign exchange was slightly opened to a limited number of Chinese and foreign companies. However, a certain amount of foreign currencies in China still had to be sold to the government, at an official rate. The rest was allowed to be traded in market, which created a double-tracked system. The control of Renminbi Yuan in the last decades was made possible due to the large amounts of foreign reserves, especially US dollars that China had accumulated thanks to the current account surpluses from its manufacturing trades (*Figure 5*). During the past years, China was changing its foreign exchange policy frequently, varying from different forms of pegging of Yuan to the US dollar. In order to avoid appreciation of the currency and maintain the peg, PBC was heavily intervening in Chinese foreign exchange markets, selling Yuan for US dollars to counterbalance the excess demand for domestic currency. The reasoning for such interventions is China's transition from central planning to market economy; the country increased its participation in foreign trade and Renminbi was being devalued to increase competitiveness of Chinese exports.

However, China has changed its policy in the several couple of years and slowly moved away from the strict stabilization of currency to the more flexible, market-determined exchange rate. It loosened its capital controls to make Renminbi more attractive and suitable for inclusion in the IMF's Special Drawing Rights[27] (SDR) in October 2016. As China is shifting

[27] The Special Drawing Right (SDR) is an international reserve asset created by the IMF in 1969. Its purpose is to supplement the official reserves of member countries. The SDR is a potential claim on the freely usable currencies of IMF members. IMF assigns SDRs to its members in proportion to their standing in the organization, which is more or less based on their share of the global economy. The allocation of SDRs boosts

its focus from manufacturing to creation of service-based economy, Renminbi is carefully allowed to strengthen (*Figure 4*). In accordance with its policy of attracting foreign investments and international capital, China is opening its foreign exchange market. Since 2006, the Renminbi has been allowed to float in a narrow margin around a fixed base rate determined with reference to a basket of world currencies. In April 2018, the value of Chinese holdings of US dollars fell US$17.97 billion to US$3.125 trillion, but authorities didn't seem as worried as they would have been a couple of years ago[28]. The country, instead, has directed its efforts into attracting foreign capital towards Chinese equity, bond and commodity futures markets. This will, inherently, have a strengthening effect on Renminbi and will counterbalance cross-border flows.

Foreign exchange transactions in China are supervised by the State Administration for Foreign Exchange (SAFE) and financial institutions dealing with such transactions had to be authorized by SAFE, in the previous years. However, as China started to seek foreign capital and liberalize its foreign exchange markets, several changes have been made. For example, in 2016/ 2017, legal person financial institutions, enterprises, and domestic branches of foreign banks were allowed to carry out cross-border financing in Renminbi or in foreign currencies freely within the limit determined by their capital and net assets. They do not need to get the approval from the People's Bank of China or SAFE in advance.

Since 2008, there are 67 institutions allowed to provide foreign currency conversion (but not payments or transfers) for individuals. As of December 2016, 499 Chinese and foreign banks are allowed to engage in spot foreign exchange settlement and sales operations. They can offer their customers RMB-foreign currency spot transactions, foreign exchange swaps, currency swaps etc. Foreign commercial banks, insurances, funds, asset management companies, and monetary authorities are allowed to participate in interbank market and buy forwards, FX and currency swaps and options.

Banks and other financial institutions who are selling FX forwards to their clients are obliged to deposit FX risk reserves with the ratio of 20%.

Further on, permission is needed for capital account transactions, but not for current account transactions. Resident can purchase FX up to the amount equivalent to US$ 50,000.

official reserves of member countries. While SDR cannot be used to purchase goods& services, countries can exchange them among themselves.

[28] ''China's foreign exchange reserves dip on US dollar rebound'', South China Morning Post, May 2018.

Hong Kong and Macao RMB business clearing banks can open RMB clearing accounts with the PBC.

Derivatives market

As a logical step following the policy of opening foreign exchange markets, China is giving foreign investors access to foreign-exchange derivatives to allow hedging positions. It is a significant step in the process of attracting international investors, since their main concern regarding investing in Chinese markets was related precisely to the currency risk. Foreigners investing in bond market now have access to a range of currency-hedging instruments, such as swaps, cross-currency swaps, forwards, and options. Chinese financial markets are evolving, slowly but steadily, and that includes development of domestic derivatives market. As of December 2016, 85 banks are allowed to deal with forward and swap transactions for their clients. Banks can determine their exchange rates with clients without any limits on the spread, but rather, based on the market. Further on, 27 banks were appointed as forward and swap trading market makers.

In his 2017's speech on Growing China's Derivatives Markets, Scott O'Malia, Chief Executive of ISDA[29], stressed out: '' Use of these valuable risk management tools has been helped by the ongoing liberalization of China's financial markets. Recent developments include an expansion in the list of eligible investors in the onshore interbank bond market, and permission for foreign investors to use onshore foreign exchange derivatives such as forwards, swaps and options to hedge their bond positions. That should help improve liquidity in the market further... While the derivatives market may still be in its relatively early stage of development, I am confident it will continue grow and mature.[30]''

Recent schemes to liberalize capital flows in financial markets

Even though China still controls capital flows to a fair amount, it is carefully and selectively loosening the grip and working on opening its financial markets. The government has even stated the objective to gradually transfer foreign exchange holdings from the PBC's balance sheet to the people, i.e. households, companies and state-controlled entities. This will have a

[29] ''Growing China's Derivatives Markets'', speech by Scott O'Malia, Chief Executive, International Swaps and Derivatives Association (ISDA), June 5, 2017, Beijing.
[30] ''China's foreign exchange reserves dip on US dollar rebound'', South China Morning Post, May 2018.

significant impact on the future capital outflows from China.
Chinese economy keeps relying on the bank-dominated system, which is almost entirely controlled by the state. However, some important reforms had been achieved. For instance, bank deposits and lending rates have been completely liberalized. Commercial banks have autonomy over setting these rates, but the PBC sets reference rates to guide banks. According to experts, China still has to implement various reforms, one of which is developing a stronger fixed-income market. Eswar S. Prasad, a senior fellow at the Brookings Institution, explains that ‘’China’s aspirations to make the RMB a global reserve currency rest in large part on the pace of development of its fixed-income markets. Reserve currency economies are expected to issue high-quality and creditworthy government debt or government-backed debt instruments that can serve to hedge against foreign investors’ domestic currency depreciation during a global downturn[31]’’.

China’s financial markets still have to fill out some gaps for Renminbi to truly become an internationally used reserve currency. As Mr. Prasad states, ‘’government seems to be caught in a deep internal conflict between its stated objective of letting markets operate freely and its desire to maintain stability and control above all else’’.

However, Chinese markets have definitely achieved some important improvements. The recent schemes to liberalize cross-border capital flows are:

1. **Channels for Inflows**

Qualified Foreign Institutional Investor (QFII) Scheme: Launched in 2002. Allows qualified foreign institutions to convert foreign currency into RMB and invest in Chinese equities (both A shares and B shares) and a range of other RMB-denominated financial instruments.

Renminbi Qualified Foreign Institutional Investor (RQFII) Scheme: Launched in 2011. Allows qualified institutions to use offshore RMB funds to invest in Chinese equities and other RMB-denominated financial instruments.

2. **Channels for Outflows**

[31] ‘’China’s Economy and Financial Markets: Reforms and Risks’’, Eswar S. Prasad, hearing on ‘’China’s 13th Five-Year Plan’’, U.S.-China Economic and Security Review Commission, April 2016.

Qualified Domestic Institutional Investor (QDII) Scheme: Launched in 2006. Allows Chinese domestic financial institutions—commercial banks, securities companies, fund management companies, and insurance companies—to invest in offshore financial products such as securities and bonds.

3. Channels for Two-Way Flows

Free Trade Zones (FTZs): Shanghai FTZ launched in September 2013. Three new FTZs in Guangdong, Tianjin, and Fujian launched in April 2015. The FTZs use a "negative list" approach to regulate foreign investment—there are few restrictions on foreign investment in industries not on the list. Cross-border capital transactions and establishment of financial institutions within the zones have been liberalized.

Shanghai-Hong Kong Stock Connect: Launched in 2014. Allows mainland Chinese investors to purchase shares of select Hong Kong and Chinese companies listed in Hong Kong, and lets foreigners buy Chinese shares listed in Shanghai.

Mutual Fund Connect: Launched in July 2015. Allows eligible mainland and Hong Kong funds to be distributed in each other's markets through a simplified vetting process.

Finally, according to Edward Prasad, Tolani Senior Professor of Trade Policy at Cornell University and a senior fellow at the Brookings Institution, there are several risks that China is facing at this stage of developing financial markets. First, the risk of capital outflows that could destabilize the economy. Second, the risk of misconducting policy in the process of transition from a command-driven to a market-oriented economy. As Prasad concludes, ''many of the reforms and measures taken to promote the RMB's international role have created their own risks for the economy''[32]. The country also shouldn't neglect concerns regarding swings in the stock market, and the issues concerning banks' stability and shadow banking.

[32] ''China's economy and financial markets: Reforms and risks'', Eswar S. Prasad, Brookings, April 2016.

BRAZIL

Context

Brazil is Latin America's largest economy, and the 9th largest economy in the world[33]. The country has experienced a rapid growth in the preceding decades and some significant improvements have been achieved (*Figure 39*). However, its financial and capital markets still have a lot of space to grow and to support further economic development. As Latin America started to adapt to globalization era, capital flows became less restricted and Brazil became one of the top investing destinations in the world (*Figure 42*). In fact, in 2015 it was the world's eighth largest destination for FDI[34]. China excluded, Brazil is a BRICS country that is receiving the largest amount of direct investment (*Figure 48*).

From the late 1980's throughout 1990's, a set of reforms had been made in order to economically benefit the citizens. The reforms included foreign trade liberalization and privatization of financial institutions, which was vital. Interest rate, capital, and exchange controls were abolished, and financial institutions were allowed to organize themselves as universal banks. Reforms in the1990s and 2000s were aimed to develop financial sector and boost economic growth. Growth of capital markets was stimulated through restructuring of regulatory policies. As a result of the reforms, the number of financial institutions increased, securities and derivatives markets have grown, and financial system enlarged and became more diversified (*Figure 38*). According to the IMF's Financial Development Index, Brazilian financial markets are very efficient (*Figure 49*). The Wold Bank's data shows that it is also the easiest BRICS country to do business (*Figure 56*). ''After having been for the previous four decades a closed economy with a strong presence of the State as a producer of goods and services, and after a long period of high inflation with indexing, at the end of the 1990s Brazil became an economy with a marked degree of openness to merchandise trade and capital''[35], as Renato Baumann from Economic Commission for Latin America and the Caribbean (CEPAL) stated. In the late 1990s, a trade reform and tariff reduction processes begun. Since a very large economy was closed for a long time, a certain period had to pass until imports and exports increased to a significant level.
In the early 1990s, Brazil has been concerned with opening financial markets and establishing

[33] IMF data, 2018.
[34] The United Nations Conference on Trade and Development (UNCTAD), 2015.
[35] ''Brazil in the 1990s: an economy in transition'', Renato Baumann, CEPAL review 73, 2001.

facilities to attract foreign investment. Since the 1950s to the 1970s, it was one of the countries that received the largest share of foreign investment. This changed during the 1980's crisis, but in 1991, the country adopted a series of measures with an aim of attracting foreign capital. Renato Baumann from CEPAL concluded; ‘' As a result, flows of such investments, which amounted to less than US$ 800 million up to 1992, already rose to nearly US$ 7 billion in 1993. The systematic deficits registered on the balance of payments capital account between 1985 and 1991 turned into a surplus of US$ 25 billion in 1992''.

Banking sector played a big role in developing Brazilian financial system and stimulating economic growth. Through efficient financial intermediation and allocation of capital, productivity was improved, and growth rates increased. The country's banking system consists of a large number of well capitalized foreign banks, which have played an important role in lending to local companies. Participation of public banks is much smaller.

In comparison with other BRICS countries (but also with Germany, Euro area etc.), Brazil has the largest percentage of firms that are using banks to finance working capital (*Figure 59*). Brazilian banking sector is strong, resilient and diversified to the measure that it dealt very well with the recent financial crisis of 2007/ 2008. Even though the commodity prices fell sharply, and financial markets were shaken, ‘' Brazil was able to enact countercyclical policies during a global crisis. Instead of having to tighten fiscal and monetary policies, which was necessary in the past to preserve confidence, Brazil had enough buffers to counter the crisis by increasing public spending and lowering interest rates''[36].

There are many types of non-depository financial institutions in Brazil, and investment institutions such as investment banks, and pension, investment, and mutual funds. Investment funds are permitted to invest overseas.

In 2014 though, Brazil experienced a serious economic crisis which was coupled with political crisis. In 2015, the country's GDP fell by roughly 3% due to a decrease in salaries, restrictions on credit and interest rate rise.[37] As a result of the crisis, the FDI fell significantly and started to recuperate relatively recently. Both the Brazilian government and The National Investment Bank (BNDES), one of the largest development banks in the world, are now encouraging investment. Most of the barriers are taken away, especially on the stock market. Sectors are deregulated and many public companies have been privatized. Brazilian

[36] ''Brazil's macro economy, past and present'', Rabobank's economic report, Herwin Loman, 2014.
[37] ''What is driving Brazil's economic downturn?'', ECB Economic Bulletin, Issue 1 / 2016.

investment regime is liberal, that is, foreign investors are allowed to hold a majority share in a created company.

Stock market

Brazilian stock market is one of the highlights of its financial market development. It has been growing since the 1990's. Most of the obstacles for investors have been dismantled and numerous public companies were privatized. Volatility index of stock price decreased significantly since the 1980s (*Figure 44*). In 2008, two Brazilian stock exchanges converged and created São Paulo Stock Exchange (BOVESPA), the most important exchange of Latin America and one of the largest exchanges in the world, when it comes to market value. Public securities are traded on the Rio de Janeiro market.
Brazilian stock market was hit hard by the 2007/ 2008 crisis, and the stock market capitalization to GDP fell sharply. It still hasn't reached the peak from before the crisis (*Figure 40*). However, the situation has been improving and the total daily trading average volume increased from R 6.1 billion (USD 1.8 billion) in 2015 to R 6.6 billion (USD 1.9 billion) in 2016[38]. Market capitalization of listed domestic companies has been increasing since 2015 (*Figure 41*). At the end of 2016, the number of companies traded on BOVESPA reached 338.

There are generally very few constraints regarding foreign companies' access to private-sector financing and investing in listed companies (and G-Secs). Foreign investors and institutions are allowed to directly invest in Brazilian equities, securities and derivatives. However, their trading of stocks and derivatives of public companies on established markets is limited. Once foreign investors register investment with the BCB, they are able to remit dividends and capital, which also has to be registered with the Central Bank. ''The remittance transaction may be carried out at any bank by documenting the source of the transaction (evidence of profit or sale of assets) and showing that applicable taxes have been paid''[39]. The Brazilian Securities and Exchange Commission (CVM) is an entity in charge for regulating the stock exchanges, and non-resident investors must be registered with them.

Foreign investors are holding a fair amount of total returns on the BOVESPA, quite more than domestic institutional and individual investors. In 2016, Brazil ranked the 7th most

[38] Export.gov, International Trade Administration's website.
[39] ''Brazil- 6- Financial Sector'', Export.gov, International Trade Administration of the U.S. Department of Commerce, 2017.

attractive place for FDI, with inflows of US$ 58.7 billion. The country's debt-to-GDP ratio decreased from 77% in 2016 to 74% in 2017. [40]

In Brazil, there are also present a 100%-owned subsidiaries of international accounting firms, including the biggest US firms.

Debt market

While debt markets in developed countries are strong and liquid, they are generally underdeveloped in emerging economies. Thus, ‘’...despite considerable growth, domestic debt markets in the emerging economies remain small compared to industrial countries...’’[41]

Brazil is not an exception here. The biggest issues with Brazilian debt market are small market capitalization, illiquidity of secondary market, low legal protection in the case of default, and a non-existence of a complete benchmark yield curve. Interest rates are high, which is related to the lack of government credibility. According to some economists, another explanation would be external shocks that are destabilizing soundness of Brazilian economy. In order to mitigate these shocks, better integration with global economies should be achieved. However, high interest rates are one of the main obstacles for faster growth and availability of credit.

Since interest rates and collateral requirements are high, and maturities are short, firms don't have much incentive to fund themselves in a domestic market. Among the ones that do, large and sophisticated firms are in majority (rates decrease proportionally with the size of the company). Small firms are rarely raising capital in the market- they are resorting to bank loans instead.

Foreign investments in Brazilian debt market have to be registered with the BCB. The tax on financial operations (IOF) is zero on non-residents' fixed-income instruments.

[40] United Nations Council on Trade and Development (UNCTAD), 2018.

[41] ‘’Recent trends in bond markets- The development of bond markets in emerging countries’’, Dubravko Mihaljek, Michela Scatigna and Agustin Villar, BIS Papers No 11, June 2002.

Remittance policies

Capital gains are subject to a 15-22.5 % of income withholding tax. The exceptions are gains and interest on tax-exempt domestically issued Brazilian bonds. The tax rate is determined according to capital gains: up to USD 1.5 million is taxed at 15 %; USD 1.5 million to USD 2.9 million is taxed at 17.5 %; USD 2.9 million to USD 8.9 million is taxed at 20 %; and more than USD 8.9 million is taxed at 22.5 %[42].

Foreign exchange market

Before 2005, the only foreign exchange transactions that were allowed were the ones specified by the BCB. The regulatory burden has been reducing ever since, and now the authorized agents and clients in the foreign exchange market can negotiate freely. In other words, the authorizations of the BCB are no longer necessary. There are 189 institutions operating in foreign exchange market, allowed to buy and sell foreign currency.[43] Banks (98) may perform future and forward operations (most of these transactions have to be settled within 360 days, 1500 days for interbank transactions), while non-banks (91) are only allowed to trade in spot market.

The transactions can be performed directly through authorized banks and foreign exchange can be sent without any struggle. Foreign investors are free to convert Brazilian currency, Real (R), in the foreign exchange market where rates are determined by the market. However, all of the foreign exchange transactions have to be reported to the Banco Central do Brazil (BCB). Brazil uses the tax on financial operations (IOF); foreign exchange transactions are subject to a tax of 0.38%[44]. The idea of IOF is to counterbalance speculative capital inflows which had caused appreciation of Real and thus made Brazilian exports less competitive. Despite improvements and developments, Brazilian foreign exchange market is still quite small. In 2016, the Bank for International Settlements (BIS) conducted a Triennial Survey of foreign exchange and OTC derivatives markets, which showed that Brazil's market for OTC foreign exchange transactions (spot transactions, outright forwards, foreign-exchange swaps, currency swaps and currency options) was USD19.7 billion, up from USD17.2 billion in 2013. This is equivalent to approximately only 0.3 % of the global market in both of the

[42] ''Brazil- 6- Financial Sector'', Export.gov, International Trade Administration of the U.S. Department of Commerce, 2017.
[43] ''Brazil-2017 AREAER'', IMF.
[44] ''Brazil-2017 AREAER'', IMF.

years[45].

Access to the foreign exchange market remains restricted, with only chartered banks being authorized. Local banks are not allowed to take deposits in foreign currency. Also, Real is not totally convertible and it cannot be delivered outside Brazil. This represents a huge obstacle for development of offshore currency market.

As it is the general case in BRICS countries and emerging economies, Brazilian total reserves have increased significantly in the several last decades (*Figure 46*).

Derivatives market

In comparison with derivatives markets in other developing countries, Brazil certainly stands out. The country has a relatively large and developed derivatives market that trades foreign exchange and interest rate contracts. Brazilian foreign exchange futures and options are non-deliverable, thus they are settled in Real. There is a logical explanation for the existence of such a vast derivatives market in Brazil; a historical instability of the economy and a currency that has been prone to inflation. Very volatile interest rates, particularly at the end of 1980s and the beginning of 1990s resulted in a need for creation of instruments that would hedge this sort of interest rate and inflation risk. Bank for International Settlements (BIS) explains that ‘’in the second half of the 1990s, after the "Real Plan"[46] succeeded in reducing inflation and stabilising the exchange rate, the private sector made a greater use of lower-cost foreign currency borrowing. The resulting exposure to foreign debt incentivised the use of FX futures for hedging’’[47].

Another important explanation is that restrictions in the foreign exchange market provide an incentive for the use of derivatives as a substitute for cash transactions. Access to the foreign exchange market remains restricted, with only chartered banks being authorized.

[45] ‘’Triennial Central Bank Survey- Foreign exchange turnover in April 2016’’, Monetary and Economic Department, Bank for International Settlements (BIS), September 2016.

[46] ‘’Real Plan’’ (‘’Plano Real’’ in Portuguese) was a set of measures taken to stabilize the Brazilian economy in 1994. It was based on the root causes of hyperinflation, that concluded that there was both an issue of fiscal policy and severe inertial inflation. The Plan intended to stabilize the domestic currency in nominal terms after a series of failed plans to control inflation.

[47] ‘’Derivatives markets in Brazil’’, BIS Quarterly Review, December 2016.

Foreign investment in derivatives market needs to be registered with the BCB, but this is mainly for statistical purposes. Resident private sector entities can hedge their risk abroad. However, derivatives can be used only for hedging purposes.

Due to its liquidity, Brazilian foreign exchange futures market is considered more developed than the spot market. The demand for hedging exchange rate exposures is reflected in the futures market, which leads to price discovery in the spot market. As the BIS explains, ‘’the link between those two markets is established via "synthetic" operations, known as "casado" or "differential" transactions, which are used to match positions between them. In such operations, it is possible to buy or sell dollars in the spot market while simultaneously selling or buying the same amount of dollar/ real futures’’[48].

Thanks to the liquidity of foreign exchange markets, the BCB was comfortable with intervening in these markets, which allowed for further development. For instance, in the 1990s, when Real was subjected to a crawling peg to the US dollar, the BCB intervened by selling US dollar futures through state-owned commercial banks which acted as intermediaries. Moreover, there are auctions of domestic non-deliverable currency swaps. These are very important ever since the introduction of floating regime in 1999. Another famous instrument is the foreign exchange repo, which is used to deal with liquidity shortages in foreign exchange cash; for instance, after the recent financial crisis. The BCB’s interventions in foreign exchange derivatives market are a tool by the help of which the Central bank provides liquidity in foreign exchange cash (ex. repo), or a hedge (ex. non-deliverable currency swap) to the private sector, without munching too much on official foreign exchange reserves.

Developed Brazilian derivatives markets have proven resilient and strong in dealing with financial turmoil and instability. During stressful situations such as the default of Argentine (2001), the Great Recession (2007/ 2008), and the recent Brazilian crisis (2015), Brazilian derivatives markets had a role in preventing more serious financial distress. Before and during the latest crisis of 2014/ 2015, the amount of financial derivatives contracts increased tremendously (*Figure 45*).

[48] ‘’Derivatives markets in Brazil’’, extract from page 75 of *BIS Quarterly Review*, December 2016.

To conclude on Brazil, one of the most important economic achievements of Brazilian financial markets development is a notable narrowing of inequality gap and reduction of poverty (*Figure 43*). In the 1990s, Brazil started to implement policies that attracted foreign investment and that contributed largely to the evolvement of the country's economy. Its quite developed stock and derivatives markets resulted in flows of international capital into the country. However, economic growth slowed down in the recent years, especially due to the economic and political crisis of 2014. Brazil still has a long way of developing its financial markets, for instance, the foreign exchange market which remained quite small and underdeveloped.

RUSSIA

Context

For almost 70 years, Russian economy, and economy of the rest of the Soviet Union, was subject to central planning. Since the time of Joseph Stalin to the late 1980's, the structure of the Soviet economy didn't change a lot. All the decisions regarding economy, production, consumption, and investment were in the hands of the state, that is, the Communist Party of the Soviet Union. The state was performing allocation, a function that is, in a market economy, performed by prices. The prices of goods were dictated, and they didn't always match the real demand-supply situation in the economy. For example, housing was very cheap even though the extreme shortage of apartments would logically implicate much higher rental fees. Prices were merely an accounting mechanism.

It was in the mid 1980's that the regime of Mikhail Gorbachev (1985-91) started to attempt reforms, but only after 1991[49], during the leadership of Boris Yeltsin, the country made significant steps towards transforming into a market economy. Market-determined prices were introduced and the transition from central planning to market economy was set as a fundamental goal. Yeltsin wanted to implement fiscal and monetary policy that would stimulate economic growth through stable prices and exchange rates. Banks were established, private property was encouraged and, very importantly, domestic markets were opened to

[49] In 1991 the Soviet Union was dissolved and Russian Federation was established. Boris Yeltsin is the first president of the Russian Federation, serving from 1991 to 1999.

foreign trade and investment. In 1991, Yeltsin announced the radical ‘’shock therapy’’, a sudden unleash of price and currency controls, abrupt trade liberalization and privatization of previously state-owned assets. These instantaneous and hurried actions at first caused problems with inflation and exchange rate instability. However, a new private sector was rising and by the end of 1997, some progress had been achieved in taming inflation and stabilizing rouble, the Russian currency. Some significant market-oriented laws were put into force.

Ever since the collapse of the Soviet Union in 1991, Russia has been trying to develop a market economy and achieve a stable economic growth (*Figure 23*). The group of BRICS countries was created precisely on the Russian incentive. With a $4 trillion GDP in terms of purchasing power parity (PPP), Russia is the sixth-largest economy in the world after China, the United States, India, Japan and Germany[50]. Between 2000 and 2012, the country enjoyed high-speed growth which was driven mainly by high energy prices and weaponry exports. FDI was pouring into the country and it seemed like Russia was on a good path (*Figure 24*).

In 2014, however, the country experienced a collapse of its currency, rouble, which led to the financial crisis that lasted until 2017. There are several factors that explain such a dramatic turnover. First, in 2014 the prices of crude oil, the most important export and pillar of Russian economy, decreased by almost half. It is enough to say that roughly 40% of the government’s total revenue is coming from crude oil exports[51]. Thus, any change in oil prices could have a tremendous impact on the Russian economy. Second, Russia was subjected to international economic sanctions after its annexation of Crimea and its military intervention in Ukraine. The sanctions made it more difficult for Russia to borrow abroad. Third, Russia has certain problems with US dollar denominated debt. The lack of confidence in rouble increased demand for dollars both from the Russian residents and from investors. As a result of a fatal combination of these factors, investors lost their confidence in Russian economy and they started to sell off their Russian assets. Consequently, rouble declined, and the Russian stock market experienced a dramatic drop.

Russia is recovering, amidst high prices of oil which is a major factor that influences the country’s economic picture. Trade, manufacturing and investment are expected to recuperate,

[50] IMF World Economic Outlook, April 2018.

[51] ‘’Russia Economic Report- The Long Journey to Recovery’’, the World Bank Group (Macroeconomics & Fiscal Management), April 2016.

and Russia's current account became more stable due to trade surplus from higher oil prices. Inflation is on record low levels, which slightly decreased the poverty rate. Banking sector is in good health and it is mainly controlled by the state. According to the World Bank's report, ''the share of state-controlled banks in the combined assets of the Russian banking system increased to nearly 70%''[52]. However, only a very small amount of firms is using banks to finance working capital (*Figure 59*). Even though Russia is recovering from the crisis, growth predictions remain modest. In the same report, the World Bank estimates growth between 1.5% and 1.8% in the period 2018-20.

The growth of Russian economy, as we can conclude, is highly dependent on commodities exports- primarily crude oil and natural gas (*Figure 19, Figure 20, Figure 21, and Figure 22*). According to experts, Russia should focus on economic diversification- building more resilient financial system, infrastructures, and human capital, in order to avoid future turbulences caused by shift in commodity prices. Depending solely on natural resources can cause huge problems when prices of these commodities decrease. According to many economists, Russia is an example of a ''resources curse'', relying excessively on gas and crude oil exports, and neglecting development of other economic sectors and financial markets. Russian financial system is still largely bank- dominated and banks possess most of the total assets of Russian financial institutions. Even though Russian financial markets are more accessible than the other BRICS markets, they are the least efficient (*Figure 49*).

Now having a broad overture in the Russian story, let's focus on the country's financial markets development, which is the main objective of this project.

Stock market

Russian securities market started with its activity in 1992, as a result of a large privatization program. A vast number of state enterprises were transformed into joint stock companies. In the following years, Russian stock market was growing fast and eventually has become one of the most important emerging markets. It reached its highest potential in 2008, when the capitalization of Russian companies was the largest. The Moscow Exchange was, for many years, the biggest stock exchange in Central and Eastern Europe. According to some

[52] ''The Russian Economy: Modest Growth Ahead'', 39th issue of the Russia Economic Report, the World Bank, May 2018.

economists, development of Russian stock market is the major factor behind rapid economic and industrial growth in Russia, in the period between 1992 and 2008. However, some claim that the Russian stock market has developed for many reasons (such as privatization purposes, buying out businesses, M&A), but not to attract investors, and that a very small portion of money from the stock market was transformed into real investment that boosts economic growth. Further on, Russian stock market has the smallest capitalization of listed domestic companies (as a percentage of GDP) among BRICS states (*Figure 64*).

The Russian stock market is also one of the most volatile ones. Among major markets, it was the most affected by the recent financial crisis, and so far, it still hasn't been able to reach the level of growth and development from the years preceding the crisis (*Figure 18*). Critical episodes, such as the 2009 and 2014 crises, had caused major declines in market capitalization and economic growth of the country. In 2016 and 2017, Russia had the smallest number of listed domestic companies among all BRICS countries (*Figure 57 and Figure 58*). Factors that can particularly destabilize Russian stock market, historically, are inflationary issues and large amounts of sovereign debt denominated in a foreign currency, namely the US dollar.

