Benchmarking Portfolio Flows

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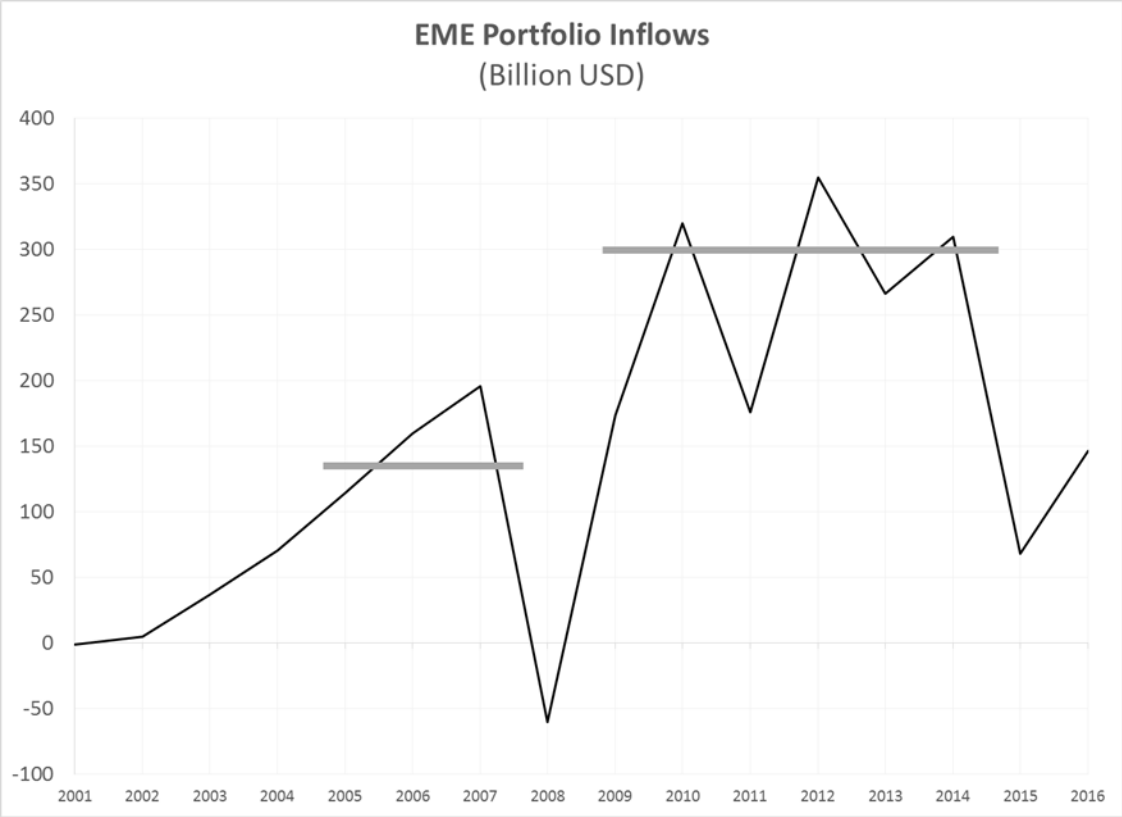
Motivation

The recent (2015/16) sharp decrease in EME portfolio inflows: temporary or due to longer-term phenomena?



Motivation

Capital flows have slowed sharply all over the world…

Total Portfolio Inflows

	2004-07	2008-09	2010-14	2015-16
US	996	441	619	261
Eurozone	701	379	413	101
AE Other	779	467	546	463
EME Asia	63	28	95	41
EME LatAm	26	30	122	61
EME Other	46	-1	68	6
World	2611	1343	1864	933

(annual averages, billions of USD)

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Great Retrenchment

Recent Slowdown

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EME Surge

EME Slowdown

…and many studies attempt to understand sharp changes in international capital flows…

- Milesi-Ferretti and Tille (2011) "The **great retrenchment**: international capital flows during the global financial crisis" studied the changes in flows pre-, during and immediately after the GFC.

