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Financial Integration and Valuation Effects: Globalisation or Americanization?

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Bogdan Bogdanov, Giulia Filippeschi

Abstract

The paper studies the international financial integration of the G20 economies, including the underlying valuation effects. We find that international financial integration is a salient phenomenon across advanced economies, dominated by the US as the historical financial hegemon. Furthermore, we identify positive valuation effects across advanced economies, at times as large as 75% of their cumulative GDP. After the crisis, these effects have been mainly the result of large positive valuations on the US stock of foreign liabilities driven both by structural as well as cyclical factors of the US economy. Our analysis also suggests that the international financial integration may not be as "global" as perceived, but a limited number of advanced economies hold the greater amount of external assets and liabilities, and thus, are most exposed to the identified valuation effects in the US. In this context, a balanced policy mix in the US, aimed at lifting productivity and potential growth, could strengthen the contribution of the structural drivers to the US valuation effects, therefore minimising the likelihood and potential impact of any cyclical corrections.

JEL Classification: F02, F30, F60, G10.

Keywords: financial integration, valuation effects, international investment position, capital flows, globalisation.

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1. INTRODUCTION

In a world of a fragile economic recovery, global economic integration seems to be under siege from a broad and loud range of opponents who question how the benefits of growth and globalisation are shared out. This debate is currently mostly focused on the impact of open trade on the current account balance, employment and economic growth. But what about the financial side of globalisation? Is there a true global financial integration in which assets and liabilities are spread proportionately across countries, thus improving the risk sharing in the global economy? Or is the deepening of global cross-market integration polarised mainly among a few economies, potentially posing risks for negative externalities to their respective main financial partners?

This paper attempts to discuss the aforementioned questions by studying the international financial integration of the G20 economies. In doing so, we identify that the financial integration across advanced economies has been driven by significant valuation effects of the United States' gross international investment positions (IIP), which we measure as the change in gross foreign assets and liabilities minus the conventional financial account components. The identified US valuation effects seem to have reached record-high levels after the financial crisis thanks to a large contribution from valuations of the domestic asset market, which has been driven both by structural as well as cyclical factors of the economy. As we also find that only a limited number of advanced economies are potentially exposed to these US valuation effects, in an event of abrupt correction in US asset prices and/or the USD exchange rate, significant financial stress could be exported to the major US partners' balance sheets. We conclude that a balanced macroeconomic and structural policy mix in the US could strengthen the fundamentals of the economy and the contribution of the structural drivers to the valuation effects, thus shielding from any potential cyclical corrections. At the same time, the main financial partners of the US should diversify their portfolios and/or build large buffers in the private sector made up of high-quality capital and truly liquid assets to be able to withstand any possible financial stress.

The paper is organised as follows: section 2 defines international financial integration and the method to measure it, and looks at the recent developments across the G20 economies; section 3 explains what valuation effects are; section 4 identifies the major source countries of valuation effects, the drivers of US valuation effects, and analyses the bilateral financial stock imbalances of the G20 countries; section 5 presents our conclusions and policy implications.

2. DEVELOPMENTS IN INTERNATIONAL FINANCIAL INTEGRATION

Following the work of Lane and Milesi-Ferretti (2003), we measure international financial integration in the traditional way as the sum of external assets and liabilities¹. We look at the G20², advanced (AEs) and emerging markets (EMEs) aggregate developments as well as at the respective underlying capital flow activity. Our calculations suggest that financial integration has been a salient phenomenon of the past decades, especially across advanced economies.

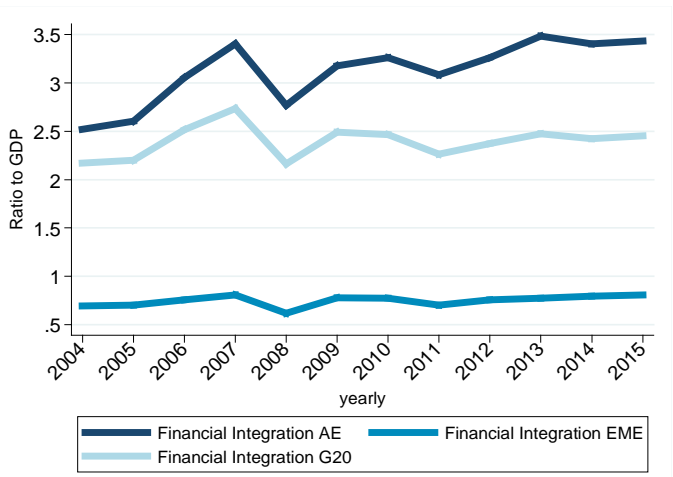
¹ See detailed method in annexes 2.1 and 2.2

² The G20 aggregate excludes the European Union aggregate and Saudi Arabia.

In the years before the global financial crisis, the G20 financial markets and banking sectors experienced rapid integration, quickly accumulating foreign assets and liabilities reaching a record-high level of 280 per cent of G20 GDP in 2007 (see Figure 1). This rapid accumulation was also reflected in the underlying gross capital flows, mainly driven by "other investment" which represents cross-border banking flows (see Figures 2 and 3). There was significant volatility of capital flows in the midst of the financial crisis, reflecting a correction in the value of external assets and liabilities as well as sizeable cross-border withdrawals of banking capital. After 2009, the cumulative stock of G20 external assets and liabilities somehow recovered but stagnated below the pre-crisis peak level to around 255 per cent of GDP in 2015. This also reflects the lower levels of gross capital flows experienced after the crisis, especially as gross portfolio investment declined in half compared to levels in 2005-07 and gross other investments experienced negative values - there was a retrenchment of earlier other investment flows.

The aggregate sum of the stock of G20 foreign assets and liabilities and the evolution of G20 gross capital flows mainly represents developments experienced mainly across the advanced economies. Looking at the G20 countries from the perspective of advanced and emerging economies, we find that EMEs have to a less extent taken part in the global financial integration (see Figure 1). In nominal terms, the EMEs stock of foreign assets and liabilities is around 6 times smaller compared to AEs at the end of 2015. Also, the two country groupings have followed diverse paths after the crisis. In contrast to the G20 aggregate observations, the sum of AEs'

Figure 1. Financial integration of G20, advanced and emerging market economies.



Source: Authors' calculations, data from International Monetary Fund

external assets and liabilities quickly recovered and surpassed its pre-crisis level, reaching 350 per cent of AEs' GDP in 2015. At the same time, gross capital flows of AEs remained subdued (see Figures 2-7 for a comparison between G20, AEs and EMEs). Thus, if the international financial integration of AEs was not driven by the activity of gross capital flows after the crisis, it is likely that valuation effects have been at play on their external assets and liabilities.

Against this background, the paper analyses the evolution of the composition of global financial integration and the role of valuation effects. This is done by scrutinising the financial accounts and the IIPs of the AEs and identifying the origins of the valuation effects, their drivers and relevance to financial stability.

Figure 2. Financial Flows Breakdown – Inflows (G20)

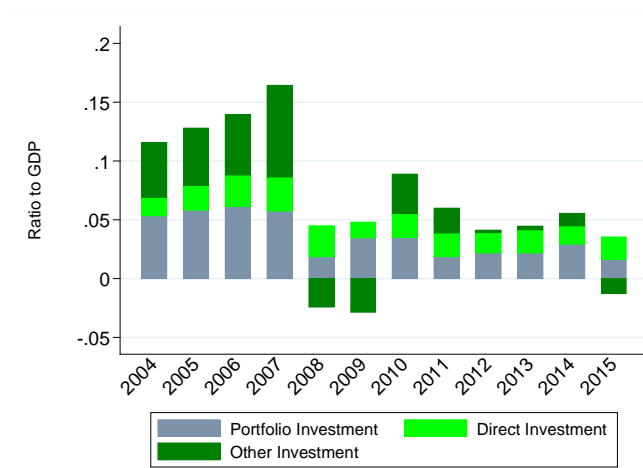


Figure 3. Financial Flows Breakdown – Outflows (G20)

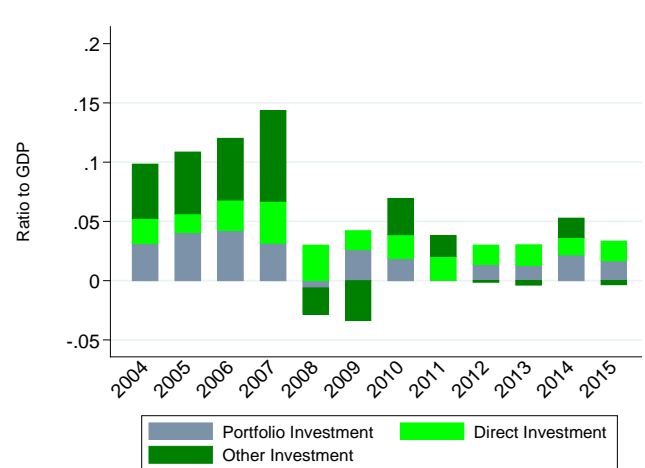


Figure 4. Financial Flows Breakdown – Inflows (AEs)

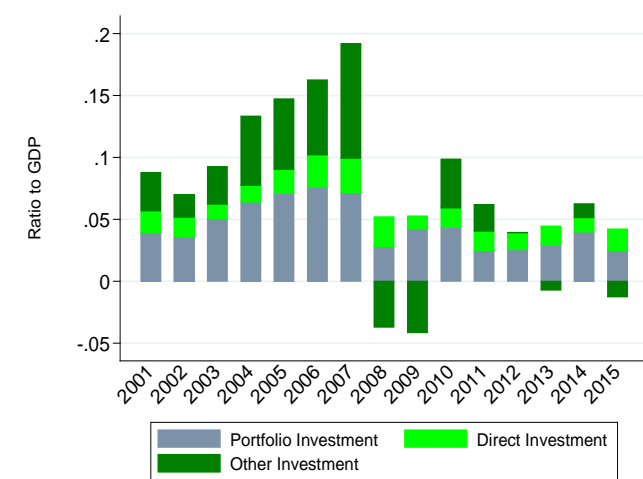


Figure 5. Financial Flows Breakdown – Outflows (AEs)

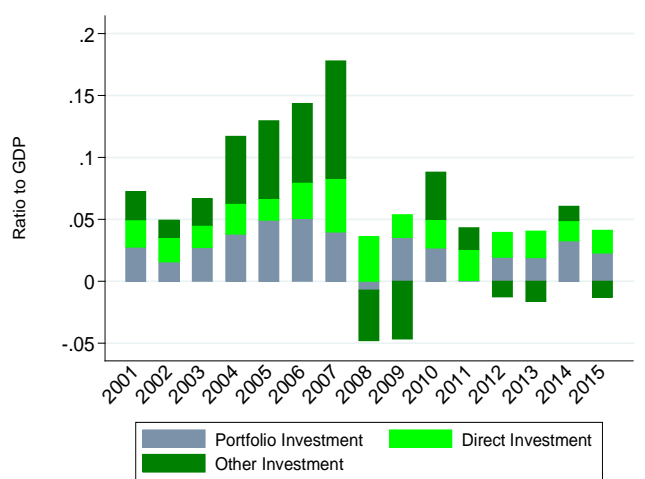


Figure 6. Financial Flows Breakdown – Inflows (EMEs)

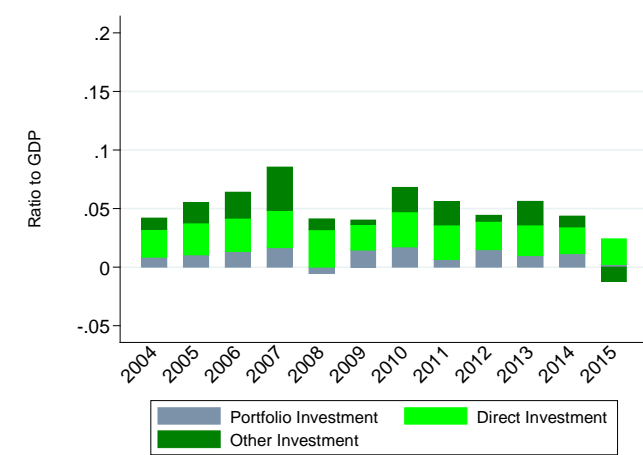
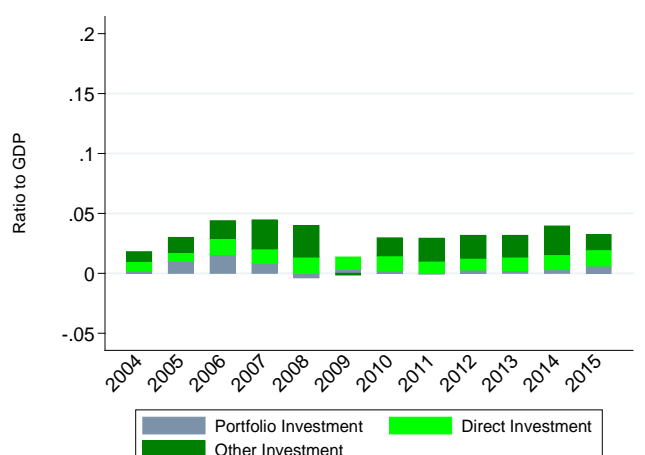


Figure 7. Financial Flows Breakdown – Outflows (EMEs)



Source: Authors' calculations, data from International Monetary Fund

3. WHAT ARE VALUATION EFFECTS?

Valuation effects can occur when prices of foreign assets and liabilities fluctuate, resulting in changes in the market value of gross asset and liability positions. Thus, in the presence of significant valuation effects, changes in the gross IIPs, or the level of international financial integration, are determined not only by the financial account components but also by domestic and foreign asset prices and exchange rates. This could distort the way we assess a country's external position and its level of international financial integration. Large valuation effects in a given country could also mean heightened probability for correction and/or disorderedly movements, thus exposing its main financial partners to the risk of negative externalities in terms of foreign asset-price and credit boom-bust cycles.

According to the literature, there are different ways to measure valuation effects³. One the one hand they can be measured as the difference between total net return and income, dividends and earnings (capital gains on net asset portfolio). Alternatively, valuation effects can be measured as the change in net foreign assets between two consecutive periods minus the conventional financial account, all expressed as percentage of GDP. In theory, both methods should provide very close approximations of valuations effects, with possible variability of the magnitude of other (unexplained) adjustments and statistical errors. By using the second method with direct, other and portfolio investment flows, and the corresponding stocks of the gross IIPs, we attempt to minimise the presence of other adjustments and statistical errors in our analysis. Therefore, we define the year-on-year change of the sum of the gross stock of foreign assets and liabilities (international financial integration, IFI) to equal the sum of all financial flows plus the valuation effect⁴. In other words, in any given period t , the measured change in the gross international investment position can be written as:

$$IFI_t - IFI_{t-1} = (FF_t + VAL_t)$$

where FF_t is the sum of all financial flows and VAL_t is the valuation effects (potential net capital gains or losses on the existing stock of foreign asset and foreign liabilities). If the VAL_t term is close to zero, it means that the gross stock of foreign assets and liabilities changed mainly due to the financial flows. On the other hand, if the VAL_t term is different from zero, the change is due to valuation effects. We therefore compute valuation effects as as the difference between the growth in gross external assets and/or liabilities and the measures of the financial account:

$$VAL_t = (IFI_t - IFI_{t-1}) - FF_t$$

We also define a variable “Computed International Financial Integration” ($CIFI$) as a counterfactual to IFI to visualise the relevance of valuation effects on the change in stocks. This series, starting from a common initial value (2001 or 2004, depending on the country and aggregate), represents the evolution of international financial integration if it only were driven by financial flows, thus excluding changes in value due to exchange rates and/or asset prices:

$$CIFI_t = CIFI_{t-1} + FF_t$$

where $CIFI_t$ is the Computed International Financial Integration, and $CIFI_1$ (the first period of calculation of the CIFI) would then be equal to the International Financial Integration (IFI).

³ See literature review in annex 1.1

⁴ See annex 2.2 for a detail description of the methodology

4. GLOBALISATION OR AMERICANIZATION?

4.1. SOURCE COUNTRIES OF VALUATION EFFECTS

Following the aforementioned methodology, we compare the observed international financial integration and the computed international financial integration of AEs and EME. On the one hand, we find that valuation effects have been sizeable across AEs, at times as large as 75% of their cumulative GDP. On the other hand, the valuation effects in EMEs are marginal in absolute values, albeit somewhat more pronounced around the run-up and after the financial crisis (see Figures 8 and 9). Thus, as a next step, we disaggregate the set of AEs to see how valuation effects have been spread across developed countries. The US appears to be the main driving force behind the expansion of the aggregate sum of the stock of foreign assets and liabilities of AEs. This is due to both the significant economic weight of the US in terms of GDP (almost 50% of AEs' GDP and 32% of G20 GDP), financial flows (1/3 of the total AEs' and 26% of G20 capital flows throughout 2001-2015) as well as the experienced large positive valuation effects, especially in the run-up and after the financial crisis (see Figure 10).

