BANK FOR INTERNATIONAL SETTLEMENTS

# How do global investors differentiate between sovereign risks? The new normal versus the old

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**The views expressed are our own and do not necessarily reflect those of the BIS**

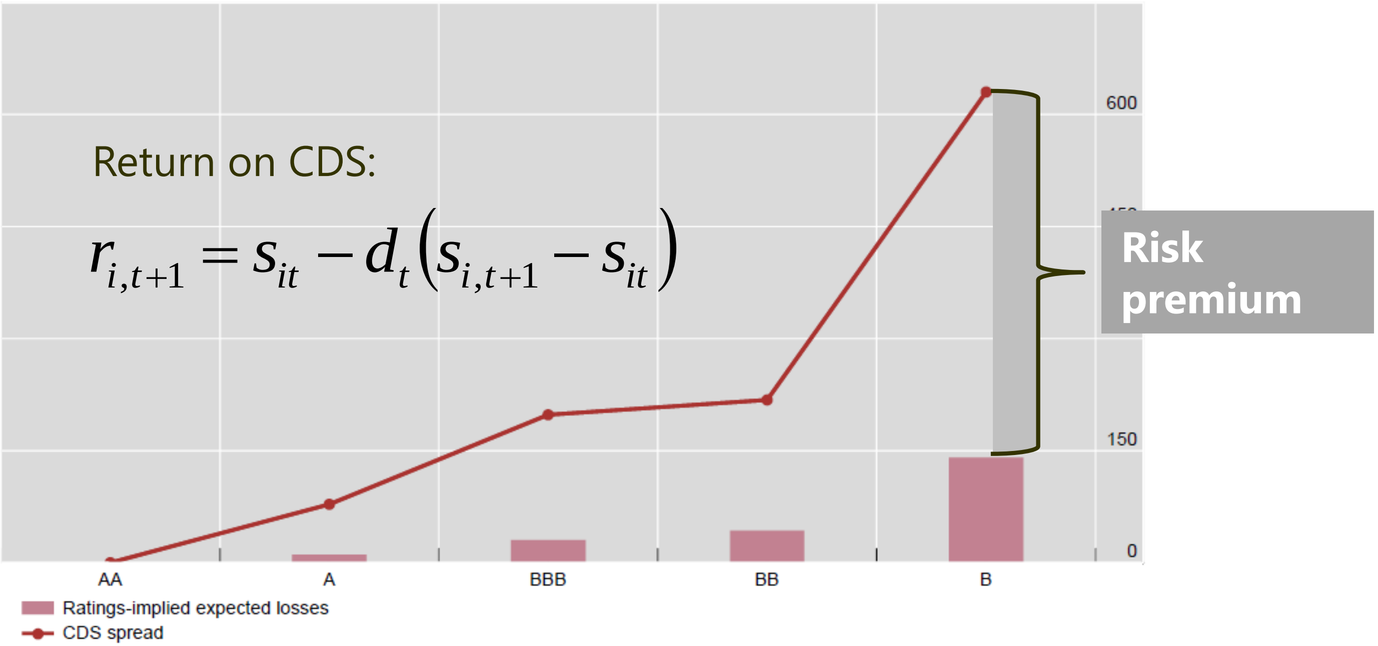
## The tug-of-war

- The tug-of-war between push and pull forces
  - Fratzscher (2012) -- Push factors drove capital flows in 2008, pull factors drove flows in 2009-2010
  - Eichengreen and Gupta (2014) -- In Taper Tantrum of 2013, size of local financial market was main pull factor
- Main push factor is global risk
  - Cohen and Remolona (2008) -- In Asian crisis, equity markets in region driven by US investor sentiment
  - Forbes and Warnock (2012) -- Surges and stops related to “global risk”
  - Rey (2013) -- Capital flows, asset prices, credit growth all move with VIX
- Global factor drives risk premia
  - Remolona, Wu, Scatigna (2007, 2008), Amato and Remolona (2005) -- CDS spreads are mostly risk premia, which vary with risk aversion
  - Longstaff, Pan, Pedersen, Singleton (2011) -- In factor model of CDS returns, sovereign credit risk largely about global risk factors
  - Wu, Erdem, Kalotychou, Remolona (2016) -- Slow-burn global spillover effects are driven by investors’ risk appetites

# Explaining risk premia

Expected loss versus sovereign spreads

Based on defaults within 5 years of rating, Moody's and Standing and Poors, in basis points.




