

Deviation from Covered Interest Parity

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Credit Migration and Covered Interest Rate Parity

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Discussion

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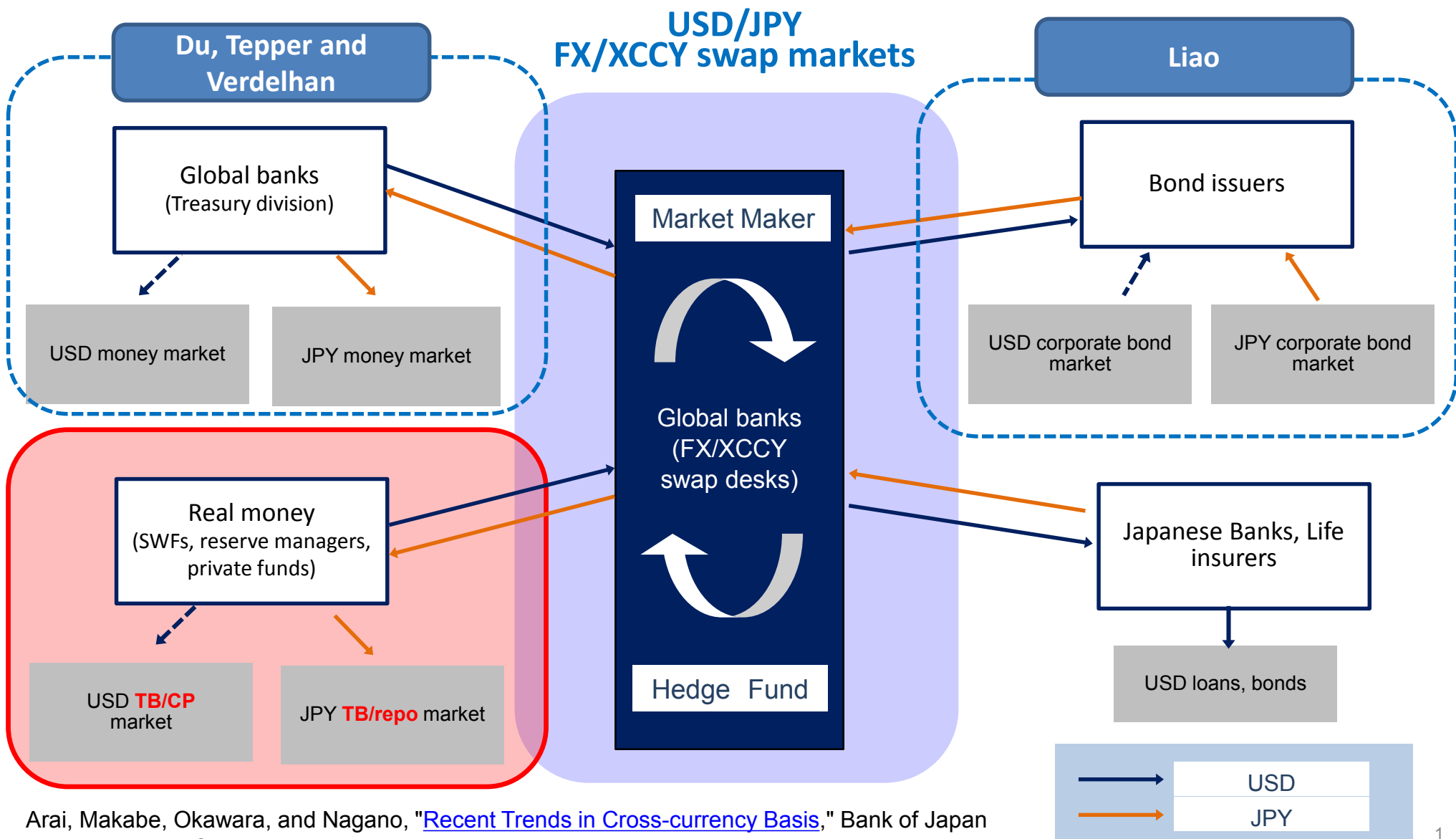
Bank of Japan

BIS Symposium “CIP-RIP?”

