# Fear of floating, overshooting and fear: Can exchange rate regime transitions be smooth?

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*All views provided here are personal ones. They do not necessarily reflect those of SAFE or PBC.*

**2016.7.18**

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# Summary of findings

- Exits from pegs can be long and yet smooth
  - Transitions can take long but do not necessarily end up in crises;
  - Historical examples of gradual and orderly exits include Chile, Poland and Israel;
  - Recent smooth and gradual realignments of exchange rates include India and Singapore.

- Four factors conducive to smooth transitions or exchange rate movements
  - Little forex debt and currency mismatches;
  - Consistent macroeconomic framework;
  - A large war chest of forex reserves;
  - Flexible use of all tools available.

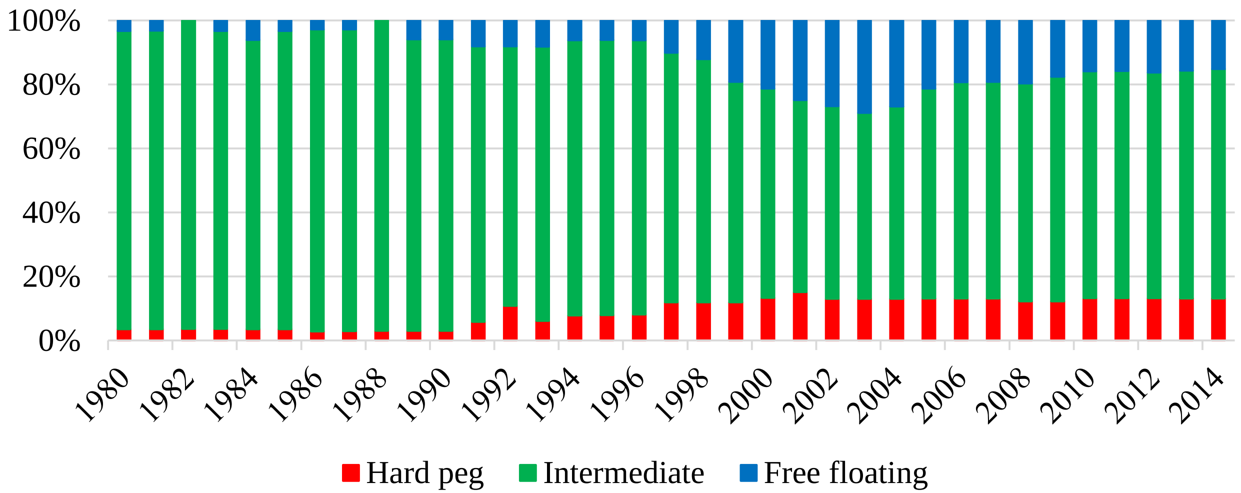
- The conditions seem to be there for a smooth and gradual transition in China
  - The choice between corner solutions (peg vs. float) a false one?

- In the end, it is a policy choice
  - Short term, the tradeoff is about the exchange rate as an asset price vs. it as a relative price;
  - Longer term, the tradeoff is about macroeconomic policy framework.

# Why change currency regimes?

- Countries switch exchange rate regimes all the time
  - Average duration of a currency regime lasts less than 10 years;
  - The optimal choice of regimes makes tradeoffs between stability (credible anchor) and flexibility (monetary autonomy);
  - No single currency regime is right for all countries or at all times (Frankel, 1999).
- Optimal regime shifts with country characteristics
  - Size, shocks and history all play a role;
  - Growth model also matters: China switching from export-led to consumption driven;
  - "Whatever exchange rate system a country has, it will wish at some times that it had another one." (Stan Fischer, 1999)
- The hollowing out hypothesis (Fischer, 2001; Summers, 1999) did not really play out
  - More countries in the middle, particularly managed floats, than in the early 2000s.

**Distribution of choices of currency regimes, 1980-2014**




Source: Ghosh, Ostry & Qureshi (2014), IMF (2014)

# Regime switches (peg exits) take different forms

- Some ended up in currency crises
  - Usually happened under pressure and forced de-peg.

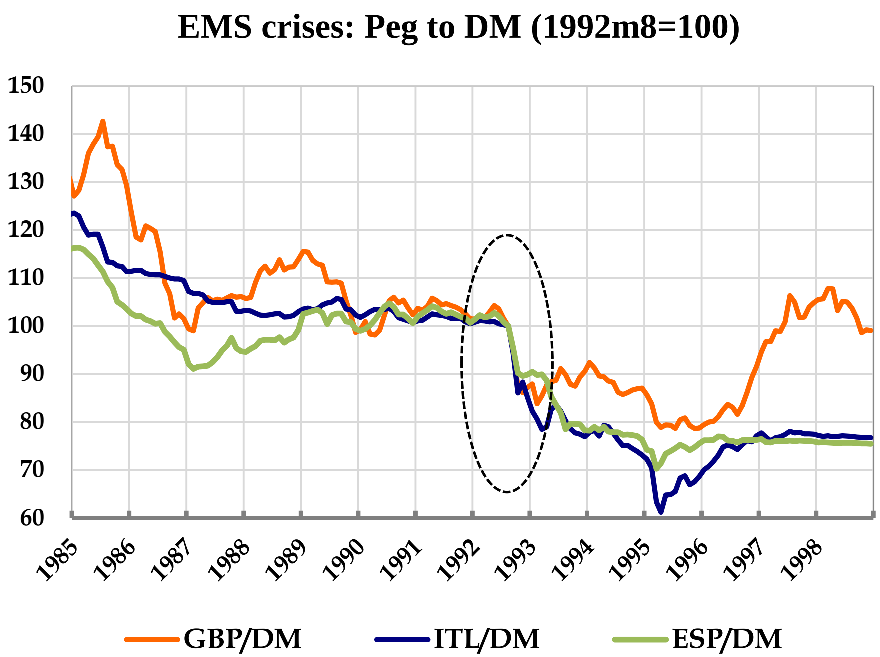
- Some overshot initially but stabilized later on

- Others exited rather smoothly and even appreciated
  - Eichengreen and Rose (2012) found 51 such cases since the 1960s and call de-peg "the decision to flex" though its impact on macro variables not conclusive;
  - They did warn that in some cases the decision to flex was followed by "a discernible slowdown in the rate of economic growth", especially in high investment and rapid export growth economies, and that both conditions applied to China;
  - IMF (2007) highlighted three classical examples of gradual and yet orderly exits from pegs.

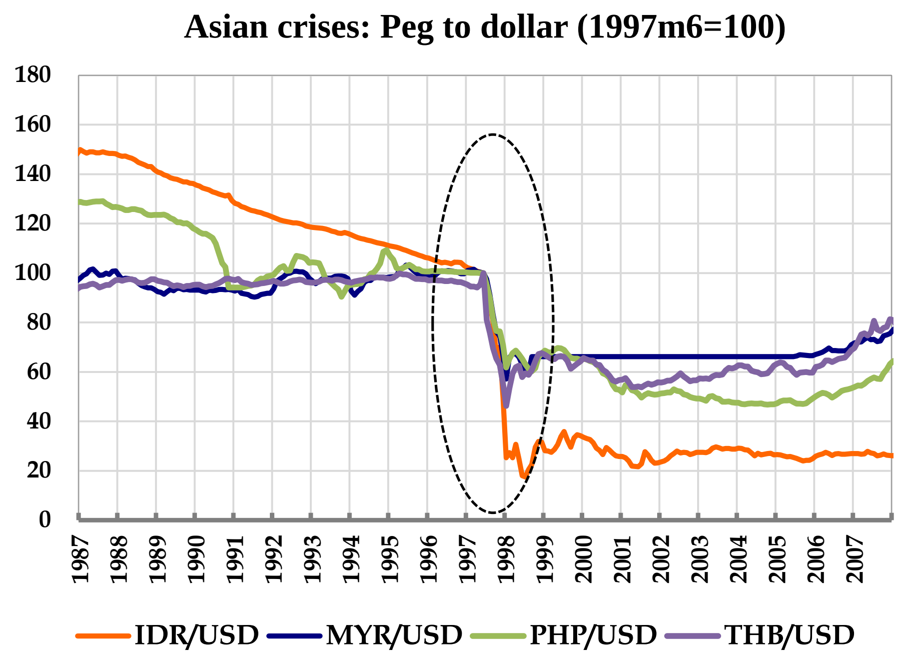
# Fear of floating/overshooting: exits seemed crisis prone

- De-pegs were often associated with large discrete currency declines
  - 1992-93 European Monetary System (EMS) crises (vs DM: -10%);
  - 1997-98 Asian crises (IDR/USD:-75%; THB/USD: -50%).