- Bussière, Schmidt and Valla (2016) "International financial flows in the **new normal**" compares recent (2013/14) flows to earlier periods and wonders if we're in a new normal.

- McQuade and Schmitz (2016) "The **great moderation** in international capital flows: a global phenomenon?" does the same and wonders the same.

- Lane and Milesi-Ferretti (2017) "International Financial Integration in the Aftermath of the Global Financial Crisis" compares int'l investment positions in 2007 and 2015 and declares that the growth in cross-border positions in relation to world GDP has come to a halt.

…but no one is entirely comfortable relying on temporal comparisons.

- Bussière et al. (2016, page 16) puts it well:

  "it is hard to gauge if the pre-crisis properties…of flows…will prevail in the 'new normal'…The changes that have taken place since the global financial crisis may correspond to a simple normalization…after rather 'exuberant' times in the pre-crisis period."

- And of course temporal comparisons aren't limited to the above mentioned papers.

  The entire sudden stops/surges literature, from Calvo (1998) through Forbes and Warnock (2012) and beyond, is built on comparing current flows to flows from the recent past.

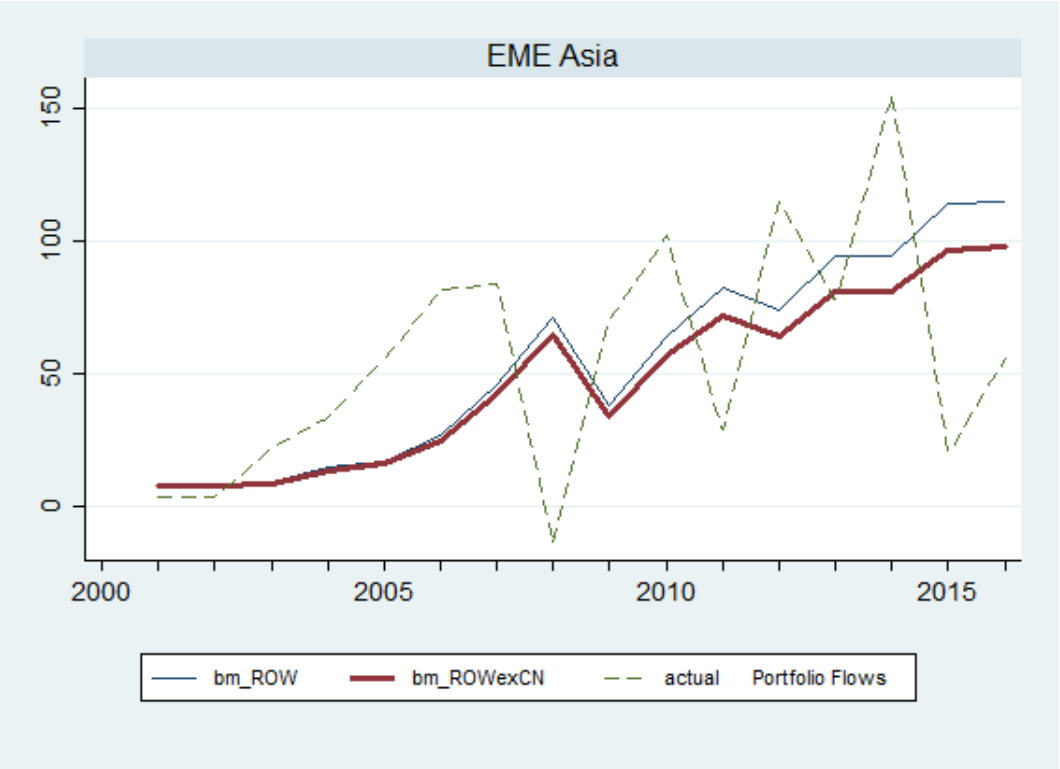
- **Questions:**

  What is normal when it comes to capital flows?

  What is the benchmark?

