A Comparative Analysis of the Financial Liberalization in Turkey and Brazil

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Abstract

The objective of this study is to explain the financial liberalization processes in Turkey and Brazil, to analyze the external financial liberalization processes and the financial integration indices and to compare the developments in the financial integration indices of Turkey and Brazil during the period 1980-2013. Our analysis revealed that, on the one hand, Brazil has continued its external liberalization process since the 1990s, but on the other hand, Brazil used two main tools to manage the capital flows, namely, capital controls and liberalization of capital outflows. In contrast, Turkey did not employ these tools following liberalization of the capital account.

Keywords: Capital flows, financial liberalization, financial integration index, capital flow management

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Introduction

It has been suggested that in 1980s and 1990s, the liberalization of the capital account could contribute positively to the growth performance of emerging market economies through such channels as efficient redirection of savings, lower cost of capital and encouraging development of the domestic financial sector. Nevertheless, empirical studies since 1990s have not found a strong, stable and positive relationship between financial liberalization and growth. On the contrary, it has been observed that a blend of the volatility inherent in capital flows and the liberalized capital account gave rise to new fragilities in developing countries (Yilmaz Akyüz, 2011; John Bluedorn et al., 2013; Barbara Fritz and Daniela Prates, 2014; Yannick Kalantzis, 2015). Unexpected fluctuations in capital flows have led to the emergence of a new concept called capital flow management (CFM) (IMF, 2012), a countercyclical policy framework that includes three main instruments: 1) capital controls; 2) liberalization of capital outflows to reduce net capital inflows; and 3) macro-prudential measures (Akyüz, 2011; Karl Habermeier, Annamaria Kokenyne, and Chikako Baba, 2011).

In this study, we examine the financial liberalization in Turkey and Brazil. We compare the liberalization of the capital accounts in these countries during the period of 1980-2013, and we explain the preferences of these countries on capital flow management. We pick Brazil for comparison with Turkey because both are developing countries and Brazil has resorted to various measures, including capital controls, to manage capital flows in certain periods.

The aim of this study is to explain overall financial liberalization in Turkey and Brazil, to analyze, exclusively, the external financial liberalization in these countries with the help of the financial integration indices and to compare developments in financial integration indices of Turkey and Brazil during 1980-2013. The study is organized as follows: The first section reviews the related literature. The second section describes the analysis and comparison method used in the study. We examine the financial liberalization processes in Turkey and Brazil in the third and fourth sections, respectively. Finally, we compare the financial integration indices of Turkey and Brazil in the fifth section.

1. Related Literature

Several empirical and quantitative studies have been conducted on financial liberalization processes in Turkey and Brazil since the 1990s. To save space we have only reviewed recent studies.

In their comprehensive study, Korkut Boratav and Erinc Yeldan (2006) analyzed the effects of financial liberalization on Turkey's economy in detail. According to the authors, financial liberalization contributed to the destabilization of Turkey's economy through four channels. 1) During the financial liberalization process, the fragility of the domestic financial system in Turkey increased significantly due to sustained budget deficits. The rise in the public sector borrowing requirement led to higher interest rates. Consequently, attractive domestic interest rates drove speculative capital flows to Turkey. 2) The growth path of the economy has become more volatile due to the newly

emerged financial cycle: The cycle of growth-current account deficit-capital inflows witnessed throughout the 1980s turned into the capital inflows-growth-current account deficit cycle in the 1990s. That is, growth has become dependent on capital inflows since the 1990s. Furthermore, the growth rates have become more volatile as the time periods between booms and busts within the financial cycles have shortened. 3) The outflows related to capital account, in other words, leakages, have increased. The authors identified two underlying reasons for the leakages: i) residents' registered outward capital transfers have increased; and ii) the positive figures registered for the net errors and omissions during the 1980s turned into negative figures over the 1990s. The authors suggested that the residents' unregistered capital transfers abroad led to the change in the trend. 4) The share of short-term capital flows in total capital inflows increased after financial liberalization. This contributed to destabilization of the economy (Boratav and Yeldan, 2006).

Asuman Oktayer (2009) examined the financial liberalization process in Turkey and its effect on financial deepening. She admitted that the financial liberalization helped Turkey make significant progress toward financial deepening. However, the deterioration in public finance adversely affected the financial deepening process. Since the late 1980s, the public sector borrowing requirement has increased as a result of the deterioration in fiscal balance. Accordingly, a significant part of the domestic savings in the country has been used for budget financing. During this period, the financial institutions have used most of the funds they have obtained from domestic and foreign financial markets to buy government debt securities. Thus, the domestic financial markets could not effectively fulfill the function of financing the productive sectors. Contrary to the expectations, a banking sector-public sector relationship has developed in the economy instead of a banking sector-real sector relationship. In other words, financial resources in the economy could not be efficiently distributed. As a result, the financial deepening expected from financial liberalization has not been sufficiently achieved (Oktayer, 2009).

Burcu Kiran and Burak Guris (2011) investigated the effects of trade and financial liberalization on economic growth in Turkey for the period 1992:01-2006:04. The authors examined the long-term relationships between the variables with the bounds test and causality relations with Toda-Yamamoto causality test. The results showed no short-term or long-term relationship between financial openness and growth rate. Furthermore, Toda-Yamamoto causality test results suggested that there was no one-way causality relationship from financial openness to growth in Turkey (Kiran and Guris, 2011).

Arif O. Soylemez and Ahmet Yilmaz (2012) analyzed the relationship between capital flows and economic growth in Turkey. In the study, a Seemingly Unrelated Regression model was estimated using 1992:Q1-2012:Q2 data. Estimation results showed that a significant part of economic growth is accounted for by capital flows. The authors also conducted a Granger causality test and showed that the capital flows Granger-caused economic growth in Turkey. Since the growth rate was found to be dependent on the capital flows, it was suggested that Turkey should develop new

policies to reduce her dependency on foreign capital flows (Soylemez and Yilmaz, 2012).