Figure 8. Financial integration and valuation effects - AEs

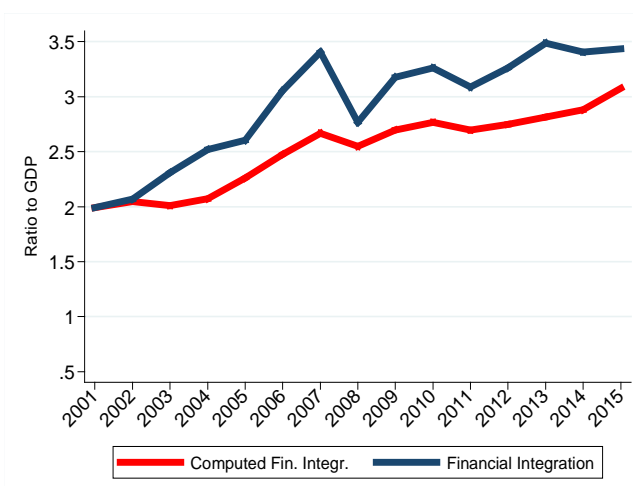


Figure 9. Financial integration and valuation effects - EMEs

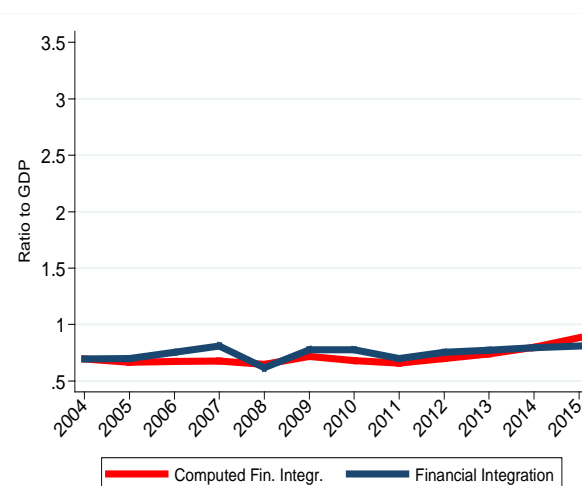
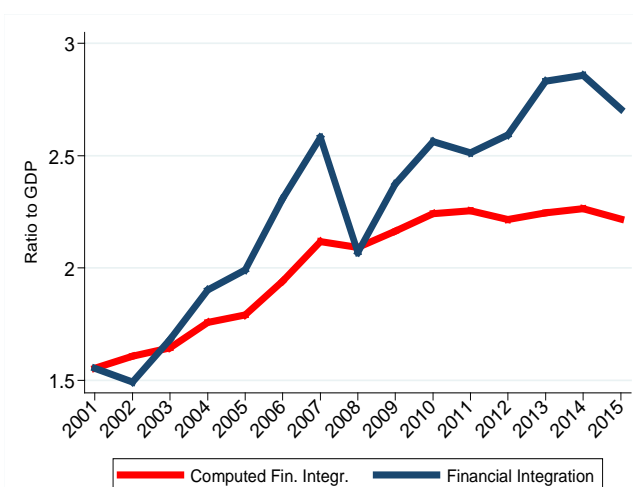


Figure 10. Financial integration and valuation effects - US



Source: Authors' calculations, data from International Monetary Fund

Furthermore, we decompose the measure of US financial integration into liabilities and assets in order to discern the domestic and foreign components of the observed valuation effects, respectively (see Figure 11). While until 2002 the US domestic and foreign valuation effects behaved in a very similar fashion, after the burst of the "dot-com bubble" we observe some interesting developments. First, in the period 2003-2015 the valuations of US assets abroad have been very volatile, reaching record high levels of 45 per cent of US GDP in 2007 and 2013, while correcting by about 30 per cent of GDP during the financial crisis. Second, the US liabilities to the rest of the world did not record significantly large positive valuations up until after the financial crisis when they reached around 30 per cent of US GDP. It therefore seems that the domestic US valuation effects have pushed the overall US financial integration to record levels after the crisis. Finally, after decomposing the US liabilities into short- and long-term financial assets, we identify short-term investments as the main driver of the recent US liabilities upward trend, and thus, contribute most significantly to the recent evolution of the US valuation effects as whole (see Figure 12).

Figure 11. US valuation effects - breakdown assets and liabilities

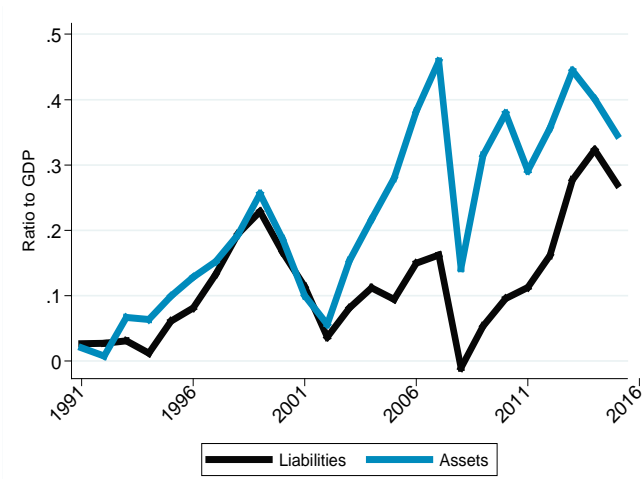
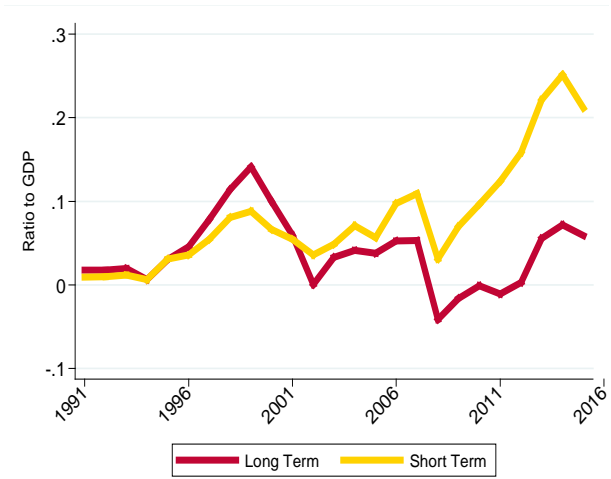


Figure 12. US valuation effects - short term and long term



Source: Authors' calculations, data from International Monetary Fund

4.2. DRIVERS OF US VALUATION EFFECTS

Extensive literature, historical experiences and international evidence show that large and persistent volatility of asset prices and exchange rates could have sizable and long-term negative effects on the real economy. And while high valuation effects do not necessarily lead directly to large falls in asset prices, rapid increase in valuations poses risks to financial stability by increasing the probability of disorderly corrections. Moreover, the recent global financial crisis has underscored the financial and economic interconnectedness among countries, with the United States playing a key role in such a framework. In this context, it is important to understand the drivers of US valuation effects and their nature – structural or cyclical.

As mentioned earlier, valuation effects are comprised of two main components: changes in exchange rates and domestic asset prices. Multiple domestic factors can have an indirect impact on valuation effects through these two channels. Both fiscal and monetary policies can directly affect interest rates and nominal exchange rates, which in turn affect asset prices. Furthermore, an increase in a nation's

marginal propensity to save could increase investment in domestic assets boosting asset prices, which contribute to valuation effects. External factors could also have effect on exchange rates and domestic asset prices, most prominently through surges of capital flows due to various push and pull factors such as differences in the economic outlook and the expected policy response.

We proxy the valuations in the US using the most obvious variables that represent the US dollar exchange rate and the US domestic asset prices and also have at least monthly frequency. Thus, we check the fit of the US dollar nominal effective exchange rate (NEER) and the performance of the Dow Jones Industrial Average (DJIA, as the most popular and widely used measure of US asset prices) to proxy the derived valuation effects in the US from the previous section. We find that the DJIA has a strong positive correlation with the actual US valuation effects (correlation coefficient of 0.85) over the period 1990-2015 (see Table 1). For the same period, the USD NEER has much weaker positive correlation - around 0.36.

Table 1. Bilateral Correlation between Proxies and actual US Valuation Effects

	DJIA	NEER	Val.Eff. (Y)
DJIA	1.0000		
NEER	0.8217	1.0000	
Val. Eff. (Y)	0.8596	0.3629	1.0000

Source: Authors' calculations, data from IMF, J.P. Morgan and IHS Economics

Furthermore, the strength of DJIA as a proxy variable for the US valuations is also visually confirmed when plotting these three variables together (see Figures 13 ad 14). Against this, in our empirical analysis we use the performance of the DJIA as a proxy for the valuation effects in the US⁵.

Figure 13. Dow Jones Industrial Average and Valuation Effects

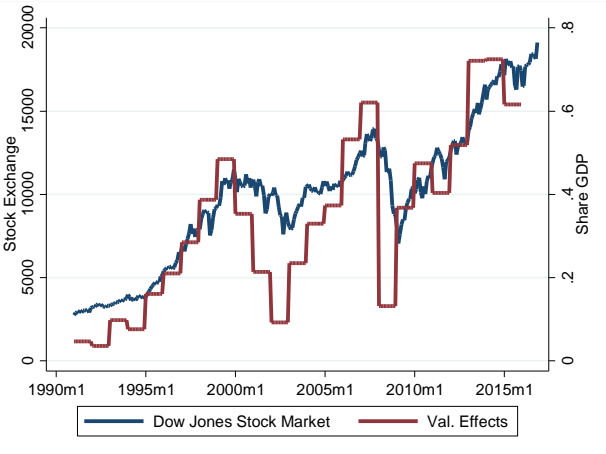
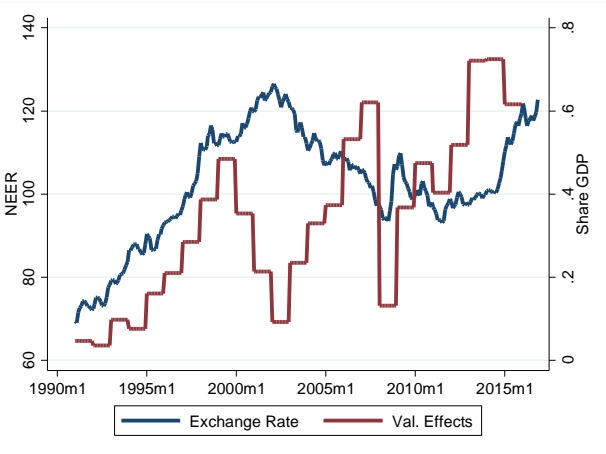


Figure 14. USD NEER and Valuation Effects



Source: Authors' calculations, data from International Monetary Fund, J.P. Morgan and IHS Economics

We perform time-series analysis of monthly data in the period 1980-2015 to analyse the variability of the US valuation effects⁶ with a selection of explanatory variables, both of cyclical and structural nature⁷. The generalised form of the model can be presented as:

⁵ Investigating in detail the role of nominal exchange rate variation on the valuation of net external liabilities is beyond the scope of the present paper.

⁶ See annex 2.4. for the complete econometric analysis

$$Val.Eff_t = \alpha + \beta Struct_t + \gamma Cycl_t + \varepsilon_t$$

where $Val.Eff_t$ is a proxy for valuation effects (Dow Jones Industrial Average), α is the constant of the regression, $Struct_t$ are the structural explanatory variables (such as total factor productivity, labour productivity), and $Cycl_t$ are the cyclical explanatory variables (such as employment, unemployment, business confidence expectations, interest rates, monetary and fiscal policy stances).

Our estimations show that both cyclical and structural factors, in particular employment and productivity, contribute to explain the movements and size of US domestic valuations effects. Moreover, monetary and fiscal policies as well as business confidence expectations also seem to impact the stock market – and thus valuation effects. Notably, the first quantitative easing operation of the US Federal Reserve did not have any significant impact on the stock market. In all estimations, the coefficient signs are in line with expectations and the existing literature. Moreover, the estimations appear broadly robust and statistically significant. Nevertheless, further in-depth analyses should be conducted to fully understand the drivers of valuation movements in the US, including a thorough analysis on the contribution from the US dollar exchange rate.

Table 1: Time-series analysis

VARIABLES	(1) OLS	(2) OLS	(3) OLS	(4) OLS
Total Factor Productivity	0.254*** (0.0478)	0.149*** (0.0503)	0.185*** (0.0538)	
Labour Productivity				0.124** (0.0498)
Employment ⁸	2.735*** (0.930)	3.922*** (0.893)	3.463*** (0.793)	4.752*** (0.780)
Bus. Conf. Expectations		0.154*** (0.0336)	0.162*** (0.0311)	0.172*** (0.0308)
QE1 (dummy)			0.00166 (0.00847)	0.00214 (0.00893)
QE2 (dummy)			0.0258*** (0.00366)	0.0258*** (0.00369)
QE3 (dummy)			0.00805*** (0.00182)	0.00819*** (0.00185)
Gov. Budget Balance			1.122*** (0.419)	0.830* (0.436)
Constant	0.00288** (0.00125)	0.00180 (0.00122)	0.00347*** (0.00134)	0.000736 (0.00177)
Observations	443	443	443	443
R-squared	0.155	0.207	0.244	0.232

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

4.3. FINANCIAL INTEGRATION: IS IT REALLY GLOBAL?

The recent European sovereign-debt crisis revealed the interrelatedness of global financial integration and government finances in some countries. Specifically, large holdings of foreign assets (private or public) by banks may have a detrimental effect on financial and macroeconomic stability by creating a

⁷ See annexes 1.2 and 1.3 for a detailed literature review

⁸ The beta coefficients for employment are larger than 1 suggesting a non-linear relationship with the DJIA index on monthly basis.

vicious loop between foreign and domestic credit risk. In turn, distressed banks may require costly bailouts, increasing sovereign credit risk and government debt. This could further weaken the financial sector to the extent that it is exposed to sovereign debt, implying a feedback loop between sovereign and bank risk.

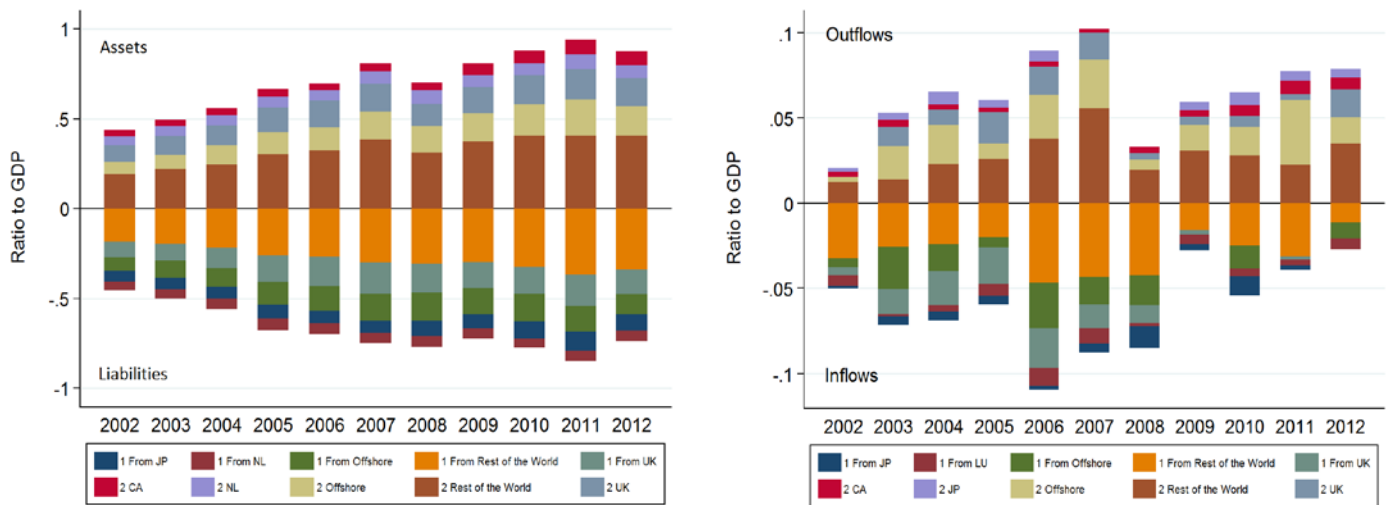
In this context, it is important to see the way the observed international financial integration and the underlying valuation effects have developed, not only in terms of nominal size, but also across countries. A truly global financial integration would mean that assets and liabilities are spread proportionately across countries, which would diversify and minimise the risks associated to the volatility of asset prices and exchange rates. In this world of perfect risk sharing, valuation effects would simply reflect the record keeping of future payments on the contingent claims held by domestic and foreign investors, payments that implement full risk sharing. On the other hand, international financial integration may not be so "global", but rather contained to a limited number of countries partnering most international assets and liabilities. In this case, cross-border integration and valuation effects are perverse for the main partner countries of the largest global financial players as financial distress could be transmitted to the former even if they were not the origin of the shock.

Looking at the bilateral financial stocks and flows within the countries of the G20 (See Annex III), we find that the bulk of G20 external assets and liabilities are held by a small number of AEs as well as offshore financial centres⁹. For instance, in the case of the US (see Figure 15), more than half of all US external assets and liabilities partner with Japan, the UK, Canada and the Netherlands. Around 60% of Canada's total bilateral financial flows (and stocks) are with the US, while for Japan and the UK, this amounts to circa 30%. For emerging markets, financial exchanges with the US have also gained importance. In 2012, countries such as Brazil and South Africa had US bilateral financial stocks accounting for circa one third of their total.

This analysis confirms that the international financial integration of the G20 economies is dominated by advanced economies. The observations also imply that only a few developed countries (the major financial counterparts of the US) are potentially exposed to the significant US valuation effects and therefore to the risks related to a correction in US asset prices and/or the USD exchange rate. In an event of an abrupt negative adjustment of valuation effects in the US, financial stress could be exported to the major US partners' balance sheets, reducing the value of their assets in the US, thus raising the risks of insolvencies.

⁹ Research shows that financial wealth reported in offshore financial centres and tax havens is predominantly held by agents in advanced economies.

Figure 15. Bilateral financial stocks and flows of the US



Source: Authors' calculations, data from Hobza and Zeugner (2014)

5. CONCLUSION

The paper takes stock of the state of international financial integration. Our observations suggest that advanced economies, and in particular the US – as the historical financial hegemon, are the main global financial actors. Valuation effects seem to play a significant role in this picture. We identify positive valuation effects across advanced economies, at times as large as 75% of their cumulative GDP. After the crisis, these valuation effects have been mainly driven by the US stocks of foreign liabilities and have been contained to a limited number of countries holding the bulk of international assets and liabilities. In such an "americanized" international financial integration these findings might be a reason for concern with regards to financial stability as an abrupt correction of US valuation effects could generate a strong negative financial shock to the main US financial partners.

We further scrutinise the US valuation effects to conclude that domestic valuations of short-term investments have played a significant role in raising the overall US financial integration to record high levels after the crisis. Taking the stock market index of Dow Jones Industrial Average as a proxy to the evolution of the domestic US valuation effects, we find that both cyclical and structural factors drive the movements of US valuations¹⁰. In the current context of low global productivity growth and high uncertainty, the policy direction of the new US administration would be one of the key factors for the performance of the US asset market and the US dollar, and thus, the future developments of the US valuation effects.