Regarding non-resident purchase of shares, there are no restrictions. However, due to the ineffectiveness of the Russian corporate governance in joint-stock companies, stock market is not likely to become a significant source of capital rising. The capitalisation of the Russian stock market was 27.3 trillion roubles (37.2% of GDP) in 2015 H1. For comparison, the world average is 85.4% of the global GDP[53].
According to the World Bank's report ''Doing Business 2016'', Russia provides a rather insufficient protection of minority investors, that is, shareholders who own less than 50% of the total shares of corporation's stock. Russia's score of protecting minority investor is around 5.7 out of possible 10[54]. Moreover, low credit ratings, high levels of risks and high costs of investment are discouraging a larger volume of FDI in the country's capital markets, especially compared to the other BRICS countries (*Figure 48 and Figure 60*). Another significant problem is the fact that FDI is directed only to specific areas of this large country, which creates regional discrepancies and uneven growth. Despite country's size and natural resources potential, the combination of these factors makes Russia one of the least attractive

[53] ''Guidelines for the Development of the Russian Financial Market in 2016-2018'', Bank of Russia.
[54] ''Doing Business 2016'', the World Bank.

transition countries, investment-wise. It is also the least business- friendly BRICS country in terms of regulations (*Figure 56*). Russia has to work on these problems in order to create a more favourable investment climate.

Russian households are mostly relying on banking services, not having enough confidence in the stock market. Levels of bank supervision are unsatisfactory, and people lack confidence in the non-banking intermediaries. On the other hand, bank deposits are reliable (deposit insurance is provided by the central bank) and familiar. The Bank of Russia confirms in its Guidelines that ‘’...non-credit financial products are in much less demand with households, and their level of penetration lags considerably behind the comparable values in other emerging economies’’. Besides, Russian households traditionally have a rather low level of savings which may be comparable to European states but is much less than in other OECD countries (*Figure 54*).

While pension funds in the majority of countries invest in stocks (around 20%) and bonds (around 50%), which helps establish a sound and stable financial market, Russian pension funds are pooling their money primarily in the form of bank deposits[55]. ‘’The pension savings of Russians still fail to become a meaningful source of long-term funding for economic agents. The insignificance of the pension assets share in the capital market makes it impossible to expect in the short-term that they will become the basis of domestic investment demand, setting grounds for attracting foreign investors and stabilising the financial market in times of volatility’’[56] (*Figure 55*).

However, Russian authorities are working on implementing a set of regulatory changes that will enable investors to diversify their investments and ensure higher yields of stocks. Stimulating domestic demand for shares (and bonds) is one of the top priorities.

Debt market

Russian debt market is very small compared to stocks market and ‘’the size of the domestic corporate bonds market in Russia in relation to GDP is 13 times less than the world average’’[57]. It consists primarily of the government debt securities, which is generally the case in the majority of countries. In Russia, this superiority is further intensified since the

[55] ‘’Guidelines for the Development of the Russian Financial Market in 2016-2018’’, Bank of Russia.
[56] ‘’Guidelines for the Development of the Russian Financial Market in 2016–2018’’, Bank of Russia.
[57] ‘’The Russian Securities Market: 20 Years of Development’’, Prof. Dr. Boris Rubtsov, Financial University under the Government of Russian Federation Moskau.

corporate bond markets didn't even exist until 1999. Most important investors in government securities are Russian pension funds, insurance companies, and banks. Corporate bonds market is among the youngest markets in Russia, and it is still quite small. After the recent financial crisis, Russian corporate bonds market shut down completely for a while, but now it is recovering.

Regarding foreign investors, there are no restrictions on buying, purchasing, or issuing bonds or other debt securities by non-residents.

While pension funds in majority of the countries are investing almost 50% in bonds[58], and thus helping create a sound and liquid bond market, the Russian pension funds are pooling their money primarily in the form of bank deposits.

Due to the inflationary dangers and general lack of capacity of domestic investors, the Russian bond market is evolved mostly in the form of Eurobonds[59] market. That is, foreign investors are trading bonds in currencies other than the rouble.

Developing a better and deeper debt market, with inflation-linked rates, is one of the top priorities of the Bank of Russia. Not only because it would stabilize money market, but also because it would stimulate development of derivatives market.

Derivatives market

In 2015, the Russian derivatives markets accounted for more than two times less market participants than the stock market (29.5 and 66.6 thousand of individual market-makers, respectively)[60]. And this number has been decreasing even further over the several couple of years. For comparison, in developed countries this relation is reversed, and derivatives markets are sometimes double the size of stock markets. Even though the Russian derivatives market has evolved in the last decades, there is still a lot of space for improvement.

According to the Bank of Russia, development of the bond market will stimulate derivatives market development.

Derivatives market in Russia mostly consists of futures and options. It is based on OTC, like in other emerging economies, but it is one of the goals of the Bank of Russia to transpose derivatives market to the central counterparty (CCP) clearing. This sector in Russia is

[58] OECD data; Bank of Russia, ''Guidelines for the Development of the Russian Financial Market in 2016–2018''.

[59] A eurobond is a bond issued in a currency other than the currency of the country or market in which it is issued.

[60] Bank of Russia, ''Guidelines for the Development of the Russian Financial Market in 2016–2018''.

relatively young, with the leading futures and options market, FORTS, having started in 2001.

Foreign exchange market

Russian foreign exchange market has been developing as the country's economy is developing. The market is mostly centralized and controlled by the Bank of Russia. The Bank issues licences to commercial banks and in this way controls the foreign exchange trade amounts in the country. According to 2016 data, the number of credit institutions licensed to perform foreign exchange operations was 714[61].

Even though the exchange rate regime is officially floating, the Ministry of Finance (MOF) implemented a mechanism of foreign exchange purchases and sales; the goal is to avoid rate volatility and unpredictability since the rouble is highly dependent on fluctuation of oil and gas prices in the world (*Figure 25 and Figure 26*). The Bank of Russia is holding weekly repo auctions in foreign currency, in order to supply Russian banks with those currencies. Forward transactions can be operated only by authorized banks, and futures are traded in currency exchanges. Non-residents can freely make transfers of both roubles and foreign currency, out and into the country. The limits on open foreign exchange positions on credit institutions are 20% of equity, and on individuals 10% of equity. The reserve requirement was increased from 4.25% to 5.25% for credit institution's liabilities in foreign currency[62].

The biggest risk of the foreign exchange market is a depreciation of the rouble against the US dollar, as well as RUB/USD volatility. Moscow Exchange's FX Market is country's oldest regulated FX trading venue, founded in 1992. The Bank of Russia is using it to implement its monetary policy and set official RUB/USD rate. USD, EUR, GBP, HKD, CNY, UAH, KZT and BYR foreign exchange spots as well as swap transactions with different maturities can be executed.

Since the full direct market access (DMA) was developed, the number of foreign exchange market participants increased significantly. According to the Moscow Exchange, this act ''facilitated a significant increase in member activity and an expansion of the client base due

[61] IMF AREAER Database- Russia 2017.
[62] IMF AREAER Database- Russia 2017.

to the arrival of new client categories including non-residents, Russian and foreign brokers/sub-brokers and individuals''[63].

According to the Bank of Russia's ''Guidelines for the Development of the Russian Financial Market in 2016-2018'', the country's central bank is on a mission to create conditions for financial markets growth and to facilitate economic prosperity through competitive access of Russian economic agents to debt and equity financing and risk hedging instruments. Some of the basic areas of financial development are bond market development and improvement of financial market regulation.

Even though over the last few decades Russia has made undeniable progress in terms of financial markets development, the results are still not satisfactory and there is a lot of space for improvement. Russia's financial markets may be comparable with BRICS countries, but they are notably worse in comparison with G20[64]. Although some aspects, such as the accessibility of financial markets, have seen positive trend, there are still serious shortcomings such as a lack of markets depth[65] and underdevelopment of financial institutions. These problems have to be worked out in order to create a more favourable investment climate and attract more FDI.

One of the most important weaknesses of Russian financial system is a small portion of non-credit financial institutions, as opposed to convincing dominance of banks, which, however, are not able to provide sufficient credit for the entire nation. Banking sector is not able to replace capital markets, and thus, evolving capital markets is necessary in order to release banks from the burden of lending to the largest Russian corporations.

[63] Moscow Exchange official website; section ''About the FX Market'', 2018.

[64] Bank of Russia, ''Guidelines for the Development of the Russian Financial Market in 2016–2018''.

[65] Depth of market is an indication of the liquidity of the market. It refers to the number of shares that can be bought of a particular corporation, without causing price appreciation. If the stock is very liquid and has a large number of buyers and sellers, purchasing a high number of shares will typically not result in a noticeable stock price movement. The lack of depth of Russian markets are one of the factors that can explain its volatility.

SOUTH AFRICA

Context

Prior to the 1980s, financial systems in Sub Saharan African (SSA) countries were rather underdeveloped and weak. It was only in the 1980s that some of these countries started to carve their ways to a more solid financial intermediation system. They started strengthening their financial sectors with better banking regulation and greater monetary autonomy. They decreased the predominance of state-owned banks, introduced new financial products, and developed a banking network. These efforts resulted in notable financial development and progress. However, since financial markets of most of these countries are still quite small and of low depth, there are numerous challenges and a vast space for improvement.

South Africa, however, certainly stands out. It is one of the most industrialized countries in Africa, having the second largest economy on the continent, after Nigeria[66]. South African financial markets have been developing in the several last decades (*Figure 13*) and according to the IMF's data, they are of remarkable depth, surpassing all the BRICS countries in this matter (*Figure 49*).
The country is the only African member of G20. In the end of 2010, South Africa joined the BRICS organization. Since 1996, at the end of over-a-decade long international sanctions[67], the country tripled its GDP to over $400 billion in 2011, an all-time high, but this amount has declined in 2016 and 2017 [68] (*Figure 11*). South Africa's foreign exchange reserves were increasing throughout the past decades, helping create a diversified economy and a growing middle-income class in the years after the end of Apartheid in early 1990s. In 2018, reserves reached over USD 50 billion[69]. The country has a strong banking sector and financial markets in development, but there are several factors that are slowing economic growth and progress-bureaucracy, restrictive labour regulations, lack of educated workers, corruption and political instability. Compared to other developing economies, South Africa stands well in terms of availability of capital, financial markets sophistication, and business tax rate[70] and infrastructure. However, it lags behind when it comes to education, labour availability, and

[66] IMF World Economic Outlook, 2018.
[67] In 1986, 40 years after the beginning of Apartheid, South Africa's most important trading partners such as the USA, the EC, and Japan, put economic sanctions on the country due to international opposition to the policy of Apartheid.
[68] Trading Economics website; South Africa GDP; The World Bank Open Data.
[69] Trading Economics website; South Africa Foreign Exchange Reserves.
[70] Africa has one of the lowest business tax rates, i.e. business taxes as a percentage of company profits.

use of innovation and technology. There are several factors that make South Africa fall behind emerging economies such as China or India. First, the country is relatively small, and doesn't have an advantage of a large domestic customer base. Second, savings and investment rate were extremely low for a long period of time, partly due to constant political turbulences (*Figure 53 and Figure 48*). Third, education system is flawed and there is a severe shortage of educated and qualified workers. Fourth, the volatility of the country's currency (South African Rand), but also its strength, makes exports less competitive (*Figure 15 and Figure 14*). Fifth, the infrastructure needs to improve a lot. Even though the country is progressive compared to the rest of Africa, they still suffer from serious shortcomings such as power shortages. In the Global Competitiveness Index (GCI) report 2017-2018, South Africa ranks 61st among 137 economies included[71].

The financial development has been upgrading since the beginning of 1990s, but not all factors have been improving equally. According to Brian Muyambiri from the University of South Africa, between 1990 and 2014 '' only domestic credit and private credit increased sharply, rising from below the 100% level to above the 120% level. The M2/ GDP ratio increased from 40% in 1965 to 59% in 2014. The government credit to GDP ratio increased from 11% in 1965 to 19% in 2014. However, the share of total deposits as a percentage of GDP decreased from 60% in 1965 to 42% in 2014''[72].

Some of the main achievements to attract foreign investment are decrease in inflation rates and reduced corporate taxes. However, exchange rates are quite unstable (and this implicates higher costs of exports), cost of highly qualified workers is large, and labour regulations are tiring. In the recent years, South African economy has experienced economic and political turbulences that influenced the country's growth, but the situation is improving, and forecasts are positive.

Stock market

South African stock market is of an extremely significant meaning for the country. Johannesburg Stock Exchange (JSE) is not only the soundest and the most dominant stock exchange of the African continent, but also one of the 20 largest stock exchanges in the

[71] Global Competitiveness Index (GCI) report 2017-2018, the World Economic Forum.

[72] ''South Africa's Financial Development and its Role in Investment'', Journal of Central Banking Theory and Practice, 2018, 1, pp. 101-120, Brian Muyambiri, 2017.

world, with market capitalization of more than $950 billion in 2017[73]. This accounts for approximately 350% of the country's GDP and surpasses significantly all the other BRICS countries (*Figure 10 and Figure 64*). JSE is bigger than bourses of some much larger economies, such as Mexico, Turkey, and Indonesia. JSE was founded already in 1887- the discovery of gold in the geological formation Witwatersrand resulted in a need for capital in order to fund growing investments in the mining sector. According to some, mining is at the core of South African financial development, since projects involved were requiring very large funds of capital (unlike in the countries whose economic development was based on agriculture or trade, for instance).

Capital raised from IPOs on the companies listed on JSE accounts for 45% of the total IPO capital raised in Africa, and ''in 2017, capital raised from IPOs by companies on the JSE in US dollar terms increased by 178% as compared to 2016''[74]. South African stock market is continuing to grow, regulation and supervision have been improved, new financial products are being introduced, and market participants are dedicated to attracting foreign investment. Compared to other BRICS countries, South African firms are relying the least on banks as a source of financing working capital (*Figure 59*).

However, South African stock markets do have a volatile and unpredictable characteristic. Prices on the JSE can deviate from its fundamentals and cause inefficiency in capital allocation. As explained by Shakill Hassan from the Economic Research Southern Africa (ERSA), ''the weight of the stock market in the economy increases macro-economic sensitivity to asset price bubbles, and crashes''[75]. Besides, even though the openness of stock market to foreign investment benefits financial development, it also exposes it to changes in capital flows, and thus changes in liquidity and exchange rate volatility. To add more on instability, South Africa has the largest amount of short-term debt (as a percentage of total reserves) from all of the BRICS countries (*Figure 61*). There are no securities denominated in foreign currency in South Africa.

Derivatives market

Since stock market holds a significant weight in South African economy and since it is prone to asset bubbles and volatility, OTC derivatives market plays an important role in managing

[73] ''The 20 Largest Stock Exchanges in the World'', Jeff Desjardins, Visual Capitalist, April 2017.
[74] ''African Capital Markets continue to reflect strong figures for 2015- but challenging times may lie ahead'', Pwc South Africa, 2015.
[75] ''South African Capital Markets: An Overview'', Economic Research Southern Africa (ERSA), Shakill Hassan, November 2013.

those exposures, primarily hedging exchange and interest rate risk. According to the data from 2017, 51% of futures and 86% of options traded in the African continent are from South African derivatives market[76]. Domestic participants in this market are mostly banks and corporates. In 2012 South Africa, as a member of G20, started implementing regulatory reforms for OTC derivatives market. The biggest problem has been the not so strong market infrastructure to provide central clearing for OTC derivatives to market agents. Therefore, efforts have been made to design a strict regulation of central counterparty clearing houses (CCPs), and to impose various prudential requirements. Another fact to bear in mind is that a large portion of South African derivatives are cross-border, thus it is important to pay attention to international economic happenings and trends.

Despite being small compared to derivatives markets of advanced economies, South African market is among the largest ones of developing countries as the ‘’OTC turnover in Rand-denominated interest rate derivatives is the eight largest worldwide (at par with Brazilian real denominated instruments)’’[77]. Like in most of developing countries, turnover of exchange rate derivatives exceeds the turnover of interest rate derivatives (which is the case in advanced economies).

The most important foreign exchange derivatives traded OTC are foreign exchange swaps, options and outright forwards. Currency and commodity derivatives with a foreign underlying asset can be listed on the JSE. However, foreign issuing of derivatives on the JSE requires approval. Non-residents can freely buy derivatives, options and futures.

Debt market

The JSE regulates most of the debt market, after having bought the Bond Exchange of South Africa in 2009. In 2013, the JSE had approximately 1600 listed debt instruments, totalling more than R1.8 trillion nominal outstanding[78]. South African debt market is liquid and evolved in terms of daily trade (R 25 billion daily) and number of traders[79]. More than half of the bonds listed are South African government bonds, and the others are mostly issued by state-owned companies, banks, and corporates. Corporate bonds market is small compared to

[76] ‘’African capital markets indicate recovery in 2017’’, Pwc Nigeria, 2017.
[77] ‘’South African Capital Markets: An Overview’’, Economic Research Southern Africa (ERSA), Shakill Hassan, November 2013.
[78]Johannesburg Stock Exchange (JSE) official website; Debt Market.
[79] Johannesburg Stock Exchange (JSE) official website; Debt Market.

government bonds market, but it is slowly growing, and issuance is increasing. It is forecasted that, once that more companies start entering the market, foreign demand will be strong. Repo market is a rather liquid and efficient funding market, having seen spikes of R 200 billion[80].

It is important to underline the huge holdings of South African government debt in the hands of foreigners. In fact, foreign investors hold most of the debt issued (followed by domestic pension funds and banks). According to National Treasury data, non-resident holdings of South African debt increased from 41 % in late December 2017 to 43 % in March 2018- this is a huge shift[81]. Part of the explanation for such an unusually high percentage lies in the fact that domestic market is now very evolved and sophisticated, having developed pension and mutual funds that are actively participating in the debt market (*Figure 55*). There is always a resident demand.

Even though South Africa surely needs funding from non-resident bond investors (and is benefiting from these inflows of money), such flows can impose dangerous risks. In the case of a risky event, inflows of money could easily turn into outflows and massive selloff of bonds, leaving South Africa in a bad position. The country's economists agree that more effort should be put in attracting other forms of investment, such as FDI. In order to do that, economic growth should be stimulated. Growth has been declining and current forecasts are below 2 %[82], which is not particularly appealing for investors (*Figure 12*). Compared to other BRICS countries, South Africa is receiving the smallest total amount of inward direct investment (*Figure 48*). The same is true for total private investment (*Figure 50*) and total private capital stock (*Figure 51*). However, we have to take in account that South Africa is geographically the smallest BRICS country by far. Therefore, even though it receives the smallest amount of total investment, in relative terms it might be more successful than some other countries, for instance a massive Russia.

[80] Johannesburg Stock Exchange (JSE) official website; Debt Market- Repo Market.
[81] National Treasury data 2018; ''Foreigners Can't Resist South African Debt. That's a Problem'', Robert Brand, Bloomberg, May 2018.
[82] The World Bank- South Africa Overview, April 2018.

Foreign exchange market

According to the BIS's ranking from 2016, Rand is the 20th most traded currency in the world, given the size and structure of the world's FX market[83].

South African FX market is the single biggest one in Africa. Participants are banks authorized by the South African Reserve Bank (SARB), and brokers. The main currency pairs traded include US dollar and Japanese yen.

In order to prevent outflows of money from the country, the government has put some restrictions on foreign exchange. For example, there is a limited amount of Rand that each South African citizen can exchange for a foreign currency. The government also made it burdensome to trade with offshore FX brokers, that is, brokers located in a different country. Even though it is quite easy to deposit money in a South African trading account, it gets complicated to transfer money outside the country, and there are lots of regulations to comply with while buying foreign currencies. However, commercial banks can freely set their exchange rates in transactions with clients. In 2016, the National Treasury has appointed 27 ADs to deal with foreign exchange transactions[84]. ADs are allowed to open Nostro[85] accounts without asking permission.

South African foreign exchange market is also used by the SARB, as a tool for correcting the exchange rate level. It uses spot transactions and foreign exchange swaps. The Bank's forward market interventions were mostly conducted to support the depreciating Rand, to support the functioning of the market, or to accumulate reserves which have increased significantly in the last two decades (*Figure 16*). With commercial banks, the SARB is conducting weekly repo auctions.

Further on, foreign exchange accounts can be open to non-residents, and these funds can be transferred abroad freely. However, if a non-resident opens a Rand account, this amount cannot be converted to a foreign currency account. Moreover, there is a system of monitoring foreign exposures, and there are certain limits.

[83]'' Triennial Central Bank Survey- Foreign exchange turnover in April 2016'', Monetary and Economic Department of Bank for International Settlements (BIS), September 2016.

[84] IMF AREAER Database- South Africa 2017.

[85] Nostro account refers to an account that a bank holds in a foreign currency in another bank. They are used to facilitate foreign exchange and trade transactions.

South Africa is the most developed African country with the most evolved financial markets. Its stock market is active from 1887, and it is larger than markets of many bigger countries- according to many economists this plays a significant role for the country's development. South African bond market experienced a rising trend, and as the World Bank reports, this results from the sound and solid budgetary policy, i.e. reduced public debt[86]. However, even though the country's economy is evolving, the growth is slowing. High rates of inequality remain a huge problem for the country (*Figure 17*). Gini coefficient was 65 in 2014; the poorest 20% of citizens account for less than 3% of total expenditure, while the wealthiest 20% account for 65%[87]. Foreign investments in debt market are pouring capital into the country, but this can easily reverse in a case of a risky event. Foreign direct investment (FDI), according to many, is what is needed in order to foster real growth, accelerate progress, and create more jobs for South Africans.

EVENT STUDY: EXAMPLES OF EVENTS THAT INFLUENCE BRICS COUNTRIES

In this part of the dissertation I will give some recent examples on how international events can affect BRICS economies, which are very influenced by happenings in advanced countries, especially the United States. In BRICS and other developing countries, the most open and liquid markets where non-residents have the most access are stock and FX markets, therefore I will focus on these. Unlike in advanced economies, bond markets in developing countries are not the best indicators, since they're generally not particularly evolved. For this reason, I decided not to use bond yield spreads as indicators.

EVENT EXAMPLE 1

Trump ignites trade war with China, officially announces tariffs on $50 billion worth of Chinese goods, June 15, 2018.

EFFECTS:

1) **Chinese Yuan depreciated against US Dollar.** Currency is always reflecting what is happening to the economy.

[86] The World Bank- South Africa Overview, April 2018.
[87] Statistics South Africa; The World Bank- South Africa Overview, April 2018.

During the last decades, China has been attempting to transform the structure of its exports and put focus on technological manufacturing to compete with the U.S. When tariffs on Chinese goods were imposed, the currency adjusted since exporting goods to the U.S. will be more expensive.
We can see on the graph in appendix that depreciation of Yuan was not sharp, meaning that investors were assuming, before the date of announcement, that Trump was going to raise tariffs. In fact, speculations about trade war existed in the previous months.

2) **Chinese stock market suffered a fall.** It makes sense, since stock market is influenced by a depreciating currency and all the inconveniences for Chinese that came along with the tariffs. On the graph in appendix we can see a dramatic devaluation of Hong Kong Hang Seng Index (HSI): the stock market fell by -26%. Shanghai stock market plunged by -3.8%, and Shenzhen by -5.8%.[88]

EVENT EXAMPLE 2

Fed Chairman Jerome Powell, in his first speech on the economy since taking over at the central bank, said growth is strong and more interest rate hikes are necessary, April 6, 2018.

EFFECTS:

1) **Emerging economies that are commodity exporters (such as Brazil and Russia) usually suffer under a strong US dollar. An example is Brazilian Real that significantly depreciated against it (on the graph in appendix).**
Most commodities of emerging countries that are relying on exports are being sold in dollars. As dollar appreciates, less is required to buy the same quantity of commodities, and their prices fall. This is bad for emerging countries, since it means they will earn less in real terms.
Changes in exchange rate with US dollar impact virtually every currency of an emerging economy, not only the ones that are commodity exporters.

[88] ''Chinese markets plunge on Trump's newest tariff threat: Shanghai down 3.8%, Shenzhen falls 5.8%'', Cheang Ming, CNBC, June 2018.

2) **Countries like Brazil, South Africa, and India (India on the graph in appendix) experienced outflows of Debt Net Foreign Investment. Inflows (positive side of the graph) are ‘’substituted’’ by outflows (negative side of the graph).**
   Those countries are particularly vulnerable on change in investment climate. They have enjoyed a continuous inflow of foreign investment since the global financial crisis of 2008. Thus, their economic growth became quite reliant on those cash flows. As FED increased interest rates, foreign investment decreased (that is, investors were pulled back to the U.S.) and mentioned economies have seen a large capital outflow. This is very likely to hurt their economic development and slow down their growth.

3) **South African Rand depreciates (on the graph), as well as the other currencies of emerging economies.** As FED increases interest rates, it will be much more difficult for those countries to repay the debt denominated in US dollars (over a trillion of dollars in dollar-denominated bonds that are issued by various institutions of developing countries). This could result in defaults which could harm the corporate bond market of emerging economies.
   Depreciation of currencies can turn out good for exports, but it will, presumably, hurt foreign investment.
   The bottom line is that FED has a huge impact not only on the U.S. and advanced markets, but also on markets of emerging economies.

4) **JP Morgan Emerging Market Currency Index decreases significantly, both long-term and short-term.** This index is tracking exchange rates of emerging economies’ currencies that have the highest liquidity on the market. The reasoning is the same as in 3).

EVENT EXAMPLE 3

Trump administration hits 24 Russians with sanctions over ‘’malign activity’’ (aggressions and interfering into 2016 US elections), 6 April 2018.

Trump administration imposes more sanctions on Russia after Skripal poisonings (nerve-agent attack on a former Russian spy), 9 August 2018.

EFFECTS

1) **Russian rouble depreciates as a result of tough sanctions (graph in appendix)**
   On 9th of April 2018, rouble suffered the biggest daily depreciation in 3 years. The Russian stock market experienced a sudden fall, as well.
   On 9th of August 2018, rouble dropped dramatically once again.
   The sanctions, rouble depreciation, and stock market fall had a negative impact on the outlook of the Russian economy.

CONCLUSION

BRICS countries are emerging giants of global economy that significantly changed the world's economic picture. Even though we are talking about economically very different countries, we can conclude that their common characteristic is a high-speed growth in the recent decades. They also have another factor in common- an important role of financial markets development (*Figure 47*). That spurred economic growth in these countries (with an exception of China which is a unique case).

The growth of stock markets in developing countries is fast and intriguing, but it doesn't mean that these markets are already mature and developed. In most of the emerging economies, there is still a lot of effort to put in, in order to reach the full potential and the level of advanced countries' financial market depth. Emerging economies still rely heavily on bank-based financial system (especially Russia, for instance), which is putting a vast burden on banks, and increasing the possibility of a credit crunch. According to economic experts, developing stronger stock markets would create a new reliable source of capital and unburden banks. In order to do so, it is important to establish a sound institutional infrastructure that would protect shareholders' rights. The lack of such efficiency is one of the main reasons that undermine further development of Russian stock markets.
While bond markets in developed countries account for a large portion of GDP, they are typically underdeveloped in developing economies. (There are exceptions like China, whose bond market is large, however, it opened only recently to foreign investment). Debt markets are usually not liquid enough, market capitalization is small, and the legal framework for protecting debt holders from default is not sufficiently efficient. Consequently, interest rates on corporate debt are very high and collateral requirements are burdening. This is the case in

Russia and Brazil, for example. Regarding state bonds, the lack of government credibility in some emerging countries is a factor that impedes development of this market.

Derivatives markets in emerging countries are growing rapidly, especially in the last decade and especially over-the-counter (OTC). The reason for this development lies in the ever-growing demand from foreign investors who want to hedge their currency risks while investing in developing economies. Better hedging opportunities result in increased inflows of international capital, which can, in turn, be used to foster economic growth of a country. Experts from BIS concluded in their research paper that ‘’foreign exchange derivatives are the most commonly traded of all risk categories, with increasingly frequent turnover in emerging market currencies and a growing share of cross-border transactions’’[89].

Foreign exchange growth in BRICS countries relies mostly on the growth in derivatives market. Thus, futures markets in certain developing economies (especially Brazil) are much more developed than spot markets. Another explanation for that, given by BIS, is the small amount of high-frequency-trading (HFT) in emerging economies, since HFT is more used in spot than in derivatives market[90].
Development of FX markets in OTC is much more significant than the one in official exchange markets. Further on, one of the biggest differences in derivatives markets in developed and developing economy is that in the former most of the derivatives are dealing with interest rate risk, while in the later more than half of derivatives are aimed to hedge for exchange rate risk.

In the past, capital accounts of BRICS countries were generally closed to foreign investment. Capital controls were tight and financial markets were significantly underdeveloped. Even though there is still a fair degree of carefulness in allowing capital flows and exchange rates fluctuations, BRICS countries are gradually opening to global markets in order to foster domestic economic growth. Even China, a country that achieved a remarkable growth without having developed financial markets, is now converting to a more market-oriented economy, and slowly relaxing its tight grip.

[89] ‘’Derivatives in emerging markets’’, Dubravko Mihaljek and Frank Packer, BIS Quarterly Review, December 2010.
[90] ‘’FX and derivatives markets in emerging economies and the internationalisation of their currencies’’, Torsten Ehlers and Frank Packer, BIS Quarterly Review, December 2013.

BRICS countries prove that financial markets development is often highly correlated with economic growth. However, we shouldn't forget that there is no single prescription for each and every country-specific situation. Even though financial markets development is a generally prescribed ''medicine'' for emerging countries that want to attract capital (which is their main concern) and foster economic growth, we should always consider a specific situation of a given country. China is a good example, since it managed to economically rise for decades without having developed financial markets. Even though this period had ended, and China is gradually opening its markets to the world, we cannot neglect the fascinating efficiency of Chinese growth policy which was tailored to the country's specific situation, instead of following blindly the ''always-more-markets'' prescription.

