



MINDS



Macro, Finance, Development Policies and the Brazilian Crisis.

**Macrofinancial Stability and Development Policies: Lessons from
Brazilian Crisis**

Rio 8 December 2016

Jan Kregel, Levy Economics Insitute

Pre-Crisis Economic Themes: **globalization, financialization**

Both were driven by regulatory and policy decisions in US:

- The opening of global financial markets, starting with the collapse of the Bretton Woods System and the expansion of the Eurodollar system in the 1970s, produced off-shore dollar financing of the geographically distributed global production chains that unleashed the productive potential of a cheap global labour force and falling prices of a global surplus of manufactured goods.
- **Globalisation** thus contributed to the elimination of persistent cost-push inflation and ushered in the **Great Moderation**
- and maintained purchasing power of stagnant nominal wage incomes in the developed world
- and allowed increasing real incomes in the developing world.

Financialisation

- The end of Bretton Woods and US deregulation of finances supported the global expansion of capital flows and the rise of the so-called FIRE sector (Finance, Insurance and Real Estate) as a share of national income and as a share of employment in developed countries at the expense of investment in manufacturing production.
- While deregulated international capital flows provided impetus to the creation of global production chains, **financialisation** was based on the potential for **innovation in financial services** to create unlimited liquidity and declining rates of return on the newly created financial assets.

Lower returns in Manufacturing and Finance

- The impact of these two forces was primarily on the supply side – excess manufactured goods and excess liquidity
- Created a new economic reality in which the cost-push wage driven inflation of goods prices that had tormented central bankers in the 1960s and 1970s was replaced in the 1980s and 1990s by the liquidity driven inflation of asset and primary commodity prices, with stable or falling goods prices.
- The impact of these two forces was thus to produce downward pressure on real returns in both manufacturing and finance
- And declining investment incentives in manufacturing exports: outsourcing of manufacturing or expanding primary commodity export
- and increasing pressure to garner returns in the financial sector: reach for yield with increasing risk.

Reach for yield: Financial Bubbles

- The impact of financial innovation, driving the search for higher returns, served to counter the depressing impact of wage compression on global demand by producing a series of asset and primary commodity price inflations
- All of which ended in crisis:
 - *real estate in the 1980s,*
 - *dot-com in the 1990s,*
 - *commodity and residential real estate in the 2000s*
- In the Developed world – The Rise of FIRE
- In the Developing world – the Rise of Primary Commodity Exports and External Surpluses

Inherent Instability in the Great Moderation based on Globalisation and Financialisation

- Hyman Minsky has suggested that the financial stability of the economic system may be understood in terms of what he called a “two price” system:
 - the prices of currently produced consumption output
 - and the prices of financial assets issued to garner control over the capital goods used to produce consumption goods.
- For Minsky price level of current output relative to costs of production, in particular wages, serves to support profits which are the source of the debt service on firms’ liabilities and financing of investment and thus a major determinant of the income flows generated by the ownership of capital assets.

For Developing Countries (like Brasil)

- The equivalent of the “two price” system is in the terms of trade:
- the rising prices of primary commodity exports relative to imports
- and the prices of manufactured goods exports
- The price level of current exports relative to costs of imports serves to support external account earnings and government budgets, but hurts the profits of manufacturers which are the source of the debt service on firms’ liabilities and financing of investment and thus a major determinant of employment.

The Great Moderation: Rising Asset and Export Prices to offset declining goods and import prices

- Financial globalization has thus impaired the ability of manufactured goods producers to generate the cash flows required to validate corporate debt and support equity prices.
- But despite the weakness of firms' pricing power in goods markets, equity and commodity prices continued to rise as a result of the search for financial returns driven by the increasing facility of financial institutions to create liquidity.
- The result has been the rise in equity prices, driven not by rising prices of manufacturing firms' earnings, but the impact of capital gains from rising equity and other asset prices driven by rising liquidity creation.
- The Great Moderation was a Ponzi Scheme

After the GFC: Contradictory Financial Conditions

1985 & 2008: Objective: Make insolvent US banks start lending again

Compare the 1980s Lost Decade Solution:

- *Brady solution – refinance the impaired debt*

2009 – balance sheet asset swaps: impaired assets to Fed

- *Bloated Fed Balance sheet, Banks' excess reserves*
 - Banks did not lend

Next Step:

- *Reduce Interest Rates by steps to Lower Bound*
 - *Banks still did not lend*
- *Quantitative Easing – flat yield curve to eliminate Riding the curve*
 - *Banks still did not lend*