Return on CDS:

$$r_{i,t+1} = s_{it} - d_t\left(s_{i,t+1} - s_{it}\right)$$

Source: Remolona, Wu, Scatigna (2007)

# For liquid CDS contracts, we find 28 sovereigns -- 18 emerging markets, 10 advanced economies

| | |
|---|---|
| BR | Brazil |
| CL | Chile |
| CO | Colombia |
| MX | Mexico |
| PE | Peru |
| CZ | Czech Republic |
| HU | Hungary |
| PL | Poland |
| RU | Russia |
| ZA | South Africa |
| TR | Turkey |

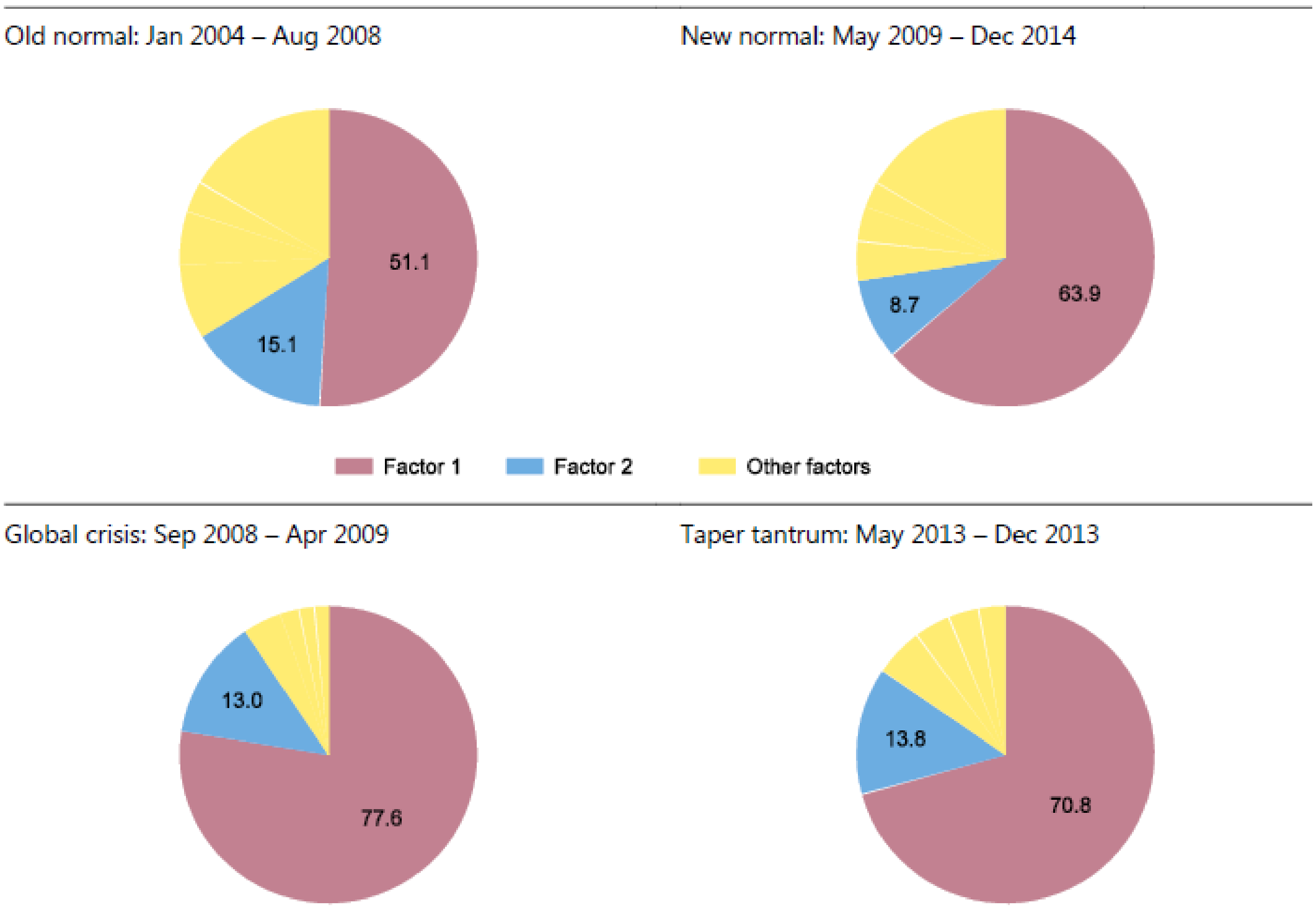
| | |
|---|---|
| CN | China |
| HK | Hong Kong SAR |
| ID | Indonesia |
| KR | Korea |
| MY | Malaysia |
| PH | Philippines |
| TH | Thailand |

| | |
|---|---|
| AU | Australia |
| CA | Canada |
| FR | France |
| DE | Germany |
| IT | Italy |
| JP | Japan |
| NZ | New Zealand |
| SE | Sweden |
| GB | United Kingdom |
| US | United States |

