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# How Capital Flows Affect Economy-Wide Vulnerability and Inequality: Flow-of-Funds Analysis of Selected Asian Economies

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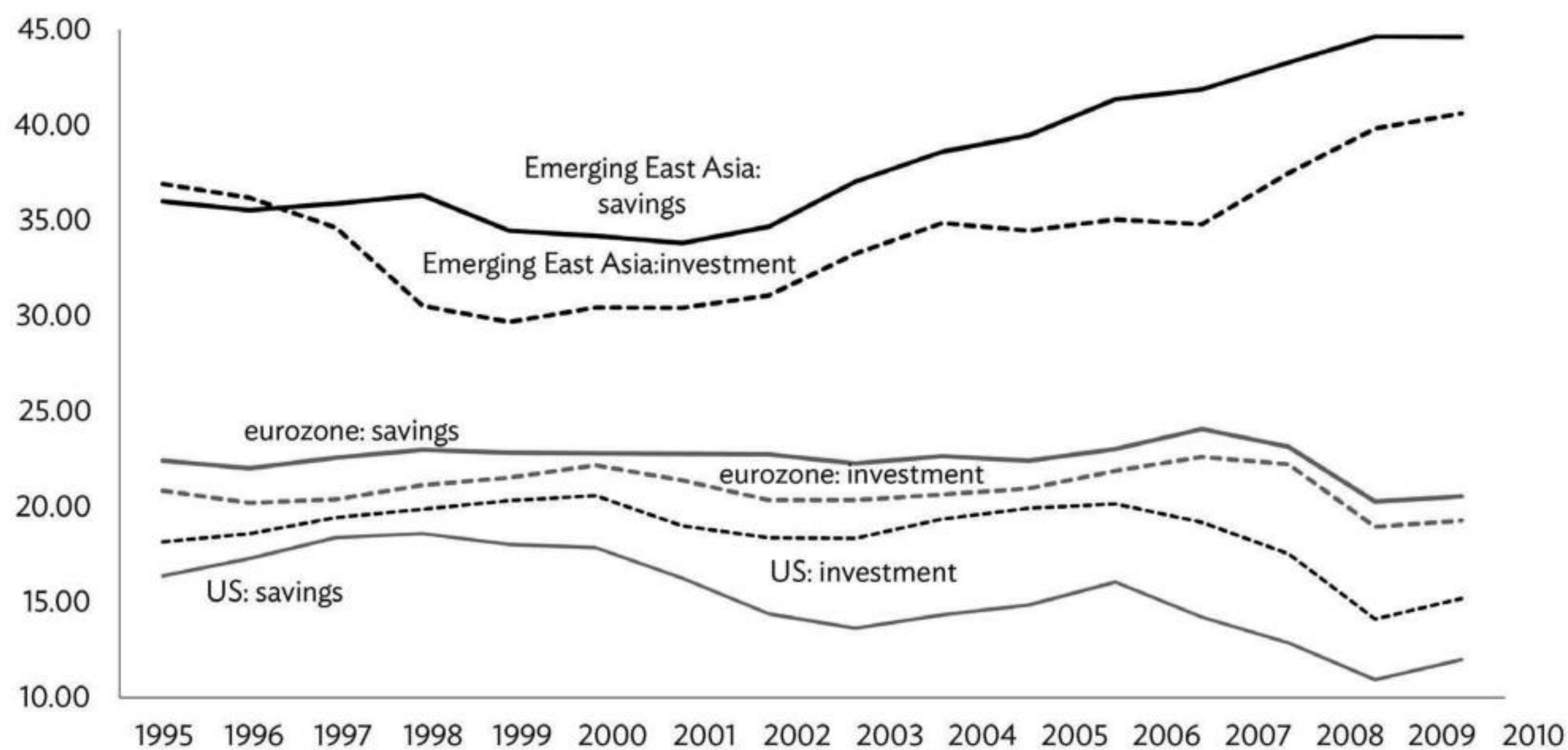
# 1. Introduction

- In contrast to the situation that preceded the 1997–1998 Asian financial crisis, Asia today is a region with excess savings where corporate savings dominate. In the mid-2000s, the extent of liquidity was further amplified by massive capital flows, particularly bank-led flows.
- The flows were briefly interrupted by the global financial crisis, before debt-led flows began to dominate, following the Quantitative Easing (QE) policy in the United States. Using flow-of-funds data, this study determines that the surge in liquidity in Asian financial systems has changed the behavior of agents and institutions.
- The general trend shows that agent preferences for investing in financial instruments have increased as financial liberalization provides more opportunities to do so.
- This can have economy-wide repercussions, ranging from financial instability to widening income disparity and falling employment elasticity.
- In the banking sector, an increase in non-core sources of funding influences banks' asset allocation, with loans increasing rapidly, escalating the risks of pro-cyclicality and asset bubble creation.

# 1. Introduction

- There has been a dramatic change in the Asian economy in recent decades: excess investment has turned into excess savings.
- The turning point was the 1997–1998 Asian financial crisis (AFC) (Figure 1).

Figure 1: Saving and Investment (% of GDP)




Notes: Gross domestic savings = gross domestic product (GDP) less final consumption expenditure (total consumption). Gross capital formation (formerly gross domestic investment) consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. Source: World Development Indicators (accessed 21 August 2012); For Taipei,China, ADB Statistical Database System (accessed 21 August 2012).

# 1. Introduction

- The analysis of flow-of-funds (FOF) data reveals a change in agents' behavior, with an increased preference for investing in financial assets. Asymmetry in incentive systems and growing opportunities for financial investment ("financialization")—resulting from financial liberalization and innovation—have contributed to such a trend.
- With expectations and uncertainty playing a determining role in firms' behavior, the corporate sector's savings are particularly high.
- Asia's liquidity conditions since the AFC have been further complicated by increased inflows of capital. With loose monetary policies and growing risks in advanced economies during and after the 2008–2009 global financial crisis (GFC), capital flocked to emerging markets.

# 1. Introduction

- The size of these capital flows to Asia surged, and their volatility increased as well.
- While growing demand for financial assets and rising capital flows boosted financial sector development and stimulated growth, the risks of financial instability also increased.
- Debt and bank-led flows shifted dramatically from negative to positive positions in the early 2000s.
- Debt-led flows, in particular, significantly expanded during the post-GFC period

# 1. Introduction

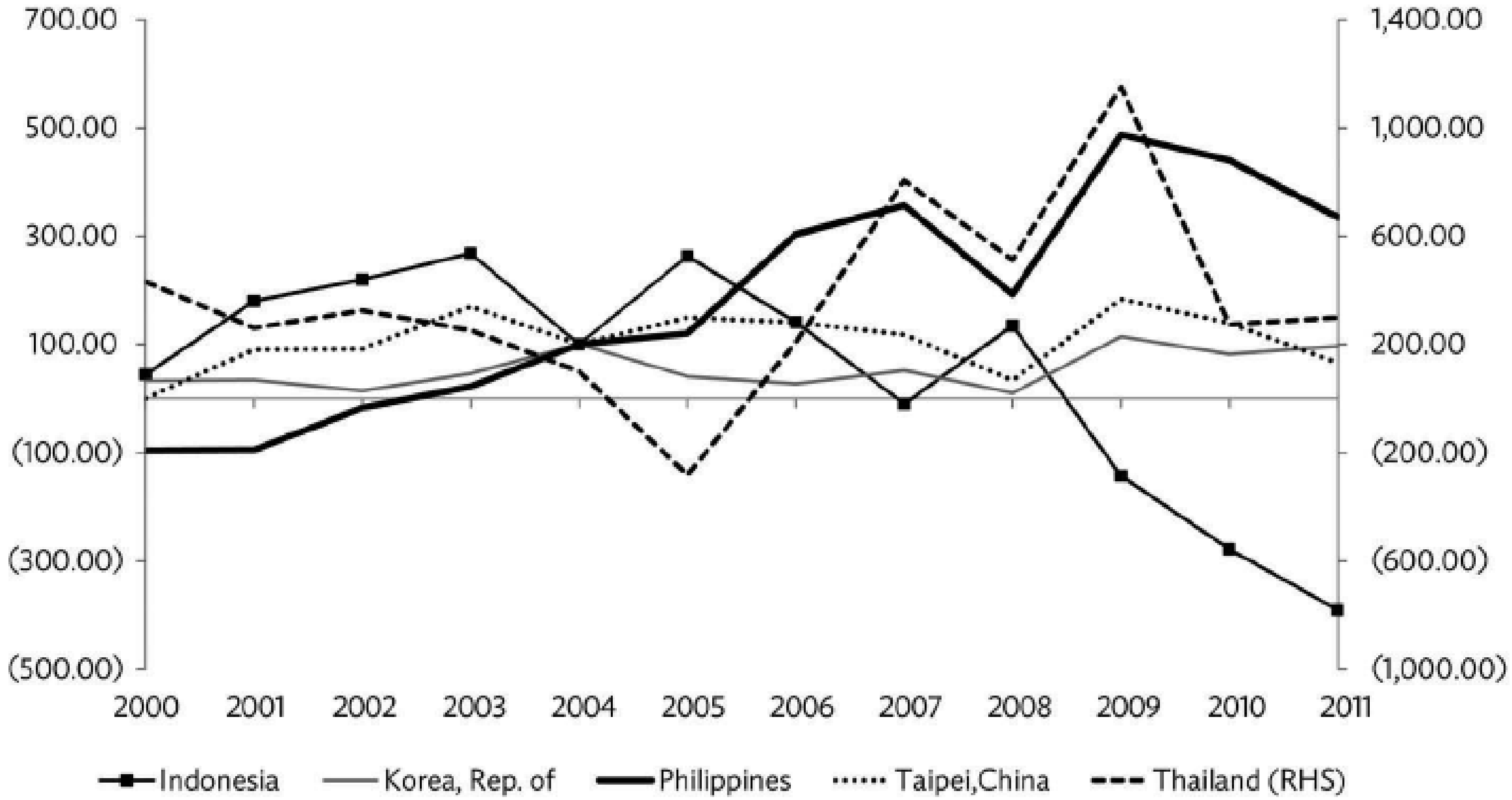
- Volatile debt flows can undermine long-term financing in capital markets, especially bond markets, while volatile bank-led flows can exacerbate pro-cyclicality, which can undermine credit markets.
- This is on top of the risks associated with growing pressures on exchange rates that led policy makers to respond with sterilized interventions or other forms of capital controls, lowering the effectiveness of standard monetary policy.
- At the same time, the socio-economic risks associated with growing income inequality and falling employment elasticity have increased.

# 2.Excess Savings

- This paper assesses five Asian economies to illustrate the changing trends and characteristic of excess savings: Indonesia; the Republic of Korea; the Philippines; Taipei,China; and Thailand.
- The period under review is divided into pre-GFC (2000–2007) and GFC (2008–2011). A graphical presentation is used to match assets and liabilities by instrument for each of the three economic agents: financial institutions, households, and corporations (non-financial).
- For clarity, only five key instruments are shown, the rest are lumped under the grouping “others.”
- Some Asian economies experienced sharp increases in excess savings in the second half of the 2000s (Figure 2). This is most evident in the case of the Philippines and Thailand. An exception is Indonesia, which was increasingly in deficit during the same period.

# 2.Excess Savings

Figure 2: Excess Saving, Index (2004=100)




Source: Flow-of-Funds data of individual countries (various years).

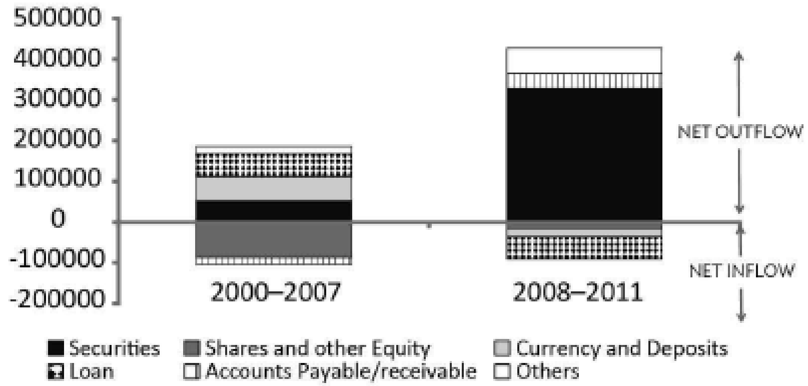
# 2.Excess Savings

- Even at the aggregate level, a change in the composition of excess saving is evident. For example, prior to the GFC, currency and deposits, loans, and securities all equally contributed to Philippines' outflows.
- Post-GFC, outflows from the Philippines were largely in the form of securities. In terms of net inflows, loans increased in Indonesia, the Philippines, and Thailand during the GFC, while net outflows of loans and equities increased in the Republic of Korea and Taipei, China.
- Suffice to say, there has been a significant change in the level and in the composition of excess savings over the period (Figure 3).