Benchmarking Capital Flows

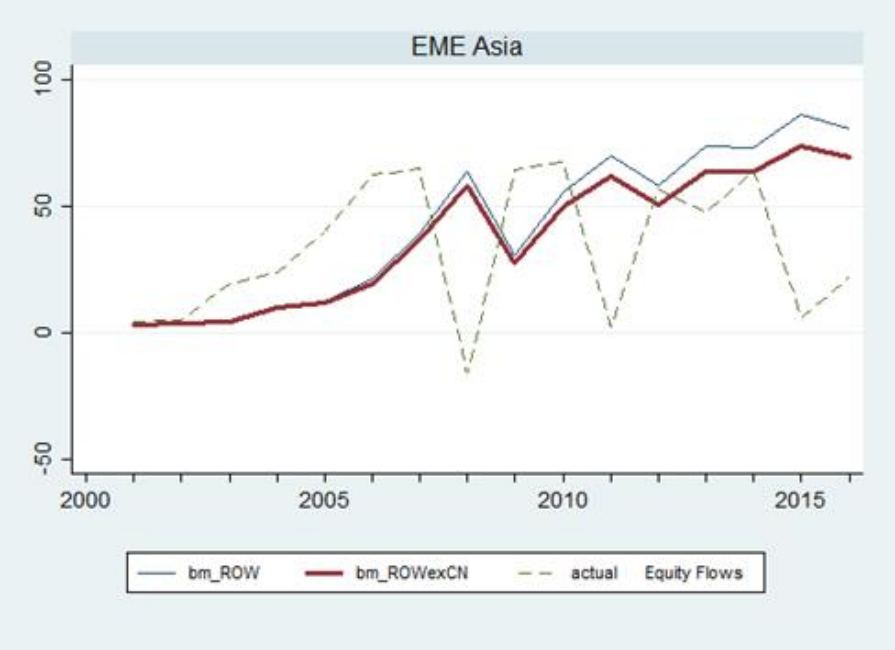
- In this paper we create a benchmark for portfolio flows (bond flows and equity flows) from ROW into roughly 50 countries, annually 2001-2016.
- We argue that our benchmark can be thought of as a longer-term baseline path around which actual flows fluctuate.
  - For our sample of 28 EMEs error correction models suggest that actual portfolio flows adjust strongly toward the benchmark.
- Deviations from benchmark flows should be short-lived; if so, the benchmark helps gauge whether the current amount of inflows are expected to continue or are an aberration.
- These benchmark inflows arise from ROW macroeconomic conditions…hence, the global macro capital flow cycle.



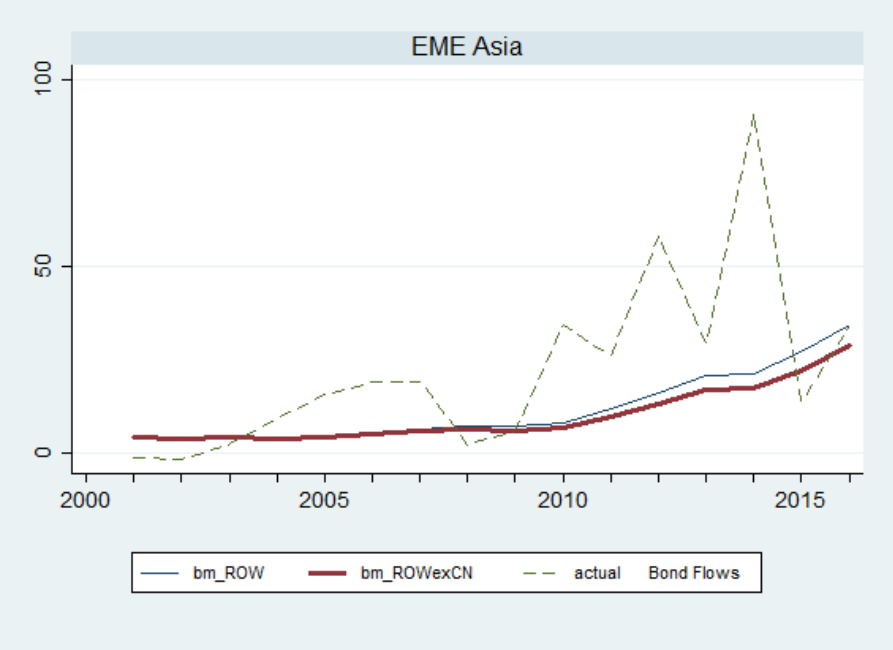
Portfolio (i.e. bond plus equity) flows into EME Asia have fallen sharply <u>from</u> benchmark levels, suggesting they might rebound going forward.