Looking ahead, a balanced macroeconomic and structural policy mix in the US should aim at enhancing the growth fundamentals in the medium- to long-term. Today, financial markets are driven by an overly positive sentiment, upbeat on stimulus expectations in the US. And while a possible fiscal boost could in the short-run lead to higher growth, the US economic cycle is already maturing and risks to the medium-term outlook have increased, particularly given the uncertain future policy

¹⁰ An important caveat about our findings is that we did not factor-in the contribution of the US dollar exchange rate, but only focused on the US asset prices. A thorough analysis on the contribution from the US dollar exchange rate to the US valuation effects remains an open area for future research.

directions of the new administration in key areas. In this regard, a balanced policy mix, including structural reforms to boost productivity and lift potential growth, could further strengthen the structural drivers of the valuation effects in the US and minimise the likelihood and impact of any potential cyclical corrections. In any case, all major US financial partners should diversify their portfolios and/or build large financial buffers in the private sector made up of high-quality capital and truly liquid assets to be able to withstand any possible financial stress.

ANNEX I – Literature Review

1.1 Valuation Effects

Valuation effects can be defined as the gap between the movements in net external assets and the measures of financial account (Devereux and Sutherland, 2009). They can also be described as the part of stock-flow adjustment due to the general non-flow changes of the net international investment position (Benetrix, Lane and Shambaugh, 2014). More specifically, it is possible to measure valuation effects as the difference between the market value of foreign asset positions and the sum of financial account movements, the error term and the statistical discrepancy of the balance of payments (Gourinchas and Rey, 2014). This last term, the discrepancy of the balance of payments, is not linked to flows or valuation gains (Tille, 2003), but is mainly due to inconsistencies in the way countries fill in their data, errors and data omission (Motala, 1997). Valuation effects can also be associated to the financial adjustment channel of countries' net positions, complementing the trade adjustment channel. According to Benetrix, Lane and Shambaugh, the financial adjustment channel historically contributed to 31% of US international adjustment, roughly one third of a country's net external position. At the end of 2009, the US was a net debtor for 22% of its GDP, which would have been 48% of GDP if looking at financial flows only. The difference among the figures can be explained by a high level of cumulated valuation gains that are more volatile than financial flows (Tille, 2003).

Two main channels can affect valuation effects: (i) changes in currency values, as a price mechanism to foreign investors which directly affects the value of financial assets and liabilities, and (ii) changes in asset prices (Benetrix, Lane and Shambaugh, 2014). In turn, multiple factors can have an impact through these two channels: fiscal and monetary policies, saving propensity, demand and supply shocks. Fiscal and monetary policies can cause a variation of interest rates, which can affect asset prices. Such policies can also affect nominal exchange rates, de facto influencing the valuation of assets and liabilities (Gourinchas and Rey, 2005). Furthermore, an increase in saving propensity can imply an increase of asset prices (Caballero, Farhi and Gourinchas, 2006). On the other hand, a negative demand shock could reduce the attractiveness of domestic assets, and thus, their price.

1.2 Cyclical and Structural Drivers of Valuation Effects and the US stock market

When analysing the drivers of valuation effects, it is important to distinguish between structural and cyclical factors. In this respect, literature has discussed widely economic variables providing close approximation to cyclical fluctuations as well as structural factors driving economic and financial movements.

As for the cyclical drivers of valuation effects, different studies have recognized real GDP as a credible measure of the business cycle (Wong, Pua, Abu Mansor and Liew, 2012). On the other hand, labour market variables, such as wages and unemployment rate (Fleischman and Roberts, 2011) have been accounted as major underlying forces driving the state of the business cycle. Moreover, as early as in 1946, Burns and Mitchell recognised the explanatory importance of inflation; this was noted to be closely linked to cyclical fluctuations in the economy. Furthermore, as noted by Kose, Prasad and Terrones, (2003) and Otrok and Terrones (2005), the degree of synchronization between house prices in real and financial cycles has notably increased in the last two decades, motivating the possible use of house price index as a proxy for cyclical fluctuations. Additional indicators such as investment profits, corporate profits, and capacity utilization have been recognized to be, to various degrees, pro-cyclical economic indicators, thus apt at describing the state of the economic cycle.

Cashin, Mohaddes and Raissi (2016) also argue for a strong sensitivity of advanced economies' stock and currency markets to changes in economic and financial policies from emerging markets, such as China. Additionally, recent studies point to the link between the global oil market and the US stock market returns, showing a correlation between demand driven shocks, specifically consumption demand shocks, and stock market returns (Ahmad, Manera and Sadeghzadeh, 2015). Extensive literature (see, for example, Santa-Clara and Valkanov, 2003, Mei and Guo, 2002, and Baker, Bloom and Davis, 2013) examines the robustness of the relationship between political election cycles and financial markets. Furthermore, a vast amount of literature has observed how industrial production is an important factor behind US stock markets. Chen, Roll and Ross (1986), Maysami and Koh (1998) and Humpe and Macmillan (2007) find a strong positive relation between movements in industrial production and in the stock prices. In Fama (1990) it is shown that the stock market returns are strongly correlated to future production. Finally, monetary policy – and more specifically the “quantitative easing”- is being recognised as influencing stocks market returns. As stated by Feldstein (2011), the sharp increase in US stock market in the fourth quarter of 2009, was very plausibly consequence of the second round of quantitative easing, QE2, which very likely induced bondholders to shift their wealth into equities, thus providing a boost to consumer spending.

For what concerns the structural indicators of economic activity, literature has mainly focused on the role of productivity, in terms of total factor productivity (TFP) and labour productivity. Fleischman and Roberts (2011) and Molnar and Chalaux (2015) have noted the strong positive correlation between changes in structural policies and fluctuations in productivity growth. With regard to the structural drivers of stock market movements, the literature has studied and also confirmed a relationship between productivity growth and stock market indexes (see, for example, Beaudry and Portier, 2005). However, as discussed in Avouyi-Dovi and Matheron (2006), movements in both stock prices and productivity can be influenced by other external factors, such as expectations or short term factors. They show, however, that especially the US stock returns are correlated with productivity. Comin, Gertler, Ngo and Santacreu (2016) also documented a causal relationship between these two factors, showing the predictability of lagged stock prices on TFP. Brown and Cliff (2005), who conducted an analysis on the long-run effects of investor sentiment on stock returns, argue that empirical evidence exist on a robust correlation between investors' expectation and asset valuation.

ANNEX II – Data and Methodology

2.1 Data, sources and coverage

The international financial integration dataset comprises yearly data from 2001 to 2015 which covers 18 of the G20 members, with the exception of the EU and Saudi Arabia. Data for many emerging markets only covers the period 2004-2015, and thus, the aggregates for G20 and emerging market economies have been computed and analysed for that period. Advanced economies are defined as Canada, France, Germany, Italy, Japan, UK, USA and Australia. Emerging market economies are considered to be Argentina, Brazil, China, India, Indonesia, Korea, Mexico, Russia, South Africa and Turkey. Data source is the International Monetary Fund, with BPM6 accounting standards.

Table 1. Data sources – international financial integration

VARIABLE	SOURCE
Direct investment - Assets (stock)	International Monetary Fund - IFS, IIP, BPM6
Portfolio investment - Assets (stock)	International Monetary Fund - IFS, IIP, BPM6
Other Investments - Assets (stock)	International Monetary Fund - IFS, IIP, BPM6
Direct investment - Liabilities (stock)	International Monetary Fund - IFS, IIP, BPM6
Portfolio investment - Liabilities (stock)	International Monetary Fund - IFS, IIP, BPM6
Other Investments - Liabilities (stock)	International Monetary Fund - IFS, IIP, BPM6
Direct investment - Assets (flow)	International Monetary Fund - IMF, BOP, BPM6
Portfolio investment - Assets (flow)	International Monetary Fund - IMF, BOP, BPM6
Other Investment - Assets (flow)	International Monetary Fund - IMF, BOP, BPM6
Direct investment - Liabilities (flow)	International Monetary Fund - IMF, BOP, BPM6
Portfolio investment - Liabilities (flow)	International Monetary Fund - IMF, BOP, BPM6
Other Investment - Liabilities (flow)	International Monetary Fund - IMF, BOP, BPM6

The bilateral capital flows and stocks database has been developed by Hobza and Zeugner (2014). The dataset covers the period from 2002 to 2012. All the foreign exchange reserves and the portfolio debt owned by central banks have been excluded from the dataset. The dataset is constructed by including and putting together different data sources (international and national) on financial assets. In order to build the database, the categories set in the Balance of Payment classification are followed, that is including portfolio and other investments. Holdings of financial derivatives are excluded from the sample due to lack of reliable bilateral data. Offshore countries are defined as the sum of capital stock or flows of the Bahamas, Bahrain, Barbados, Bermuda, Cayman Islands, Gibraltar, Guernsey, Isle of Man, Jersey, Lebanon, Liechtenstein, Macao, Mauritius, Former Dutch Antilles (Aruba, Bonaire, Curacao, Sint. Maarten), Panama, and 'British West Indies' (Anguilla, Antigua & Barbuda, British

Virgin islands, Montserrat, Saint Kitts & Nevis). The final product, a full bilateral matrix (62 countries/territories in the sample) is highly correlated with the official BOP gross flows.

Data for the analysis of the drivers of US valuation effects is derived from US national statistical sources, including the Bureau of Economic Analysis, the Federal Reserve and national statistical agencies. All variables used for the time-series analysis start from 1980 until 2016, in monthly frequency. The US Federal Reserve quantitative easing (QE) programmes are defined as dummy variables, where value 1 represents a period of active programme. QE1 is set from November 2008 to March 2010, QE2 from November 2010 to June 2011, QE3 from September 2012 to December 2013. In all estimations, we use the growth rate of the variables. To reduce data noise and short term fluctuations of the monthly data, we have transformed the explanatory variables using an eight-period forward and backward looking moving average function. The dependent variable on the other hand is smoothed through a 6 period backward moving average function. This smoothing process allows to take in account as well that the output does not depend solely on the current value, but rather on a linear combination of present and past (or future) values.

Table 2. Data sources – US valuation effects

VARIABLE	SOURCE AND METHODOLOGY
Dependent Variable	
Stock Market	Dow Jones Industrial Average
Cyclical Variables	
Employment	Employed - civilian total (esit) units: millions of persons, sa
Unemployment rate	United States Labor Market, Unemployment Rate: Percentage.
Budget balance	United States Government Finance Federal Government. Units: Millions of U.S. Dollars.
10y US Treasury Note	United States Interest Rates and Bond Yields Average, 10 Years Units: Percentage.
3m US Treasury Bill	United States Interest Rates and Bond Yields Treasury Bills Rate, 3 Month Units: Percentage.
Consumer Confidence Expectations	United States Survey and Diffusion Indexes Consumer Confidence Index, Expectations (1985) Units: 1985=100, SA.
Structural Variables	
Total Factor Productivity Business Output, Expenditure Product Side	Labor Market, Total Factor Productivity and Underlying Variables, Business Output, Expenditure Product Side. Units: Percentage, SA.

Total Factor Productivity Business Output, Measured Labor Market, Total Factor Productivity and
Income Side Underlying Variables, Business Output, Measured
from Income Side Units: Percentage, SA.

Labor Productivity Labor Market, Productivity Total Factor Productivity
and Underlying Variables, Business Sector, Labor
Productivity. Units: Percentage, SA.

2.2 Measuring international financial integration and valuation effects

Following Lane and Milesi-Ferretti (2003), international financial integration is measured as the sum of external assets and liabilities. Data used to measure these variables is the IMF International Investment Position dataset. This dataset provides the holdings (stocks) by domestic residents of financial claims on the rest of the world and non-residents' claims on the domestic economy. Differently from Lane and Milesi-Ferretti, the accountability standards to which we refer to is BPM6. International Investment Position data are either provided as an aggregate, of assets and liabilities, or decomposed in their sub-components. Both gross external assets and liabilities in our analysis are composed of foreign direct investment, other investment and portfolio investments. The choice to sum up the sub components allows us to have an almost direct correspondence between flows and stocks throughout our analysis. Therefore, in the note a summary measure of international financial integration (*IFI*) is given by:

$$IFI = \frac{FA + FL}{GDP}$$

where *FL* is the sum of the stock of direct investment, portfolio investment and other investment liabilities, *FA* is the sum of the stock of direct investment, portfolio investment and other investment assets, and *GDP* is the gross domestic product.

As discussed in Lane and Shambaugh (2010) and Devereux and Sutherland (2009), the relation of the valuation effects and (net) external position can be expressed using the accounting framework on net foreign asset position. The change in the net foreign asset (*NFA*) between two consequent periods can traditionally be written as:

$$NFA_t - NFA_{t-1} = CA_t + VAL_t$$

where CA_t is the current account surplus and VAL_t is net capital gain on the existing holdings of foreign assets and liabilities. However, as our analysis focuses on financial imbalances and valuation effects, we associated to the financial adjustment channel. Therefore, we use the mirror image of current account, that is the financial account components, for a reliable measure of valuation effects in the context of international financial integration. Valuation effect could thus be defined, following the literature, as the part of stock-flow adjustment due to the general non-flow changes of the net international investment position.

Starting from the work of Lane and Shambaugh (2010) and Devereux and Sutherland (2009), the change in the International Financial Integration then equals the amount contributed from the sum of financial account flows, plus the change in the valuation of asset and liability stocks. In a given period t , the measured change in the international financial integration (*IFI*) can be written as:

$$IFI_t - IFI_{t-1} = FF_t + SFA_t$$

where FF_t are the total financial flows (assets plus liabilities) and SFA_t is the stock-flow adjustment term that reconciles the change in the stock to the flows. In principle, the SFA_t term can be decomposed as the sum of valuation effects (net capital gains or losses on the existing stock of foreign asset and foreign liabilities) and other adjustments. By using only the direct, other and portfolio investment flows, and the corresponding stocks of the gross IIPs, we minimise the presence of other adjustments. We therefore can compute valuation effects as:

$$VAL_t = (IFI_t - IFI_{t-1}) - FF_t$$

In addition, we define a variable “Computed International Financial Integration” ($CIFI$). This new variable is used mainly to better visualise the relevance of valuation effects for the change in stocks, in a given span of time. $CIFI$ represents the evolution of international financial integration if it only were driven by financial flows, starting from a static initial value (2001 or 2004, depending on the country and aggregate). Both $CIFI$ and IFI are standardised by GDP. $CIFI$ can thus be written as:

$$CIFI_t = CIFI_{t-1} + FF_t$$

and

$$CIFI_1 = IFI_1$$

at the initial period.

ANNEX III – Drivers of US Valuation Effects – Further Details

In addition to the econometric analysis presented in the main text of the paper, here we provide some further details.

To identify the drivers of the valuation effects in the US, we estimate eight regression models, with the main difference among them being the differentiated use of unemployment rate or employment, as well as for the measure for productivity, being either total factor productivity (TFP) or labour productivity. Interestingly, almost all the variables chosen in both the extended and restricted set are statistically significant with the expected coefficient signs as suggested by the existing literature. All in all, our estimations suggest that the US asset market, proxied by the DJIA index, is driven both by cyclical and structural factors of the US economy, in particular employment and productivity¹¹.

Table 3 below presents four models, each with increasing number of variables and different specification. In the first model (Model 1), a basic regression is estimated with total factor productivity and number of employed persons, respectively, as structural and cyclical explanatory variables. By including confidence index expectations to account for forward looking market sentiment, model 2 increases the explanatory power of the regression. In Model 3, the temporary effect of unconventional monetary policy is accounted for, along with budget balance, as a second cyclical variable. Interestingly, and contrary to expectations, the first quantitative easing operation (QE) of the US Federal Reserve did not have any significant impact on the stock market movements in the US. On the other hand, the second QE influenced to a high degree the stocks movements, and thus valuations. Finally, in Model 4 we replace total factor productivity (TFP) with labour productivity, keeping the specificities of Model 3. By using labour productivity, there are only minor changes on the coefficients of the explanatory variables - the estimated impact of employment increases while the equation loses part of its explanatory power. All other things being equal, our analysis suggests that TFP might be a better equipped variable to use to look at productivity, as also confirmed by the literature.

Table 4 below presents four additional models, with the differences being the use of unemployment rate or number of employed persons, as well as for productivity, being either TFP or labour productivity. This allows us to take a deeper look at augmented equations utilising all the variables prescribed in the literature. In Model 5, a regression is estimated with TFP, the unemployment rate, business confidence expectations, QE dummies, budget balance as well as short- and long-term interest rates. The estimations confirm the findings of the previous models – the unemployment rate is also statistically significant with a negative sign as expected. Models 6-8 serve as robustness checks, interplaying with the specification of the base model. The explanatory power of the models together with the great number of significant coefficients and the confirmation of the expected signs assures us of the robustness of the analysis. Nevertheless, further in-depth analyses should be conducted to fully understand the drivers of valuation movements in the US, including a thorough analysis on the contribution from the US dollar exchange rate.

¹¹ The beta coefficients for employment are larger than 1 suggesting a non-linear relationship with the DJIA index on monthly basis.

