

## **Financial Globalization**

Background Note for Roundtable on

New Features of the International Monetary System, New Challenges for  
Global Monetary Governance

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This background note touches on a number of topics related to financial globalization. It does so through a narrow lens: a summary of my recent work on the evolution of the home bias, the impact of cross-border bond flows, the exposure of foreigners to shocks to U.S. asset prices, sudden stops, and capital market development.

### **The Evolution of the Home Bias in Equities**

Since the early 1990s, after a wave of liberalizations in emerging markets, stock markets from developed countries as well as from a large number of emerging countries have been open to foreign investors. The dismantling of restrictions on foreigners' holdings of emerging market equities over the course of the 1990s was impressive. For example, whereas in 1992 the Korean stock market was almost completely closed to foreigners, nowadays constraints on foreigners are minimal (Exhibit 1). And foreigners have responded by pushing up their holdings to over 40% of the Korean equity market. But not every country has been as successful as Korea in attracting international equity investors. That is, the equity home bias is still with us, even though direct barriers to international equity investment such as capital controls (as well as other traditional reasons for it) have largely disappeared.

In recent work (Kho, Stulz, and Warnock, 2007) I argue that to understand the evolution of the home bias we must consider the optimal ownership structure for firms and how that varies across countries. Specifically, we merge standard portfolio theories of the home bias and corporate finance theories of insider ownership into what we call the optimal ownership theory of the home bias. The theory has the following components.

- Insider ownership should be more concentrated when agency problems between those who control corporations and outside investors are stronger (Demsetz and Lehn, 1985). These agency problems are stronger when the institutions that protect investors in a country are poorer.<sup>1</sup>
- Agency problems of controlling shareholders can be reduced by having investors who actively monitor the controlling shareholders (Shleifer and Vishny, 1986). Two types of investors can have a comparative advantage in monitoring. Local investors – who, because of proximity, have access to more information, some of it costless – have a comparative advantage in monitoring compared to dispersed foreign portfolio investors. In addition, foreign investors from countries with better institutions, if they become part of the controlling block, can be valuable inside monitors because the laws of their home countries limit their ability to consume private benefits and hence make it optimal for them to limit the consumption of private benefits by other insiders.

Thus, the optimal ownership theory of the home bias states that in countries with poor governance, it is optimal for insiders to own large stakes in corporations and for large shareholders to monitor insiders. Dispersed foreign portfolio investors will exhibit a large home bias against such countries because their investment is limited by the shares held by insiders (the ‘direct effect’ of poor governance) and monitoring shareholders (‘the indirect effect’). As large foreign blockholders can also monitor insiders, the relative importance of foreign direct investment in total foreign equity investment is negatively related to the quality of governance.

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<sup>1</sup> See Stulz (2005) for references.

All of these predictions are backed up in Kho, Stulz, and Warnock (2007) on data sets of U.S. investors' foreign holdings across a wide range of countries and of foreigners' positions in Korea. The salient features of the data are that (i) there is no evidence of a systematic decrease in ownership concentration across the world; (ii) U.S. investors' home bias decreased from 1994 to 2004 in countries where insiders had smaller stakes in firms in 1994 and where the stake of insiders fell from 1994 to 2004; (iii) the ratio of FDI to total foreign investment fell as ownership by insiders fell; and (iv) in Korea, foreign ownership is inversely related to insider ownership, grew in firms in which insider ownership fell, and is inversely related to firm-level governance even after controlling for insider ownership.

The above evidence is based on only US and Korean data. What about the rest of the world? Unfortunately, data quality is substandard for most countries. There has been a surge in research papers lately that use the IMF's CPIS (Coordinated Portfolio Investment Surveys) data set that ostensibly should give us the matrix of global equity (and bond) holdings. But the BOP department of the IMF has been starved of funds and countries haven't been serious about collecting this type of data, so we know *less* today than we did a decade ago. *Less* because a decade ago we had data for 27 countries, of which 6 compiled high quality data. Now 70 countries report data to the CPIS, but still only about 6 have high quality data. So everyone thinks we have a much fuller matrix and this has spurred much research, but what we have is a matrix filled with less than meaningful numbers. To see how bad the data are, one only needs to note that the rest of the euro area reports it holds about 800% of the Luxembourg stock market (Exhibit 2). Of course, when confronted with such numbers we realize that these are holdings through

Luxembourg intermediaries, not of Luxembourg stocks, but one must ask the following: If the data reporters do not know enough about the security to place it geographically, how exactly are they valuing it? Until more countries collect security-by-security data to measure international positions, data presented in the CPIS are less than helpful. Of course, even if we knew more about positions, without seeing the entire portfolio (including derivatives) we cannot say much about exposure.