All designed to push to higher risk-return investments

- *Supported the REACH for Yield*

But: Dodd-Frank Regulation –

- *Reduce Risk, Delever – Reduce lending, Shrink Balance Sheets, no TBTF*

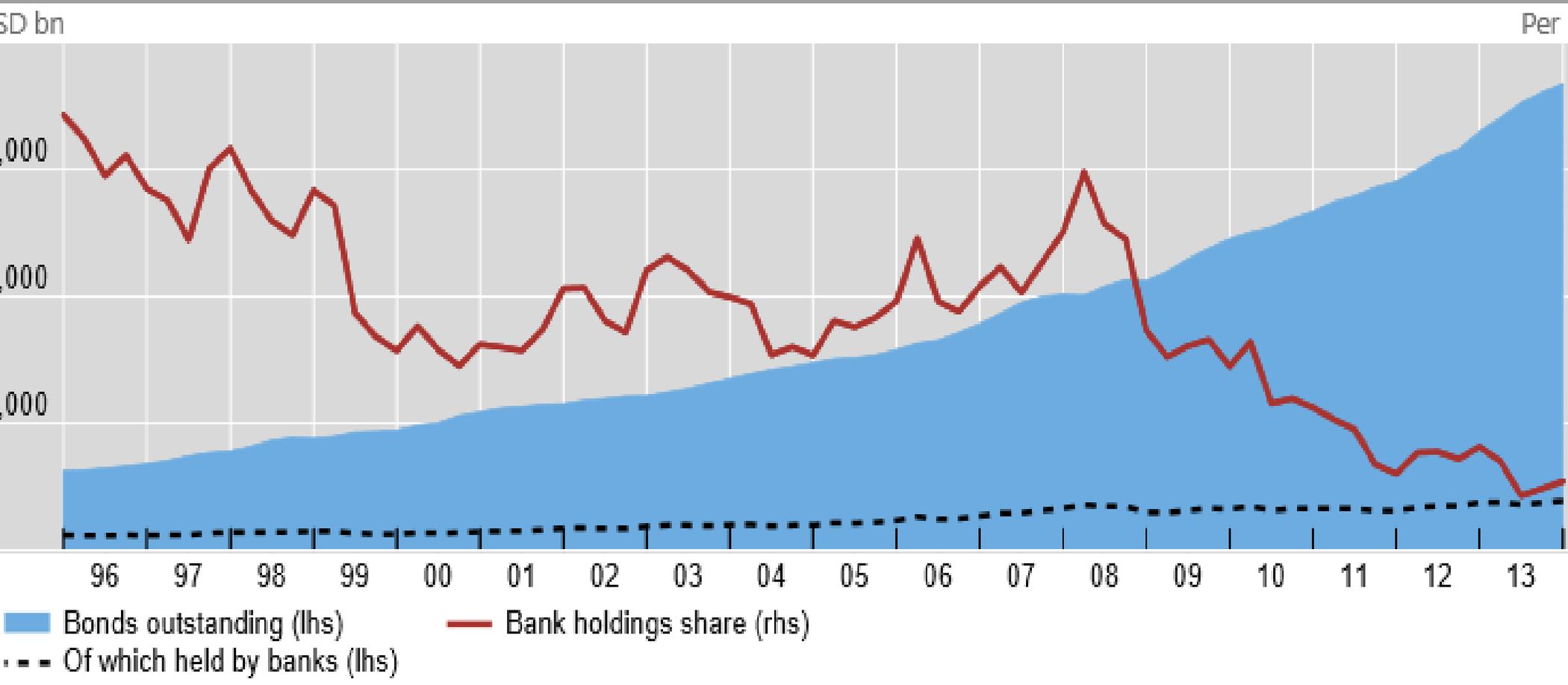
Yet there was a massive movement of funds into EMEs

Mantega's currency wars

- Where did the money come from? Not from ZIRP & QE
- BIS (2011:46-7) “Indeed, some observers imagine that the excess reserves in the US banking system created by the Federal Reserve to pay for large-scale bond purchases are ‘spilling’ into the rest of the world, financing dollar credit there.
- In fact, in the first quarter of 2011, when such Treasury bond purchases boosted bank reserves by \$409 billion, banks in the country increased net liabilities to the rest of the world's banks by \$209 billion.
- If anything interbank inflows helped to fund the build-up of excess reserves in the United States, rather than these reserves inducing outflows to fund dollar credit in the rest of the world.”