# 2.Excess Savings

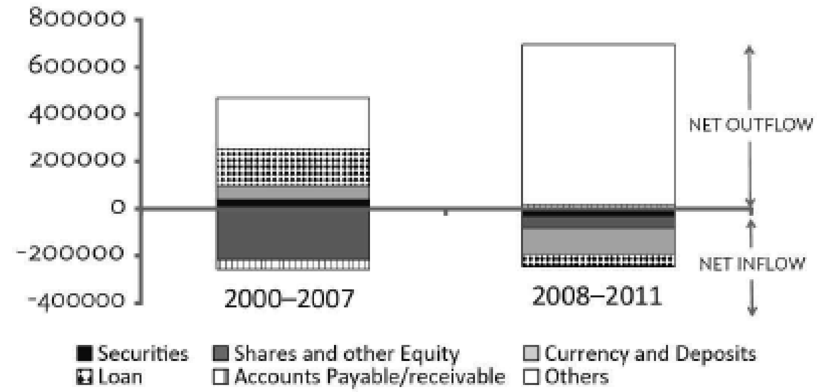
## Figure 3: Excess Saving by Financial Instrument

(a) **Philippines, 2000–2011** (PHP million)



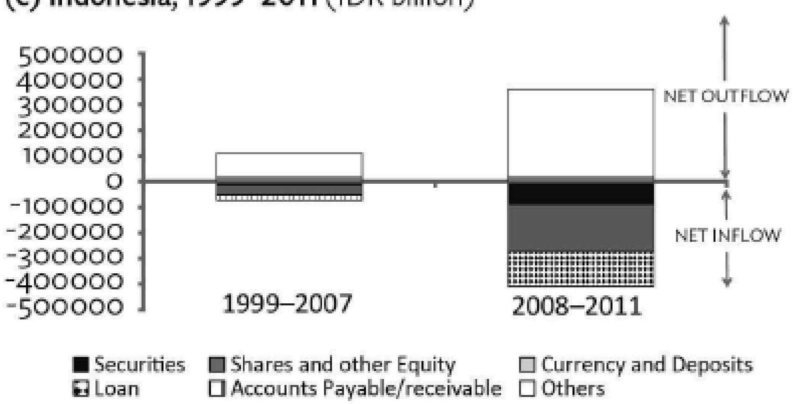

Note: "Others" comprise monetary gold and SDRs, insurance technical reserves , and unclassified items.
Source: Bangko Sentral ng Pilipinas (BSP) Flow-of-Funds data (various years).

(b) **Thailand, 2000–2011** (THB million)



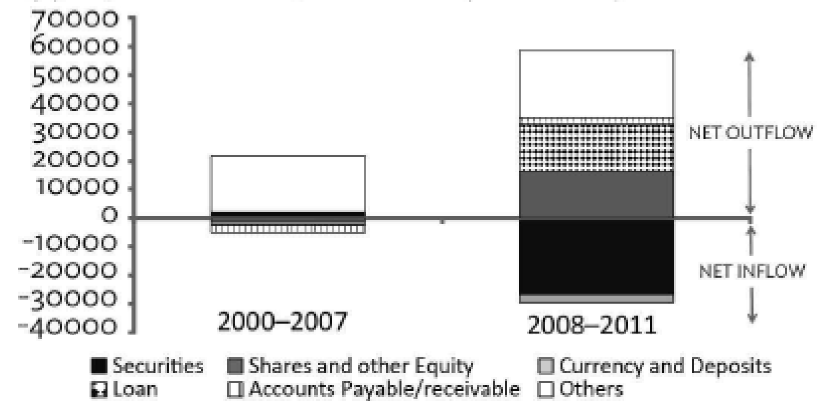

Note: "Others" comprise monetary gold and SDRs, and insurance technical reserves.
Source: NESDB Flow-of-Funds data (various years).

(c) **Indonesia, 1999–2011** (IDR billion)




Note: "Others" comprise official foreign exchange reserves, life insurance and pension reserve, and miscellaneous accounts
Source: BPS-Statistics Indonesia Flow-of-Funds data.

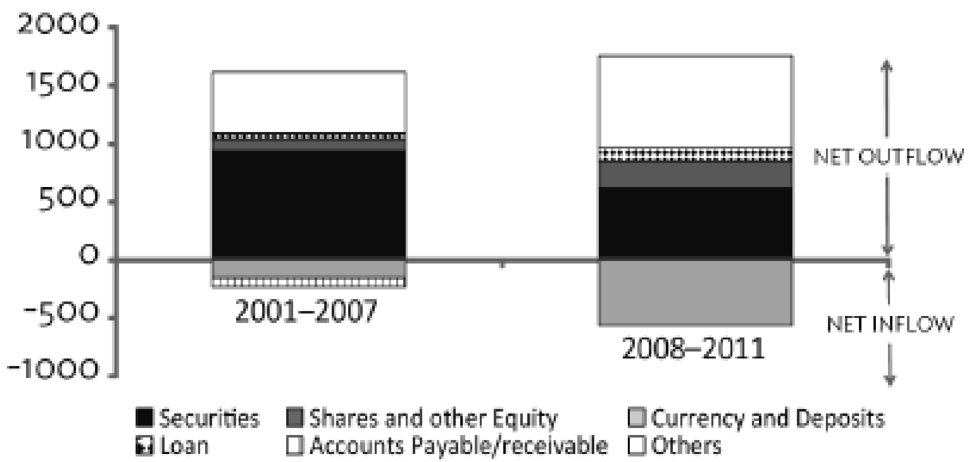
(d) **Republic of Korea, 2000–2011** (KRW billion)




Note: "Others" comprise gold and SDRs, insurance and pension reserves, foreign exchange reserves, call loans and money, and miscellaneous accounts
Source: Bank of Korea Flow-of-Funds data.(various years).

# 2.Excess Savings

**(e) Taipei,China, 2001–2011** (NTD billion)




Note: "Others" comprise life insurance and pension reserves, reserve assets, and net other assets and liabilities
Source: Central Bank of Taipei,China Flow-of-Funds data.(various years).

Except for Taipei,China, household loans rose significantly during the GFC in all economies under review. In Indonesia, the Philippines, and Thailand, household loans more than doubled relative to amounts in the pre-GFC period.

Together with the rise in loans, households became conservative during the GFC as they shifted their assets from securities to cash, deposits, and insurance funds.

# 2.Excess Savings

- Due to the rising household preference for liquidity during the GFC, banks generally benefited through expanding deposit bases as reflected in the rise of liabilities in the form of currency and deposits, while non-bank financial institutions benefited through increased pension reserves.
- Aside from increases in cash, there were also increases in non-core sources of funds in the financial sector during the GFC. These particular components capture capital flows intermediated by financial institutions as evidenced by their increasing share of non-core liabilities, which also reflects changes in the wholesale funding market.
- In the Philippines and Thailand, the contributions of other accounts payable and securities has increased since the GFC. The Republic of Korea experienced an increase in the share of equities, while Indonesia saw a rise in the share of loans and equities. In Taipei,China, non-core liabilities remained fixed and core sources of funds rose.

# 2.Excess Savings

- Easy money inevitably also affects how assets are held. Apart from ensuring greater liquidity, the policies of advanced economies led financial institutions in the Republic of Korea, the Philippines, and Taipei,China to increase their holdings of securities.
- Those in Thailand and Indonesia increased issuance of loans and accounts receivable. The impact of easy money extended to the corporate sector as well. Securities markets served as the main conduit in the Republic of Korea, as funds from securities rose significantly between the pre-GFC and GFC periods..

# 2.Excess Savings

- Funds from securities and equities increased in Indonesia; the Philippines; Taipei,China; and Thailand; but bank loans in these economies rose by an even larger proportion.
- Corporate assets also showed some changes. Apart from the higher allotment for liquidity, which was the common stance among economic agents during the crisis, corporate portfolios showed an increase in the relative share of equities in all economies during the GFC.
- In addition, accounts receivable and loans rose in the Philippines; accounts receivable rose in the Republic of Korea; and other items such as official foreign exchange reserves, insurance, and pension reserves and miscellaneous accounts rose in Indonesia

# 3. Agents' Preferences and Rising Corporate Savings

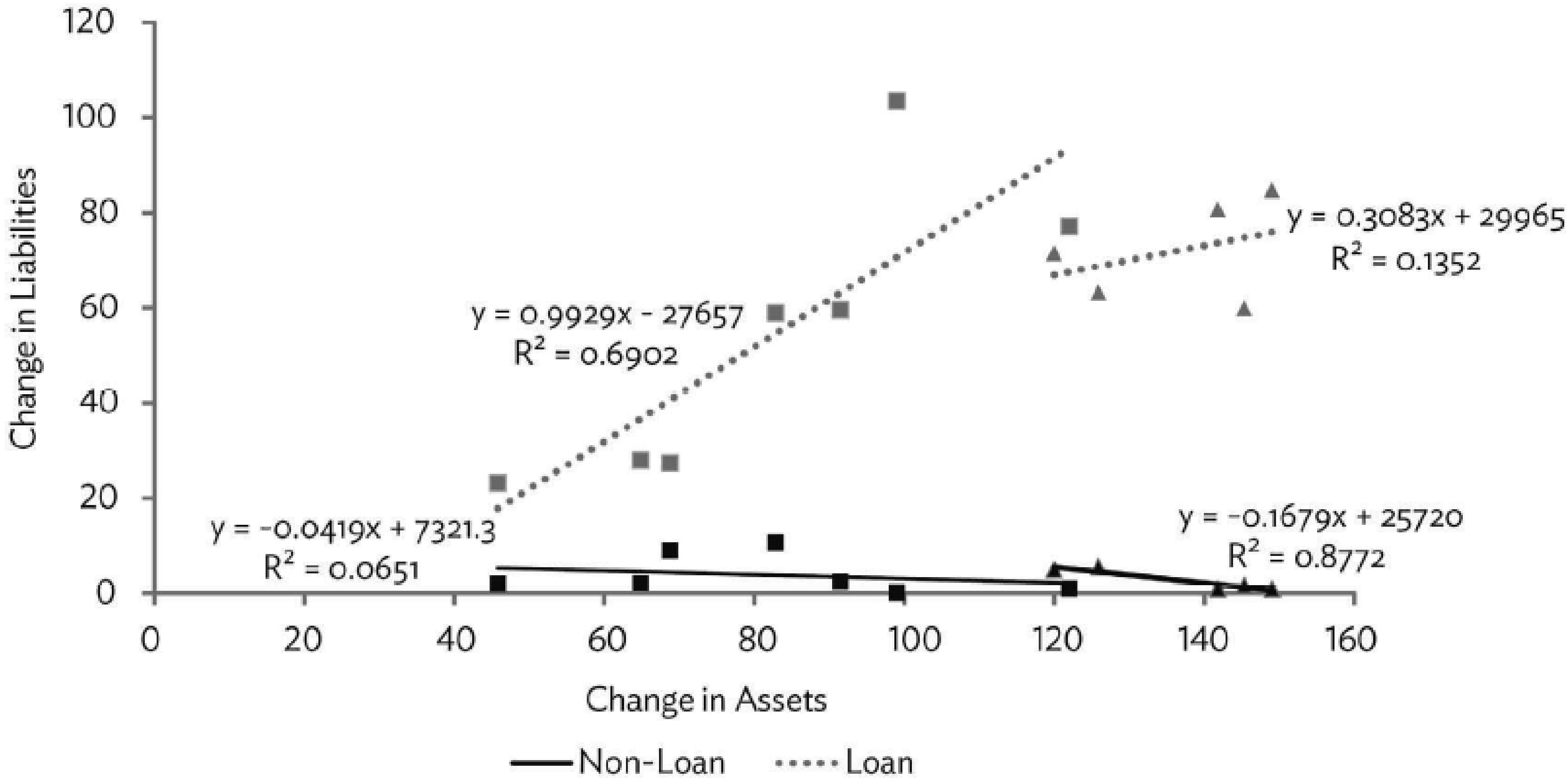
- Given the trend of excess savings in Asia, to what extent has the behavior of households, the financial sector, and firms changed, particularly after the GFC? By using 2000–2006 to reflect the pre-GFC period (depicted by squares) and 2007–2011 for the GFC and post-GFC period (depicted by triangles), we matched the flow of different components of liabilities and assets of each agent based on FOF data and estimated the trendline in both periods for each economy under review.
- We compared the (i) correlation of liabilities with total assets across different types of liabilities and (ii) correlation of assets with non-core liabilities (or core liabilities in the case of households) across different types of assets.
- The former aims to capture which type of liabilities move in sync with changes in assets (source of funds), and the latter aims to capture which type of assets agents invest their non-core liabilities in (use of funds).