All graphs are in billions of US dollars. Capital flows data, from the IMF's IFS dataset, are annual.

Equity inflows in EME Asia, well below benchmark, should increase.



Bond inflows in EME Asia were abnormally high but are now in line with benchmark amounts.



Conceptualizing Benchmark Flows

Straightforward idea that follows from portfolio growth concept in Ahmed Curcuru Warnock Zlate (2017), which followed from Kraay Ventura (2000,2003), and Tille van Wincoop (2010)

Benchmark flows are the amount of new funds available for capital flows allocated according to last period's portfolio weights.

For portfolio flows, the new funds available can be approximated by (the flow of) rest of world (ROW) savings, and the relevant portfolio weight is the share of ROW holdings of the recipient (i.e. destination) country's securities in ROW financial assets.

Other flows occur—investors can sell assets in one country and purchase assets in another country, creating additional capital flows—but what we call benchmark flows are governed by the amount of new funds available (allocated according to some pre-determined rule) rather than cross-border reallocations within existing portfolios.

Constructing Benchmark Flows

$$GCF_{d,t}^{bmark_pg} = \omega_{ROW,d,t-1} S_{ROW,t}$$

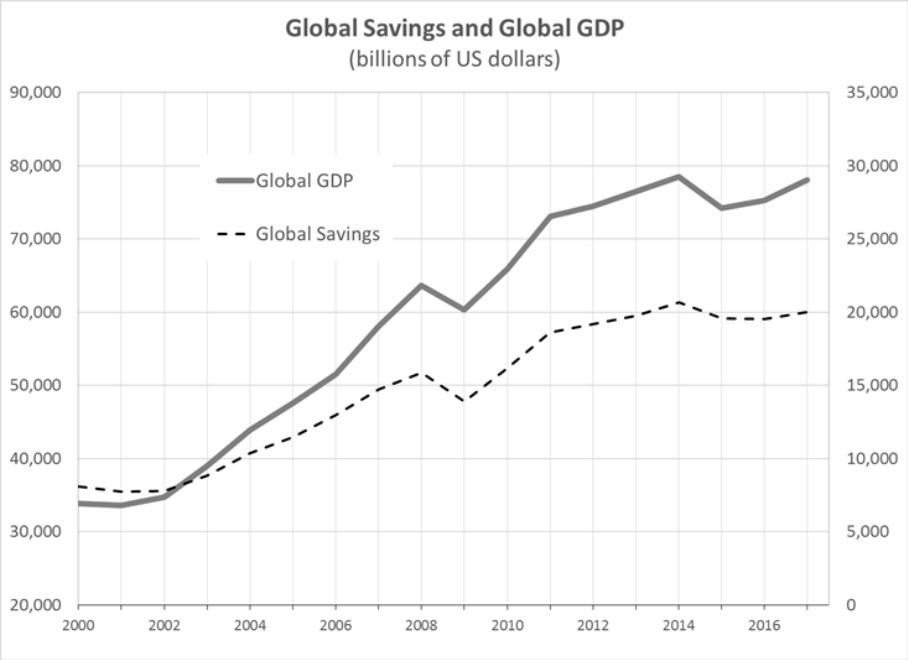
For example, ROW weight on Malaysia's equities equals the stock of Malaysia's portfolio equity liabilities (that is, ROW holdings of Malaysian equities) divided by ROW total financial assets (global financial assets less Malaysia's financial assets and Malaysia's net foreign assets).

