



BANK FOR INTERNATIONAL SETTLEMENTS

# Secular stagnation or financial cycle drag?

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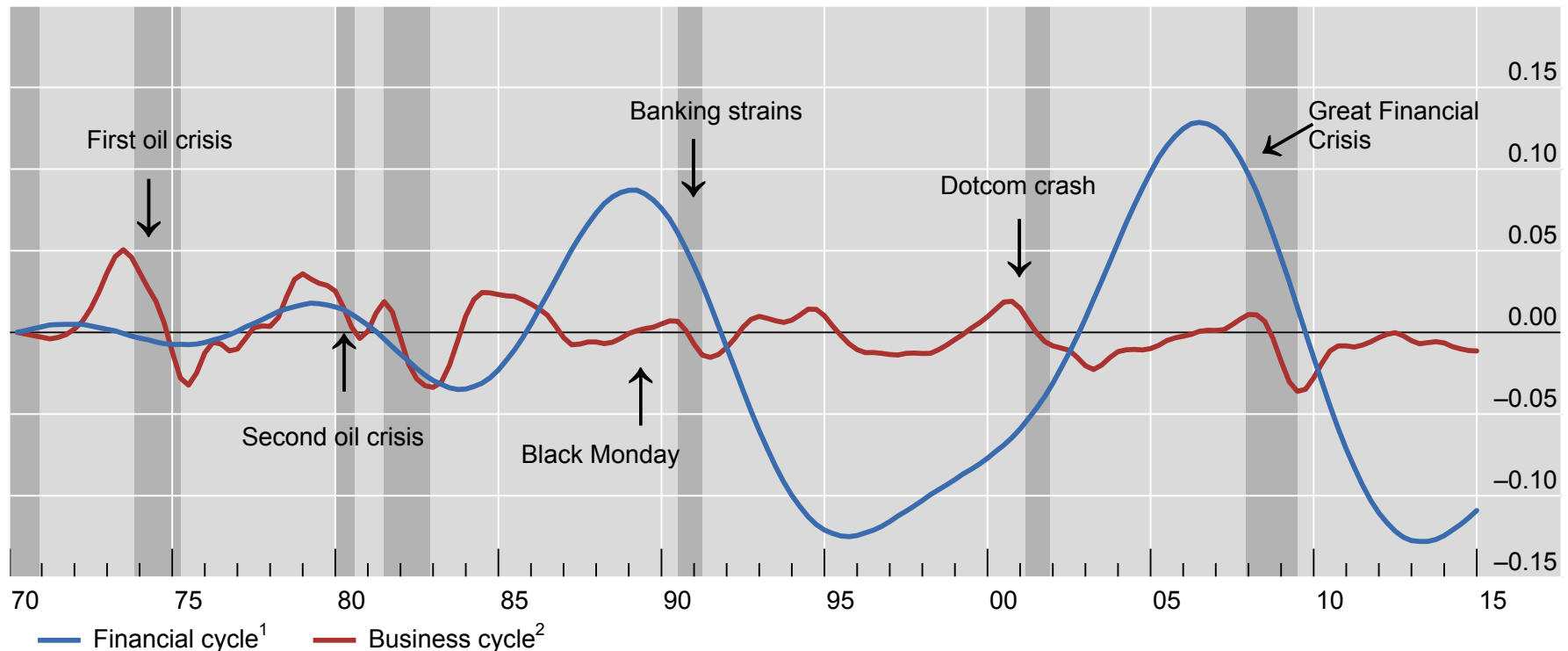
# Questions and takeaways

- Question
  - What explains the plight of the global economy?
- Comparison of two different narratives or hypotheses
  - (Demand-driven) secular stagnation (SS) vs financial cycle drag (FCD)
- Thesis
  - FCD narrative provides a better explanation...
  - ...and a better basis for identifying risks and the required policy direction
- Structure of the remarks
  - Summarise in very stylised terms the two hypotheses
  - Argue that the FCD hypothesis is more convincing
  - Draw the implications for monetary policy (MP) frameworks