# 3. Agents' Preferences and Rising Corporate Savings

- Loans are the dominant source of funds for households across all five economies for both periods . However, while the elasticity of loan liabilities with respect to assets declined over the period, that of non-core liabilities (non-loan) rose; that is, the co-movement of assets with non-loan liabilities strengthened in 2007–11 in  Indonesia and Thailand.
- Meanwhile, household debt is a particular issue for the Republic of Korea. Indeed, growing at about 5% annually and having doubled in the last 10 years, the Republic of Korea's household debt reached more than 90% of gross domestic product (GDP) and 127% of disposable income in 2012.
- In 2000–06, household debt rose nearly in sync with every change in total assets, generating an elasticity of 0.99 (Figure 4).

# 3. Agents' Preferences and Rising Corporate Savings

Figure 4: Household Liabilities Republic of Korea, 2000–2011 (KRW trillion)



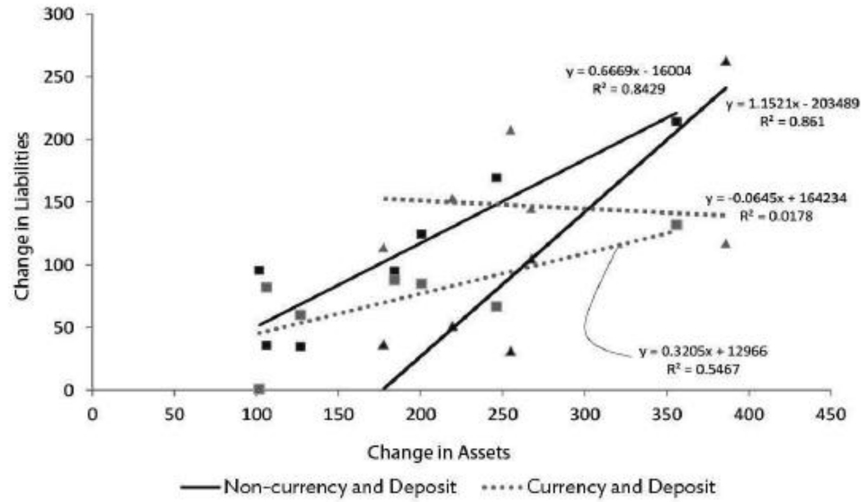
# 3. Agents' Preferences and Rising Corporate Savings

- The increase in the elasticity of non-core liabilities with respect to changes in total assets even more pronounced in financial institutions and firms.
- Except for the Philippines, financial institutions' non-core liabilities generally move more in sync with changes in total assets than do their core liabilities (currency and deposits).
- This is shown by the steeper slopes of noncurrency and deposit liabilities compared to currency and deposits liabilities.
- And the elasticity of non-currency and deposit liabilities with respect to total assets increased during the GFC and post-GFC periods for Indonesia, the Republic of Korea, the Philippines, and Thailand (Figure 5).

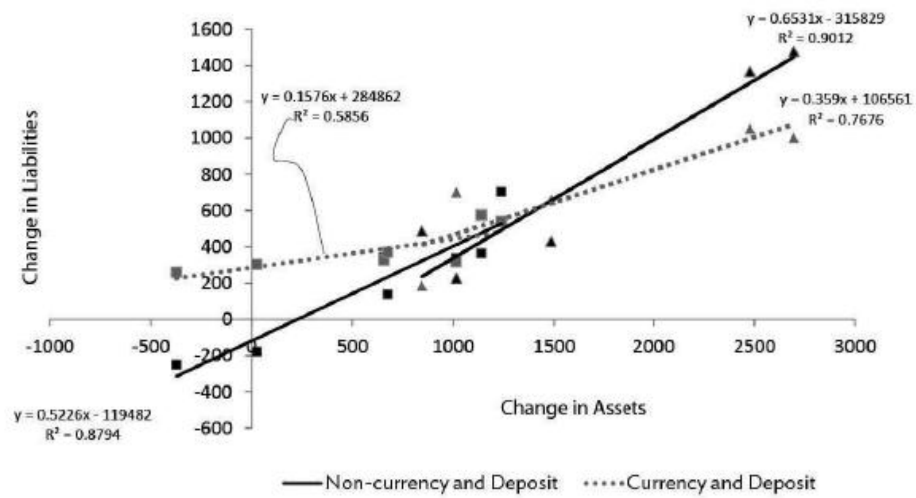
# 3. Agents' Preferences and Rising Corporate Savings

Figure 5: Financial Institution Liabilities

**(a) Republic of Korea, 2000–2011** (KRW trillion)




**(b) Thailand, 2000–2011** (THB billion)

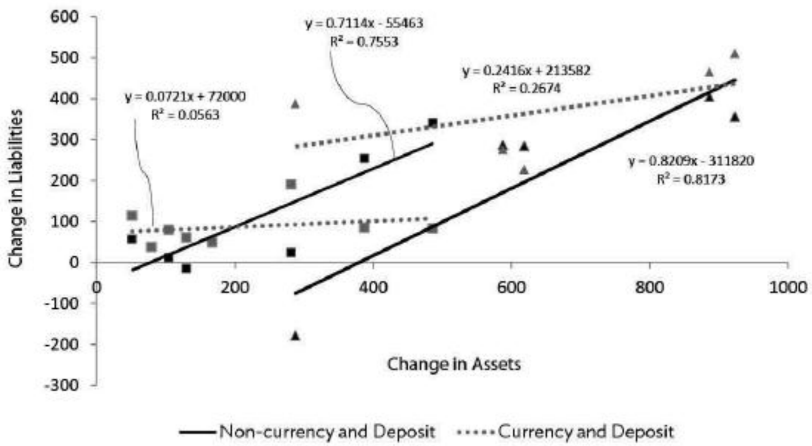



Note: In order to capture change in behavior the period is divided into 2000-06 (squares)

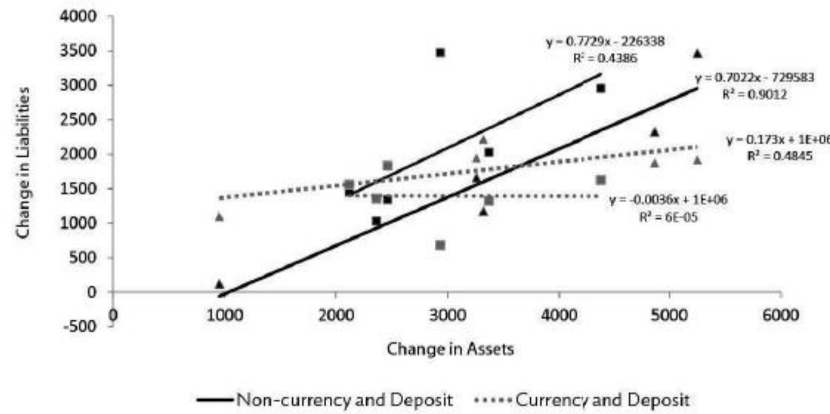
# 3. Agents' Preferences and Rising Corporate Savings

## Figure 5: Financial Institution Liabilities

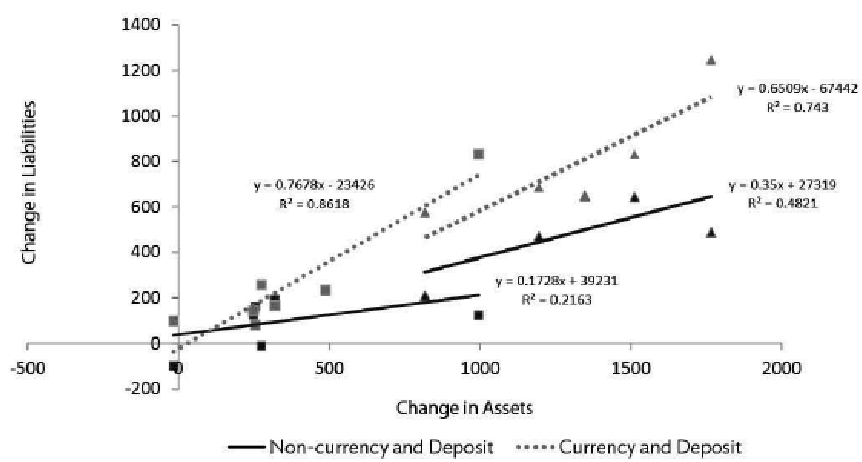
**(c) Indonesia, 1999–2011** (IDR trillion)




