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HOW DO GLOBAL LIQUIDITY PHASES MANIFEST THEMSELVES IN ASIA?

Introduction

- Whether or not we are now living in a **"different world"** in the **aftermath of the 2008/09 global financial crisis (GFC)** is not easy to judge. Only history will tell. But common sense suggests that given the **catastrophe in the world's largest economy** and the unprecedented **ultra-easy money policies** that followed in response, we certainly **cannot pretend that it is still business as usual**. Too many changes have already occurred.
- The process is at the same time gradual yet rapid, clear yet complex. This poses a huge **challenge for emerging Asian policy makers** in **guiding their domestic economies amid changes in the external environment**.
- Our intent in this monograph is to explicate the repercussions of the changing dynamics of global liquidity and explore what it means for emerging Asia as well as the new challenges for the region's policy makers.

Introduction

- The dynamic nature of global liquidity since the mid-2000s is evident in **the different stages of global capital flows**. Increased **bank-led flows** characterize the period leading up to the GFC and the immediate aftermath of the Lehman Brothers bankruptcy in September 2008.
- Permissive liquidity conditions in the United States (US) dollar wholesale market were **transmitted via the global banking system** to the rest of the world, including emerging Asia.
- **This first phase** of global liquidity manifested itself in the expanded balance sheets of banks that resulted **from increasing non-core liabilities that facilitated loans and risk-taking behavior**.
- Even **non-financial institutions** took on the attributes of financial firms, which is known as "financialization," as they **increased the size of their balance sheets relative to sales-generating activities**, and as a consequence contributed to **the amplification of the financial cycle**.
- The resultant **currency appreciations further fueled capital flows** into emerging Asia as borrowers' balance sheets were strengthened.

Introduction

- **The second phase** of global liquidity **began in 2010** as a by-product of the **quantitative easing (QE)** and asset purchase policies of advanced economy central banks.
- **A massive amount of capital inflows surged into emerging Asian markets** searching for yield. The region's capital markets experienced a boom as governments seized upon the availability of low-cost financing through the bond market.
- **The share of foreign ownership in local currency bond markets rose, as did banks' sovereign bond holdings.**
- **The issuance of international securities by both governments and private corporates in emerging economies also increased rapidly** amid super-low interest rates.
- **Rising non-core liabilities in the first phase were highly procyclical and constituted an important transmission channel** of global liquidity shock to emerging Asia.

Introduction

- This led to **financial cycles falling out of sync with domestic business cycles**, **reducing the effectiveness of monetary policy**—on top of the risks caused by a bank-led credit boom—and thereby requiring a separate macro-prudential policy. Imposing a levy on non-core liabilities is an example of such a policy.
- Through **the second phase**, the role of **non-banks** in influencing monetary aggregates increased due to the functioning of capital markets, facilitated by **asset managers** that acted on behalf of investors such as **pension funds** and **insurance companies**.
- The growing share of foreign ownership in **emerging Asian equity and bond markets** makes these markets more susceptible to volatility and capital outflows. The US Federal Reserve announcement in **May 2013 of possible QE tapering** generated outflows that may mark the beginning of the **third phase** of global liquidity.
- The region's economies with **relatively weak fundamentals (e.g., twin deficits) were hardest hit**, suffering from **sharp exchange rate depreciations and falling asset prices**.
- For firms with greater bond holdings than issued bonds outstanding, a further fall in asset prices driven by higher interest rates raises the probability of insolvency and bankruptcy. This should make the more careful gauging of alternative policies inevitable.

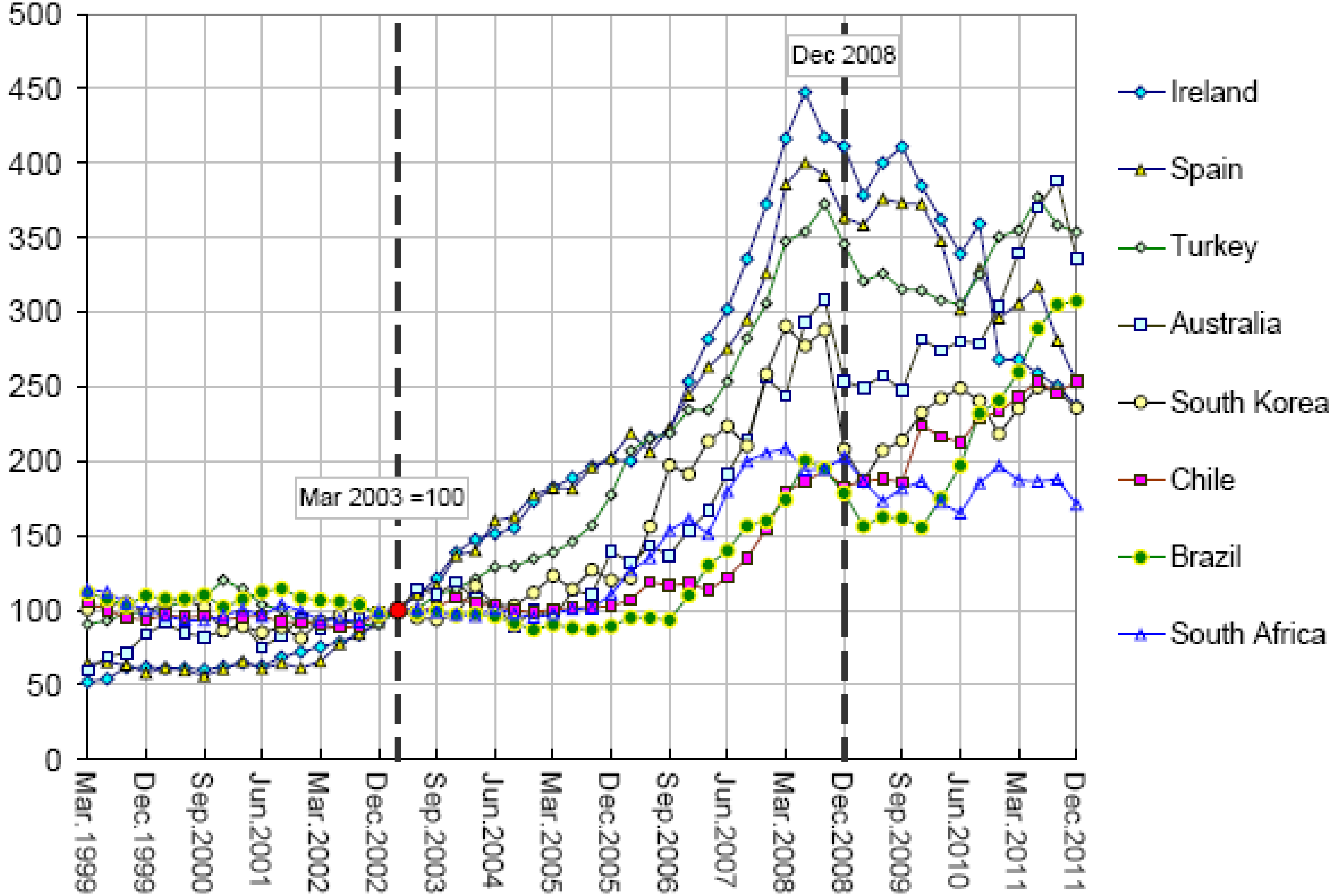
Introduction

- At the time of the launch of the euro, domestic bank lending in Spain could be financed entirely from Spanish residents (Figure 1), but global liquidity changed all that as capital flows and the lending boom fed off each other.
- At **the peak of the cycle in 2008**, **only half of all bank lending in Spain was financed from domestic sources**.
- The rest came from capital inflows as foreign banks had rapidly increased their lending to Spanish banks (Figure 3).
- The experience of Spain underscores how the crisis in the Eurozone is part of a larger global picture.
- **Global liquidity mirrors the procyclical nature of the global banking system**.
- As well as being the world's most important reserve currency and an invoicing currency for international trade, the US dollar is also the currency that underpins the global banking system as the funding currency of choice for global banks.

The First Phases of Liquidity

- It was Calvo, Leiderman, and Reinhart (1993, 1996) who famously distinguished between **the global "push"** factors and **the country specific "pull"** factors with respect to capital flows.
- Banking sector flows during the **first phase of global liquidity** exhibited **the classic "supply-push"** pattern characterized by the existence of **common global factors** that drive capital flows everywhere.
- Figure 1 shows the cross-border banking sector claims of Bank for International Settlements (BIS)-reporting banks against counterparties in a diverse group of countries.
- There is a **high degree of synchronization of banking sector flows** across the disparate geographies of the recipient countries. At the same time, there is also a measure of diversity in the pattern of banking sector flows.
- **Emerging Europe** saw the **most rapid increase in banking** sector inflows during the period under review, followed by countries such as the **Republic of Korea and Turkey**.

Figure 1: Claims of BIS-Reporting Banks on Counterparties in Selected Countries (March 2003 = 100)

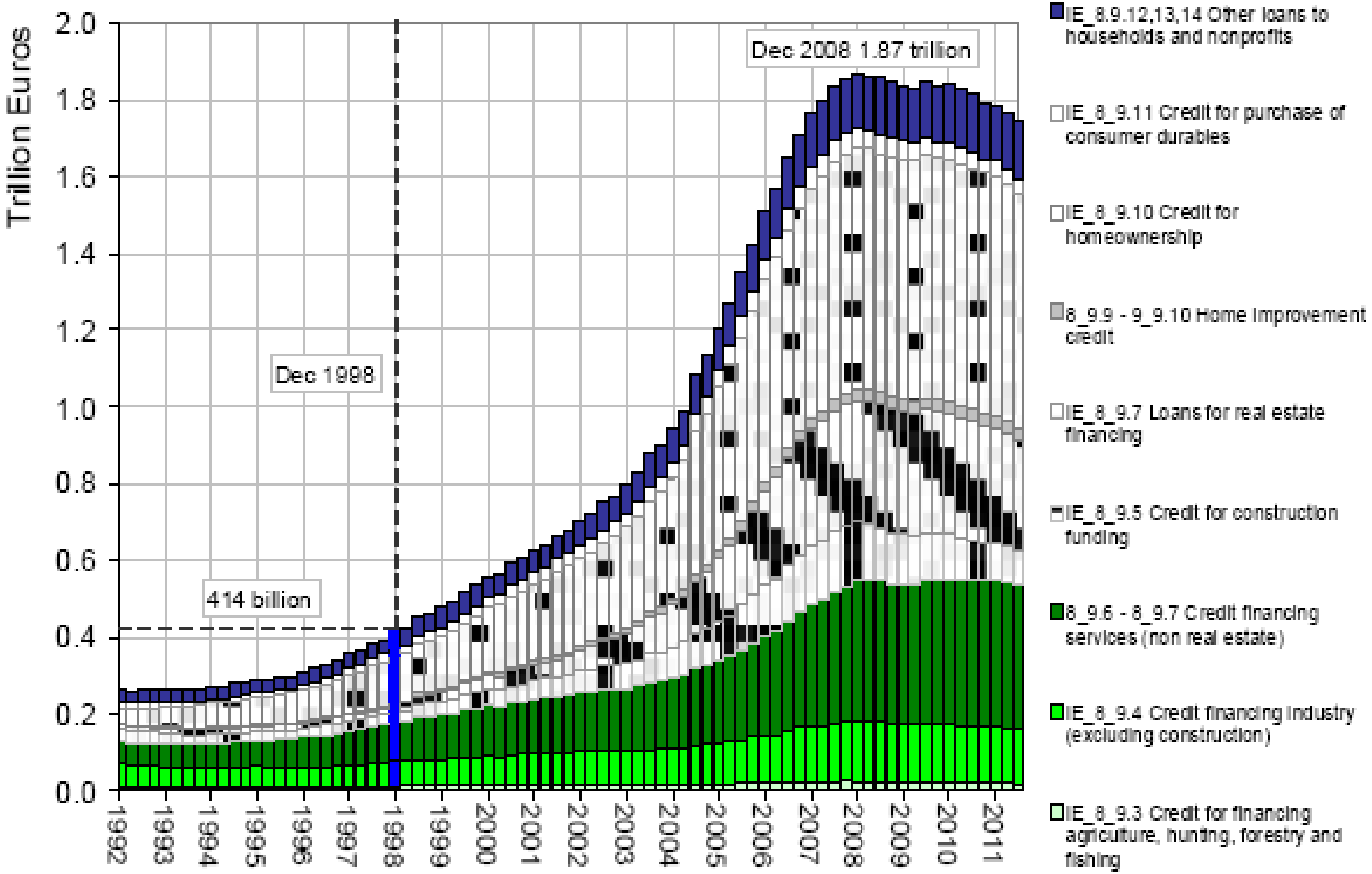


Source: Bruno and Shin (2012a); data from Bank for International Settlements (BIS) *Locational Banking Statistics*.