# I - The two hypotheses: a stylised characterisation

- Three features of the SS hypothesis
  - The world is haunted by a structural aggregate-demand deficiency
  - The pre-crisis financial boom (“bubble”) was price to pay to keep output at potential
  - The natural (equilibrium) real interest rate is negative
    - Low rate needed to avoid a damaging demand-driven deflation
- Three features of the FCD hypothesis
  - The world is haunted by an inability to constrain financial booms/busts (outside financial cycles (FCs)) (G 1)
    - FC = Joint and long-lasting unsustainable expansions/contractions in credit and asset prices
    - Busts cause huge and long-lasting economic damage
  - Pre-crisis boom was part of the problem, with output above potential
  - The natural (equilibrium) real interest rate is positive and considerably higher
    - Overestimation of global demand deficiency
    - Underestimation of secular supply side global factors driving disinflation
    - Need to define and measure the natural interest rate including financial factors

# Graph 1: The financial cycle is longer than the business cycle (the US example)



<sup>1</sup> The financial cycle as measured by frequency-based (bandpass) filters capturing medium-term cycles in real credit, the credit-to-GDP ratio and real house prices. <sup>2</sup> The business cycle as measured by a frequency-based (bandpass) filter capturing fluctuations in real GDP over a period from 1 to 8 years.

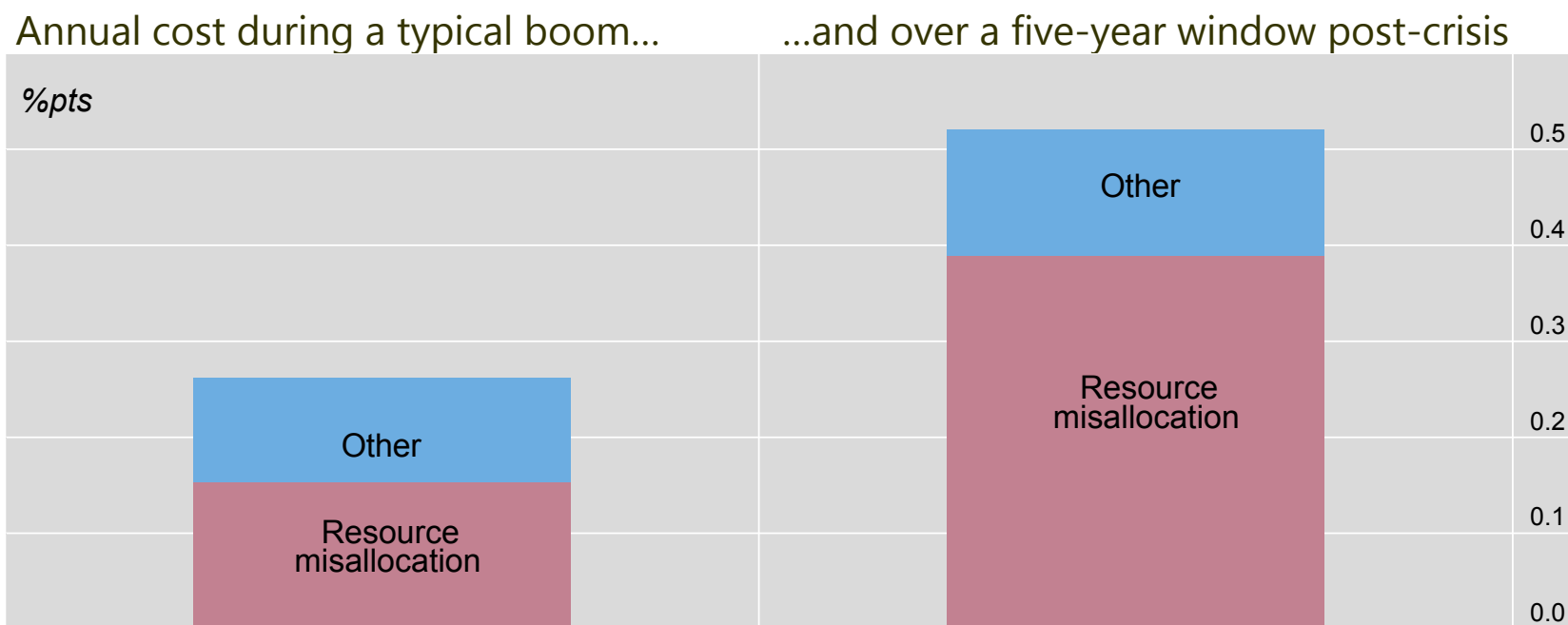
The graph compares the financial cycle with traditional measures of the business cycle. The picture would be similar based on other common methodologies (eg turning point (peak/trough) analysis).