So we have a nice new theory that links the evolution of equity home bias to the evolution of governance and how it impacts ownership by controlling shareholders and those who monitor them. It is supported by currently available high quality data and has very clear implications for any country hoping to attract foreign equity investors: Improve the institutions that make diffuse ownership of firms possible.

## **Financial Globalization and the U.S. Bond Market**

Recently, some of the more interesting cross-border flows have been in bonds. We've known for a long time that bond inflows impact borrowing costs in emerging markets. But nowadays financial globalization has reached a point where even the country with the largest and deepest markets in the world—the U.S.—is now affected by the shifts of portfolio investors in ways that seemed highly unlikely just a decade ago. For example, now that foreigners now hold over half the Treasury bond market, the behavior of foreign investors must be seriously considered as yet another determinant of U.S. long-term interest rates:. In Warnock and Warnock (2007) I quantify the impact of foreign flows on U.S. interest rates...the answer we found, at least in a partial equilibrium sense, was 'substantial'. In Exhibit 3 the impact of flows from East Asia and all other sources is

traced out through mid-2005. The sizeable impact of East Asian flows peaked in the summer of 2004 with the cessation of massive accumulation by Japan. Impact from other countries (e.g., petrodollars) is more moderate but increasing toward the end of the sample.

## **Issues Going Forward**

### *Portfolio Shifts Away from the Dollar*

We have a sense of the impact of the large foreign flows into U.S. securities on U.S. asset prices. The next logical question, which has been asked by many, is if and when large foreign investors will diversify out of U.S. securities. I suspect others here today will speak to the likelihood of such a portfolio shift—I'll note that the recent excitement in U.S. credit markets would seem to be enough to give fence-sitters a shove—but today I will just underscore the size of these positions and the resulting exposure foreigners have to shocks to U.S. asset prices.

Focusing just on bonds (Exhibit 4), as of mid-2005 foreigners held an estimated \$4,118 billion in U.S. long-term debt securities issued by Treasury (\$1.6 trillion), U.S. agencies (\$0.8 trillion), and U.S. corporations (\$1.7 trillion).<sup>2</sup> As seen at the bottom of the table, included in the country-level amounts are \$1.44 trillion in reserves parked in U.S. debt markets. The largest bond positions are from Japan (\$814 billion), China (\$485 billion), the United Kingdom (\$283 billion), and through the financial centers of the Caribbean (\$416 billion), Belgium (\$312 billion), and Luxembourg (\$273 billion).

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<sup>2</sup> In Table 2, “Other” consists of the holdings of “Country Unknown” (\$193 billion in holdings of bearer bonds by unknown foreigners), International Organizations (\$42 billion), and \$75 billion spread out over many small countries.

Of course, such large positions imply that foreigners have a great deal of exposure to U.S. markets. Not knowing the composition of the entire portfolio and, thus, the extent these positions might be hedged, I shouldn't use the term 'exposure' ... but I will. Exhibit 5 shows the impact to foreign portfolios (expressed as a percent of GDP) if the dollar and U.S. bond prices were to fall by 10 percent. In this scenario rest of the world financial wealth would decline by 2.6% of foreign GDP (\$714 billion), of which 1% (\$280 billion) would owe to losses on reserves positions. Japan's loss (3.4% of GDP) is above average, but is not exorbitant. Financial centers (FCs) show up as having the most exposure, but that owes to a flaw in the data. Non-FCs with large U.S. exposure include Ireland (8%) and Taiwan (7%). China's exposure is high at 5.6% of GDP, and on average the exposure of emerging markets (3.4%) is somewhat higher than developed countries (2.3%). This raises a thought: At some point investors' exposure gets large enough that exiting the market becomes painful.

#### *Portfolio Shifts Away from Emerging Markets (aka Sudden Stops)*

At least until very recently, emerging markets have seen a flood of foreign investment and, as such, many have struggled with a variation of Mundell's potent but unholy Trinity. In the pre-August 2007 environment of a global search for yield, the combination of free capital flows and an inflation targeting regime put unwelcome upward pressure on emerging market exchange rates. This left many emerging markets with a difficult choice: reinstitute capital controls, give up the policy of inflation targeting, or allow a currency appreciation that would anger exporters.

We know, however, that such problems in emerging markets are often short-lived, if only because periods of sizeable inflows tend to end with a sudden stop. Exhibit 6

illustrates the typical pattern of what I call a true sudden stop: After a period of sustained, sizeable inflows, inflows slow to near zero for an entire year before recovering somewhat. Sudden stops can be painful, with GDP, consumption, and investment slowing considerably (Exhibit 7). They also tend to be bunched in time, with a great many of the sudden stop episodes occurring in 1997 and 1998 (Exhibit 8).