Banks' share in holdings of dollar bonds issued by non-banks outside the US

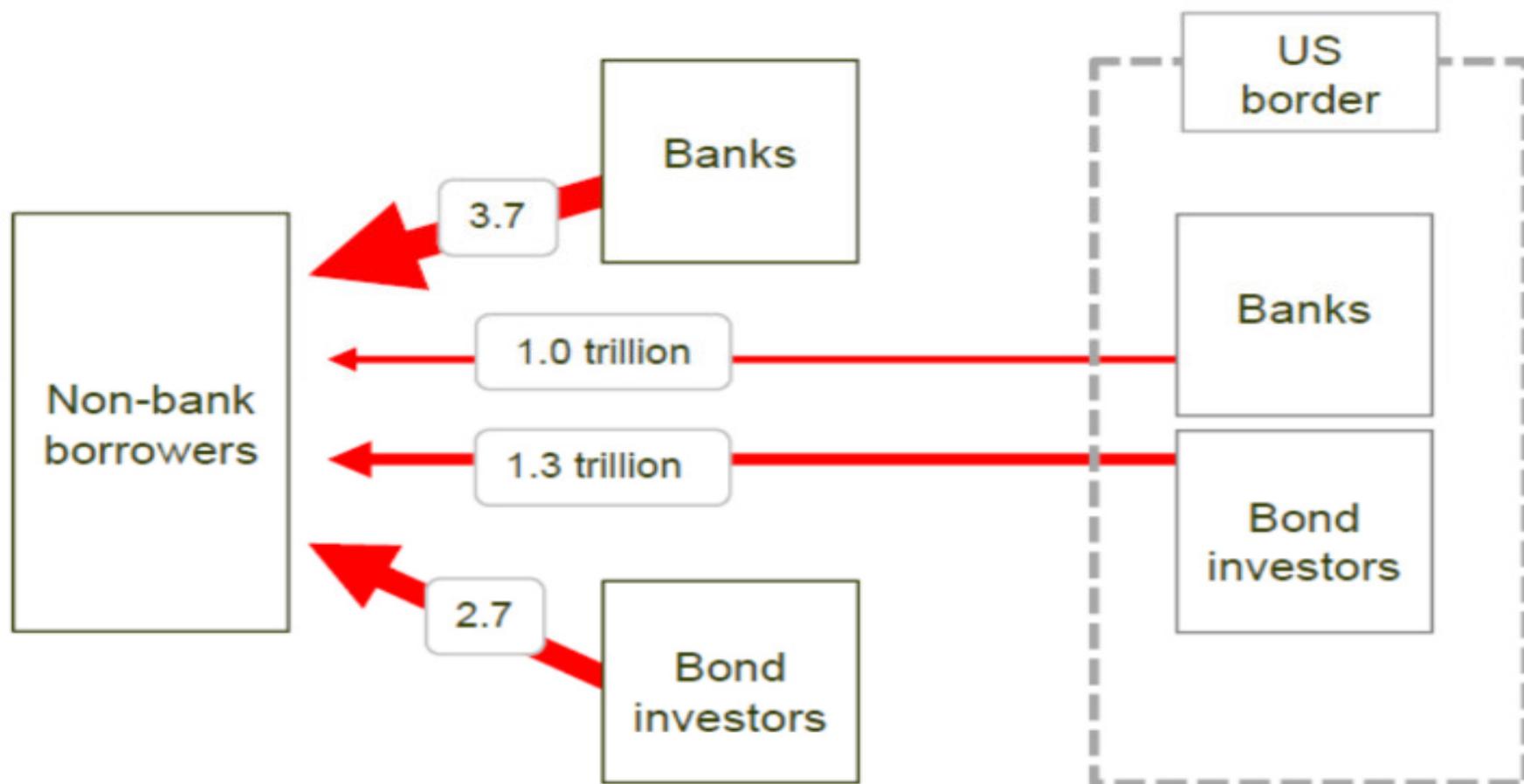
Graph



Note: Excludes bonds issued by residents of Cayman Islands.

Sources: BIS locational banking statistics by residency; BIS international debt securities statistics; authors' calculations.

Where did the money come from?



Sources: US Department of the Treasury (2014); BIS; authors' estimates.

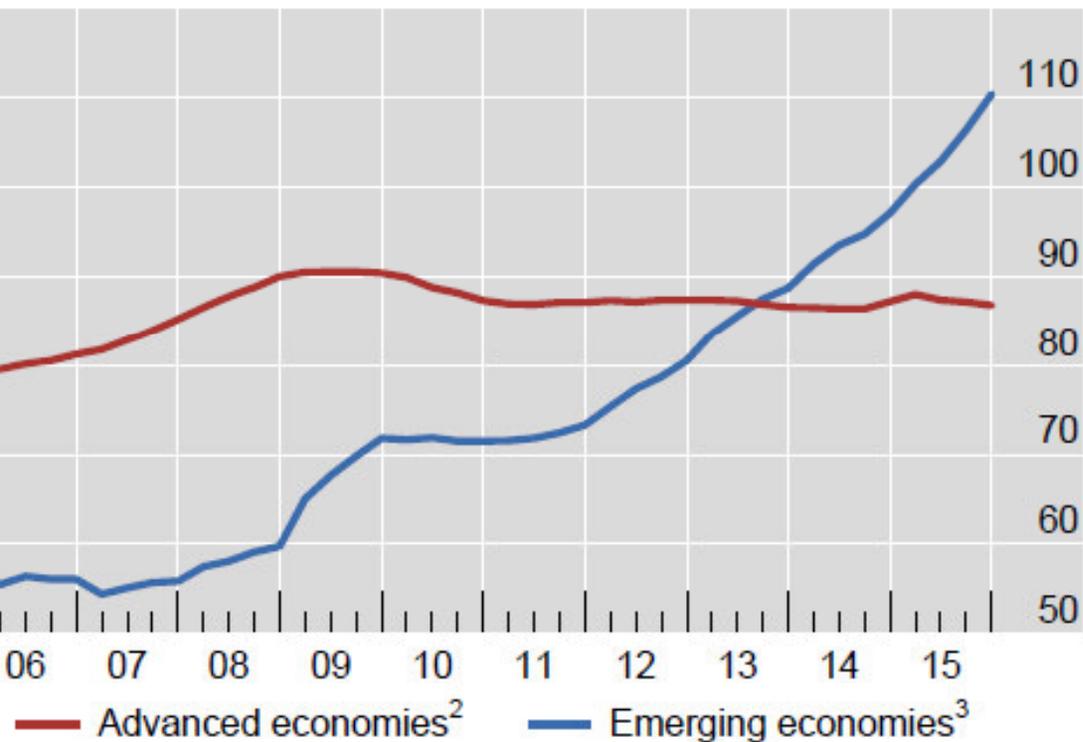
Non-US resident, non-financial companies issued \$ denominated bonds

- BIS again:
- “When the availability of external financing from international capital markets varies with global liquidity conditions, the surrogate financial intermediation activity of nonfinancial firms in emerging economies will reflect (at least in part) the ebb and flow of global liquidity conditions themselves. Consistent with this hypothesis, we find that the extent of the intermediation activity of non-financial firms is closely linked with their borrowing in US dollars. In particular, with emerging economy firms being more susceptible to carry trades and the associated surrogate financial intermediation activities.”