- Hence, Calvo and Reinhart (2000) "fear of floating"
  - "Countries that say they allow their exchange rate to float mostly do not--there seems to be an epidemic case of fear of floating."



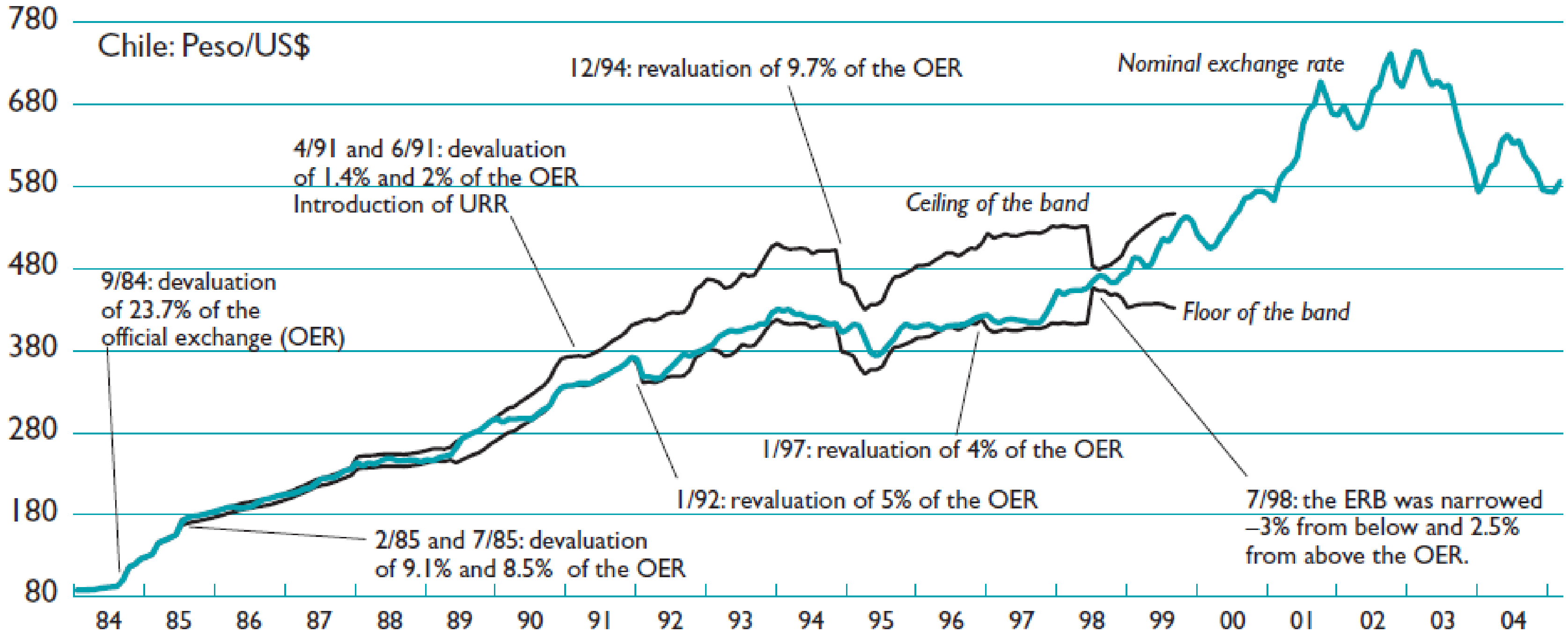

Source: Haver




Source: Haver

# But there were many cases of smooth switches (1): Chile

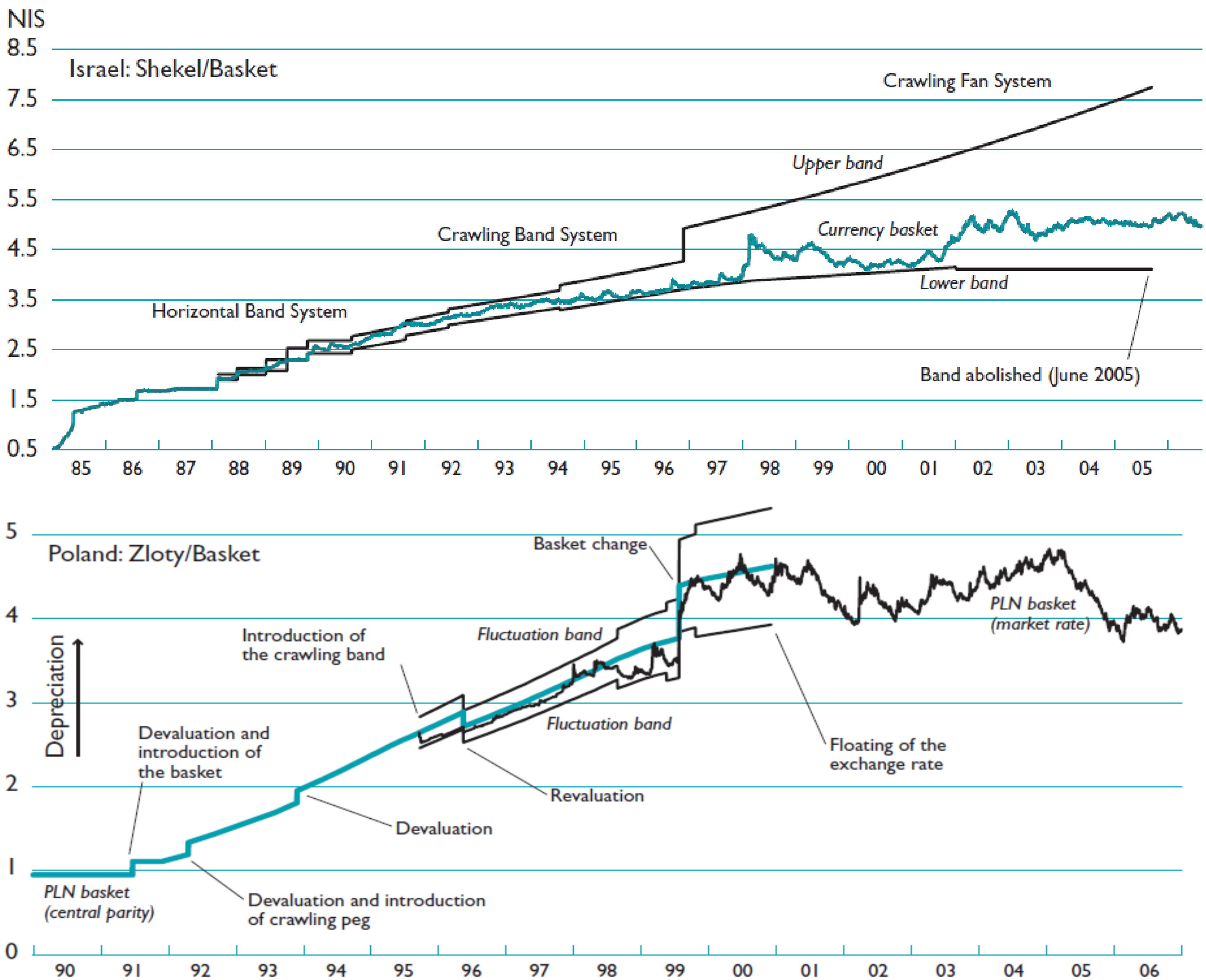
- Regime switches took multiple years and even decades
- Chile experience: mostly orderly and gradual (1984-99)
  - Crawling peg (Sep. 1982)->Crawling band (Aug. 1984)->Gradual widening of the band->Free float (Sep. 1999)




Source: IMF (2007)

# But there were many cases of smooth switches (2): Israel and Poland

- Other cases: Israel (1985-2005), Poland (1990-2000)




Source: IMF (2007)

# Factors conducive to smooth exits

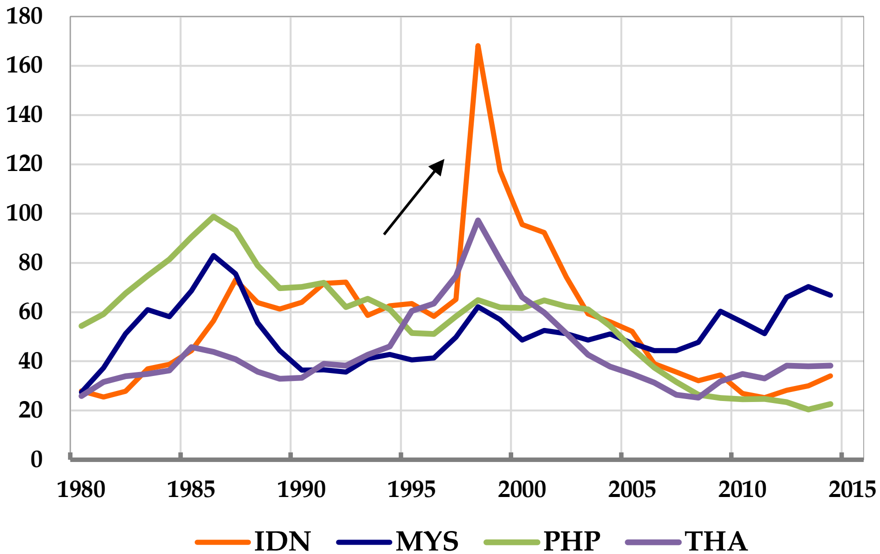
- 1) Little forex debt and currency mismatches so no need to front run currency movements;
- 2) Consistent macroeconomic frameworks to underpin the exchange rate policy;
- 3) A large war chest of forex reserves to maintain confidence and to defend, if needed;
- 4) Flexible use of all tools available to alleviate excessive volatility.