The First Phases of Liquidity

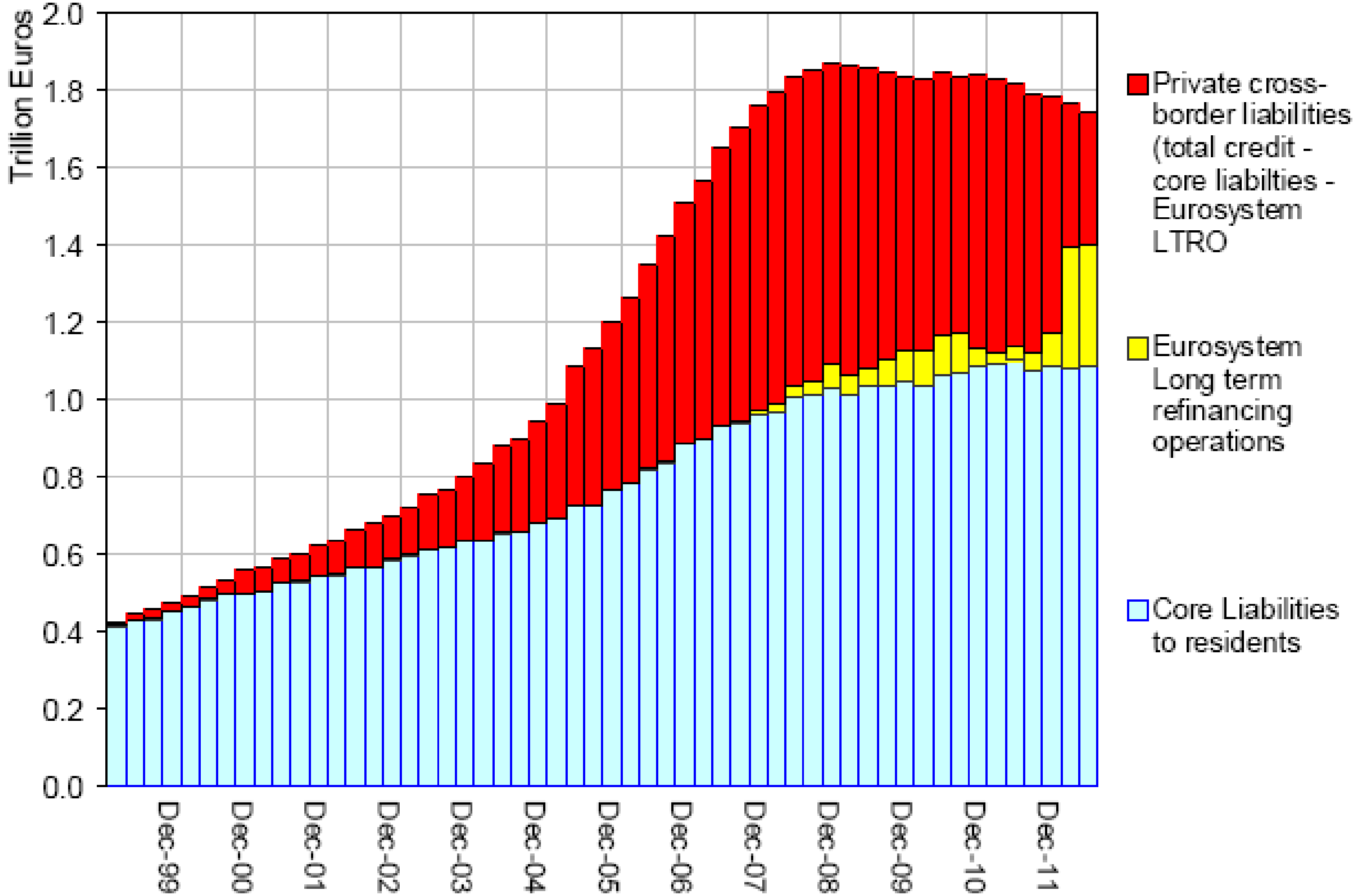
- Figure 1 is suggestive of **a global push** factor that drove financial conditions globally, running through the **banking sector** and impacting domestic financial conditions via the rapid expansion of **bank lending funded by capital inflows**.
- The experience of **Spain** is particularly instructive of how global liquidity **converts capital flows into domestic credit growth**.
- Total bank credit in Spain stood at **EUR 414 billion** in December 1998, shortly before the country joined the Eurozone, and subsequently increased **five-fol**d to nearly **EUR 2 trillion in 2008** on the eve of the GFC (Figure 2).

Figure 2: Banking Sector Credit to Non-Financial Borrowers in Spain



Source: Bank of Spain.

Figure 3: Funding Gap among Spanish Banks



Notes:

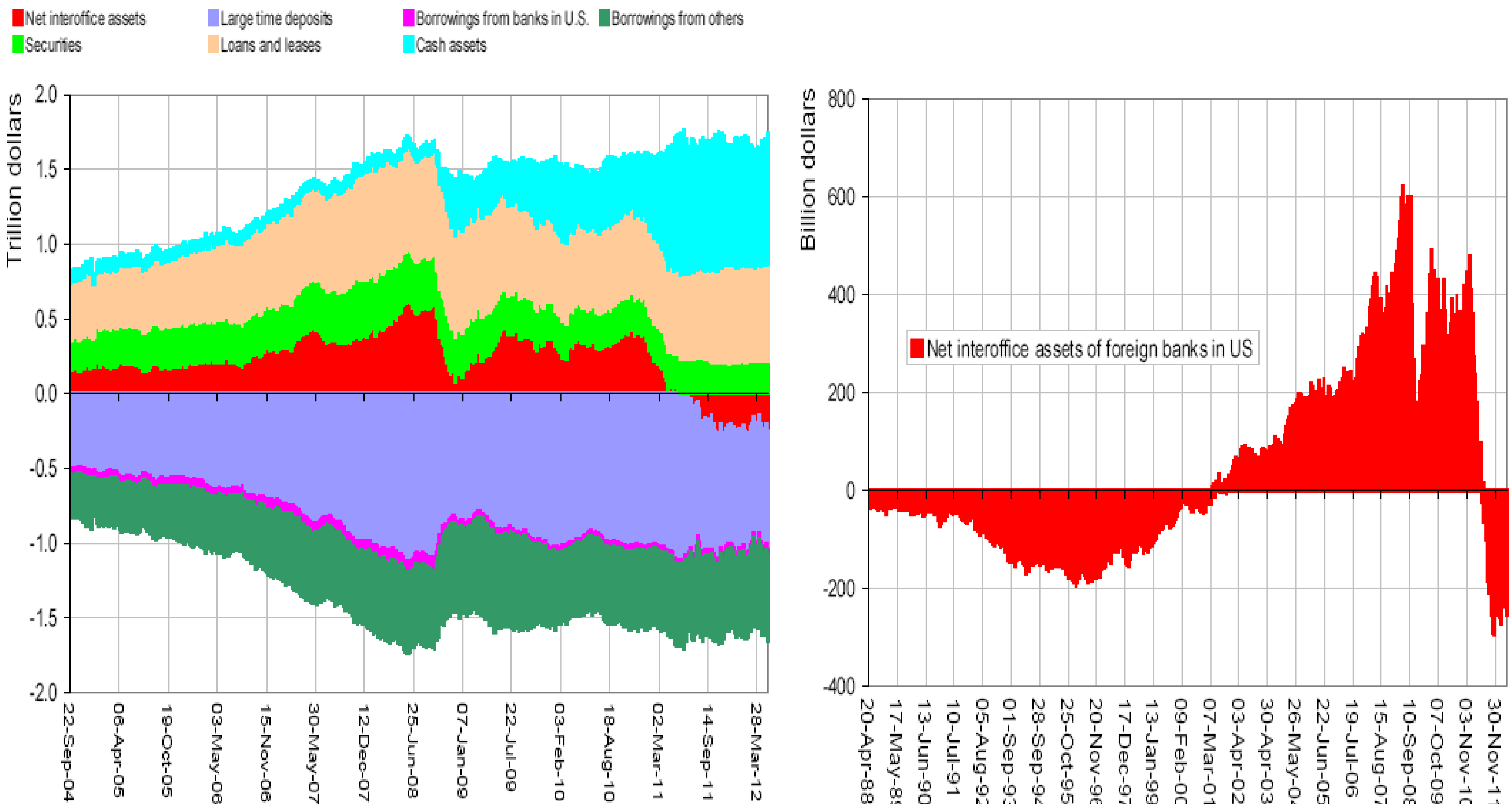
1. Liabilities of banks in Spain to domestic residents are indicated as "core liabilities".
2. Upper area is lending financed with capital inflows; middle area is European Central Bank (ECB) funding.

Source: Bank of Spain.

The First Phases of Liquidity

- The **US hosts branches of around 160 foreign banks whose main function** is to **raise wholesale dollar funding in US capital markets** and then **ship these dollars to their respective head offices**.
- Some of these borrowed dollars **eventually find their way back to the US to finance purchases of mortgage-backed securities** and other assets. **But many of them will flow to Europe, Asia, and Latin America** where global banks are active local lenders.
- Thus, **global banks become carriers for the transmission of liquidity spillovers across borders**.
- At the margin, the shadow value of bank funding will be equalized across regions through the portfolio decisions of global banks so that global banks become carriers of dollar liquidity across borders.
- In this way, permissive US liquidity conditions will be transmitted globally, and US monetary policy affects global financial conditions.
- Figure 4 plots the assets and liabilities of foreign banks in the US (left panel) and their net interoffice assets (right panel).

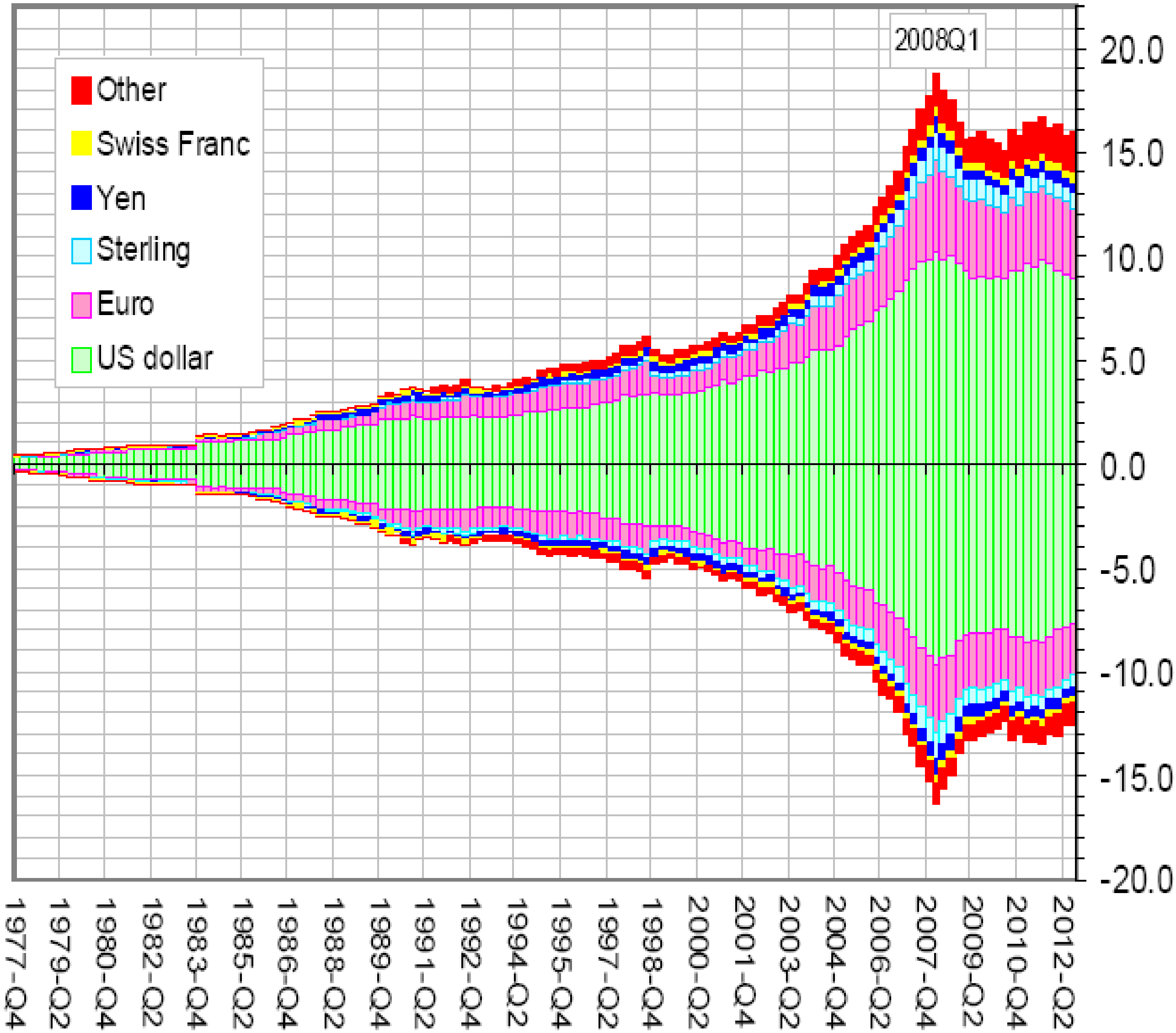
Figure 4: Net Interoffice Assets of Foreign Banks in the US



The First Phases of Liquidity

- Figure 4 plots the assets and liabilities of foreign banks in the US (left panel) and their net interoffice assets (right panel). Normally, **net interoffice assets would be negative as foreign bank branches act as lending outposts**.
- However, we see that the decade between **2001 and 2011 was exceptional**, **with net interoffice assets turning sharply positive** before reversing into negative territory during the height of the Eurozone crisis in 2011.
- In 2001–11, **foreign bank offices, in effect, became funding sources (rather than lending outposts) for the parent bank.**
- Cetorelli and Goldberg (2009, 2010) provide extensive evidence using bank-level data to demonstrate that capital markets reallocate funding within global banking organizations.