Over the past couple of years sudden stops have been few and far between. But with the recent credit crunch and reassessment of risk, are we about to see another bout of sudden stops? Perhaps. But two aspects of the current situation suggest that this time around the pain in emerging markets might be less severe. First, the fact that derivatives markets in developing countries are less developed might be a plus, as they are not suspect to the uncertainty plaguing the more complex and opaque corners of developed markets. Second, and more importantly, since the last round of sudden stops many emerging countries have made great strides in developing their local capital markets, perhaps relieving some of the reliance on foreign flows. For example, in 1997 local bond markets in emerging Asia were quite small (Exhibit 9), with most about 25% of GDP or lower. This contrasts with the developed country average of just over 100% of GDP (Burger and Warnock, 2006). But by 2006, in part because of the move toward inflation targeting regimes, emerging bond markets have...emerged. By 2006 Korea and Malaysia had local bond markets amounting to about 100% of GDP and there were sizeable improvements in the size of bond markets across the board. That said, only a few countries have been successful in developing local-currency corporate bond markets, in part owing to the protection of less-than-fully-competitive banking sectors.

## **Conclusion**

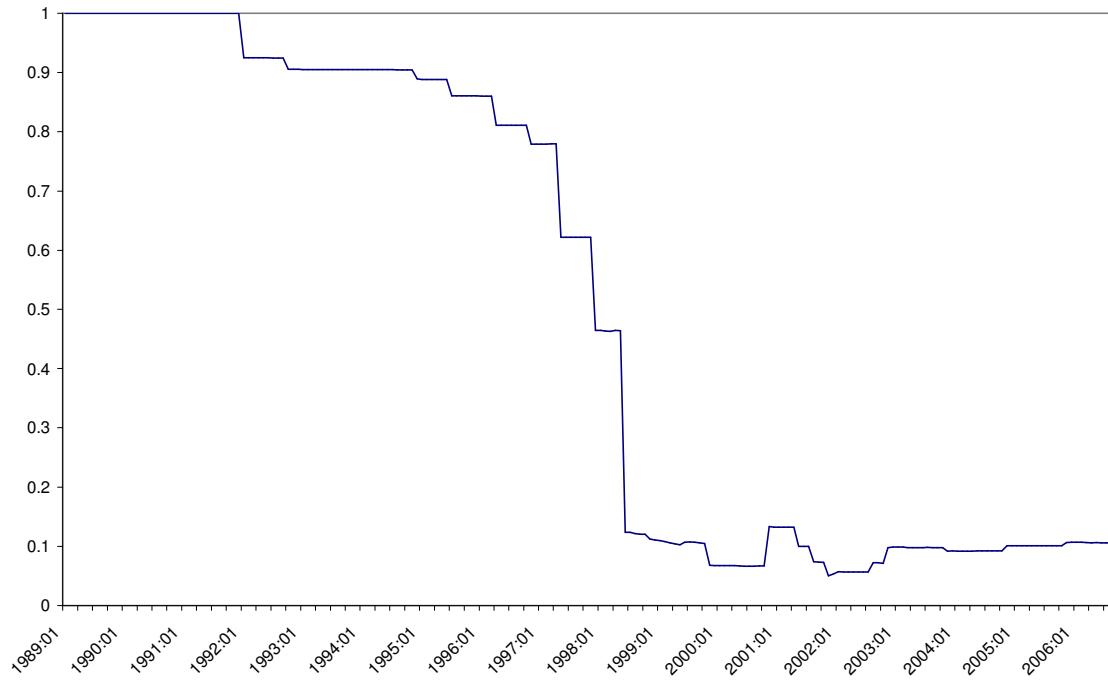
In this short talk I've touched on how countries can attract equity inflows, the impact of bond flows on the largest market in the world, the size of foreigners' positions in U.S. debt markets and their resulting exposure to shocks to U.S. asset prices, and sudden stops and capital market development. The main takeaway is that yes the financial world is more interconnected than ever, this comes with both opportunities and risks, and perhaps the best way for countries to limit the risks associated with this world of sizeable international flows is the prudential development of local capital markets. For example, while we all wonder what the impact might be of a sizeable portfolio shift out of U.S. securities, no one is forecasting a sharp increase in bankruptcies...the pain of foreigners exiting your local market is nowhere near the pain of relying on foreign currency financing.

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## Exhibit 1 Korean Equity Market

**Korea: Foreign Ownership Restrictions**



### Foreign ownership for all KSE common stocks

Table shows summary statistics of foreign ownership observed at year-end 1998 and 2004 for all KSE common stocks. FDI firms are identified from the year when their reports of foreign investments are made to the Ministry of Commerce, Industry and Energy in accordance with the Foreign Investment Promotion Act. “EW” denotes equal-weighted and “VW” denotes value-weighted.