Taken together: little forex debt + strong fundamentals + adequate reserves + administrative capacity to take out the tail risk scenario so that a smooth and gradual process is possible.

# External debt and currency mismatches predated crises

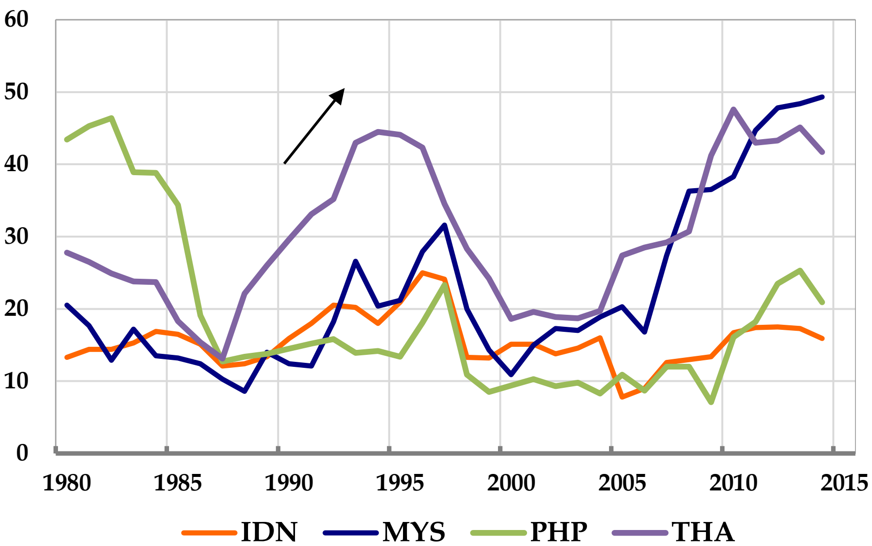
- When the borrowing country is highly indebted, dollarized, and with debt concentrated at short maturities, sudden reversal may trigger massive depreciation with balance sheet effect - one school of the third generation currency crisis model
  - 1994 Mexican Tequila crisis, 1997 Asian crisis, 1998 Russian ruble crisis, 2001-02 Argentine crisis;
  - Original sin hypothesis – incompleteness in financial markets, preventing countries from borrowing externally in its own currency, or long term even domestically.

**Asian crises: External debt/ GNI (%)**




Source: Haver

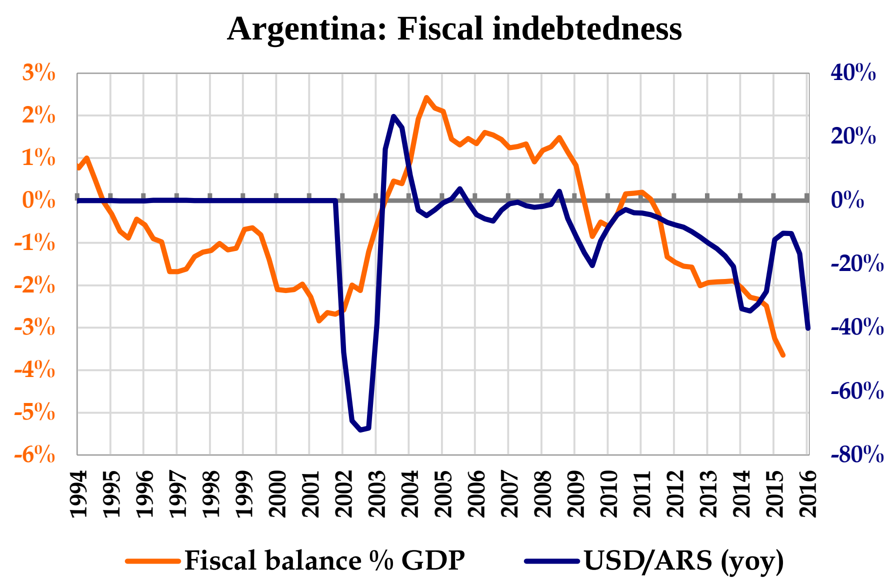
**Asian crises: Short-term debt/External debt (%)**




Source: Haver

# Poor fundamentals and twin deficits predated crisis

- Fiscal deficit: exchange rate commitment limits government's ability to raise seigniorage
  - First generation models (Krugman, 1979) - inconsistent macroeconomic policies;
  - Argentina 2001-02 crisis: investors lost faith in the country's ability to maintain a currency peg while also financing its growing fiscal indebtedness.
- Current account deficit: dependency on foreign financing can be vulnerable
  - Argentina 2001-02 crisis: appreciation of peso against the Brazilian Real and weakening demand of trading partners led to BOP crisis.

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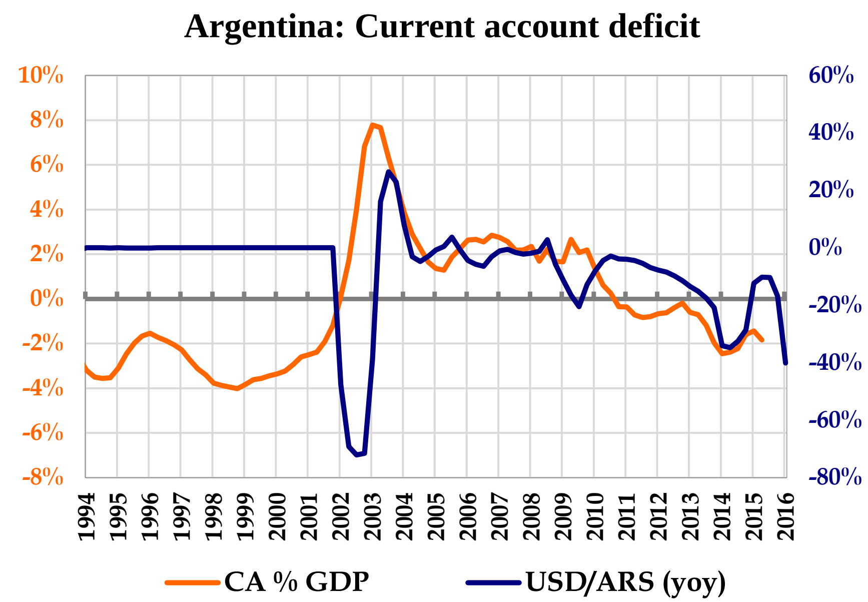
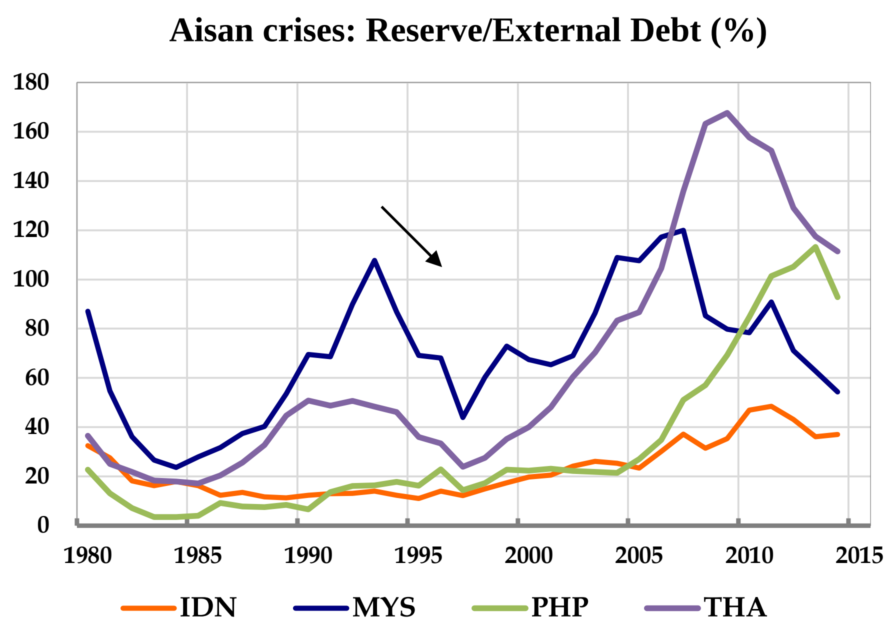



Source: Haver

# Inadequate reserves predated crises

- Exchange rate pressures can be eased by either hiking interest rates or using forex reserves
  - Forex reserves can act as buffer and imply greater ability to respond to speculative attacks;
  - The tricky part is that no amount of forex reserve can beat the central bank's own balance sheet (M2), so maintaining confidence and flexibility are both important.