Owing to a great extent to reforms that improved functioning of markets, BRICS have been attracting investment and fostering economic growth. However, there is still a lot of work to be done. Emerging economies, in general, need to work on attracting more FDI instead of short-term investment. Fast growth of BRICS countries is undeniable, but it doesn't imply that they are already mature and at the level of advanced economies.

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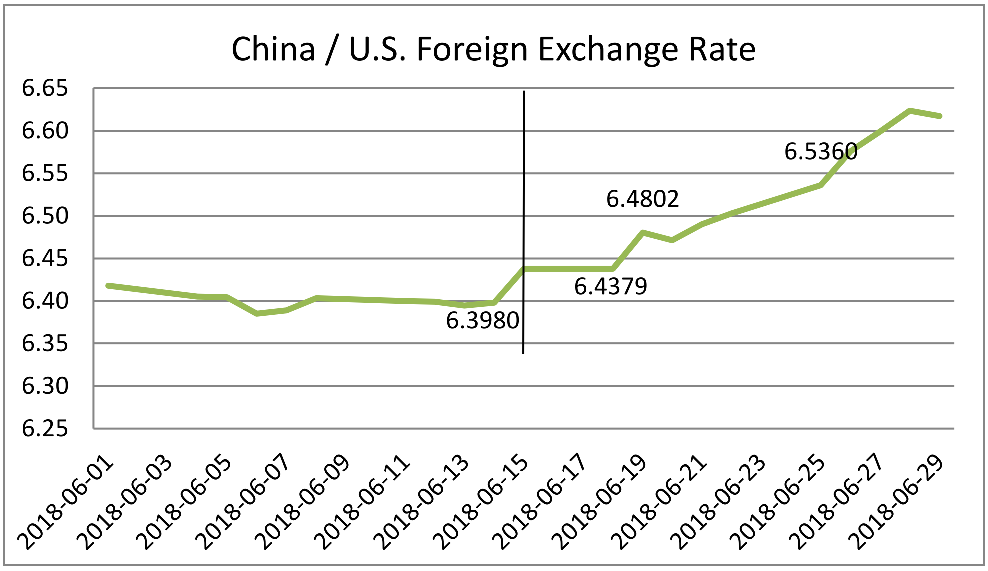
APPENDIX:

1) EMPIRICAL EVIDENCE: EVENT STUDY

EVENT EXAMPLE 1

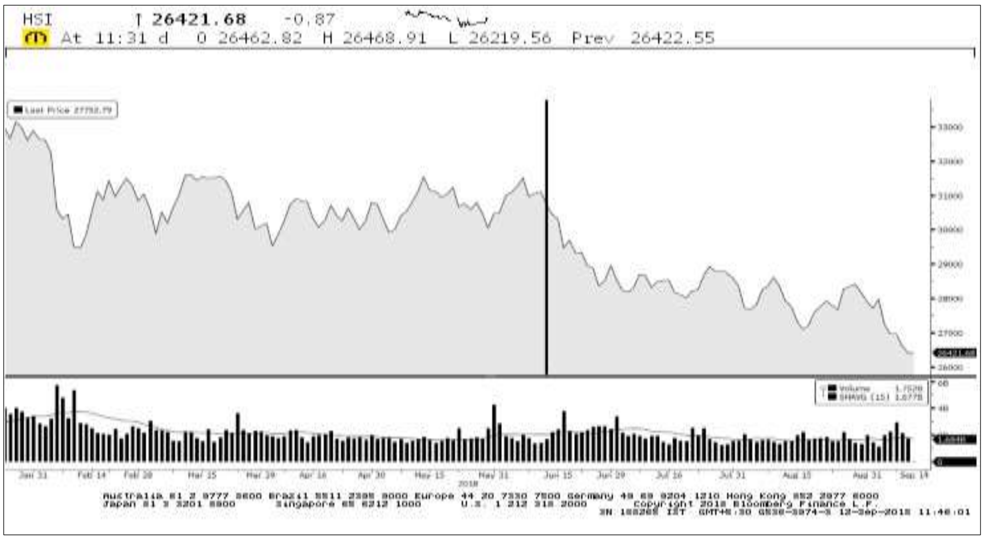
1)



World Bank Open Data, Financial Sector, China / U.S. Foreign Exchange Rate

June 2018 Average St. Dev.	8.09%
St. Dev, Jun 14 to Jun 15	2.82%

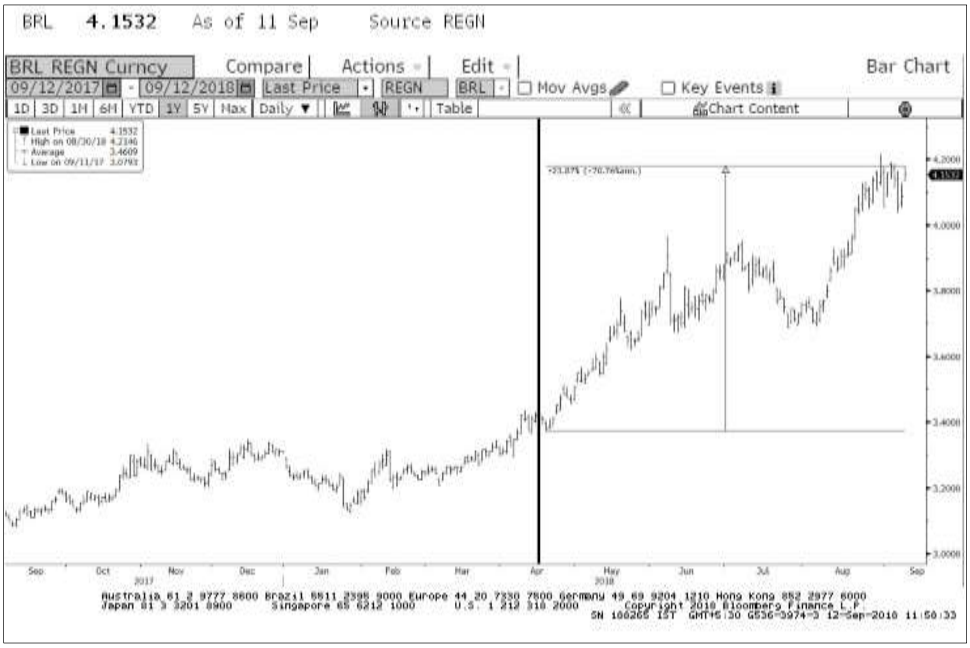
2)



Bloomberg, Hang Seng Index

EVENT EXAMPLE 2

1)



Bloomberg

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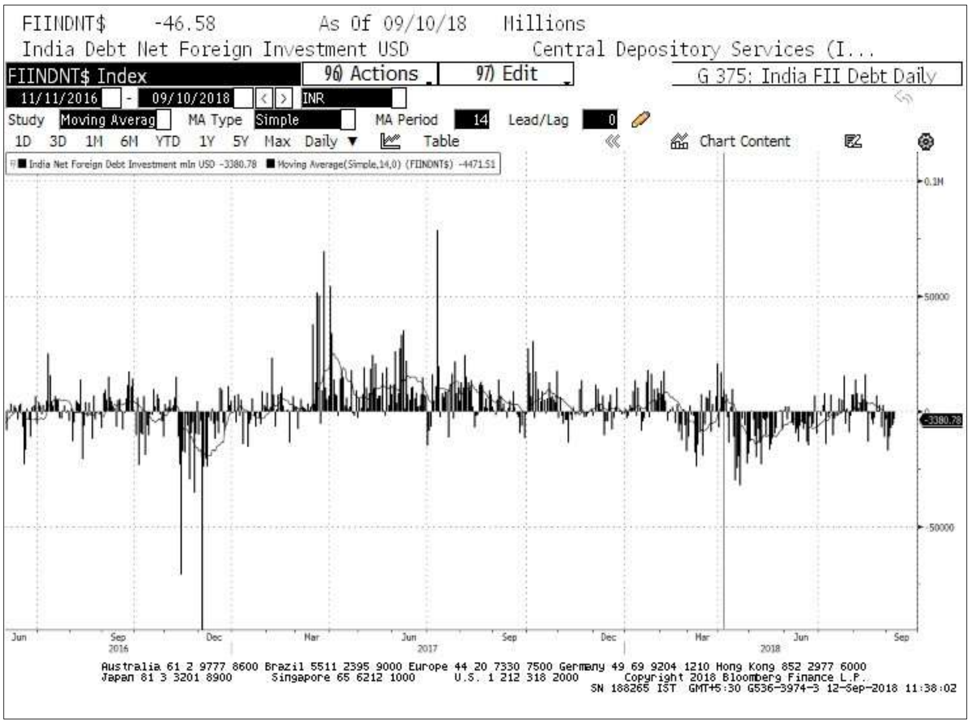
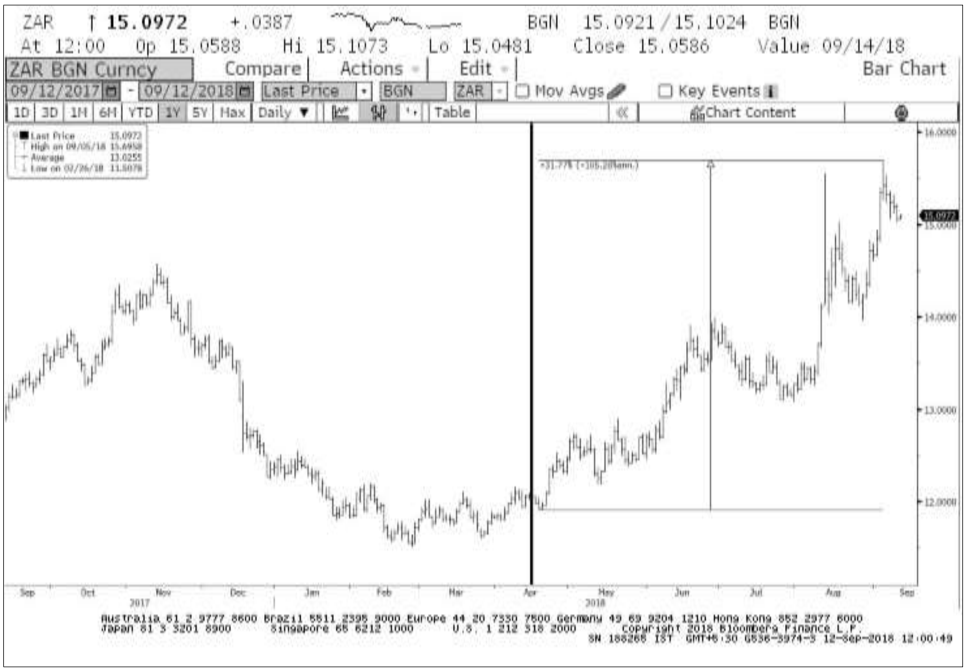


Bloomberg, FIINDNT$ Index

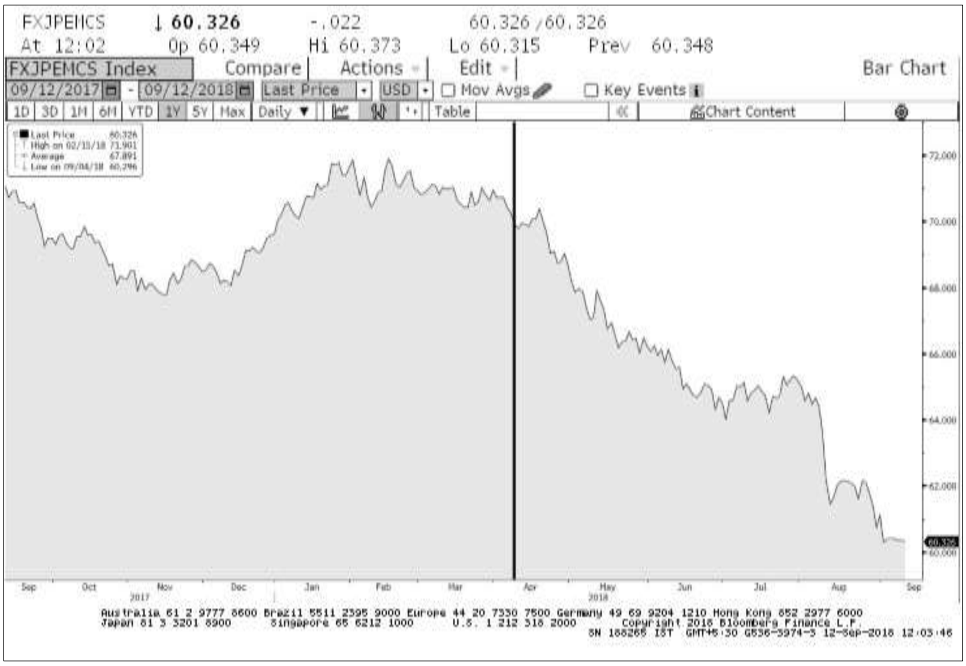
3)



Bloomberg

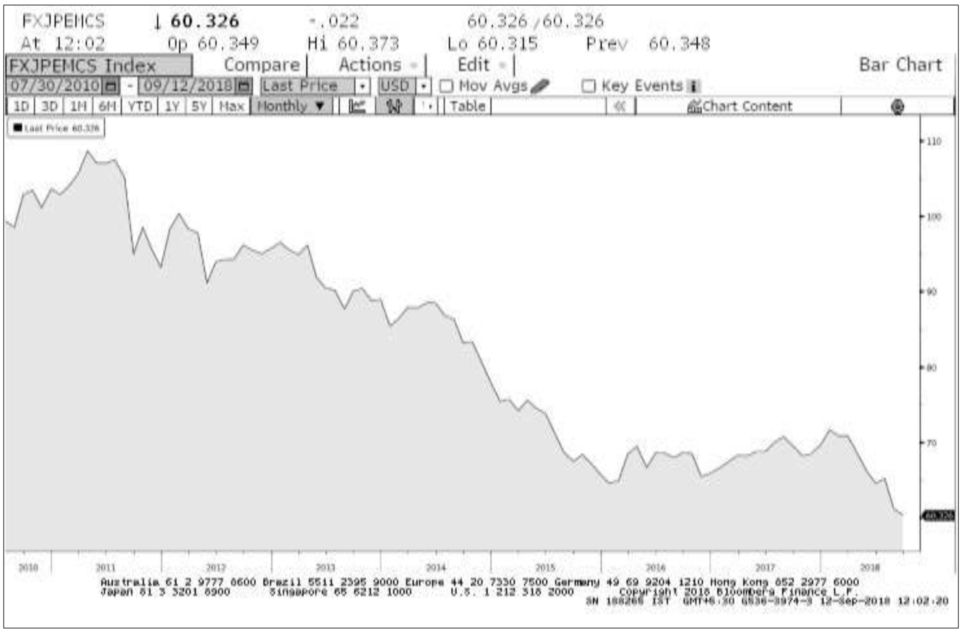
4)

a) Short-term



Bloomberg, FXJPEMCS Index

b) Long-term



Bloomberg, FXJPEMCS Index

EVENT EXAMPLE 3

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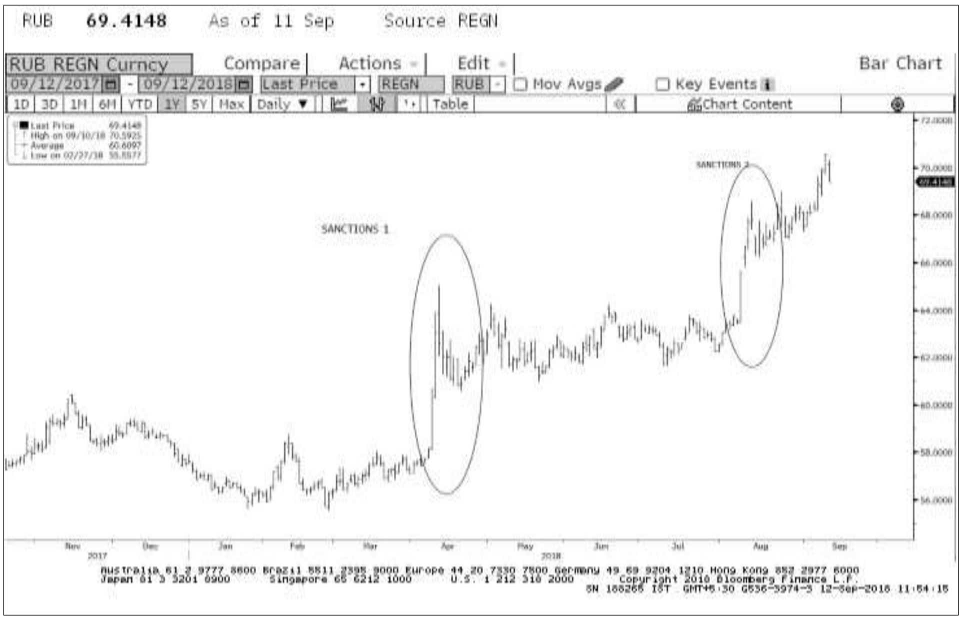


Bloomberg

2) EMPIRICAL EVIDENCE: FIGURES

China

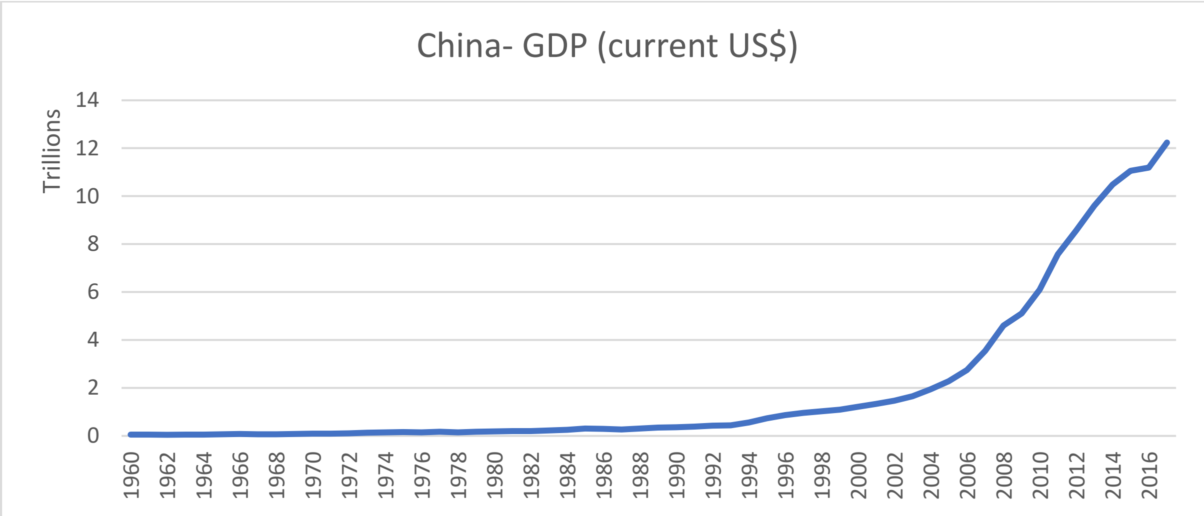


Figure 1: The World Bank Open Data, Economy and Growth, https://data.worldbank.org.

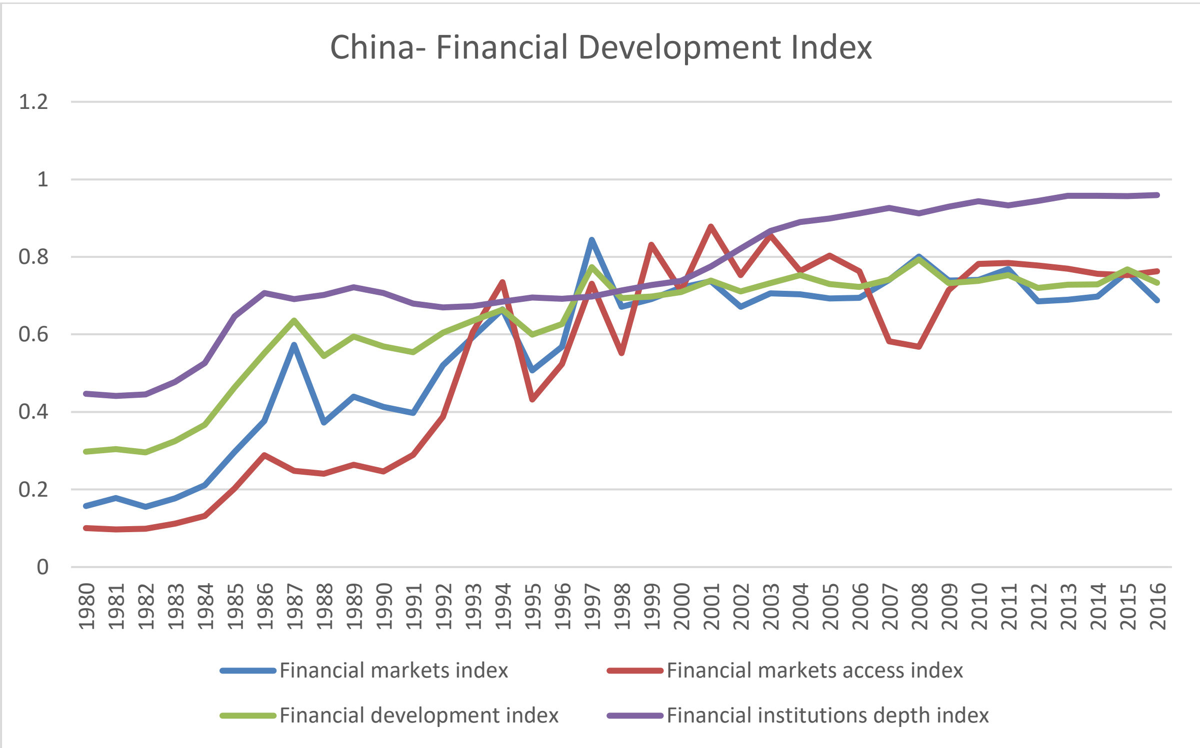


Figure 2: IMF data, Financial Development Index dataset, https://data.imf.org.

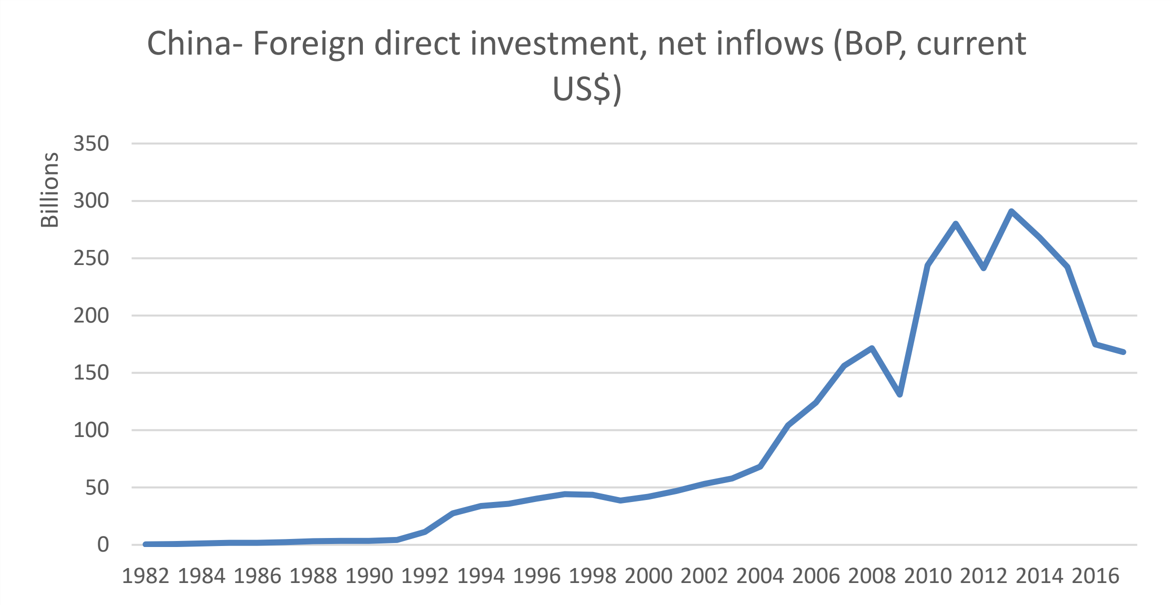


Figure 3: The World Bank Open Data, Economy and Growth, https://data.worldbank.org.

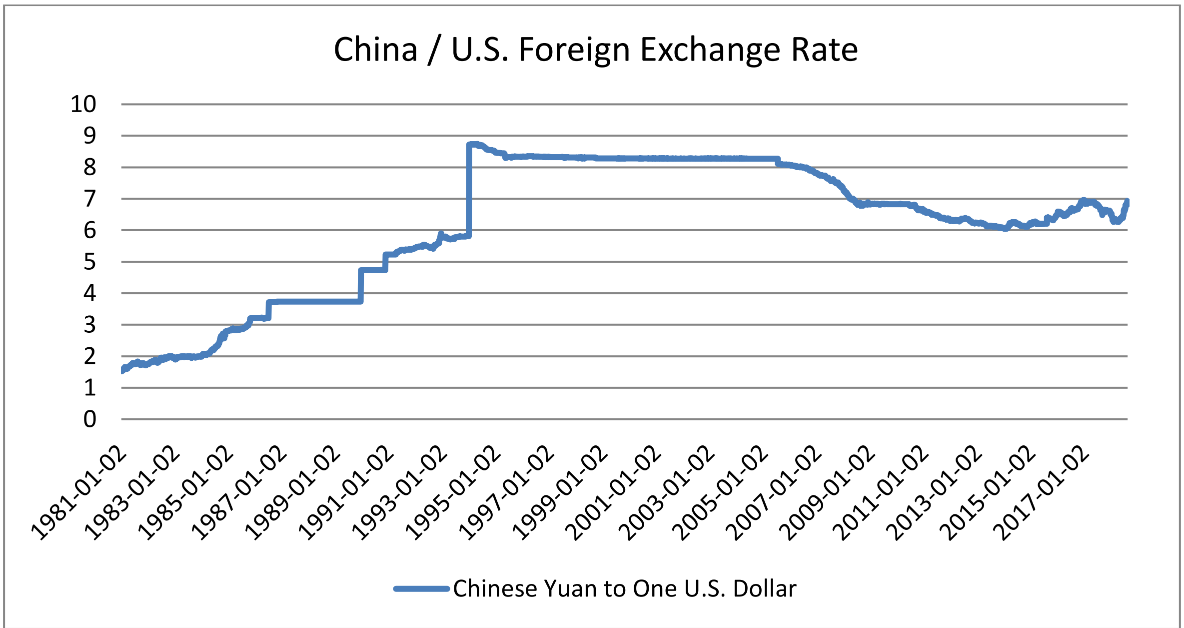


Figure 4: Board of Governors of the Federal Reserve System (US), China / U.S. Foreign Exchange Rate [DEXCHUS], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/DEXCHUS, August 26, 2018.

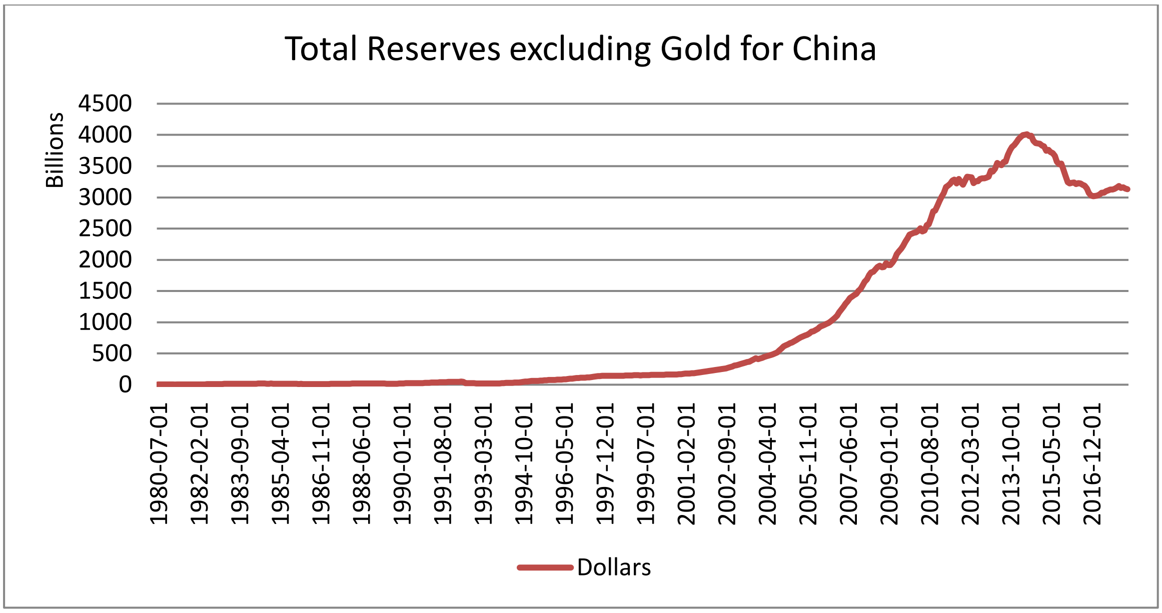


Figure 5: International Monetary Fund, Total Reserves excluding Gold for China [TRESEGCNM052N], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/TRESEGCNM052N, August 27, 2018.