	1998			2004		
	All KSE	FDI Firms	Non-FDI Firms	All KSE	FDI Firms	Non-FDI Firms
<b>Number of firms</b>	729	74	655	666	102	564
<b>Market cap (\$bil)</b>	91.3	14.1	77.2	381.0	121.1	259.9
<b>Foreign Ownership</b>						
EW mean (%)	5.8	23.2	3.8	11.3	32.4	7.4
VW mean (%)	<b>21.0</b>	29.4	19.5	<b>41.3</b>	48.8	37.9

Sources. Top Panel: Updated version of Edison and Warnock (2003). Bottom Panel: Kho, Stulz, and Warnock (2007).

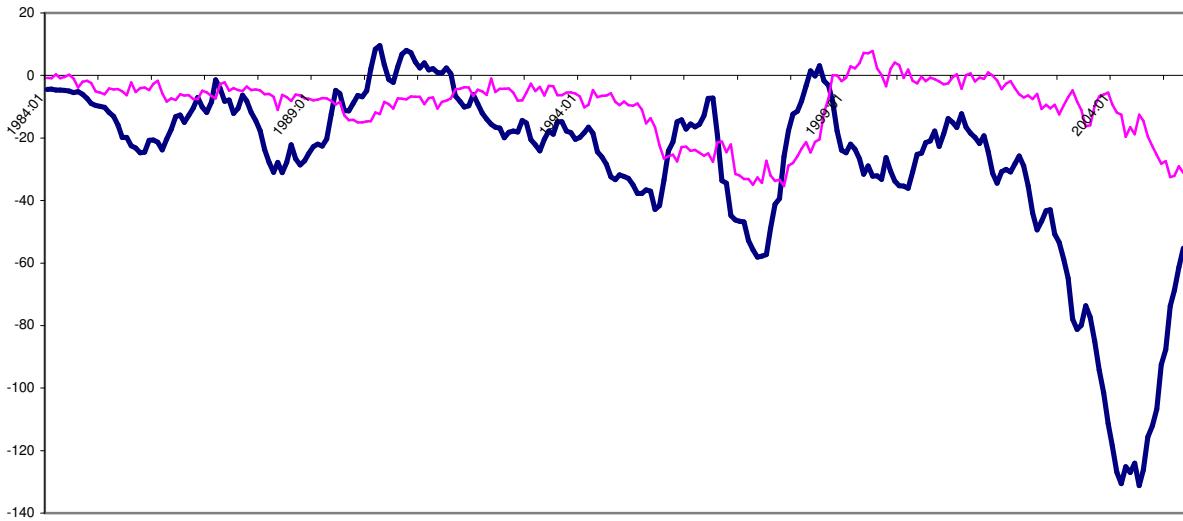
**Exhibit 2**  
**A Problem with CPIS Data**

	<b>% of foreign investment reported to be in Luxembourg</b>	<b>% of Luxembourg market</b>
Austria	16%	15%
Belgium	45%	139%
Finland	6%	3%
France	11%	67%
Germany	24%	274%
Greece	34%	1%
Ireland		
Italy	37%	261%
Luxembourg		
Netherlands	2%	12%
Portugal	27%	6%
Spain	10%	17%
Euro Area	21%	796%

Source: Author's calculations based on holdings data from the 2001 CPIS and market capitalization data from [www.fibv.com](http://www.fibv.com).

### Exhibit 3

**Impact of East Asian and Other Flows on 10-year Treasury Yield**  
(in basis points)



East Asia (thick line) refers to Japan, China, Hong Kong, Taiwan, and Korea.

Source: Warnock and Warnock (2007).