## Yes, Bobby, there is a new normal

- Tests for breaks in time series from Jan 2004 to Dec 2014 for spreads, returns, volatility
  - Bai-Perron test finds at least one break in each of 19 spreads and 12 volatilities; most common break point is Oct 2008
  - Quandt-Andrews imposes single break, finds it in Oct 2008 in 9 markets; in Sep 2008 in 2 markets
  - Chow test confirms break in Oct 2008
- Choosing subperiods
  - Jan 2004 to Aug 2008 for old normal
  - May 2009 to Dec 2014 for new normal
  - Look separately at subprime crisis in Sep 2008 to April 2009, Taper Tantrum in May to Dec 2013

# How much can global risk factors explain?

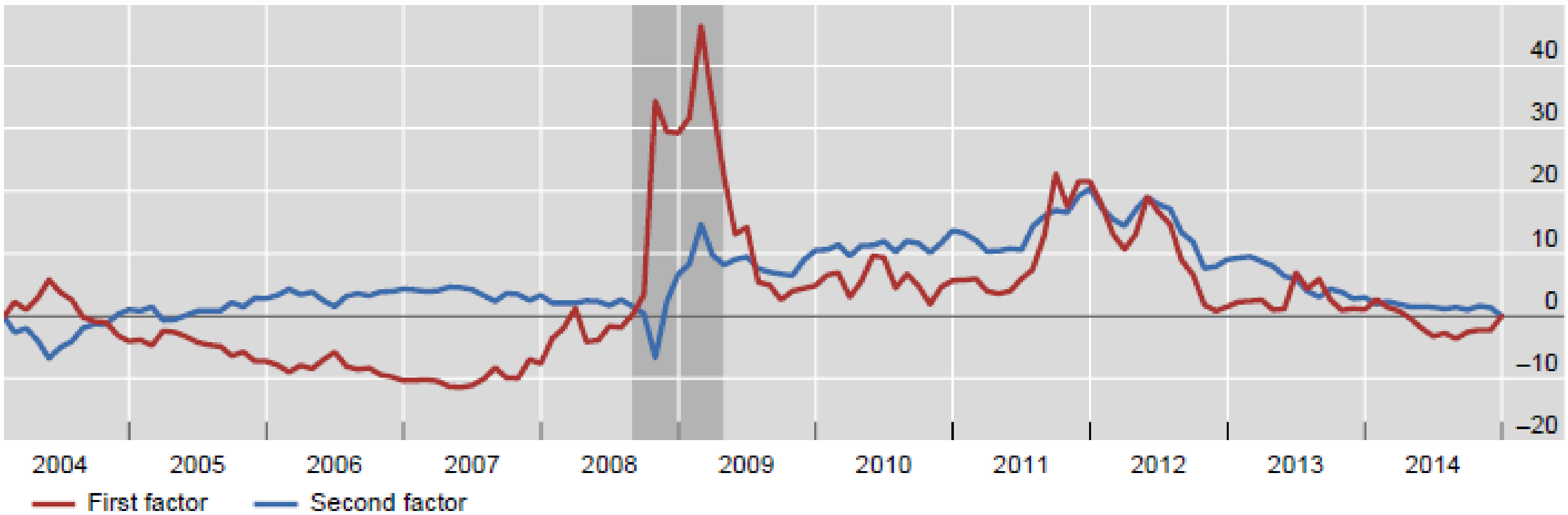


# How do the risk factors behave?

First and second risk factors over time

(Cumulative over time)