22-23 May 2017

Structure of USD/JPY FX swap market

Three types of arbitragers



Structure of USD/JPY FX swap markets

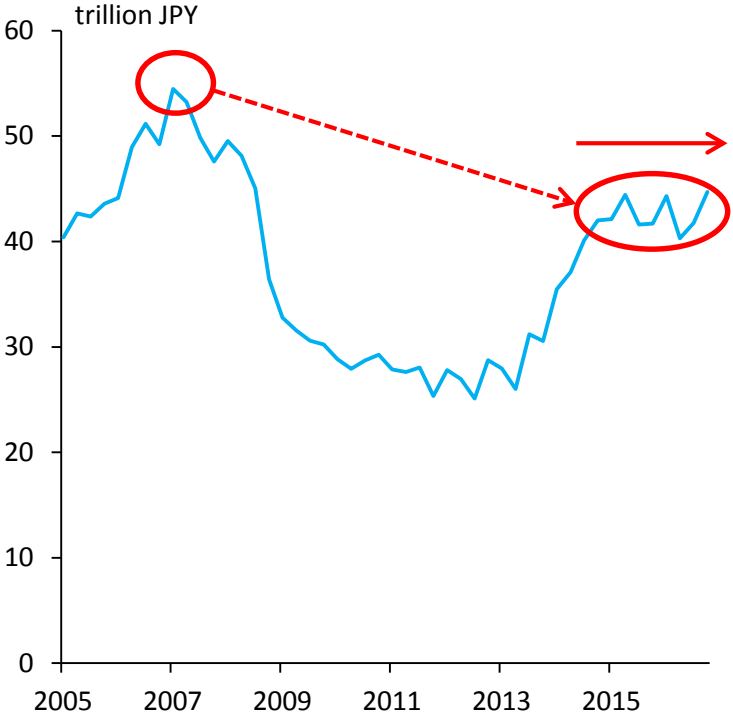
Banks vs. Real money

	USD side	JPY side	No-arbitrage conditions (CIP)	Leverage
Global banks Global banks' treasury division	Money market instruments USD LIBOR or short-term repo	Money market instruments JPY LIBOR or short-term repo	USD LIBOR = USD-hedged JPY LIBOR LIBOR-based cross-currency basis=0	YES, Borrow USD in money markets and supply funds to FX swap market.
Real money SWFs, reserve managers, private investment funds	US TB or high-rated CP	Safe assets USD-hedged JGSs	US TB/CP rate = USD-hedged JP TB rate LIBOR-based cross-currency basis ≠0	No, Invest USD to spare in US TB/CP or USD-hedged products.

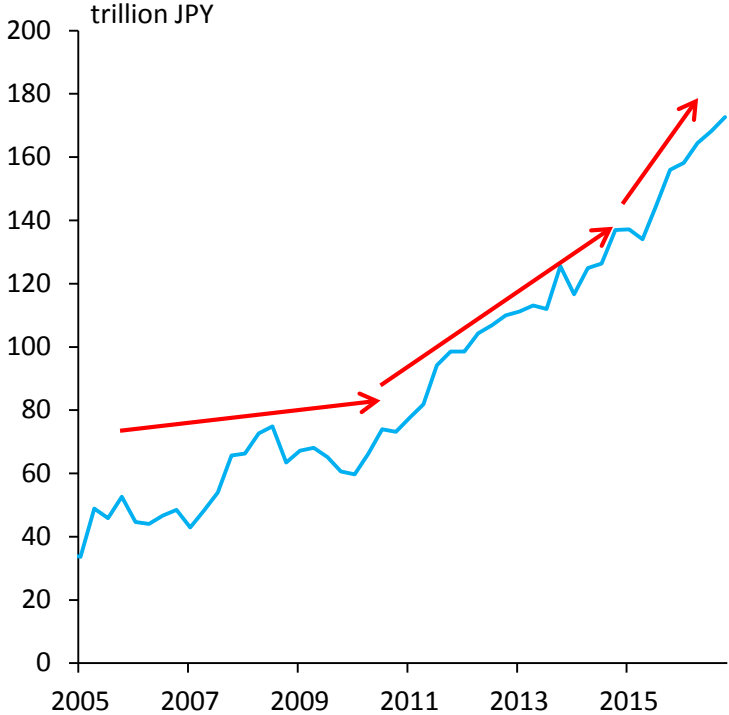
Changes in major arbitragers: *from banks to real money investors*

Global banks' arbitrage positions are almost flat since 2014. In contrast, real money investors are likely to accelerate their USD-hedged JGS investments.