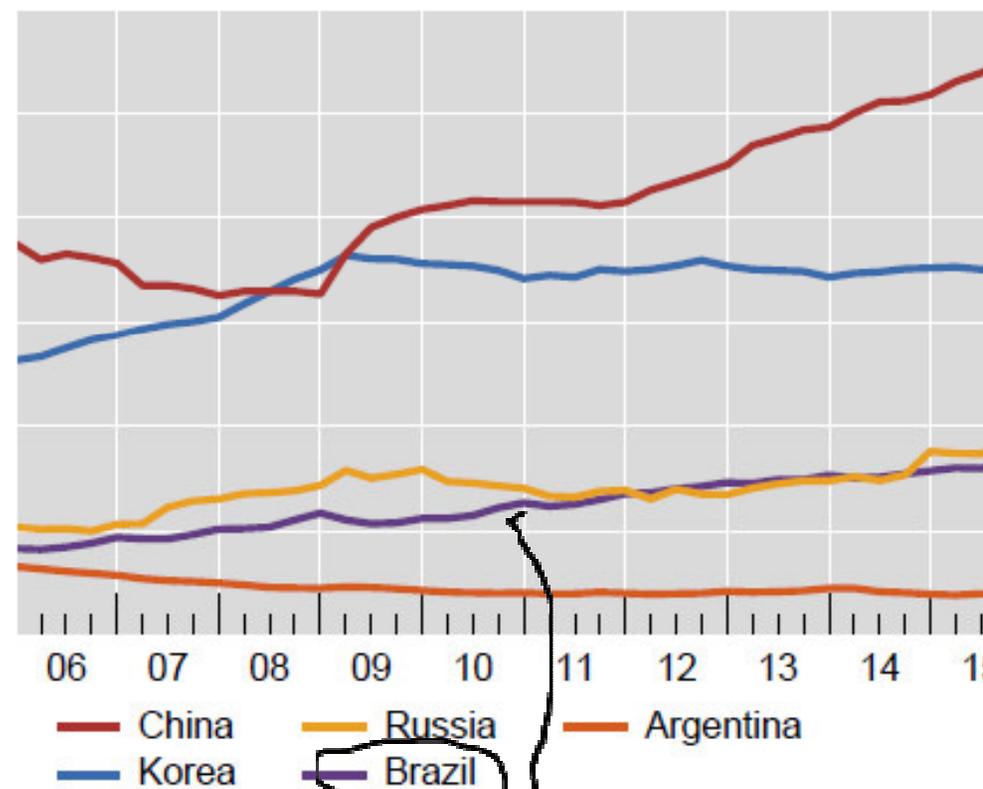
High and rising NFC debt in EMEs

as a percentage of nominal GDP

by region¹



Selected emerging market economies

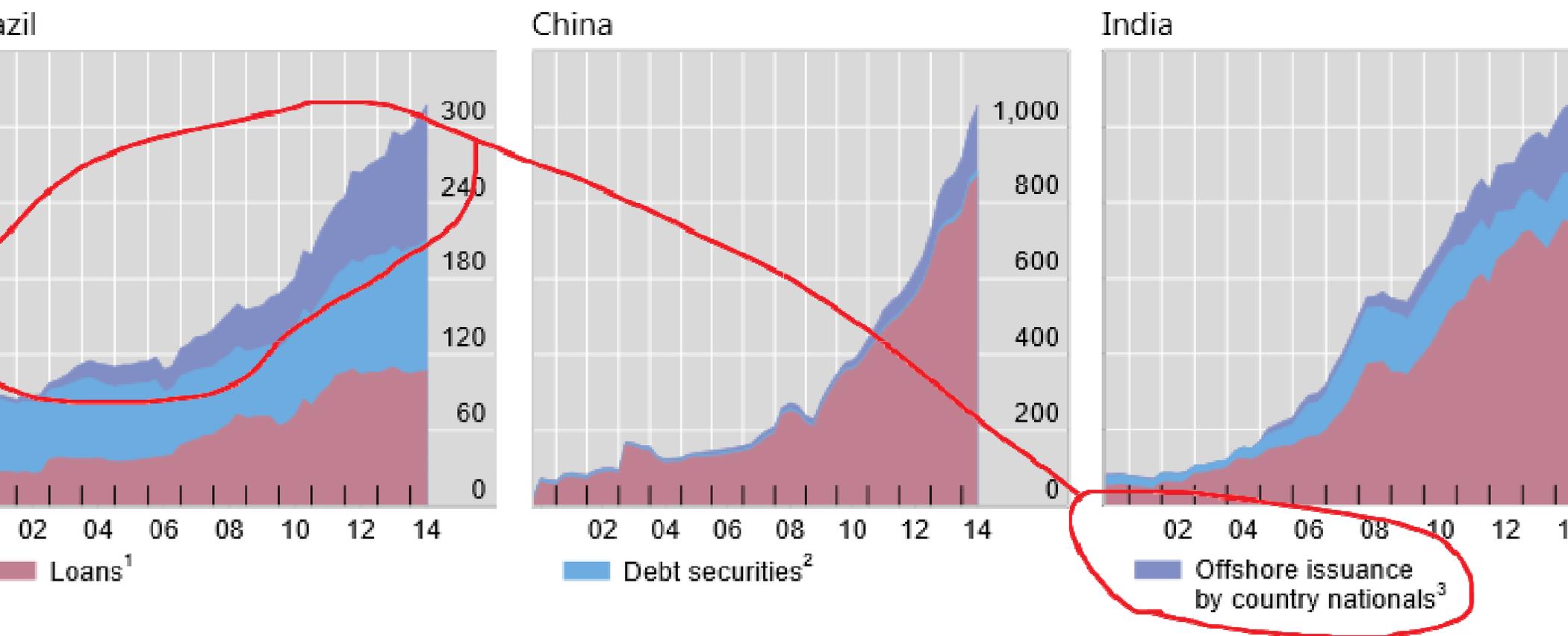


¹ Nominal GDP-weighted averages. ² Australia, Canada, the euro area, Japan, Sweden, Switzerland, the United Kingdom and the United States. ³ Argentina, Brazil, China, India, Indonesia, Korea, Mexico, Poland, Russia, Saudi Arabia, South Africa and Turkey.

Sources: IMF, *World Economic Outlook*; BIS data on total credit to non-financial corporations.

US dollar credit to non-financial borrowers from Brazil, China and India

billions of US dollars