**(d) Taipei,China, 2001–2011** (NTD billion)



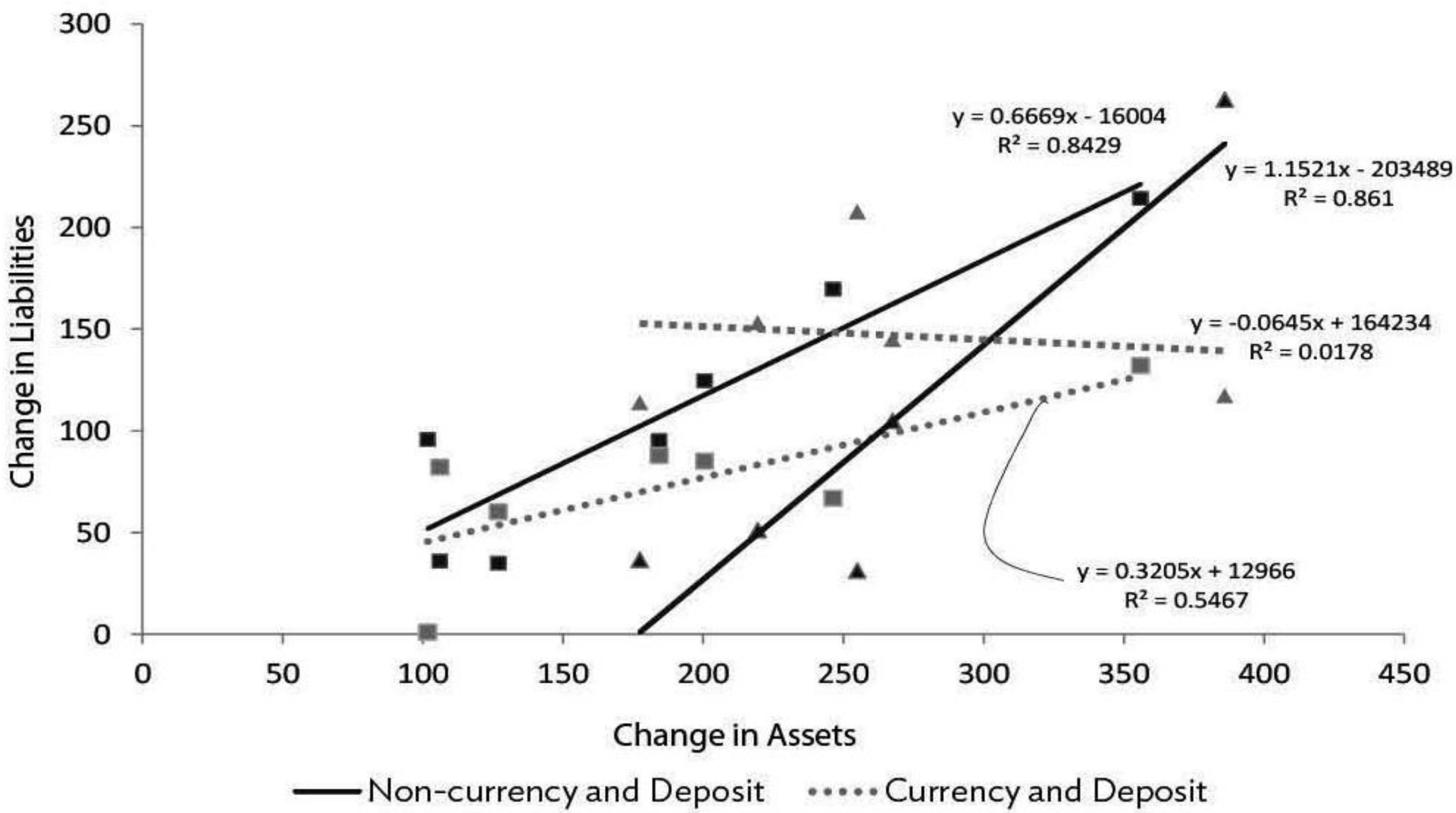

**(e) Philippines, 2000–2011** (PHP billion)



# 3. Agents' Preferences and Rising Corporate Savings

Figure 6: Corporate Liabilities

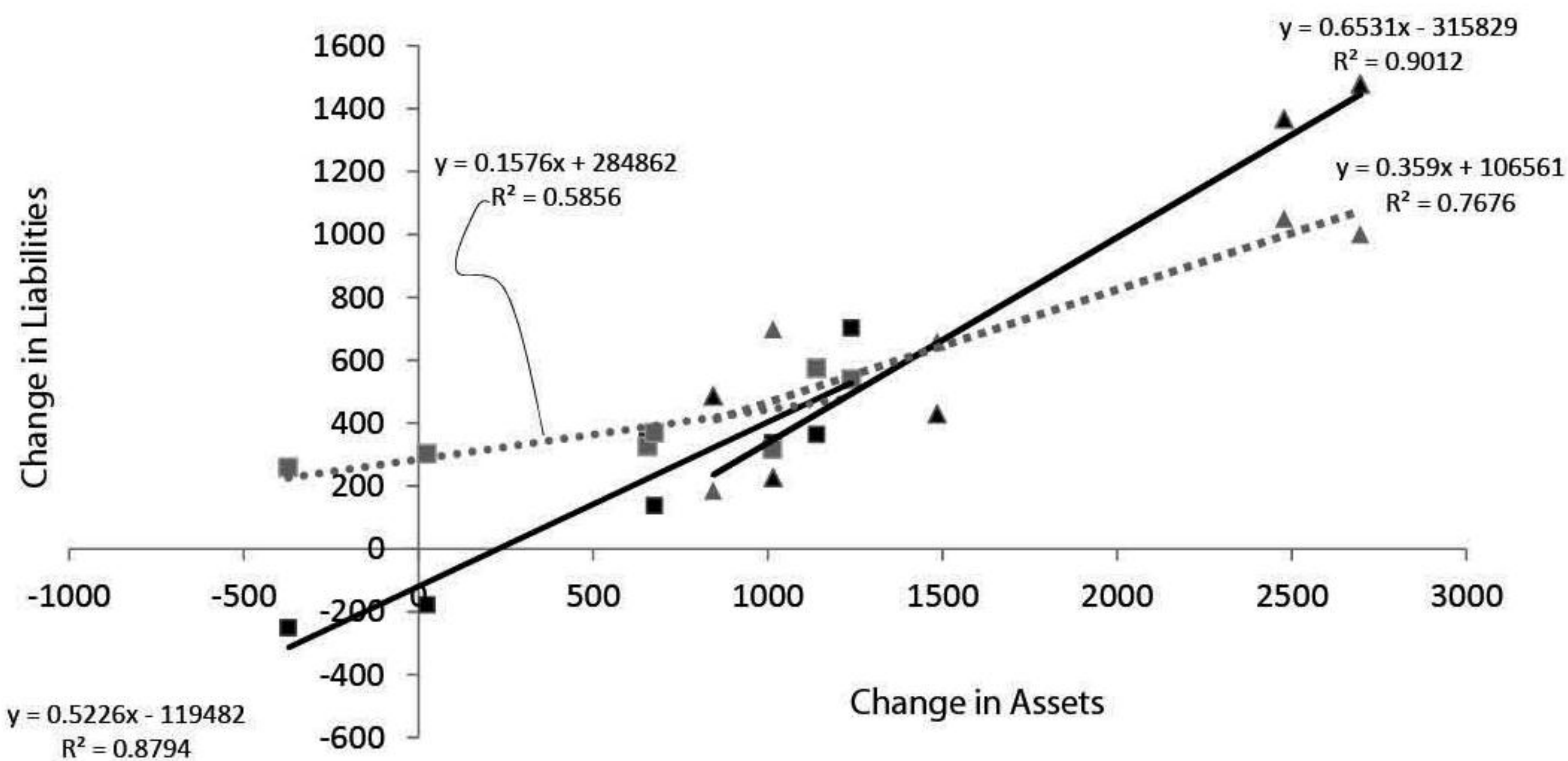
**(a) Republic of Korea, 2000–2011** (KRW trillion)



# 3. Agents' Preferences and Rising Corporate Savings

Figure 6: Corporate Liabilities

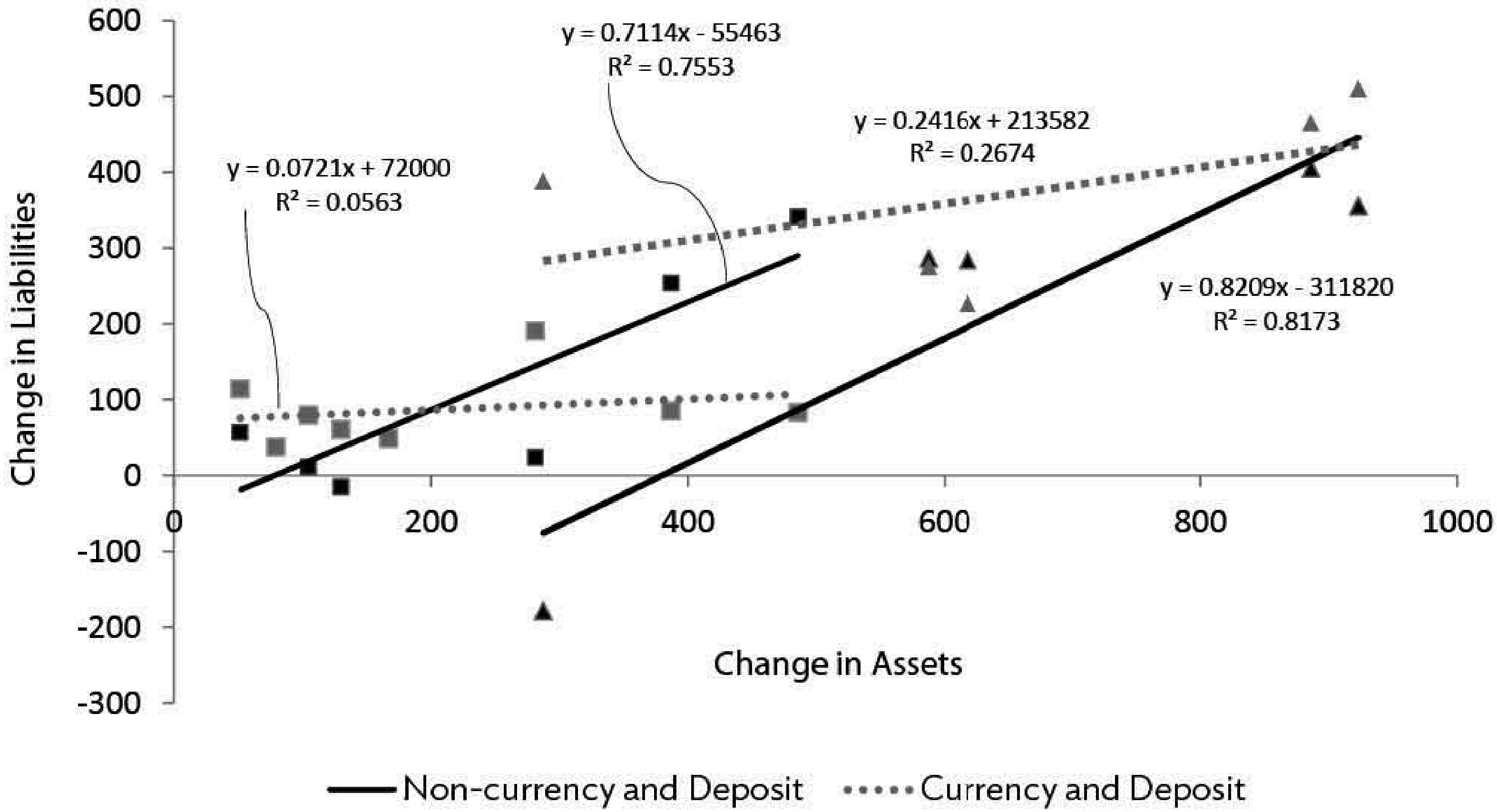
**(b) Thailand, 2000–2011** (THB billion)



# 3. Agents' Preferences and Rising Corporate Savings

Figure 6: Corporate Liabilities

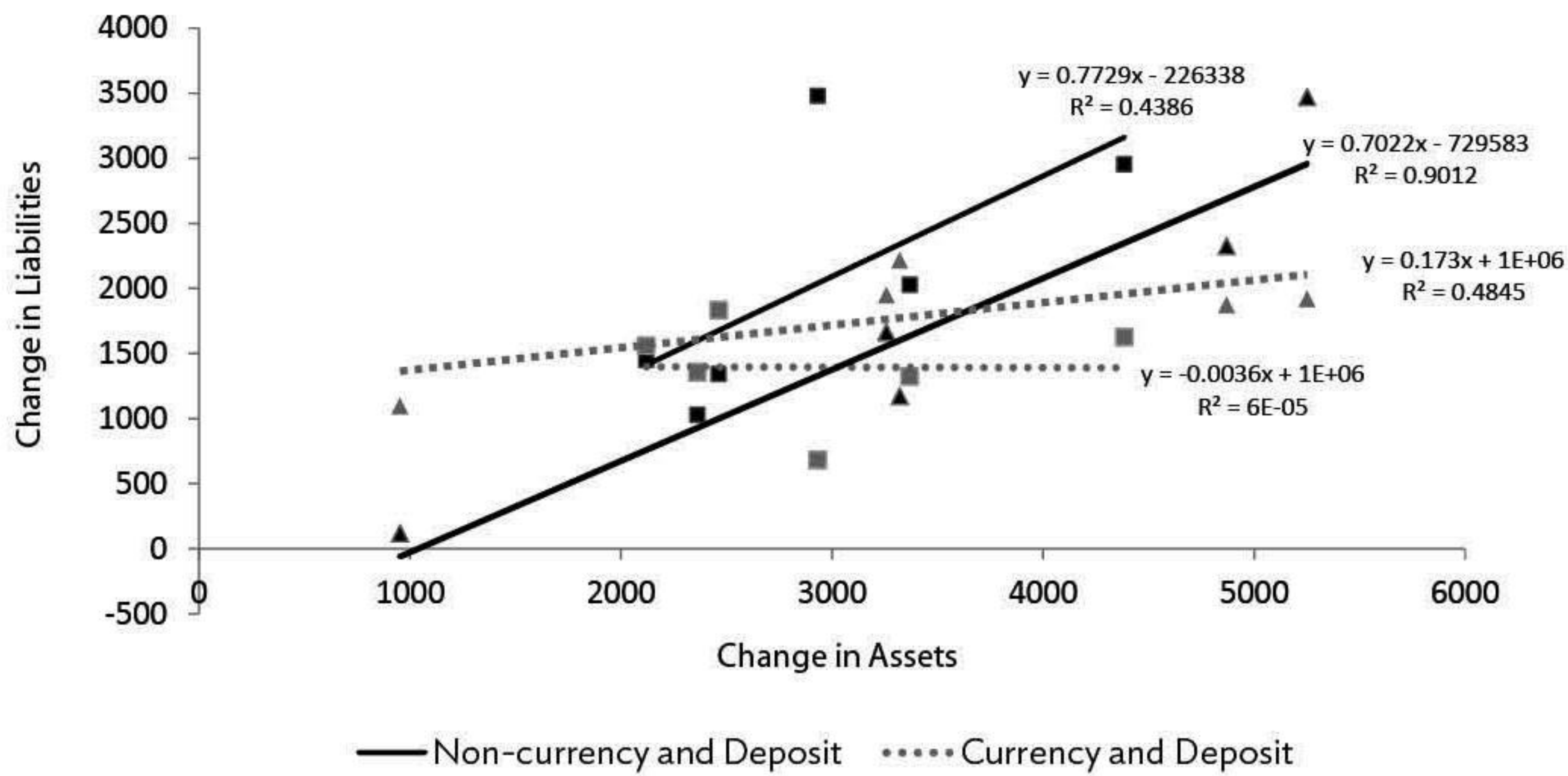
**(c) Indonesia, 1999–2011** (IDR trillion)