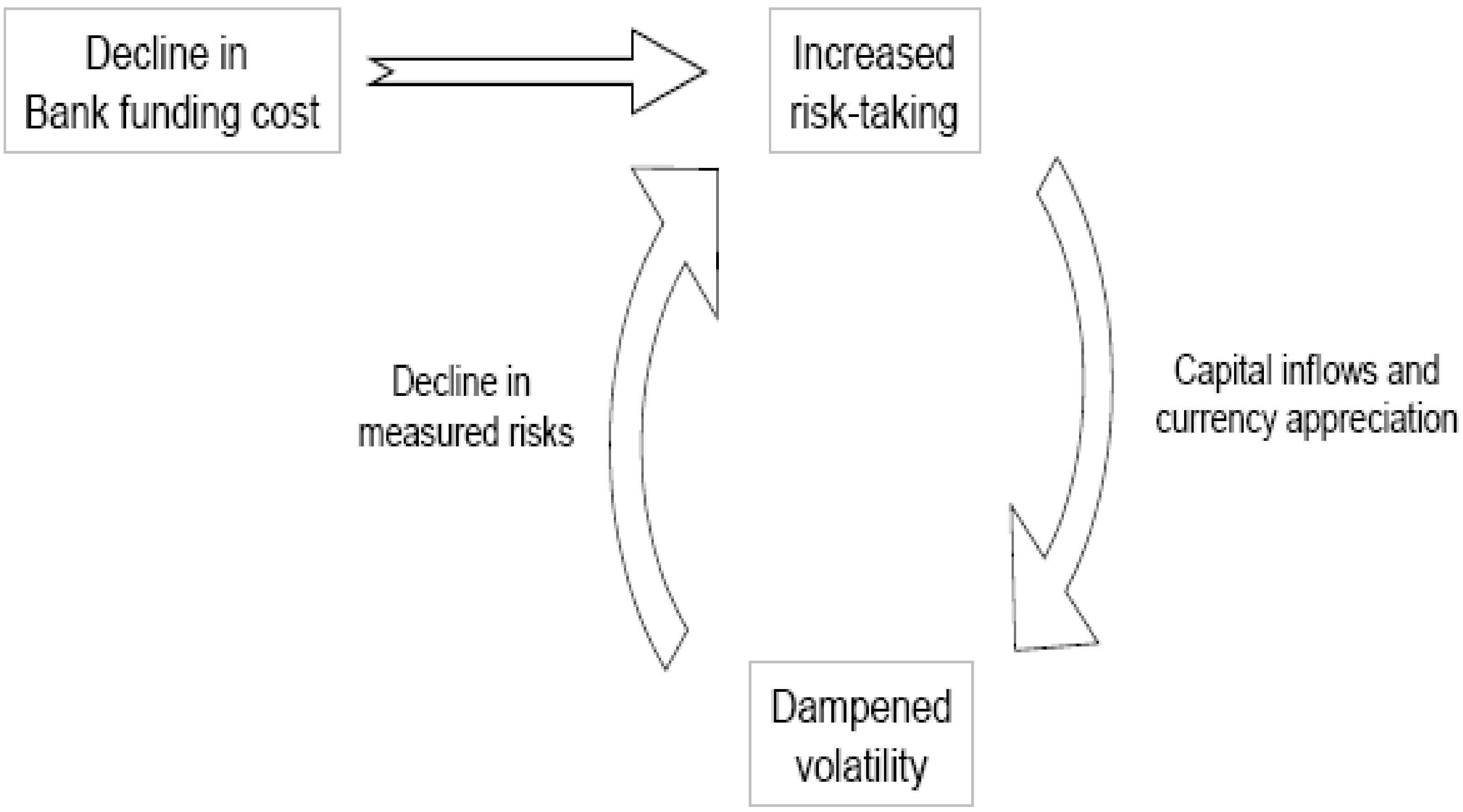
Figure 5: Foreign Currency Assets and Liabilities of BIS-Reporting by Currency



The First Phases of Liquidity

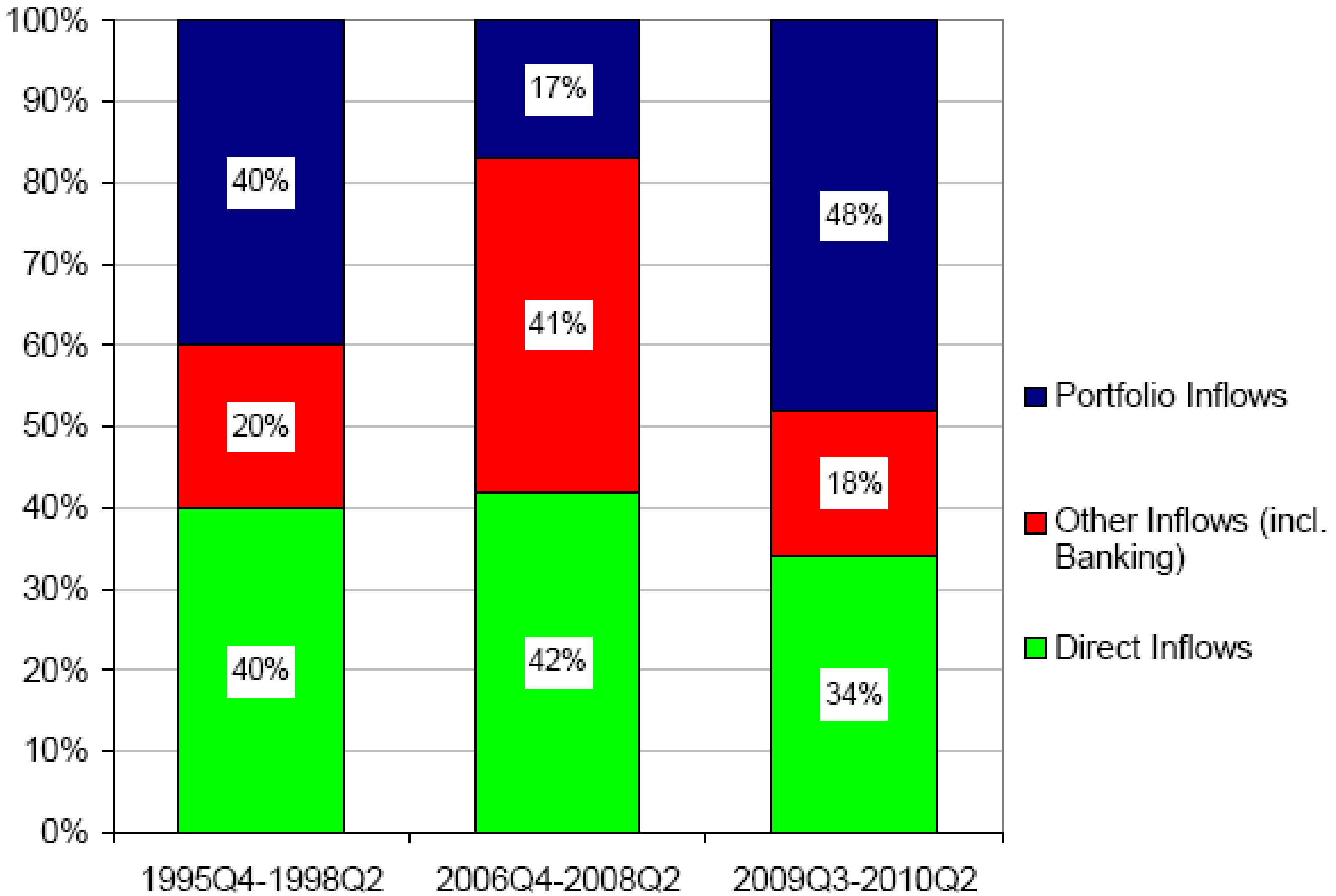
- Figure 5 shows the foreign currency (FCY) assets and liabilities of global banks as tracked by the BIS and arranged by currency.
- The US dollar series shows the dollar assets and liabilities of banks outside the US, the euro series gives the EUR-denominated assets and liabilities of banks that are outside the Eurozone, and so on.
- **The US dollar asset series reached more than USD 10 trillion in 2008Q1, briefly exceeding the total assets of the US chartered commercial banking sector** (Shin 2012).
- Such a risk-taking channel is a powerful determinant of leverage, thereby acting as the linchpin in the propagation of global liquidity (Bruno and Shin 2012b).
- A further distinctive feature of the risk-taking channel is that **currency appreciation** can fuel capital inflows rather than stem them, as currency appreciation strengthens local borrower balance sheets and creates additional slack in the lending capacity of banks, thereby **stimulating further inflows** (Figure 6).

Figure 6: Feedback Created by Currency Appreciation in the Presence of the Risk-Taking Channel



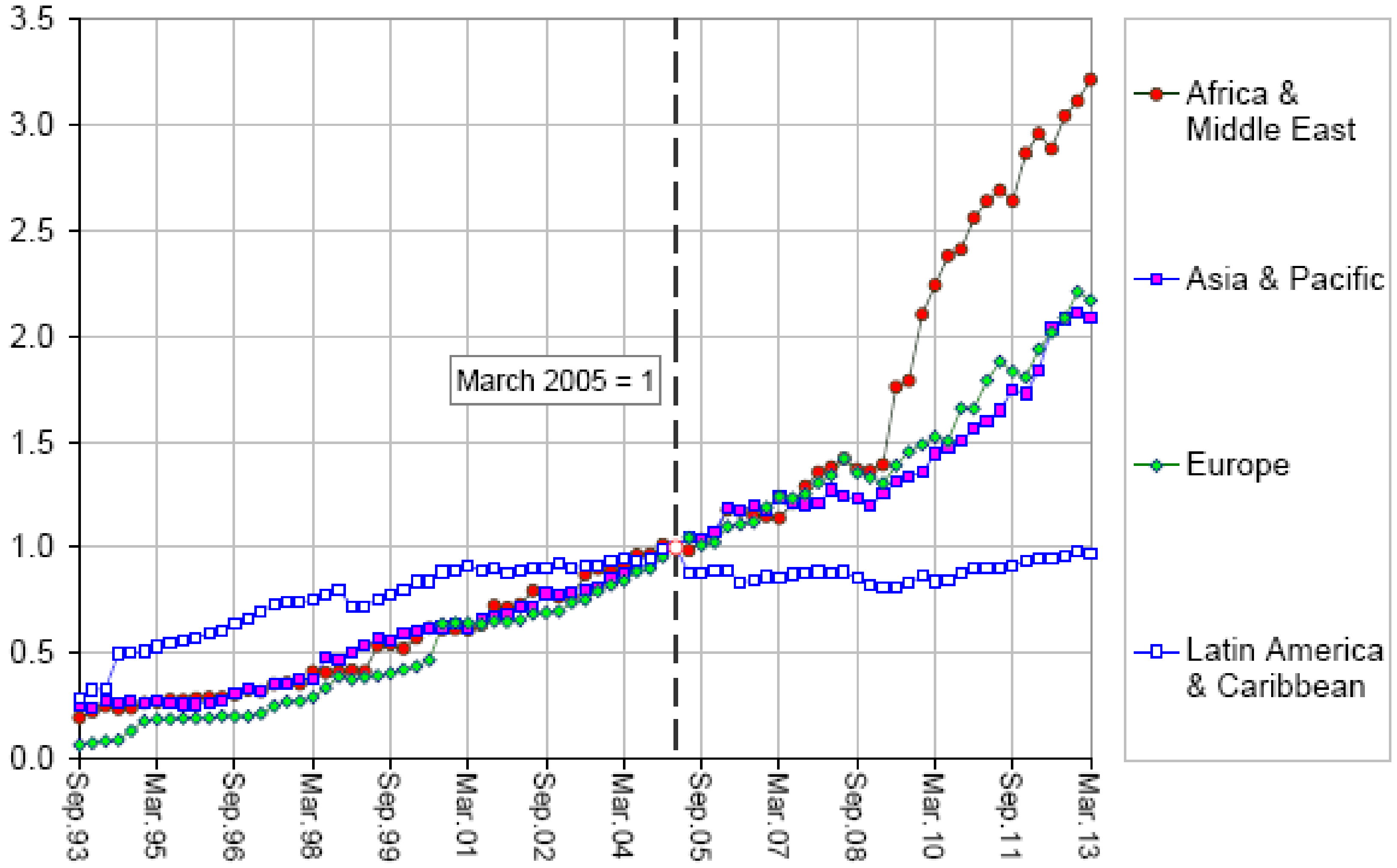
Source: IMF (2011).

Figure 7: Components of Capital Inflows to Emerging Economies in Three Surge Episodes



Source: IMF (2011).

Figure 8: Government International Debt Securities Outstanding
(2005Q1 = 1)



Source: Bank for International Settlements (BIS) *Debt Securities Statistics*.

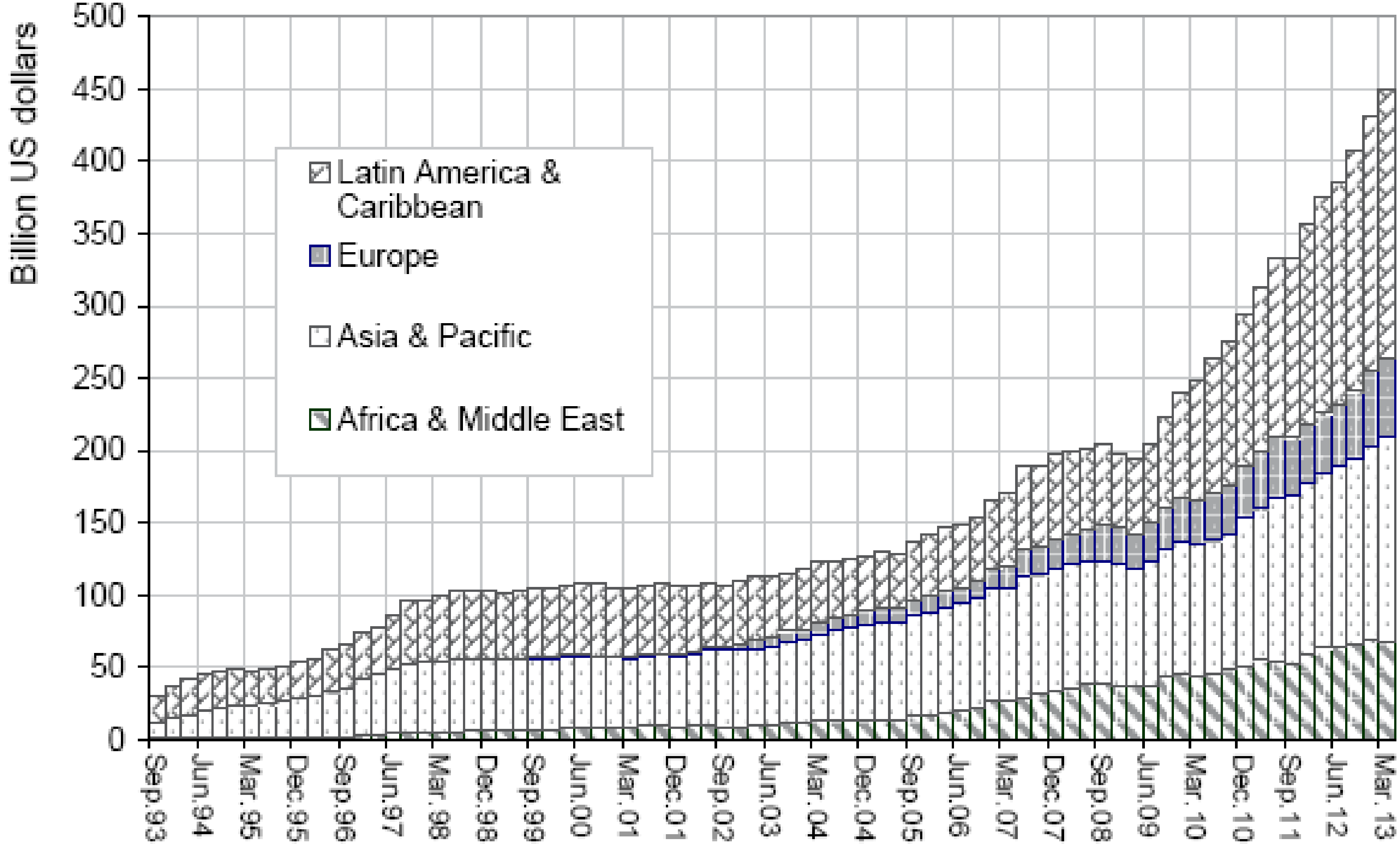
The First Phases of Liquidity

- Figure 8 plots trends in the outstanding amounts of international securities issued by governments in developing economies by region as defined by the BIS.
- The total outstanding amounts of international securities in each region are normalized to equal unity at the end of 2005Q1.
- We see from this chart that the **issuance activity of governments in Africa and the Middle East has grown rapidly since 2008**, with the amounts outstanding **more than tripling since 2005Q1**.
- Developing Asia and the Pacific and Developing Europe also saw rapid increases, although less rapid than in Africa.
- Developing Latin America, by contrast, did not see an increase in the amount of bonds outstanding in the period under review.