US dollar-denominated loans to non-bank residents of the country listed in the panel titles. For China, locally extended US dollar credit is estimated from national data on total foreign currency loans, assuming 80% are dollar-denominated. ² Outstanding US dollar securities issued by non-financial residents of the country listed in the panel title. ³ Outstanding US dollar-denominated bonds issued offshore (ie outside the country listed in the panel title) by non-financials with the nationality listed in the panel title.

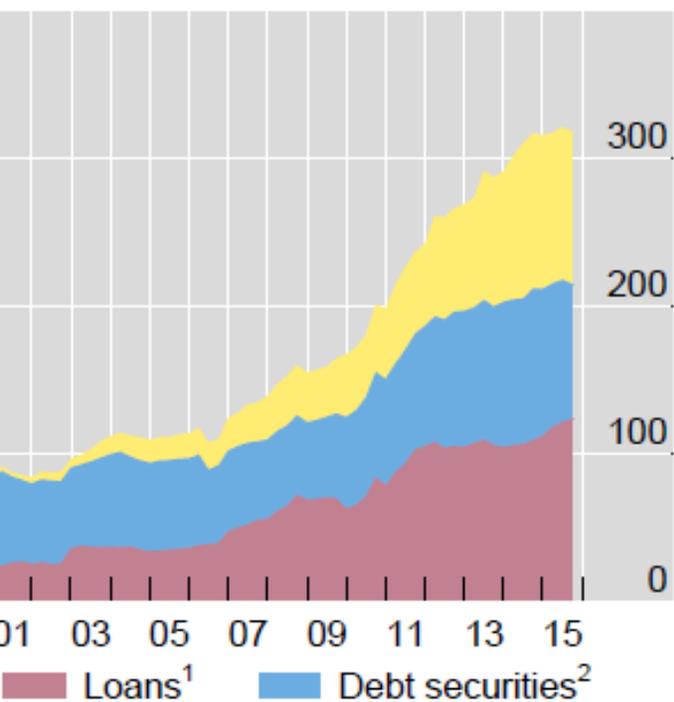
Sources: BIS locational banking statistics by residency; BIS International Debt Securities Statistics; national sources; authors' calculations