Table 3: Time-series analysis (1)

VARIABLES	(1) OLS	(2) OLS	(3) OLS	(4) OLS
Total Factor Productivity	0.254*** (0.0478)	0.149*** (0.0503)	0.185*** (0.0538)	
Labour Productivity				0.124** (0.0498)
Employment	2.735*** (0.930)	3.922*** (0.893)	3.463*** (0.793)	4.752*** (0.780)
Bus. Conf. Expectations		0.154*** (0.0336)	0.162*** (0.0311)	0.172*** (0.0308)
QE1 (dummy)			0.00166 (0.00847)	0.00214 (0.00893)
QE2 (dummy)			0.0258*** (0.00366)	0.0258*** (0.00369)
QE3 (dummy)			0.00805*** (0.00182)	0.00819*** (0.00185)
Gov. Budget Balance			1.122*** (0.419)	0.830* (0.436)
Constant	0.00288** (0.00125)	0.00180 (0.00122)	0.00347*** (0.00134)	0.000736 (0.00177)
Observations	443	443	443	443
R-squared	0.155	0.207	0.244	0.232

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table 4: Time-series analysis (2)

VARIABLES	(5) OLS	(6) OLS	(7) OLS	(8) OLS
Total Factor Productivity	0.272*** (0.0522)			0.221*** (0.0554)
Unemployment Rate	-0.198*** (0.0467)	-0.298*** (0.0520)		
Confidence Expectations	0.151*** (0.0297)	0.162*** (0.0305)	0.175*** (0.0309)	0.163*** (0.0309)
QE - First	-0.00465 (0.00800)	-0.00686 (0.00903)	0.000939 (0.00902)	0.000144 (0.00848)
QE - Second	0.0242*** (0.00379)	0.0231*** (0.00383)	0.0254*** (0.00378)	0.0254*** (0.00376)
QE - Third	0.00806*** (0.00196)	0.00712*** (0.00194)	0.00845*** (0.00200)	0.00876*** (0.00199)
Budget Balance	0.462 (0.499)	0.345 (0.520)	0.147 (0.517)	0.325 (0.499)
3m US Treasury Bill	0.00232*** (0.000774)	0.00183** (0.000761)	0.00191** (0.000743)	0.00224*** (0.000761)
10y US Treasury Note	-0.00186** (0.000804)	-0.00147* (0.000794)	-0.00173** (0.000795)	-0.00193** (0.000801)
Labour Productivity		0.179*** (0.0530)	0.142*** (0.0499)	
Employment			4.892*** (0.782)	3.366*** (0.785)
Constant	0.00652*** (0.00229)	0.00506** (0.00251)	0.00129 (0.00270)	0.00382 (0.00240)
Observations	443	443	443	443
R-squared	0.255	0.222	0.242	0.259

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

ANNEX IV – Figures on International Financial Integration and Valuation Effects

Figure 1. Financial Integration G20, AE, EME

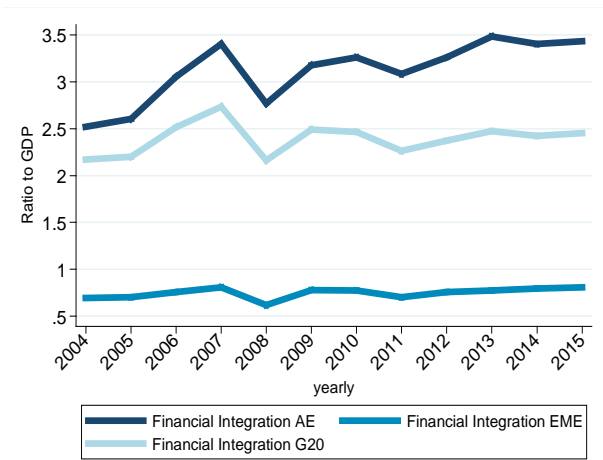


Figure 2. G20 Valuation effects

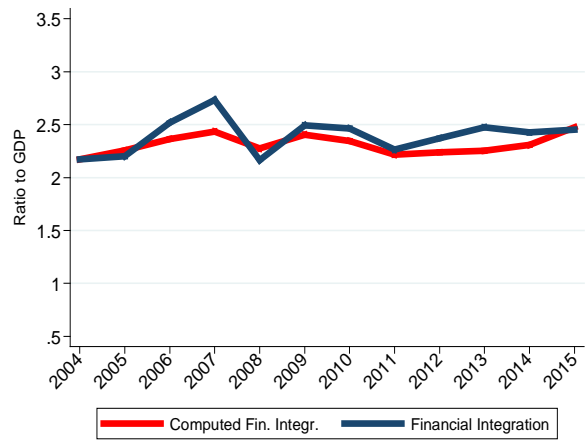


Figure 3. G20 Financial Flows Breakdown – Inflows

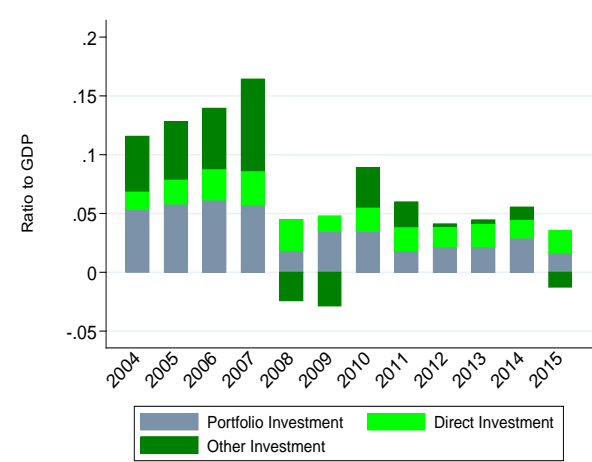


Figure 4. G20 Financial Flows Breakdown – Outflows

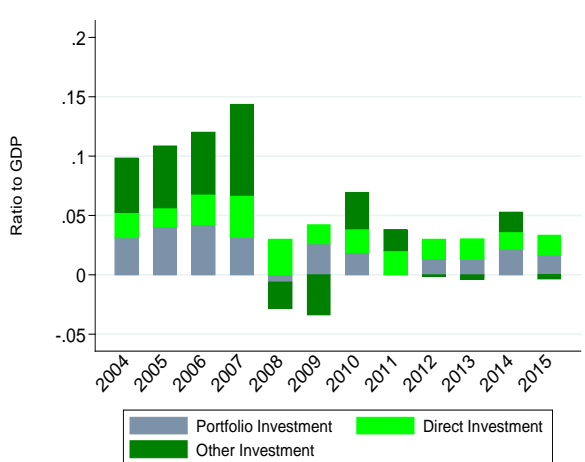


Figure 5. Advanced Economies Valuation effects

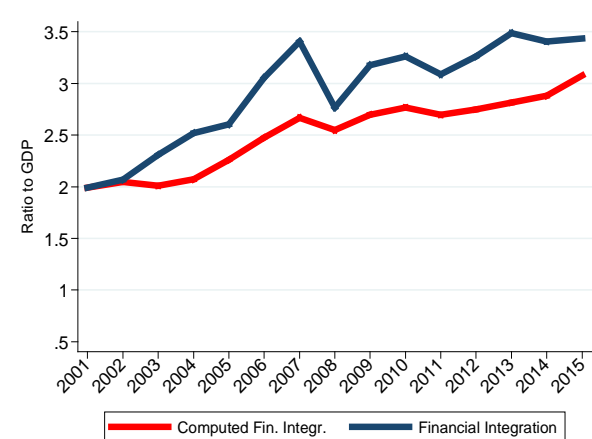
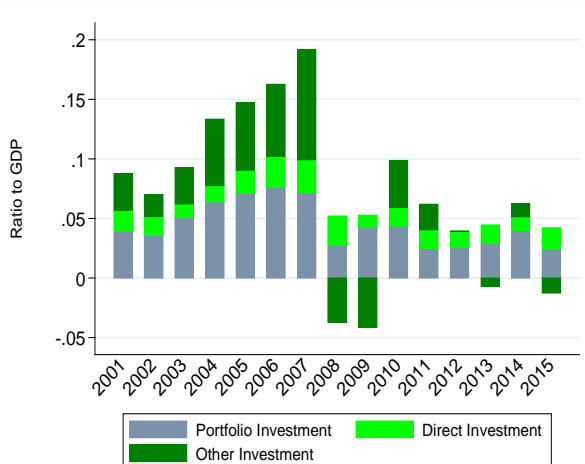


Figure 6. Advanced Economies Financial Flows Breakdown – Inflows



Source: Authors' calculations, data from International Monetary Fund

Figure 7. Advanced Economies Financial Flows Breakdown – Outflows

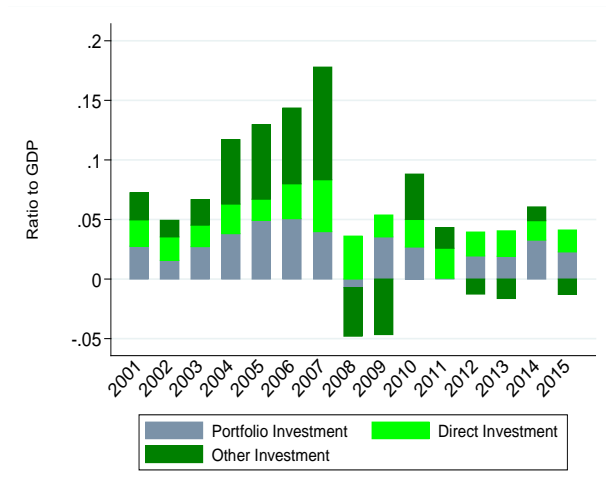


Figure 8. Emerging Markets Economies - Valuation effects

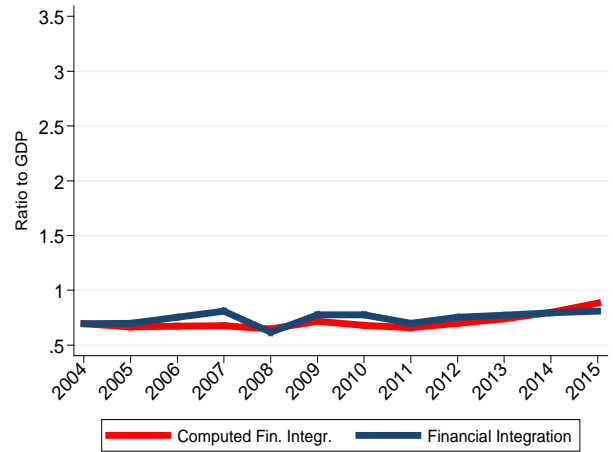


Figure 9. Emerging Markets Economies Financial Flows Breakdown – Inflows

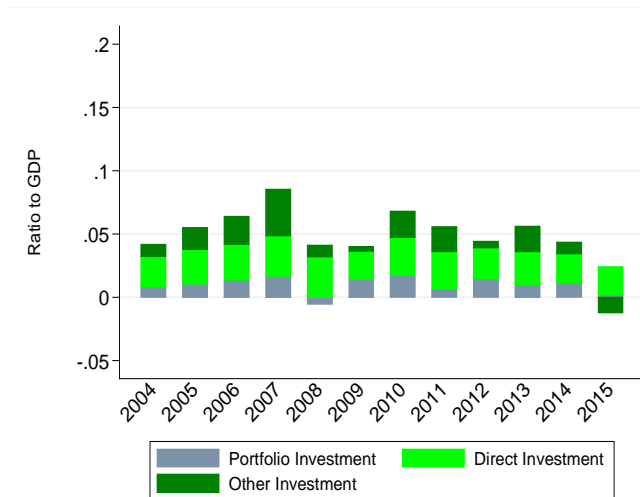


Figure 10. Emerging Markets Economies Financial Flows Breakdown – Outflows

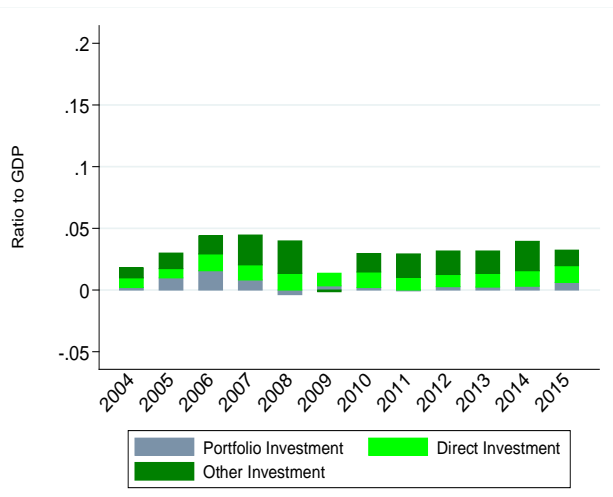


Figure 11. Australia - Valuation effects

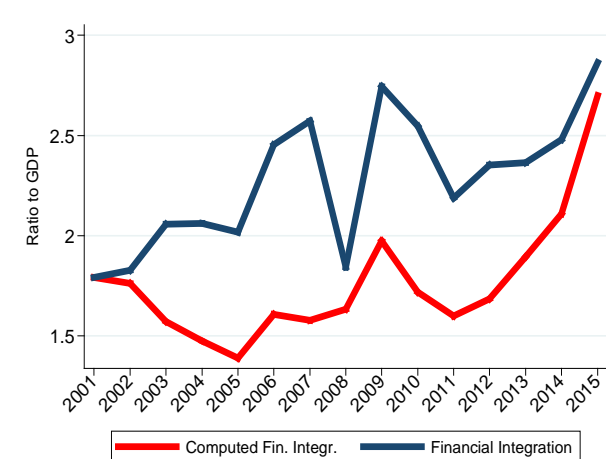
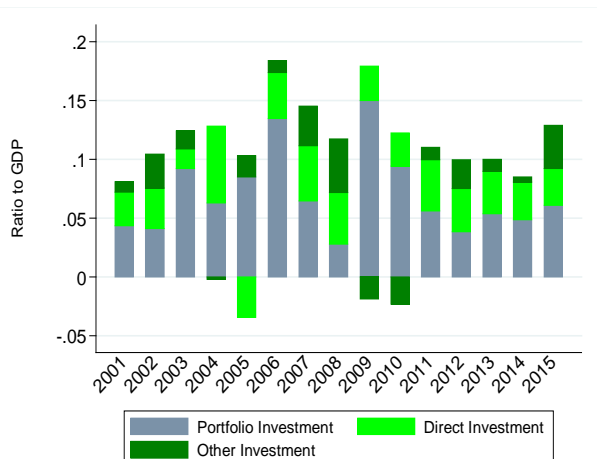


Figure 12. Australia Financial Flows Breakdown – Inflows



Source: Authors' calculations, data from International Monetary Fund

Figure 13. Australia Financial Flows Breakdown – Outflows

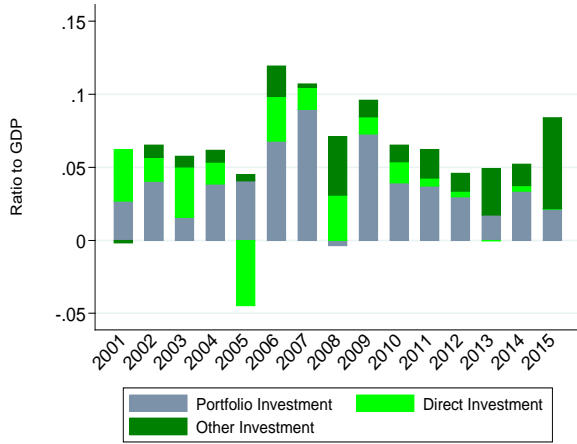


Figure 14. Canada - Valuation effects

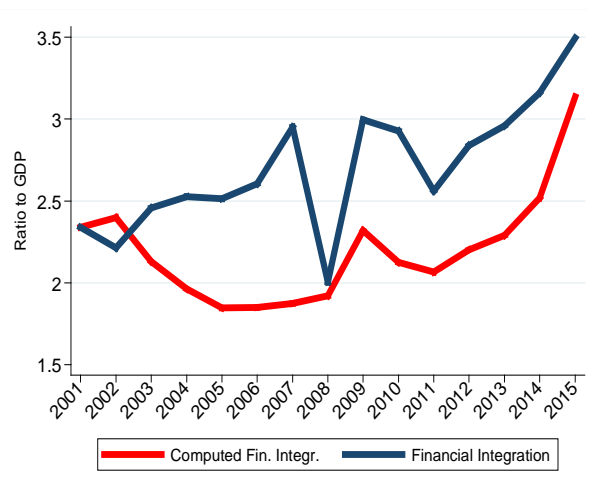


Figure 15. Canada Financial Flows Breakdown – Inflows

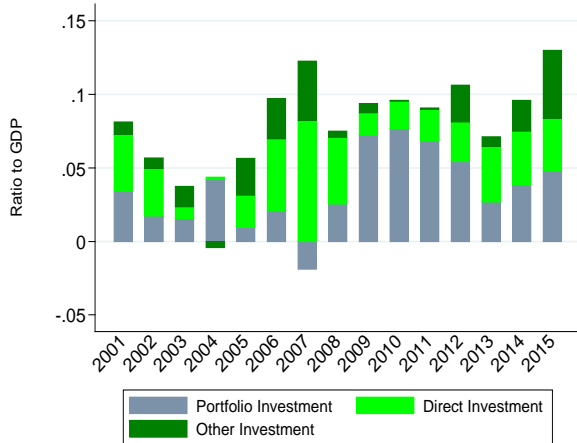


Figure 16. Canada Financial Flows Breakdown – Outflows

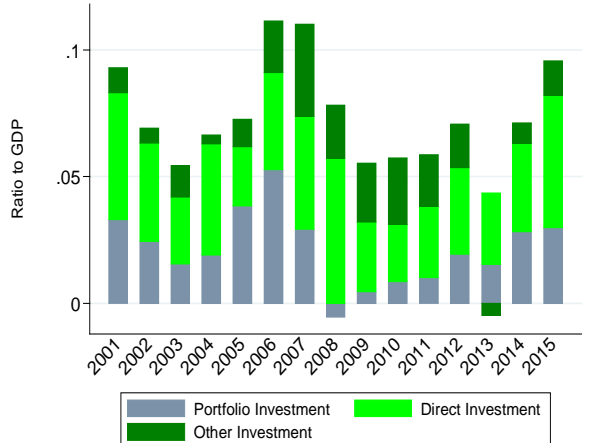


Figure 17. France - Valuation effects

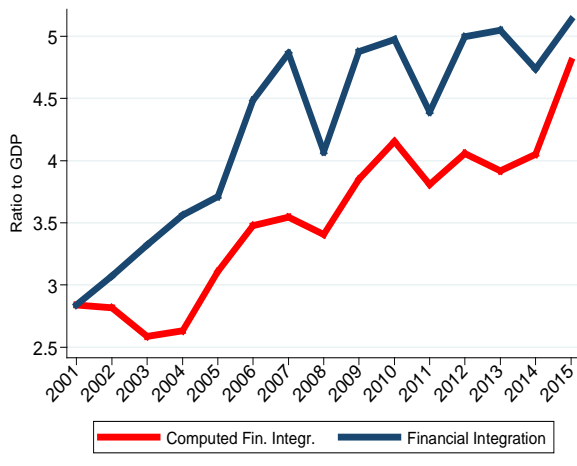
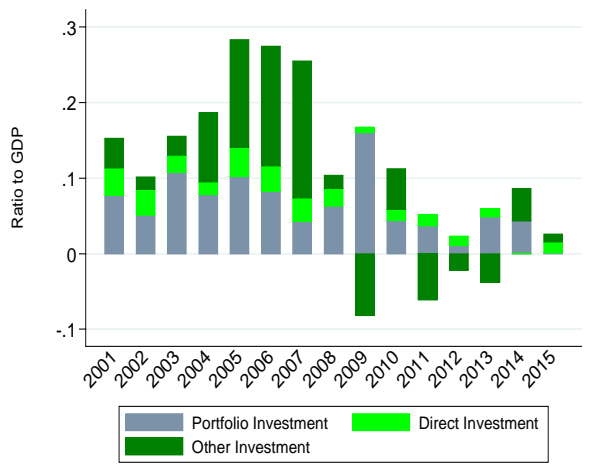