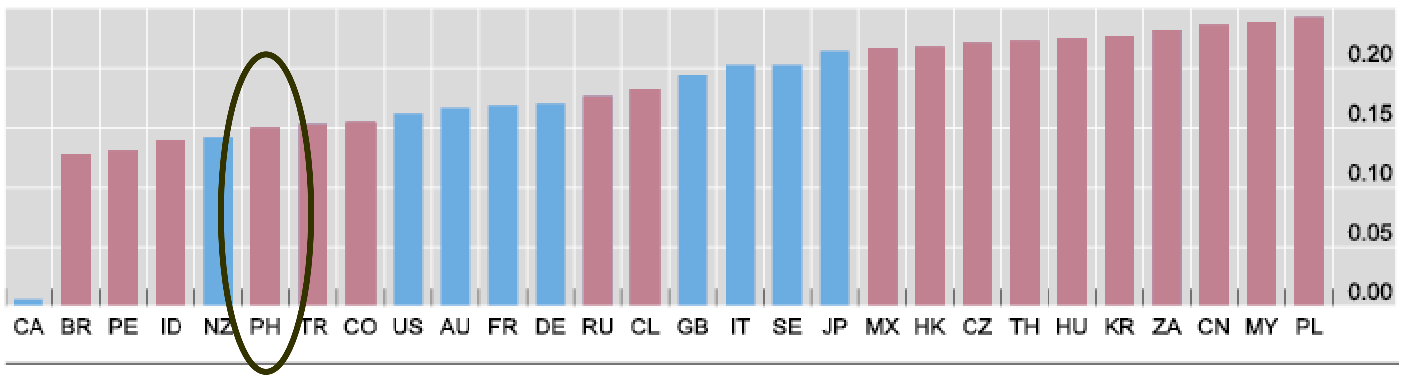
Figure 2



# How do investors differentiate sovereign risks?

## How countries load on first factor in old normal and new normal

Old normal




New normal

# Well, they don't really

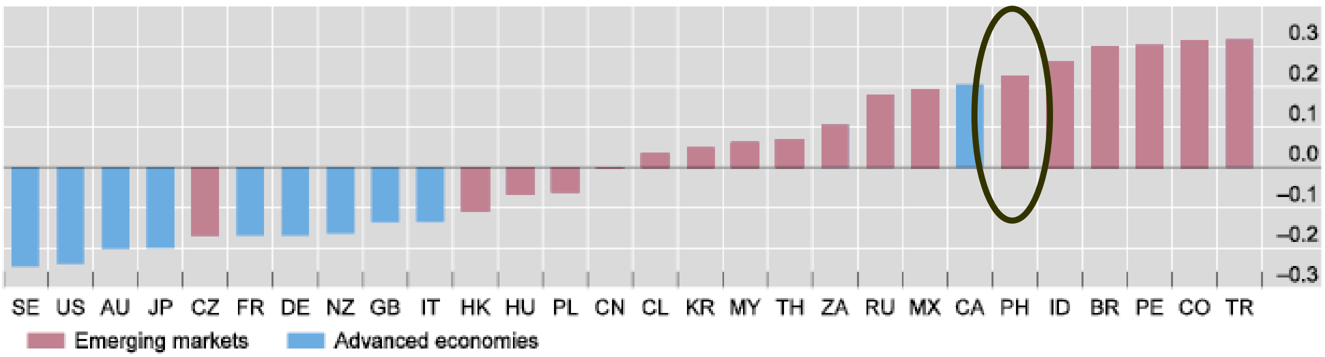
Dependent variable is loading on first factor; t-statistics from full regression and stepwise regression

| | Old normal | | New normal | | Crisis | | Taper tantrums | |
|---|---|---|---|---|---|---|---|---|
| | Full | Stepwise | Full | Stepwise | Full | Stepwise | Full | Stepwise |
| Ratio of government debt to GDP | -0.10 | | -0.45 | | -0.13 | | -0.39 | |
| Current account balance as ratio to GDP | 1.17 | | 0.45 | | 1.05 | | 0.81 | |
| Sovereign credit rating | 4.36*** | | | | 2.09* | | | |
| Institutional Investor rating | | | -1.18 | | -1.96* | | -0.95 | |
| GDP growth | 0.40 | | -0.42 | | -1.20 | | -0.51 | |
| Bond market size | 0.73 | 2.12** | -0.32 | | 0.30 | | 0.043 | |
| Fiscal balance | -0.70 | | -0.49 | | 0.46 | | -0.02 | |
| Openness | -1.42 | | 0.07 | | -2.9*** | -3.71*** | 0.42 | |
| Inflation | -0.62 | | -1.63 | | -1.56 | | -1.26 | |
| EM dummy | 4.27*** | 2.07** | 0.22 | 3.38*** | 2.66** | 4.01*** | 0.32 | 2.14** |
| Asia dummy | -0.46 | | 0.82 | | -0.92 | | 0.71 | |
| $R^2$ | 0.543 | 0.186 | 0.544 | 0.410 | 0.688 | 0.492 | 0.317 | 0.236 |
| Adj $R^2$ | 0.229 | 0.121 | 0.276 | 0.388 | 0.473 | 0.452 | -0.084 | 0.207 |

# Some investors seem to care about safe havens

## How countries load on second factor in old normal and new normal

Old normal




New normal

# The tyranny of benchmarks

- Not tug-of-war but division of labor
  - Risk appetites explain movements over time
  - "Fundamentals" explain cross-sectional differences
- Tests suggest new normal that ensued after global crisis
- Single global risk factor dominates return movements, especially in new normal and stress episodes
  - Loadings differentiate between countries on basis of emerging market designation
  - Phenomenon suggests rise of index tracking behavior
- A second risk factor plays supporting role, possibly as safe-haven factor