**Exhibit 4. Foreign Positions in U.S. Long-term Debt Securities as of June 2005**

	Total	Treasury	Agency	Corporate
<b>Developed Countries</b>	<b>2,327,675</b>	<b>855,944</b>	<b>347,290</b>	<b>1,124,441</b>
Euro Area	948,636	155,897	141,837	650,902
Austria	7,457	2,031	2,320	3,106
Belgium	311,962	13,266	51,225	247,471
Finland	3,269	1,101	761	1,407
France	40,711	17,852	2,288	20,571
Germany	109,569	41,352	15,103	53,114
Greece	522	313	63	146
Ireland	80,291	16,116	14,129	50,046
Italy	15,389	11,094	2,219	2,076
Luxembourg	272,777	30,493	34,238	208,046
Netherlands	93,450	17,417	17,848	58,185
Portugal	2,531	1,412	314	805
Spain	10,708	3,450	1,329	5,929
<b>Other Europe</b>	<b>462,840</b>	<b>109,003</b>	<b>47,748</b>	<b>306,089</b>
Denmark	23,291	10,311	4,882	8,098
Iceland	223	29	73	121
Norway	28,304	8,286	4,744	15,274
Sweden	33,383	16,546	4,594	12,243
Switzerland	94,405	28,801	10,287	55,317
Great Britain	283,234	45,030	23,168	215,036
<b>Other Developed</b>	<b>916,199</b>	<b>591,044</b>	<b>157,705</b>	<b>167,450</b>
Australia	25,688	4,286	12,786	8,616
Canada	74,100	13,884	4,795	55,421
Japan	814,083	571,540	139,771	102,772
New Zealand	2,328	1,334	353	641
<b>Emerging Markets</b>	<b>1,480,338</b>	<b>694,061</b>	<b>418,507</b>	<b>367,770</b>
<b>Latin America</b>	<b>103,501</b>	<b>57,716</b>	<b>31,669</b>	<b>14,116</b>
Argentina	5,516	1,279	1,709	2,528
Brazil	24,852	21,947	1,862	1,043
Chile	4,829	2,526	1,256	1,047
Colombia	8,787	5,701	1,363	1,723
Mexico	51,101	22,902	23,043	5,156
Peru	897	249	274	374
Venezuela	4,855	2,108	1,268	1,479
Uruguay	2,664	1,004	894	766
<b>Emerging Asia</b>	<b>753,881</b>	<b>438,954</b>	<b>262,433</b>	<b>52,494</b>
China	485,019	277,087	172,002	35,930
India	5,840	5,723	24	93
Indonesia	10,593	6,517	4,020	56
Korea	105,969	58,063	42,473	5,433
Malaysia	10,289	8,033	2,065	191
Pakistan	821	368	189	264
Philippines	5,473	4,590	599	284
Thailand	12,796	12,570	68	158
Taiwan	117,081	66,003	40,993	10,085
<b>Financial Centers</b>	<b>514,154</b>	<b>126,130</b>	<b>96,839</b>	<b>291,185</b>
Hong Kong	46,893	27,100	12,554	7,239
Singapore	51,130	32,603	5,574	12,953
CFCs3	416,131	66,427	78,711	270,993
<b>Emerging Europe</b>	<b>39,196</b>	<b>23,835</b>	<b>14,815</b>	<b>546</b>
Czech	4,818	3,510	1,235	73
Hungary	714	352	57	305
Poland	9,332	8,591	632	109
Russia	14,190	1,290	12,880	20
Turkey	10,142	10,092	11	39
<b>Other Emerging</b>	<b>69,606</b>	<b>47,426</b>	<b>12,751</b>	<b>9,429</b>
Israel	12,845	8,546	1,738	2,561
Morocco	980	977	1	2
South Africa	1,417	672	143	602
African oil-exporters <sup>1</sup>	410	187	165	58
Middle-East oil-exporters <sup>2</sup>	53,954	37,044	10,704	6,206
<b>Other</b>	<b>310,339</b>	<b>48,611</b>	<b>24,818</b>	<b>236,910</b>
<b>World</b>	<b>4,118,352</b>	<b>1,598,616</b>	<b>790,615</b>	<b>1,729,121</b>
o/w Reserves	1,438,274	1,053,653	323,955	60,666

Notes. All data are in millions of USD.

1 Algeria, Gabon, Libya, and Nigeria.

2 Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.