# 3. Agents' Preferences and Rising Corporate Savings

Figure 6: Corporate Liabilities

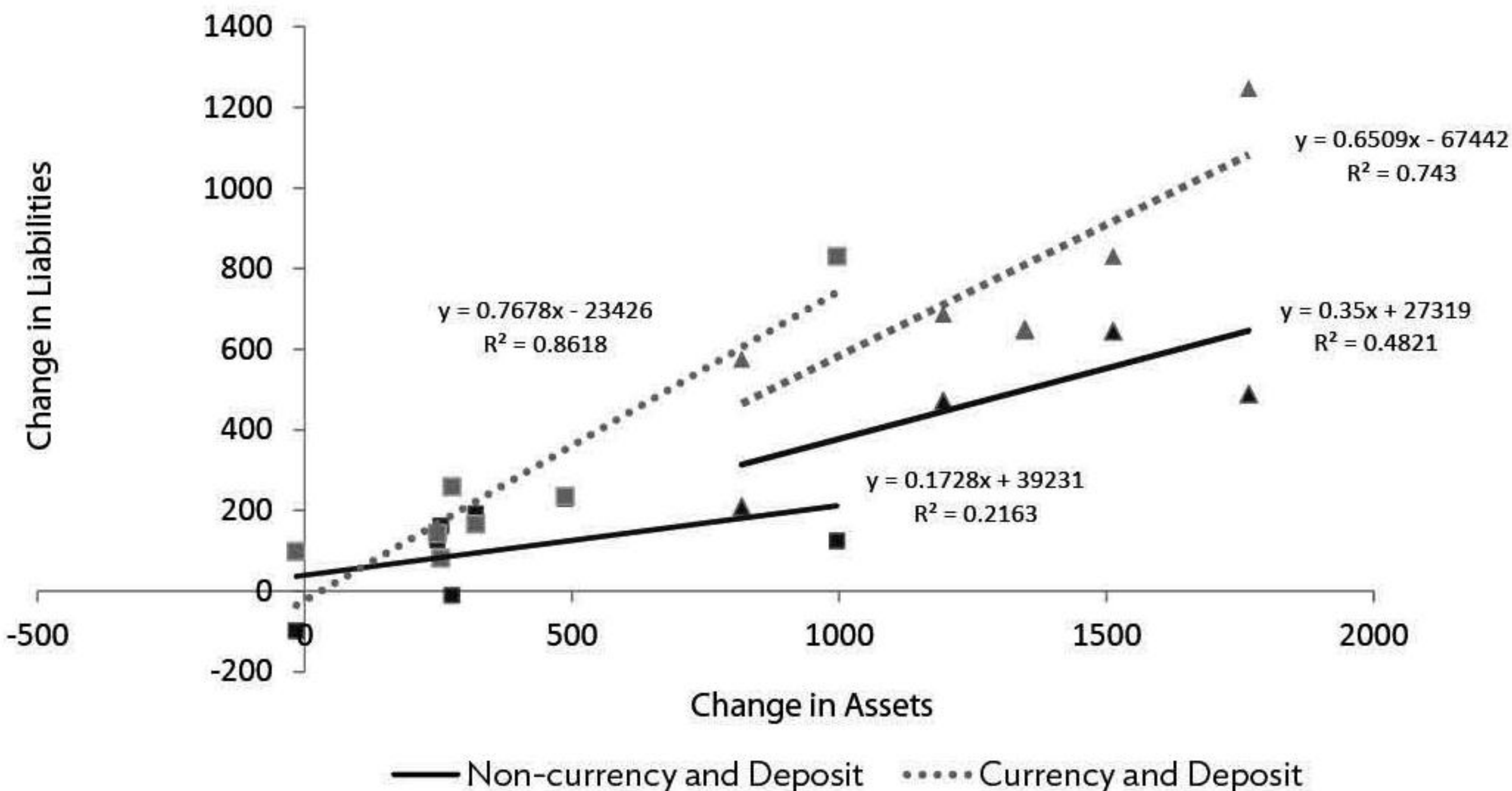
**(d) Taipei,China, 2001–2011** (NTD billion)



# 3. Agents' Preferences and Rising Corporate Savings

Figure 6: Corporate Liabilities

**(e) Philippines, 2000–2011** (PHP billion)



# 3. Agents' Preferences and Rising Corporate Savings

- In the corporate sector, the elasticity of loan liabilities with respect to changes in total assets turned negative during the GFC and post-GFC periods in Indonesia; the Philippines; Taipei,China; and Thailand.
- On the other hand, the elasticity of non-loan liabilities remains higher than the elasticity of loan except in the Rep. of Korea.
- With non-core liabilities increasingly becoming a major driver of total asset holdings of economic agents, how much do they drive non-core assets? Different patterns emerge across the three economic agents.
- Households tend to hold traditional and liquid assets like currency and deposits, and this trend intensified during the GFC and post-GFC periods. This was true for the Republic of Korea and Thailand where households reduced investments in securities and equities as loan liabilities rose, and instead increased their liquidity multifold.
- The elasticity of securities and equities, on the other hand, increased for households in Indonesia; the Philippines; and Taipei,China.

# 3. Agents' Preferences and Rising Corporate Savings

- Two opposite patterns emerged for financial institutions in terms of their response to increasing funds from non-traditional sources: (1) increased lending, and (2) higher levels of investment in securities and equities.
- Rising non-currency and deposit liabilities of financial institutions is associated more with higher levels of investment in securities and equities in the Philippines; and Taipei,China. This trend intensified during the GFC and post-GFC periods.
- Bank loans were unresponsive to increases in non-core liabilities in these economies. In the case of Indonesia, the financial sector continues to prefer investing in securities rather than loan though the degree of preference declined after the GFC.
- In contrast, higher bank lending accompanied increases in non-core liabilities in the Republic of Korea and Thailand, with elasticity remaining stable throughout both periods under review at 0.5 and 0.9, respectively (Figure 7). The elasticity of non-core assets, particularly securities and equities, fell in 2007–11 in these two economies.

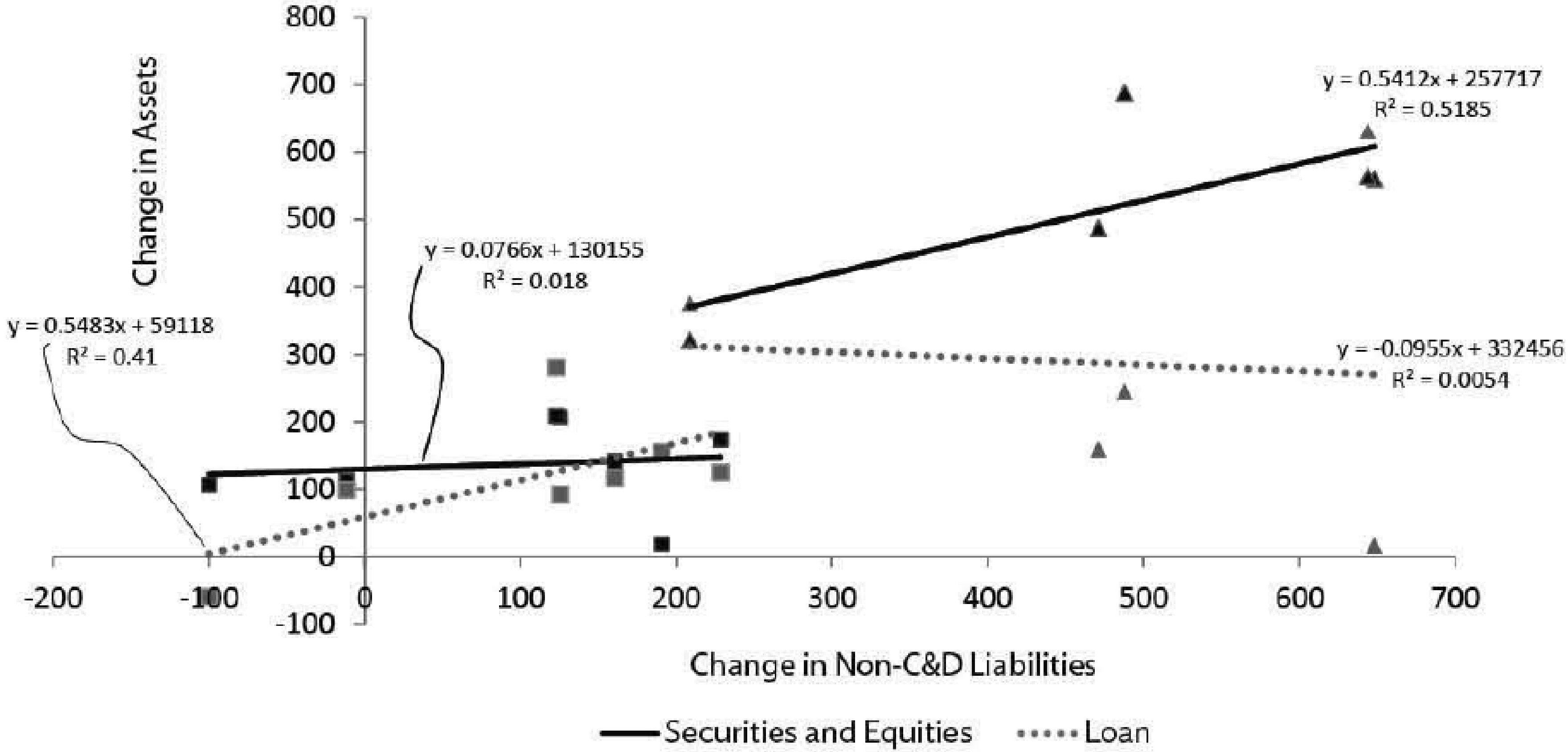
# 3. Agents' Preferences and Rising Corporate Savings

- Firms in the Philippines and Thailand, faced with the same increase in funds from nontraditional sources, invested more in securities and equities, significantly raising the elasticity of these instruments with respect to changes in non-core liabilities. Korean firms increased their issuance of accounts receivables and held more currency (Figure 8).
- While no particular instrument drove changes in the asset holdings of firms in Indonesia or Taipei,China, the elasticity of total non-loan assets with respect to non-core corporate liabilities increased in both economies. (Non-loan assets include currency and deposits, securities, equities, accounts receivables, and other miscellaneous instruments.)