Foreign banks' assets at Tokyo branch



Amount outstanding of JGS holdings and net repo position by foreign investors

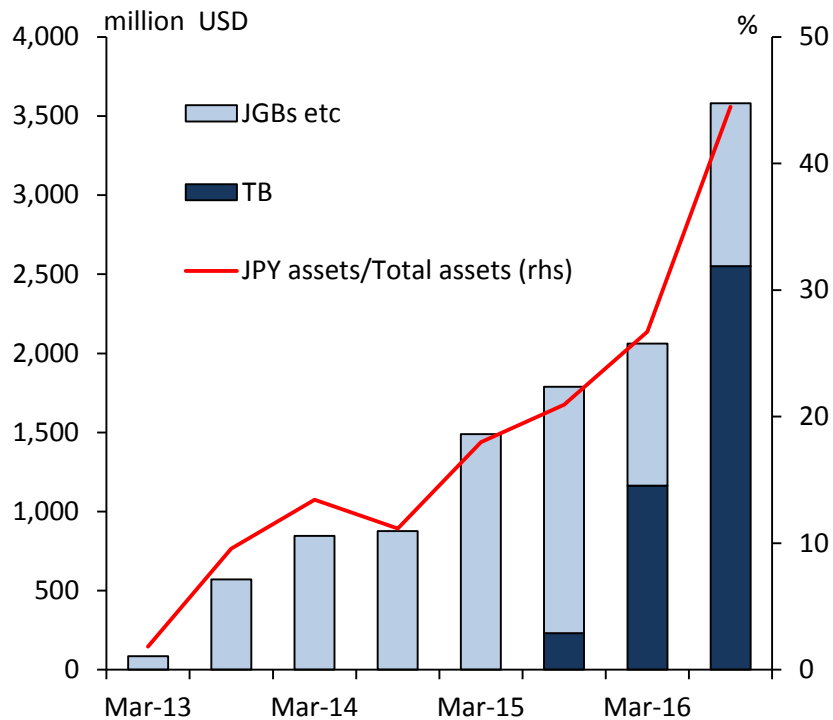


Source: Bank of Japan.

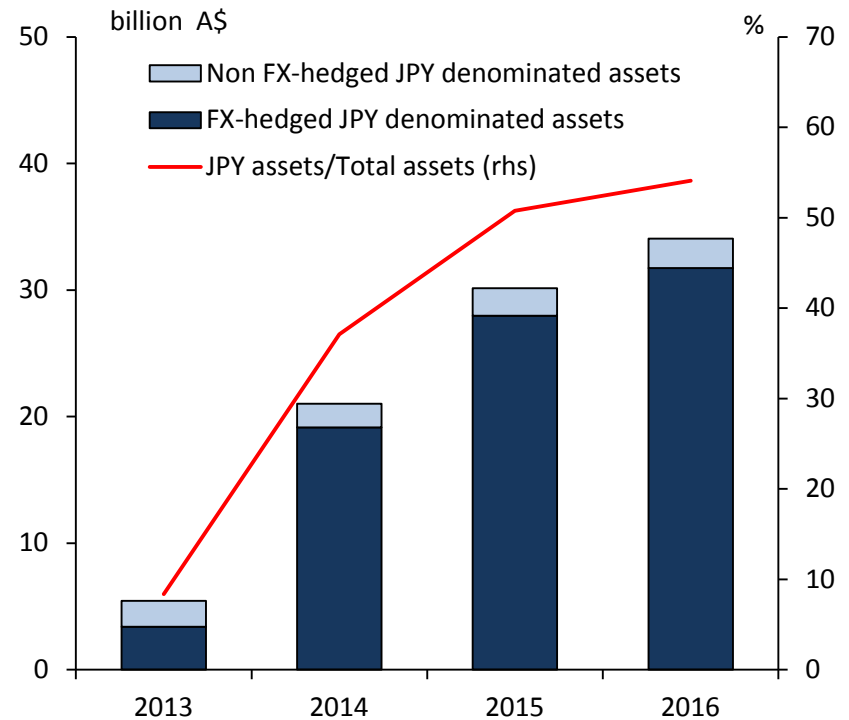
Changes in major arbitragers : *from banks to real money investors*