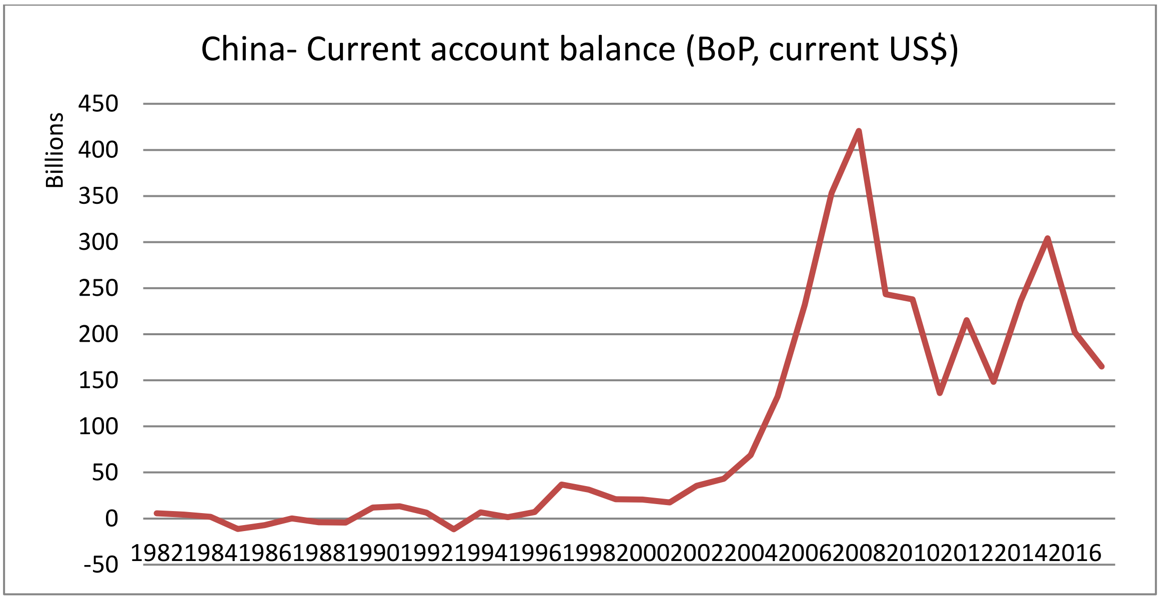


Figure 6: The World Bank Open Data; International Monetary Fund, Balance of Payments Statistics Yearbook and data files.

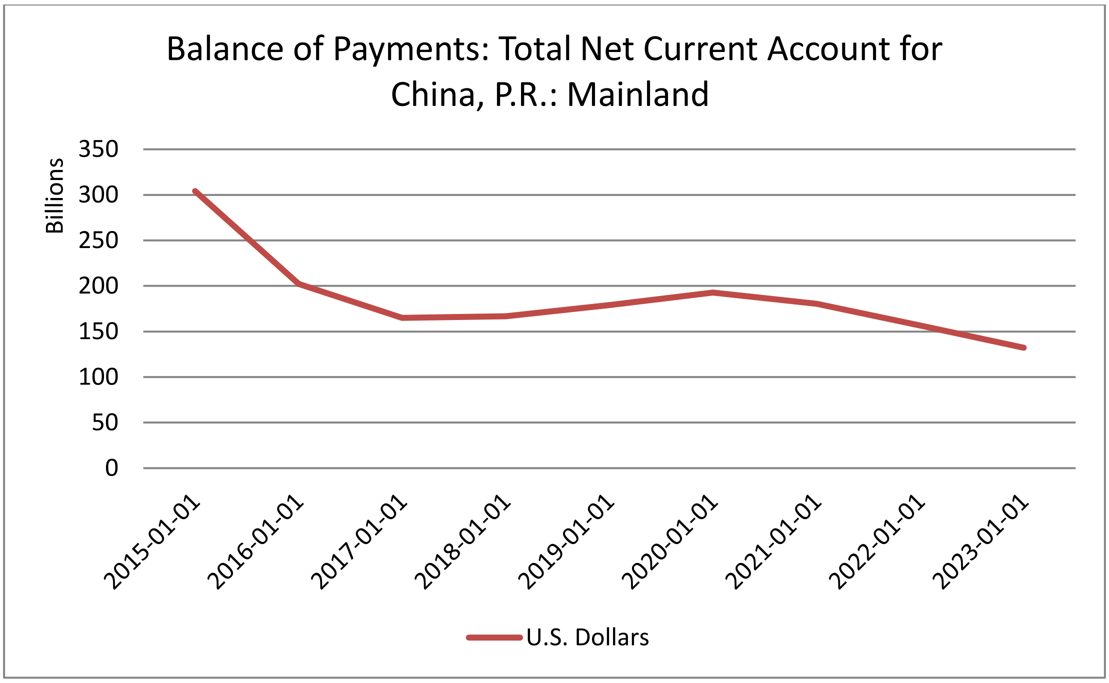


Figure 7: International Monetary Fund, Balance of Payments: Total Net Current Account for China, P.R.: Mainland [CHNBCABP6USD], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/CHNBCABP6USD, August 27, 2018.

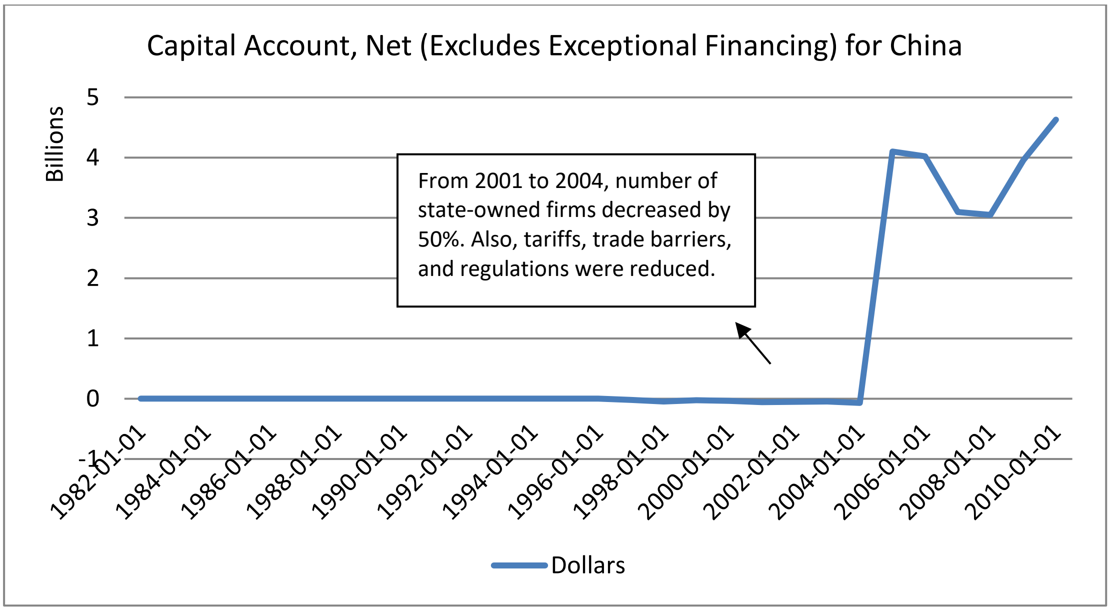
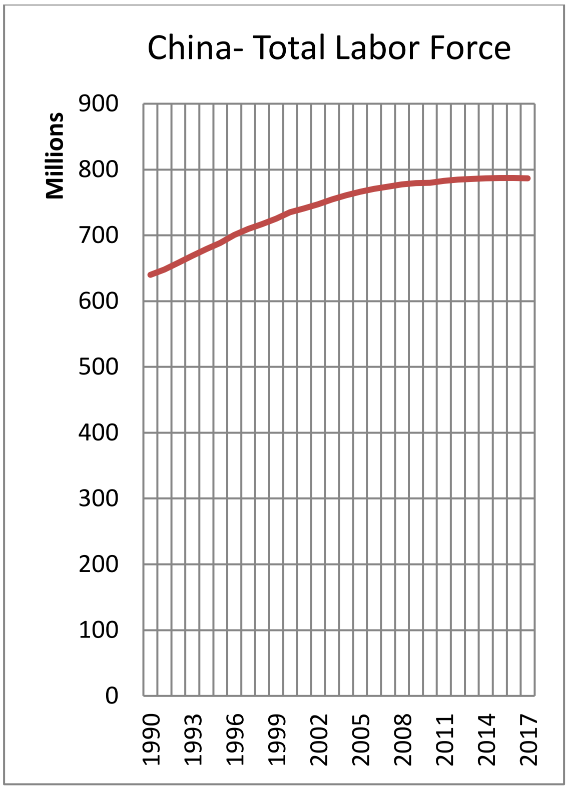


Figure 8: International Monetary Fund, Capital Account, and Net (Excludes Exceptional Financing) for China [CANEEFCNA052N], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/CANEEFCNA052N, August 27, 2018.



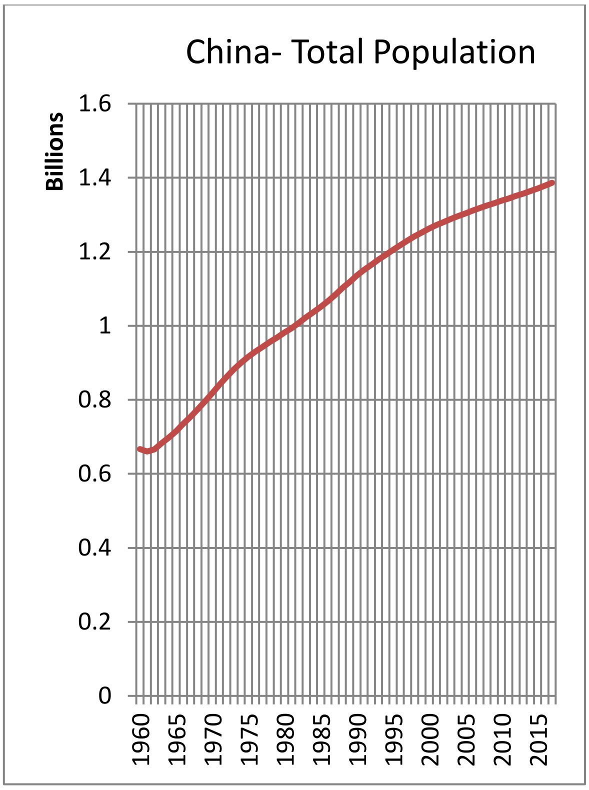


Figure 9: The World Bank Open Data, China, https://data.worldbank.org.

South Africa

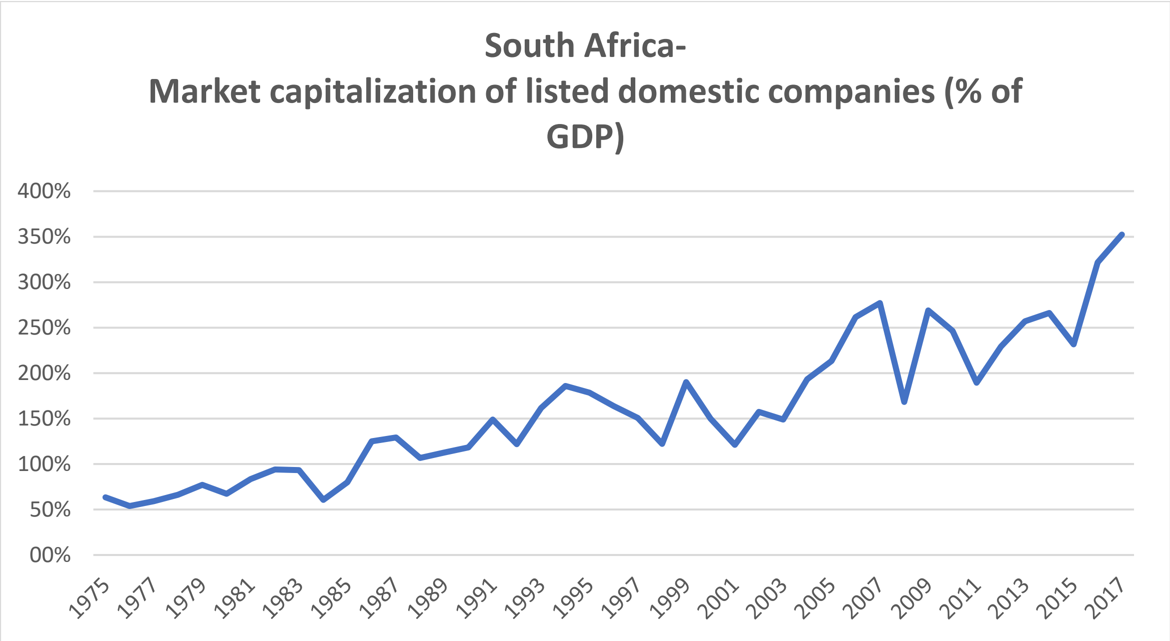


Figure 10: The World Bank Open Data, South Africa, https://data.worldbank.org/

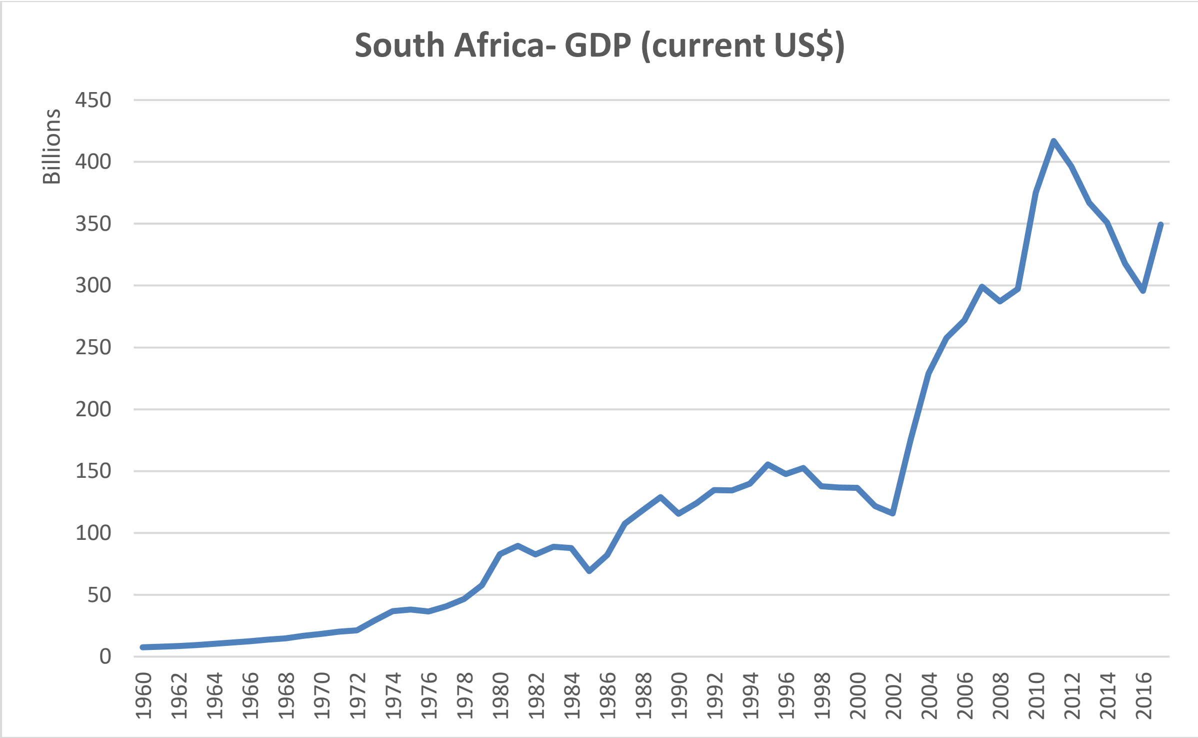


Figure 11: The World Bank Open Data, South Africa, https://data.worldbank.org/

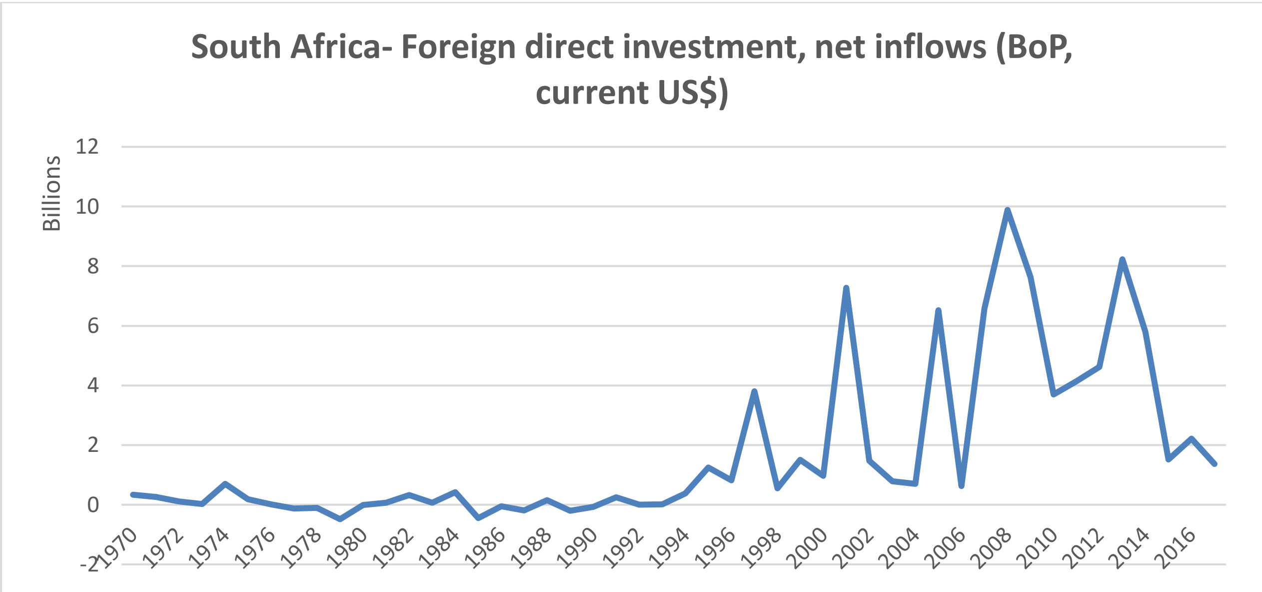


Figure 12: The World Bank Open Data, South Africa, https://data.worldbank.org/

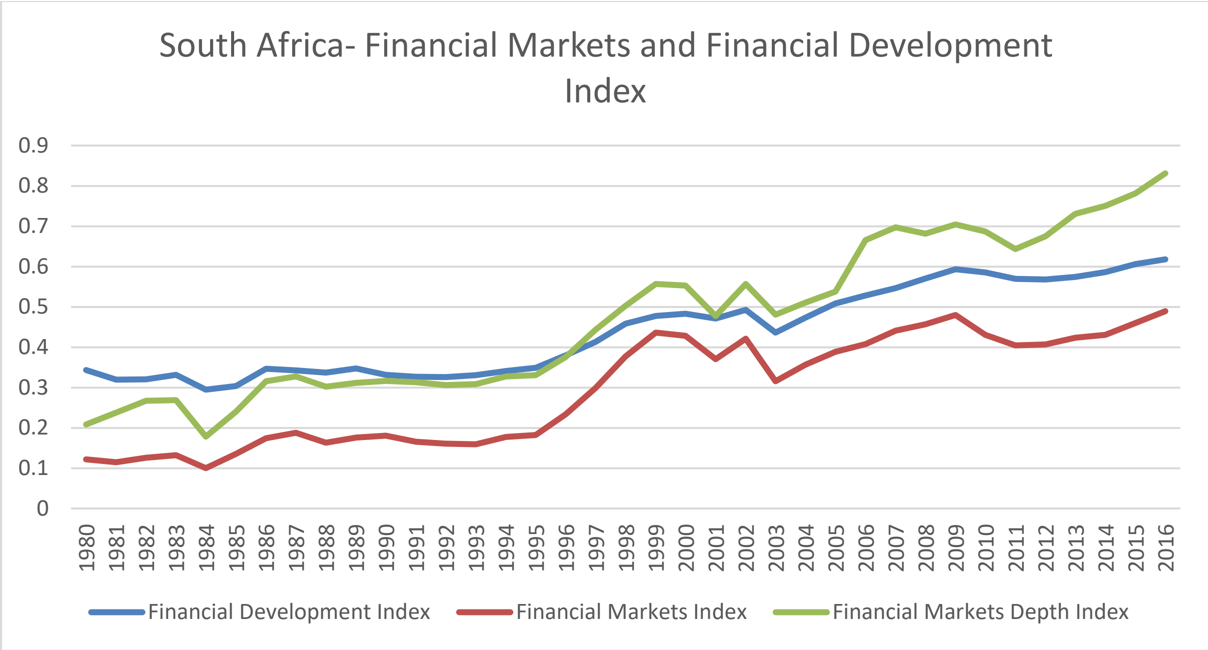


Figure 13: IMF data, Financial Development Index dataset, https://data.imf.org.

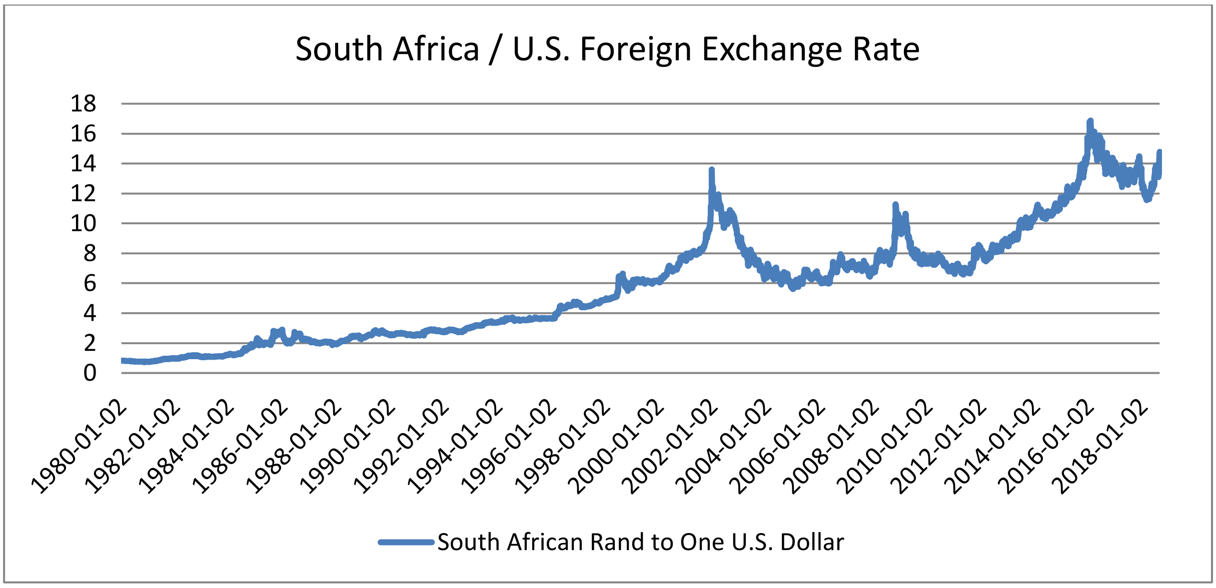


Figure 14: Board of Governors of the Federal Reserve System (US), South Africa / U.S. Foreign Exchange Rate [DEXSFUS], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/DEXSFUS, August 27, 2018.

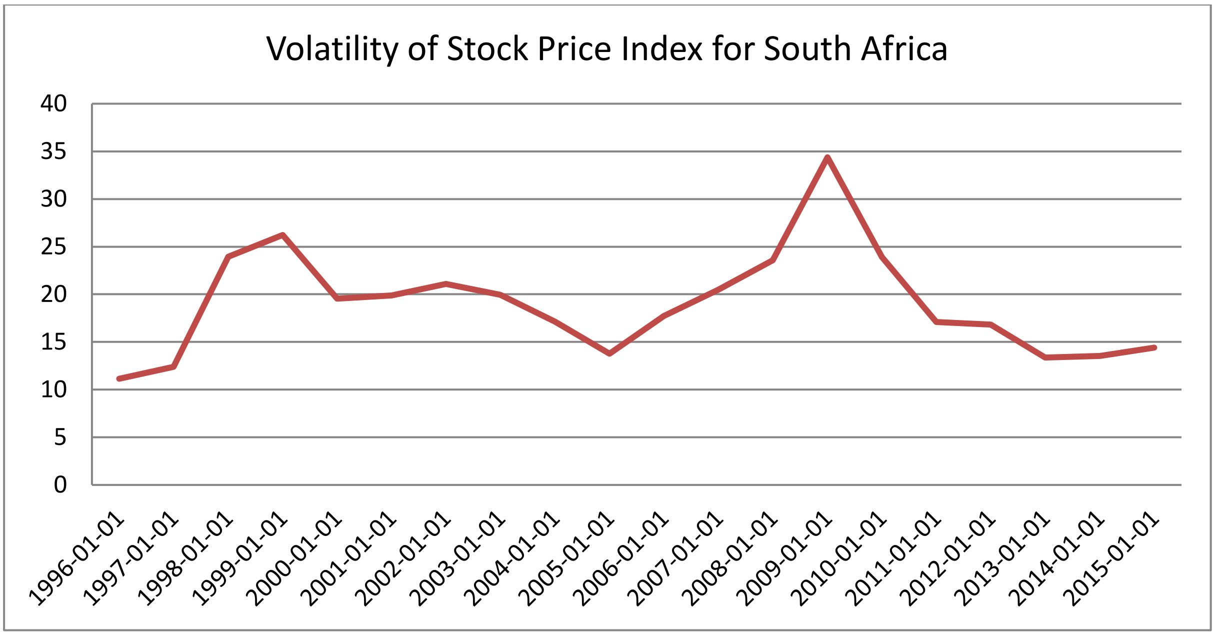


Figure 15: World Bank, Volatility of Stock Price Index for South Africa [DDSM01ZAA066NWDB], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/DDSM01ZAA066NWDB, August 28, 2018.

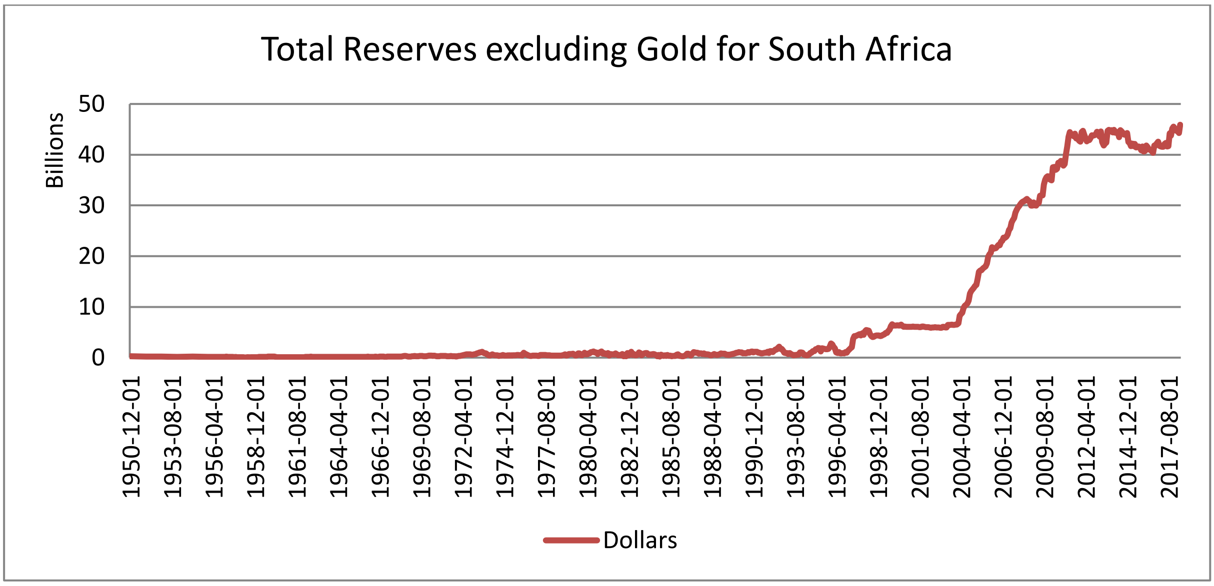


Figure 16: International Monetary Fund, Total Reserves excluding Gold for South Africa [TRESEGZAM052N], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/TRESEGZAM052N, August 28, 2018.

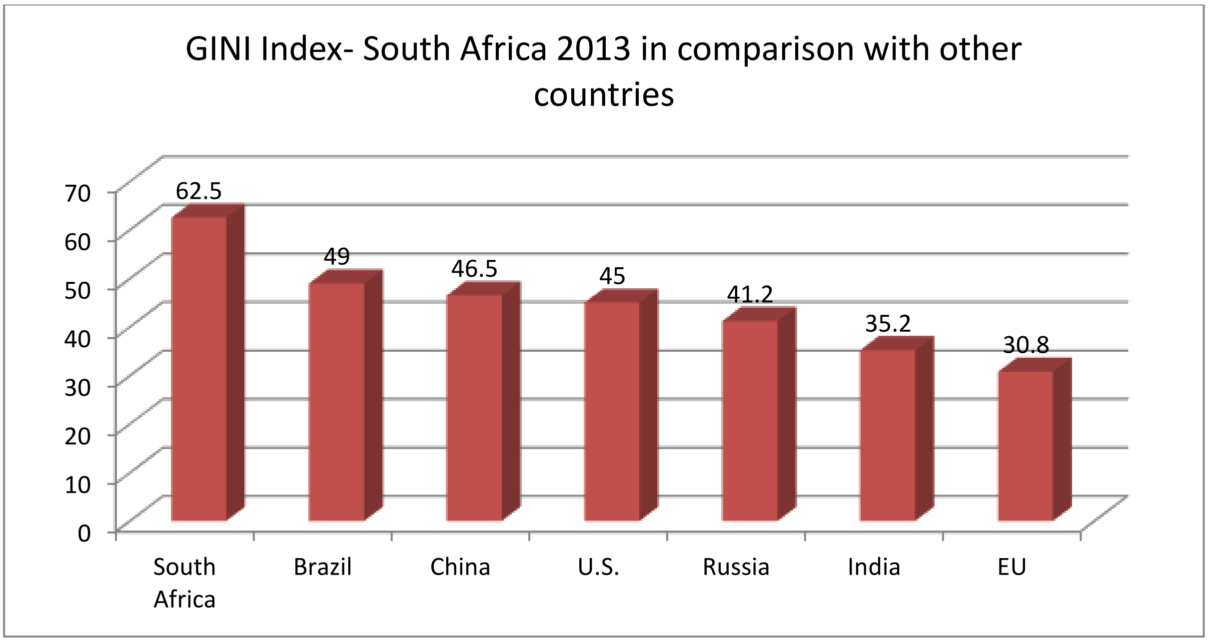


Figure 17: Central Intelligence Agency (CIA) online library, The World Factbook, Country Comparison: Distribution of Family Income- GINI Index

Russia

Figure 18: World Bank, Stock Market Capitalization to GDP for Russian Federation [DDDM01RUA156NWDB], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/DDDM01RUA156NWDB, September 7, 2018.