The First Phases of Liquidity

- Figure 8 provides the contextual backdrop for **the numerous instances of international bond issuance by "frontier" sovereigns** in Africa and elsewhere who have recently ventured into the international bond market **having never tapped the capital market before**.
- The rapid pace of issuance activity is perhaps even starker for non-financial corporate issuers in developing countries. Figure 9 presents total international securities outstanding issued by non-financial corporate borrowers in developing countries, based on BIS securities statistics and classified by region.
- We see that **developing country corporate borrowers have increased their total international securities borrowing** from less than USD 200 billion in the aftermath of the Lehman crisis to USD 450 billion in March 2013.
- It is notable that **corporate borrowers in Latin America have increased their borrowing sharply**, in contrast to the subdued borrowing activity of Latin American sovereigns.

Figure 9: Non-Financial Corporate International Debt Securities Outstanding by Developing Region



Source: Bank for International Settlements (BIS) *Debt Securities Statistics*.

The Second Phases of Liquidity

- The first and second phases of global liquidity that are manifest in capital flows have important implications for emerging Asia.
- For our analysis, it is useful to break down capital flows into four types: **"FDI"** (foreign direct investment), **"equities"** (equity portfolios), **"debt"** (debt securities and other debt including derivatives), and **"bank"** (capital flows intermediated by the banking sector).
- **Bank-led and debt-led flows are the most volatile among the four types**.
- Figure 10 shows **a turnaround** from negative to positive levels of **debt-led and bank-led flows** in five Asian countries (Indonesia, Japan, the Republic of Korea, the Philippines, and Thailand) during **the second half of the 2000s.**

The Second Phases of Liquidity

- Classifying the trend of capital flows into :
  - **"surges"** (a sharp increase in inflows)
  - **"stops"** (a sharp decrease in inflows)
  - **"flight"** (a sharp increase in outflows)
  - **"retrenchment"** (a sharp decrease in outflows)
- Figure 11 confirms the volatility of debt-led and bank-led flows, where changes exceeding one standard deviation occurred most frequently.
- The following pattern emerges for the five Asian countries cited above:

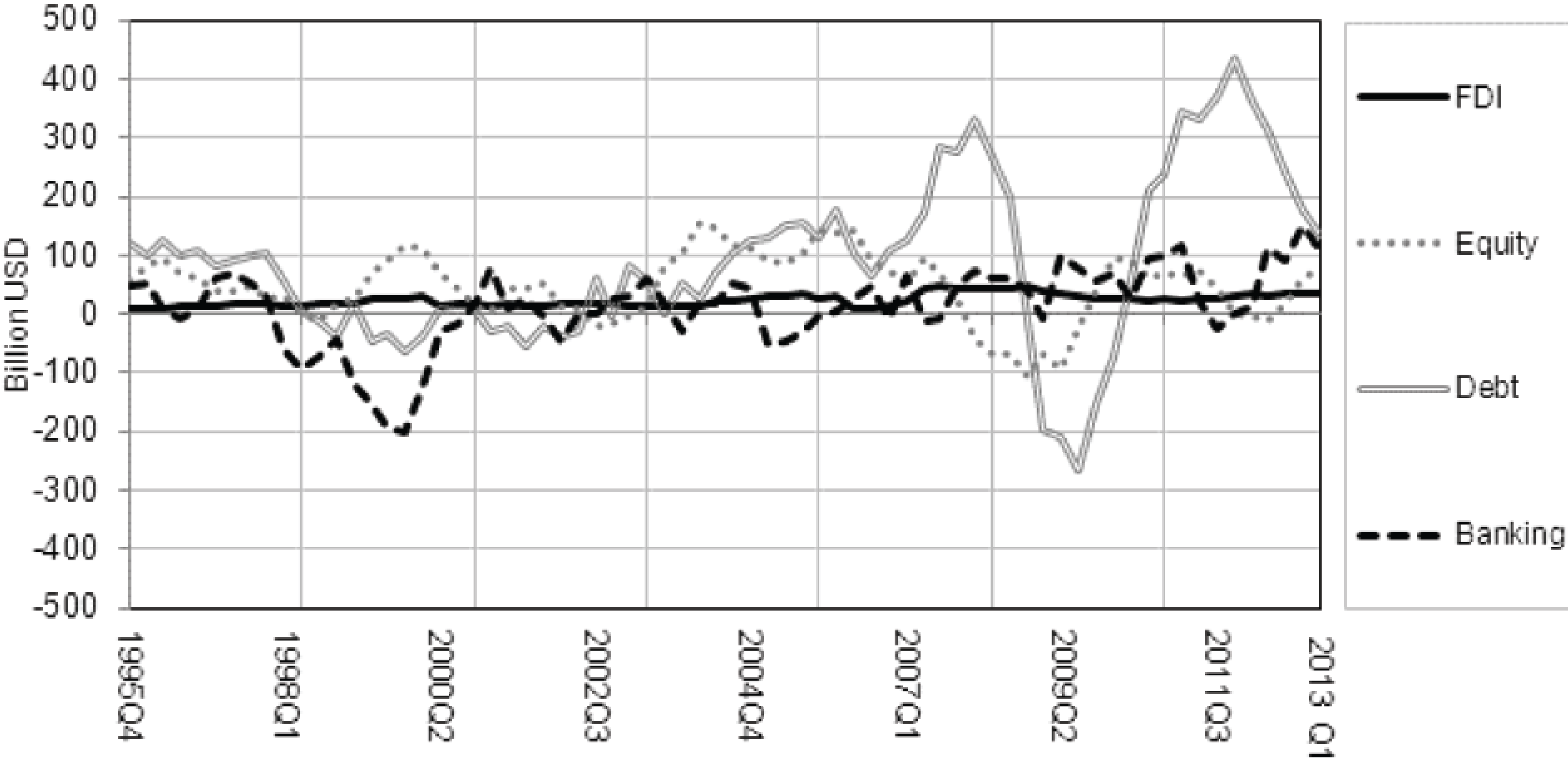
  Surges: equity-led in 2009Q4–2010Q1; debt-led in 2002Q2, 2005Q4, and 2007Q2–2007Q4; bank-led in 2004Q1 and 2010Q2

  Stops: equity-led in 2008Q1–2008Q3; debt-led in 1997Q1–1997Q3 and 1998Q3; and bank-led in 1997Q4–1998Q2 and 2008Q4–2009Q2

  Flight: equity-led in 2007Q4; debt-led in 2005Q4; bank-led in 1999Q3, 2001Q2, 2002Q4–2004Q3, 2006Q1–2006Q2, 2007Q2–2007Q3, and 2010Q1

  Retrenchment: debt-led in 1997Q3–1998Q2 and 2008Q2; bank-led in 1996Q4–1997Q1, 1998Q3–1998Q4, 2002Q1, 2005Q2, and 2008Q3– 2009Q2

Figure 10: Gross Capital Inflows in Selected East Asian Countries



Note: Data include gross capital inflows for Indonesia, Japan, the Republic of Korea, the Philippines, and Thailand.
Source: ADB calculations using data from *IMF Balance of Payments Statistics.*

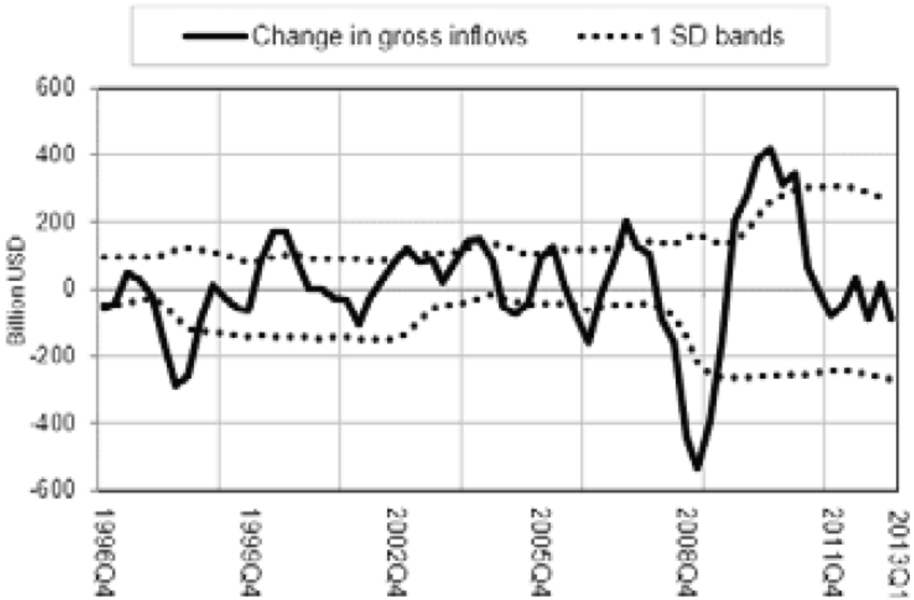
The Second Phases of Liquidity

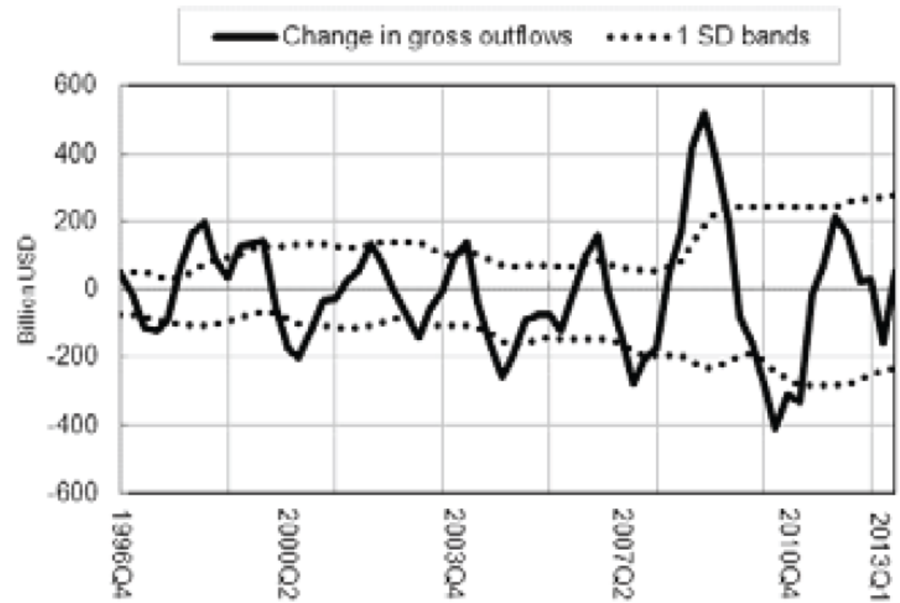
- In the case of bank-led flows, deleveraging by European banks contributed to the volatility.
- As funding conditions in Europe deteriorated toward the end of 2011, bleak economic prospects and doubts over fiscal sustainability undermined the value of sovereign and other assets.
- Bond issuance by banks fell, especially uncollateralized issuance in fiscally challenged countries; outflows due to fund withdrawals surged, particularly in Italy and Spain; and exposure to a number of European Union (EU) institutions dropped sharply.

The Second Phases of Liquidity

- Figures 11 and 12 clearly show that **capital flows to Asia intensified before the GFC**.
- These **flows can be beneficial**, but their volatile pattern and procyclicality can also act as a channel that transmits the **build-up of financial risks and imbalances**.
- A recent study examining the procyclicality of financial systems in Asian countries confirms that bank liabilities are **highly procyclical**, as indicated by the **significantly positive real gross domestic product (GDP) elasticities**, although the **degree** of procyclicality **varies across countries** (Hahm, Shin, and Shin 2013a).
- In countries with relatively high real GDP elasticities, such as the Republic of **Korea** and **Indonesia**, **non-core liabilities are more procyclical than core liabilities**. Also, non-core liabilities such as foreign borrowings tend to be more procyclical during boom periods.

Figure 11: Gross Capital Inflows and Outflows in Selected East Asian Countries



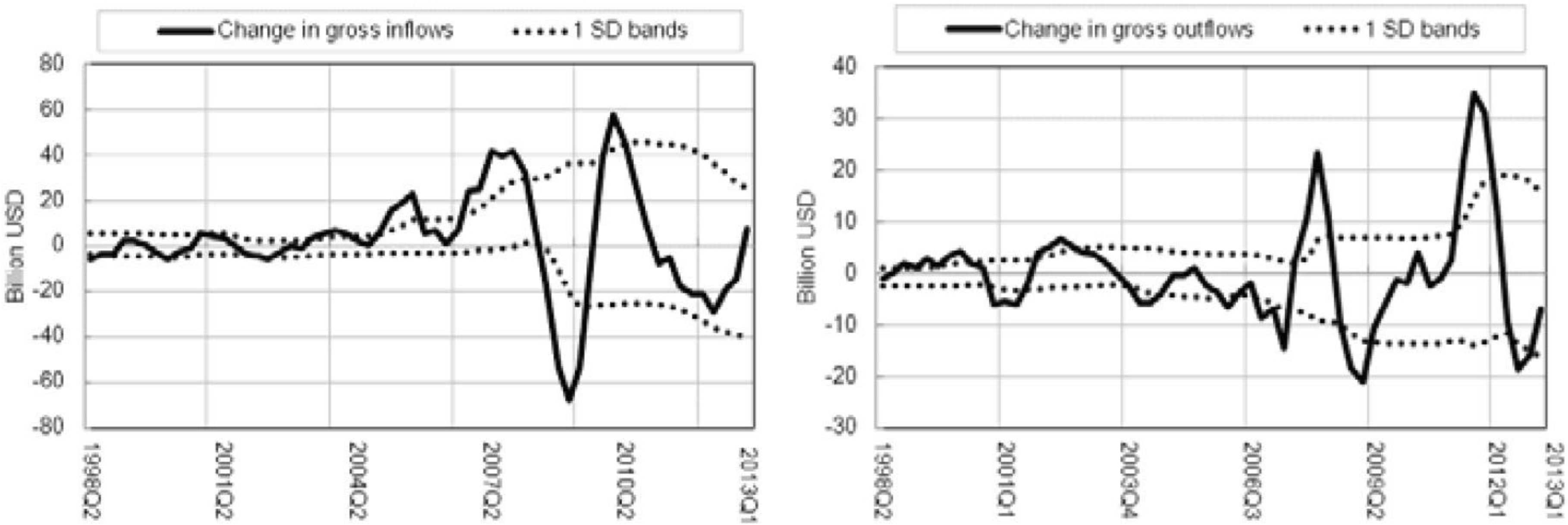


Notes:

1. Data include gross capital inflows and outflows for Indonesia, Japan, the Republic of Korea, the Philippines, and Thailand; computed as year-on-year change based on a 4-quarter moving sum. Inflows refer to bank flows from other investments on the liabilities side (assigned a positive value); outflows refer to bank flows from other investments on the assets side (assigned a negative value).