Figure 18. France Financial Flows Breakdown – Inflows



Source: Authors' calculations, data from International Monetary Fund

Figure 19. France Financial Flows Breakdown – Outflows

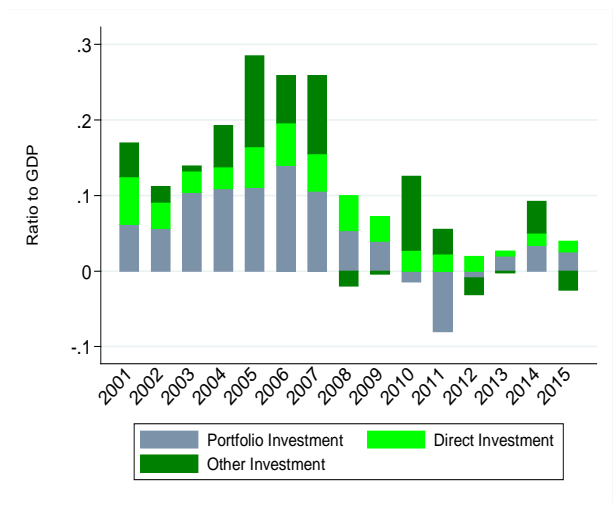


Figure 20. Germany - Valuation effects

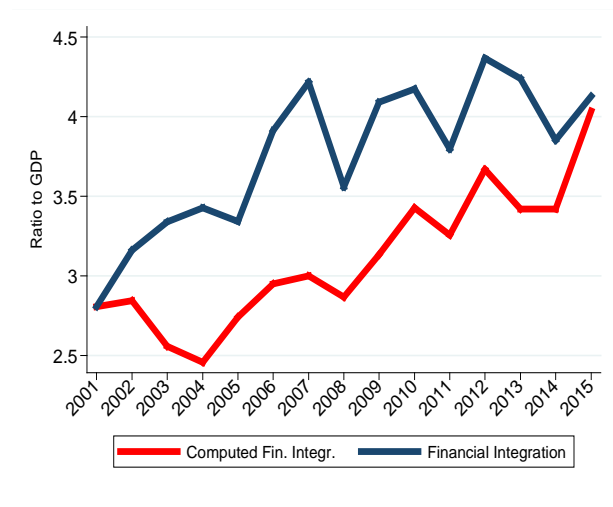


Figure 21. Germany Financial Flows Breakdown – Inflows

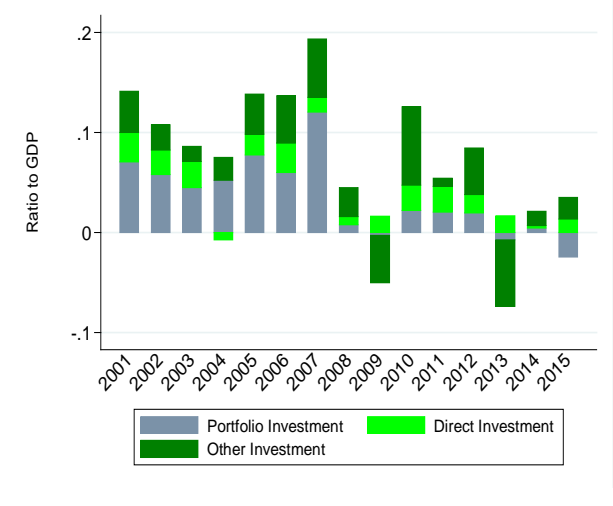


Figure 22. Germany Financial Flows Breakdown – Outflows

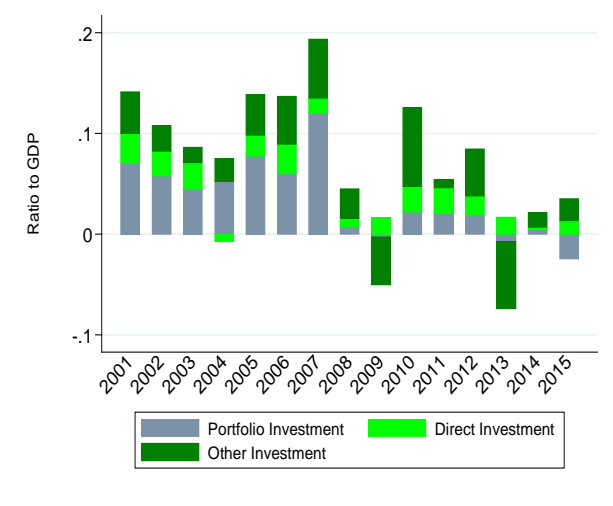


Figure 23. Italy - Valuation effects

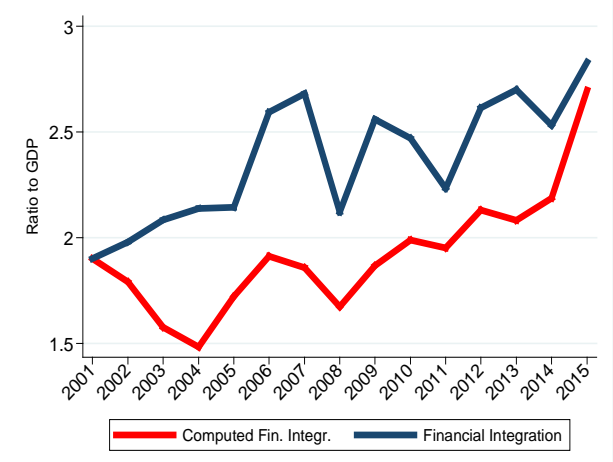
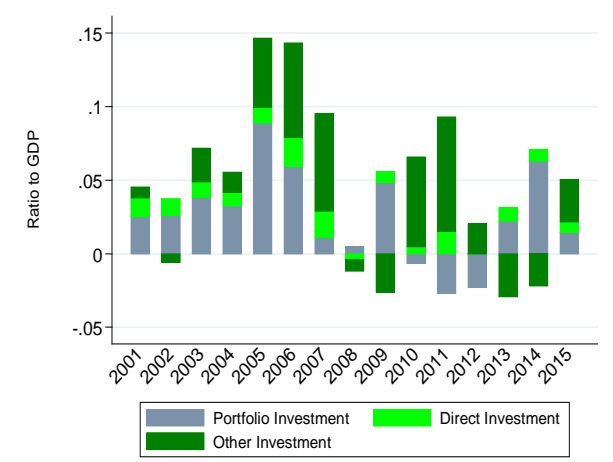


Figure 24. Italy Financial Flows Breakdown – Inflows



Source: Authors' calculations, data from International Monetary Fund

Figure 25. Italy Financial Flows Breakdown – Outflows

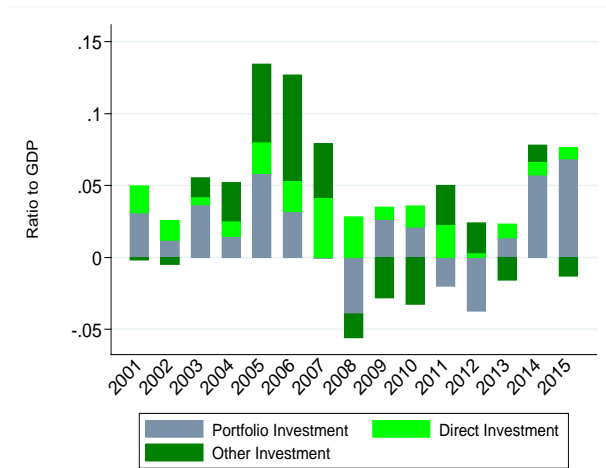


Figure 26. Japan - Valuation effects

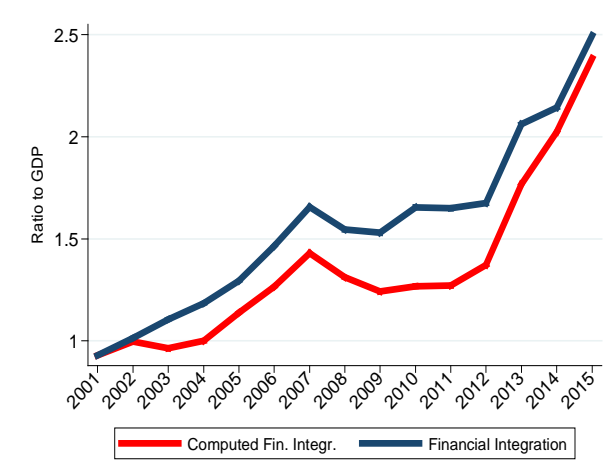


Figure 27. Japan Financial Flows Breakdown – Inflows

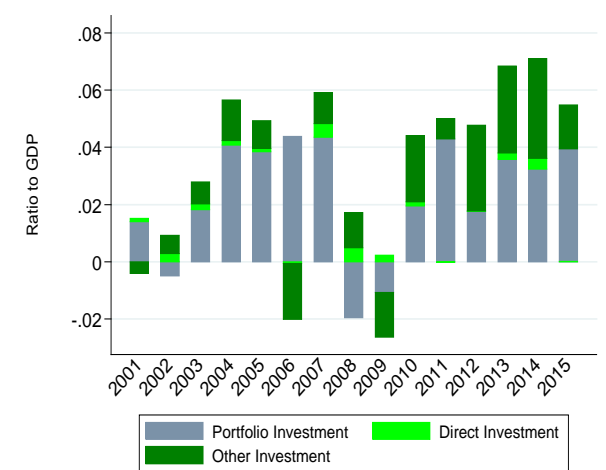


Figure 28. Japan Financial Flows Breakdown – Outflows

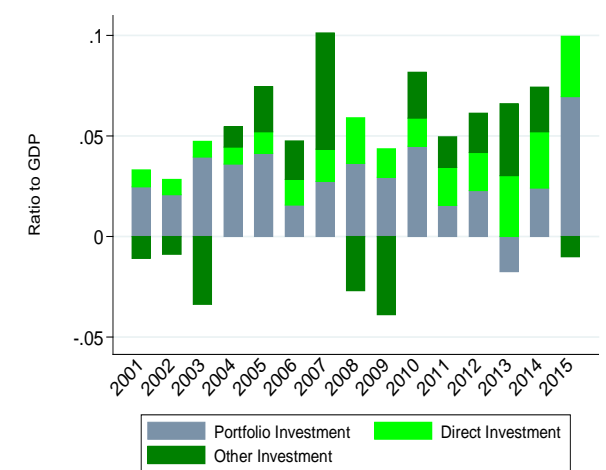


Figure 29. UK - Valuation effects

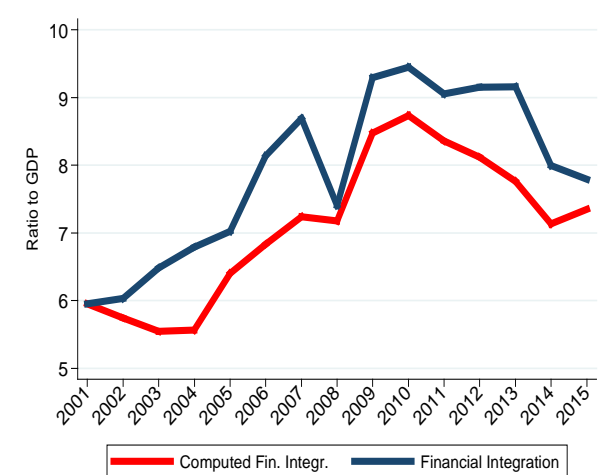
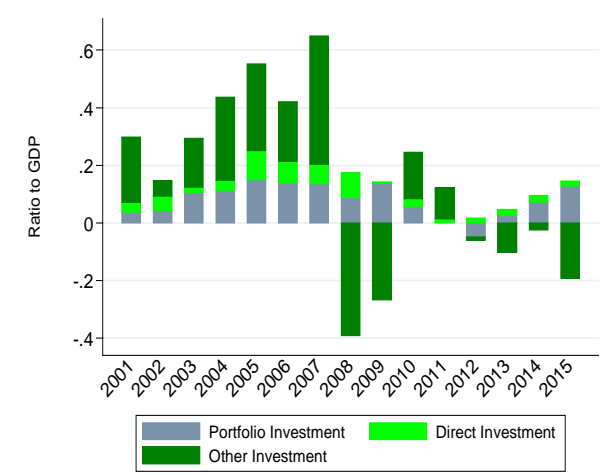


Figure 30. UK Financial Flows Breakdown – Inflows



Source: Authors' calculations, data from International Monetary Fund

Figure 31. UK Financial Flows Breakdown – Outflows

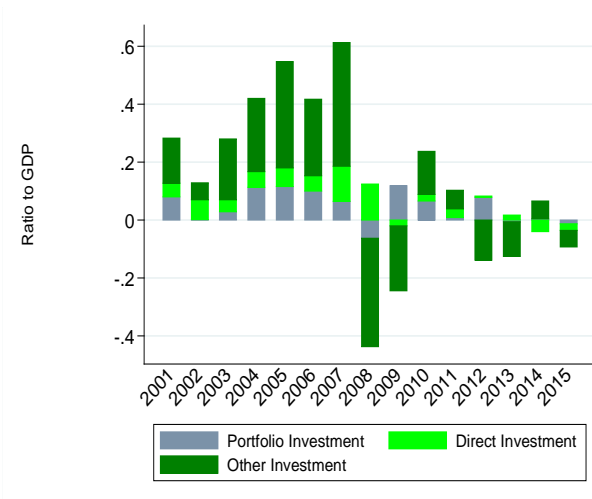


Figure 32. US - Valuation effects

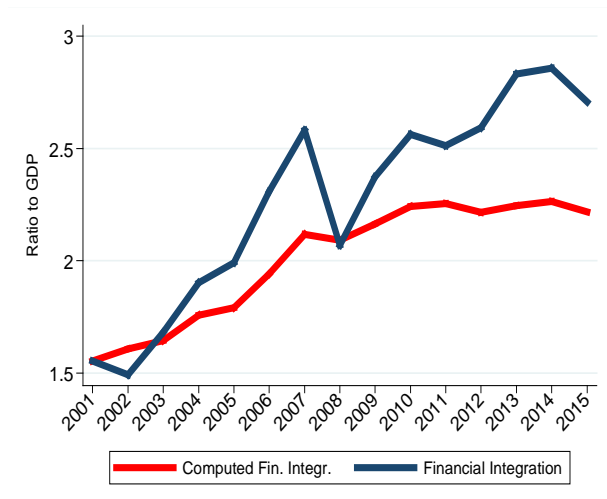


Figure 33. US Financial Flows Breakdown – Inflows

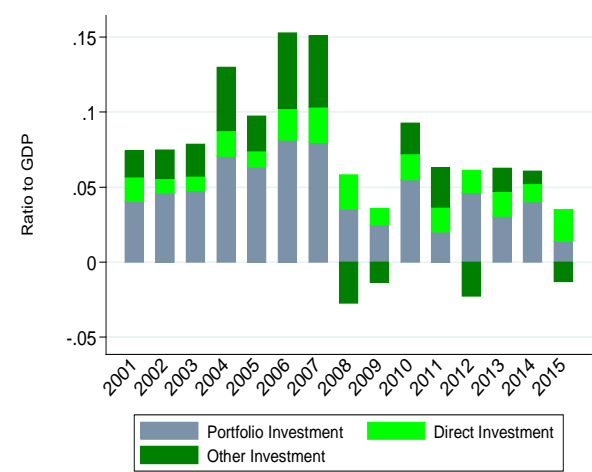


Figure 34. US Financial Flows Breakdown – Outflows

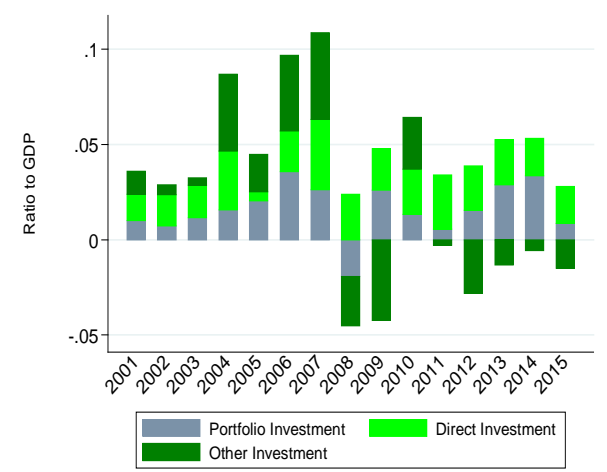


Figure 35. US Valuation Effects - Breakdown Assets and Liabilities

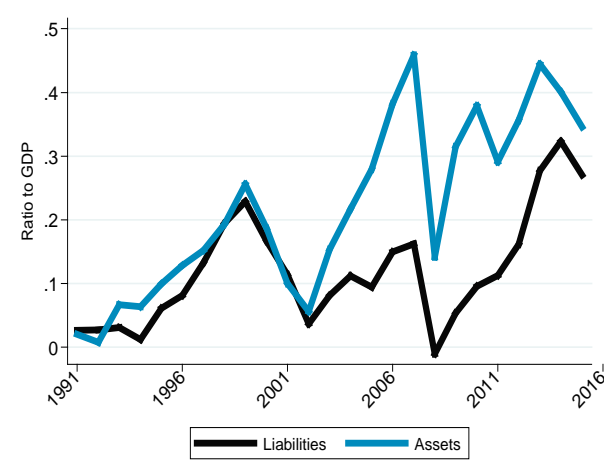
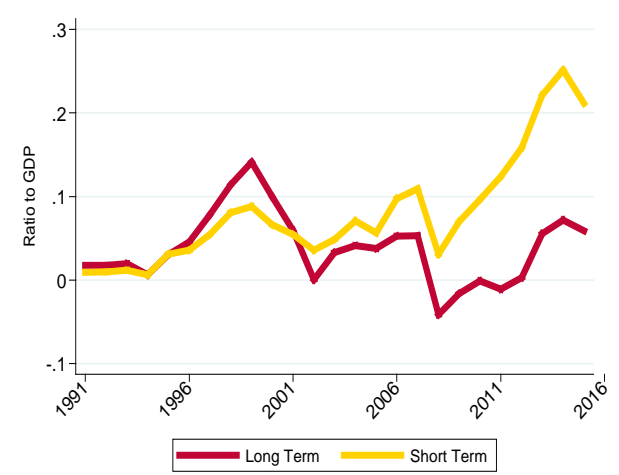