Source: Drehmann et al (2012), updated.

## II - The SS hypothesis: a critique

- Evidence for the SS hypothesis
  - Persistently disappointing and low post-crisis growth
  - Stubbornly low inflation despite huge MP efforts
  - Low interest rates way out along the yield curve
- Three nagging doubts
  - SS initially developed for the US, with a large current account deficit
  - Pre-crisis record growth for the world as a whole
  - Unemployment now close to historical norms
- Specific pieces of evidence that favour the FCD hypothesis
  - Post-crisis recovery not unusual given banking crises and financial bust
  - Evidence that financial booms/busts cause long-term damage to productivity (G 2)
  - Evidence that output was above potential (on an unsustainable path) pre-crisis (G 3)
    - Estimates based on FC proxies would have shown it also in real time
  - Link between domestic output slack and inflation has been weak for a long time
    - Evidence of global (dis)inflationary factors at play (G 4)

## Graph 2: Financial booms sap productivity by misallocating resources



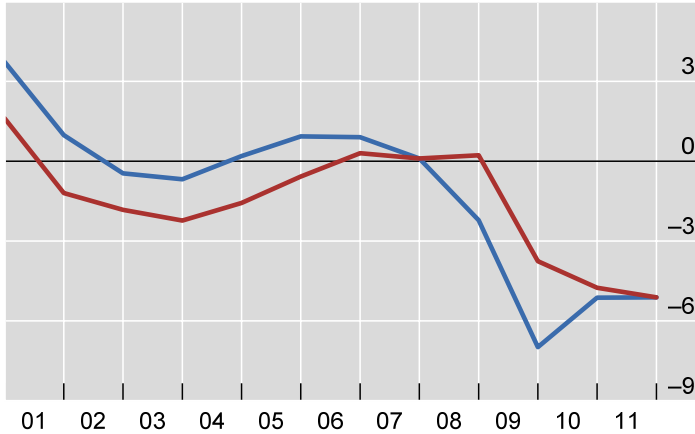
Estimates calculated over the period 1969–2013 for 21 advanced economies. Resource misallocation = annual impact on productivity growth of labour shifts into less productive sectors during a five-year credit boom and over the period shown. Other = annual impact in the absence of reallocations during the boom.

Source: Borio et al (2015c).

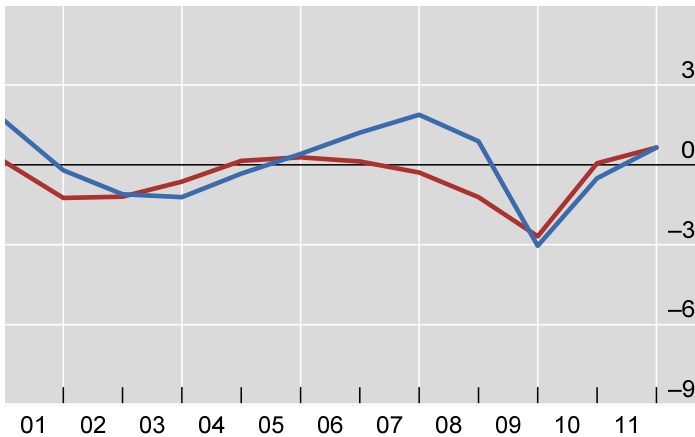
# Graph 3: US output gaps: ex post and real-time estimates