Source: ADB calculations using data from *IMF Balance of Payments Statistics.*

Figure 12: Gross Capital Inflows and Outflows in Selected South Asian Countries



Note:

1. Data for South Asia include India, Pakistan, and Sri Lanka.
2. The period covered is 1995Q1 until 2013Q1 for India and Pakistan, and 1995Q1 until 2011Q4 for Sri Lanka.
3. Computed as year-on-year change based on a 4-quarter moving sum.
4. Inflows refer to bank flows from other investments on the liabilities side (assigned a positive value); outflows refer to bank flows from other investments on the assets side (assigned a negative value).

Source: ADB calculations using data from the *IMF's Balance of Payments Statistics.*

The Second Phases of Liquidity

- With respect to US monetary policy, our findings reveal that bank liabilities are responsive to both domestic and US policy interest rates, but there are some differences across the countries studied.
- In the Republic of Korea and Singapore, **bank liabilities tend to increase faster when Fed funds rates are low**, which indicates that **US monetary policy** has **important spillover effects on bank leveraging** in emerging Asian countries.
- Regarding the impact of the interoffice assets of foreign banks in the US, bank liabilities in many Asian countries **respond positively to US cross-border interoffice loans** and **the elasticities are higher for non-core liabilities**.
- The impact of global market uncertainty, as measured by the **CBOE Volatility Index (VIX),** seems **less significant in Asian countries**, and in many cases, the **elasticity has an opposite sign**.

The Second Phases of Liquidity

- Overall, the findings of the study suggest that non-core bank liabilities, especially **foreign bank borrowings**, are **highly procyclical and constitute an important transmission channel** of global liquidity shocks to Asian economies.
- In open emerging economies, financial cycles can be much different from domestic business cycles due to cross-border linkages through non-core funding.
- The implication is that **monetary policy alone is not sufficient to lean against procyclicality** and financial cycles in open emerging market economies, and thus **policy makers need** to also **have access to macroprudential tools**.
- Another study (Hahm, Shin and Shin (2011)) using a panel probit model analyzes the incidence of financial crises in a large sample of emerging economies. It finds that **non-core bank liabilities do have explanatory power for subsequent crises.**
- The empirical performance of measures for **non-core liabilities is encouraging even when more traditional measures, such as the ratio of credit to GDP, are included**.

The Second Phases of Liquidity

- In particular, banks' foreign liabilities constitute a major component of their non-core liabilities in many emerging market economies where the domestic wholesale bank funding market is not sufficiently developed to support rapid growth in bank lending.
- The overall results from these studies are consistent with the hypothesis that **non-core bank liabilities matter more in open emerging market countries** than in relatively closed economies.
- However, the impact of **noncore liabilities manifests itself highly non-linearly and heterogeneously** across different crisis episodes.
- Policy makers in emerging Asian countries must take these complex interaction effects into consideration when pursuing capital market liberalization by **designing a careful macroprudential policy framework** as a guard against potential risks.
- This discussion is **appropriate for** an economy, such as the Republic of **Korea**, where the do**mestic banking sector** has **access to funding from the global banking system**.

The Second Phases of Liquidity

- However, in some financial systems at an earlier stage of development, or where the banking sector is legally restricted from having access to the global banking system, the distinction between core and noncore liabilities will look different, although the principles from the system-wide accounting framework will continue to apply.
- Such risks are particularly **important** for **bank-dependent Asian countries with open capital accounts** where bank leverage tends to exceed cyclical norms.
- As shown in Figure 13, **the growth of bank credit** in emerging Asia **accelerated prior to the GFC**. Even after the GFC, growth continued to rise in some countries.
- **This rapid expansion coincided with rising demand for property**, causing a persistent **increase in property prices** and exposing the region to the **risk of a bubble bursting**.
- **Credit for consumption also surged**, **fueling the growth of consumption** to allow **for high economic growth amid a global economic slowdown**.

Figure 13: Credit Growth in Emerging Asia

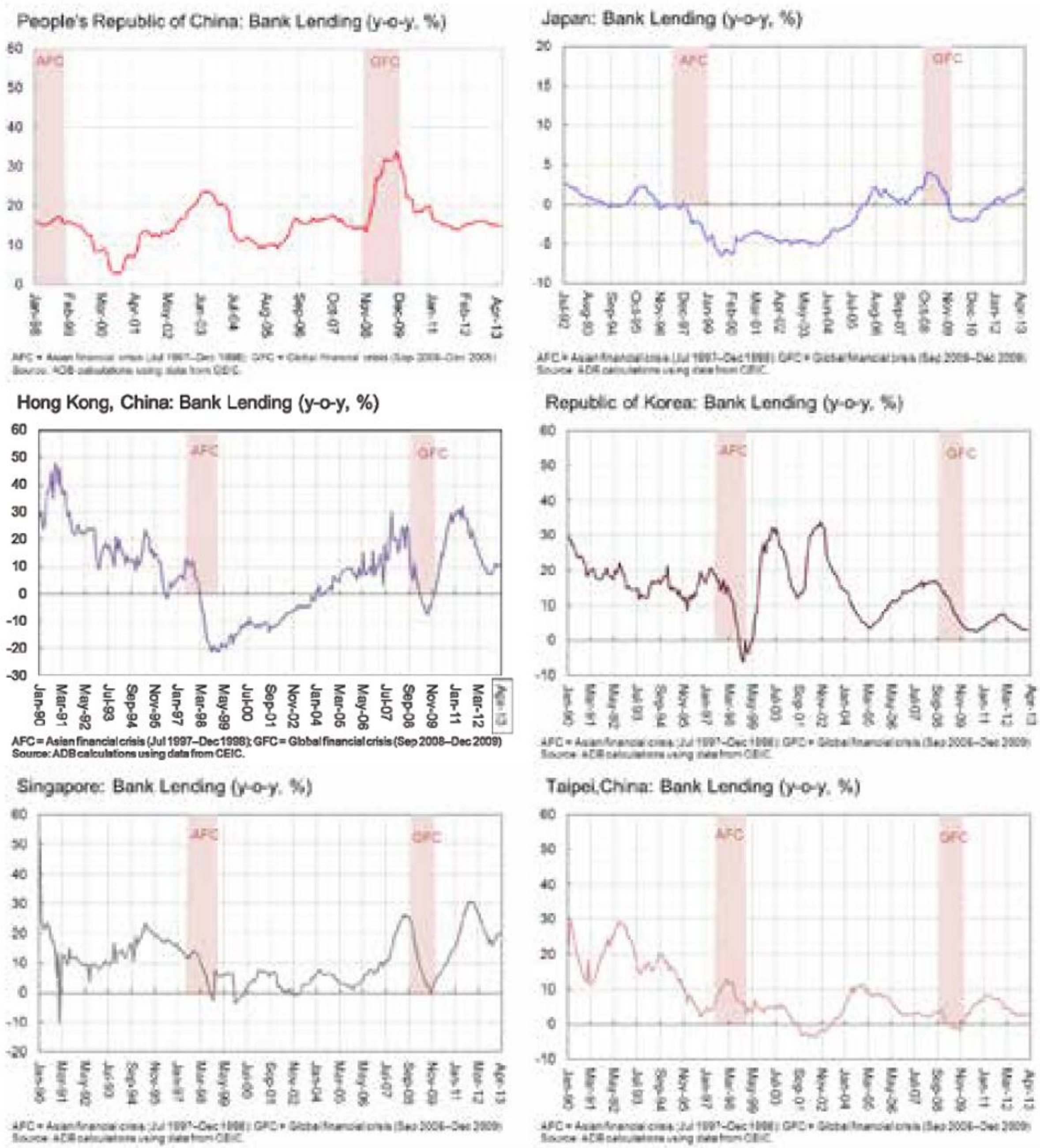
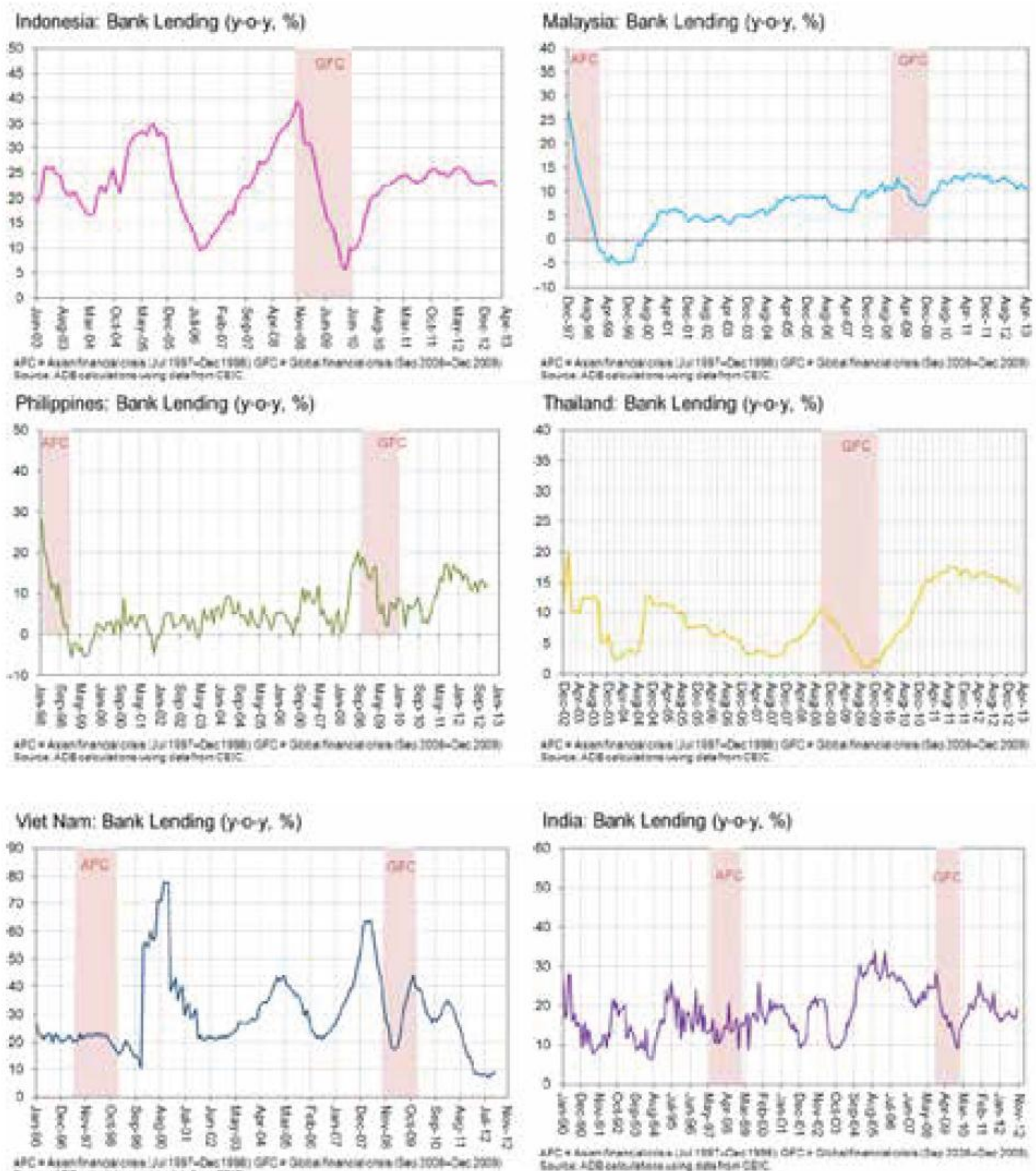


Figure 13 continuation



The Second Phases of Liquidity

- We investigate the implications for bank behavior by using flow-of-funds (FOF) data from five Asian economies: Indonesia; the Republic of Korea; the Philippines; Taipei,China; and Thailand. The period under review is divided into pre-GFC (2000–06) and GFC (2007–11). In the set of charts in Figure 14, the two periods are depicted as squares and triangles, respectively.
- We match the **flow of different components of liabilities and assets** based on the FOF data and estimate the trend line in both periods for each economy.
- In particular, we compare the **(i) correlation of liabilities with total assets** across different types of liabilities, and (ii) **correlation of assets with noncore liabilities** (or core liabilities in the case of households) across different types of assets.
- The former aims to capture what type of liabilities move in sync with changes in assets (source of funds), the latter aims to identify the type of assets that non-core liabilities are invested in (use of funds).