Figure 36. US Valuation Effects - Short term and Long Term



Source: Authors' calculations, data from International Monetary Fund

Figure 37. Argentina - Valuation effects

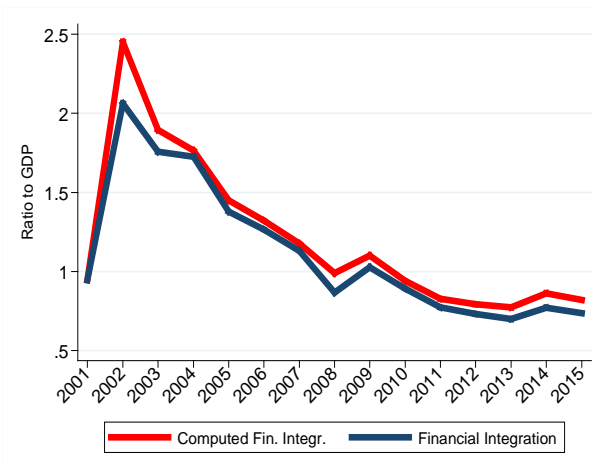


Figure 38. Argentina Financial Flows Breakdown – Inflows

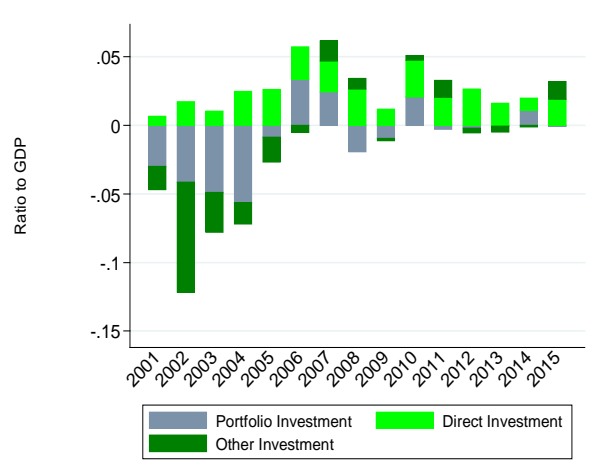


Figure 39. Argentina Financial Flows Breakdown – Outflows

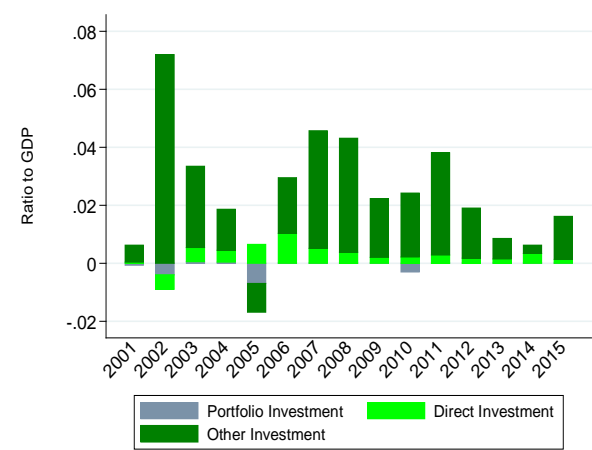


Figure 40. Brazil - Valuation effects

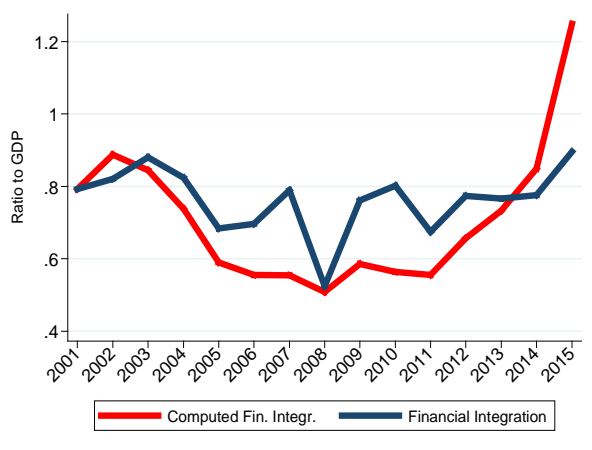


Figure 41. Brazil Financial Flows Breakdown – Inflows

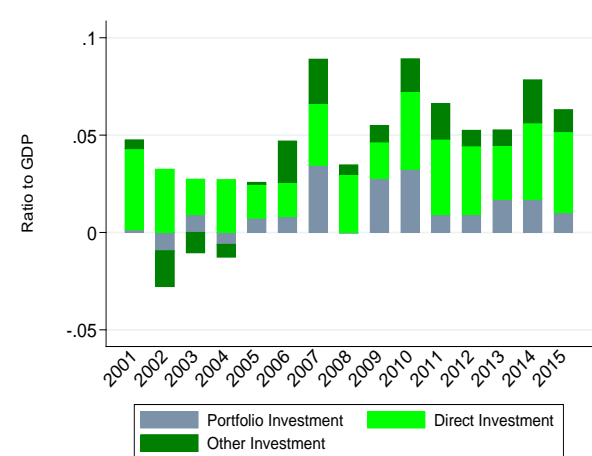
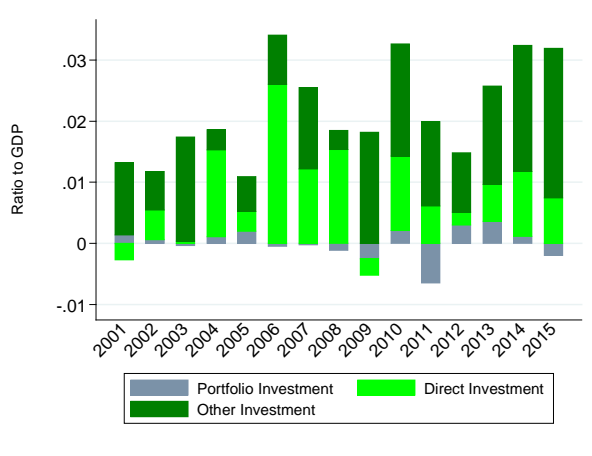


Figure 42. Brazil Financial Flows Breakdown – Outflows



Source: Authors' calculations, data from International Monetary Fund

Figure 43. China - Valuation effects

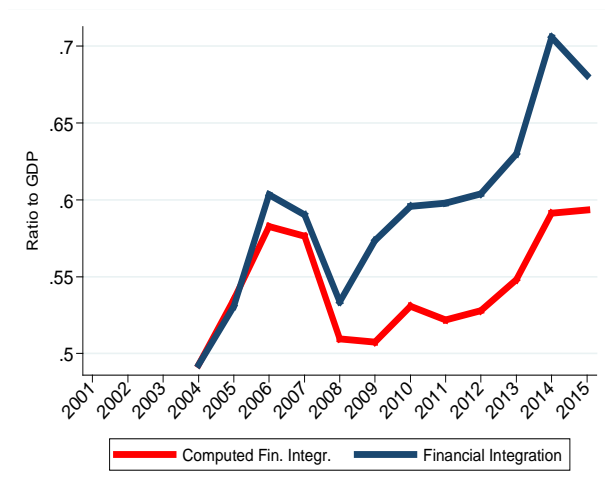


Figure 44. China Financial Flows Breakdown - Inflows

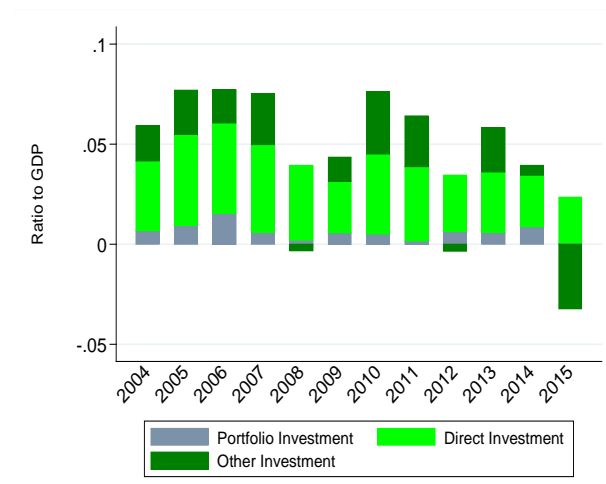


Figure 45. China Financial Flows Breakdown - Outflows

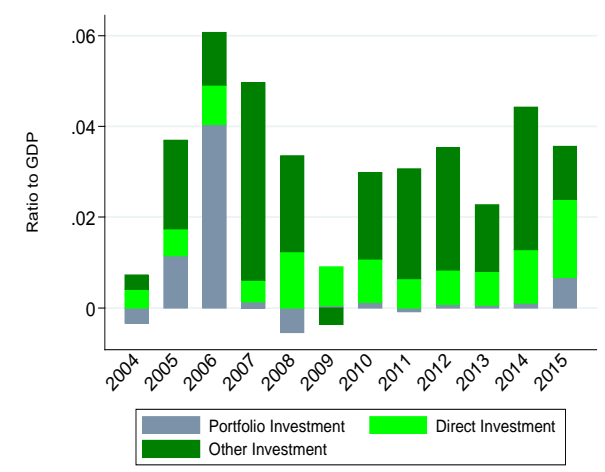


Figure 46. India - Valuation effects

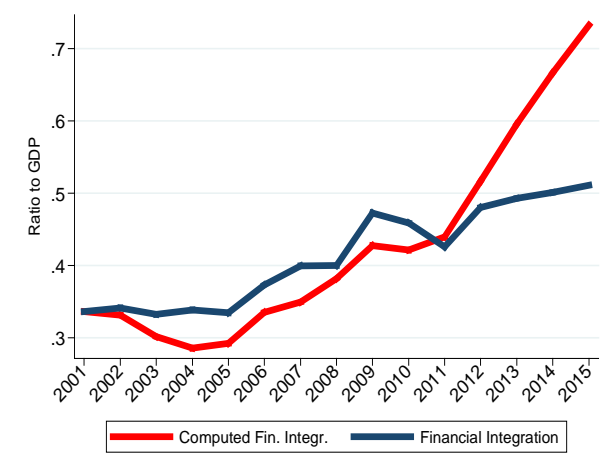


Figure 47. India Financial Flows Breakdown - Inflows

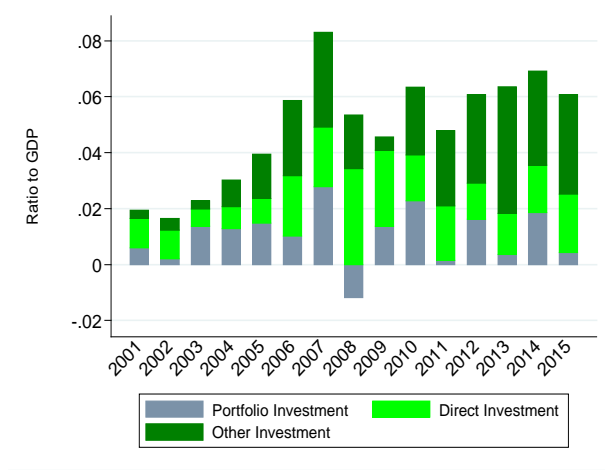
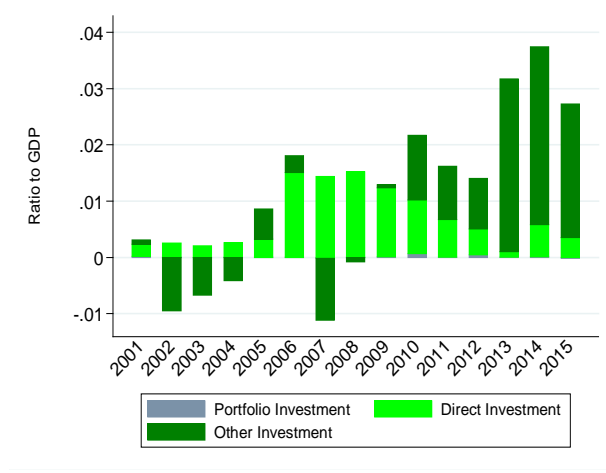


Figure 48. India Financial Flows Breakdown - Outflows



Source: Authors' calculations, data from International Monetary Fund

Figure 49. Indonesia - Valuation effects

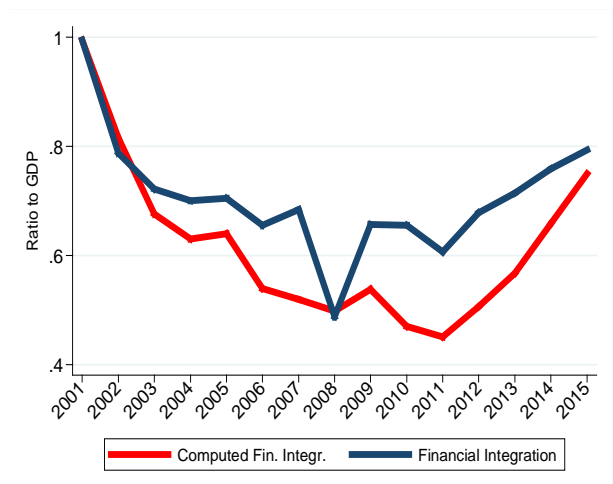


Figure 51. Indonesia Financial Flows Breakdown – Outflows

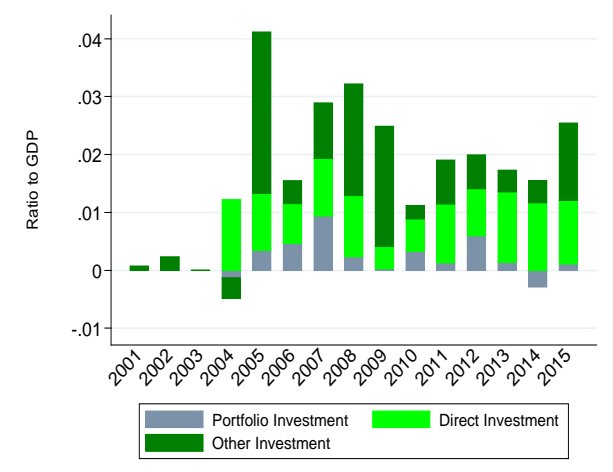


Figure 53. Korea Financial Flows Breakdown – Inflows

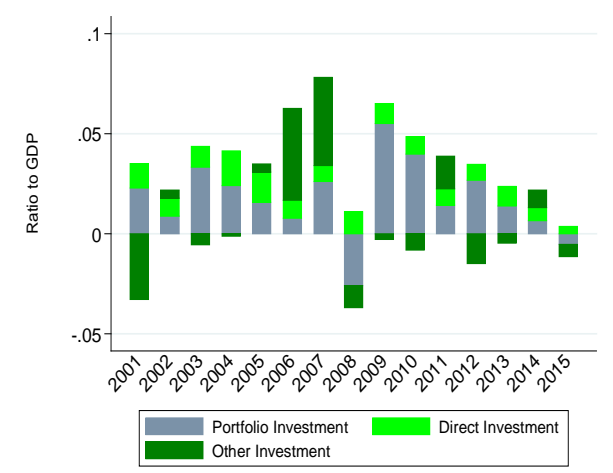


Figure 50. Indonesia Financial Flows Breakdown – Inflows

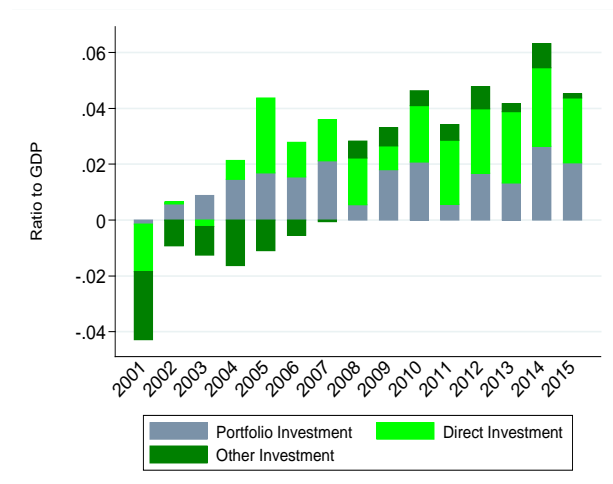


Figure 52. Korea - Valuation effects

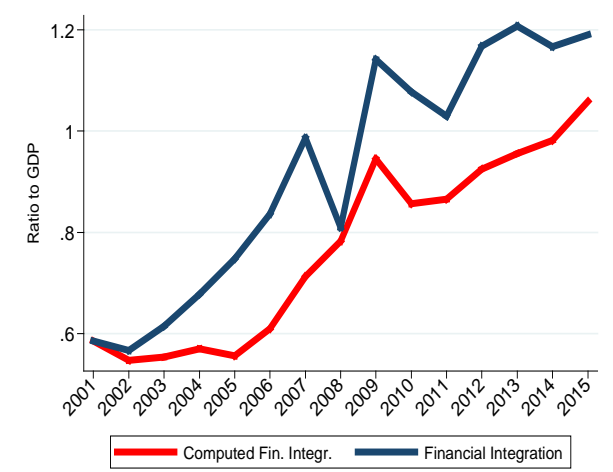
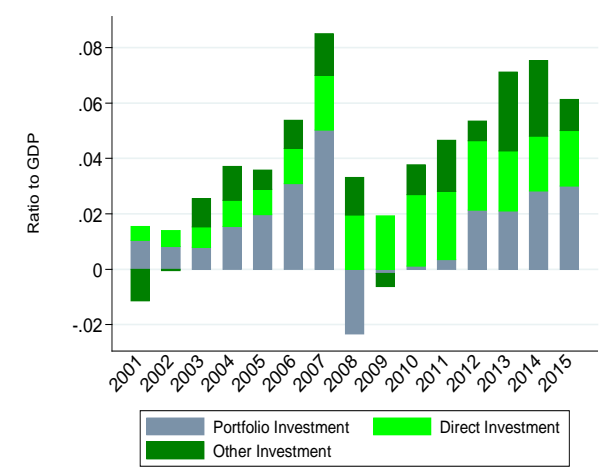