Accelerated USD-hedged JGS investments by real money investors: some evidence from public information

Private investment funds
 <PIMCO foreign bond funds, USD hedged>



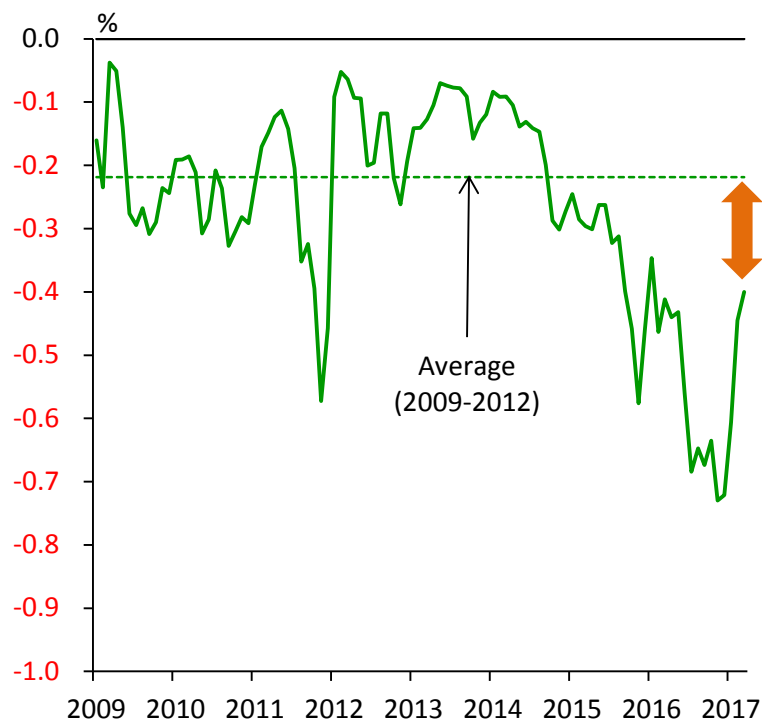
Foreign reserve managers
 <RBA>



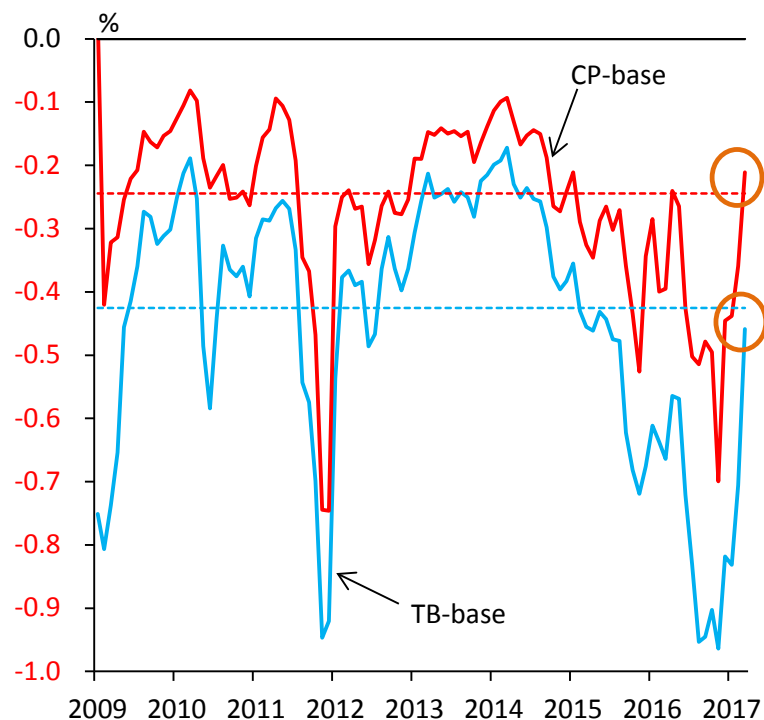
Changes in major arbitragers : *from banks to real money investors*

Cross-currency basis for real money investors may converge to the historical average in the long run, although *the speed of convergence* might be slow and *the band* might be wider.