Growing US dollar credit to selected EME non-banks

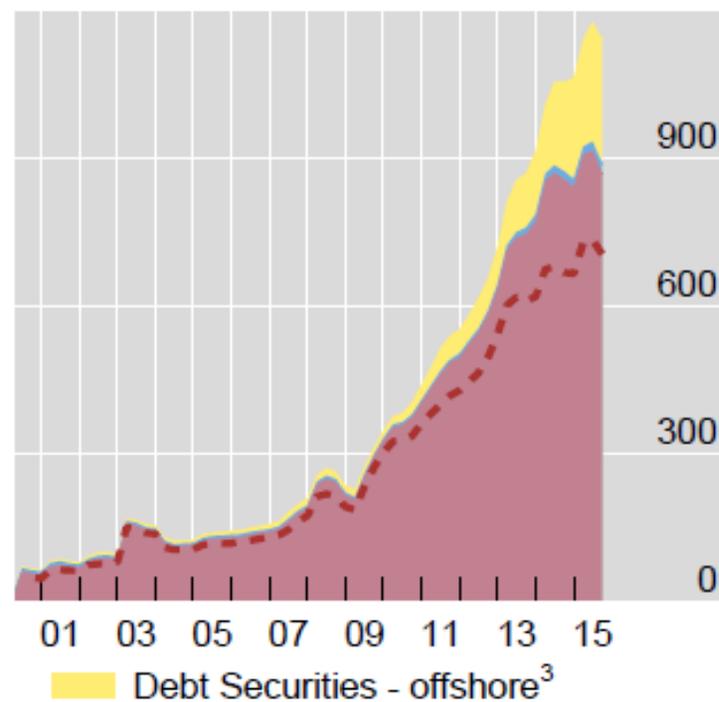
billions of US dollars

Gra

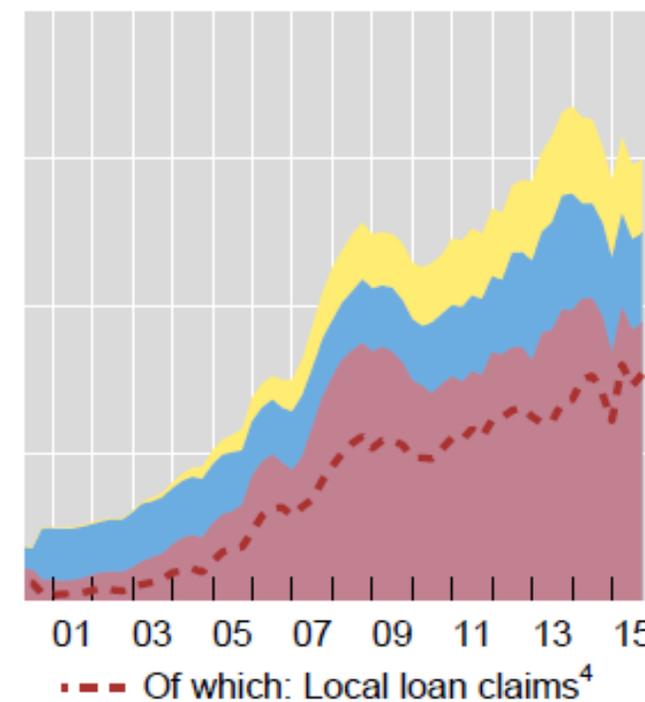
Brazil



China



Russia



¹ US dollar loans to non-bank residents of the country listed in the panel title. ² Outstanding US dollar international bonds issued by bank residents of the country listed in the panel title. ³ Outstanding US dollar international bonds issued by offshore affiliates of non-bank residents of the country listed in the panel title. ⁴ US dollar loans booked by banks located in the country listed in the panel title to non-bank borrowers in that country. For China and Russia, figures are estimates based on national data.

Source: McCauley, R, P McGuire and V Sushko (2015): "Dollar credit to emerging market economies". BIS Quarterly Review, December 2015, pp. 27-41.

TABELA 05
INDICADORES AGREGADOS CIAS. ABERTAS NÃO FINANCEIRAS
2010 - 2016 2T

Anos	Dívida Bruta/PL (1)	Dívida Bruta/PL ex Petro (2)	Dívida Estrangeira/Dívida Total (3)	Dívida Estrangeira/Dívida Total ex Petro (4)	Dívida CP (t-1) (5)	Dívida (t-1) ex Petro (6)
2010	0,56	0,36	32,7%	24,2%	18,7%	20,2%
2011	0,61	0,45	33,9%	23,6%	20,1%	22,5%
2012	0,72	0,60	36,2%	25,0%	17,5%	20,4%
2013	0,76	0,66	42,1%	26,7%	15,5%	19,0%
2014	0,90	0,87	43,0%	27,1%	18,1%	22,5%
2015	1,23	1,30	53,6%	35,0%	17,9%	21,2%
2016 1T	1,16	1,21	51,3%	32,7%	19,6%	23,1%
2016 2T	1,07	1,09	60,0%	46,3%	20,5%	25,8%

The NFC borrowing linked to Carry Trade Flows to EMEs

- USED TO FUND CARRY TRADE ACCORDING TO BIS Study
- “When the availability of external financing from international capital markets varies with global liquidity conditions, the surrogate financial intermediation activity of nonfinancial firms in emerging economies will reflect (at least in part) the ebb and flow of global liquidity conditions themselves. Consistent with this hypothesis, we find that the extent of the intermediation activity of non-financial firms is closely linked with their borrowing in US dollars. In particular, with emerging economy firms being more susceptible to carry trades and the associated surrogate financial intermediation activities.”
- And the associated production of unbalanced financial structures

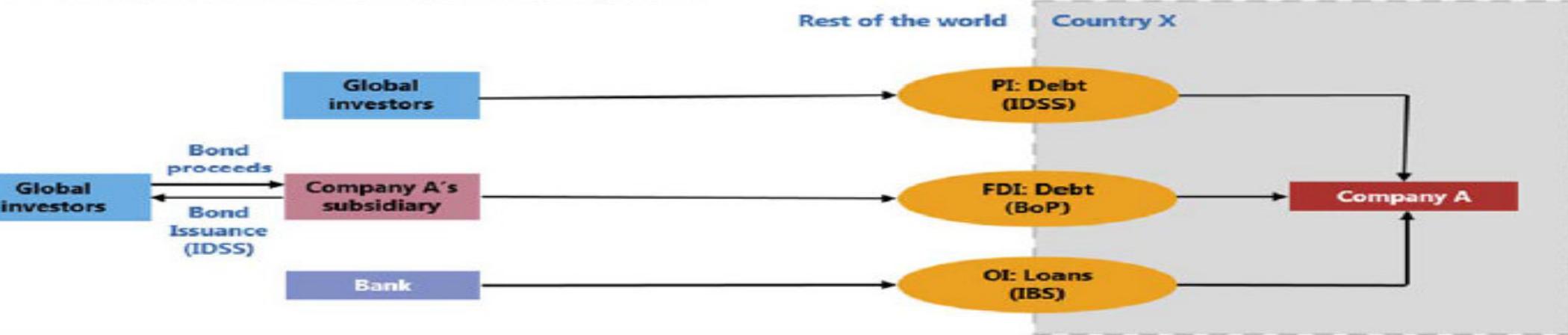
■ “Global dollar credit and carry trades: a firm-level analysis” by Valentina Bruno and Hyun Song Shin, BIS Working Papers No 510 August 2008