Figure 19: The World Bank Open Data, https://data.worldbank.org/

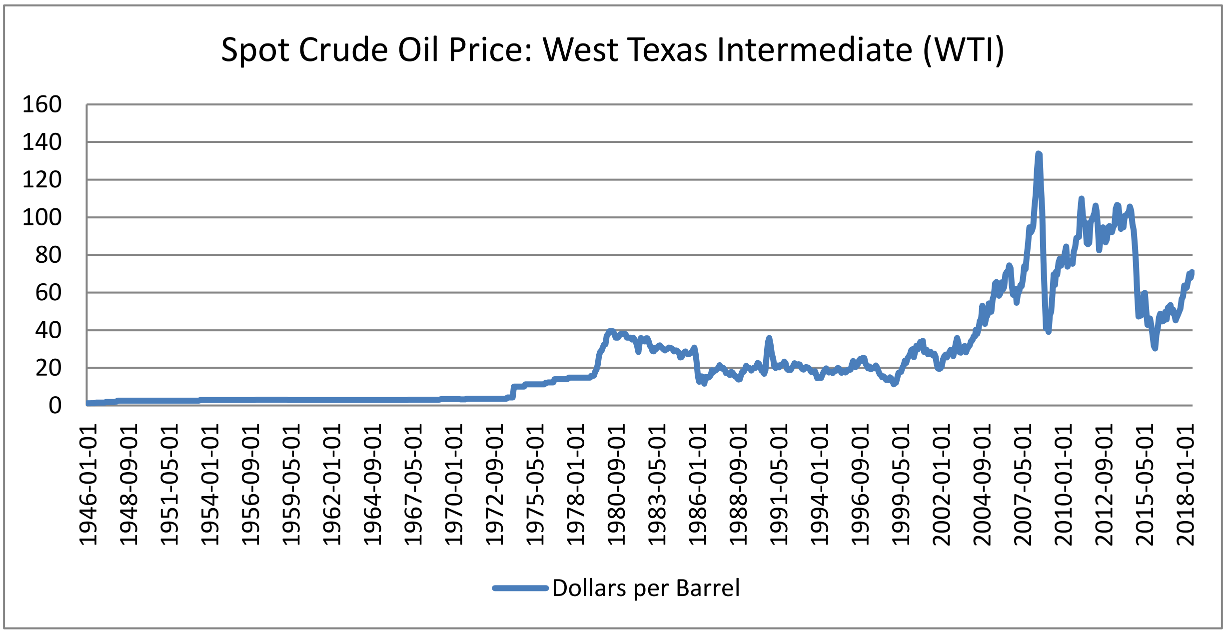


Figure 20: Federal Reserve Bank of St. Louis, Spot Crude Oil Price: West Texas Intermediate (WTI) [WTISPLC], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/WTISPLC, August 27, 2018.

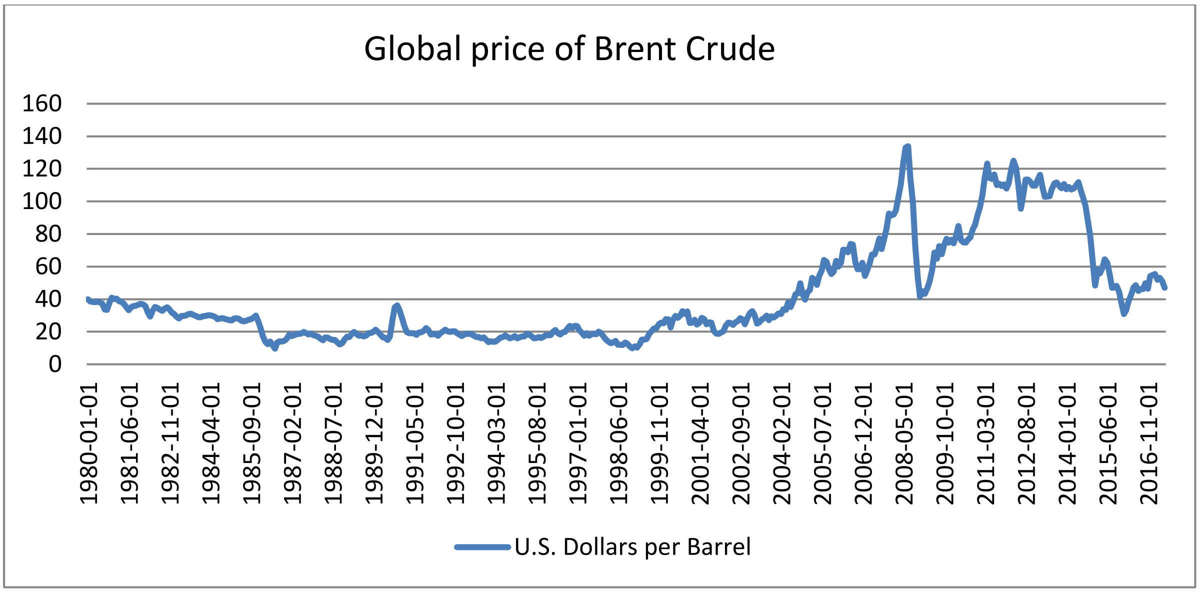


Figure 21: International Monetary Fund, Global price of Brent Crude [POILBREUSDM], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/POILBREUSDM, August 27, 2018.

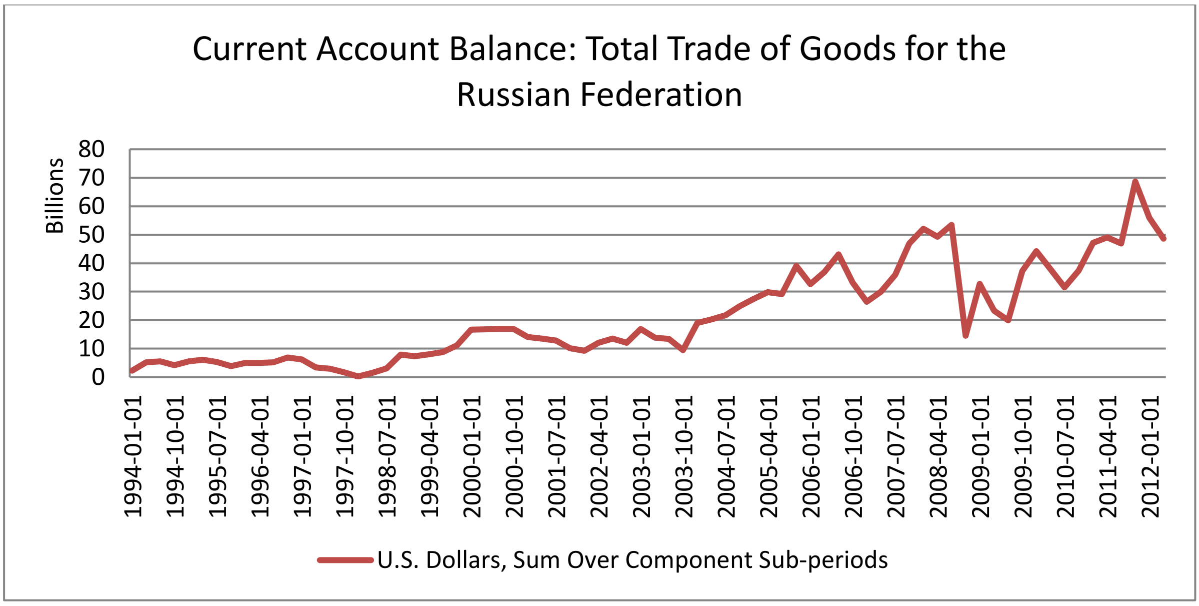


Figure 22: Organization for Economic Co-operation and Development, Current Account Balance: Total Trade of Goods for the Russian Federation (DISCONTINUED) [BPBLTD01RUQ637S], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/BPBLTD01RUQ637S, August 27, 2018.

Figure 23: IMF data, https://data.imf.org; Financial Development Index dataset

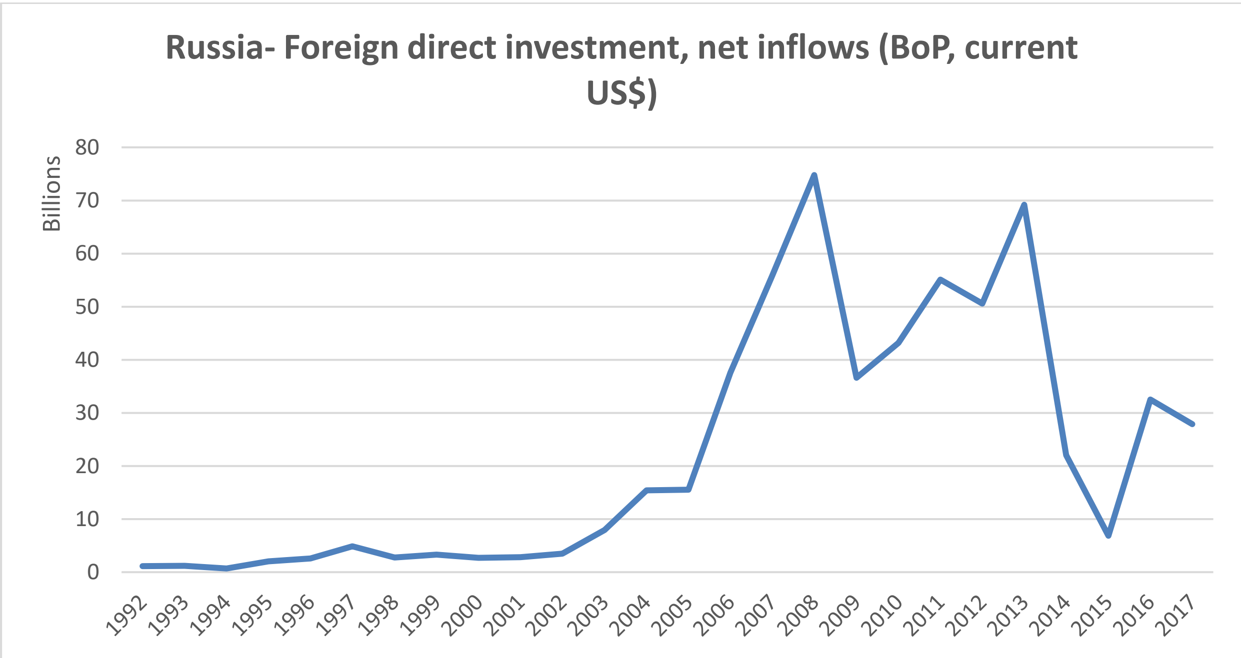


Figure 24: The World Bank Open Data, https://data.worldbank.org/

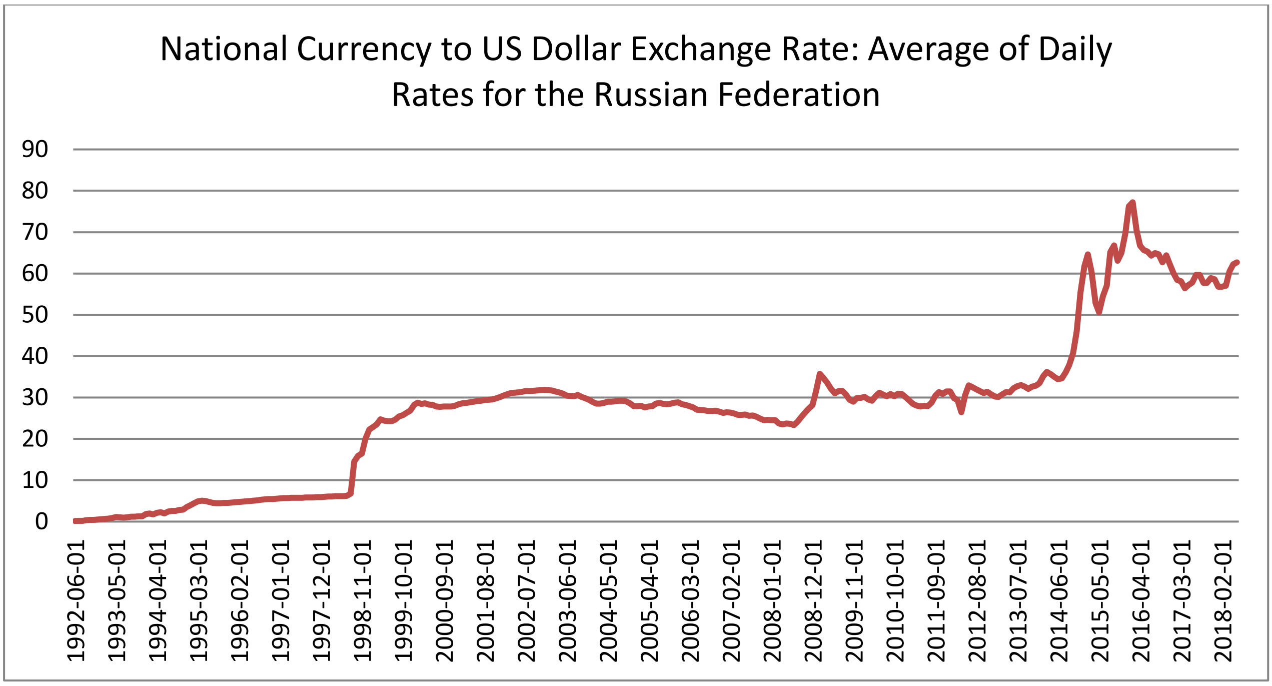


Figure 25: Organization for Economic Co-operation and Development, National Currency to US Dollar Exchange Rate: Average of Daily Rates for the Russian Federation [CCUSMA02RUM618N], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/CCUSMA02RUM618N, September 7, 2018.

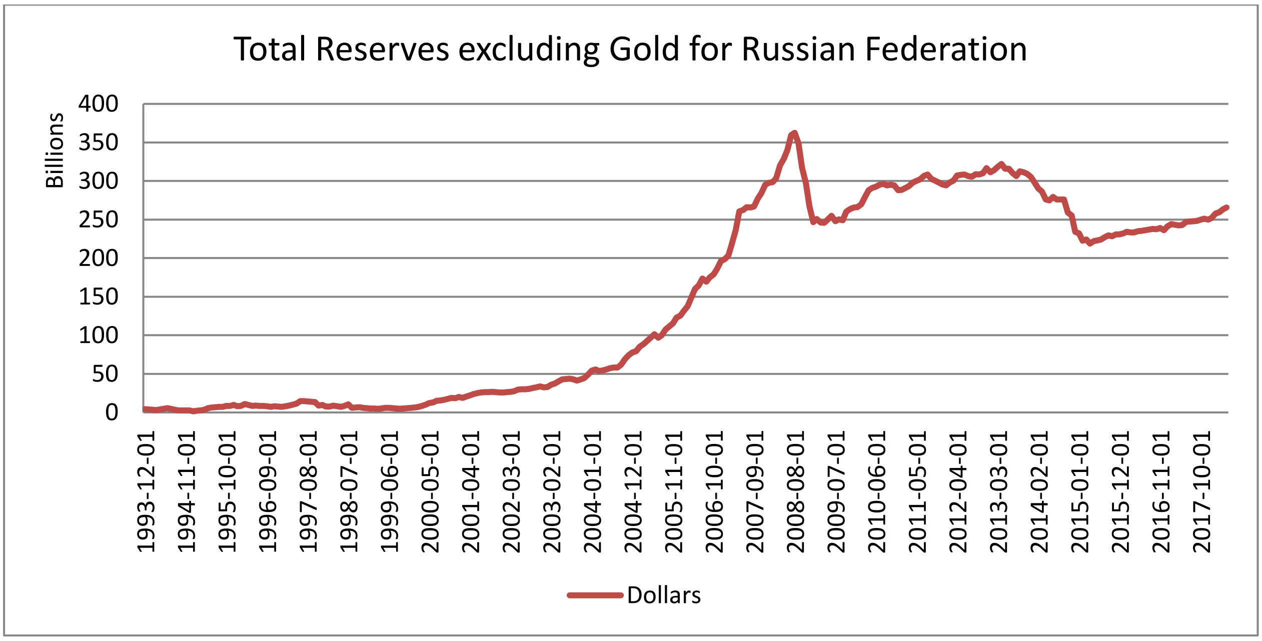


Figure 26: International Monetary Fund, Total Reserves excluding Gold for Russian Federation [TRESEGRUM194N], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/TRESEGRUM194N, August 28, 2018.

India

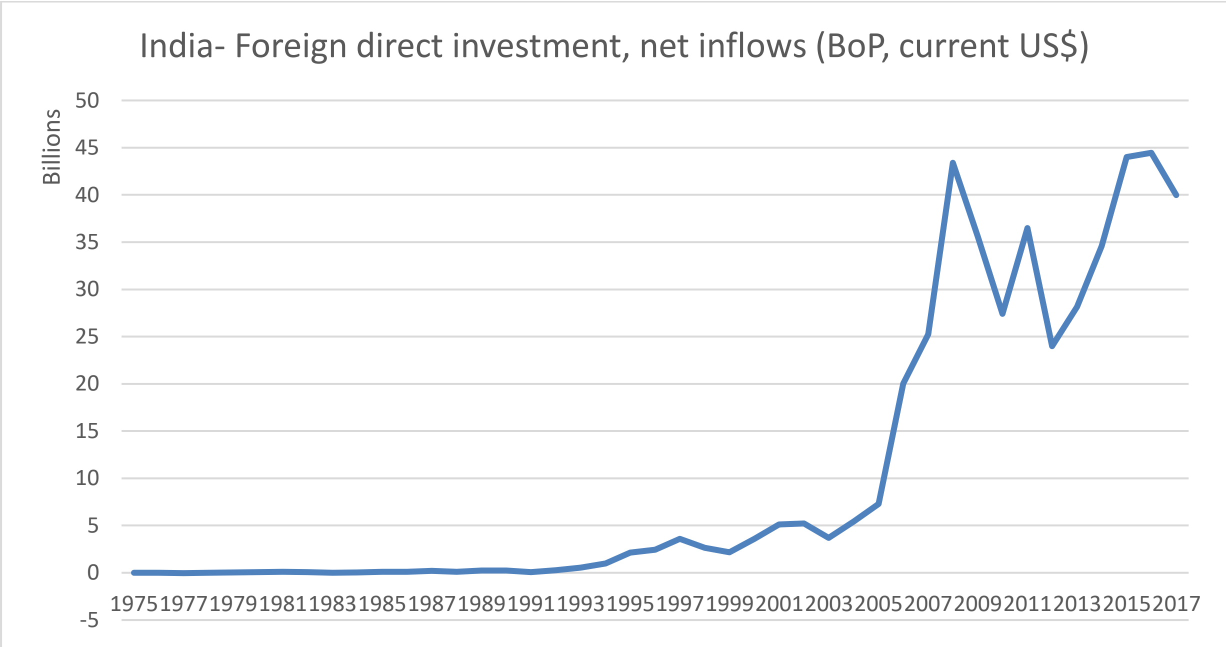


Figure 27: The World Bank Open Data, https://data.worldbank.org/

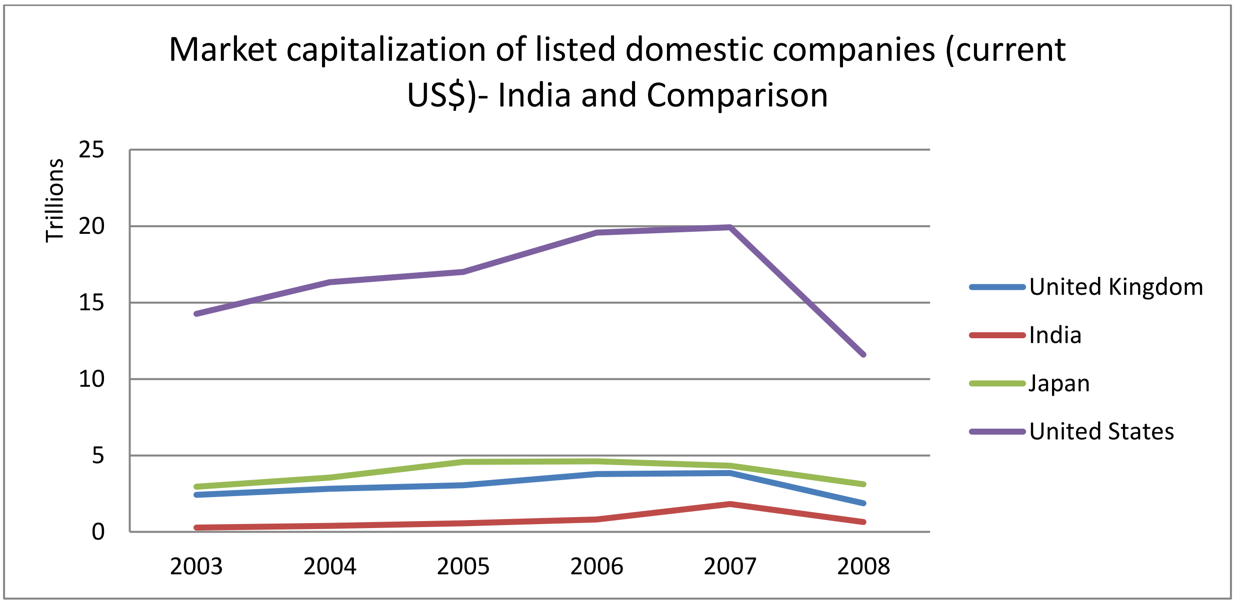


Figure 28: The World Bank Open Data, Financial Sector, https://data.worldbank.org/

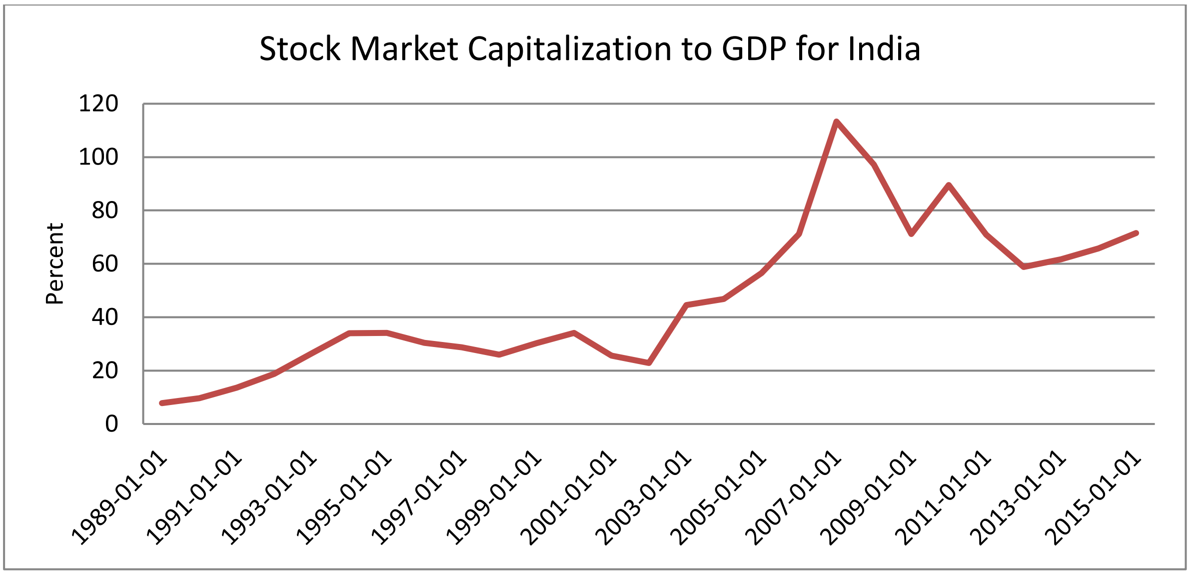


Figure 29: World Bank, Stock Market Capitalization to GDP for India [DDDM01INA156NWDB], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/DDDM01INA156NWDB, September 5, 2018.