Figure 14: Bank Behavior in Selected Emerging Asian Economies

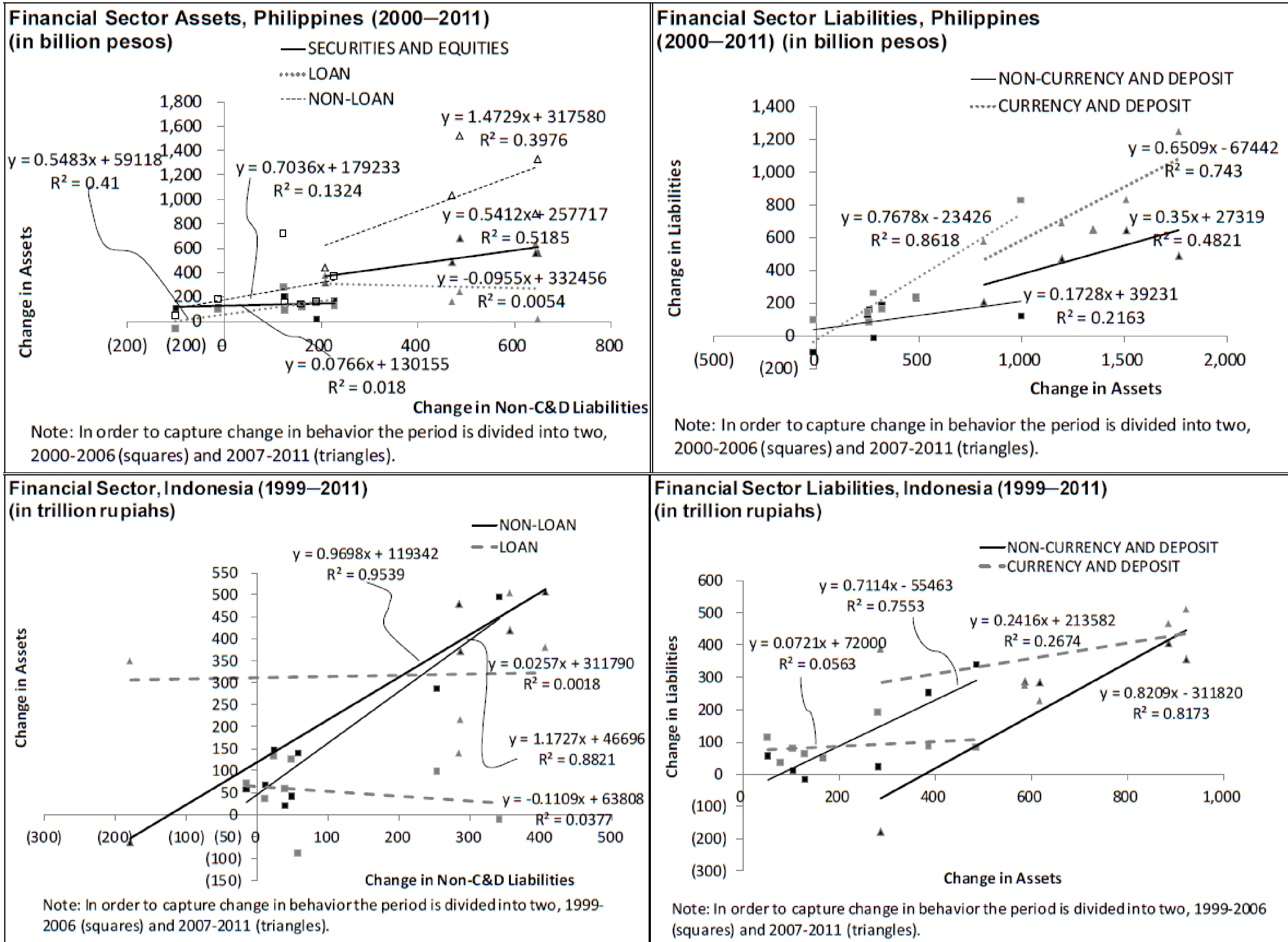
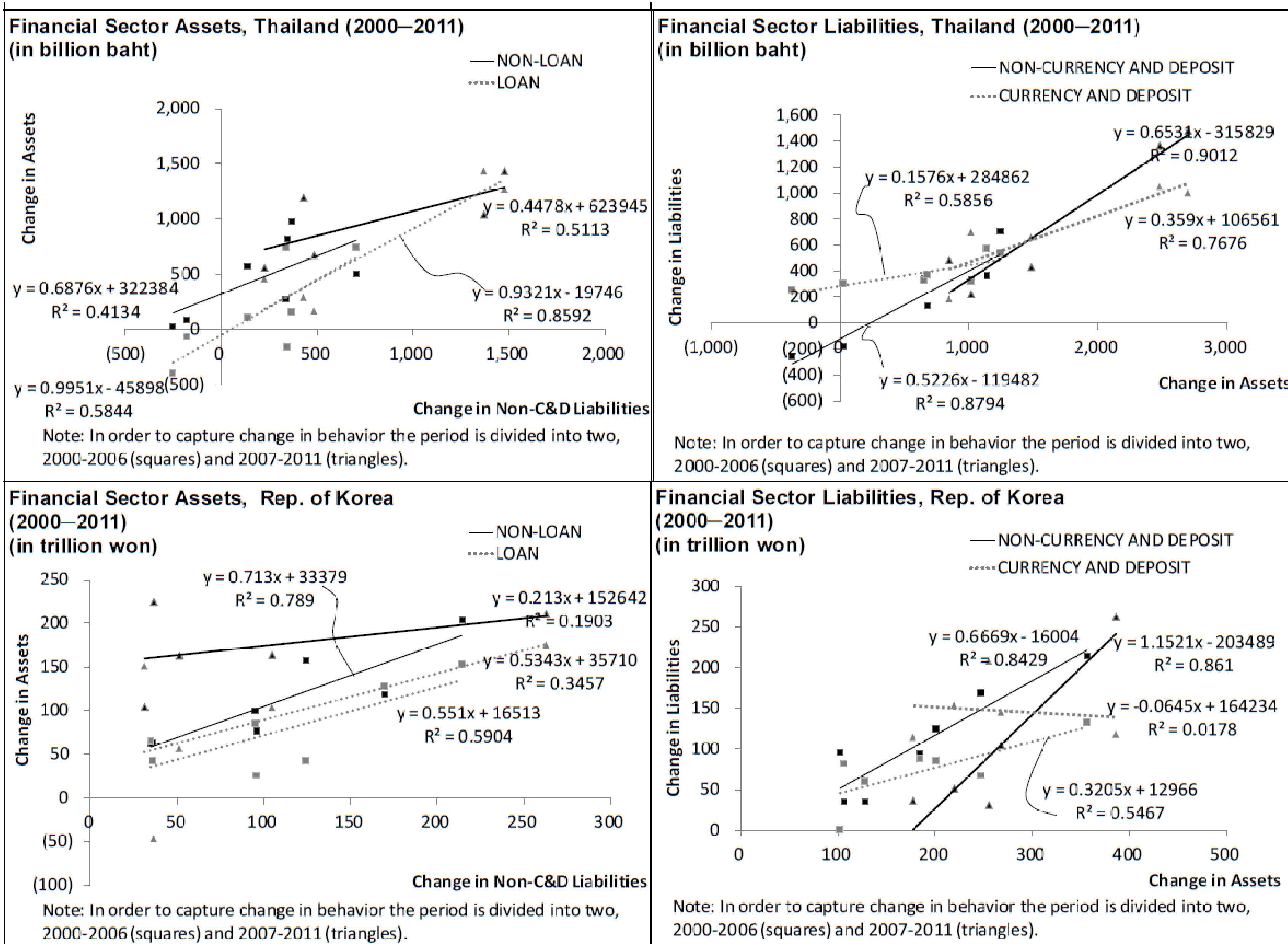


Figure 14 continued



Source: Flow-of-funds (FOF) data from national sources.

The Second Phases of Liquidity

- Figure 14 shows that the financial sector in the **Philippines** exhibited a **significant change** in **investment behavior** between the pre-GFC and GFC periods.
- The preference for **non-core sources (non-deposits) increased**, with the slope doubling, while the slope of currency and deposits declined.
- With growing non-core liabilities, **investment by the financial sector is more diversified in favor of non-loans**, particularly securities and equities.
- In the case of **Indonesia**, banks have been increasingly seeking funds from **non-currency and deposit sources**.
- They continue to allocate the bulk of their funds for **loans**, presumably **dominated by credit for consumption**, **real estate, and other non-tradable sector assets**.
- However, in both countries, the preference for **securities and non-loan assets has risen faster than that for lending**.

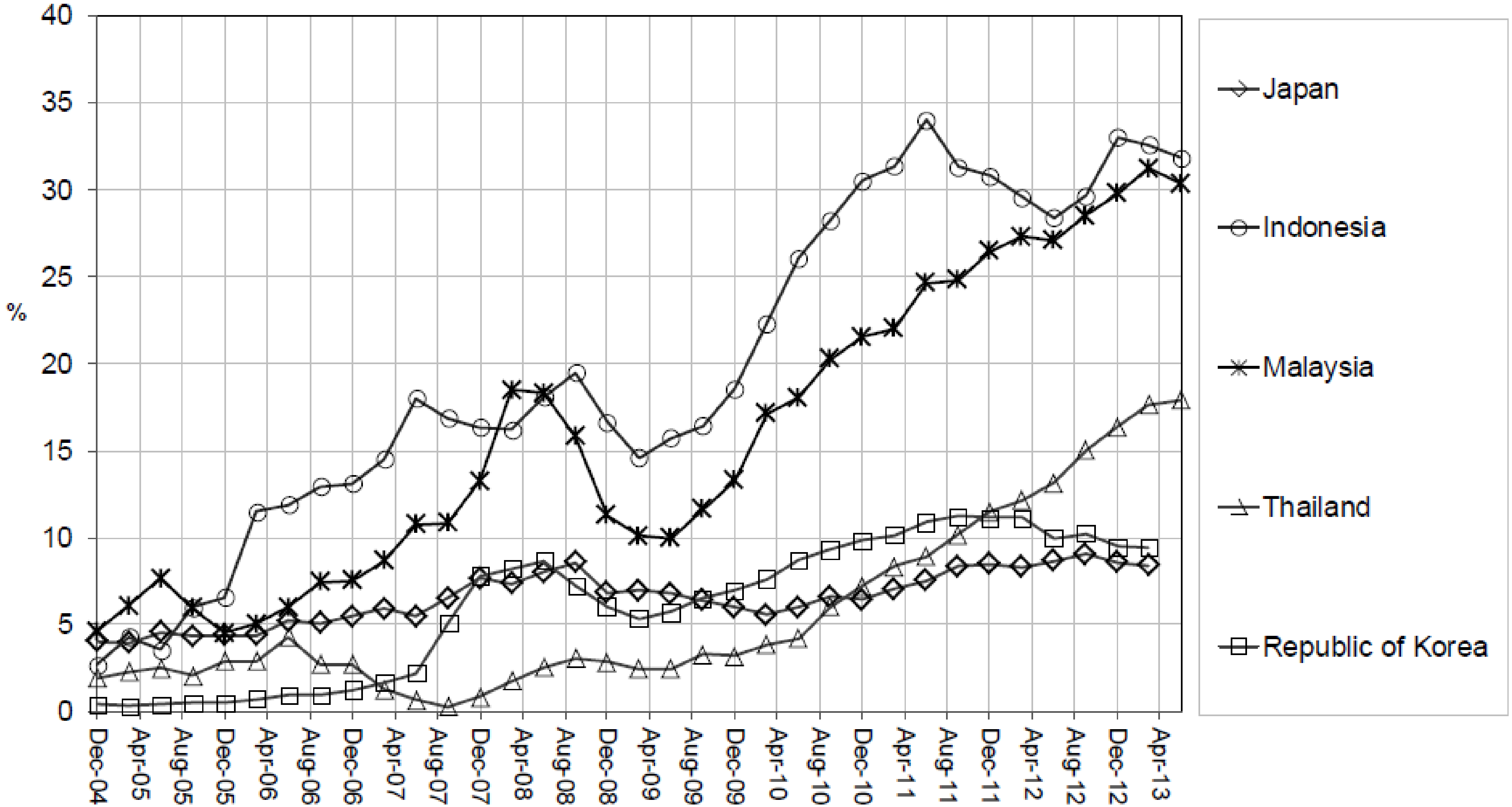
The Second Phases of Liquidity

- Like in Indonesia, the tendency among the financial sector in **Thailand** has been to **allocate additional funds to loans**. The **corresponding loan slope is close to unity** (**0.99 and 0.93** during the pre-GFC and GFC periods, respectively).
- In the case of the Republic of **Korea**, the FOF data show a persistently strong tendency toward **extending loans**. Such a strong preference is depicted by a **higher slope for loans than for non-loans**.
- A shift of preference in favor of **raising funds from non-core sources** is also observed. The non-core share of banks' liabilities remained high, although it has been declining in recent years.
- It is clear that as **banks and other financial institutions expand their liabilities using non-core sources**, they tend to diversify their asset holdings by allocating the additional funds either to loans or other risky financial assets.
- As a large portion of loans are directed toward the **property sector** and other forms of **consumer credit,** vulnerabilities multiply.
- Although the level of **non-core liabilities** in most countries **is not yet alarming**, if left unattended it could threaten macro and financial stability.

The Second Phases of Liquidity

- The attraction for banks of holding financial assets has been enhanced by improved liquidity in capital markets as **foreign funds flocked to the region** as a result of **ultra-easy monetary policies** in **advances economies**.
- As **foreign investors shun risky holdings like equities**, while at the same time seeking high risk-returns, emerging **Asia's LCY bond market has become especially attractive**.
- The safe haven status of Asia, relative to other developing regions, has reinforced these flows. The yields of traditionally safer US Treasuries and those of **emerging market debt moved in the same direction after the GFC**.
- The recent downgrade of global growth expectations has pushed emerging Asian LCY bond yields lower, in tandem with those in advanced economies, implying that **the credit risks** associated with LCY bonds in the region's emerging markets **are significantly lower than in the past**.

Figure 15: Share of Foreign Ownership in Selected Emerging Asian LCY Bond Markets



Source: ADB calculations.