Burcu K. Savrul, Halil Ozekicioglu and Hasan Alp Ozel (2013) examined the evolution of financial liberalization in Turkey from a historical point of view. The authors observed that external financial liberalization has initiated a process that led to the rise of domestic interest rates and the overvaluation of the Turkish Lira. This process has attracted further arbitrage-seeking capital inflows to Turkey and turned into a vicious cycle. As a result of the financial liberalization, speculative capital movements in Turkey have increased, which has also contributed to new economic vulnerabilities such as volatility in growth rates (Savrul, Ozekicioglu and Ozel, 2013).

Investigating the financial liberalization process in Brazil, Ricardo Gottschalk (2004) observed that Brazil undertook a rapid external liberalization reform in the first half of the 1990s. He states that Brazil initiated financial liberalization even before it maintained price stability and completed other liberalization reforms. Following the liberalization of capital account capital inflows surged due to high interest rates and privatization programs. Speculative capital inflows constituted a significant part of foreign capital flows, while relatively lesser capital contributed to increasing the productive capacity of Brazil. In general, the analyses in this study indicated that a more gradual approach to financial liberalization could have yielded better results. A slower transition period could have contributed to less speculative behavior in financial markets, thus helping Brazil buy time for establishing necessary institutions that would help direct foreign capital to more productive activities (Gottschalk, 2004).

Ilan Goldfajn and Andrea Minella (2007), on the other hand, argued that the liberalization of the capital account contributed to making the Brazilian economy more resilient. They suggested that the capital account should be liberalized further. The authors, however, emphasized that extensive reforms should also be undertaken to strengthen the institutions in Brazil during the liberalization process. For example, the independence of the Central Bank must be secured with legislative arrangements, fiscal discipline must be maintained, microeconomic inefficiencies should be eliminated, and uncertainties arising from the contracts should be reduced. The authors also conducted empirical analysis and estimated a VAR model using monthly data for the period 1995:1-2004:8 in the study. According to the variance decomposition analysis, most of the changes in GDP in the 12- and 24-month periods ahead were explained by shocks to current account balance, capital account balance and exchange rates. Accordingly, they concluded that capital flows had an influence on economic growth for the period under consideration (Goldfajn and Minella, 2007).

Fernando J. Cardim de Carvalho (2008b) investigated the impact of financial liberalization on Brazil's macroeconomic performance. He argued that financial liberalization not only disappointed the proponents of liberalization, but also brought new costs to Brazil, including the high rates of interest due to fiscal imbalances, the inability to make fixed public investments and the low rate of fixed capital investments as a share of GDP, which led to mediocre GDP growth rates. In the aftermath of financial liberalization, capital markets in Brazil developed over time and financial instruments

were diversified. However, private investors preferred to buy government debt securities instead of undertaking fixed capital investments. Foreign capital inflows to Brazil rose throughout the 1990s. Yet, in contrast to the expectations of mainstream economic theory, increasing capital inflows did not bolster growth rates. Carvalho also stated that the foreign banks operating in Brazil were expected to boost the efficiency of domestic financial system. However, foreign-owned banks did not contribute sufficiently to financial deepening (Carvalho, 2008b).

According to Luiz Fernando Paula (2011), financial liberalization was a necessary step to support the macroeconomic policy mix adopted in the 1990s (i.e., flexible exchange rate, inflation targeting regime and primary surplus). The capital account convertibility was expected to reduce the country's risk premium and interest rate. Opponents of this argument contended that liberalization of the capital account in a peripheral country like Brazil would not achieve this end. To investigate the impact of liberalization on macroeconomic variables, Paula estimated VAR models for the period 1994-2007. The results showed that financial liberalization had no positive effect on economic growth and economic stability. The potential benefits expected from liberalization, which included a fall in the country risk premium, did not appear in Brazil (Paula, 2011).

In another study, Paula (2014) reviewed a number of empirical research papers. He noted that in most of those studies, financial liberalization showed no clear benefit to Brazil's economic performance and macroeconomic stability. Paula concluded that financial liberalization had even a negative, although limited, contribution to economic growth and led to fluctuations in interest rates and exchange rates.

2. Methodology

Economic liberalization is a bundle of reforms of many aspects of the economy. In this study, we mainly evaluate only those reforms related to financial liberalization. We do not address the other reforms such as trade liberalization, public finance reform and privatization within this study. Financial liberalization of a country consists of a complex and comprehensive set of reforms that deal with fundamentals of the domestic financial sector, foreign exchange transactions and capital flows.

One can opt for analyzing financial liberalization either as a whole or in various classifications. While some authors examine financial liberalization in terms of monetary controls and the financial system and exchange system, trade and capital flows (Barry Johnston, Salim M. Darbar, and Claudia Echeverria, 1997), others examine this process by distinguishing between domestic and external financial liberalization (Seppo Honkapohja, 2012; Jose Antonio Ocampo, 2015). We adopt the latter approach in this study. Domestic financial liberalization refers to reforms such as liberalization of interest rates, establishment of institutions for regulating money and capital markets. On the other hand, removal of restrictions on foreign exchange transactions and cross-border capital movements are considered within the scope of external financial liberalization. In this study, we first explain the domestic and external financial

liberalization with a historical perspective in Turkey and Brazil, respectively. Then we compare the external financial liberalization in those countries.

We utilize the financial integration index we have constructed for comparing the course of financial integration in Turkey and Brazil between 1980 and 2013 in the second third and fourth sections of this study. We have built the financial integration index to quantify the degree of capital account openness of Turkey and Brazil, in other words, the external financial liberalization.