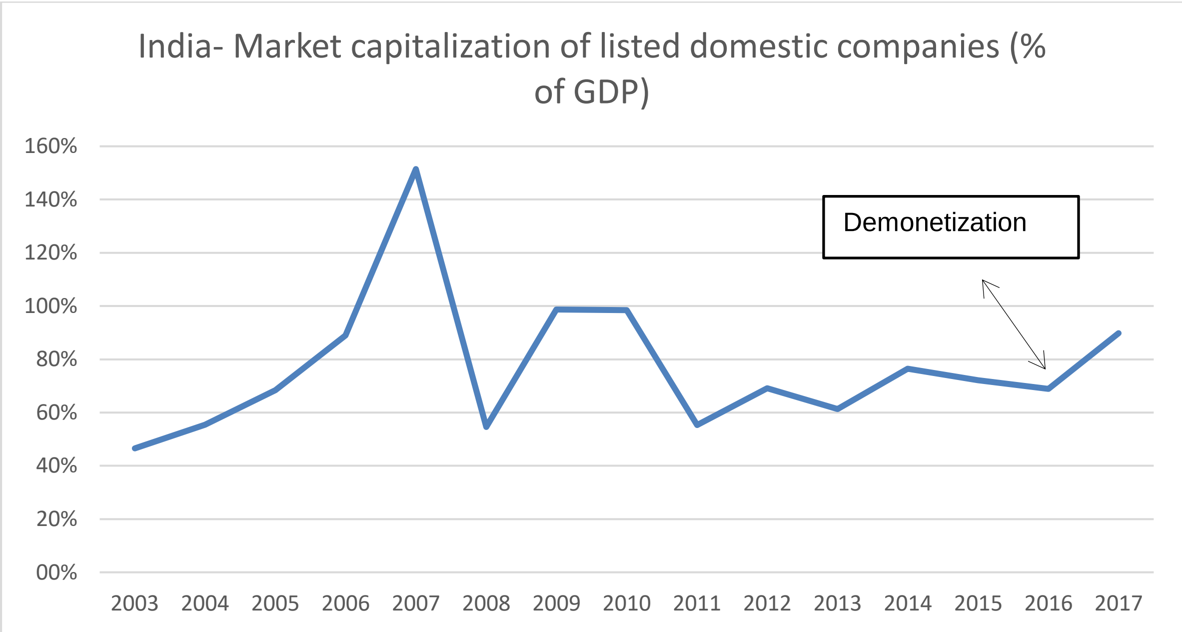


Figure 30: The World Bank Open Data, India, https://data.worldbank.org/

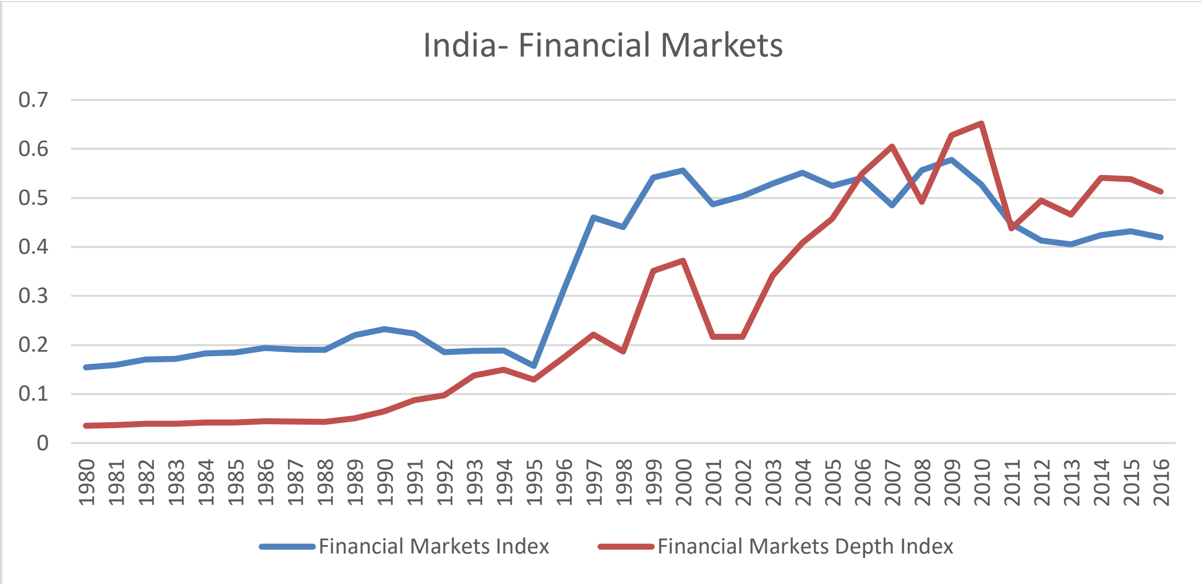


Figure 31: IMF data, https://data.imf.org; Financial Development Index dataset

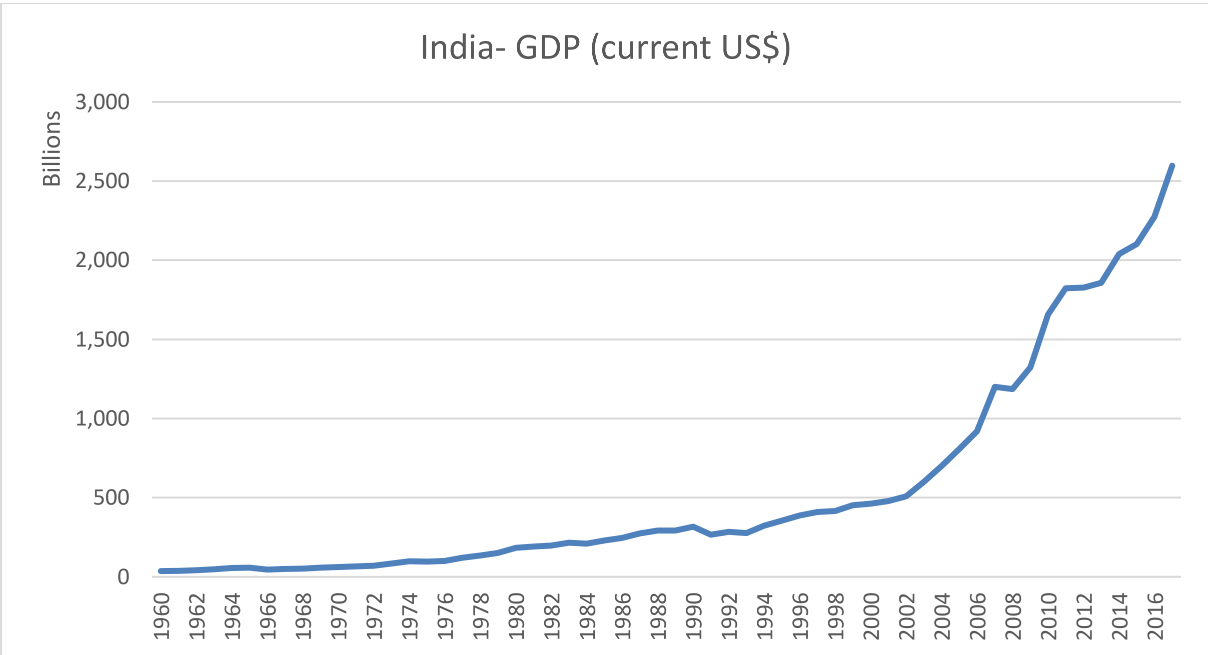


Figure 32: The World Bank Open Data, https://data.worldbank.org/

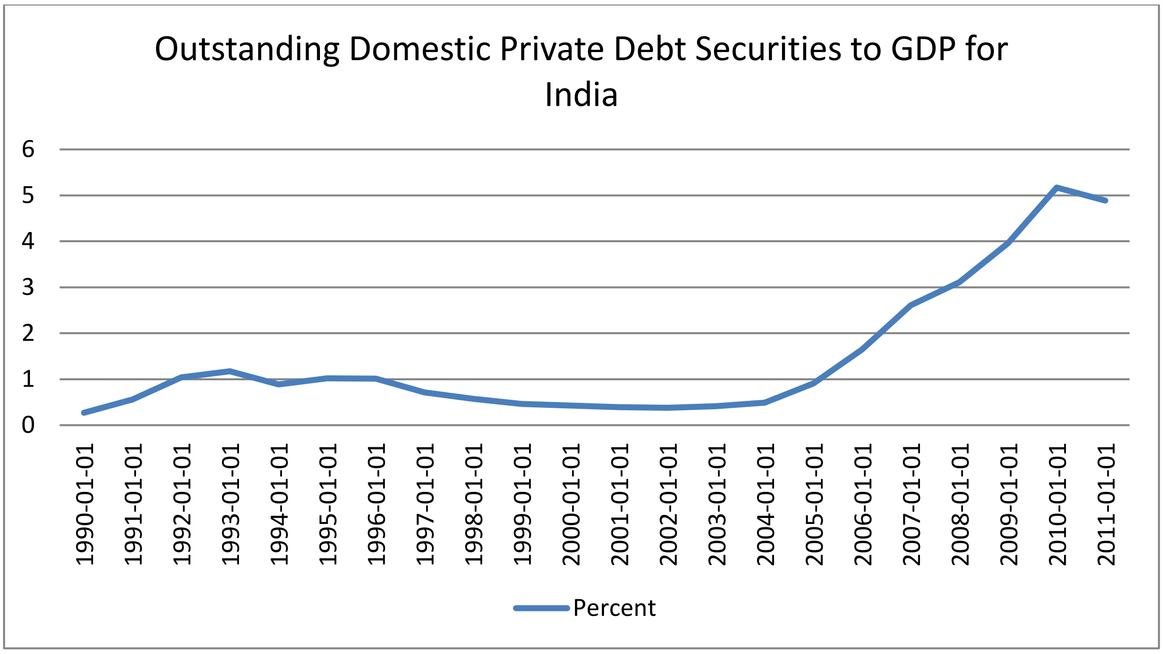


Figure 33: World Bank, Outstanding Domestic Private Debt Securities to GDP for India [DDDM03INA156NWDB], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/DDDM03INA156NWDB, August 27, 2018.

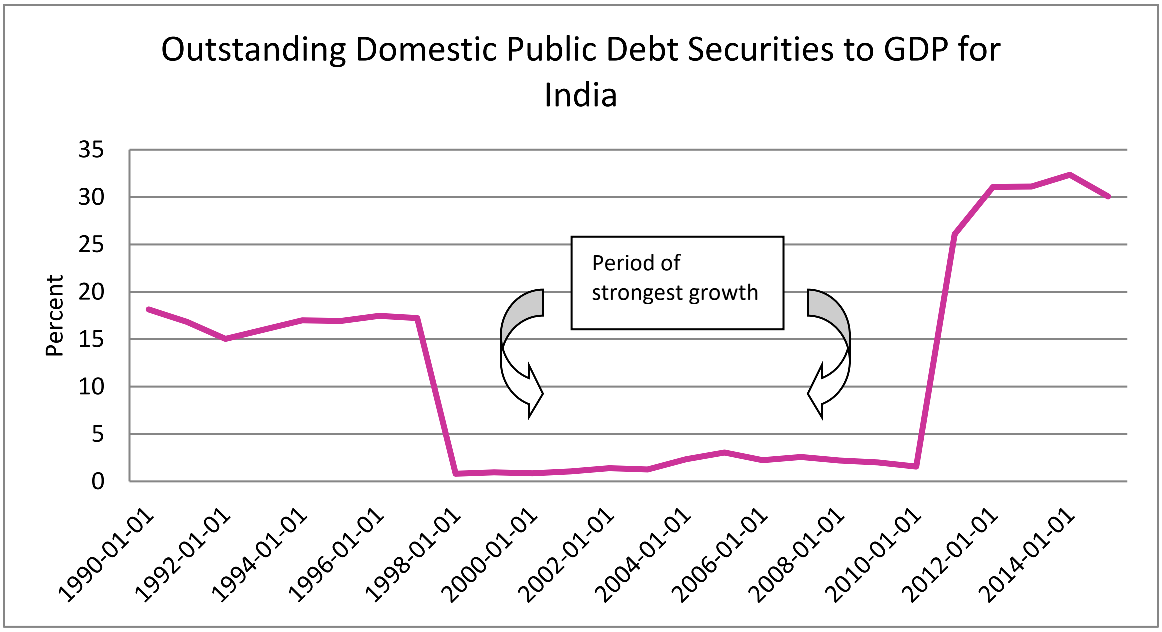


Figure 34: World Bank, Outstanding Domestic Public Debt Securities to GDP for India [DDDM04INA156NWDB], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/DDDM04INA156NWDB, September 5, 2018.

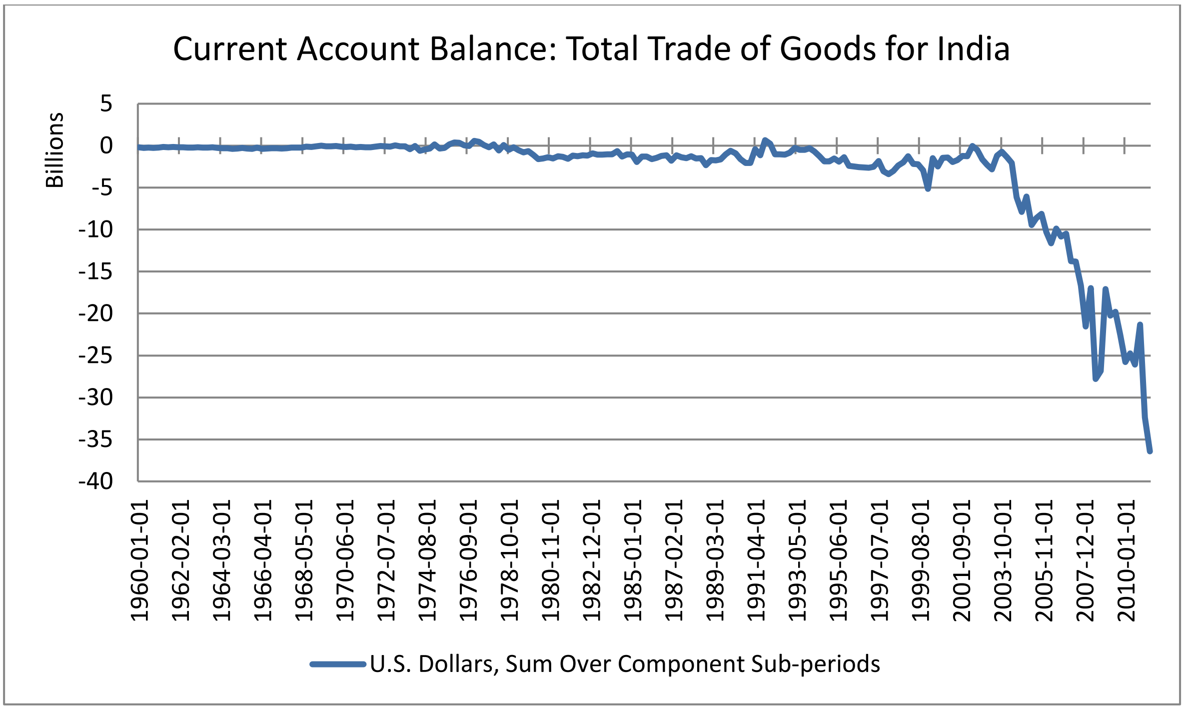


Figure 35: Organization for Economic Co-operation and Development, Current Account Balance: Total Trade of Goods for India (DISCONTINUED) [BPBLTD01INQ637S], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/BPBLTD01INQ637S, August 28, 2018.

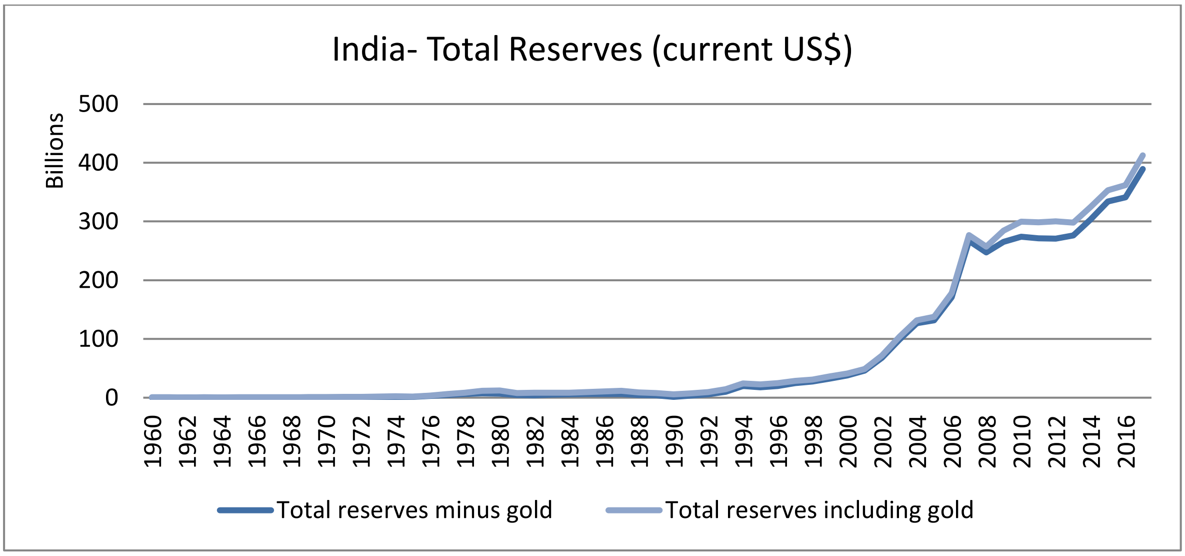


Figure 36: The World Bank data, Economy and Growth; International Monetary Fund, International Financial Statistics and data files.

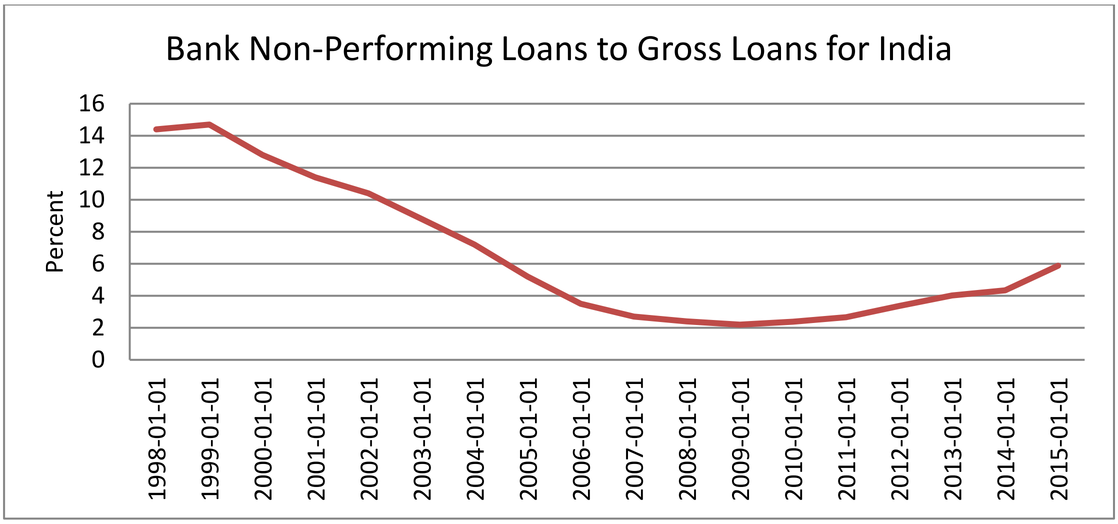


Figure 37: World Bank, Bank Non-Performing Loans to Gross Loans for India [DDSI02INA156NWDB], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/DDSI02INA156NWDB, August 29, 2018.

Brazil

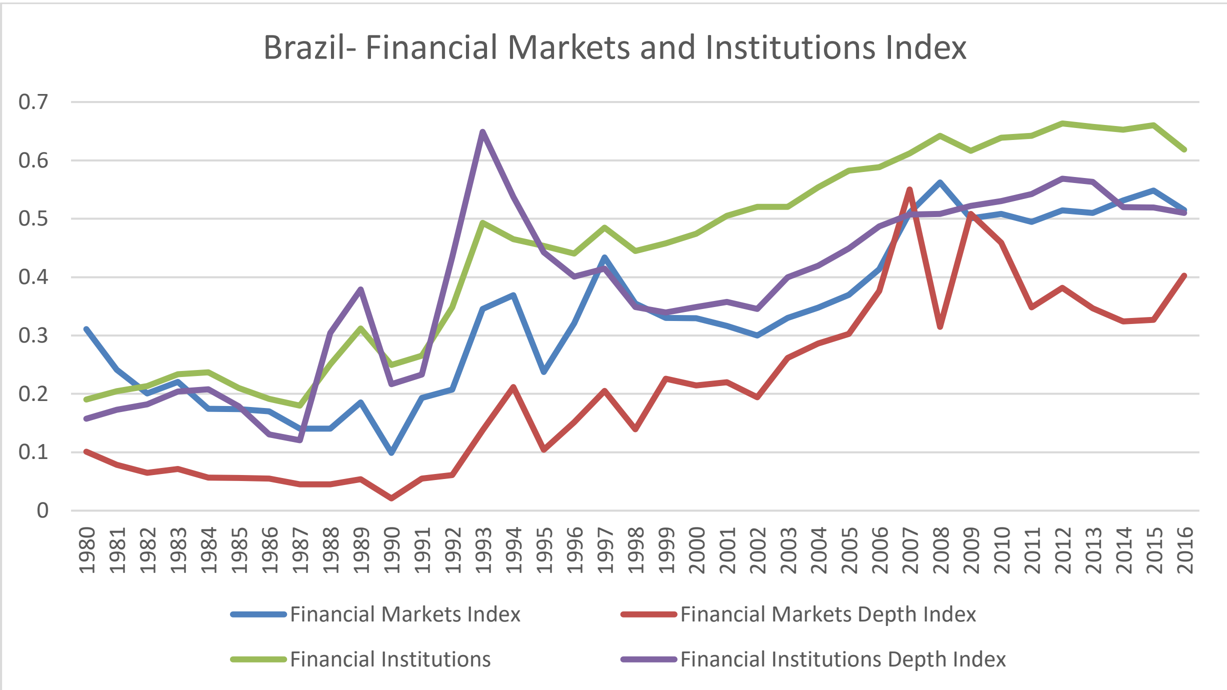


Figure 38: IMF data, Financial Development Index dataset, https://data.imf.org.

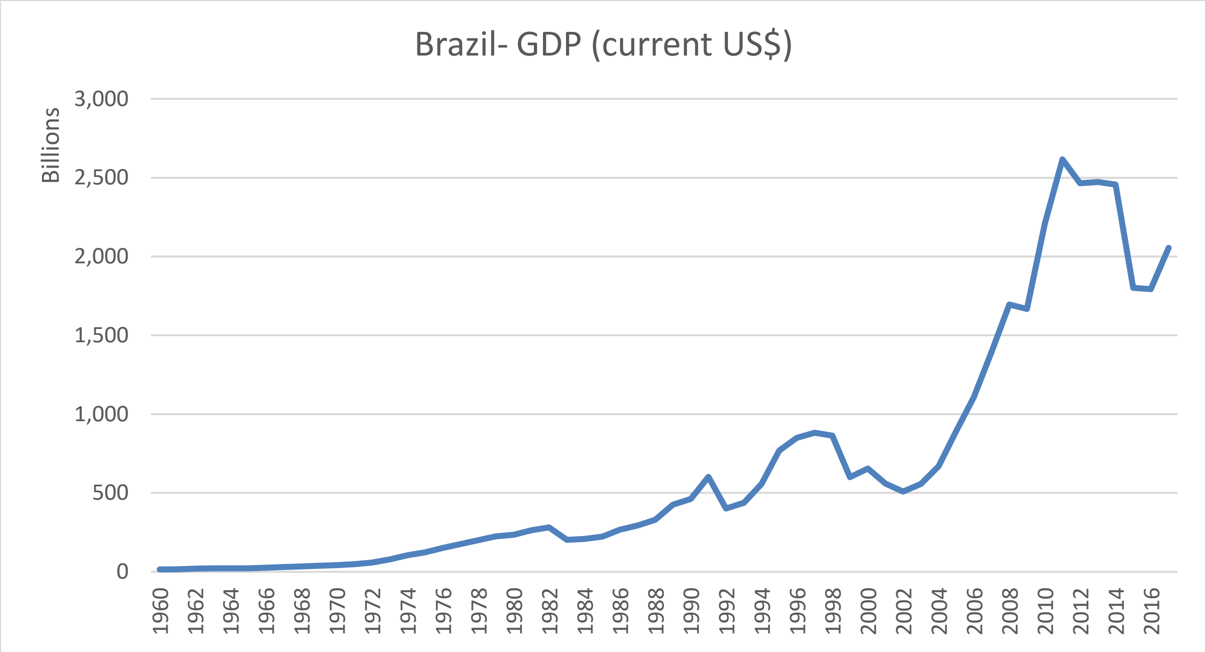


Figure 39: The World Bank Open Data, Brazil, https://data.worldbank.org/

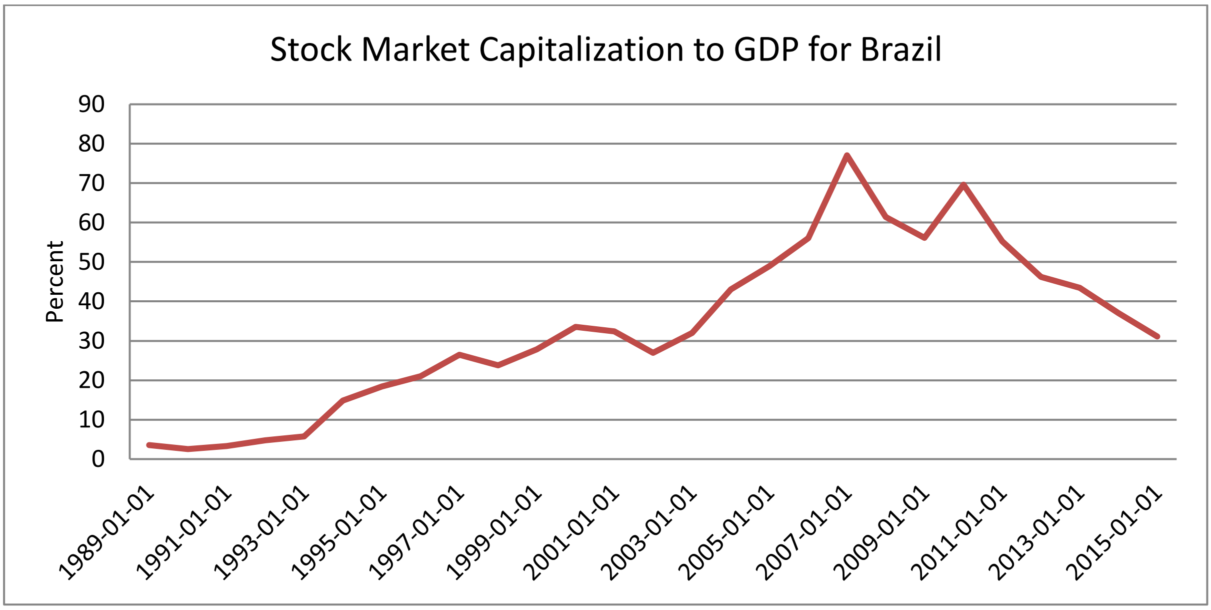


Figure 40: World Bank, Stock Market Capitalization to GDP for Brazil [DDDM01BRA156NWDB], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/DDDM01BRA156NWDB, September 10, 2018.

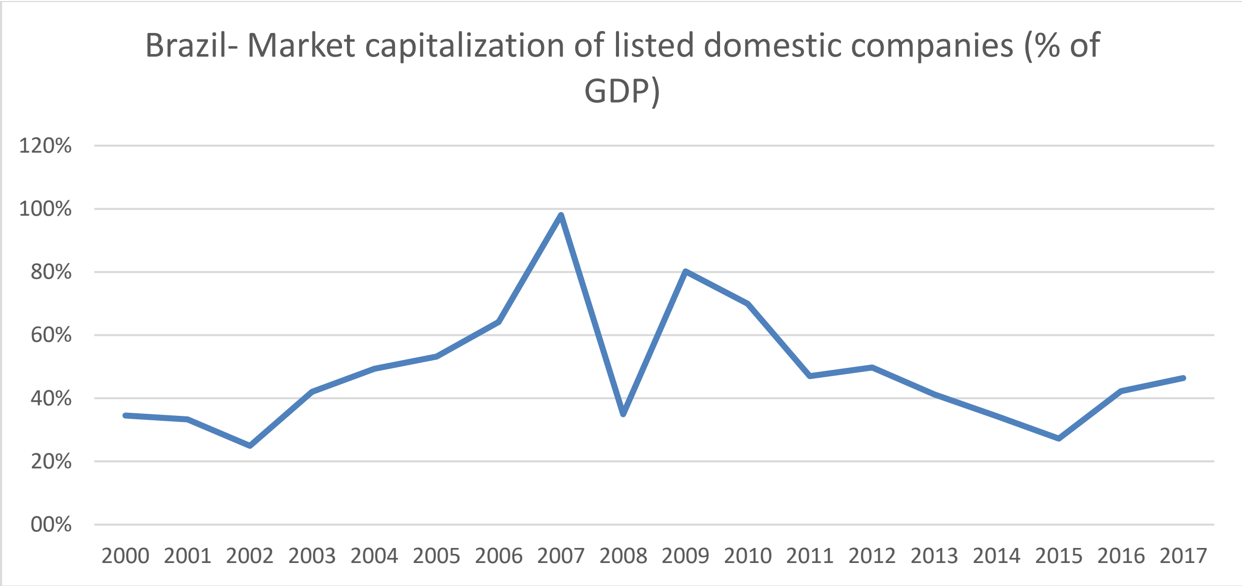


Figure 41: The World Bank Open Data, https://data.worldbank.org/

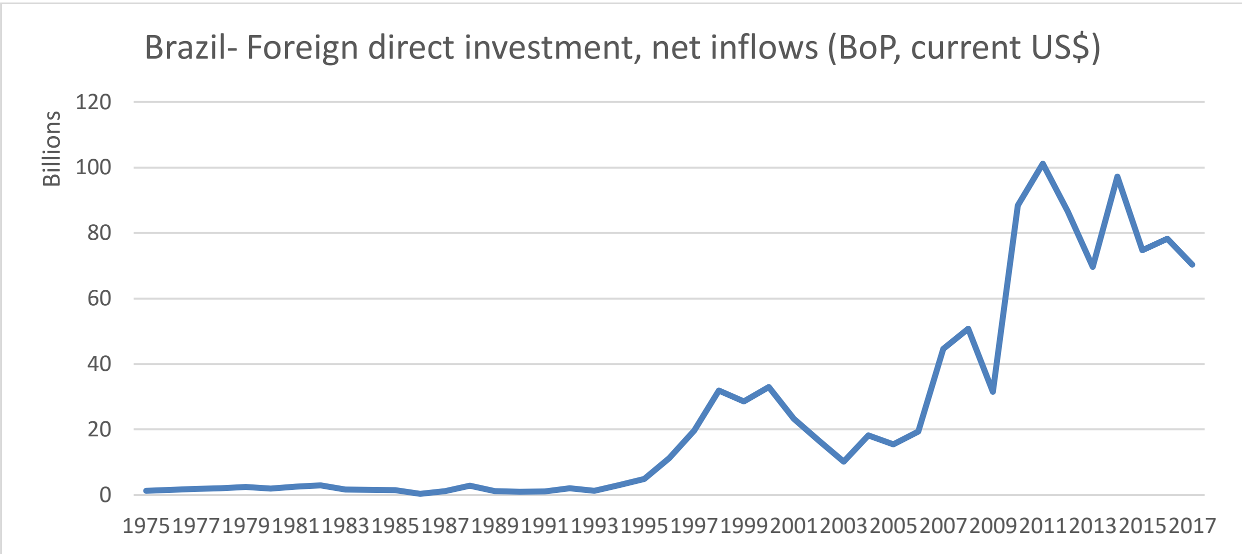


Figure 42: The World Bank Open Data, Brazil, https://data.worldbank.org/

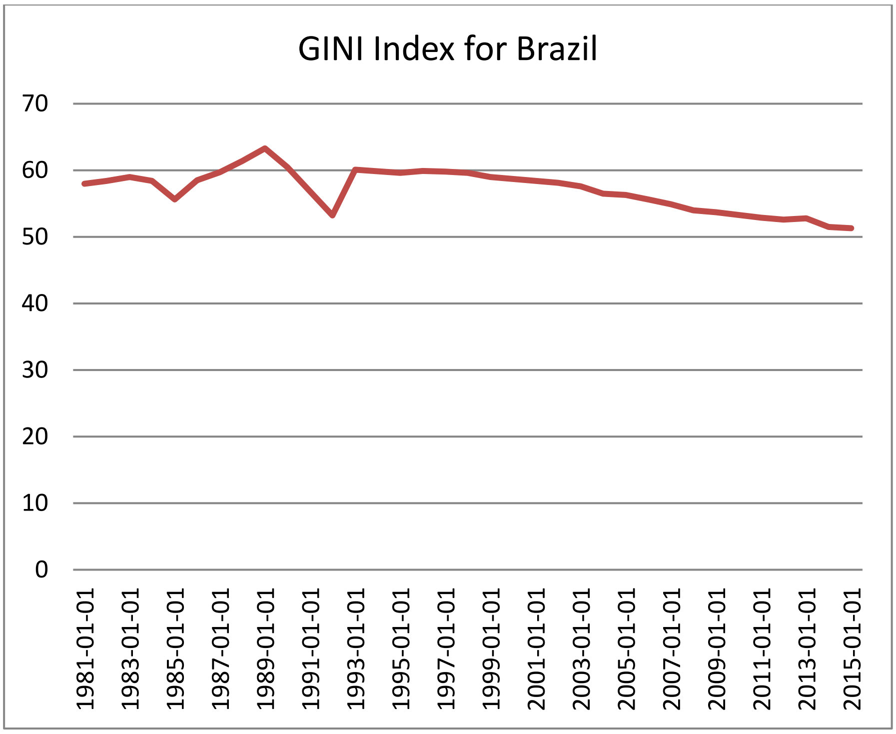


Figure 43: World Bank, GINI Index for Brazil [SIPOVGINIBRA], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/SIPOVGINIBRA, September 3, 2018.