Figure 54. Korea Financial Flows Breakdown – Outflows



Source: Authors' calculations, data from International Monetary Fund

Figure 55. Mexico - Valuation effects

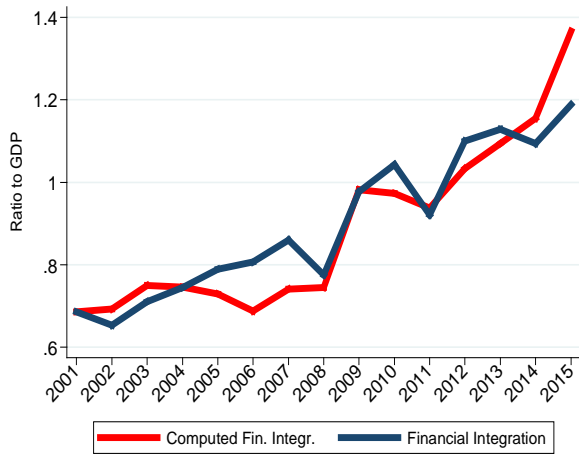


Figure 56. Mexico Financial Flows Breakdown – Inflows

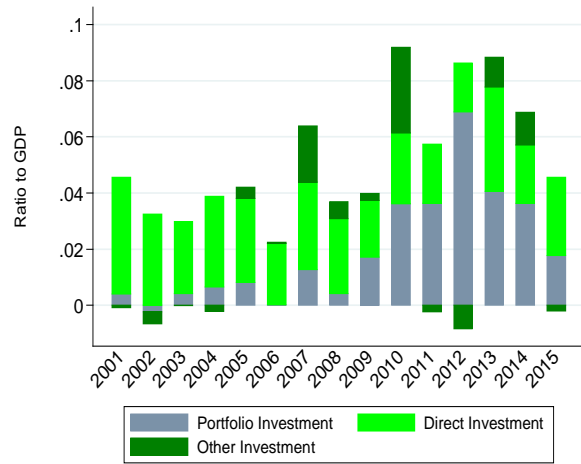


Figure 57. Mexico Financial Flows Breakdown – Outflows

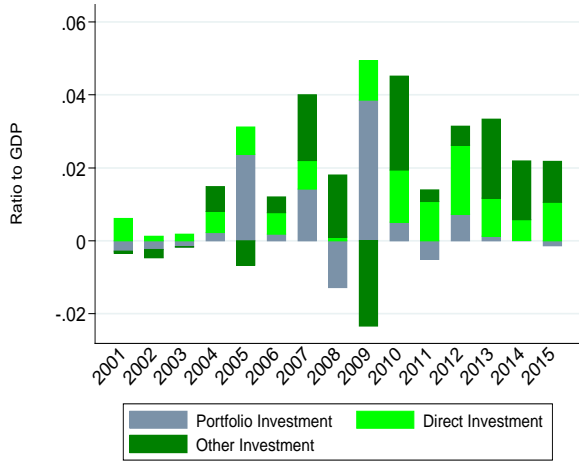


Figure 58. Russia - Valuation effects

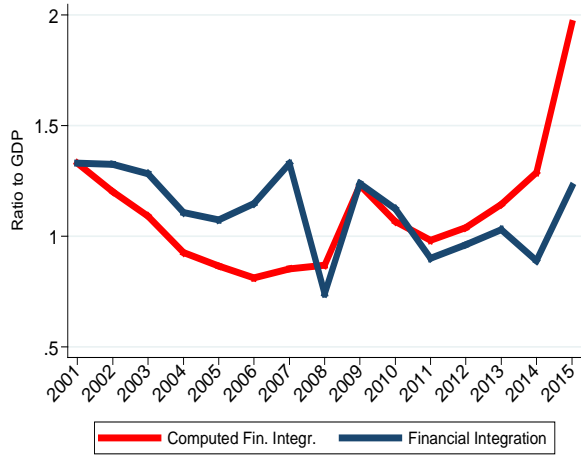


Figure 59. Russia Financial Flows Breakdown – Inflows

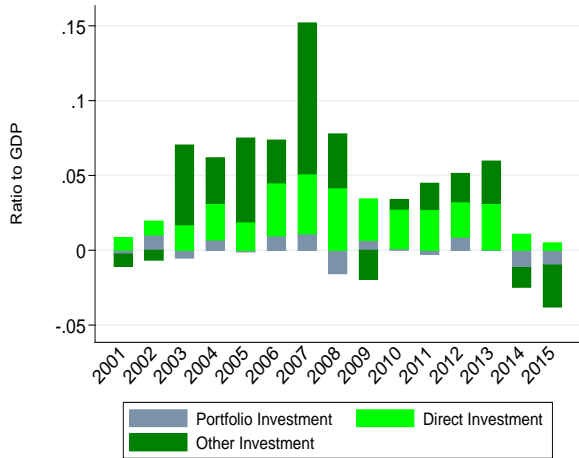
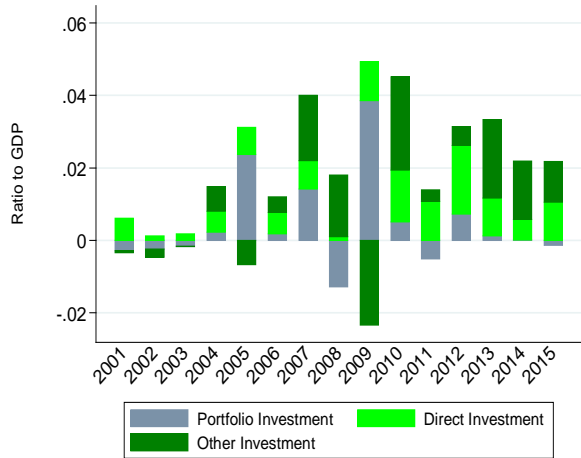


Figure 60. Russia Financial Flows Breakdown – Outflows



Source: Authors' calculations, data from International Monetary Fund

Figure 61. South Africa - Valuation effects

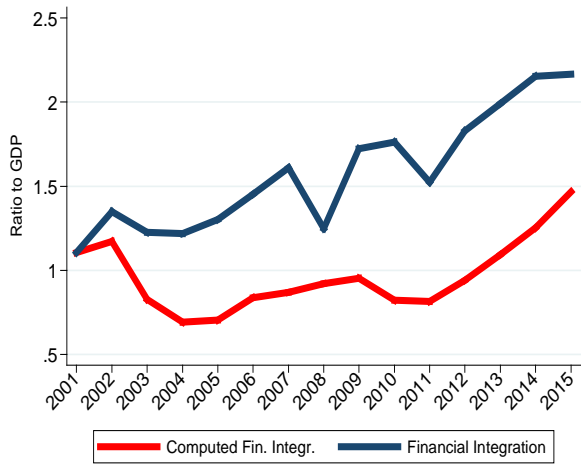


Figure 63. South Africa Financial Flows Breakdown – Outflows

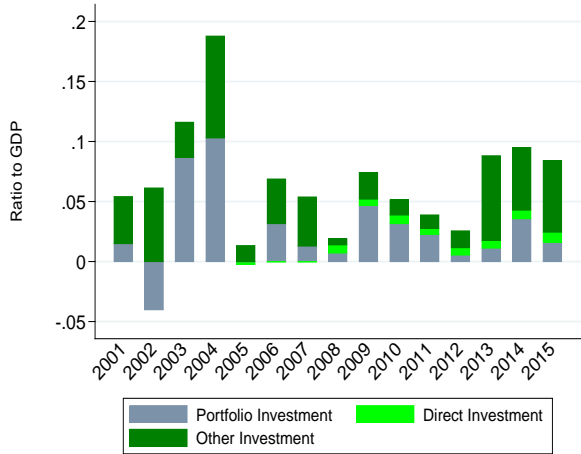


Figure 65. Turkey Financial Flows Breakdown – Inflows

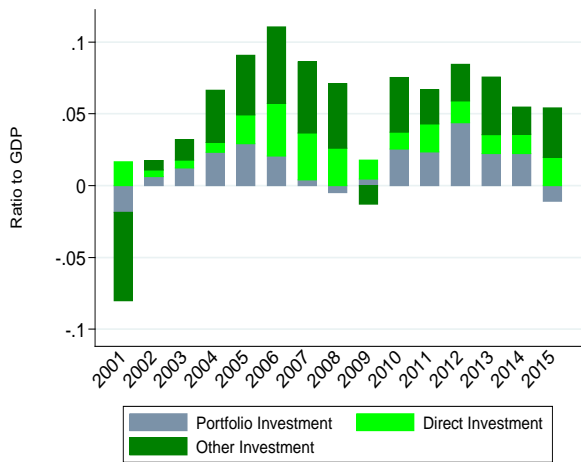


Figure 62. South Africa Financial Flows Breakdown – Inflows

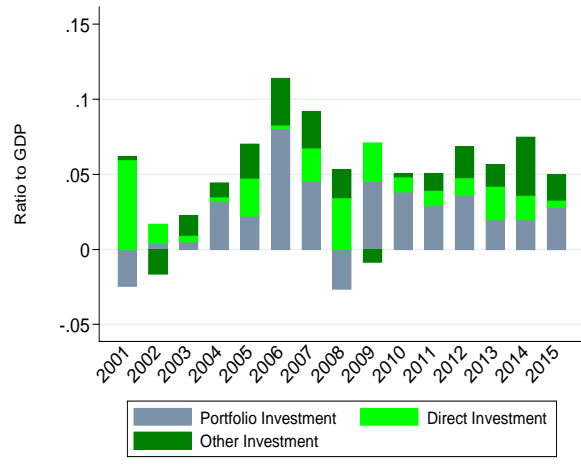


Figure 64. Turkey - Valuation effects

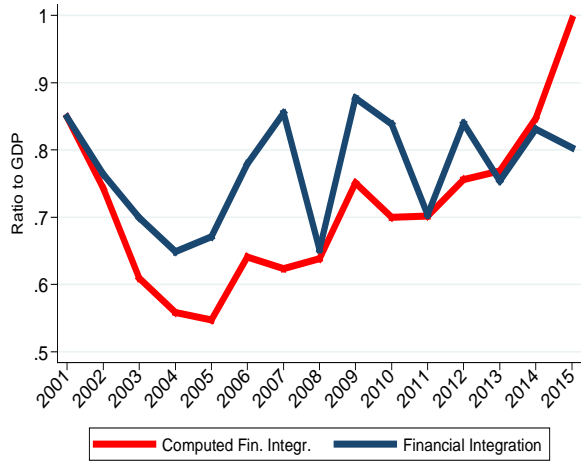
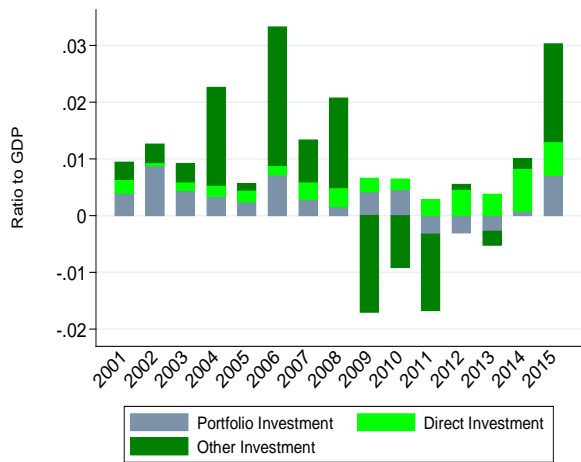


Figure 66. Turkey Financial Flows Breakdown – Outflows



Source: Authors' calculations, data from International Monetary Fund

ANNEX V – Figures on Bilateral Capital Flows and Stocks

Figure 1. Canada Bilateral Financial Flows

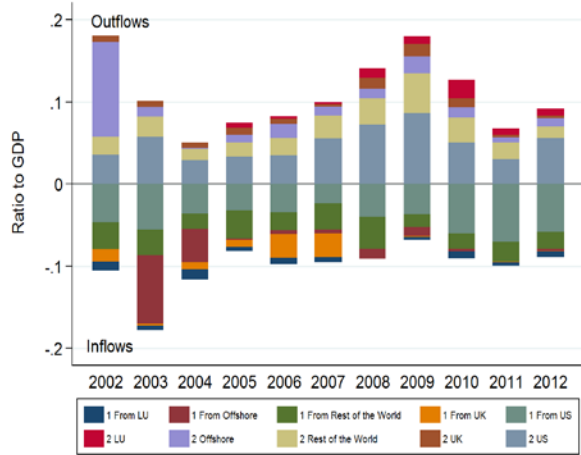


Figure 2. Canada Bilateral Financial Stocks

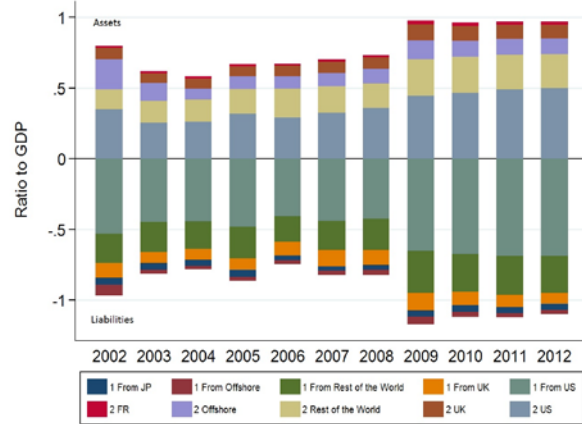


Figure 3. France Bilateral Financial Flows

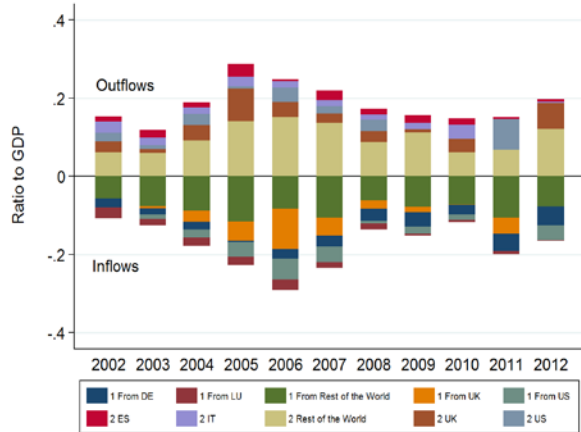


Figure 4. France Bilateral Financial Stocks

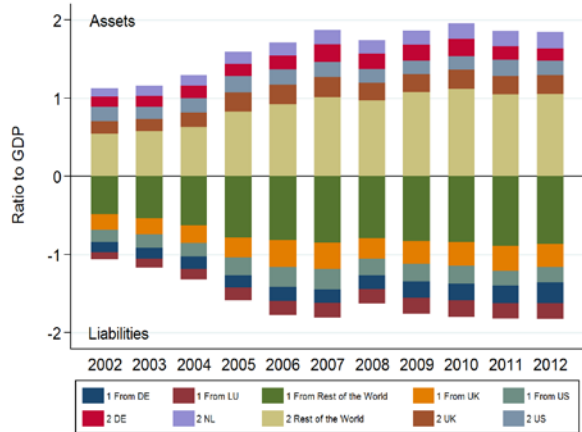


Figure 5. Germany Bilateral Financial Flows

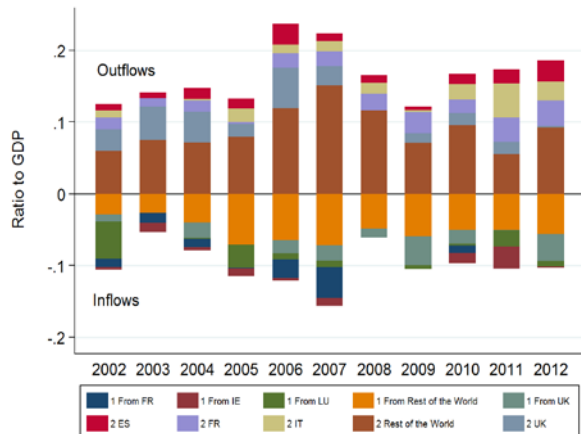
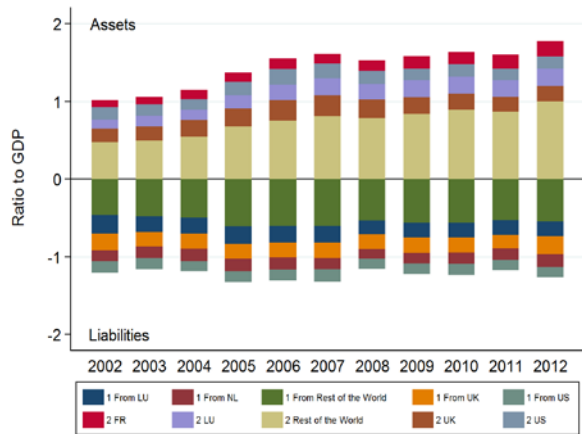


Figure 6. Germany Bilateral Financial Stocks



Source: Authors' calculations, data from Hobza and Zeugner (2014)