3 Bahamas, Bermuda, British Virgin Islands, Cayman Islands, Netherlands Antilles, Panama.

### Exhibit 5. Impact of Unanticipated Shocks (% of GDP)

Scenario:	Dollar -10%	Bonds -10%		
	Total	Treasury	Agency	Corporate
<b>Developed Countries</b>	<b>-2.3</b>	<b>-0.9</b>	<b>-0.3</b>	<b>-1.1</b>
<b>Euro Area</b>	<b>-1.8</b>	<b>-0.3</b>	<b>-0.3</b>	<b>-1.2</b>
Austria	-0.5	-0.1	-0.1	-0.2
Belgium	-16.0	-0.8	-2.6	-12.7
Finland	-0.3	-0.1	-0.1	-0.1
France	-0.4	-0.2	0.0	-0.2
Germany	-0.8	-0.3	-0.1	-0.3
Greece	0.0	0.0	0.0	0.0
Ireland	-8.0	-1.8	-1.4	-4.9
Italy	-0.2	-0.1	0.0	0.0
Luxembourg	-158.7	-19.6	-19.7	-119.5
Netherlands	-3.0	-0.6	-0.6	-1.8
Portugal	-0.3	-0.2	0.0	-0.1
Spain	-0.2	-0.1	0.0	-0.1
<b>Other Europe</b>	<b>-2.5</b>	<b>-0.7</b>	<b>-0.3</b>	<b>-1.6</b>
Denmark	-1.8	-0.8	-0.4	-0.6
Iceland	-0.3	0.0	-0.1	-0.2
Norway	-2.1	-0.7	-0.3	-1.1
Sweden	-1.8	-1.0	-0.2	-0.6
Switzerland	-4.9	-1.6	-0.5	-2.8
Great Britain	-2.4	-0.4	-0.2	-1.8
<b>Other Developed</b>	<b>-2.8</b>	<b>-1.9</b>	<b>-0.4</b>	<b>-0.5</b>
Australia	-0.7	-0.1	-0.4	-0.2
Canada	-1.4	-0.3	-0.1	-1.0
Japan	-3.4	-2.5	-0.5	-0.4
New Zealand	-0.4	-0.3	-0.1	-0.1
<b>Emerging Markets</b>	<b>-3.4</b>	<b>-1.7</b>	<b>-0.9</b>	<b>-0.8</b>
<b>Latin America</b>	<b>-1.1</b>	<b>-0.6</b>	<b>-0.3</b>	<b>-0.1</b>
Argentina	-0.7	-0.2	-0.2	-0.3
Brazil	-0.8	-0.7	-0.1	0.0
Chile	-1.0	-0.5	-0.2	-0.2
Colombia	-1.7	-1.2	-0.3	-0.3
Mexico	-1.4	-0.7	-0.6	-0.1
Peru	-0.2	-0.1	-0.1	-0.1
Venezuela	-0.8	-0.4	-0.2	-0.2
Uruguay	-3.8	-1.5	-1.2	-1.0
<b>Emerging Asia</b>	<b>-3.6</b>	<b>-2.2</b>	<b>-1.2</b>	<b>-0.2</b>
China	-5.6	-3.4	-1.9	-0.4
India	-0.2	-0.2	0.0	0.0
Indonesia	-0.8	-0.5	-0.3	0.0
Korea	-3.0	-1.7	-1.1	-0.1
Malaysia	-1.7	-1.4	-0.3	0.0
Pakistan				
Philippines	-1.2	-1.1	-0.1	-0.1
Thailand	-1.6	-1.5	0.0	0.0
Taiwan	-7.3	-4.3	-2.4	-0.6
<b>Financial Centers</b>	<b>-7.0</b>	<b>-9.3</b>	<b>-6.4</b>	<b>-19.3</b>
Hong Kong	-5.5	-3.3	-1.4	-0.8
Singapore	-9.2	-6.1	-0.9	-2.2
CFCs3				
<b>Emerging Europe</b>	<b>-0.6</b>	<b>-0.4</b>	<b>-0.2</b>	<b>0.0</b>
Czech	-0.9	-0.7	-0.2	0.0
Hungary	-0.1	-0.1	0.0	-0.1
Poland	-0.8	-0.7	0.0	0.0
Russia	-0.4	0.0	-0.4	0.0
Turkey	-0.7	-0.7	0.0	0.0
<b>Other Emerging</b>	<b>-1.4</b>	<b>-1.0</b>	<b>-0.2</b>	<b>-0.2</b>
Israel				
Morocco	-2.1	-1.5	-0.3	-0.4
South Africa	-0.1	-0.1	0.0	-0.1
African oil-exporters1	0.0	0.0	0.0	0.0
Middle-East oil-exporters2	-2.5	-1.8	-0.5	-0.3
<b>Other</b>				
<b>World</b>	<b>-2.6</b>	<b>-1.1</b>	<b>-0.5</b>	<b>-1.0</b>
o/w Reserves	-1.0	-0.8	-0.2	0.0