CIP for banks (3M)
(LIBOR-based) cross-currency basis



CIP for real money investors (3M)
TB/CP-based cross-currency basis



Note: TB based cross-currency basis = US TB rate – USD-hedged Japanese TB rate
CP based cross-currency basis = USD CP rate (AA-rated) – USD-hedged Japanese TB rate

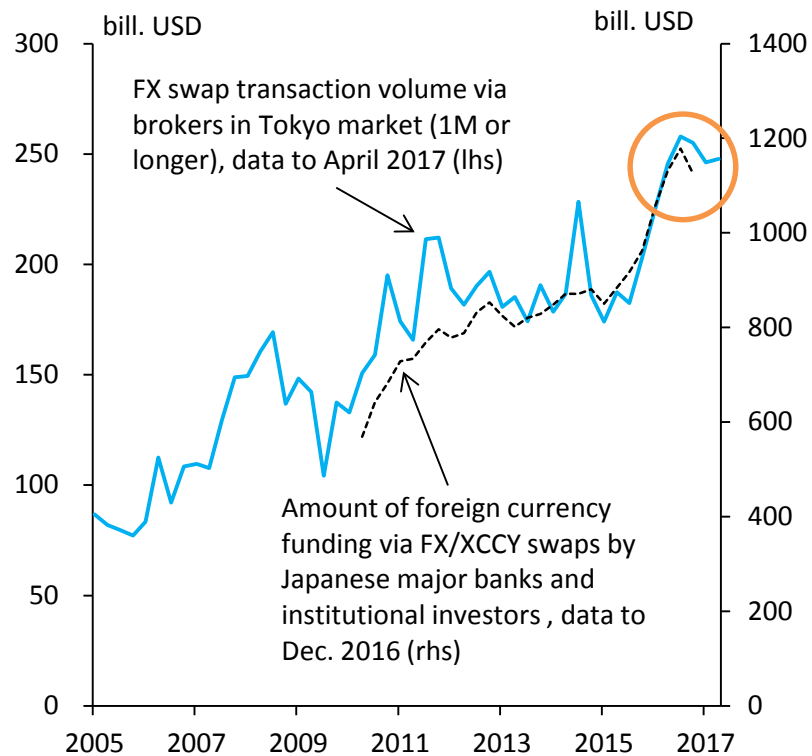
Source: Bloomberg

Background of recent basis *tightening*

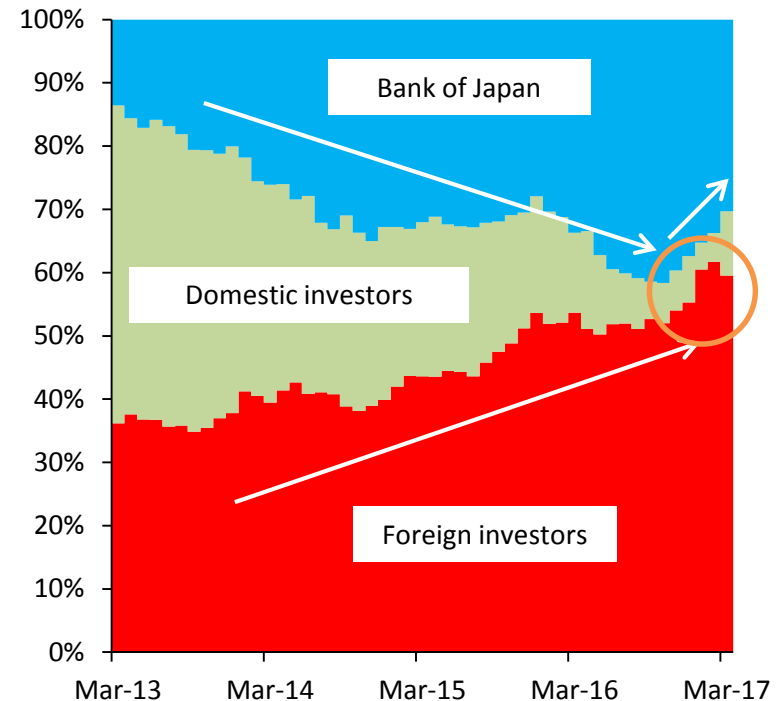
USD demand side : Japanese banks sold a large amount of foreign bonds in the first quarter of 2017 but it seems not to affect their USD demands in the FX swap market.