While creating the financial integration index series of Turkey, from 1980 to the end of 2013, we have reviewed all legislative arrangements related to foreign exchange transactions and capital account, i.e., the decrees protecting the value of Turkish currency, communiqués regarding these decrees, resolutions issued by the Central Bank of the Republic of Turkey (CBRT), and foreign direct investment legislation. Furthermore, we have reviewed the sections dedicated to Turkey in all *Annual Report on Exchange Arrangements and Exchange Restrictions* (AREAER) published by the IMF within the same period. For the financial integration index of Brazil, we have taken our inspiration from Goldfajn and Minella's (2007) distinguished study. However, we note that Goldfajn and Minella created the index for the period 1990-2004 in their study. Thus, we had to reconstruct and expand the index series of Brazil for the period 1980-2013 to make it comparable with Turkey's index. When expanding the series, we have reviewed the sections dedicated to Brazil in all AREAERs published between 1980 and 2013, in addition to the information provided in Goldfajn and Minella's work (2007). The financial integration indices that we present in this study are *de jure*, in other words, regulation-based.

We set the initial value in 1980 as 100 for both countries. Then we assign +1 for each regulation liberating the capital account and -1 for each measure restricting the capital flows. Moreover, we assume that each regulation would not have the same impact on the capital account and therefore on the financial integration index. We assign three different weights to each regulation (i.e., 0.50, 1.00 and 2.00) according to its expected effect. We give 0.50 weight to measures that may slightly affect capital flows and 2.00 weight to those that can potentially have a stronger effect. We multiply the weights by +1 or -1 to obtain the actual index score for each regulation. We add the index score calculated for each month cumulatively to the initial value, which we assume to be 100. In addition to the overall index of financial integration (OFI) produced for Brazil and Turkey, we present the financial integration index for capital inflows (ICI) and capital outflows (ICO) within the study.

3. The Financial Liberalization and the Capital Flows in Turkey

In this section, we explain the developments in the financial liberalization, the financial integration index and the capital flows in Turkey, respectively.

3.1. The Financial Liberalization in Turkey

From 1977 on, macroeconomic problems, mainly arising from inflation and deterioration in balance of payments became increasingly serious in Turkey. As a result,

Turkey inevitably had to take a series of economic measures. Turkey implemented the so-called January 24th Resolutions, a full macroeconomic reform program including austerity measures and structural adjustment arrangements, backed by the IMF in 1980. With this program, Turkey took the first steps toward transitioning to the export-oriented industrialization model and the free market economy and abandoning the import-substitution model and the closed economy concept. In this regard, 1980 was a milestone for Turkey's economy. Since then, Turkey has undertaken several reforms in foreign trade, public finance and financial system in a short time period (Haluk Haksal, 2017; Thomas Marois, 2012). During the 1980s, intense financial liberalization, both domestic and external, simultaneously took place in Turkey. We briefly explain the main arrangements.

3.1.1 Domestic Financial Liberalization

The main regulations concerning the domestic financial liberalization that continued throughout the 1980s were the interest rate liberalization, the foundation of the markets and the institutional arrangements.

Prior to 1980, the authorities set ceilings for the interest rates applied to the loans and deposits. Those ceiling rates were intentionally kept below the inflation rate to encourage fixed investments. As a part of the macroeconomic reform program, the ceiling rates for the loans and deposits were removed in 1980. Yet, the authorities kept lending activities of the banks to certain industries at subsidized interest rates intact. Due to the problems observed in the banking system, the authority to set interest rates was given back to the Central Bank of the Republic of Turkey (CBRT) in 1983. The deposit and loan interest rates were liberalized eventually in October 1988 (CBRT, 2002; Savrul, Ozekicioglu, and Ozel, 2013).

Regarding the foundation of the money, capital and foreign exchange markets, the first step was the enactment of the Capital Markets Law in 1981. This law set the guidelines for the activities of financial institutions such as intermediary institutions and mutual funds. The Capital Markets Board was established under the same law and began its activities in 1982. The Istanbul Stock Exchange (ISE), the most important component of the capital markets, was established, and trading began in 1986. The creation of money and foreign exchange markets started in the second half of the 1980s. The CBRT established the interbank money market in April 1986 and the foreign exchange markets in August 1988. Moreover, the CBRT simplified the reserve requirements system in 1986 (CBRT, 2002; Marois, 2012).

On the public finance façade of the economy, until the mid-1980s, Turkey financed its budget deficits largely through the short-term advances provided by the CBRT. In addition, the Undersecretariat of Treasury and Foreign Trade (UTFT) started issuing treasury bills and government bonds for budget financing in 1985. The secondary market for government debt securities was established under the ISE in 1986. Thus, the authorities diversified financial instruments in the Turkish financial system. In 1987, the CBRT started open market operations to regulate liquidity in the money market. Within the macroeconomic reform program following the 2001 crisis, an

amendment to the CBRT Law abolished the facility to finance the national budget, through the CBRT resources, for good in 2001 (CBRT, 2002).

3.1.2 External Financial Liberalization

Within the scope of the external liberalization in Turkey, the governments made several amendments to the legislation on foreign exchange transactions, external loans, portfolio investments and foreign direct investments (FDI). Decrees No. 28, 30 and 32 on the protection of the value of Turkish currency, which were issued in 1983, 1984 and 1989, respectively, basically liberalized foreign exchange transactions, external loans and portfolio investments. Even before the decrees entered into force, the authorities introduced several regulations to liberalize the foreign exchange market. For example, in May 1981, the CBRT started to set the exchange rates on a daily basis. Commercial banks were allowed to have assets in foreign currencies in 1982. One should note that a separate set of legislation governed foreign direct investments in Turkey (CBRT, 2002; Savrul, Ozekicioglu, and Ozel, 2013).