# 3. Agents' Preferences and Rising Corporate Savings

Figure 7: Financial Sector Assets

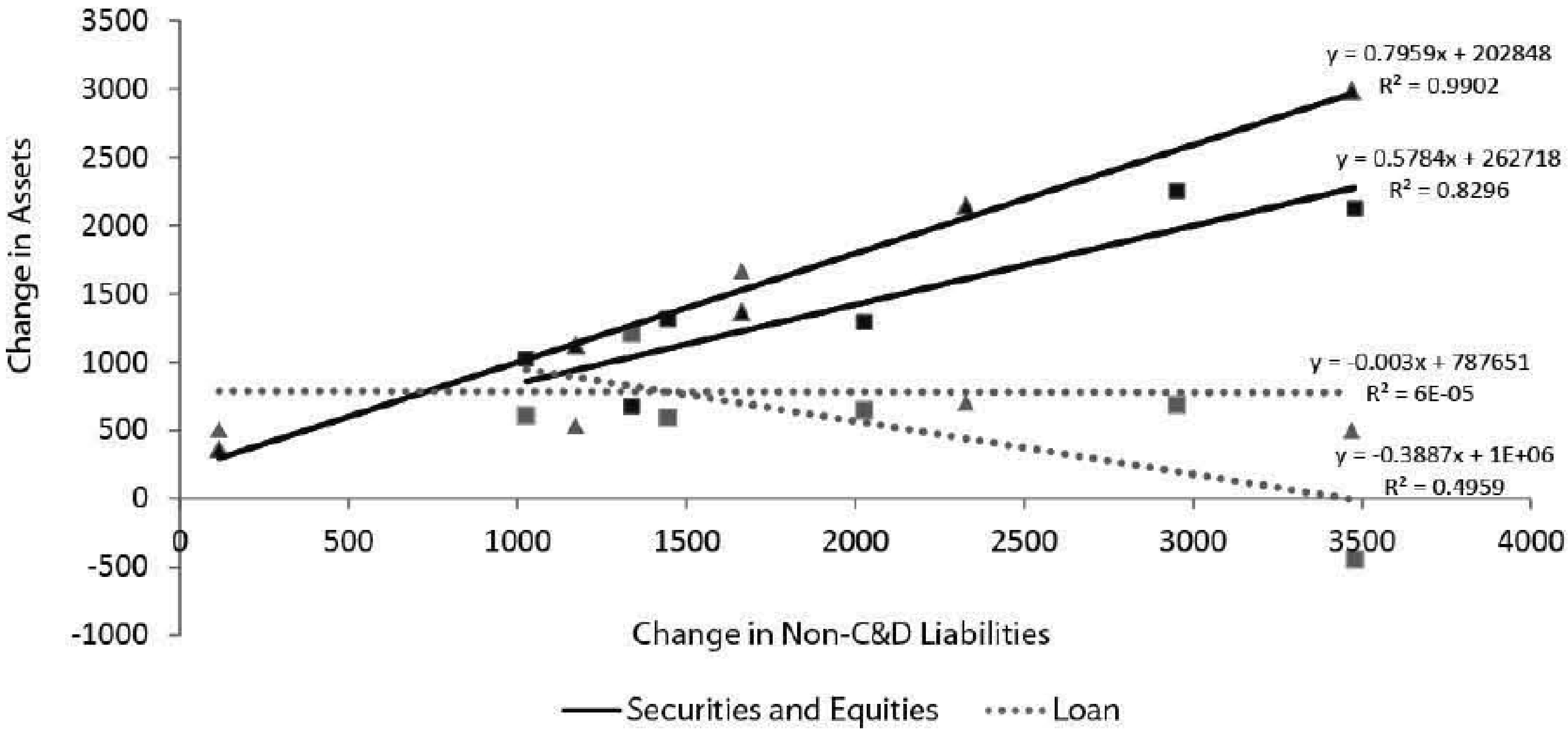
**(a) Philippines, 2000–2011** (PHP billion)



# 3. Agents' Preferences and Rising Corporate Savings

Figure 7: Financial Sector Assets

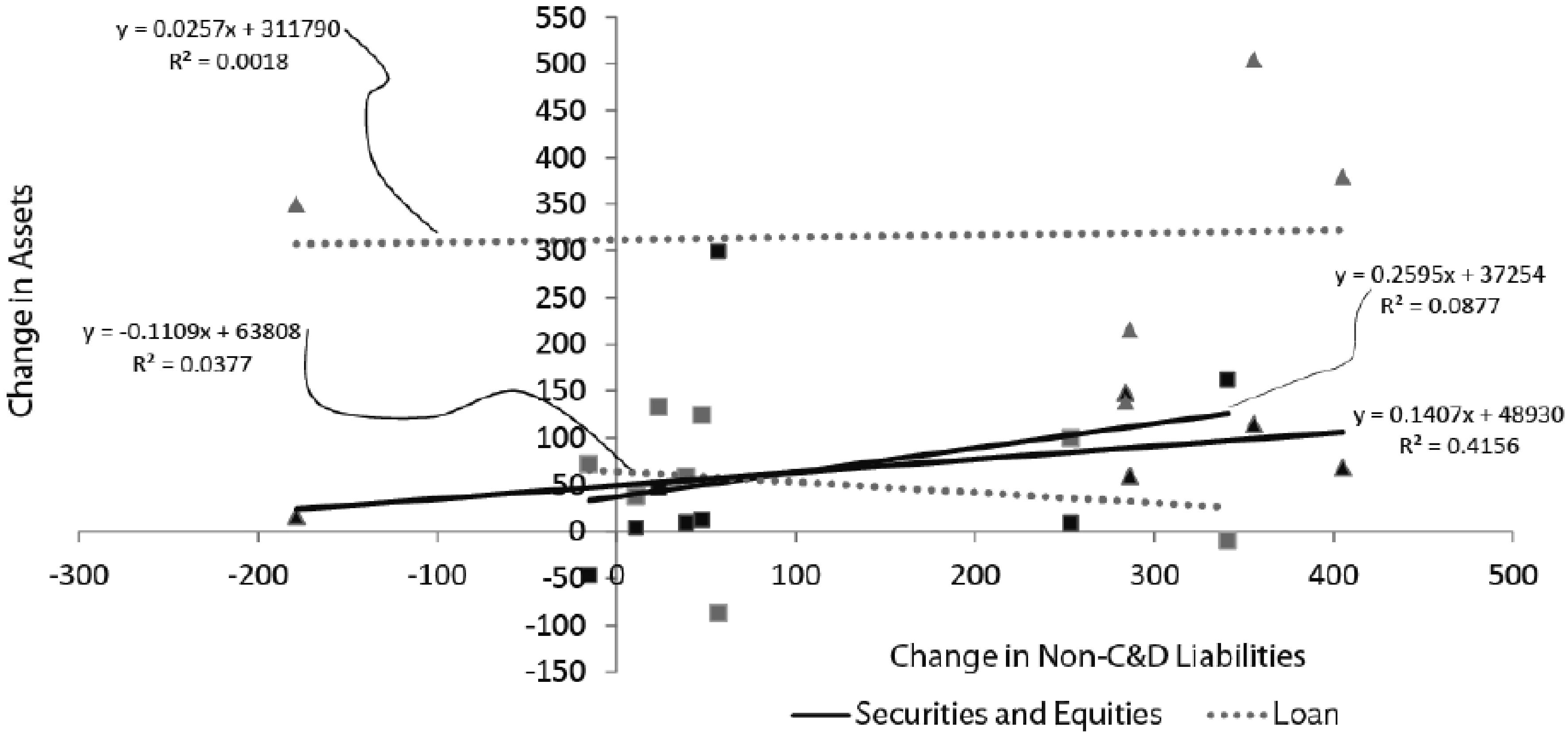
**(b) Taipei,China; 2001–2011** (NTD billion)



# 3. Agents' Preferences and Rising Corporate Savings

Figure 7: Financial Sector Assets

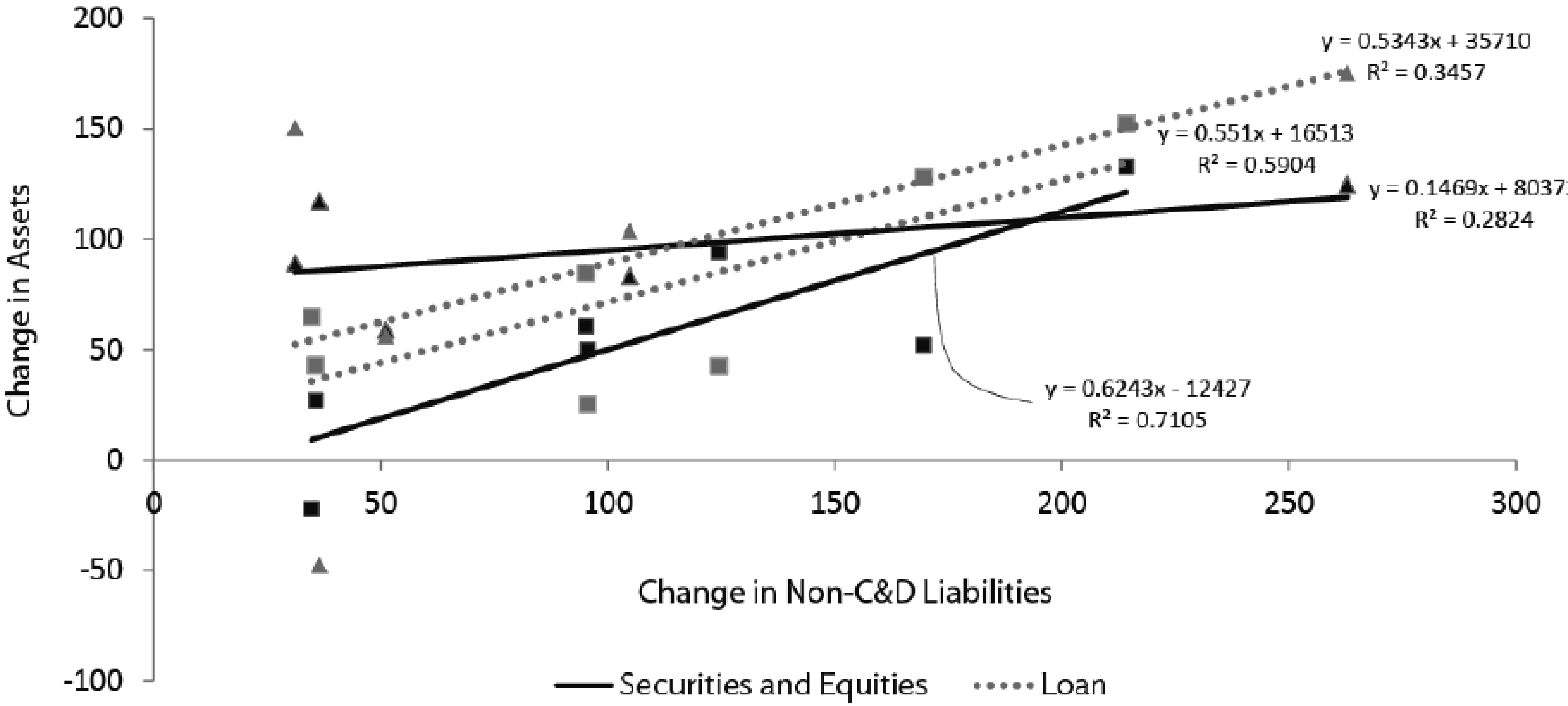
## (c) Indonesia, 1999–2011 (IDR trillion)