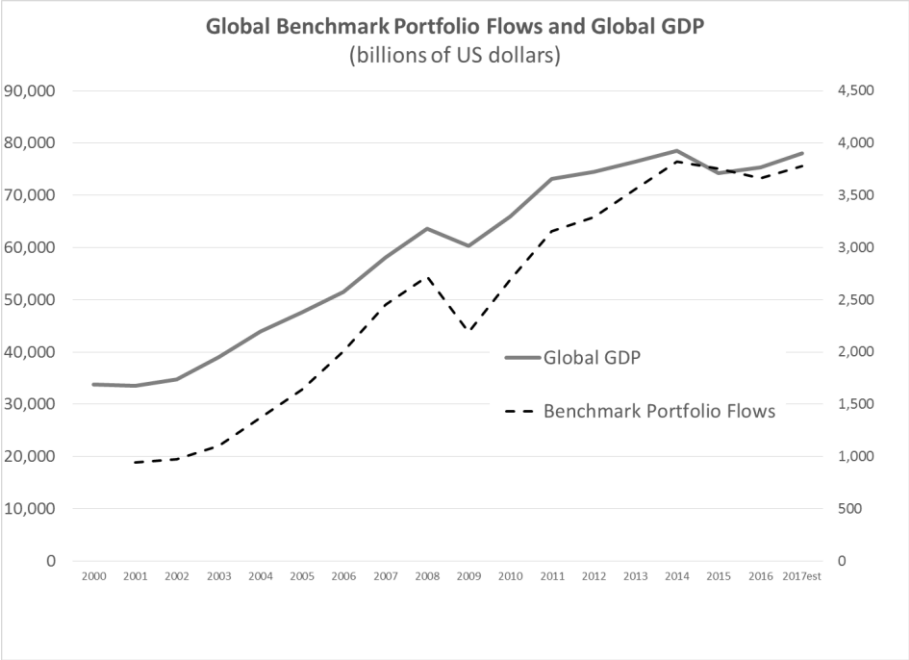
Data requirements:

- Flow of savings and the stock of total financial assets (TFA) are available from the World Bank/IMF and McKinsey Global Institute (MGI), respectively.
- ROW portfolio weights can be formed by combining Lane and Milesi-Ferretti (2017) data on portfolio equity and portfolio debt liabilities with MGI data on total financial assets.
- Need to make decisions on how to deal with China as a source country (huge savings, little outward portfolio investment) and whether to build up from CPIS or go a ROW LMF route.

Note: Benchmark inflows are connected to ROW macroeconomic conditions. And there is some co-movement in ROW macroeconomic conditions…hence, the global macro capital flow cycle.

Benchmark flows arise from the flow of ROW savings, which itself is closely related to ROW income. (The global macro capital flow cycle)





For any recipient country, benchmark portfolio inflows will be closely related to ROW GDP. Thus, they are a baseline path that is connected to ROW macroeconomic conditions.

But is it a benchmark? (cointegration)

- So far we've just asserted that our measure is a benchmark that we expect flows to return to. And we've shown some nice pictures. And relied on logic. But we've also done a series of tests.

- Analogous to the PPP literature, we evaluate whether actual and benchmark flows are cointegrated using Kao and Pedroni tests.
  - Caveat: These tests have limited power in panel of our size.
  - Full sample (AEs + EMEs) yields mixed results.
  - For EMEs, both tests indicate that total portfolio flows are cointegrated with the benchmark.