Decree No. 28 of 1983 allowed residents in Turkey to open foreign exchange accounts in banks, to borrow from abroad and lend foreign currency loans to non-residents, to take foreign exchange up to the equivalent of USD 3,000 abroad. Additionally, non-residents acquired the right to purchase real estate in Turkey as long as they brought the required amount of foreign currency from abroad. With Decree No. 30, issued in 1984, the rules concerning the capital account of Turkey were rearranged. In addition, several powers concerning capital outflows were granted to the newly established UTFT (CBRT, 2002).

Decree No. 32, which was considered a milestone of Turkey's capital account regime, entered into force in 1989. The main amendments made in relationship to capital flows under Decree No. 32 stated: 1) non-residents were allowed to buy and sell the listed securities on the stock exchange and to transfer the proceeds of those assets abroad; 2) residents were allowed to buy securities quoted in foreign stock exchanges and to transfer the necessary funds abroad to obtain those assets; 3) the amount of capital that residents could freely take abroad, with the permission of UTFT, for doing business was raised to USD 25 million; and 4) the requirements for residents in Turkey to take cash and non-cash loans from abroad were eased (CBRT, 2002; Savrul, Ozekicioglu, and Ozel, 2013). The capital account liberalization process in Turkey, although decelerated, continued with amendments to Decree No. 32 after 1989. Moreover, Turkey adopted the IMF’s Article VIII obligations in 1990.

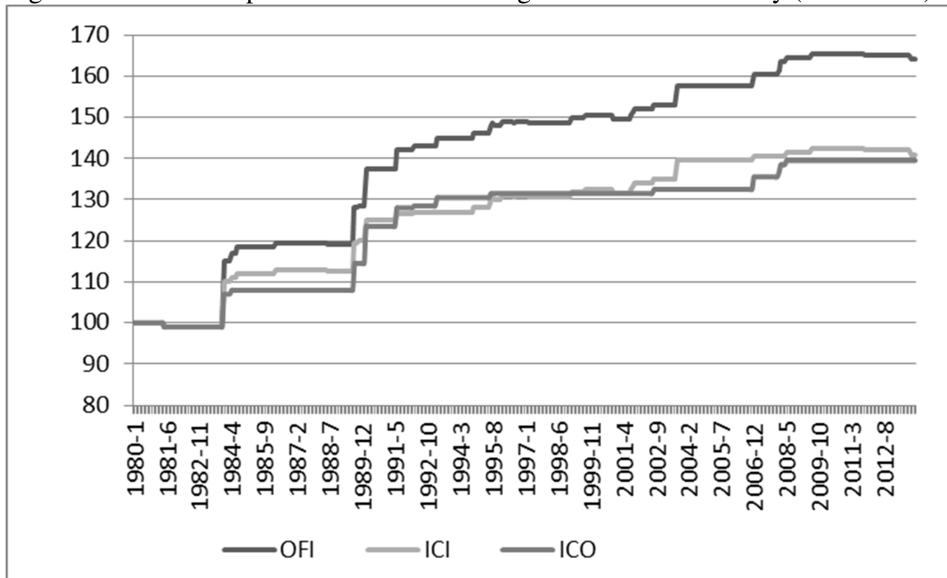
The Foreign Capital Framework Decree, which set the rules on undertaking foreign direct investments in Turkey, went into effect in 1980, immediately after the January 24th Resolutions. With the legal arrangements made in 1984 and later on, restrictions on FDI in Turkey were reduced gradually over time. The law, which was enacted in 2003, abolished all preliminary permission procedures related to inward direct investments and the obligations to transfer minimum capital to Turkey.

3.2. The Developments in Turkey's Financial Integration Index and Capital Flows in the Period 1980-2013

Figure 1 shows the financial integration index that we constructed to quantify the level of openness of Turkey's capital account between 1980 and 2013. The chart includes the indices for the general index of financial integration (OFI) covering all the regulations regarding the capital account regime, the index for capital inflows (ICI) and the index for capital outflows (ICO).

The overall index of financial integration displays an upward trend between 1980 and 2013. Hence, we can infer that Turkey liberalized its capital account throughout the entire period. The OFI score, which had an initial value of 100, reached 164 as of the end of 2013. The score clearly indicates that Turkey had a very liberal regime in terms of capital movements by 2013. Thanks to Decrees No. 28, 30 and 32 on the protection of the value of Turkish currency, significant changes took place in the direction of liberalization in the capital account regime over the course of the 1980s, especially from 1983 on. Decree No. 32, which went into force in 1989, is considered the most important step toward the external financial liberalization in Turkey. Yet, Turkey did not fully complete the capital account liberalization in that year. The increase in the OFI following 1989 shows that the liberalization of capital flows continued over the 1990s and 2000s. Figure 1 also shows that the ICI and the ICO did not significantly diverge from each other during the period 1980-2013. Therefore, the liberal outlook of Turkey's capital account remains valid in terms of the sub-categories, namely capital inflows and outflows (see Figure 1).

Figure 1: The Developments in Financial Integration Index of Turkey (1980-2013)



Source: Own calculations.

Note: OFI: Overall financial integration index, ICI: Financial integration index for capital inflows, ICO: Financial integration index for capital outflows

Table 1 shows some descriptive statistics of the general index of Turkey's financial integration from 1980 to 2013 and three sub-periods (i.e., 1980: 1-1989: 12; 1990: 1-1999: 12; 2000: 1-2013: 12). The authorities made a total of 86 arrangements regarding the capital account throughout this period. Between 1980 and 2013, the average of the OFI was 141.2, and the standard deviation was 21.2. In the first sub-period (1980: 1-1989: 12), 33 regulations on capital movements entered into force. Due to the intensive and rapid liberal arrangements made in that decade, the standard deviation of the index reached 10, the highest out of three sub-periods. The number of regulations (32) in the second sub-period (1990: 1-1999: 12) and the upward change in the average index value during this period (approximately 34 points) clearly indicate further external financial liberalization in Turkey. However, the fact that the standard deviation declined to 4.3 points to the fact that Turkey spread the capital account liberalization over time compared to the previous sub-period. In the third sub-period (2000: 1-2013: 12), the number of regulations (21) and the change in the average index value of the period (around 14 points) imply a slowdown compared to the previous sub-periods. However, the average index value in this sub-period was around 159, suggesting that the liberalization process, although decelerated, continued (see Table 1).