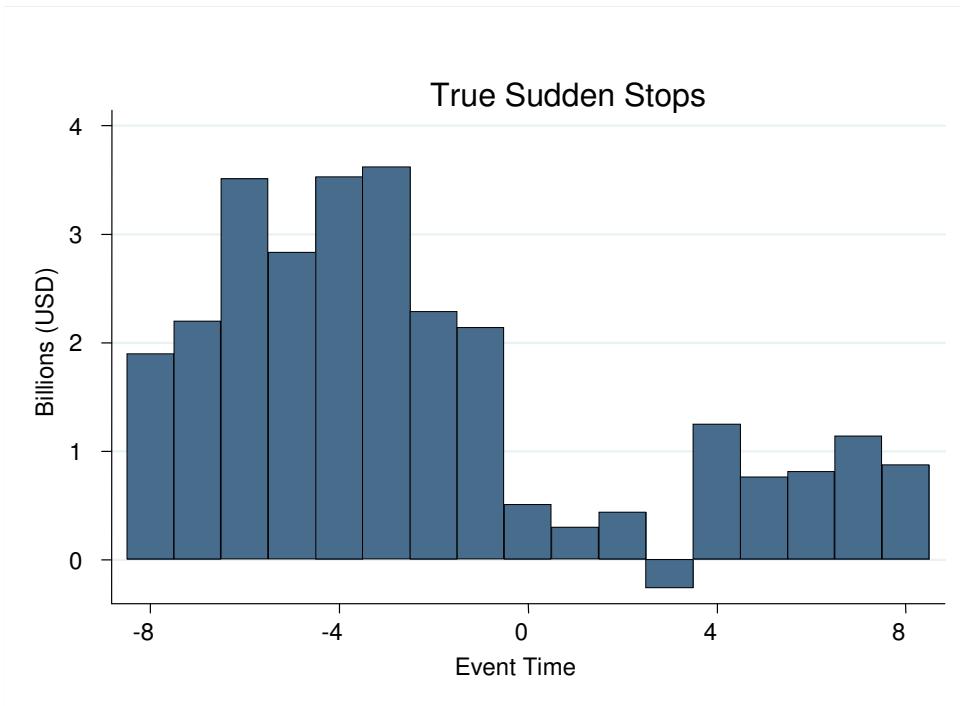
1 Algeria, Gabon, Libya, and Nigeria.

2 Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.

3 Bahamas, Bermuda, British Virgin Islands, Cayman Islands, Netherlands Antilles, Panama.

**Exhibit 6**  
**Gross Inflows Around True Sudden Stops**

The figure depicts mean gross inflows during 27 true sudden stops. Event time is in quarters, with zero being the beginning of the episode.