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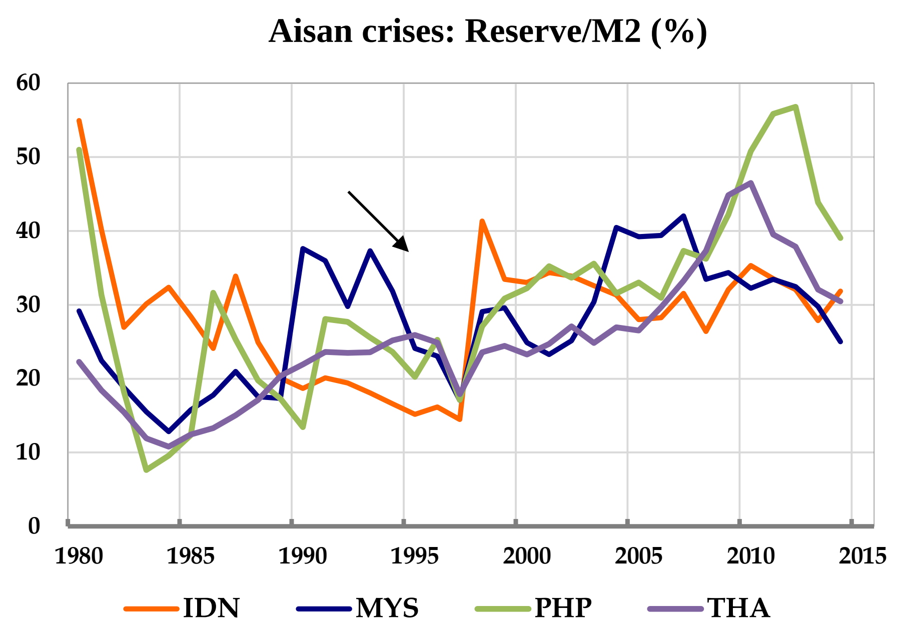



Source: Haver

# Capital controls carried stigma and were shunned

- Using controls seemed desperate and stigmatized
  - Afraid of alienating investors, open economies relying on external funding view it as last resort, e.g., Turkey.

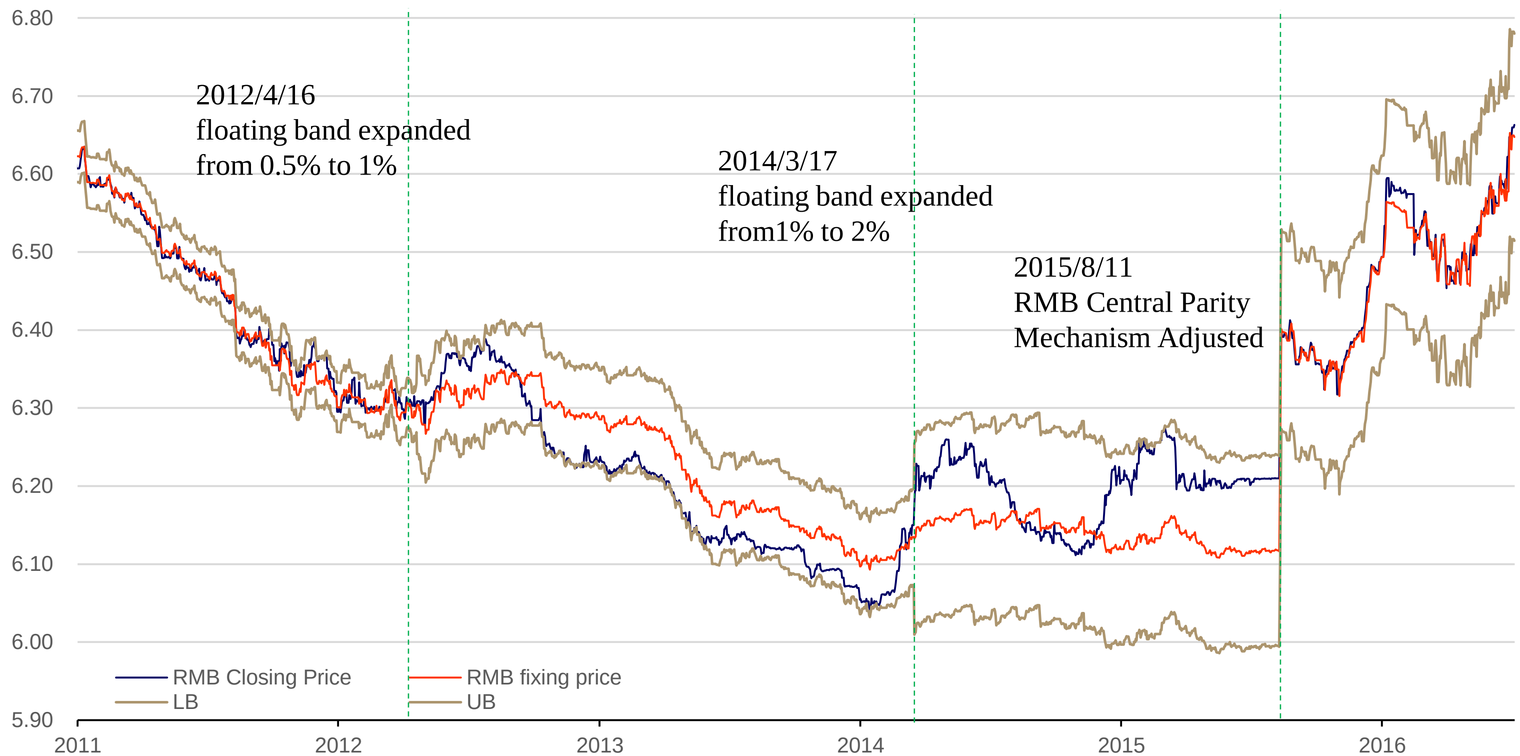
- IMF (2011) gave green light for using capital flow management measures
  - CFMs alter the composition of flows (more FDIs, less carry trades), if not its quantity;
  - It is useful after all: people respond to price signals.

- CFMs are just part of the standard toolkit
  - The line between CFMs and macroprudential measures is thick and blurry;
  - Encouraging price and currency based measures instead of quantity or residency based ones;
  - Brazil: 2009-2011 2% Tobin tax, aimed mainly at carry trade flows.

- CFMs still carries stigma
  - We came up with the term CFMs at the IMF to de-stigmatize capital controls but policymakers still afraid of saying it, if not deploying it;
  - Often it is not about imposing new rules, but enforcing existing ones.