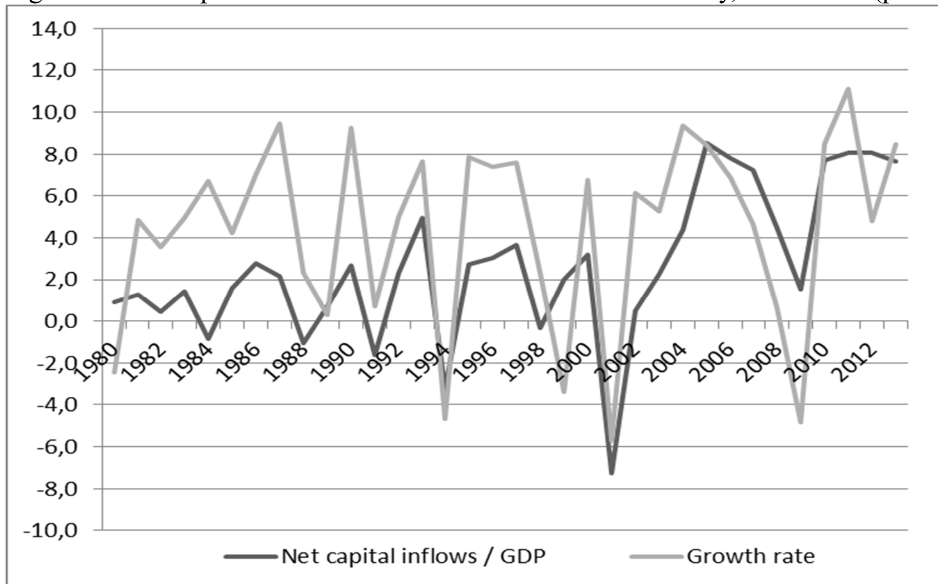
Table 1: The Descriptive Statistics of Turkey's Financial Integration Index

	Entire period (1980:1-2013:12)	1st sub-period (1980:1-1989:12)	2nd sub-period (1990:1-1999:12)	3rd sub-period (2000:1-2013:12)
No. of Arrangements	86	33	32	21
Maximum	165.5	128.5	150.5	165.5
Minimum	99.0	99.0	128.5	149.5
Median	148.5	118.5	146.0	160.5
Average	141.2	111.5	145.3	159.4
Std. Deviation	21.2	10.0	4.3	5.6

Source: Own calculations

We argue that examining the trends in the net capital flows and growth rates before and after the external financial liberalization may provide some insight on the effects of financial liberalization in Turkey. Figure 2 illustrates the ratio of gross domestic product (GDP)/net capital inflows and the annual change in GDP per annum from 1980 to 2013. The most evident feature of the chart is that the capital inflows and growth rates generally have moved in quite similar directions since the 1990s. The net capital inflows mostly fluctuated around 1% of GDP until the first years of the 1990s. However, capital inflows showed more drastic changes following the early 1990s, the period in which the financial liberalization was roughly completed. The net capital inflows were reversed in three out of the four economic crises years. In 1994, 1998 and 2001, capital flight accompanied the contraction in GDP in Turkey. Foreign capital inflows shrank sharply in 2009, and the net capital inflows/GDP ratio decreased to 1.5%. To sum up, the external financial liberalization means both access to abundant foreign funds for Turkey and a source of instability (see Figure 2).

Figure 2: Net Capital Inflows / GDP and Growth Rate in Turkey, 1980-2013 (per cent)



Source: IMF, World Bank

4. The Financial Liberalization and the Capital Flows in Brazil

In this section, we briefly analyze the financial liberalization process, the financial integration index and the capital flows in Brazil, respectively.

4.1. The Financial Liberalization in Brazil

In the 1980s, Brazil's economy was troubled with high inflation rates, mainly owing to budget and current account deficits, as well as price and wage indexation. During the period 1986-1991, several macroeconomic stabilization programs were implemented to control the inflation. However, these programs failed due to issues related to public finance. Eventually, in the early 1990s, Brazil had to cope with hyper-inflation, which led to a slowdown in fixed investments and growth in the increasingly destabilizing economy (Jorge Saba Arbache, 2004; Paula, 2011). Under these economic circumstances, Brazil took steps toward financial liberalization starting in the second half of the 1980s. We explain the arrangements that Brazil made concerning the domestic and external financial liberalization.

4.1.1. Domestic Financial Liberalization

Carvalho (2008b) suggested that the financial liberalization in Brazil basically started with banking reform in 1988. In addition, Brazil made a few regulations for interest rate liberalization at the end of the 1980s. Although the interest rates of loans were liberalized partially in 1988, deposit interest rates were fully liberalized in 1989. On the other hand, the authorities encouraged banks to continue to give priority to

certain industries in lending activities in the 1990s (John Williamson and Molly Mahar, 1998; Carvalho, 2008a).

Over the course of Brazil's domestic financial liberalization process, the Central Bank was reformed. With the establishment of the Central Bank of Brazil (Banco Central do Brasil (BCB)) in 1964, the central banking functions, which were formerly carried out only by the Brazilian National Bank (Banco do Brasil), were transferred gradually to the BCB. At the end of the transition and restructuring process, the BCB was transformed into the competent monetary authority with by constitutional amendment in 1988. The amendment transferred the powers of the BCB over debt management to the Brazilian Treasury Administration. Furthermore, the BCB is prohibited from financing the Brazilian Treasury either directly or indirectly. The National Monetary Board (CMN), established in 1964, kept its role as the main policy-making institution in the Brazilian financial system (Carvalho, 2008a; Fernando J. C. Carvalho and Francisco E. P. Souza, 2011; Sheilla Nyasha and Nicholas M. Odhiambo, 2013).