In per cent

IMF



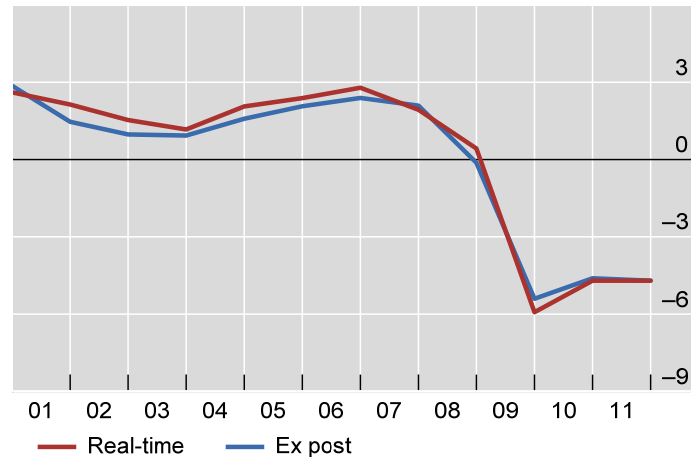
Hodrick-Prescott



OECD



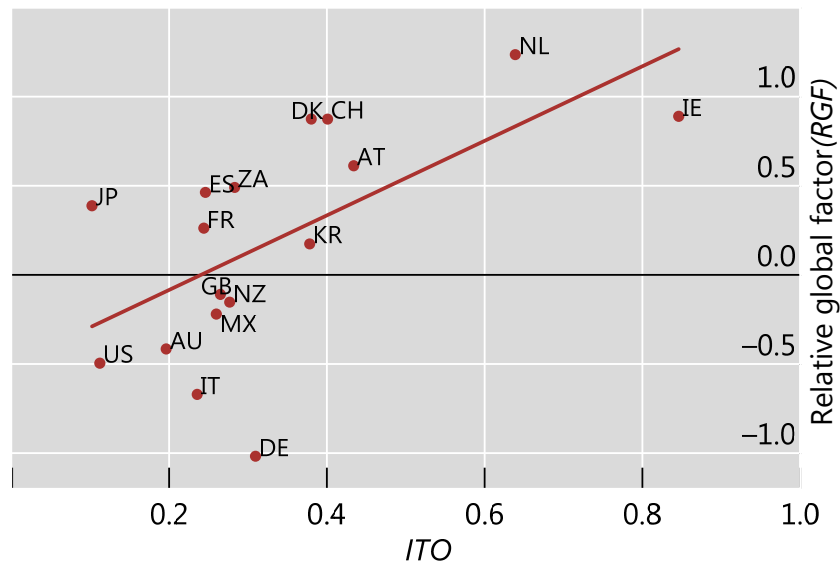
Finance-neutral



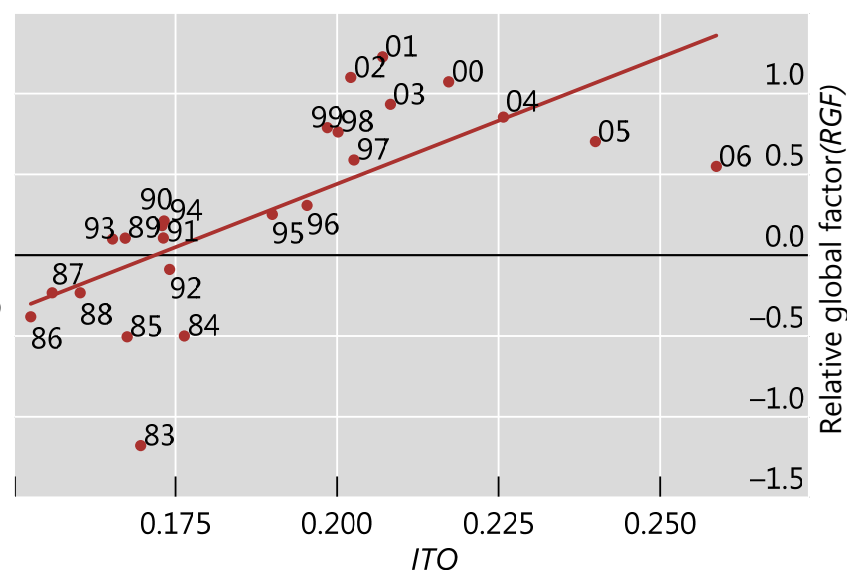
For each time  $t$ , the “real-time” estimates are based only on the sample up to that point in time. The “ex post” estimates are based on the full sample. The graph indicates that traditional measures show that output was ahead of potential only ex post, with the benefit of hindsight, while the measure using financial cycle (finance-neutral) proxies does so also in real time. Source: Borio et al (2016).