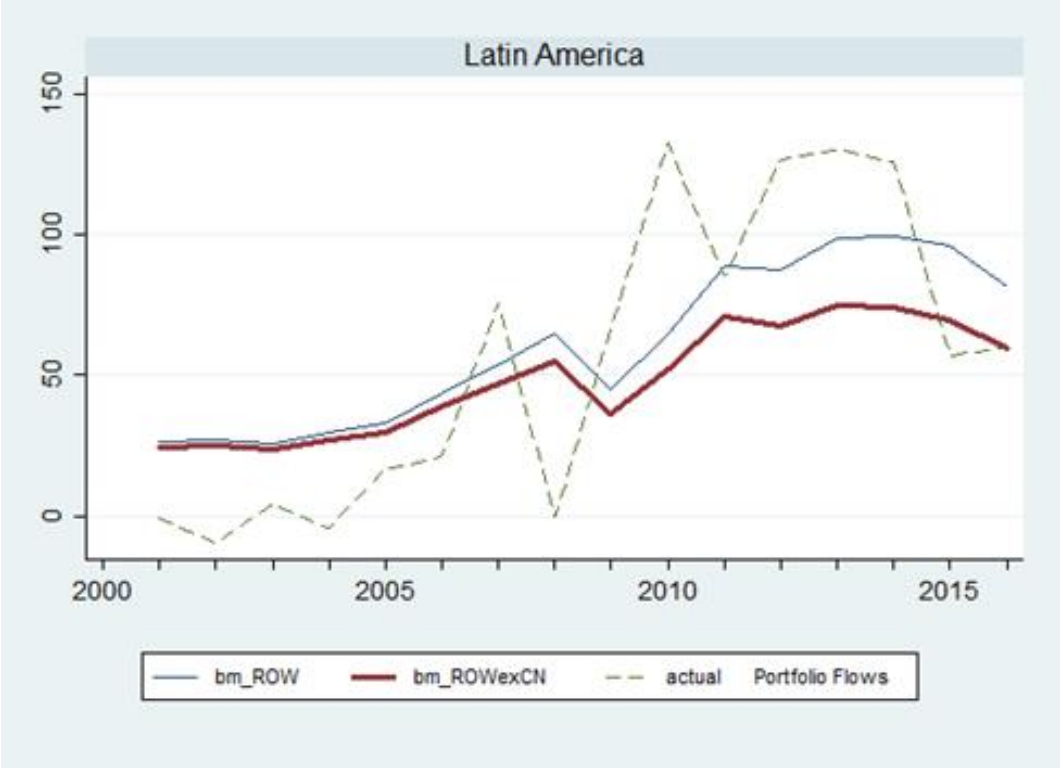
But is it a benchmark? (error correction models)

- Error correction models focused on total portfolio flows. Estimate pooled mean group models of the form:
$$\Delta flows_{it} = \alpha_i + \beta_i \Delta bmark_{it} + \lambda_i \left(flows_{i,t-1} - \theta bmark_{i,t-1} \right) + \mu_{it}$$

- For the EME sub-sample we estimate θ = 0.791 and λ is negative and highly significant. This is consistent with reversion of flows to the benchmark…periods when flows exceed the benchmark are followed by slower growth in portfolio flows.
- As an alternative we impose θ=1 and test how flows respond to the absolute gap (analogous to strong form PPP)
- In EME samples, the error correction term (λ) is approximately -0.7
  - Thus a country experiencing portfolio inflows that exceed benchmark flows by $10 billion should expect, ceterus paribus, a decline in flows of $7 billion in the following year.