USD supply side : real money may increase USD-hedged JGS investments.

Japanese financial institutions' USD demands in the FX swap market



Amount outstanding of TB holdings by sector



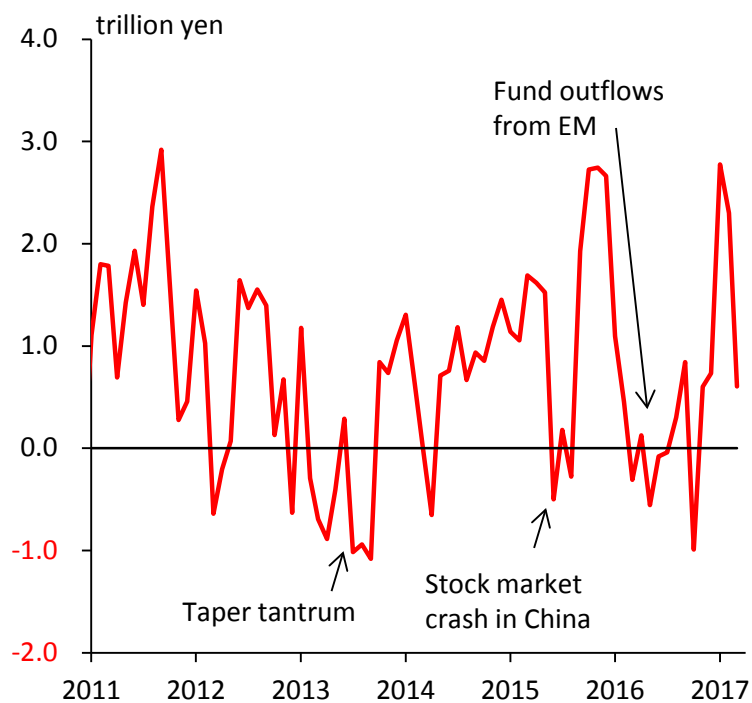
Real money investors as arbitragers

- The priority of “making profit through arbitrage” may be much lower than that of “safety” for real money investors.
- Real money investors invest *USD to spare* in USD-hedged non-U.S. products as *safe assets* substitutable for U.S. TB/high-rated CP in tranquil times.
- *Do real money investors continue to invest in USD-hedged products in times of stress?*
- **More research is needed !**