# Graph 4: GVCs and the explanatory power of global output gaps...

...across countries<sup>1</sup>



...and over time<sup>2</sup>



AU = Australia; AT = Austria; CH = Switzerland; DE = Germany; DK = Denmark; ES = Spain; FR = France; GB = United Kingdom; IE = Ireland; IT = Italy; JP = Japan; KR = Korea; MX = Mexico; NL = Netherland; NZ = New Zealand; US = United States; ZA = South Africa

ITO = (exports plus imports of intermediate goods and services)/GDP, as proxy for the incidence of Global Value Chains (GVCs) in a given country. RGF= relative global factor, denoting the difference between the impact of the global output gap and the domestic output gap on domestic inflation. A positive slope indicates that the relative importance of the global output gap (RGF) increases with the incidence of global value chains, across countries at a given point in time (lh panel) or on average over time (rh panel).

<sup>1</sup> For each country, each observation shows the relationship between the average ITO and RGF for the period 1982-2006. The red fitted line has a slope of 2.09 (significant at the 1% level). Canada (RGF=-3.17, ITO=0.40) is not included. <sup>2</sup> Each observation shows the cross-country average of ITO and RGF in a given year (1983-2006). The red fitted line has a slope of 15.6 (significant at the 1% level). Source: Auer et al (2017).



## II – The FCD narrative

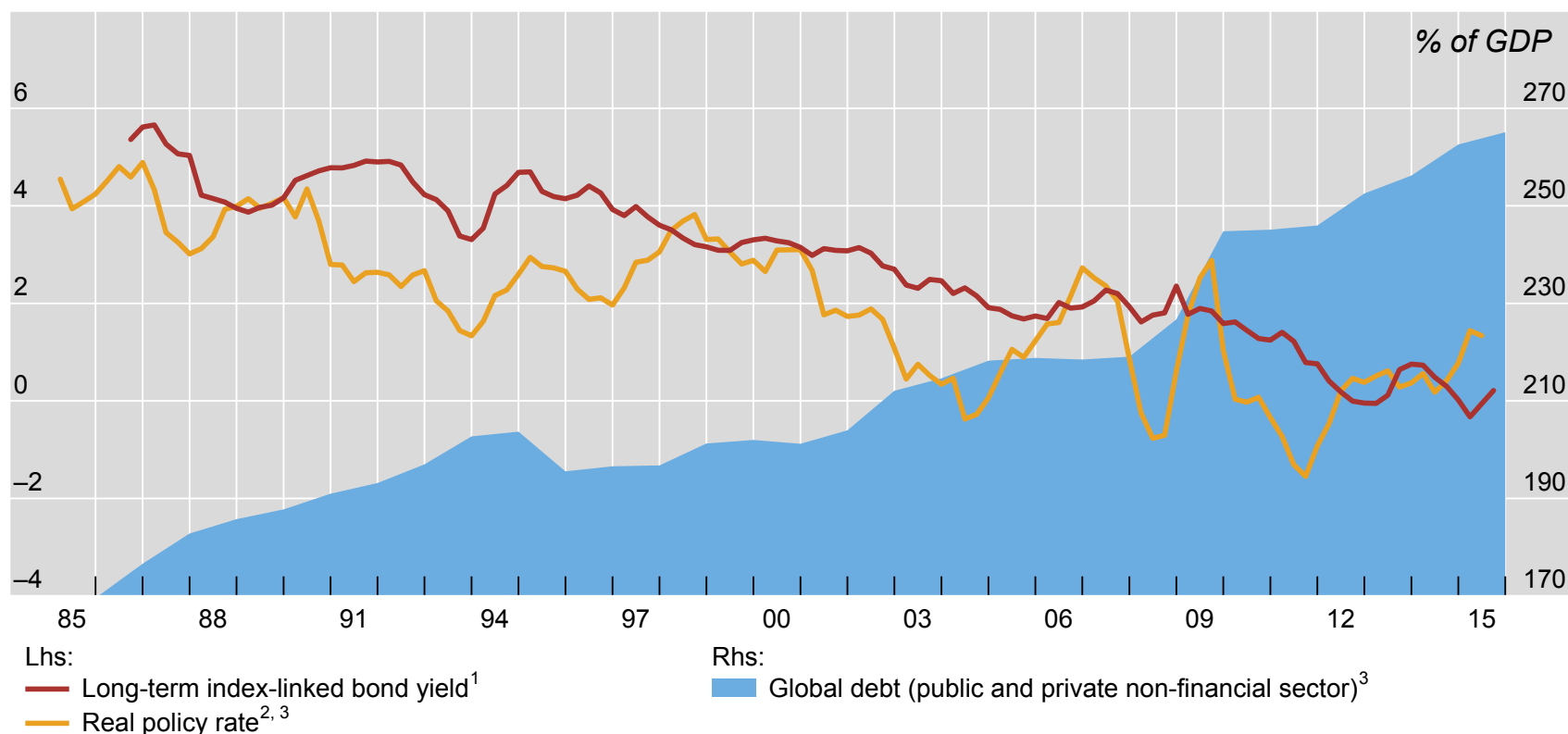
- Current plight: (series of) financial booms gone wrong and an inadequate policy response
- Elements of the story
  - Inherent instability in financial markets and poor risk management + MP focused on near-term price stability and inadequate regulation/supervision led to unsustainable financial booms
  - Booms turned to busts and caused major recessions
  - Policy response to recessions and aftermath was not fully adequate
    - Too little balance sheet repair
    - Too much traditional aggregate demand management and overreliance on MP
  - Over time, the effectiveness of the policy mix diminishes and side effects increase
    - Especially limitations of unusually low interest rates for unusually long
    - Difficulties in returning to robust sustainable growth
    - Financial stability risks in non-crisis-hit economies
      - Build-up of financial imbalances (FIs) in EMEs (T 1)
  - Along the way, both short- and long-term real interest rates decline (G 5)...
    - ...and global debt-to-GDP ratios rise