The Brazilian Capital Markets Board (CVM) was established in 1976 to regulate the capital markets. In 1988, the CVM issued an arrangement that led to a structural change in the banking sector and allowed banks to carry out activities such as commercial banking, development banking and investment banking simultaneously. The endeavor to develop the Sao Paulo Stock Exchange (BOVESPA), which was established in the late 19th century, intensified from the 1980s on. The CMN adopted the risk-weighted minimum capital adequacy ratio in 1994 in accordance with the standards of the Bank for International Settlements (Nyasha and Odhiambo, 2013).

4.1.2. External Financial Liberalization

By the end of the 1980s and early 1990s, Brazil began liberalization of foreign exchange transactions and capital flows. Goldfajn and Minella (2007) consider 1987 the beginning of external liberalization. In that year, the authorities allowed the establishment of foreign investment companies and investment funds and thus freed making portfolio investments in Brazil. In 1991, corporate foreign investors were allowed to enter the Brazilian securities market. In the early 1990s, the sectoral bans on the foreign direct investments in Brazil were abolished, and the bureaucratic obstacles were reduced. Furthermore, companies established in Brazil were allowed to issue the American Depositary Receipts in the U.S. capital markets. Consequently, many restrictions on capital inflows to Brazil were reduced or eliminated (Gottschalk, 2004; Goldfajn and Minella, 2007; Paula, 2011).

Regulations for the liberalization of capital outflows gained momentum after 1991. For example, at the end of 1991, restrictions on the transfer of profits abroad were reduced. Other significant arrangements concerning capital outflows include the CC-5, the Fiex fund, the Brazilian Depositary Receipts. In 1992, the scope of the so-called CC-5 foreign exchange mechanism, which is implemented by the BCB, was expanded, making it easier for foreign financial institutions to transfer capital abroad. In addition, residents in Brazil were permitted to undertake FDI using the CC-5 and to transfer

foreign currency to real persons' accounts abroad. Moreover, Brazil established a national investment fund, Fiex, in 1994 for facilitating Brazilian residents' overseas investments. The Fiex fund enabled institutional investors, individual investors and financial institutions to diversify their portfolios. Last but not least, foreign companies were allowed to issue Brazilian Depositary Receipts in Brazilian capital markets in 1996 (Goldfajn and Minella, 2007; Ricardo Gottschalk and Cecilia A. Sodré, 2008; Paula, 2011; Carvalho and Souza, 2011).

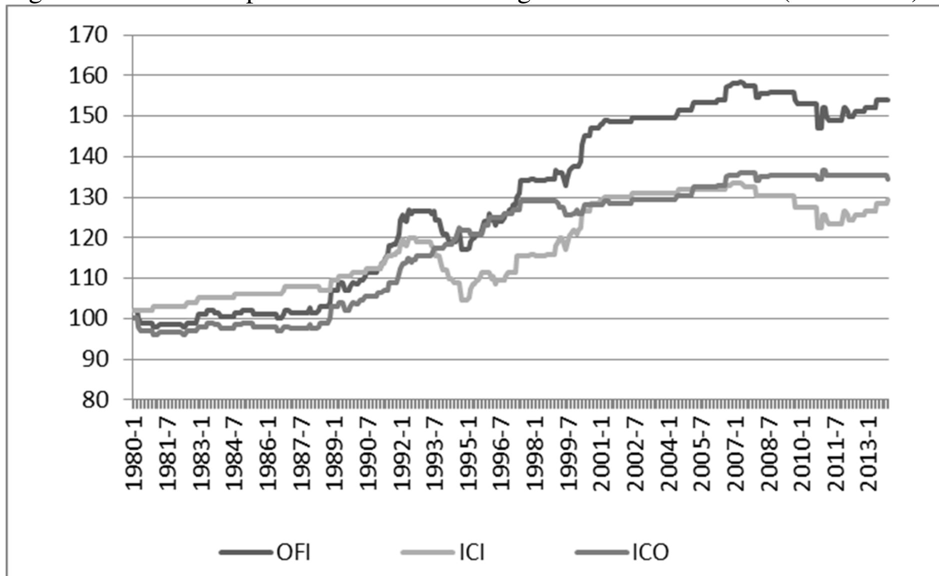
With these arrangements, Brazil made strides in the external financial liberalization process until the mid-1990s. The liberalization process continued, albeit at a slower pace, in the second half of the 1990s. The restrictions imposed on capital flows in 1993 were completely abolished in 1999. The IMF’s Article VIII obligations were accepted in November 1999.

4.2. The Developments in Brazil's Financial Integration Index and Capital Flows in the Period 1980-2013

Figure 3 shows the overall financial integration index, which represents all regulations related to capital account and two sub-indices for capital inflows and outflows. The main trend of the general financial integration index (OFI) is upwards, meaning toward liberalization, between 1980 and 2013, although several restrictions went into effect in certain periods. Since the OFI score of Brazil was 154 as of the end of 2013, its capital account can be considered a liberal regime.

The OFI does not indicate any significant change toward liberalization in the capital account during the 1980s. Thanks to the regulations described in the previous section, the OFI started to rise in 1989 and the following few years, and the index score reached 126 in 1992. However, the ICI declined in 1993 due to the controls imposed on capital inflows. On the other hand, Brazil continued the liberalization of capital outflows to slow down net capital inflows. Accordingly, the ICO kept its upward trend, and ICI and ICO moved in the opposite directions in the first half of the 1990s. With the gradual removal of capital controls on inflows in the late 1990s, the ICI and ICO moved closer to each other. In 2009, bringing the controls back to Brazil's capital inflows led to the formation of another gap between the ICI and ICO (see Figure 3).