# China in transition: can it be smooth and gradual?

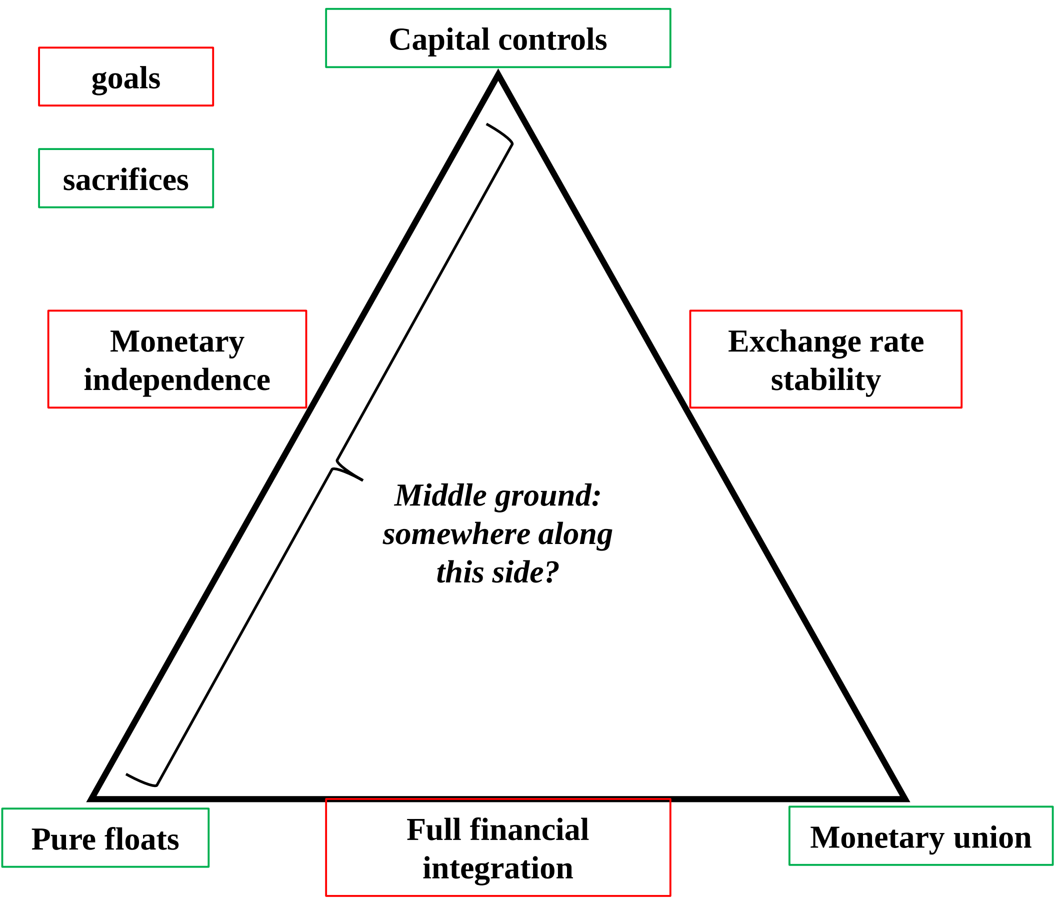
- Starting point: July 2005 de-pegged from the US dollar and a reference basket introduced
- Right now: managed float with the central parity formed from “previous close + movements of a basket of currencies”
- The goal: clean float




Source: Bloomberg

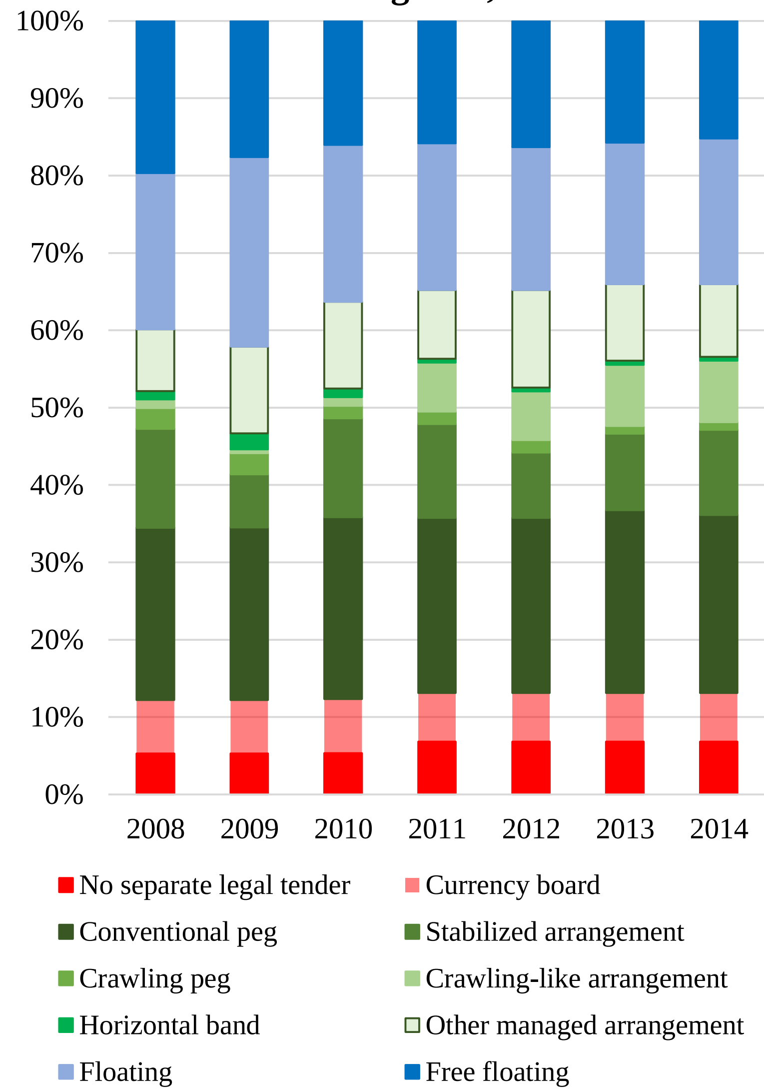
# Before clean float: can there be a middle ground?

- Corner or interior solutions?
  - Corner solutions are appropriate for some;
  - Can there be half stability and half independence?
  - Trilemma vs. Dilemma? (Rey, 2013)




Source: Frankel (1999), Yi and Tang (2000)

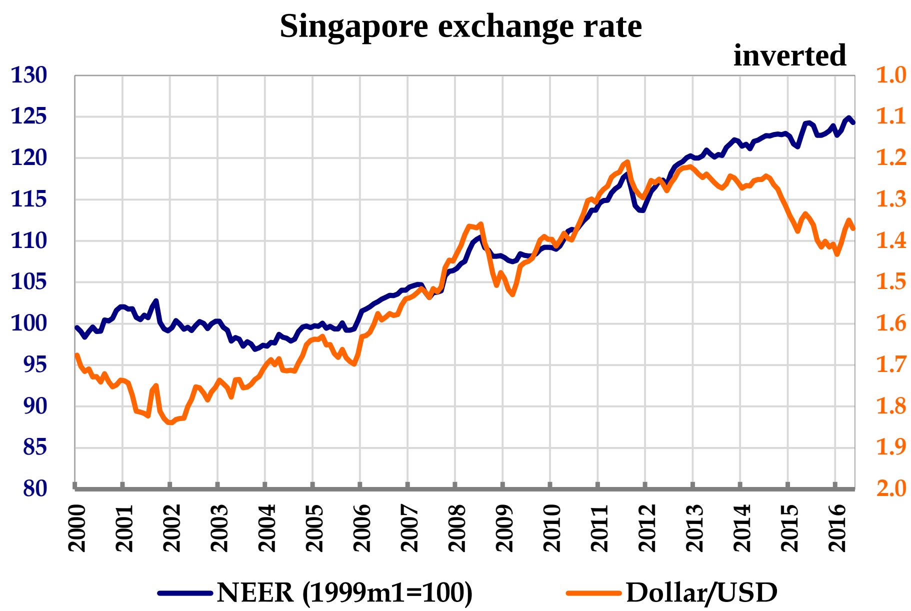
**Choice of currency regimes, detailed categories, 2008-2014**




Source: IMF (2014)

# Realignments can be smooth and gradual: Singapore's BBC regime

- Since 1981, monetary policy has been centered on the exchange rate and the framework incorporates several key features of the basket, band and crawl (BBC) regime
- Multiple realignments happened within the BBC: NEER appreciated by around 2% per year since 2013 and depreciated against the dollar
- Positive factors: Limited external debt in foreign currencies, fiscal and current account surplus, large foreign reserves, and macro prudential policies