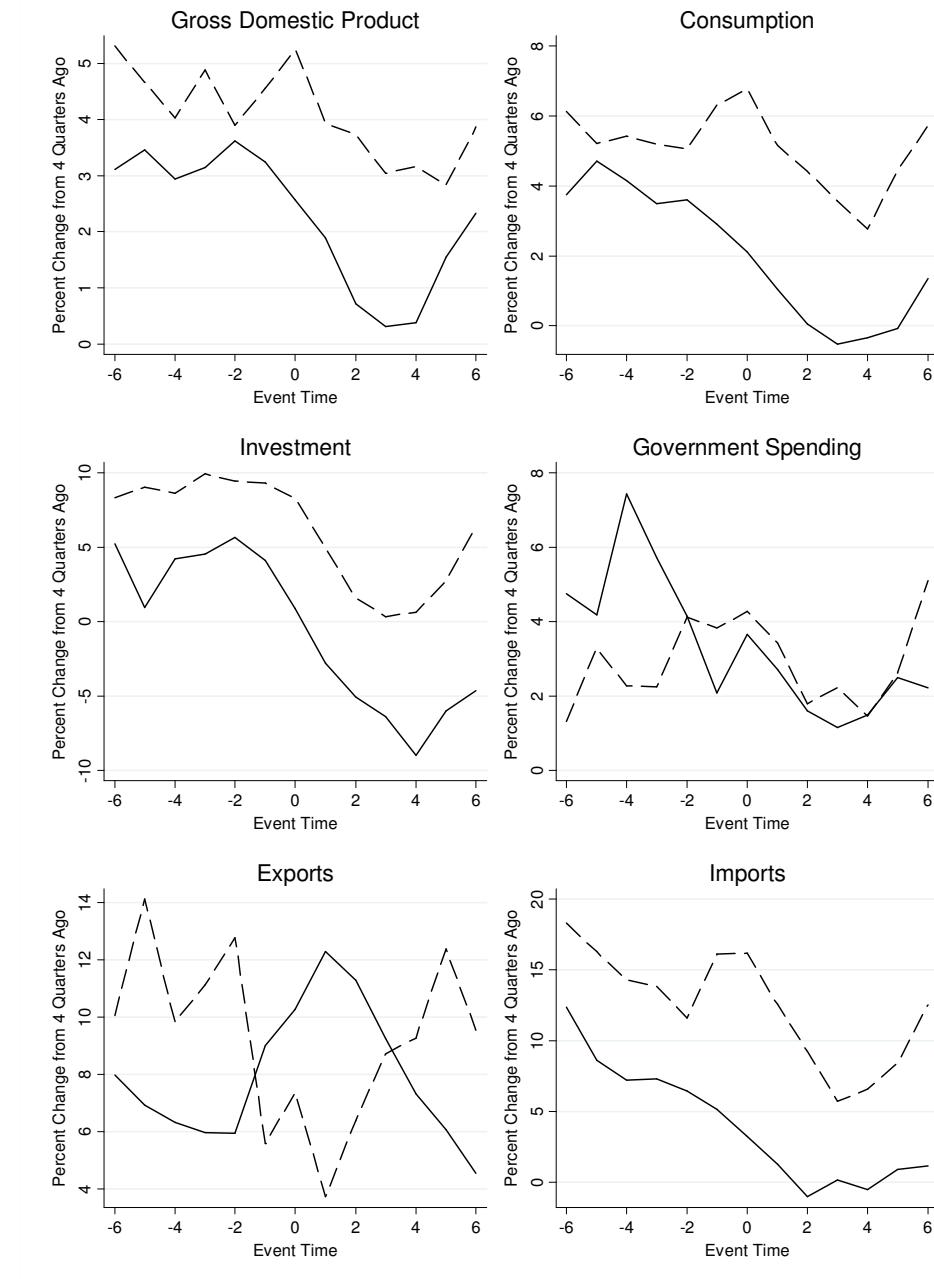


Source: Rothenberg and Warnock (2006).

## Exhibit 7

### Evolution of GDP and its Components

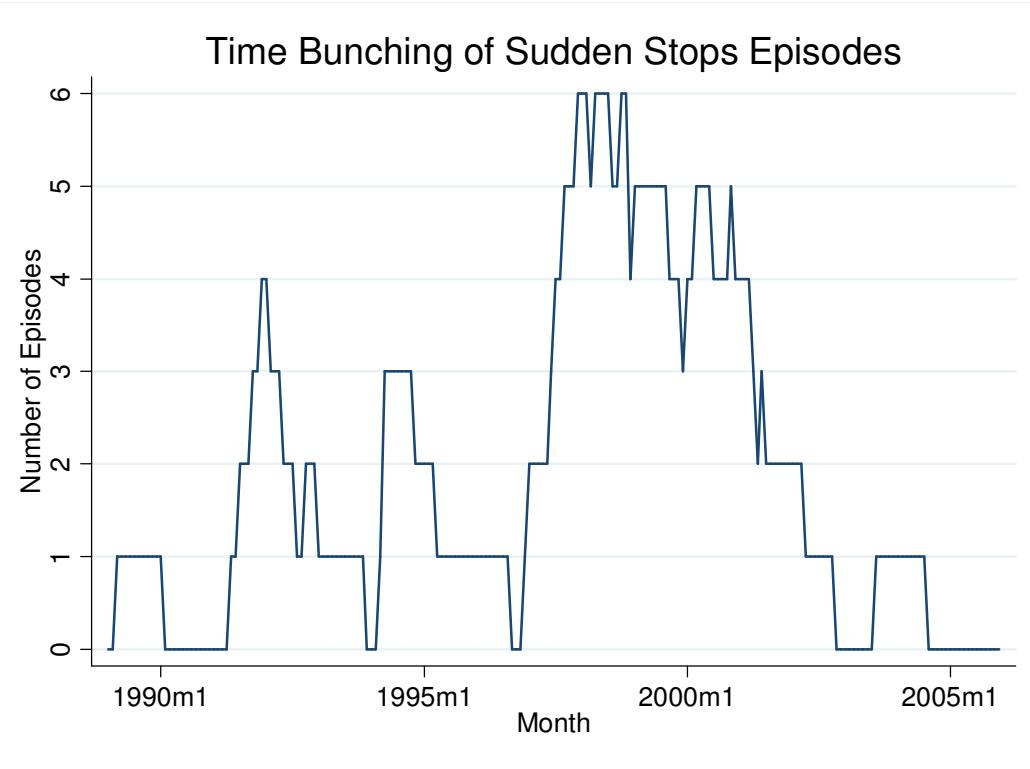
The figures depict mean year-over-year changes in real GDP and its components during 24 true sudden stops (solid lines) and 13 sudden flight episodes (dashed lines). Data availability limits the sample sizes in the components graphs; the smallest samples are for consumption (22 stops and 6 flight).



Source: Rothenberg and Warnock (2006).

**Exhibit 8**  
**Time Bunching of Sudden Stop Episodes**

The figures depict the number of episodes in each month from January 1989 through December 2005.



Source: Rothenberg and Warnock (2006).

**Exhibit 9**  
**Local Currency Bond Market Development in East Asia**

	1997	2006	Change in Size of Corporate Bond Market
China	9.2	45.1	2.6
Hong Kong	24.6	35.2	2.0
Korea	29.5	112.5	16.3
Malaysia	56.5	93.5	14.8
Philippines	20.2	38.0	0.0
Singapore	24.8	65.3	1.1
Thailand	6.7	51.4	10.6
Indonesia	1.9	21.4	0.2
Vietnam		8.9	

As a percent of GDP as of December 1997 and September 2006. Source: Warnock (2007).