# 3. Agents' Preferences and Rising Corporate Savings

Figure 7: Financial Sector Assets

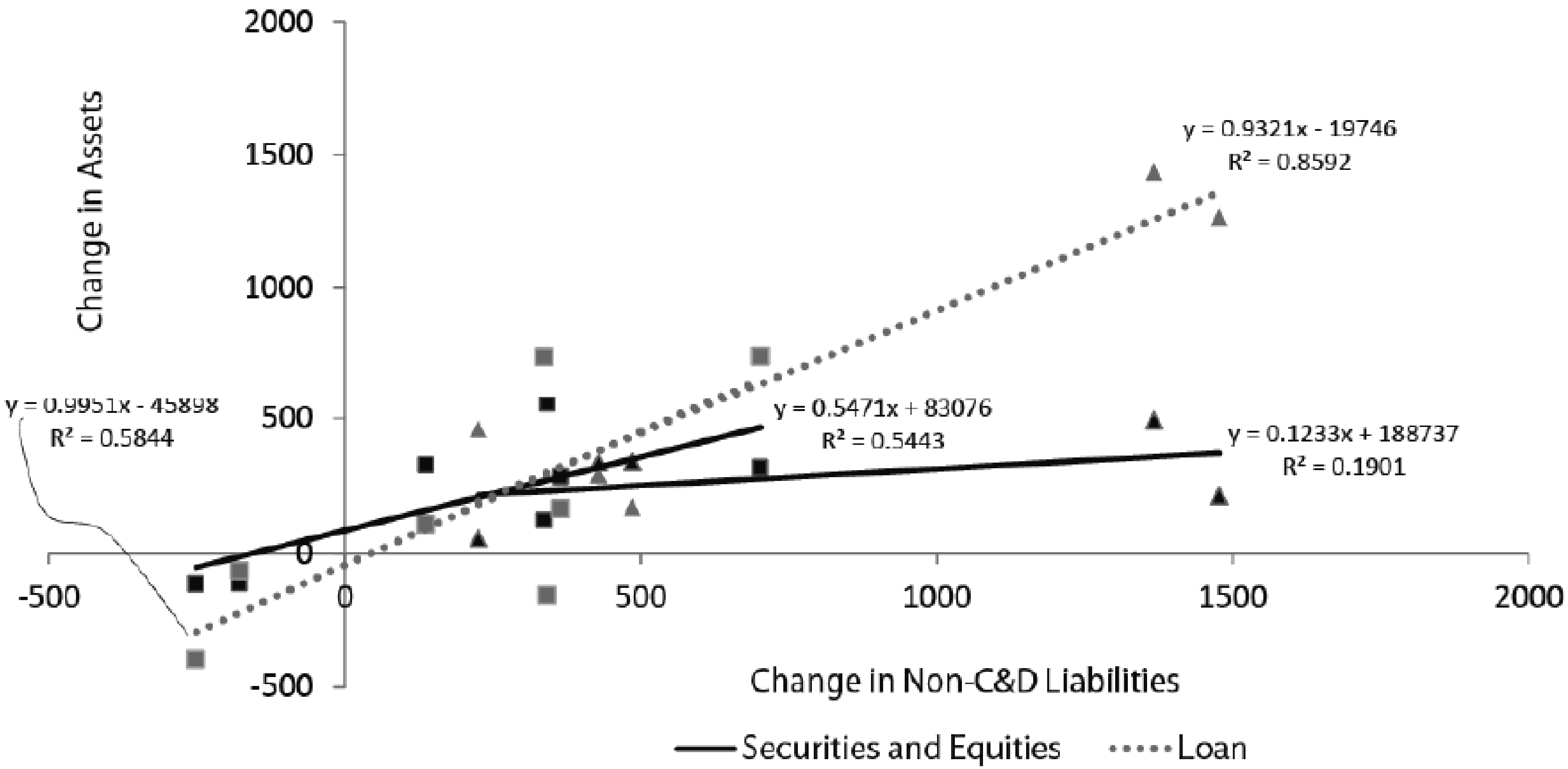
**(d) Republic of Korea, 2000–2011** (KRW trillion)



# 3. Agents' Preferences and Rising Corporate Savings

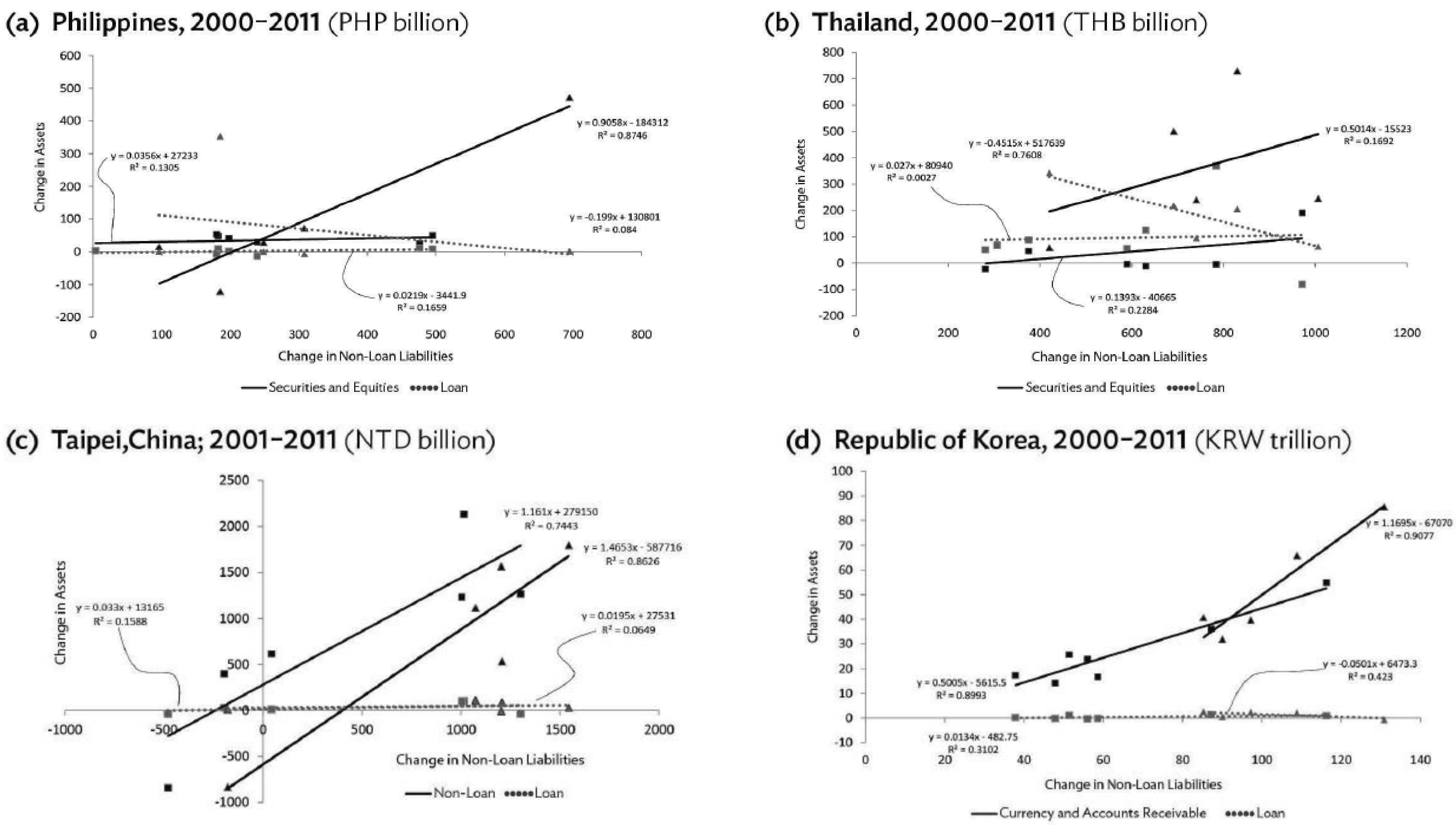
Figure 7: Financial Sector Assets

## (e) Thailand, 2000–2011 (THB billion)



# 3. Agents' Preferences and Rising Corporate Savings

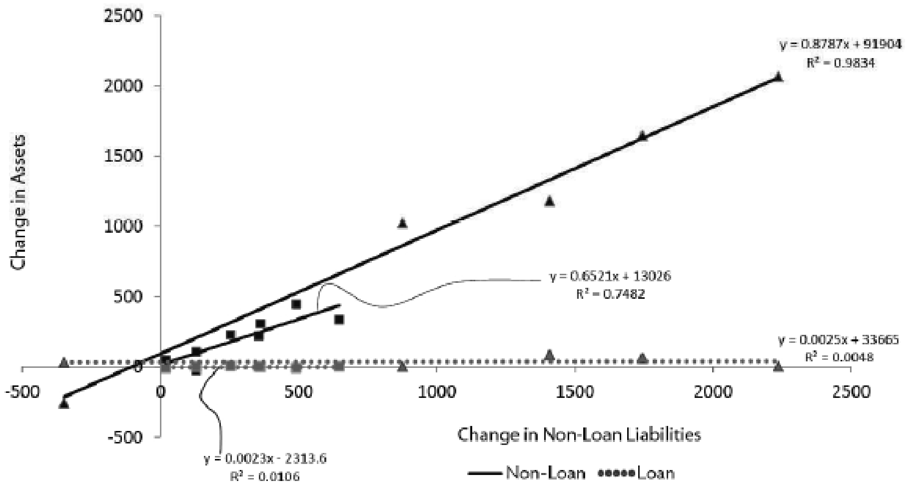
Figure 8: Corporate Assets



# 3. Agents' Preferences and Rising Corporate Savings

Figure 8: Corporate Assets

(e) **Indonesia, 1999–2011** (IDR trillion)




It is therefore clear that the region's abundant liquidity associated with excess savings and capital inflows has had an impact on agents' behavior. In general, as agents expand their balance sheets, enabled by funds raised at relatively low costs, they tend to diversify their asset holdings.

The corporate sector's preference toward financial assets such as securities and equities significantly rose in some economies. On the other hand, with growing non-core components on the liabilities side, the financial sector allocates most of the additional funds to either loans or other risky financial assets such as securities and equities.

# 3. Agents' Preferences and Rising Corporate Savings

- As discussed previously, there is a risk of pro-cyclicality in such a scenario. Also, as a large portion of loans has been directed toward the property sector and other consumer credit, this might contribute to the build-up of bubbles. Although the magnitude of non-core liabilities in some economies is still small, if left unattended it can threaten macro-economic and -financial stability. Table 1 presents a summary of the results.

Table 1: Behavior of Economic Agents in Response to Changes in Financial Flows

| | Preferences Towards Different Sources of Liabilities | | | Response of Assets to Increase in Non-core Liabilities | | |
|---|---|---|---|---|---|---|
| Households | Pre GFC Loan | Post GFC Loan | = ↓ | Pre GFC C&D | Post GFC C&D | ↑ except for Indonesia; Taipei,China |
| | > | ≤ | | > | ≥ | |
| | Pre GFC Non-loan/1 | Post GFC Non-loan<br>except for Republic of Korea; Taipei,China | = ↑ except for Republic of Korea | Pre GFC Securities and SOE<br>except for Rep. of Korea; Philippines | Post GFC Securities and SOE<br>except for Taipei,China | ↑ except for Republic of Korea; Thailand |
| | Loan still dominates but preference for it is tapering across all economies, while preference for non-loan is on the rise and in some cases surpassing loans | | | Currency and Deposit is still the preferred asset but preference for securities and SOE is on the rise | | |

# Table 1: Behavior of Economic Agents in Response to Changes in Financial Flows

| | | | | | | |
|---|---|---|---|---|---|---|
| Financial Institutions | Pre GFC C&D | Post GFC C&D | ↑ except for Rep. of Korea; Philippines | Pre GFC Loan | Post GFC Loan | = ↑ for Indonesia; Rep. of Korea; Thailand |
| | < | < | | ≤ | < | |
| | Pre GFC Non-C&D | Post GFC Non-C&D | = ↑ | Pre GFC Securities & SOE | Post GFC Securities & SOE | ↑ for the Philippines; Taipei,China |
| | except for the Philippines | except for the Philippines | | except for Philippines; Thailand | except for Rep. of Korea; Thailand | |
| | All economies showed a clear increase in the preference for non-deposit source of funds | | | 2 patterns emerged in response to increase in non-core liabilities:<br>(1) increase in preference for securities and shares and other equity and drop in loans –Philippines and Taipei,China<br>(2) increase in preference for bank lending and drop in securities and SOE– Indonesia, Rep. of Korea and Thailand | | |
| Corporations | Pre GFC Loan | Post GFC Loan | ↓ except for Rep. of Korea | Pre GFC Loan | Post GFC Loan | = ↓ |
| | ≤ | < | | ≤ | < | |
| | Pre GFC Non-Loan | Post GFC Non-Loan | = ↑ except for Rep. of Korea; Thailand | Pre GFC Non-Loan[/2] | Post GFC Non-Loan[/2] | ↑ |
| | | except for Rep. of Korea | | | | |
| | Preference for loans is on a decline while preference for non-loan liabilities is increasing although slightly tapering | | | Clear preference for non-loan assets and it is getting stronger (accelerating) | | |

# 3. Agents' Preferences and Rising Corporate Savings

- One of the interesting phenomena in Asia after the 1997–1998 AFC has been the surge in corporate savings.
- This subject has attracted the attention of analysts because they see it as having contributed to excess savings, with the "savings glut" being labeled by some as the reason behind global imbalances.
- Looking at the examples of Indonesia, the Republic of Korea, and the Philippines, corporate savings surged after the AFC, and did so dramatically in Indonesia.
- An International Monetary Fund (IMF) report raised this issue in arguing that at the same time Asia's corporate investment stagnated, household savings did not provide enough of an offsetting trend to lead to an increase in national savings (Jain–Chandra, Nabar, and Porter 2009)

# 3. Agents' Preferences and Rising Corporate Savings

- A careful look at more recent FOF data, however, gives a rather different picture. It is true that corporate savings rose, but corporate investment has also increased since the mid-2000s.
- Even during the GFC, corporate investment in Indonesia continued to rise, whereas in the Republic of Korea and the Philippines it fell in 2009 before rising again. As a result, the excess savings (or net savings) of the corporate sector actually went down.
- Furthermore, the fall in corporate excess savings in Asia has been compensated by relatively high—and in some cases increasing—household excess savings, especially after the GFC.
- Nonetheless, it remains important to understand the phenomenon of rising corporate savings in Asia, especially since the increase has been larger than in other regions (Cardarelli and Ueda 2006).