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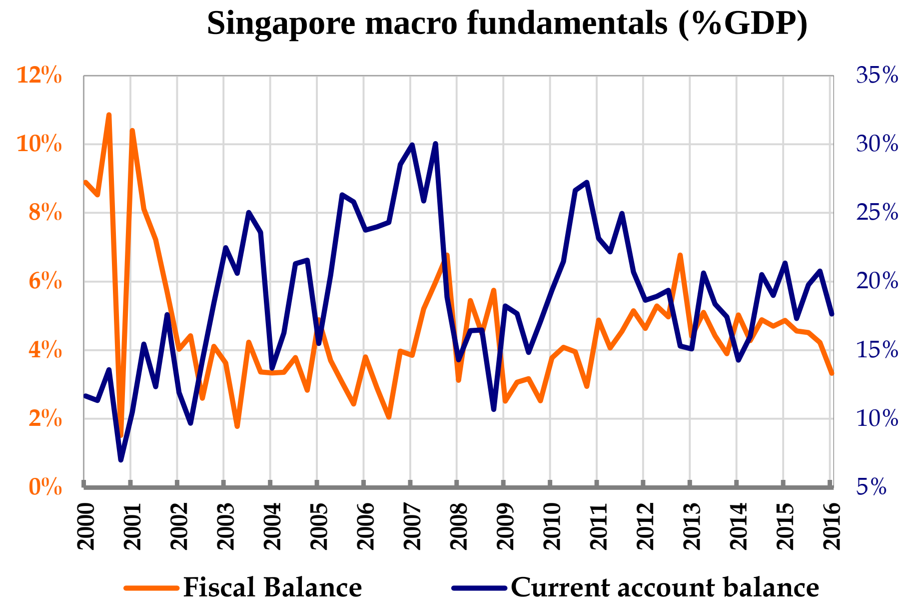
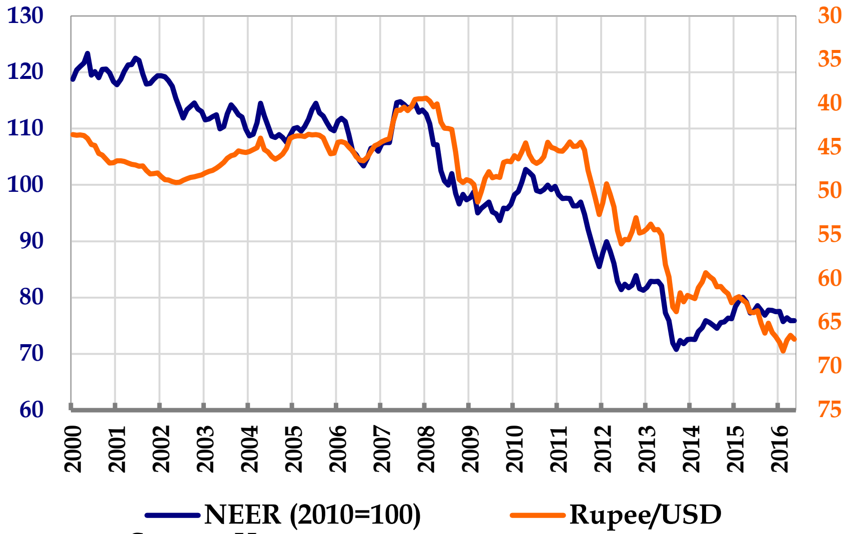



Source: Haver

# Realignments can be smooth and gradual: India's managed float

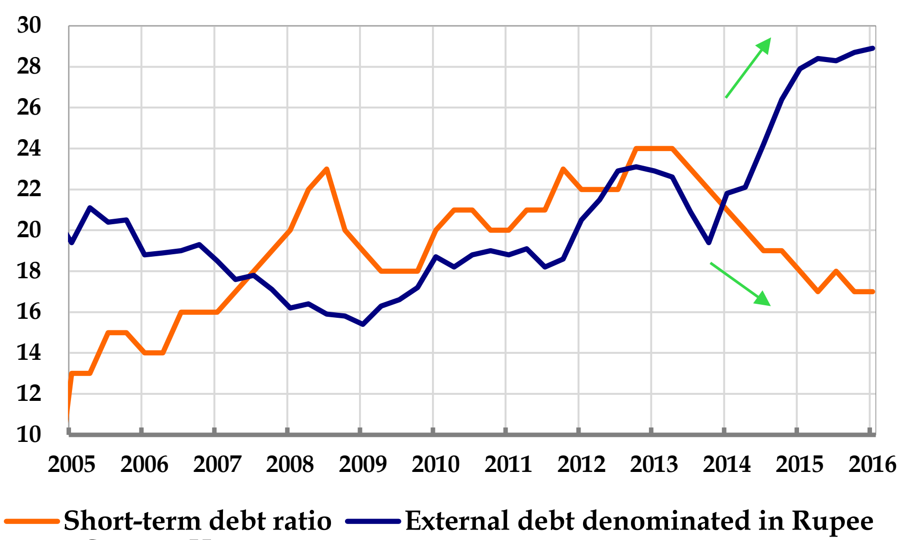
- Indian rupee depreciated by 4%-5% per year against the dollar in 2014-15 and exhibited greater stability than EM peers
- Positive developments since 2014 lent support to Rupee:
  - Decrease in currency and maturity mismatches;
  - Continued fiscal consolidation and significant reduction in CAD;
  - Rising forex reserve;
  - Improving fundamental: 2016Q1 CPI 5.3%, growth 8.0%;
  - political stability.

**India exchange rate**



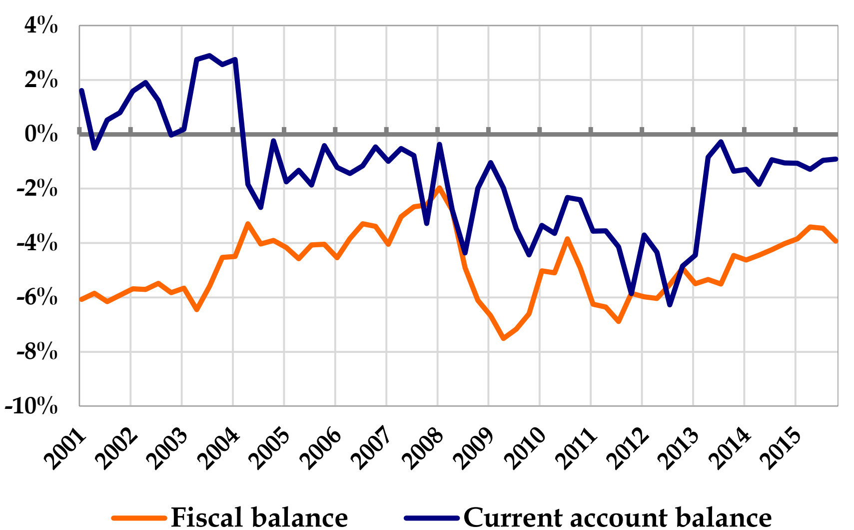

Source: Haver

**India external debt (%)**




Source: Haver

**India macro fundmentals (%GDP)**




Source: Haver

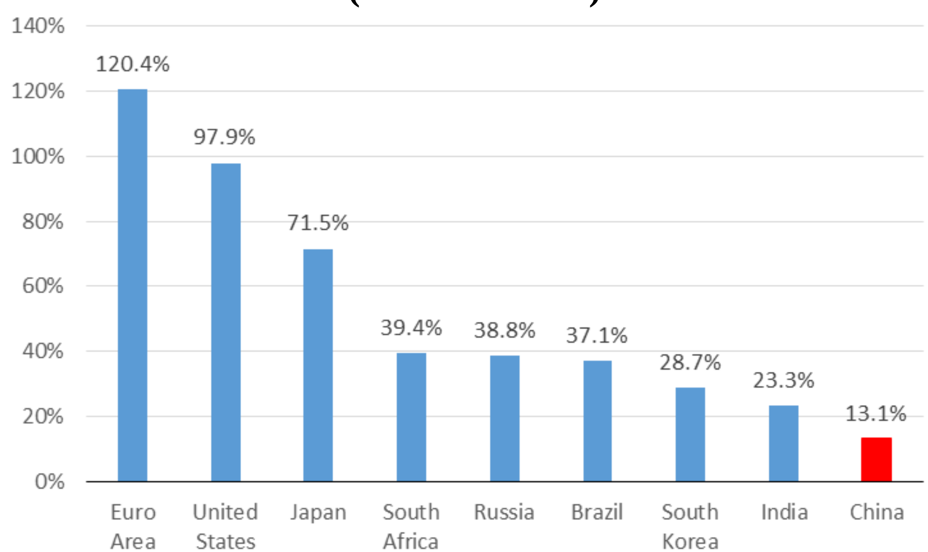
# So, how does China stack against the four criteria?

- External debt: less than 15% GDP and little currency mismatch;
- Fundamentals: economy slowing down but still positive CA and little government debt;
- Reserve adequacy: adequate by most metric;
- Valuation: RMB probably overshot in the one way appreciation during 2005-14;
- Market sentiment and credibility of the PBC: challenging but improving.