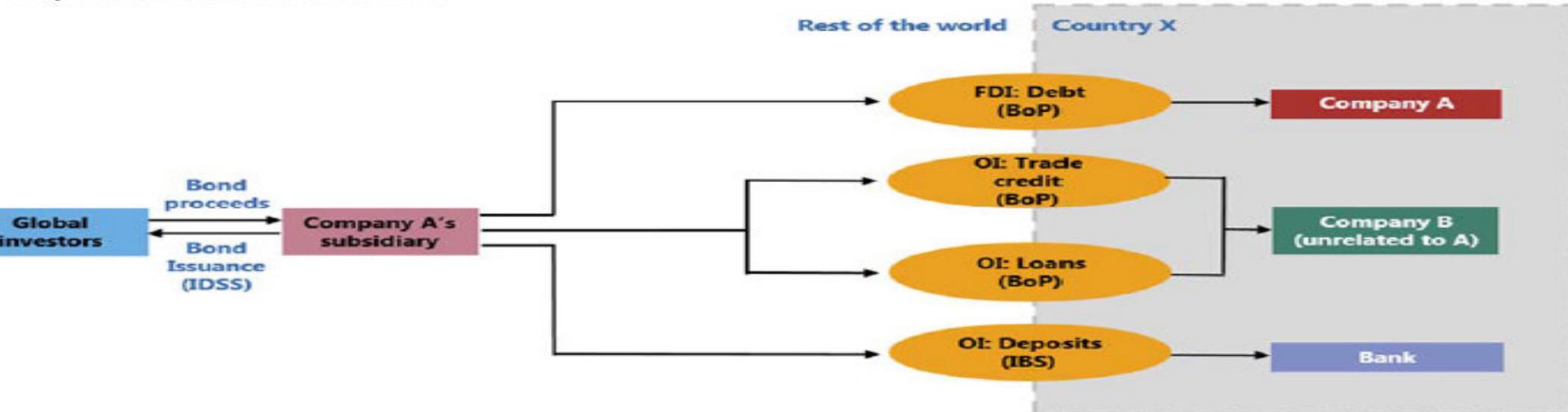
Cs as drivers of international capital flows

Graph 1

NFC balance sheet: International component



Impact on credit conditions



= Balance of Payments; FDI = Foreign Direct Investment; IBS = International Banking Statistics; IDS = International Debt Security Statistics; OI = Other Investment; PI = Portfolio Investment.

Source: BIS.

Return of the Euro Dollar Market

- “The reason is simple. US dollar funding can be sourced from beyond US shores, even if dollar payments clear onshore. For one, non-banks deposit dollars outside the United States. Indeed, such bank deposits by non-US residents rose by \$363 billion from March 2009 to March 2011. In addition, non-US residents can purchase dollar bonds issued by non-US borrowers. For example, official reserve managers no doubt invested some of the recent increase in official dollar reserves in highly rated US dollar bonds issued by non-US residents (BIS:47).

1980s and Today

- The 1980s: US banks “pushed” syndicated lending to Latin America,
 - *Surprise reversal of US monetary policy.*
 - Volcker October Surprise,
 - rising interest rates ,
 - \$ appreciation
 - Bond defaults,
 - US bank insolvency

- Today it is non-investment grade, non-US resident, non-financial corporates who are exposed to credit and currency risk.
 - *The Trump Surprise*
 - *the risk of rising interest rates is high – impact on mark to market bond valuations*
 - *\$ appreciation is already occurring – impact on debt service*
 - *volatility in EME exchange rates – impact on domestic exports*
 - *Reversal of carry trade flows – further pressure on exchange rates*
 - *Higher domestic interest rates*

NOTA CEMEC 06/2016 Agosto - 2016

Em 2015 quase metade (49%) das empresas da amostra teve geração de caixa inferior às despesas financeiras: na análise realizada na distribuição das empresas da amostra tomada individualmente, a mediana dos indicadores da relação entre geração de caixa e despesa financeiras tem queda continuada no período, até atingir valores inferiores à unidade nas companhias abertas em 2016; aumenta a porcentagem de empresas da amostra em que a geração de caixa é inferior às despesas financeiras até atingir 49% em 2015; entre as abertas esse percentual ainda se eleva de 50,2% em 2015 para 54,9% nos 12 meses encerrados em junho de 2016, sem indicações de recuperação;

e. A dívida das empresas com indicador de capacidade de pagamento <1 representa mais o metade da dívida total da amostra em 2015 e $2/3$ da dívida das abertas em 2016: a dívida das empresas em que a geração de caixa é inferior às despesas financeiras representa 54,4% da dívida total das empresas da amostra; nas companhias abertas essa porcentagem ainda se eleva de 59,7% em 2015 para 67,7% no exercício encerrado em junho de 2016.; no Gráfico 16 é possível observar essas tendências.

f. Estima-se que a dívida em moeda nacional das empresas da amostra com geração de caixa inferior às despesas financeiras represente cerca de 22% da soma do saldo das operações de dívida de crédito bancário e de títulos do mercado de dívida corporativa, que se compara com o percentual de 5,7% em 2010.