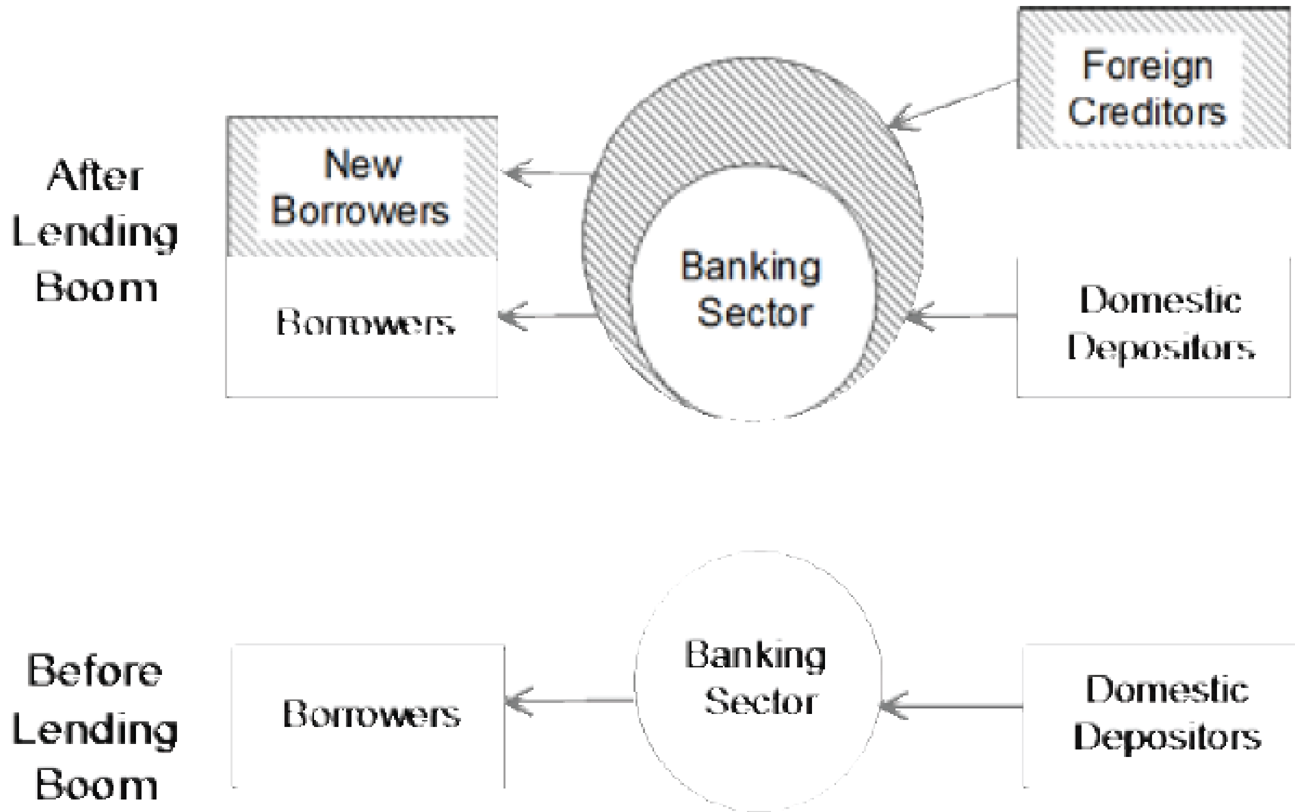
The Second Phases of Liquidity

- The share of **foreign ownership** in some of the **region's LCY bond** markets has increased, reaching roughly **one-third of the total** in **Indonesia** and **Malaysia**, and more than 10% in the Republic of **Korea** and **Singapore** (Figure 15).
- In spite of the positive nature of this trend, the relatively **small size** of emerging Asian LCY bond markets and their **limited liquidity exposes these markets to foreign withdrawals**.
- The volatility that may result can **adversely impact market liquidity and reduce the attractiveness** of the region's bond market—as it directly impacts investor perceptions of the collateral value of emerging Asian LCY bonds.
- A recent study by Azis et al. (2013) reveals that in some Asian markets, the **impacts of the external shock** and volatility of the **US and European bond markets** associated with the Lehman failure and the Eurozone crisis have been **significant.**

The Second Phases of Liquidity

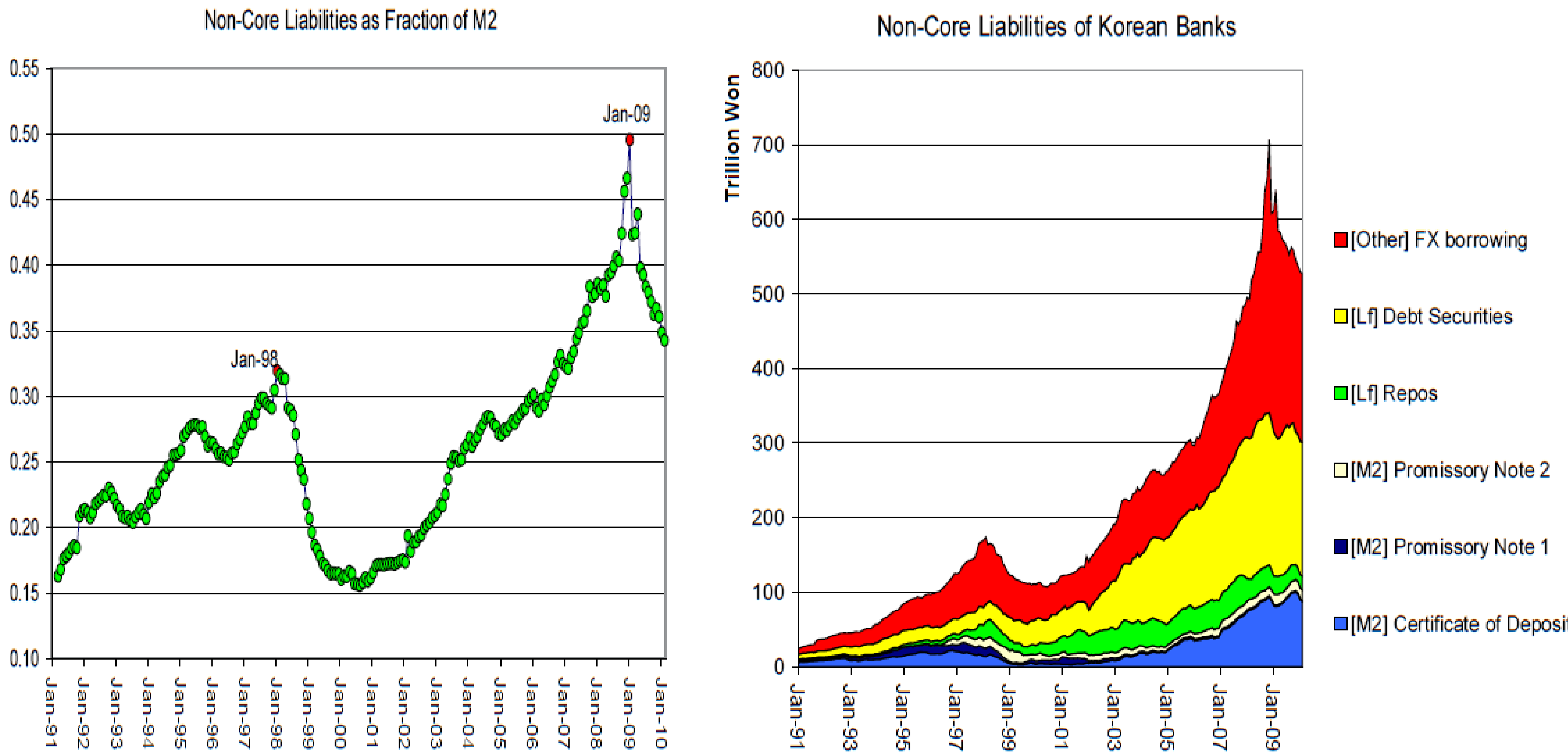
- In short, the global flows that **fueled capital market liquidity in emerging Asia (second phase)** have clearly affected the region's financial sector as it is **the largest holder of LCY bonds**.
- With **ample liquidity** from **non-core liabilities (first phase)**, **banks expanded not only their loans but also their financial assets**, including **LCY sovereign bonds**.
- These developments will have some bearing on the implications for available policy choices.

Figure 16: Lending Boom Financed by Non-Core Liabilities



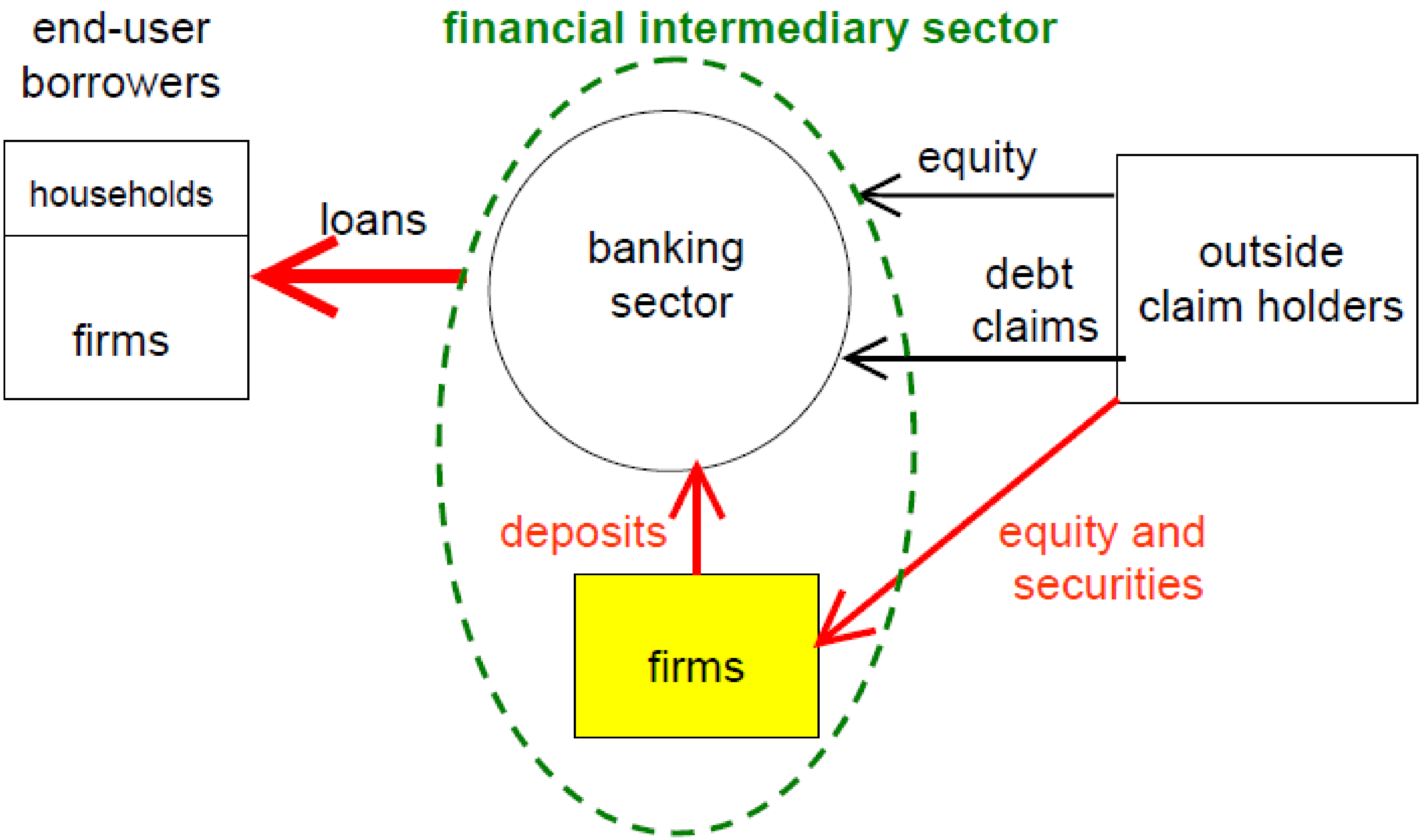
Note: Increased lending during a credit boom is financed by non-core liabilities.
Source: Authors' illustration.

Figure 17: Non-Core Liabilities of Banks in the Republic of Korea



Note: Panel on right plots six categories of non-core liabilities of banks in the Republic of Korea measured in Korean won; panel on the left plots the non-core series as a fraction of M2.
Source: Bank of Korea and Shin and Shin (2010).

Figure 18: Structural Changes in Financial Intermediation



Source: Authors' illustration.

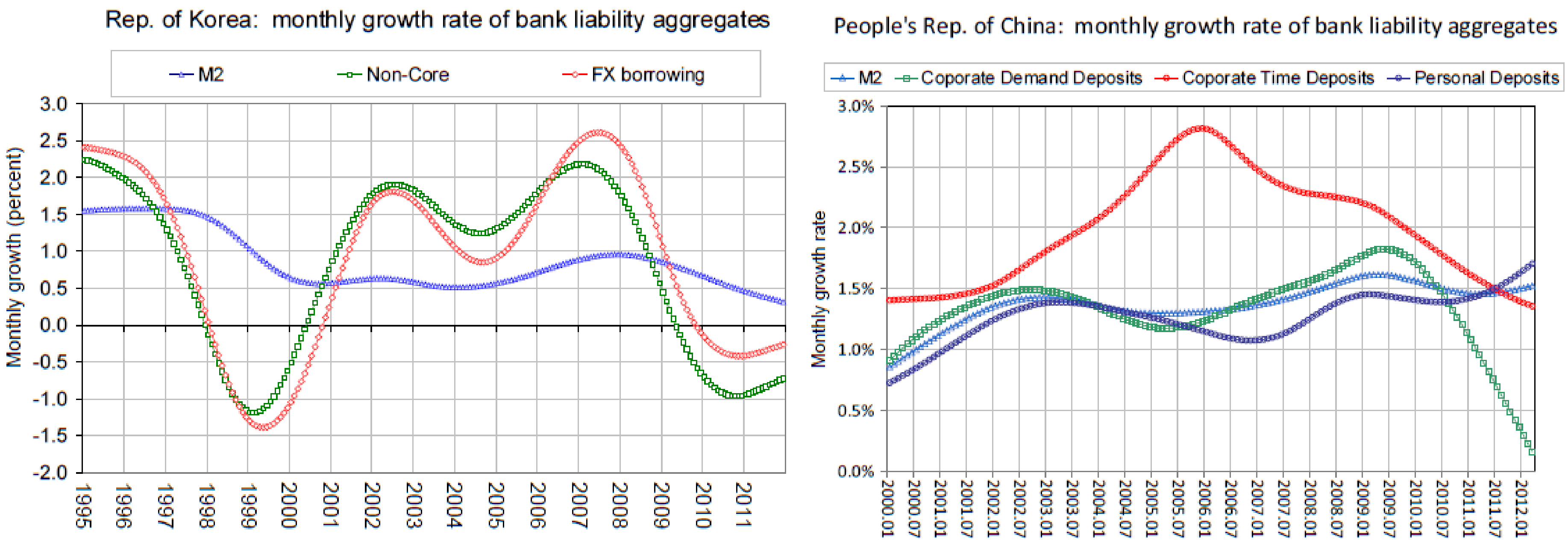
The Second Phases of Liquidity

- A comparison between the **PRC** and the **Republic of Korea** helps illustrate this point. Figure 19 plots the **monthly growth rates** of various **banking sector liability aggregates** for the Republic of Korea (left panel) and the PRC (right panel).
- The growth rates have been filtered through a Hodrick–Prescott (HP) filter at business cycle frequency. The HP filter is used here with hindsight to highlight differences in time series patterns, as opposed to the real-time, trend-finding exercise under Basel III.
- In the Republic of Korea, **banks have access to capital markets**, either **directly** or **through the branches of foreign banks** operating in the country. For this reason, the most **procyclical components of the bank liability** aggregates are those **associated with wholesale funding**, especially the series for FCY denominated liabilities of the banking sector.
- The other non-core liabilities are **bank debentures, repos, and other non-deposit items such as promissory notes** (Shin and Shin 2010). **Before the 1997/98 Asian financial crisis and the GFC**, **non-core liabilities grew rapidly**, only to crash with the onset of each crisis. In contrast, the **growth of M2**, **reflecting household and corporate deposits, is much less variable over the cycle.**