# China’s external debt is relatively small and healthy

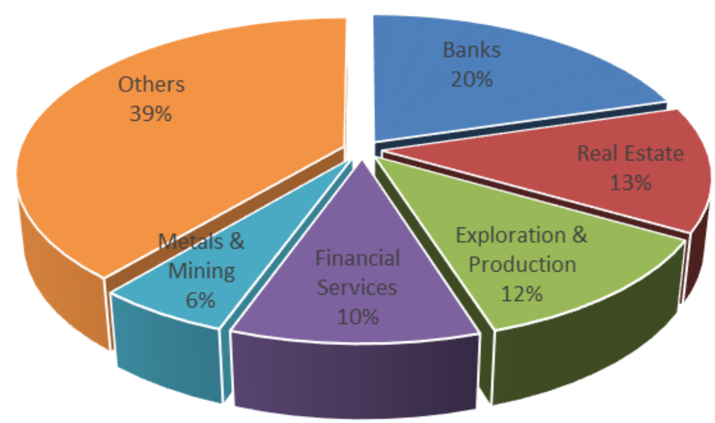
- The ratio of external debt to GDP is relatively low
  - China’s external debt is just 13.1% of GDP in 2015, less than other major countries.
- Currency mismatch is not severe
  - Local currency debt is 44% of the total external debt in 2016;
  - Corporate debt currency mismatch concentrated in Real Estate and Metals & Mining sectors, 96.8 and 41.4 billion USD respectively, or about 20% total corporate external forex debt.
  - Rising external assets ensure stable funding for external debt repayment.

**External Debt / GDP : International Comparison (as of end-2015)**




Source: QEDS, Haver

**Distribution of Foreign Currency Corporate External Debt: By Industry (end-2015)**

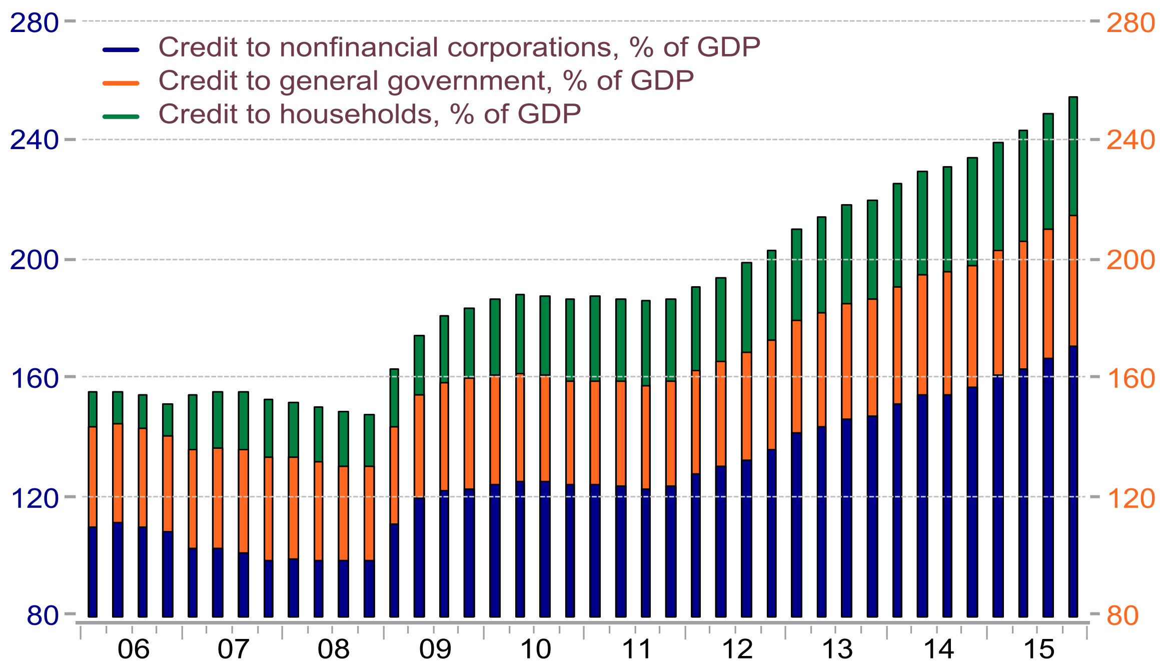



Source: Miao and Rao (2016)

# Overall debt level rising but measures taken

- China's overall debt burden is high, concentrating in the nonfinancial corporate sector.
  - According to the BIS, total outstanding debt of China's nonfinancial sector stood at 254.8% of GDP at the end of 2015Q4.
  - Nonfinancial corporate sector: 170.8% of GDP; Household and government sectors: 39.5% and 44.4% of GDP, respectively.
- While structural economic reforms are key to deleverage China's economy over the medium to longer terms, the authority has taken measures to roll over corporates' maturing debts and lower their financing costs.

**Credit to China's nonfinancial sectors as % of GDP, 2006Q1-2015Q4**

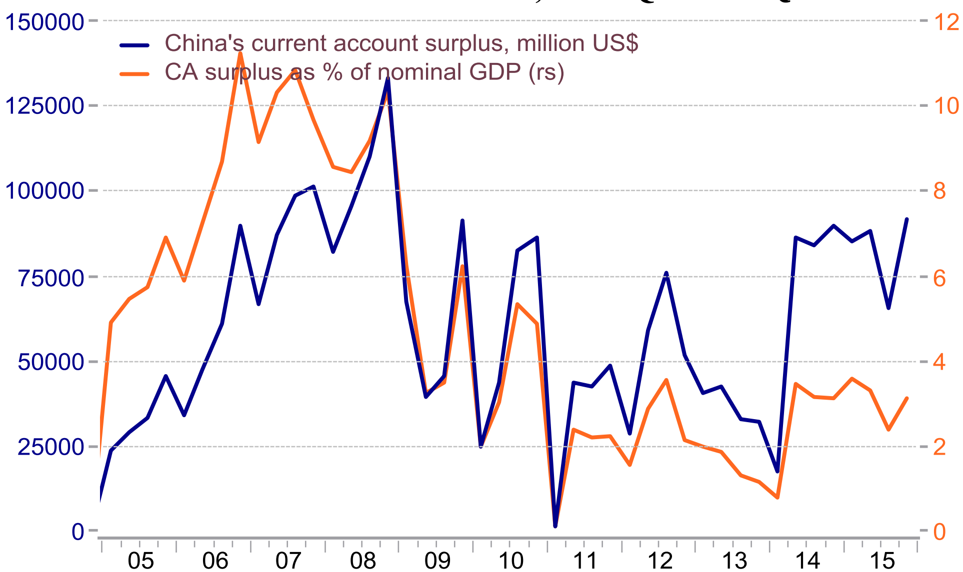



Source: Bank for International Settlements /Haver Analytics

# BOP and fiscal situations remain healthy

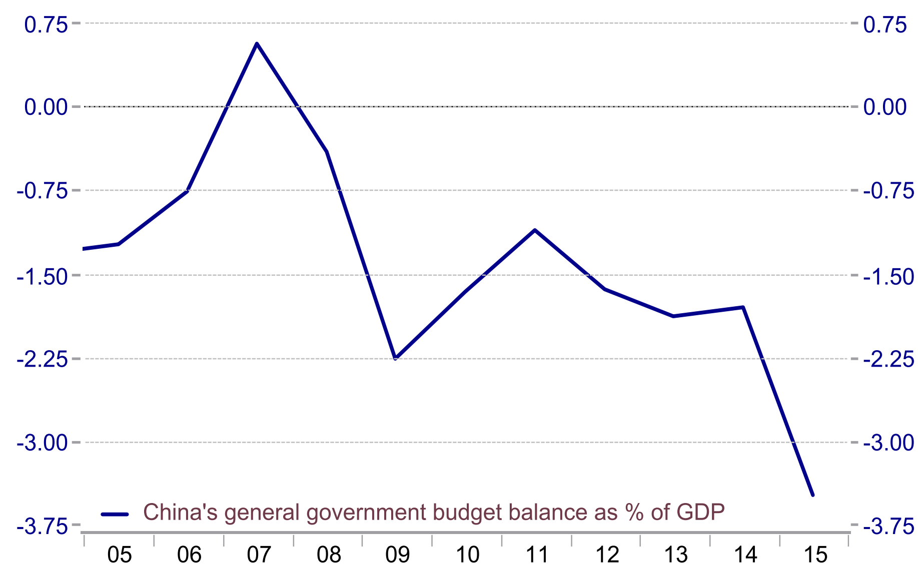
- China has largely completed its external rebalancing
  - Since 2014, CA surplus has been fluctuating around $300 bn per year, or 2.5-3% of GDP.
- Fiscal policy has become more active in recent years
  - The overall fiscal deficit, while expanding, has been kept low;
  - A more active fiscal policy has widened China's fiscal deficit from around 2% before 2014 to around 3% in 2015 and 2016.