Early warning indicators for domestic banking crisis signal risks ahead¹

Table A

	Credit-to-GDP gap ²	Property price gap ³	Debt service ratio ⁴	Debt service ratio if interest rates rise by 250 bp ^{4, 5}
Asia ⁶	14.0	6.6	1.8	4.1
Brazil	8.5	-19.6	7.4	9.2
China	29.7	-4.9	5.5	8.8
Central and Eastern Europe ⁷	-10.8	8.3	0.4	1.9
India	-3.2		1.8	2.9
Korea	3.9	6.1	-0.6	3.0
Mexico	7.7	2.1	0.5	1.2
South Africa	-0.3	-7.6	-0.5	0.9
Turkey	11.8		5.7	7.4
<i>Legend</i>	<i>Credit/GDP gap > 10</i>	<i>Property gap > 10</i>	<i>DSR > 6</i>	<i>DSR > 6</i>
	<i>2 ≤ Credit/GDP gap ≤ 10</i>		<i>4 ≤ DSR ≤ 6</i>	<i>4 ≤ DSR ≤ 6</i>

This table shows three indicators of fragility”. The first, the gap between the credit-to-GDP ratio and its long-term trend, and the second, the difference between the debt service ratio (DSR) and its time series average are the most important. They show financial fragility for Brazil, with credit-to-GDP close to 10%. “In the past, two-thirds of banking crises were preceded by credit-to-GDP gaps breaching these thresholds during the three years before the event. The DSR-based indicators paint a similar picture while the property price gap is less worrying for most of the economies listed.”

Impact of Global Flows

- In the run up to the recent crisis there was a persistent violation of two arbitrage conditions of market equilibrium
 - *convergence of future prices and spot prices at contract maturity dates for many major commodity markets – oil, wheat, copper -- during the primary commodity boom.*
 - *covered interest parity; market rates for \$ borrowing diverges from the \$ interest rate in an IRPT forward contract*

What Causes the failure of arbitrage?

- Shin: “In textbooks, there are no banks, and someone can take on size of exposures at prevailing market prices. In practice, arbitrage entails borrowing and lending through banks. Since hedge funds or other unregulated entities are also reliant on dealer banks to put on leveraged trades, the banking sector remains the focus of attention.”
- If the gap persists, it suggests that banks do not have enough capital available to take on such transactions, or at least are putting such a high price on the use of their balance sheet that the trade becomes uneconomical at these spreads.”
- Thus appreciation of US interest rates and \$ appreciation may generate an increased demand for hedging that will put even more pressure on interest rates

And \$ appreciation may not provide and benefit to manufacturing exports

- BIS: ““The macro impact of exchange rates on net exports is well known, but perhaps less appreciated is the financial channel, which kicks in when borrowing in dollars takes place in large amounts. ... The risk-taking channel of exchange rates turns on the impact of dollar appreciation in a world where many balance sheets have dollar liabilities.
- When so many borrowers have borrowed so much in dollars, whether for hedging or speculative purposes, dollar appreciation exposes borrowers and lenders to valuation changes and in turn impacts their balance sheets.
- Crucially, the financial channel of exchange rate fluctuations often operates in the opposite direction relative to the net exports channel. For net exports, it is when the domestic currency *depreciates* that real economic activity picks up. By contrast, the financial channel operates through the liabilities side of the balance sheet of borrowers, so that it is when the domestic currency *appreciates* that balance sheets strengthen and economic activity picks up. The impact of exchange rates is back-to-front compared with the textbook stories.

The Trump Factor – Remember Reagan

- Decision process – a random policy generator
- What are likely policies? Those which agree with existing Republican proposals
 - *Tax reform – falling tax yields*
 - Corporate – 15%
 - Personal – decline in top marginal rate
 - *Expenditures – infrastructure – PPPs, concessions, privatization*
 - Private sector funding – increased demand for finance
 - Use charges – higher prices
 - *Trade – domestic subsidies, or tariffs*
 - Higher import prices
- Higher federal deficit, higher external deficit, higher interest rates, \$ appreciation

How Did We Get Into this Mess?

- Extraordinary Monetary Policy due to absence of Fiscal Policy
- Reliance on short-term international flows
 - *Exchange rate volatility*
 - *GDP volatility*
- Need to move to longer term domestic funding
 - *Private financial institutions have no incentive to do this*
- Need to implement supportive fiscal policy
- Note to Politicians and Money Managers
 - *It is impossible for every country to have a balanced fiscal and external account and grow at rates that support employment*

THANK YOU

www.levyinstitute.org