Figure 7. Italy Bilateral Financial Flows

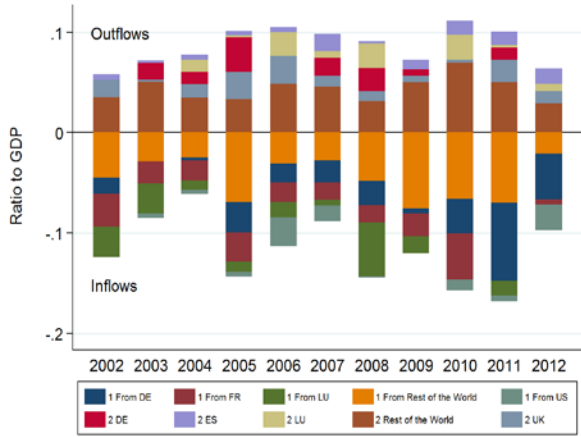


Figure 8. Italy Bilateral Financial Stocks

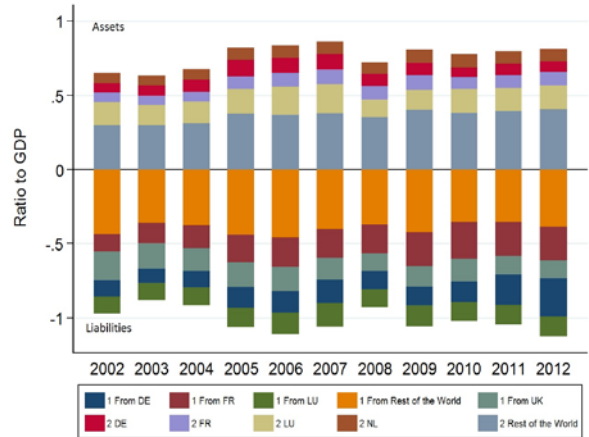


Figure 9. Japan Bilateral Financial Flows

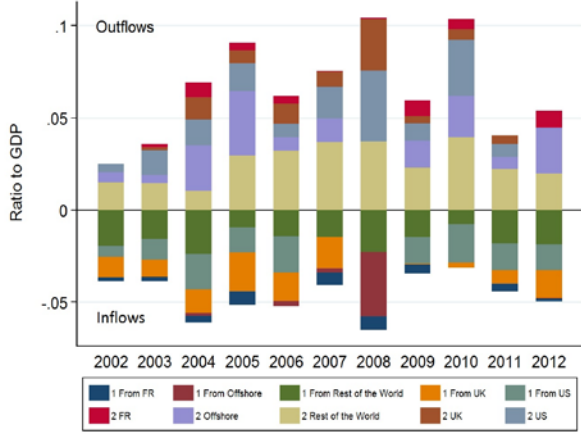


Figure 10. Japan Bilateral Financial Stocks

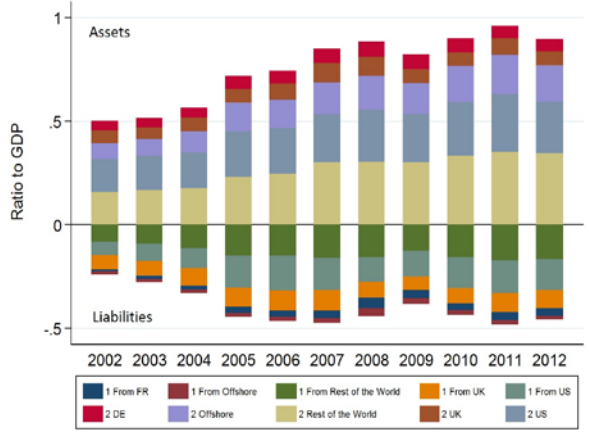


Figure 11. UK Bilateral Financial Flows

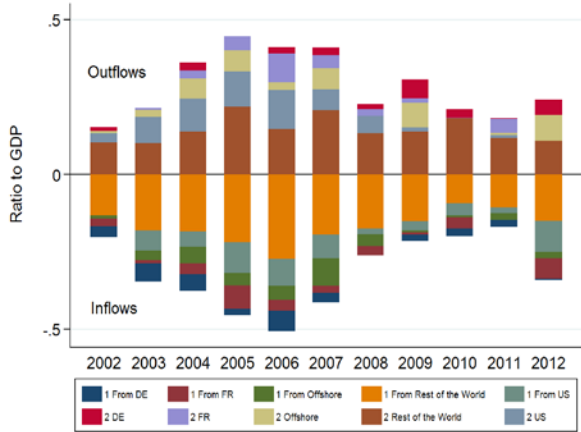
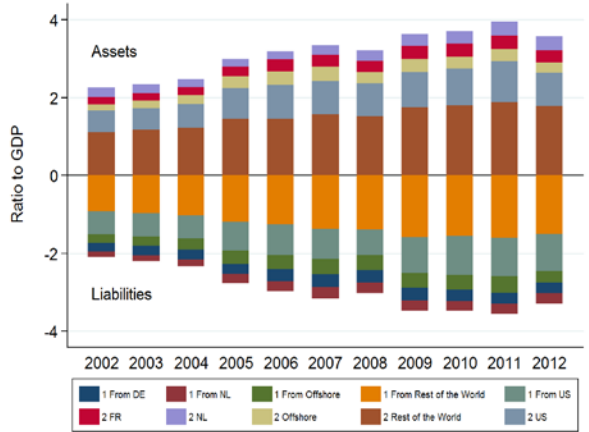


Figure 12. UK Bilateral Financial Stocks



Source: Authors' calculations, data from Hobza and Zeugner (2014)

Figure 13. US Bilateral Financial Flows

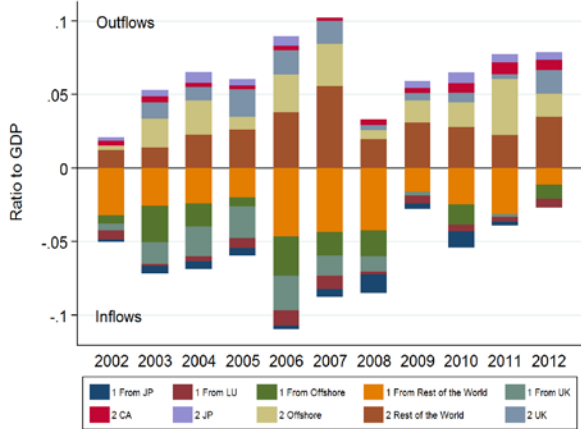


Figure 14. US Bilateral Financial Stocks

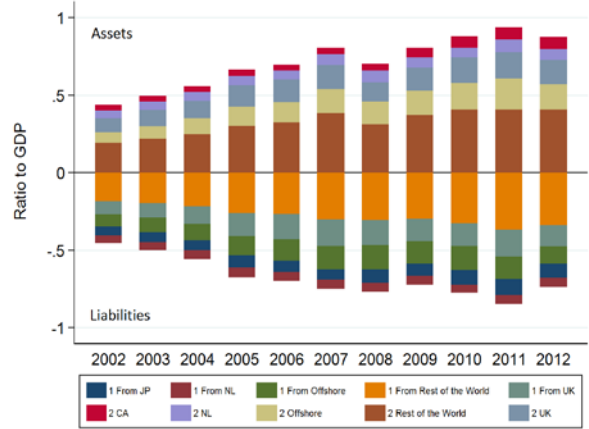


Figure 15. Brazil Bilateral Financial Stocks

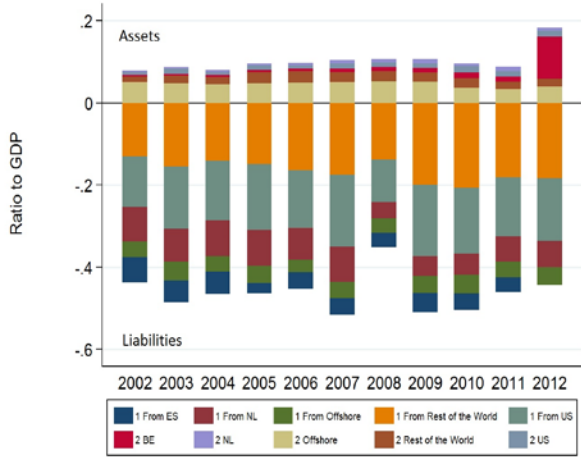


Figure 16. China Bilateral Financial Stocks

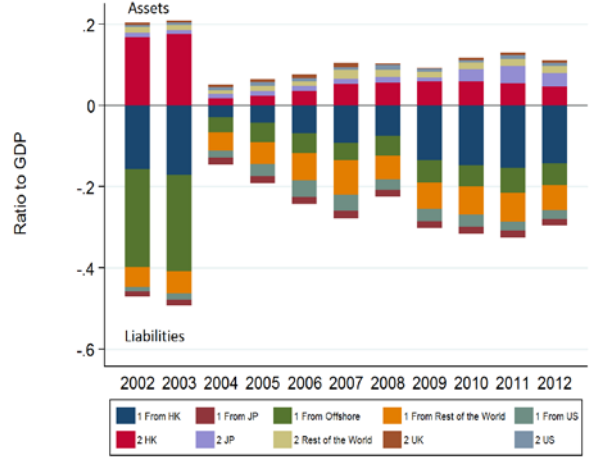


Figure 17. India Bilateral Financial Stocks

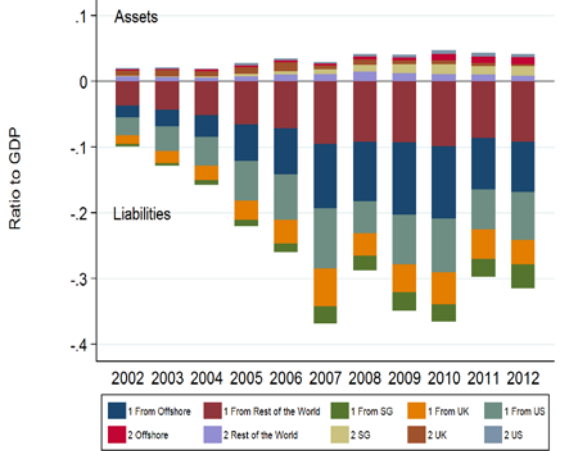
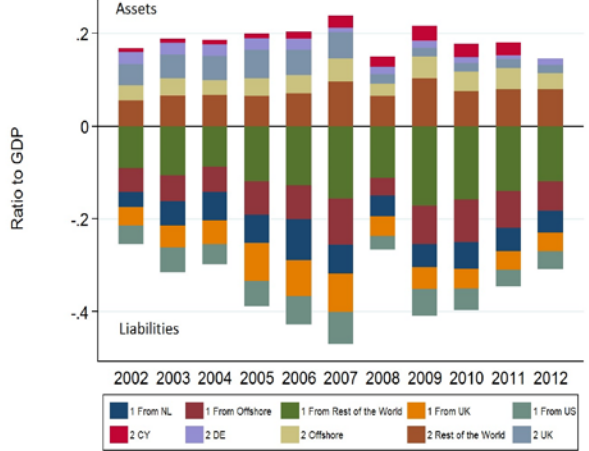
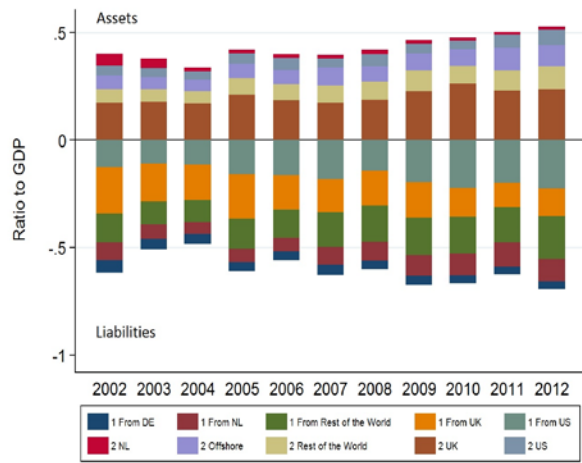


Figure 18. Russia Bilateral Financial Stocks



Source: Authors' calculations, data from Hobza and Zeugner (2014)

Figure 19. South Africa Bilateral Financial Flows



Source: Authors' calculations, data from Hobza and Zeugner (2014)

REFERENCES

- Ahmadi, M., Manera, M., and Sadeghzadeh, M., (2016), Global oil market and the US stock returns. *Energy*, 114, 1277-1287.
- Athanasoglou, P., Georgiou, E., and Staikouras, C., (2009), Assessing output and productivity growth in the banking industry. *The Quarterly Review of Economics and Finance* 49, 1317–1340.
- Avouyi-Dovi, S., and Matheron, J., (2005), Technology Shocks and Monetary Policy in an Estimated Sticky Price Model of the US Economy. Working papers 123, Banque de France.
- Barnett, Al., and Straub, R., (2008), What drives U.S. Current Account Fluctuations? Working Paper Series No 959 / November, European Central Bank
- Baker, S. R., Bloom, N., and Davis S. J., (2013), Measuring economic policy uncertainty. Chicago Booth Research Paper, 13-02.
- Beaudry, P., and Portier, F., (2005), Stock Prices, Total Factor Productivity and Economic Fluctuations; Some Further Evidence from Japanese and U.S. Sectoral Data. 2005 Meeting Papers 515, Society for Economic Dynamics.
- Benetrix, A., Shambaugh, J., and Lane, P., (2014), Prepared for International Currency Exposures, Valuation Effects and the Global Financial Crisis. 2014 International Seminar on Macroeconomics / June 2014
- Bernanke, B., (2005), The Global Saving Glut and the U.S. Current Account Deficit. Remarks at the Sandridge Lecture, Virginia Association of Economists, Richmond.
- Bogdanov, B., (2014), Liberalised Capital Accounts and Volatility of Capital Flows and Foreign Exchange Rates. Economic Papers n. 521, European Commission
- Borio, Cl., and Disyatat, P., (2011), Global Imbalances and the Financial Crisis: Link or no Link?. BIS Working Papers 346, May
- Brown, G. W., and Cliff, M. T., (2005), Investor sentiment and asset valuation. *The Journal of Business*, 78(2), 405-440.
- Burns, A.F., and Mitchell, W.C., (1946), *Measuring Business Cycles*. National Bureau of Economic Research, Cambridge, MA.
- Caballero, R., Farhi, E., and Gourinchas, P. (2006), An Equilibrium Model of "Global Imbalances" and Low Interest Rates, NBER Working Paper Series n. 11996, February 2006.
- Calderon, C., Chong, A., and Loayza, N., (2000), Determinants of current account deficits in developing countries. World Bank Research Policy Working Paper 2398

Cashin, P. A., Mohaddes, K., and Raissi, M., (2016), China's Slowdown and Global Financial Market Volatility: Is World Growth Losing Out?. Unpublished Paper

Chen N., Roll R., and Ross S., (1986), Economic Forces and the Stock Market. *The Journal of Business*, 59(3), 383.

Chinn, M., and Prasad, E., (2003), Medium term determinants of current account in industrial and developing countries, an empirical exploration. *Journal of International Economics* 59, 47-76

Comin, D., Gertler, M., Ngo, P., and Santacreu A.M., (2016), Stock price fluctuations and Productivity growth. Unpublished paper.

Devereux, M., and Sutherland, A., (2009), Valuation Effects and the Dynamics of Net External Assets. NBER Working Paper Series n. 14794, March 2009.

Fama, F. E., (1990), Stock returns, expected returns, and real activity. *Journal of Finance* 45 (4), 1089-1108.

Feldstein, M., (2011), Quantitative Easing and America's Economic Rebound. Project Syndicate.

Fleischman, C. A., and Roberts, J. M., (2011), From many series, one cycle: improved estimates of the business cycle from a multivariate unobserved components model. Finance and Economics Discussion Series Divisions of Research & Statistics and Monetary Affairs Federal Reserve Board, 46, Washington, D.C.

Gourinchas, P-Ol. and Rey, H., (2005), International Financial Adjustment. NBER Working Paper Series n. 11155, February 2005

Gourinchas, P-Ol. and Rey, H., (2014), External Adjustment, Global Imbalances, Valuation Effects. In *Handbook of International Economics*, vol IV, (ed. Gopinath, G., Helpman, El. and Rogoff, K.) pp. 585-645

Herrmann, S., and Winkler, A., (2009), Financial Markets and the Current Account – Emerging Europe versus emerging Asia, *Review of World Economics*, No. 3, Vol. 145, 531-550

Hobza, A., and Zeugner, S., (2014), Current accounts and financial flows in the euro area. *Journal of International Money and Finance*, 14, Part B, 291-313.

Humpe, A., and Macmillan, P., (2009), Can macroeconomic variables explain long-term stock market movements? A comparison of the US and Japan. *Applied Financial Economics*, 19 (2), 111-119.

Kose, M. A., Prasad, E. S., and Terrones, M. E., (2003), How Does Globalization Affect the Synchronization of Business Cycles?. *American Economic Review*, 93(2), 57-62.

Lane, P., and Milesi-Ferretti, G., (2007), The external wealth of nations mark II: Revised and extended estimates of foreign assets and liabilities, 1970–2004. *Journal of International Economics* vol. 73, 223-250.

Lane, P., and Milesi-Ferretti, G., (2014), Global Imbalances and External Adjustment after the Crisis, IMF Working Paper 14/151, International Monetary Fund

Lane, P., and Shambaugh, J., (2010), Financial Exchange Rates and International Currency Exposures, *American Economic Review*, Vol. 100(1), 518-540

Lettau, M., and Ludvigson, S., (2003), Understanding trend and cycle in asset values: Reevaluating the wealth effect on consumption. NBER Working Paper Series n. 9848

Maysami R., and Koh T., (1998), A vector error correction model of the Singapore stock market. *International Review of Economics & Finance*, 9(1), 79-96.

Mei, J., and Guo, L., (2004), Political uncertainty, financial crisis and market volatility. *European Financial Management*, 10(4), 639-657.

Molnar, M., and Chalaux, T., (2015), Recent trends in productivity in China: shift-share analysis of labour productivity growth and the evolution of the productivity gap. OECD Economics Department Working Papers, No. 1221, OECD Publishing.

Motala, J., (1997), Statistical Discrepancies in the World Current Account. *Finance & Development* vol.23(1), 24-25, IMF.

Moylan, C., (2010), Cyclical Indicators for the United States. Third International Seminar on Early Warning and Business Cycle Indicators, Bureau of Economic Analysis, Moscow, Russia.

Oberpillier, C., (2007), Exchange Rates and Global Imbalances: The Importance of Asset Valuation Effects and Interest Rate Changes. Working Paper N. 443, Advanced Studies in International Economic Policy Research, Kiel Institute for the World Economy

Obstfeld, M., and Rogoff, K., (2005), Global Current Account Imbalances and Exchange Rate Adjustments, *Brookings Papers on Economic Activity*, vol. 1:2005, The Brookings Institution

Obstfeld, M., and Rogoff, K., (2009), Global Imbalances and the Financial Crisis: Products of Common Causes, *Asia and the Global Financial Crisis*, Asia Economic Policy Conference, October 18-20, 2009: Federal Reserve Bank of San Francisco.

Otrok, C., and Terrones, M. E., (2005), House prices, interest rates and macroeconomic fluctuations: international evidence. Unpublished paper.

Pontarollo, N., (2013), Structural change, productivity growth and Structural Funds in European regions. Department of Economics, University of Verona.

Santa-Clara, P., and Valkanov, R., (2003), The presidential puzzle: Political cycles and the stock market. *The Journal of Finance*, 58(5).

Tille, C., (2003), The Impact of Exchange Rate Movements on U.S. Foreign Debt. *Current Issues in Economics and Finance*, Vol. 9 (1), Federal Reserve Bank of New York.

Wong, S. S. L., Chin-Hong, P. U. A. H., Mansor, S. A., and Liew, V. K. S., (2014), Measuring Business Cycle Fluctuations: An Alternative Precursor To Economic Crises. *ACRN Proceedings in Finance and Risk Series '13: Proceedings of the 13th FRAP Conference in Cambridge*. ACRN Publishing House.

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