# 3. Agents' Preferences and Rising Corporate Savings

- What determines the level of corporate savings in Asia? Based on a multiple linear regression model, the results in Table 2 show that the size of the economy and favorable market conditions exert a positive influence.
- As expected, a higher degree of monetary liquidity, better stock market performance, greater mobility of capital, and a bigger current account surplus are all associated with larger corporate savings. In contrast, when consumer demand increases, firms tend to save less as they respond by raising investment and other capital expenditures.
- Greater financial inclusion and easier access to financial markets also cause firms to save less. With easy access to markets, the perceived need for savings is consequently smaller.
- It is also likely that lower interest rates—due to increased bank deposits associated with greater inclusion—reduce firms' incentive to save. These relationships hold across different specifications.

Table 2: Regression Analysis of Corporate Savings
Dependent Variable: Corporate Savings/GDP (%)

| Explanatory variables | Full | Macro |
|---|---|---|
| Log of GDP per capita | 19.52*** | 16.51*** |
| | (4.99) | (4.76) |
| Current account/GDP (%) | 0.40** | 0.42*** |
| | (2.62) | (2.84) |
| Deposit interest rate (%) | 0.59^ | 0.08 |
| | (1.49) | (0.19) |
| Lending interest rate | -0.57 | 0.11 |
| | (-1.03) | (0.19) |
| Govt. savings/GDP (%) | -0.26 | -0.56*** |
| | (-1.28) | (-2.69) |
| Stock market index | 0.00* | 0.00 |
| | (1.83) | (1.78) |
| M2/GDP (%) | 0.06** | 0.11*** |
| | (2.10) | (3.78) |
| Private external debt/GDP (%) | 0.04 | -0.05 |
| | (0.51) | (-0.60) |
| Log of household consumption per capita (1 lag) | -11.91*** | -11.07*** |
| | (-3.93) | (-3.48) |
| Financial openness index | 3.74*** | 6.20*** |
| | (3.89) | (7.85) |
| Government effectiveness index | -10.64*** | |
| | (-3.45) | |
| Agricultural loans/total loans (%) | -0.58** | |
| | (-2.55) | |
| Price volatility | 0.003 | |
| | (0.01) | |
| Constant | -68.51** | -57.41*** |
| | (-3.78) | (-3.91) |
| F-statistic | 23.62*** | 23.19*** |
| R-squared | 0.8458 | 0.7972 |
| Adjusted R-squared | 0.8100 | 0.7628 |
| No. of observations | 70 | 70 |

Note: t-statistics are in parentheses; ***significant at 1%, **significant at 5%, *significant at 10%, ^significant at 15%.
Source: Authors' calculations.

# 4. Capital Flows

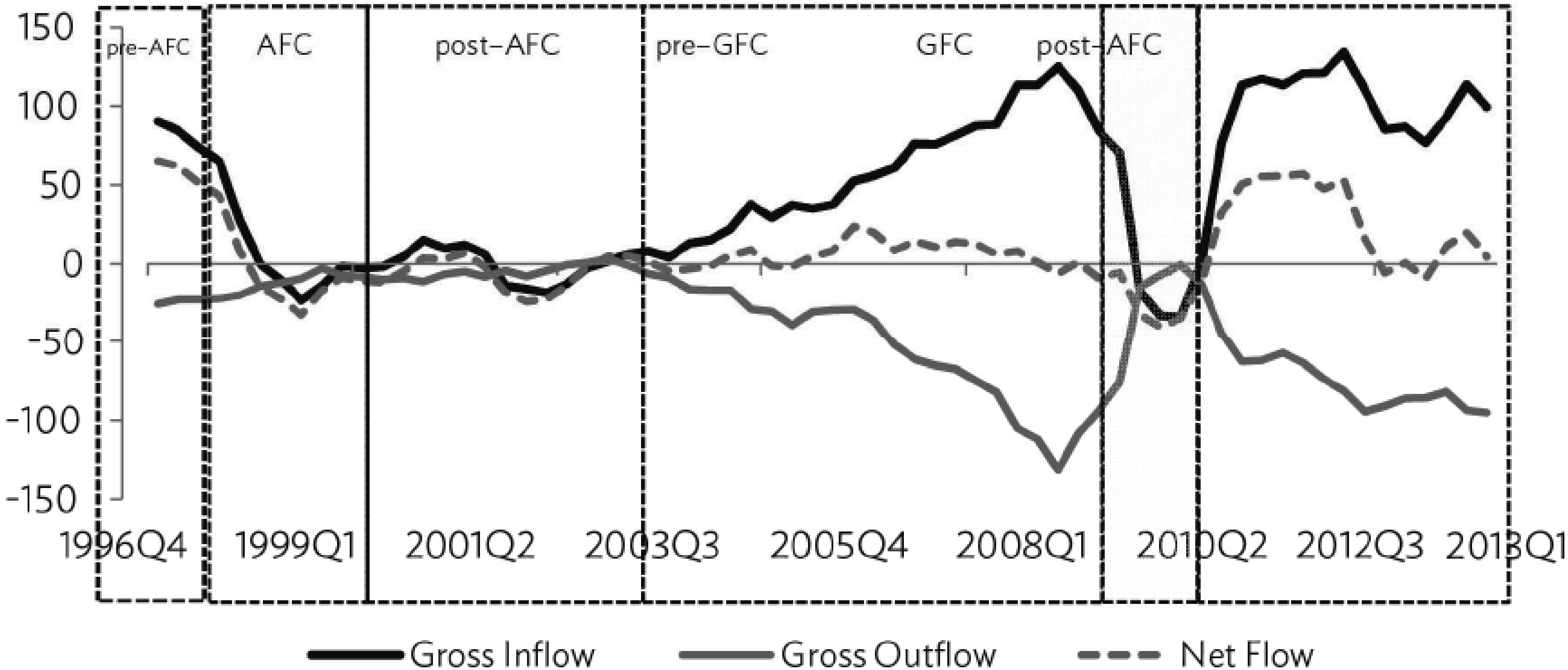
- In the midst of excess savings, emerging Asia's macro-financial liquidity was further enhanced by rising capital inflows.
- The combination of low interest rates and quantitative easing (QE) policies in advanced economies sparked capital flows to emerging Asia. At the same time, the latter has exhibited strong pull factors due to its steady growth performance, stable economies, and higher investment returns.
- Of the roughly US$1 trillion in net private capital flows to emerging market economies each year, about half has gone to Asia. Since the AFC, flows outside short-term foreign debt have been dominant. Gross inflows increased significantly, but outflows have also been on the rise since the AFC.
- Outward foreign direct investment (FDI) and equity investment increased too, providing foreign asset buffers for the region when markets become volatile, as was shown to be the case in the Republic of Korea during the GFC.

# 4. Capital Flows

- After recovering from a sharp fall during the AFC in 1997–1998, gross inflows fluctuated before beginning to grow steadily and significantly in 2002.
- These flows peaked in mid-2007 and started to fall as the recession in the US led to a liquidity crisis. BNP Paribas' decision to terminate withdrawals from three hedge funds and the bursting of the US housing bubble, which saw the values of securities tied to US real estate plummet, damaged global financial institutions.
- A sharp drop during the GFC led gross inflows to hit a bottom lower than that reached during the AFC. Meanwhile, almost symmetrically, gross outflows began to rise in 2002 and peaked in mid-2007.
- The pattern of capital flows, however, changed after the GFC. The ultra-easy money policies and growing risks in advanced economies exerted a strong "push" factor for capital to flow into emerging Asia. As a result, the size of gross inflows far exceeded that of gross outflows.
- The trend in other countries is very similar: gross inflows rose sharply during the mid-2000s, plunged during the GFC, before surging again in 2009 (Figure 9).

# 4. Capital Flows

Figure 9: Gross and Net Capital Flows— Selected Asian Countries ($ billion)




Notes: Based on a 4-quarter moving sum. For inflows, refers to bank flows from other investments on the liabilities side (assigned a positive value); for outflows, on the asset side (assigned a negative value). Comprised of Indonesia, Rep. of Korea, Philippines, and Thailand.

# 4. Capital Flows

- To analyze the intensity of flow volatility we use the term “surges” when there is a sharp increase in inflows and “stops” when there is a sharp decrease in inflows. For gross outflows the corresponding terms are “flight” (sharp increase) and “retrenchment” (sharp decrease).
- Furthermore, to distinguish the types of capital flows we use the following classifications: (i) “FDI” consisting of direct investment, (ii) “debt” comprising debt securities and other investment including derivatives, (iii) “bank” flows, and (iv) “equity” for equity portfolio.
- Flows are FDI-led, equity-led, debt-led, and bank-led if the increase in flows is mainly driven by FDI, equity, debt, or banks, respectively.

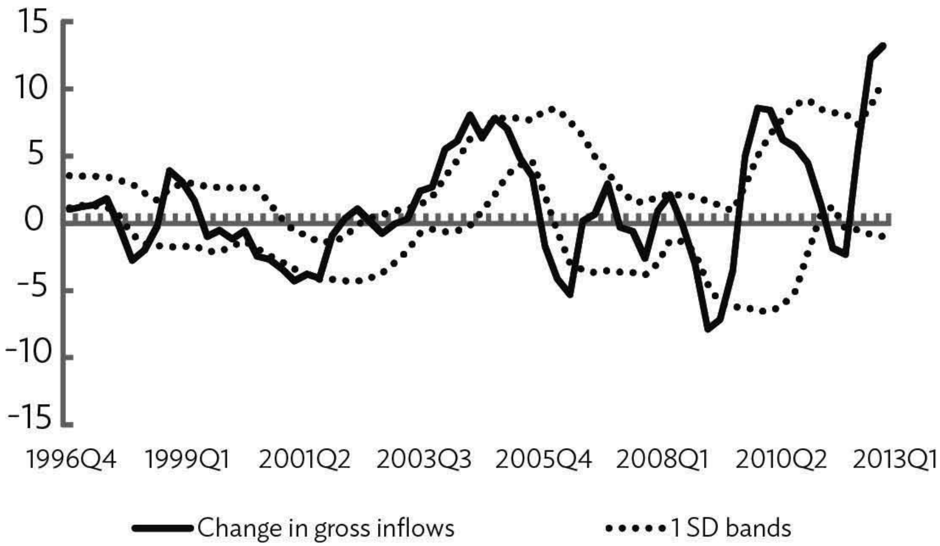
# 4. Capital Flows

- Growing production networks, in line with the new supply-chain model, are among the most important pull factors for FDI in the region, with East and Southeast Asia alone accounting for more than one-fifth of all global FDI flows. However, a large portion of these FDI flows are absorbed by the People's Republic of China (PRC).
- The rebalancing process of moving toward more domestic-demand-oriented growth also offers opportunities for investors to exploit growing domestic demand in the region. Flows through equity markets have also been strong due to positive global sentiment toward reforms being carried out in many Asian countries.
- Foreign purchases of domestic stocks have surged, as have inflows through non-bank private creditors. Amid a low-return and slow-growth environment in industrial countries, the steady growth of Asia's bond markets offers a good opportunity for foreign investors.
- In some countries, the foreign-owned share of LCY bond markets is now as high as one-third. Increased bank deposits by non-residents have added to the size of inflows as interest rate differentials persist.

# 4. Capital Flows

Figure 10: Gross Capital Inflows—Selected Asian Countries

(a) Gross FDI Capital Inflows




(b) Gross Equity Capital Inflows