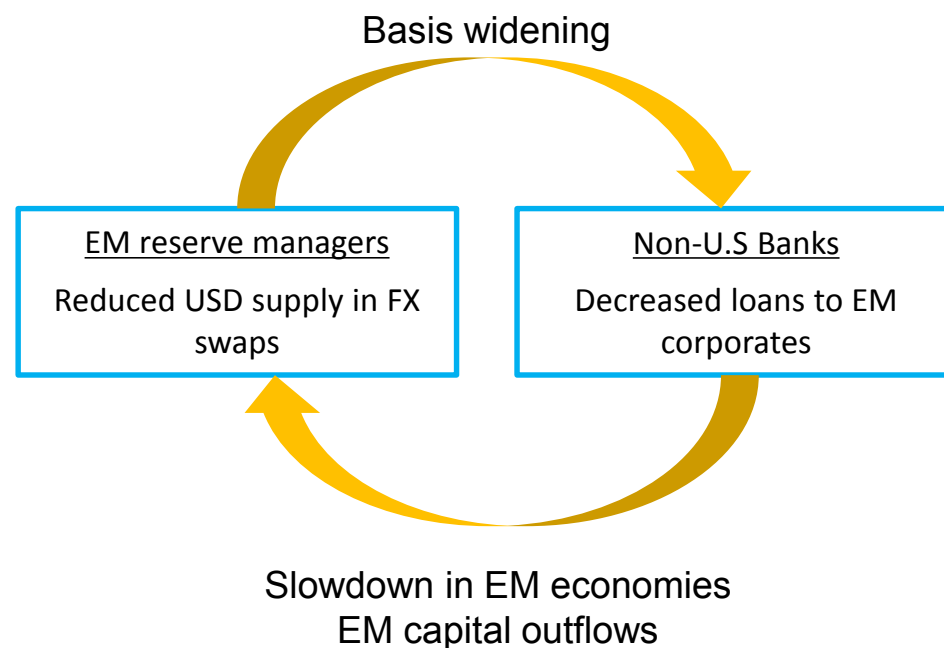
USD-hedged non U.S. securities as “safe” but “illiquid” assets

- Bond investment flows into Japan tend to decline sharply in times of stress. EM reserve managers, aware of the potential need to protect their currencies, may refrain from supplying USD in the FX swap market. **In times of stress, reserve managers/SWF could become liquidity demanders.**
- **Potential amplification mechanism?**

Bond investment flows into Japan



Source: Ministry of Finance, Japan.



Offshore profits as USD to spare

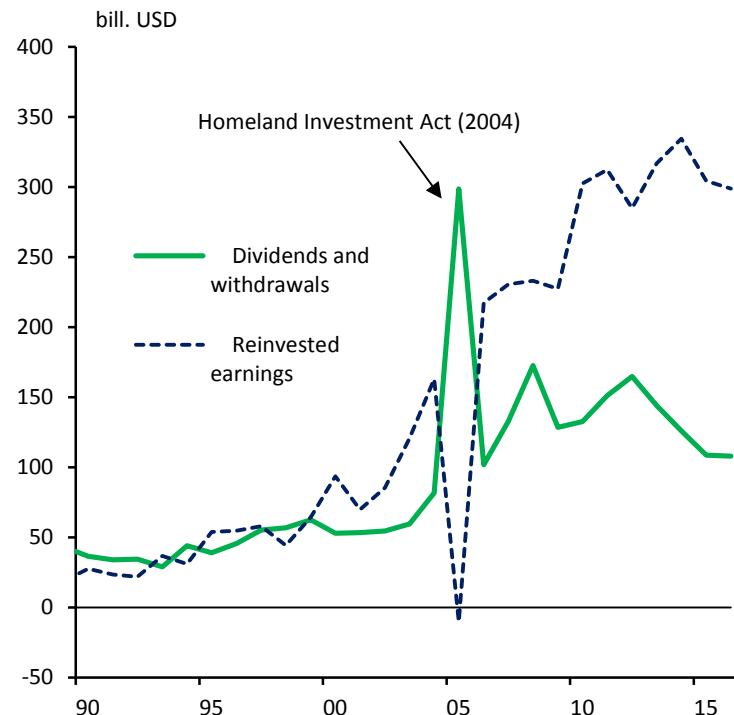
- One important USD source of private investment funds is “offshore profits” of U.S. corporations. Some U.S. corporates purchase bank’s CD/CP or offer USD in FX swap markets by using their offshore separate accounts.
- *Would another repatriation tax holiday decrease USD to spare of U.S. corporates?*

Offshore profits of U.S corporates

	bill. USD	
	Offshore profit	Cash held overseas
Apple	215	230
Pfizer	194	n.a.
Microsoft	124	116
GE	104	4
IBM	68	n.a.
Merck	59	n.a.
Google	58	86
Cisco	58	62
J&J	58	41
Exxon Mobil	51	n.a.
Total	2,492	1,039

Sources: Bloomberg; CTJ.

Reinvested earnings and repatriations to U.S.



Source: BEA.