# Table 1: Early warning indicators for banking distress – risks ahead

	Credit-to-GDP gap <sup>2</sup>	Property price gap <sup>3</sup>	Debt service ratio (DSR) <sup>4</sup>	DSR if interest rates rise by 250 bp <sup>4, 5</sup>
Asia <sup>6</sup>	15.6	5.5	2.0	4.3
Australia	1.3	3.7	1.4	5.3
Brazil	-2.4	-30.9	3.0	4.6
Canada	17.4	11.6	3.6	7.9
Central and eastern Europe <sup>7</sup>	-12.4	10.4	-0.5	0.9
China	26.3	0.8	5.4	8.8
France	1.6	-9.5	1.1	4.2
Germany	-4.2	15.6	-1.8	0.1
Greece	-16.3	11.8		
India	-4.7		1.4	2.5
Italy	-14.1	-14.2	-0.5	1.5
Japan	3.5	16.3	-2.2	0.5
Korea	2.3	5.4	-0.5	3.1
Mexico	8.9	7.7	0.8	1.5
Netherlands	-18.8	-11.4	0.8	5.6
Nordic countries <sup>8</sup>	-2.2	3.5	0.1	3.9
Portugal	-41.1	13.8	-1.6	1.6
South Africa	-2.0	-9.1	-0.3	1.1
Spain	-46.8	-15.2	-3.2	-0.4
Switzerland	8.2	7.8	0.0	3.2
Turkey	7.7		5.0	6.7
United Kingdom	-19.5	1.0	-1.2	1.7
United States	-7.8	5.1	-1.4	1.1
<i>Legend</i>	<i>Credit/GDP gap &gt; 10</i>	<i>Property gap &gt; 10</i>	<i>DSR &gt; 6</i>	<i>DSR &gt; 6</i>
	<i>2 ≤ Credit/GDP gap ≤ 10</i>		<i>4 ≤ DSR ≤ 6</i>	<i>4 ≤ DSR ≤ 6</i>

Source: [BIS Quarterly Review, March 2017](#)

## Graph 5: Interest rates sink as debt soars



<sup>1</sup> From 1998, simple average of France, the United Kingdom and the United States; otherwise only the United Kingdom. <sup>2</sup> Nominal policy rate less consumer price inflation. <sup>3</sup> Aggregate based on weighted averages for G7 economies plus China based on rolling GDP and PPP exchange rates.