Figure 3: The Developments in Financial Integration Index of Brazil (1980-2013)



Source: Goldfajn and Minella (2007) and own calculations.
Note: OFI: Overall financial integration index, ICI: Financial integration index for capital inflows, ICO: Financial integration index for capital outflows

We provide some descriptive statistics of the overall index of Brazil's financial integration (OFI) for the entire period under consideration and for three sub-periods (i.e., 1980: 1-1989: 12; 1990: 1-1999: 12; 2000: 1-2013: 12) in Table 2. Brazil made a total of 212 regulations between 1980 and 2013. The average was 128.9, and standard deviation of the OFI score was 21.7 in the whole period. In the first sub-period (1980: 1-1989: 12), 40 regulations on capital flows went into force. As we have mentioned, there was no significant liberalization in the capital account regime during the 1980s. Thus, the average score was 101.4, and the standard deviation was only 2.7 in this sub-period. In contrast with the previous decade, the total number of regulations jumped to 115 in the second sub-period (1990: 1-1999: 12). Of those, roughly two-thirds were related to capital account liberalization and the remaining ones restricted capital flows. The upward change in the average index score (around 23 points) compared to the first sub-period indicates that despite the capital controls, Brazil mainly moved toward a more liberal capital account in this sub-period. The number of regulations went down to 57, while the OFI score increased by about 27 points in the third sub-period (2000: 1-2013: 12). Accordingly, we presume that the capital controls implemented since 2009 did not reverse the ongoing overall liberalization process in the 2000s (see Table 2).

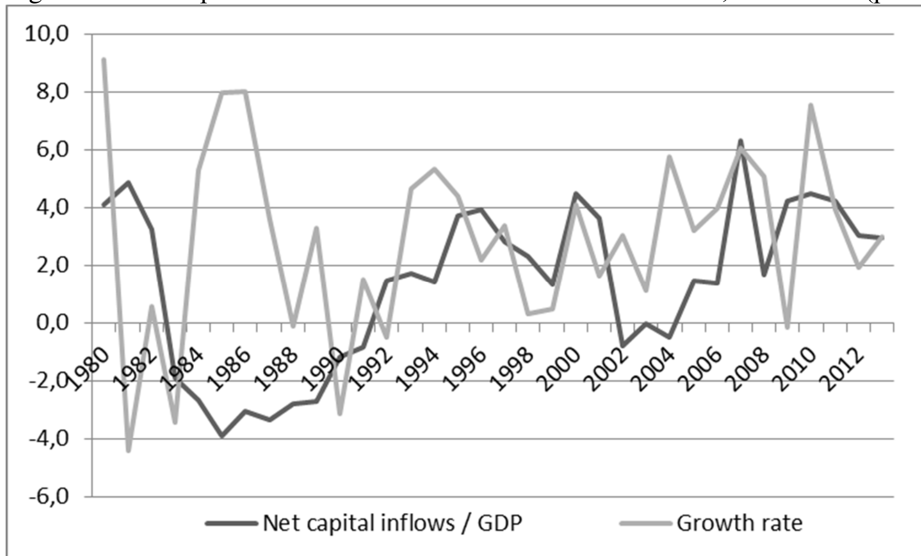
Table 2: The Descriptive Statistics of Brazil's Financial Integration Index

	Entire period (1980:1-2013:12)	1st sub-period (1980:1-1989:12)	2nd sub-period (1990:1-1999:12)	3rd sub-period (2000:1-2013:12)
No. of Arrangements	212	40	115	57
Maximum	158.5	109.0	137.5	158.5
Minimum	98.0	98.0	108.5	137.5
Median	127.0	101.0	124.5	151.8
Average	128.9	101.4	124.5	151.8
Std. Deviation	21.7	2.7	7.9	3.7

Source: Own calculations.

We present the ratio of the net capital inflows to GDP and annual GDP growth in Brazil for the period 1980-2013 in Figure 4. Between 1980 and 1982, Brazil received net capital inflows that mainly emanated from the liquidity glut in the global financial markets. However, due to the debt crisis in Latin America, Brazil experienced a sudden reversal of the capital flows in 1982. Following restructuring of external debt repayments, Brazil started to attract foreign capital again in 1992, along with the external financial liberalization. Between 1992 and 2001, Brazil's average net capital inflow to GDP ratio was 2.7%, which was relatively high. The political developments in 2002, also known as the confidence crisis, underpinned the sudden stop in capital inflows. In general, we cannot argue that Brazil's net capital inflow to GDP ratio and growth rates moved in the same direction over the 1980-2013 period. However, it is clear that the growth rates followed a rather unstable course (see Figure 4).

Figure 4: Net Capital Inflows / GDP and Growth Rate in Brazil, 1980-2013 (per cent)



Source: IMF, World Bank

5. A Comparative Analysis of the External Financial Liberalization in Turkey and Brazil

In this section, we compare the external financial liberalization processes using the OFIs for Turkey and Brazil between 1980 and 2013. For both countries, we divide the OFIs into three sub-periods (i.e., 1980: 1-1989: 12; 1990: 1-1999: 12, 2000: 1-2013: 12).

We classify the regulations, which constitute the base of the OFIs of Turkey and Brazil, as liberalizing or restrictive. We present the number of regulations and index scores aggregated under these groups in Table 3. Turkey put a total of 86 regulations, both liberalizing and restrictive, into practice within the period. In terms of the number of arrangements, Turkey implemented most of the regulations, which liberalized the capital account, in the first and second sub-periods, i.e., between 1980 and 1999. Likewise, the most notable rise in the OFI score was recorded in the first two sub-periods. Turkey enacted a total of nine restrictive arrangements related to the capital account regime in all three sub-periods. However, we do not take those regulations as capital controls since Turkey did not implement the measures on residence-basis. On the other hand, we included those arrangements in the OFI to not to discard their potential to affect the capital inflows to Turkey.