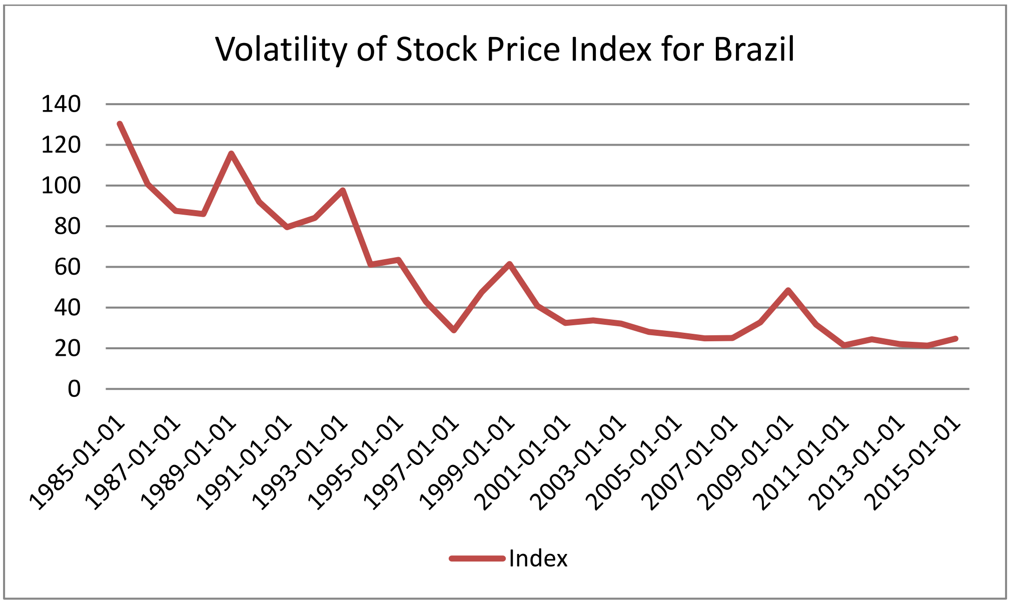


Figure 44: World Bank, Volatility of Stock Price Index for Brazil [DDSM01BRA066NWDB], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/DDSM01BRA066NWDB, August 27, 2018.

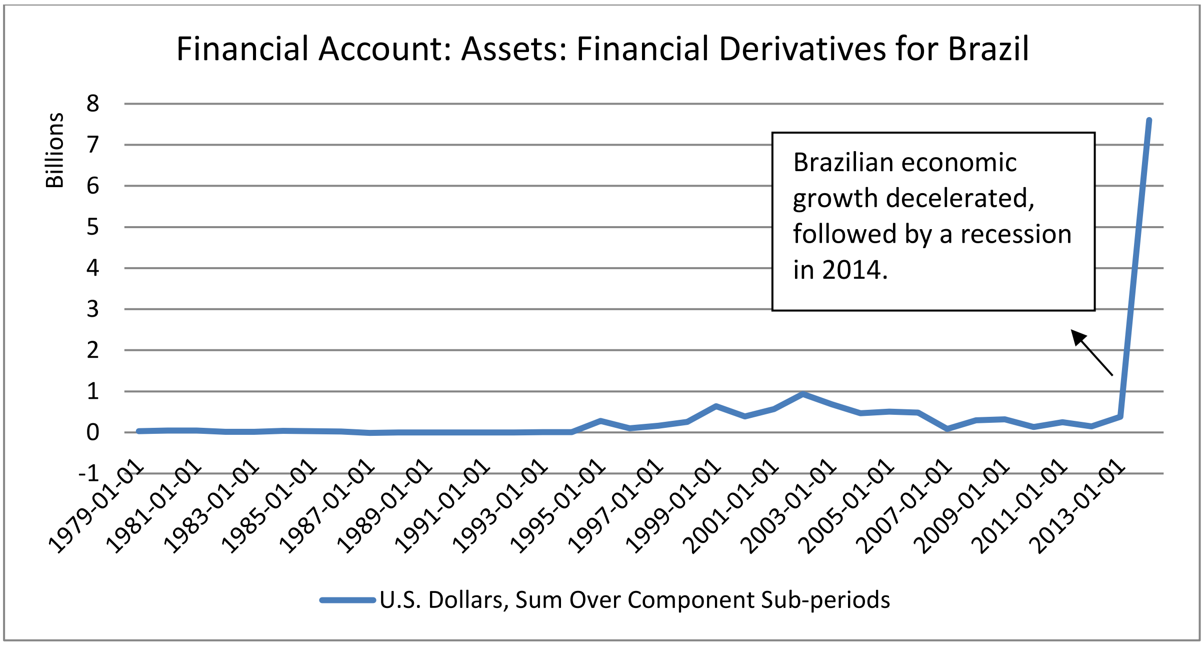


Figure 45: Organization for Economic Co-operation and Development, Financial Account: Assets: Financial Derivatives for Brazil (DISCONTINUED) [BPFAFD02BRA637N], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/BPFAFD02BRA637N, August 27, 2018.

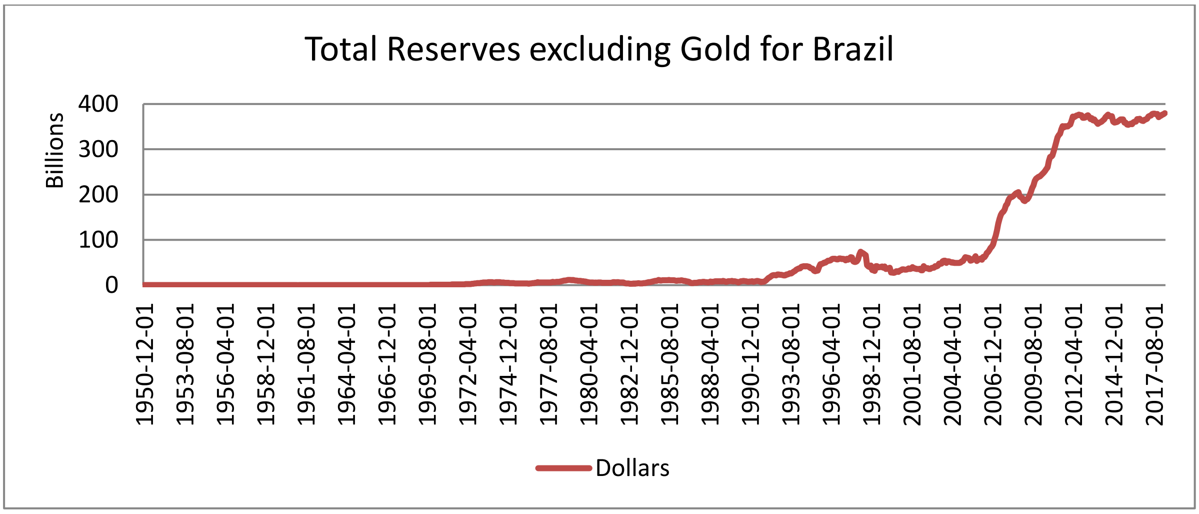


Figure 46: International Monetary Fund, Total Reserves excluding Gold for Brazil [TRESEGBRM052N], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/TRESEGBRM052N, August 28, 2018.

BRICS Comparison

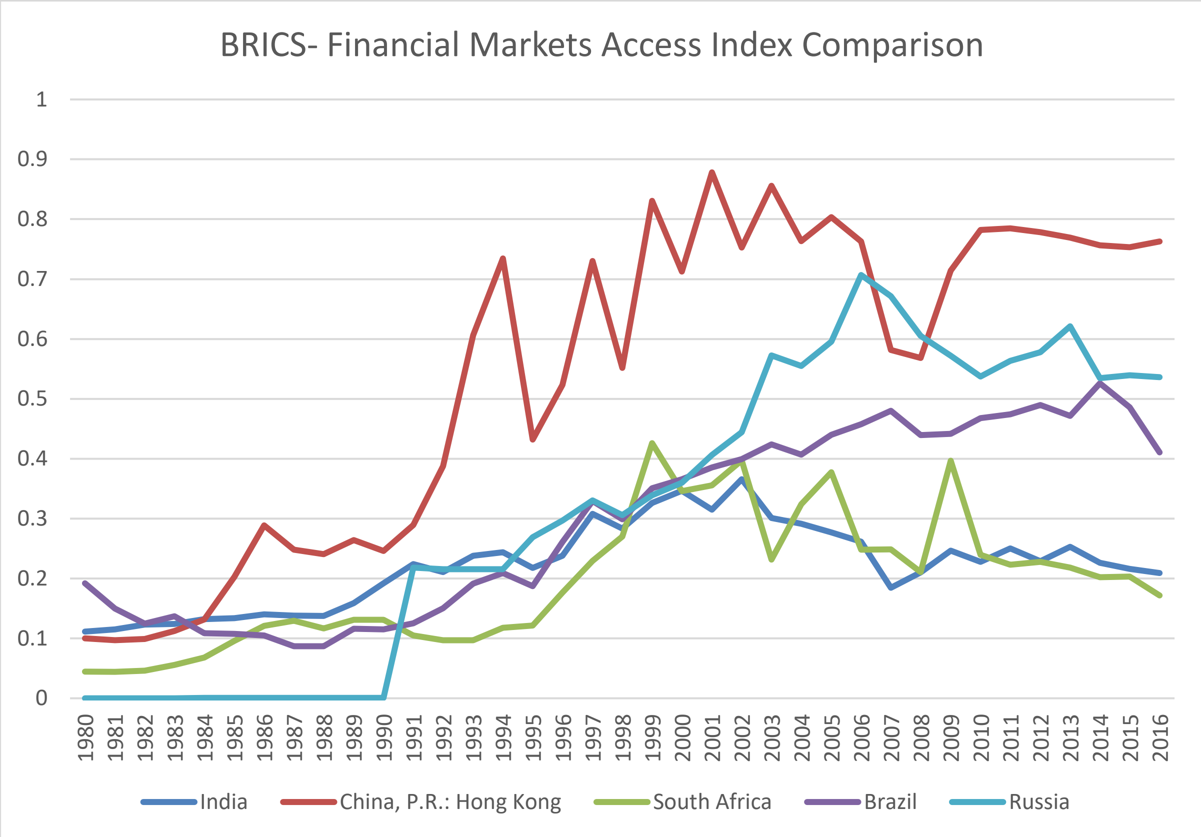


Figure 47: IMF data, https://data.imf.org; Financial Development Index dataset.

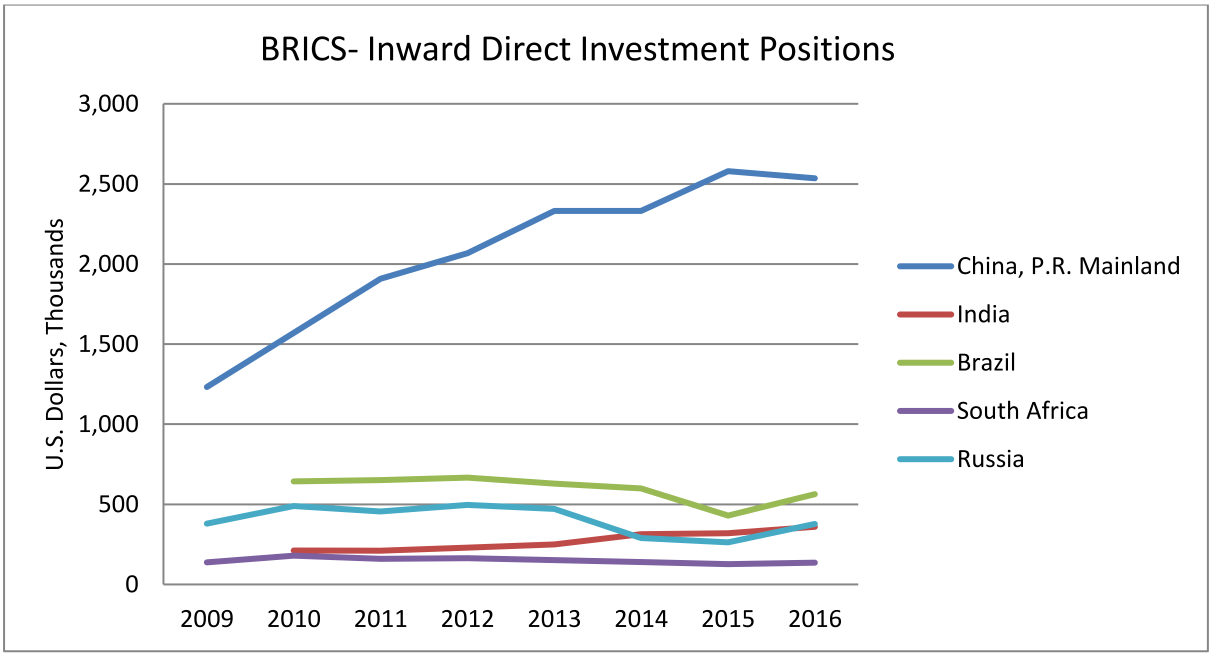


Figure 48: IMF data, https://data.imf.org; CDIS Table 4: Direct Investment Positions as Reported by All Reporting Economies By Year.

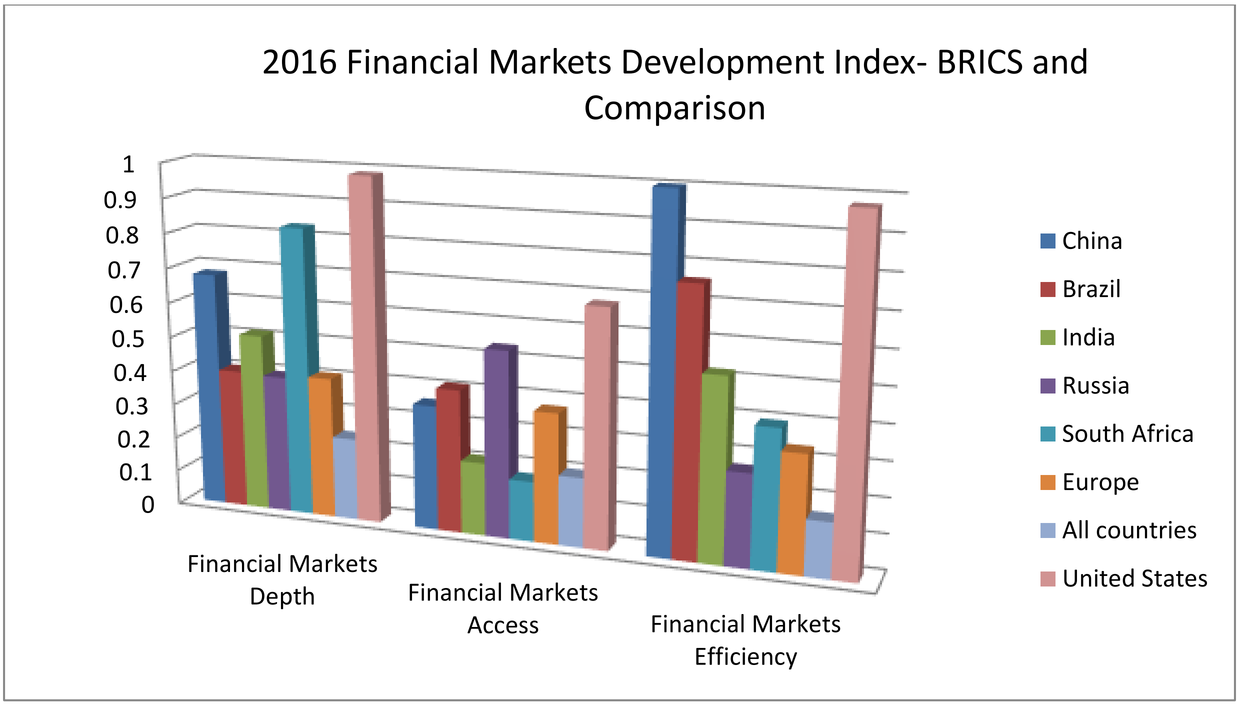


Figure 49: IMF data, https://data.imf.org; Financial Development Index

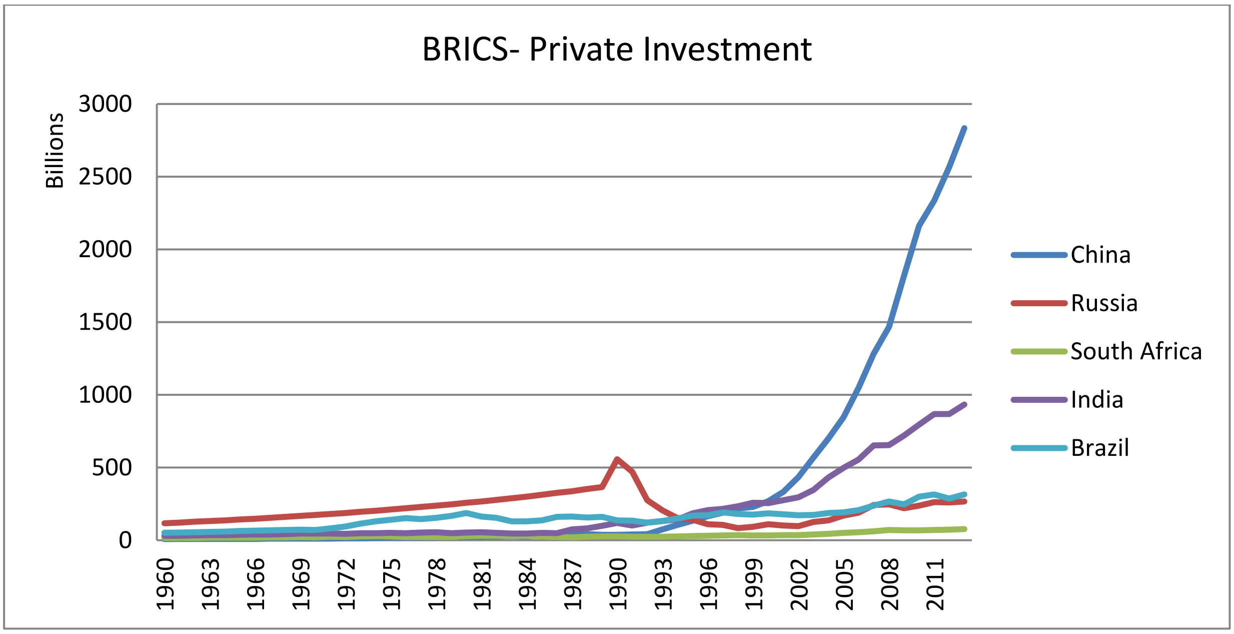


Figure 50: IMF data, https://data.imf.org; Investment and Capital Stock (ICSD)

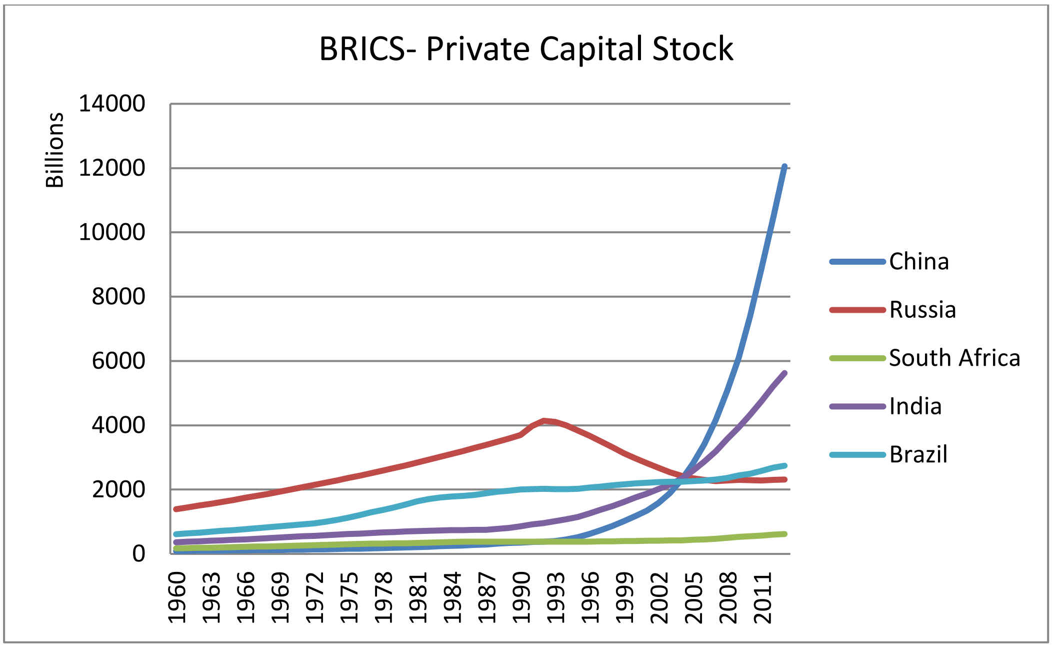


Figure 51: IMF data, https://data.imf.org; Investment and Capital Stock (ICSD)

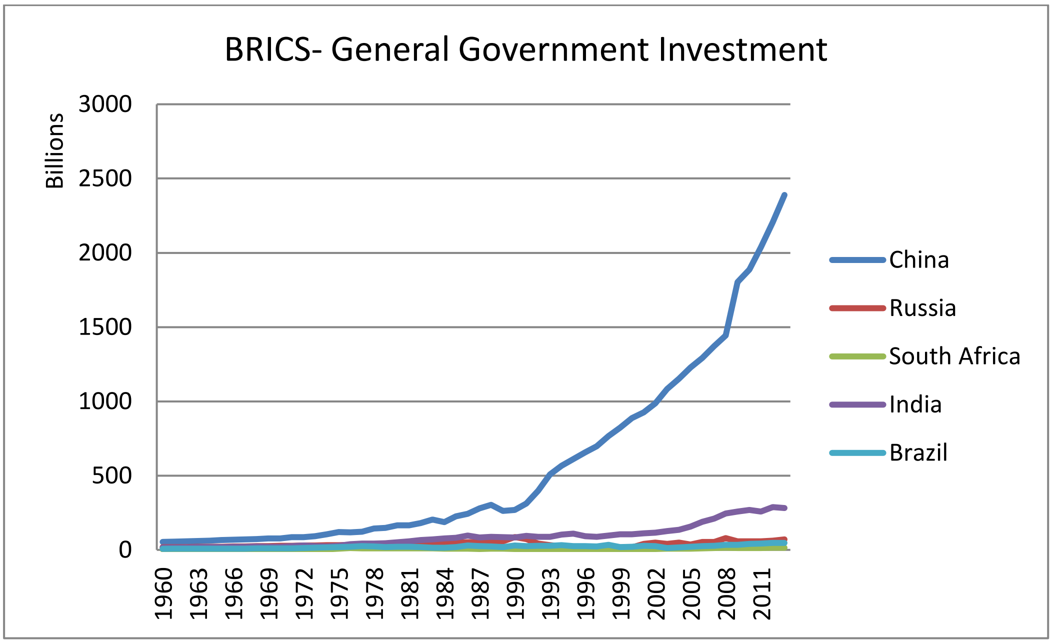


Figure 52: IMF data, https://data.imf.org; Investment and Capital Stock (ICSD)

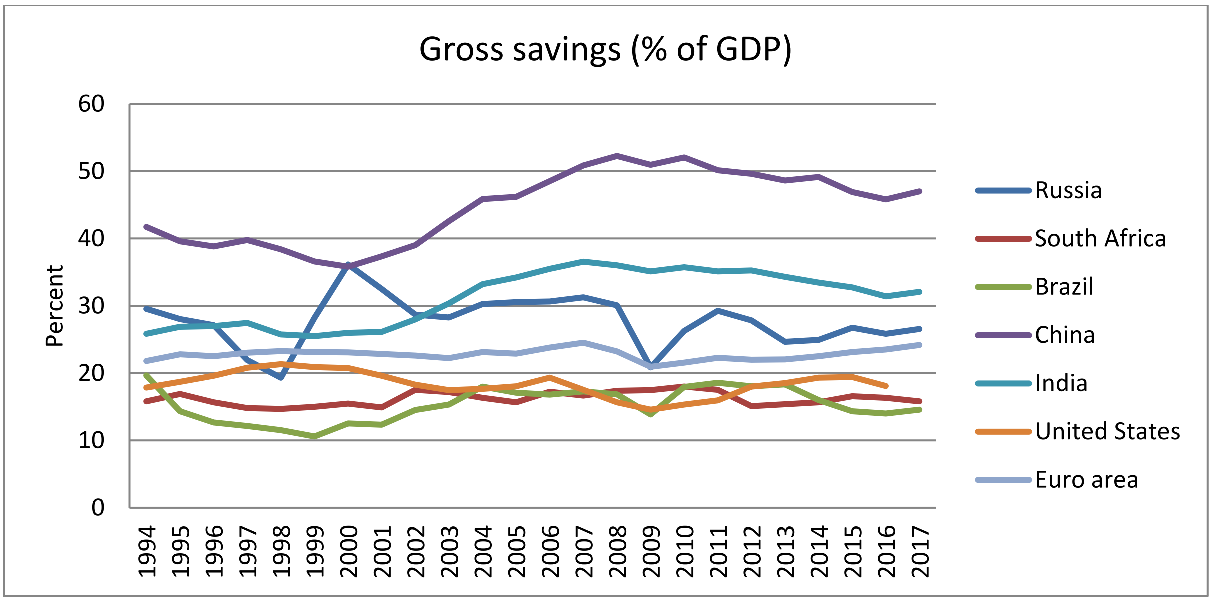


Figure 53: The World Bank data, Gross savings (% of GDP)

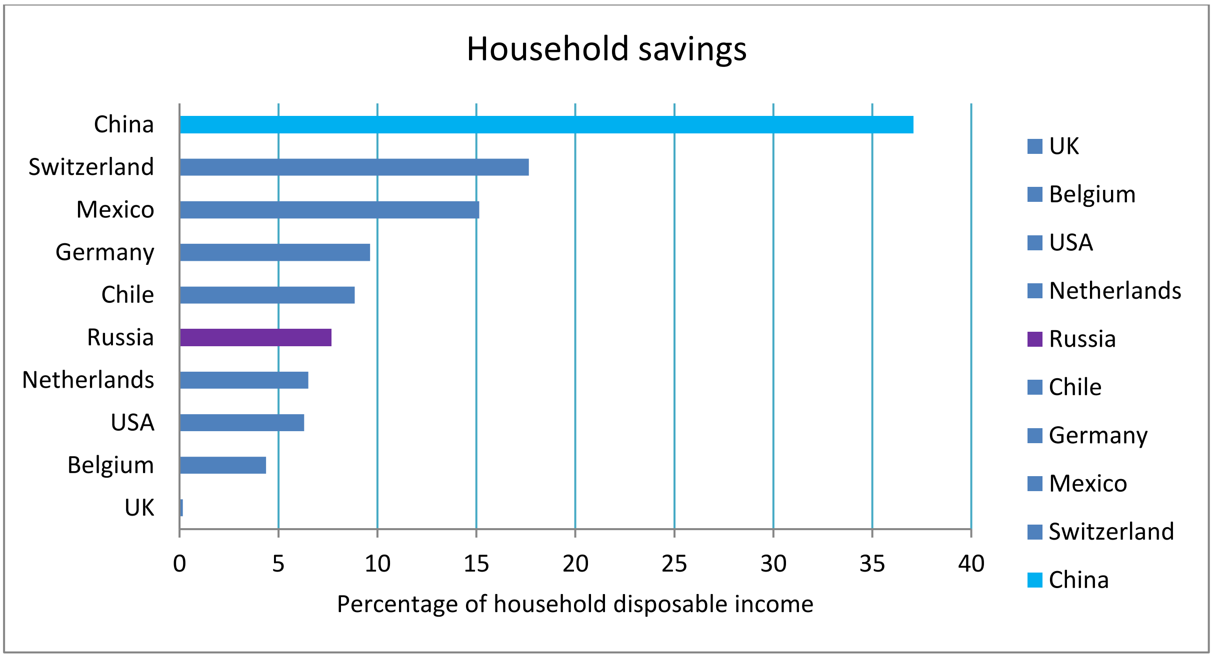


Figure 54: OECD Data, http://www.oecd.org.