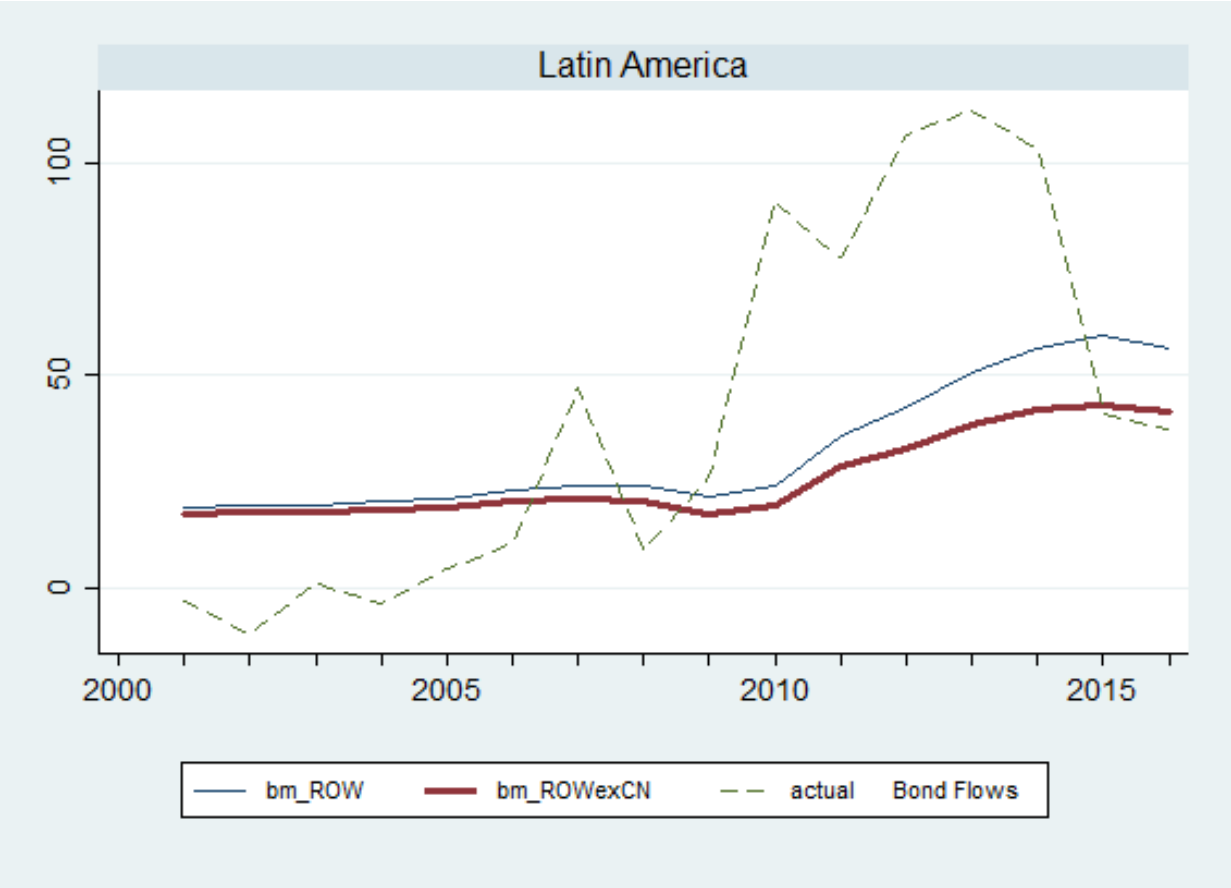
Implications of the Benchmark

- If our benchmark is correct, then we'd argue that the recent sharp drop in LatAm portfolio inflows is about right.
- We don't expect a rebound to the 2011-14 levels, as they were quite high and have fallen back to benchmark levels.



Implications of the Benchmark

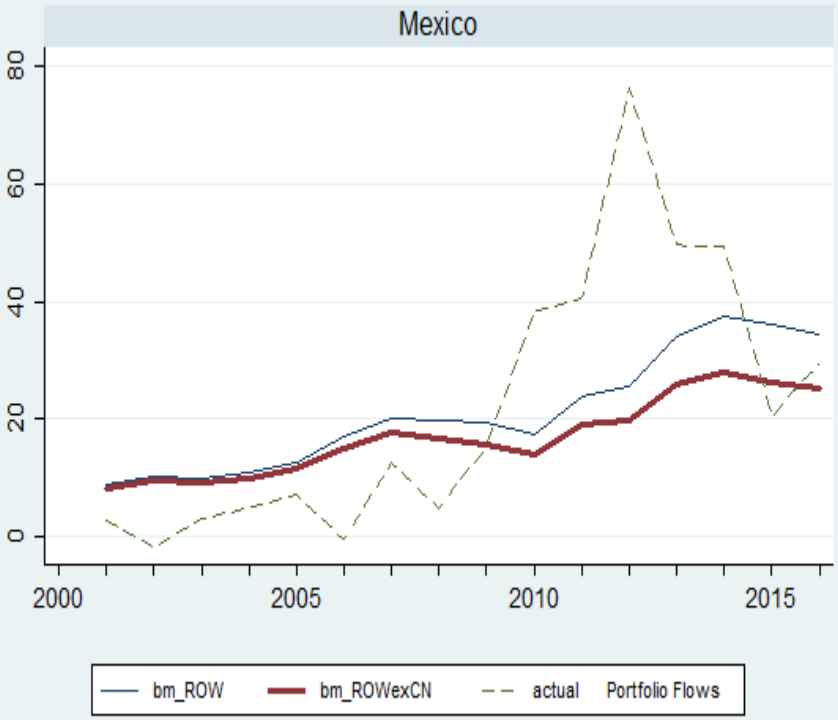
Interestingly, most of the surge and reversion in Latin American flows has been driven by Bond flows.