We can clearly see that Brazil's financial integration index underwent more changes than Turkey between 1980 and 2013. Brazil put 212 regulations into practice within the period. While 139 of those liberated capital movements, 73 were restrictive. The OFI decreased by 74.5 points because of the restraining measures. Regarding both the number of regulations and the changes in the OFI score, 1990: 1-1999: 12 was

Brazil's most active period out of three sub-periods. The OFI displayed ups and downs throughout the 1990s thanks to the rapid external financial liberalization at the beginning of the decade and the capital controls introduced in 1993. Yet, as Brazil relaxed the capital controls within a few years, the OFI registered a significant increase over the 1990s, compared to the 1980s. In the third sub-period, controls imposed on capital inflows since 2009 led to a fall of 20.5 points in the OFI. However, the external financial liberalization trend in Brazil continued in the third sub-period, since the number of regulations and the index scores liberalizing the capital flows exceeded the number of restrictive ones (Table 3).

Table 3: The Breakdown of the OFI of Brazil and Turkey by Liberalizing-Restricting Nature of the Arrangements, 1980-2013

			No. of Arrangements		Index points	
			Liberalization	Restriction	Liberalization	Restriction
Turkey	1980:1	1989:12	31	2	31.5	-3.0
	1990:1	1999:12	29	3	23.5	-1.5
	2000:1	2013:12	17	4	16.0	-2.5
	1980-2013		**77**	**9**	**71.0**	**-7.0**
Brazil	1980:1	1989:12	26	14	24.5	-15.5
	1990:1	1999:12	78	37	68.0	-38.5
	2000:1	2013:12	35	22	36.0	-20.5
	1980-2013		**139**	**73**	**128.5**	**-74.5**

Source: Own calculations.

We divide the underlying arrangements related to the OFIs of Brazil and Turkey into three groups according to the direction of capital flows that they aim to regulate, namely inward, outward and both directions. We present the aggregate number of regulations and index scores of these groups in Table 4. Turkey made 41 arrangements concerning capital inflows and 27 related to capital outflows between 1980 and 2013. Out of the total of 86, 18 had the potential to affect both inward and outward capital flows. We presume that capital inflows and outflows were liberalized in a quite balanced manner throughout the entire period in terms of the index scores. According to the OFI scores, in the first sub-period (1980: 1-1989: 12), mostly, regulations associated with capital inflows were put into practice in Turkey. Yet, the majority of the scores

registered in the second sub-period (1990: 1-1999: 12) belonged to arrangements on capital outflows. In the third sub-period (2000: 1-2013: 12), while Turkey continued to issue regulations on capital inflows, the number of regulations related to capital outflows decreased.

Brazil made 112 regulations related to capital inflows, 82 associated with capital outflows and 18 on both, during 1980-2013. The table shows that the net change in the index score attributed to the capital outflows is larger than that of inflows, 24.5 compared to 19.5. Again, there are two underlying reasons: 1) the capital controls imposed during the period 1993-1999 and re-introduced in 2009; and 2) the liberalization of capital outflows since the early 1990s for managing capital flows. During the first sub-period (1980: 1-1989: 12), Brazil, naturally, did not need to take any extra measures since it kept the capital account mostly closed. However, Brazil resorted to capital flow management instruments in the second and third sub-periods as we can see in the index scores in Table 4. Despite 74 regulations on capital inflows in the second sub-period (1990: 1-1999: 12), there was only a net increase of 6.5 points in the OFI due to the controls on capital inflows. In contrast, 34 regulations on capital outflows resulted in an increase of 20 points in the OFI in the same period. In the third sub-period (2000: 1-2013: 12), we observe similar developments owing to the use of the same CFM tools (Table 4).

Table 4: The Breakdown of the OFI of Brazil and Turkey by Inward-Outward Orientation of the Arrangements, 1980-2013

			No. of Arrangements			Index points		
			Inward	Outward	Inward and outward	Inward	Outward	Inward and outward
Turkey	1980:1	1989:12	15	10	8	13.5	8.5	6.5
	1990:1	1999:12	14	12	6	5.0	9.5	7.5
	2000:1	2013:12	12	5	4	5.5	5.0	3.0
	1980-2013		**41**	**27**	**18**	**24.0**	**23.0**	**17.0**
Brazil	1980:1	1989:12	5	27	8	5.0	-2.5	6.5
	1990:1	1999:12	74	34	7	6.5	20.0	3.0
	2000:1	2013:12	33	21	3	8.0	7.0	0.5
	1980-2013		**112**	**82**	**18**	**19.5**	**24.5**	**10.0**

Source: Own calculations.

Concluding Remarks

Turkey initiated the transformation of its financial system in the first half of the 1980s and carried out domestic and external financial liberalization simultaneously. Brazil's financial liberalization process, which began at the end of the 1980s, continued in the 1990s, albeit with interruptions in external financial liberalization.

Since the 1990s, as Brazil continued the external financial liberalization process, it used two capital flow management tools, particularly controls on capital inflows and liberalization of capital outflows. We suppose Brazil's *de jure* financial integration index helps illustrate the use of those tools. On the other hand, between 1980 and 2013, Turkey's financial integration index does not point to any intentional policy choice other than full liberalization of the capital account. Turkey did not resort to capital controls or make extra arrangements to encourage capital outflows against the developments in global economy. We presume Turkey has not pursued countercyclical policies with the aim of managing capital flows, except for macro-prudential measures that lie outside the scope of this study. We suggest that the domestic savings gap and the dependence on external financing played significant role in Turkey's policy stance.

By covering a longer period, the financial integration indices of Turkey and Brazil can be revised and expanded from time to time in the future. It can also be empirically investigated whether the instruments used to manage capital flows have been influential on certain macroeconomic variables. In addition, another comparative analysis can be conducted by preparing a *de jure* financial integration index following the same methodology for other selected developing economies.

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