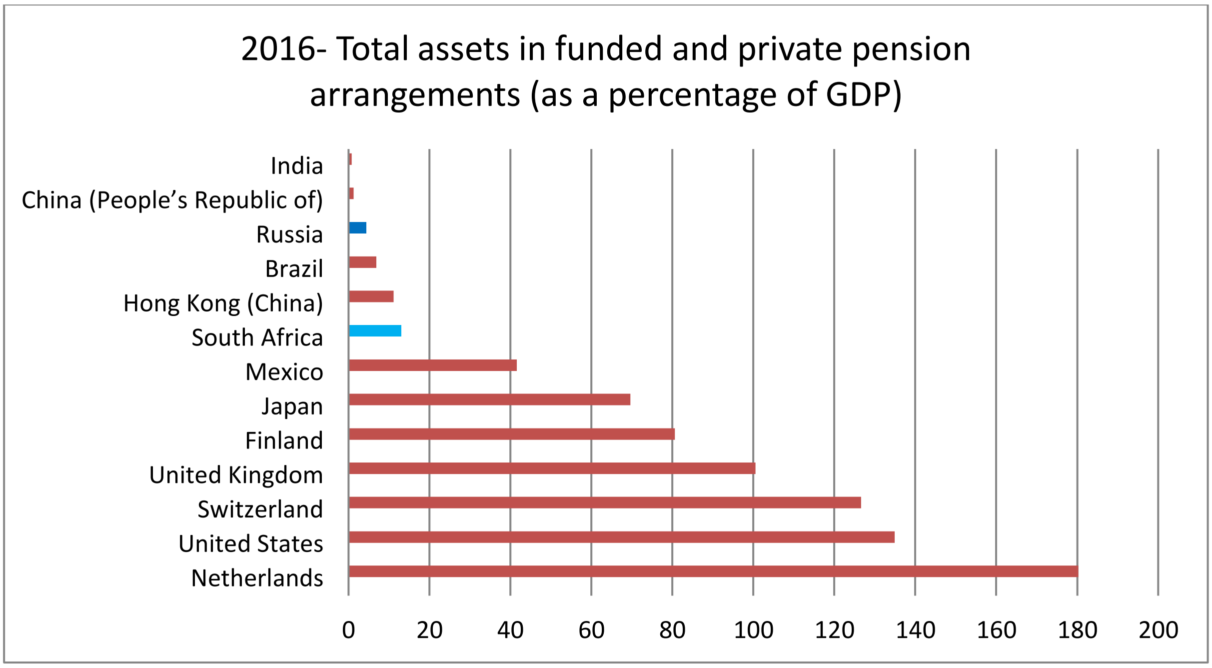


Figure 55: OECD Global Pension Statistics

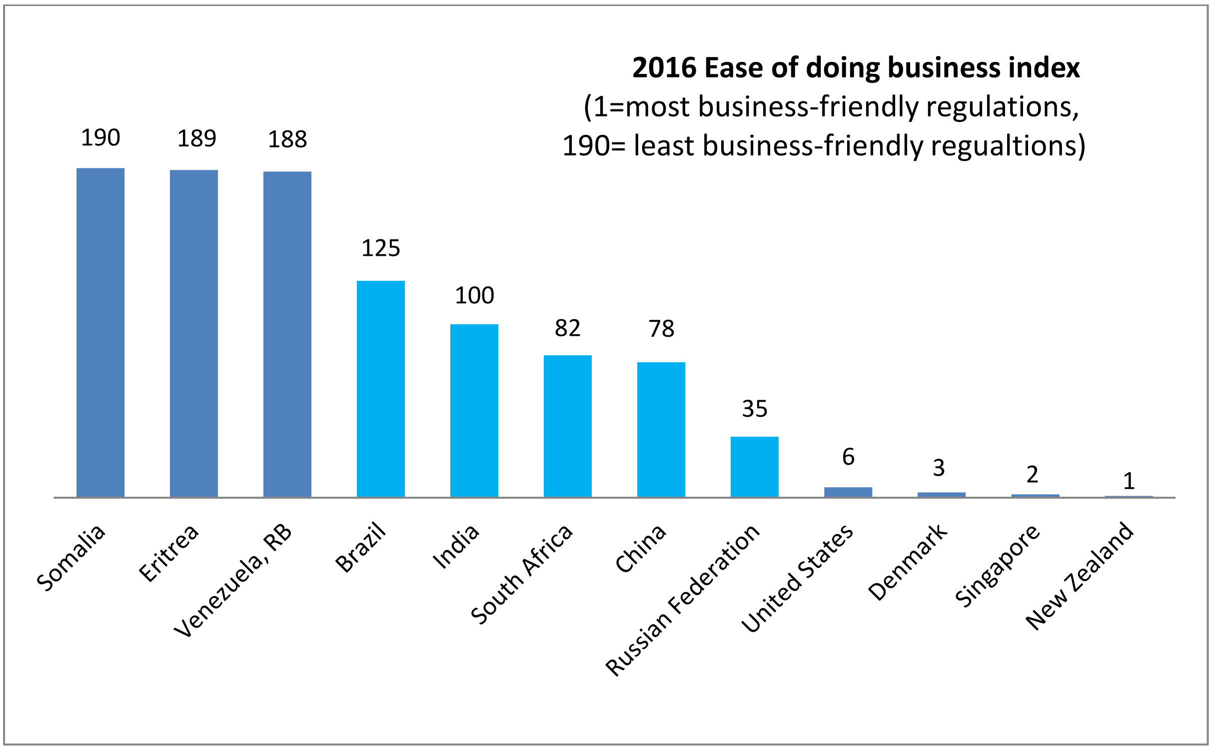


Figure 56: The World Bank Data

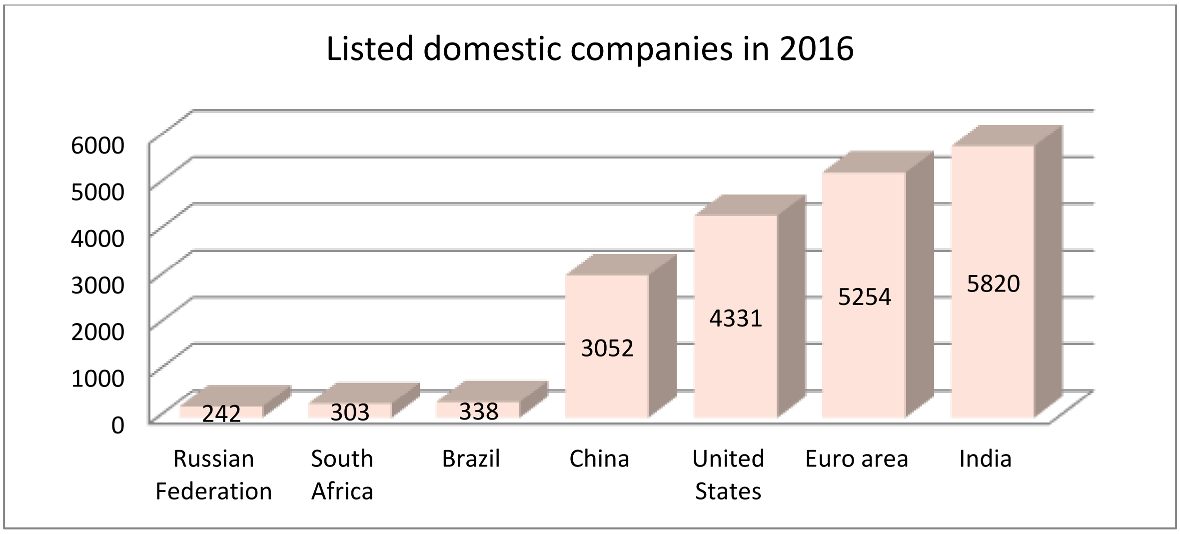


Figure 57: The World Bank Data

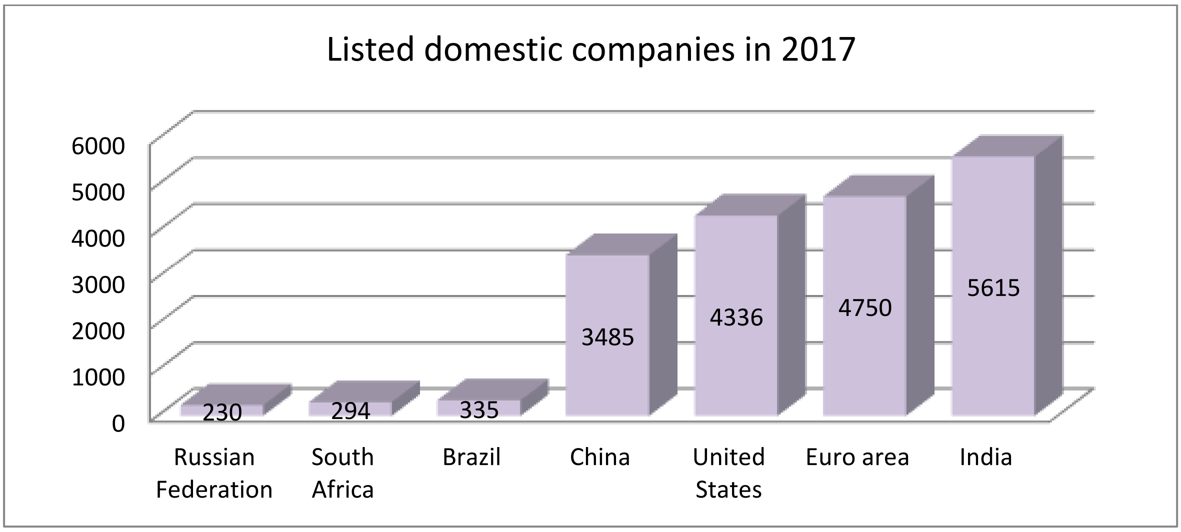


Figure 58: The World Bank Data

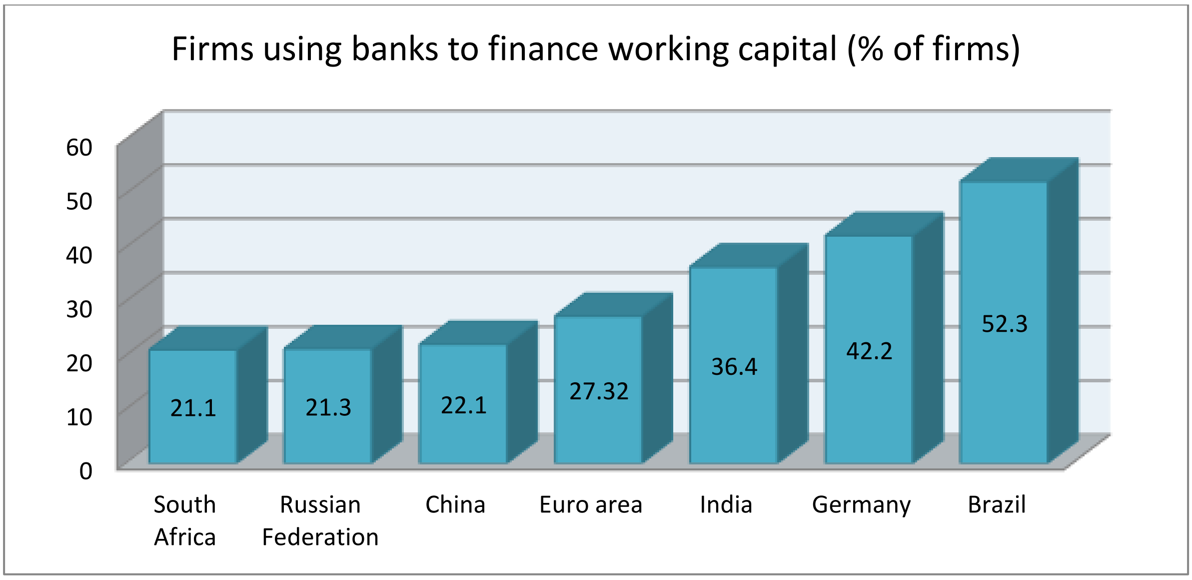


Figure 59: The World Bank Data, Private Sector- Firms using banks to finance working capital (% of firms), data taken from a range from 2002 to 2017.

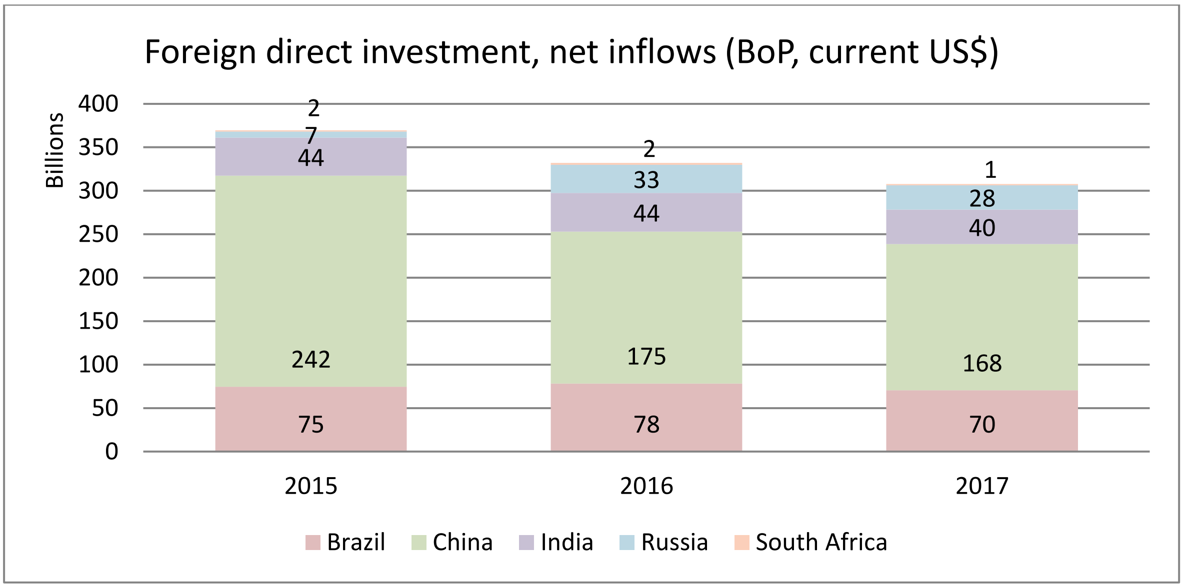


Figure 60: The World Bank Open Data; Economy and Growth, Foreign direct investment, net inflows (BoP, current US$)

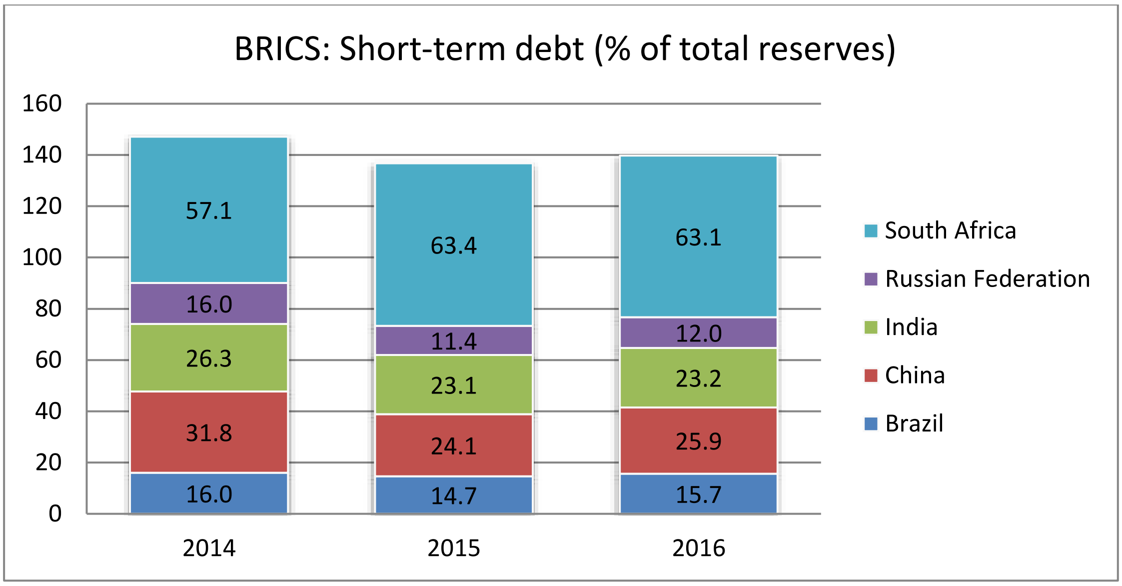


Figure 61: The World Bank Open Data (International Debt Statistics); Economy and Growth, Short-term debt (% of total reserves)

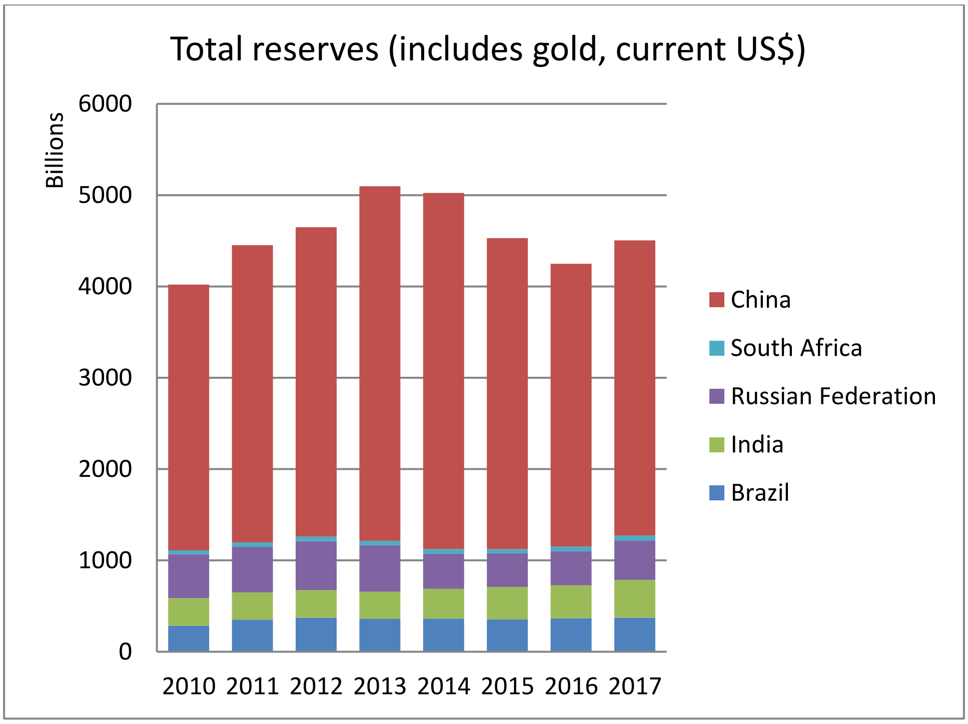


Figure 62: The World Bank Open Data; Economy and Growth, Total reserves (includes gold, current US$), retrieved from the International Monetary Fund, International Financial Statistics and data files.

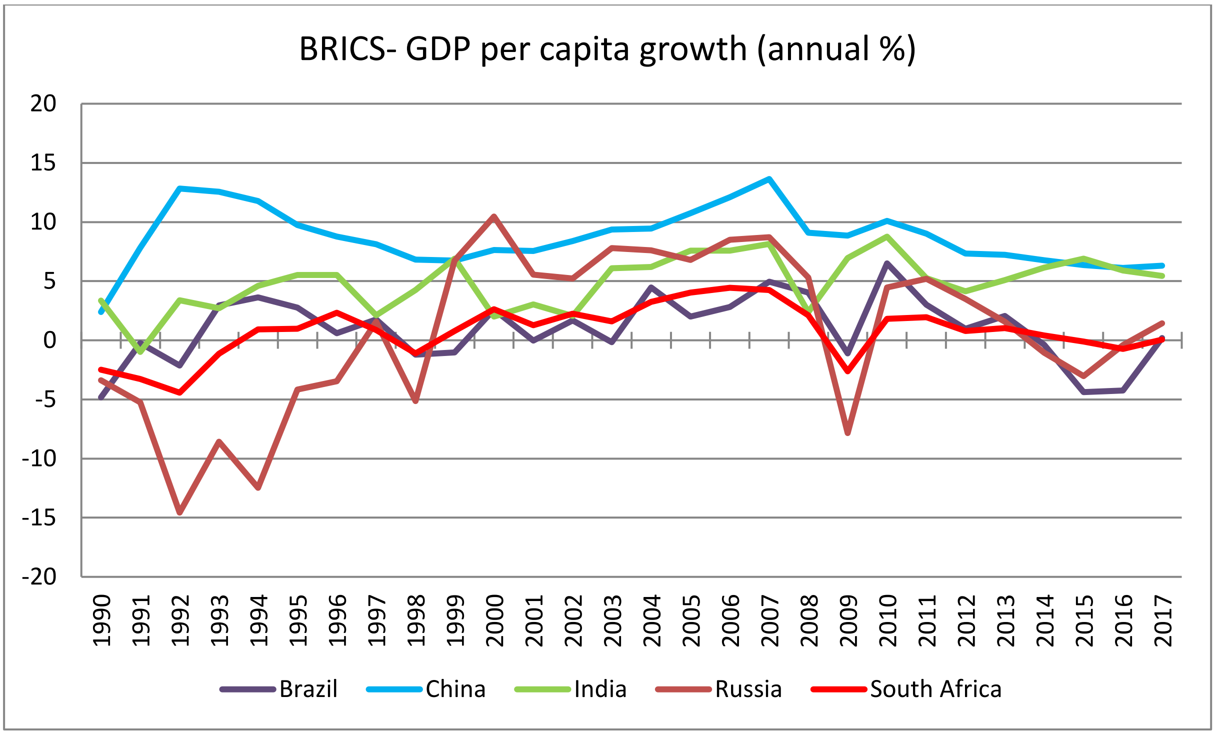


Figure 63: World Bank national accounts data and OECD National Accounts data files.

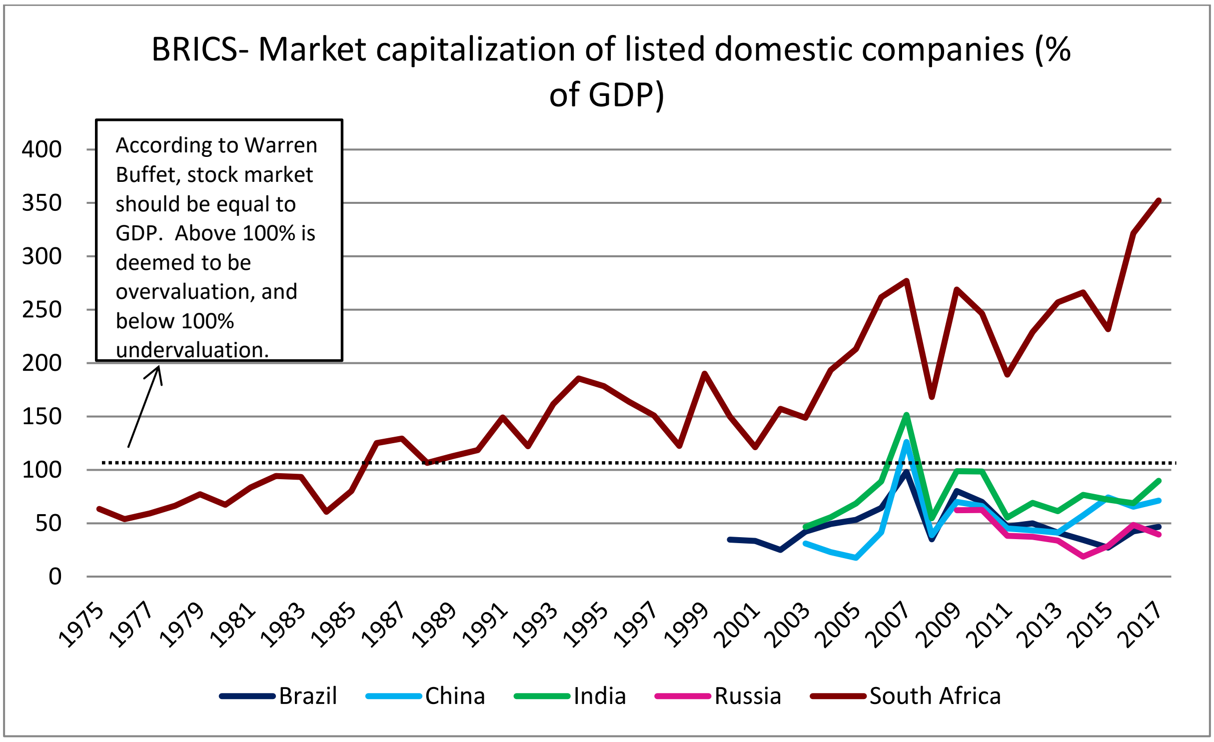


Figure 64: The World Bank Open Data, Financial Sector; World Federation of Exchanges database.

3) REGRESSIONS

(Data is retrieved from the World Bank data set)

1. South Africa GDP per capita (US$) regressed on Market capitalization of listed domestic companies (% of GDP) and Foreign Direct Investment (FDI) (% of GDP)

Regression Statistics	
Multiple R	0.835202
R Square	0.697562
Adjusted R Square	0.682441
Standard Error	997.7039
Observations	43

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	91835523	45917761	46.12936	4.1E-11
Residual	40	39816521	995413		
Total	42	1.32E+08			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	818.6595	357.3254	2.291076	0.027305	96.478	1540.841	96.478	1540.841
Market cap	18.59601	2.156065	8.624978	1.15E-10	14.23844	22.95358	14.23844	22.95358
FDI net inflows	127.9925	132.2816	0.967575	0.339071	-139.359	395.3436	-139.359	395.3436

GDP per capita = 2565.387 + 38.02964 ** (Market cap)* + 95.44564 ** (FDI)*

2. Russian GDP per capita (US$) regressed on Conventional Gasoline prices ($ per gallon) and Market capitalization of listed domestic companies (% of GDP)

Regression Statistics	
Multiple R	0.964721
R Square	0.930687
Adjusted R Square	0.925142
Standard Error	1282.246
Observations	28

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	5.52E+08	2.76E+08	167.84188	3.24E-15
Residual	25	41103893	1644156		
Total	27	5.93E+08			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	46.65216	781.3382	0.059708	0.9528629	-1562.54	1655.848	-1562.54	1655.848
Gas prices	6089.918	511.3195	11.9102	8.436E-12	5036.836	7143.001	5036.836	7143.001
Market cap	-13.8048	10.02317	-1.37729	0.1806309	-34.4479	6.838326	-34.4479	6.838326

3. Chinese GDP per capita (US$) regressed on:
a) Openness at constant prices (%) and Chinese Yuan/ US Dollar Foreign exchange rate
b) Openness at constant prices (%), Chinese Yuan/ US Dollar Foreign exchange rate, and Stocks traded, total value (% of GDP))

Regression Statistics	
Multiple R	0.929273
R Square	0.863548
Adjusted R Square	0.85344
Standard Error	443.8681
Observations	30

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	33664984	16832492	85.43591	2.1E-12
Residual	27	5319511	197018.9		
Total	29	38984495			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	165.2259	224.0201	0.737549	0.46715	-294.425	624.8771	-294.425	624.8771
Openness at constant prices	59.54034	5.128374	11.60998	5.27E-12	49.01778	70.06289	49.01778	70.06289
Yuan/US$ Exchange rate	-174.146	47.02312	-3.70341	0.000965	-270.629	-77.6624	-270.629	-77.6624

Regression Statistics	
Multiple R	0.998476
R Square	0.996954
Adjusted R Square	0.996124
Standard Error	63.49287
Observations	15

ANOVA

	df	SS	MS	F	Significance F
Regression	3	14516001	4838667	1200.2613	4.08E-14
Residual	11	44344.79	4031.344		
Total	14	14560345			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	12287.62	529.5084	23.20571	1.079E-10	11122.18	13453.06	11122.18	13453.06
Openness at constant prices	22.27868	1.388576	16.04426	5.601E-09	19.22244	25.33491	19.22244	25.33491
Yuan/ US$ Exchange rate	-1467.72	59.56263	-24.6417	5.637E-11	-1598.821	-1336.63	-1598.82	-1336.63
Stocks traded	0.202429	0.550295	0.367854	0.719962	-1.008763	1.41362	-1.00876	1.41362

4. Brazilian GDP per capita (US$) regressed on Stocks traded (% of GDP) and:
a) FDI (% of GDP)
b) FDI net inflows (US $, annual)

Regression Statistics	
Multiple R	0.833351
R Square	0.694473
Adjusted R Square	0.677499
Standard Error	2013.368
Observations	39

ANOVA

	df	SS	MS	F	Significance F
Regression	2	3.32E+08	1.66E+08	40.91462	5.38E-10
Residual	36	1.46E+08	4053650		
Total	38	4.78E+08			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1360.402	561.611	2.42232	0.020583	221.4019	2499.402	221.4019	2499.402
Stocks traded	202.4671	33.59482	6.026736	6.4E-07	134.3336	270.6005	134.3336	270.6005
FDI (% of GDP)	228.3839	289.7939	0.788091	0.435802	-359.345	816.1131	-359.345	816.1131

Regression Statistics	
Multiple R	0.952716
R Square	0.907668
Adjusted R Square	0.902539
Standard Error	1106.811
Observations	39

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	4.34E+08	2.17E+08	176.9495	2.38E-19
Residual	36	44101128	1225031		
Total	38	4.78E+08			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1884.966	286.4446	6.58056	1.17E-07	1304.029	2465.903	1304.029	2465.903
Stocks traded	61.4339	21.87487	2.808423	0.007993	17.06961	105.7982	17.06961	105.7982
FDI (BOP)	8.41E-08	9.12E-09	9.229292	5.06E-11	6.56E-08	1.03E-07	6.56E-08	1.03E-07

5. Indian GDP per capita (US$) on Stocks traded (% of GDP) and
a) FDI net inflows (% of GDP)
b) FDI net inflows (US $, annual)

Regression Statistics	
Multiple R	0.704683
R Square	0.496578
Adjusted R Square	0.412674
Standard Error	330.0181
Observations	15

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	1289175	644587.3	5.918427	0.016278
Residual	12	1306943	108911.9		
Total	14	2596118			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1520.173	268.0963	5.670251	0.000104	936.0416	2104.305	936.0416	2104.305
Stocks traded	-15.7355	4.774489	-3.29575	0.006391	-26.1382	-5.33279	-26.1382	-5.33279
FDI (% of GDP)	304.5528	128.451	2.370965	0.035339	24.68215	584.4234	24.68215	584.4234

Regression Statistics	
Multiple R	0.9000431
R Square	0.8100776
Adjusted R Square	0.7784238
Standard Error	202.70278
Observations	15

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	2103056.785	1051528	25.59185	4.69E-05
Residual	12	493060.9872	41088.42		
Total	14	2596117.772			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1045.1806	195.449089	5.347585	0.000174	619.3336	1471.028	619.3336	1471.028
Stocks traded	-8.830747	2.63313154	-3.35371	0.005741	-14.5678	-3.09365	-14.5678	-3.09365
FDI (BoP)	2.314E-08	3.92794E-09	5.891414	7.35E-05	1.46E-08	3.17E-08	1.46E-08	3.17E-08