The Second Phases of Liquidity

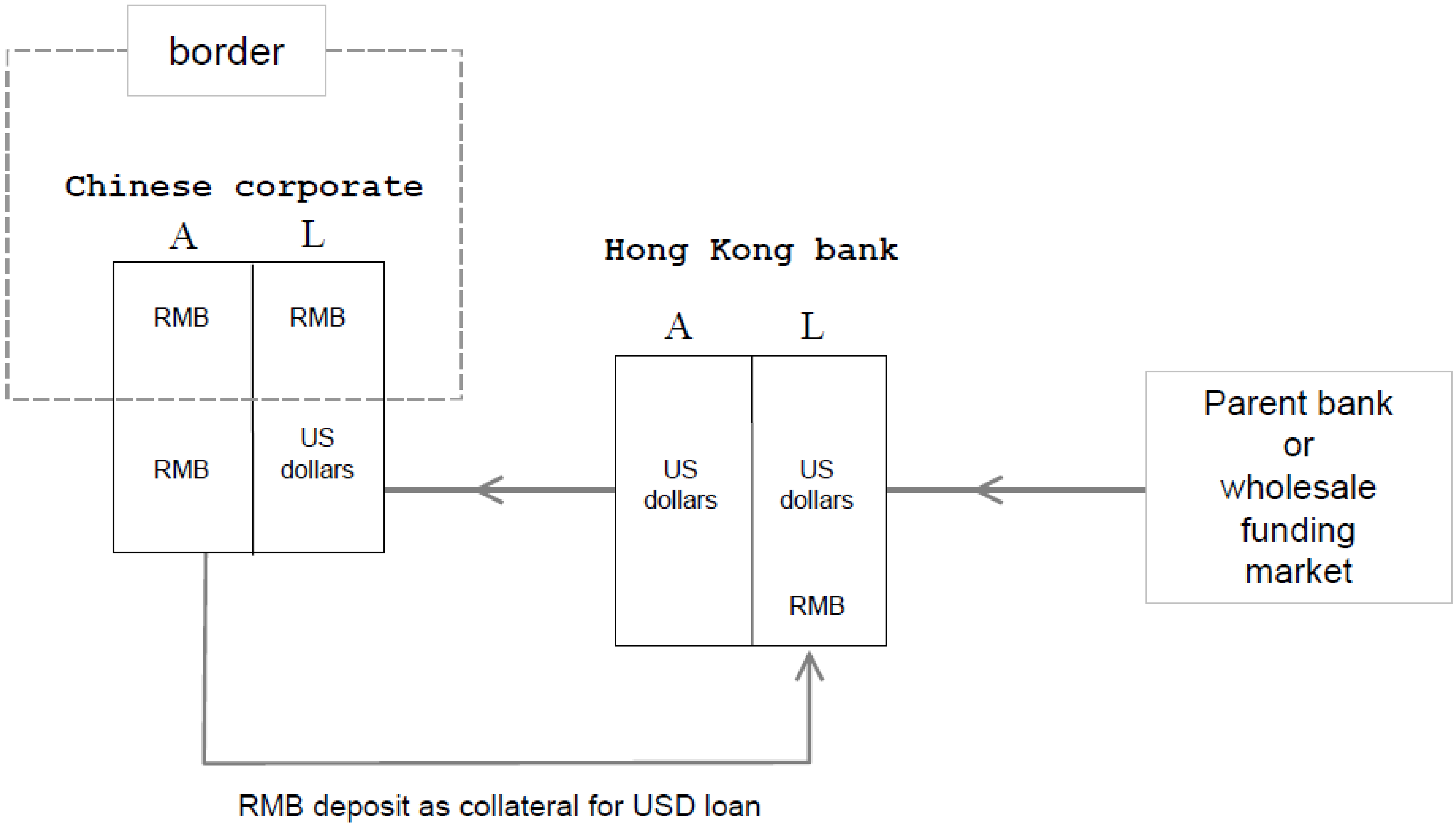
- The right panel of Figure 19 shows that in the PRC, the sub-components of M2 exhibit considerable variation in their time series properties.
- For an economy such as the PRC, **where banks are prevented from accessing international capital markets**, applying the same core and non-core liability classifications as in the Republic of Korea would be inappropriate.
- More thought is needed on **how financial conditions are transmitted across the border into the PRC**.
- As mentioned above, just as water finds cracks to flow through, even a closed **financial system is not entirely immune to global financial conditions**.
- This is especially true for a highly trade dependent economy such as the PRC; if banks are prevented from accessing international capital markets, then **non-financial firms will be the conduit for the transmission of financial conditions**.
- Figure 20 depicts the activities of a Chinese **non-financial firm with operations outside the PRC that borrows in US dollars from an international bank in Hong Kong, China and posts renminbi deposits as collateral**.

Figure 19: Monthly Growth Rates of HP-Filtered Bank Liability Aggregates



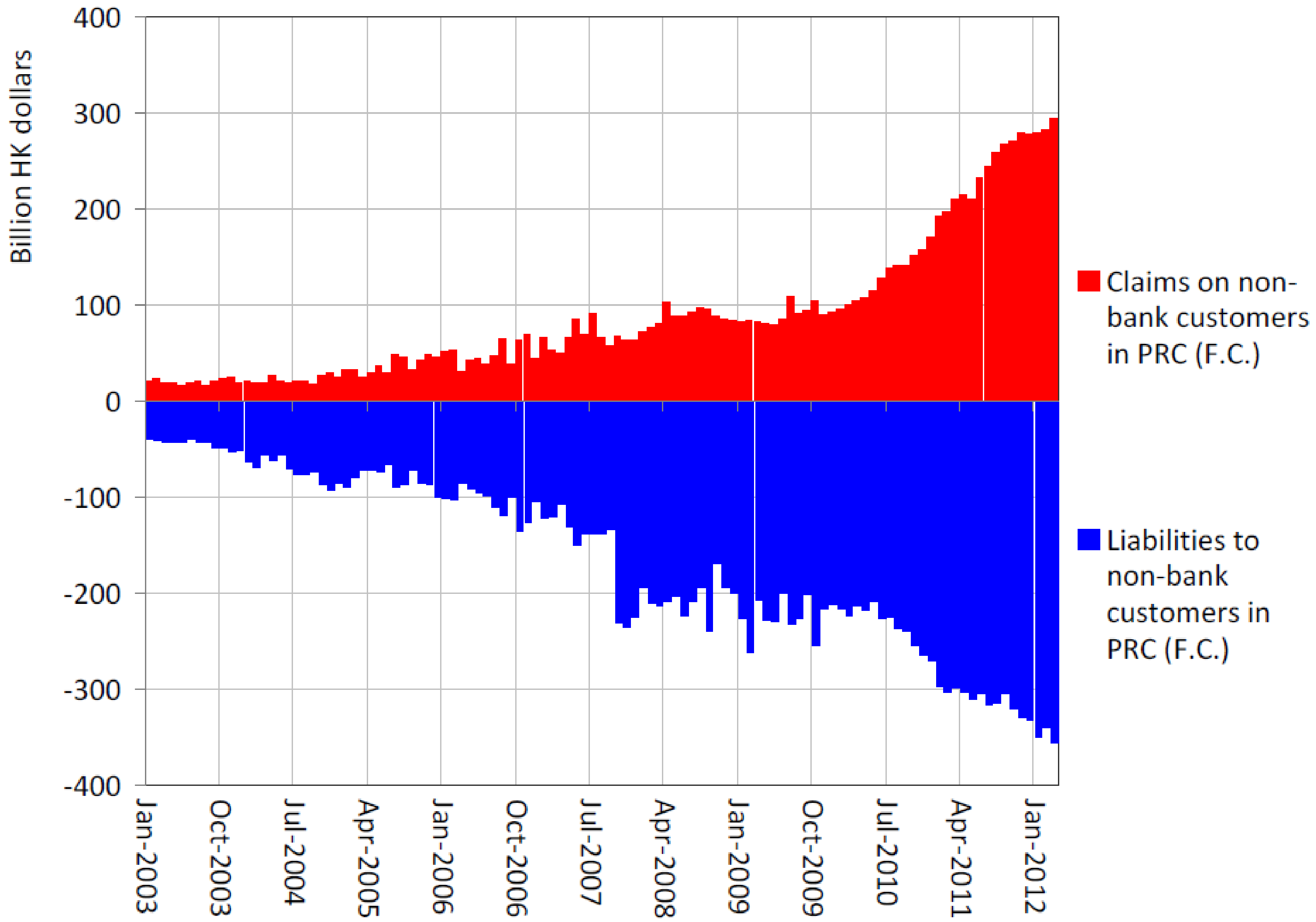
Sources: Bank of Korea and People's Bank of China.

Figure 20: Borrowing Relationship Structure among Non-Financial Corporates in the PRC



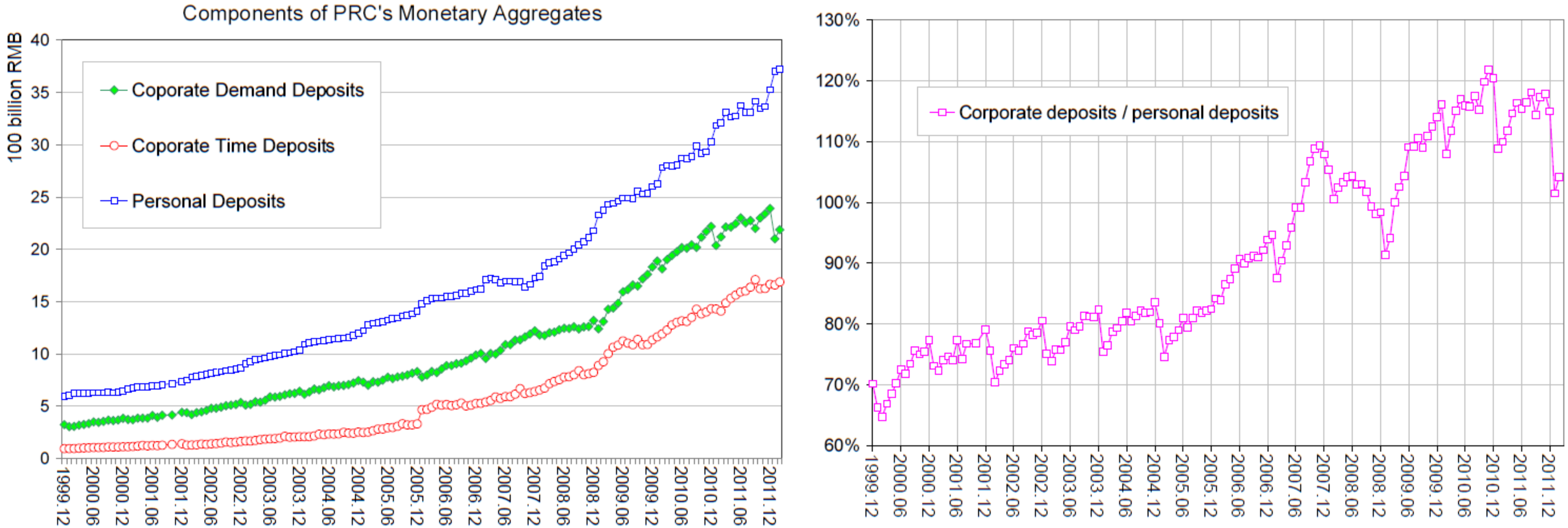
Source: Authors' illustration.

Figure 21: Claims and Liabilities of Banks in Hong Kong, China to Non-Bank Customers in the PRC



PRC = People's Republic of China, FC = foreign currency.
Source: Hong Kong Monetary Authority.

Figure 22: Components of the PRC's Monetary Aggregates



PRC = People's Republic of China.
Source: People's Bank of China.

The Second Phases of Liquidity

- The excess liquidity generated by **the activity of non-financial corporates in the PRC** will be an **important element of the lending boom in the country**.
- It is **reminiscent of the lending boom in Japan in the 1980s** following financial liberalization that allowed Japanese companies to access global capital markets.
- Both in Japan in the 1980s and in the PRC more recently, monetary aggregates, especially **corporate deposits, played the role of non-core liabilities** in the way that FCY borrowing by Korean banks played the role of non-core liabilities in the Republic of Korea.
- The point of **contact between the FCY liabilities in the Republic of Korea** and the c**orporate deposits in the PRC** is that both are **liabilities of banks**.

The Second Phases of Liquidity

- This points to a broader theme of the financialization of non-financial companies, where non-financial firms have taken on attributes of financial firms by increasing the size of their balance sheets relative to their sales generating activities.
- As a consequence, they **contribute to the amplification of financial cycles**.
- Therefore, as **monetary policy moves from the role of banks** to the functioning of **bond markets** and the availability of **credit to borrowers from long-term investors**, such as asset managers that act on behalf of pension funds and insurance companies, the role of non-financial firms will take on increasing significance.