**China's current account, 2005Q1-2015Q4**




Source: Haver Analytics

**China's govn't budget balance, 2005-2015**




Source: Haver Analytics

# Reserves adequate by most metric

- According to the IMF metric (2015), forex reserves need to be in the range of US$ 1.8-2.7 trillion assuming fixed rate and with capital controls
  - Without capital controls, recommended range would be US$ 2.9-4.4 trillion.
- China's forex reserves stabilized at around 3.2 trillion US$ since 2016M1

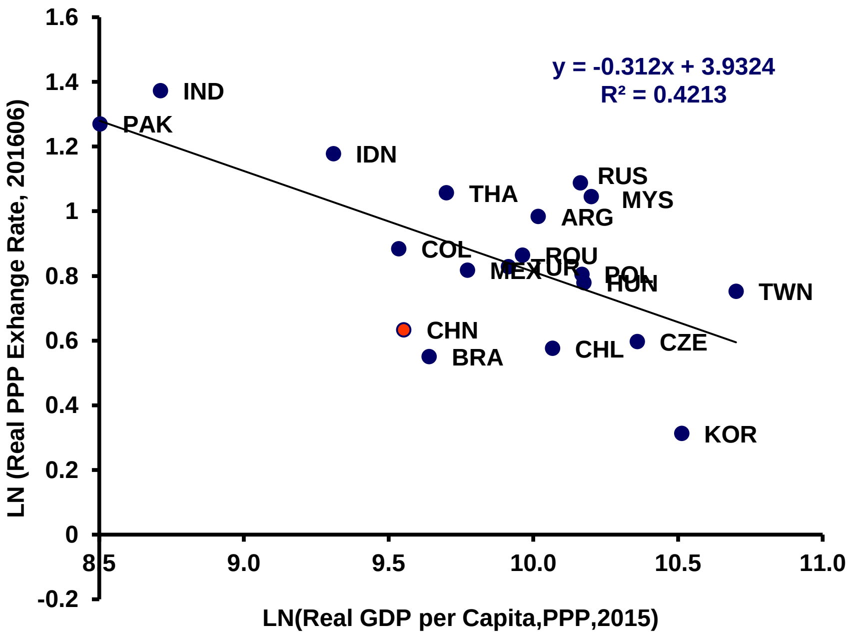
**Reserve adequacy framework (Trillion USD, Q1 2016)**

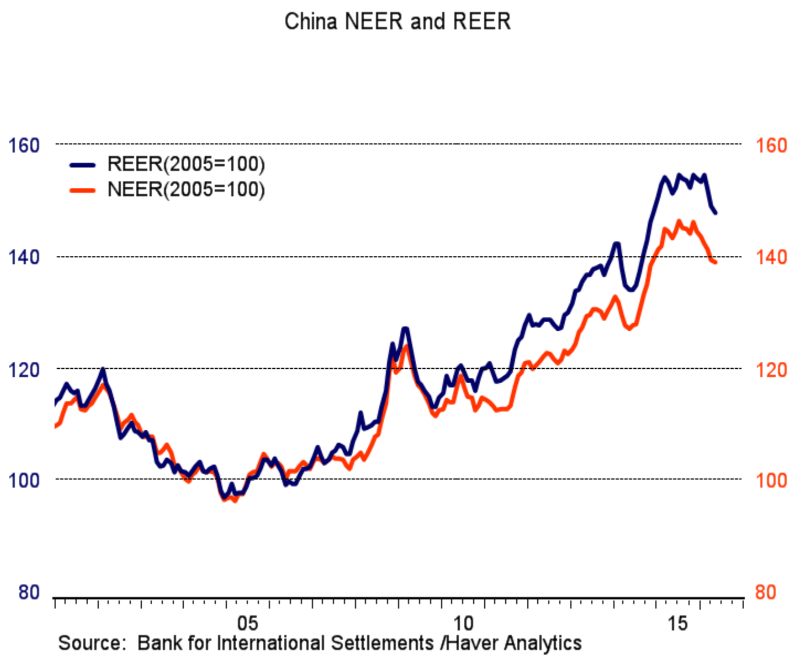
| Components | | With capital controls | | | | Without capital controls | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Fixed | | Float | | Fixed | | Float | |
| | | Weight | Lower Bound | Weight | Lower Bound | Weight | Lower Bound | Weight | Lower Bound |
| Short-term debt | 0.98 | 30% | 0.3 | 30% | 0.3 | 30% | 0.3 | 30% | 0.3 |
| Other liabilities | 0.74 | 20% | 0.1 | 15% | 0.1 | 20% | 0.1 | 15% | 0.1 |
| Exports | 2.37 | 10% | 0.2 | 5% | 0.1 | 10% | 0.2 | 5% | 0.1 |
| Broad money | 22.38 | 5% | 1.1 | 2.5% | 0.6 | 10% | 2.2 | 5% | 1.1 |
| Recommended range | | | ***1.8*** | | 1.1 | | 2.9 | | 1.6 |
| | | | ***2.7*** | | 1.6 | | 4.4 | | 2.5 |

Source: PBC, Haver, Author's calculation.

# Is the RMB overvalued?

- RMB appreciated slowly but steadily by 55 percent in REER term in 2005-14
- Adjusted for productivity, the RMB seems overvalued among EM peers
  - Many other measures and issues here, see Chin (2015) for 7 methods of assessing misalignments;
  - Warning: a large overvaluation plus fast credit expansion call for exchange rate flexibility. Or else, crises likely (Ghosh, Ostry and Qureshi, 2014).




Note: Real PPP Exchange Rate= Nominal Exchange Rate/ GDP PPP Conversion rate; PPP Conversion rate: national currency per current international dollar; Nominal Exchange Rates are on the base of direct quotation method.
Source: Haver/IMF/WB and SAFE Research, c.f. Berg and Miao (2010)

# RMB exchange rate regime communication: myth and fact

- Myth 1: The weights of CFETS basket are secrets
  - They are actually disclosed on the website; most people don’t know and just assumed it was not.

- Myth 2: The central fixing (parity) are “fixed” by the PBC
  - It was actually based on prices provided by market players.

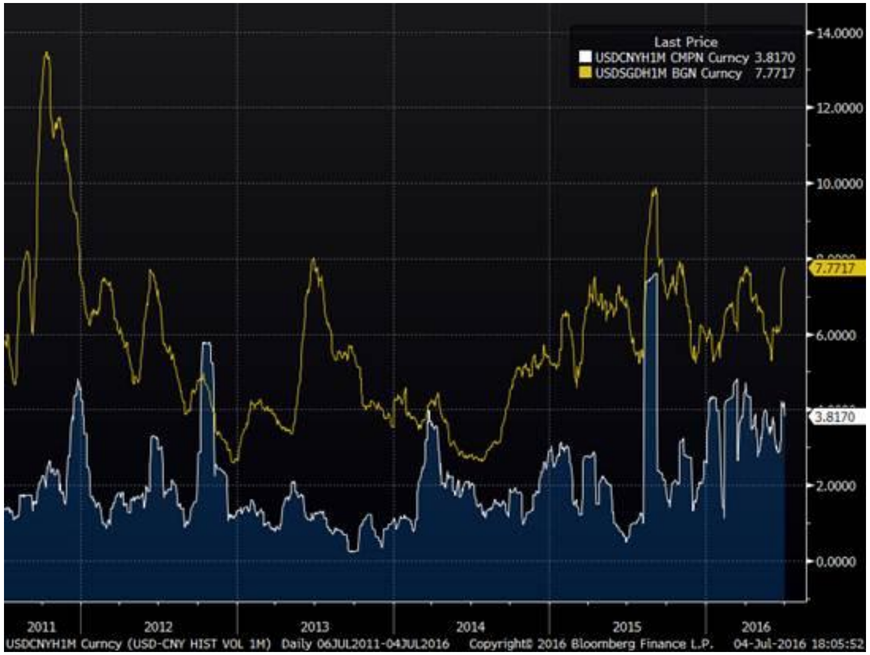
- Fact 1: Short term, the tradeoff is about output loss vs. financial stability concerns
  - Output loss from less than desirable relative price adjustment vs. potential loss of financial stability from large asset price movements.
  - Exchange rate both a relative price and an asset price.

- Fact 2: Longer term, the tradeoff is about macroeconomic policy framework
  - Monetary independence vs. exchange rate stability;
  - Can it be half independence and half stability?

# International constraint: break up of Bretton Woods II?

- China a de facto peg to the dollar until recently
  - Some went further to call it a monetary union (Narayana Kocherlakota, 2016).
- RMB volatility rose since August 2015 but still less than that of the Singapore dollar

**Historical Volatility: RMB vs. SGD**




**Implied Volatility: RMB vs. SGD**