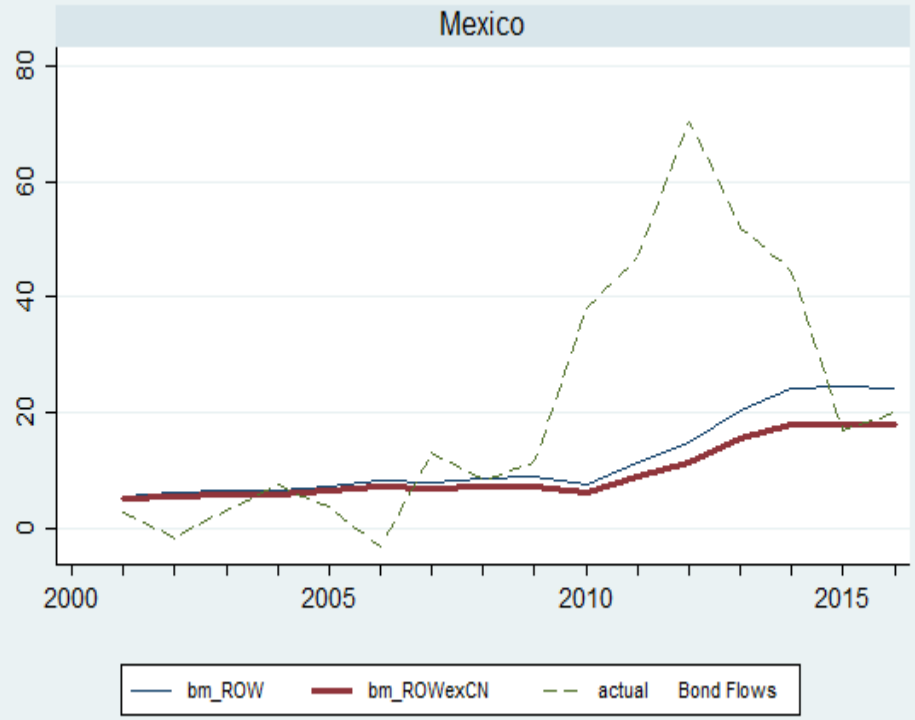


Implications of the Benchmark Country Level Data: Mexico

Total **portfolio flows** to Mexico have reverted to benchmark after 2010-2013

The surge and reversion to benchmark driven by **bond flows**.





Summary

We construct a benchmark for international portfolio flows based on the amount of new funds available for investment (ROW saving allocated according to existing portfolio weights).

Benchmark flows arise from ROW macroeconomic conditions and represent the flows that recipient countries should expect regardless of what occurs in the local economy.

A comparison of actual and benchmark flows provides a way to ascertain whether the recent sharp slowdown in capital flows is likely temporary or long-lasting.

- Differentiate between <u>sharp movements away *from* benchmark levels from sharp movements *toward* the benchmark</u>.
- The former (movements away from the benchmark) are likely temporary, whereas the latter (movements toward the benchmark) are likely to be sustained.