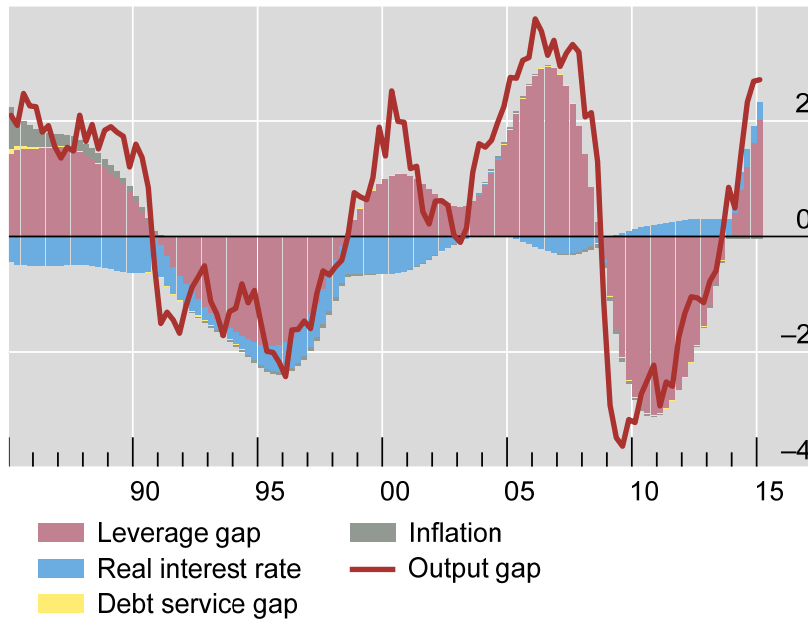
Sources: [Borio and Disyatat, VoxEU June 2014](#).

## II – The natural (equilibrium) interest rate

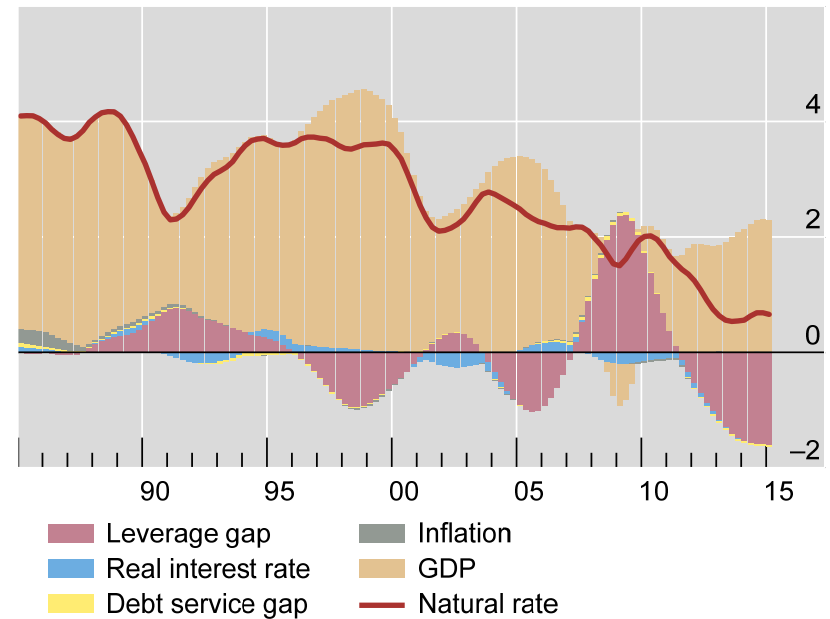
- Four points on the natural rate's level and long-term decline
  - The rate is not observable
    - Inferred based on an assumed model of the economy
    - Inflation is assumed to provide the key signal
  - If one allows also FIs to provide a signal
    - The outcome is more consistent with the data (G 5)
    - And it produces a higher estimate (G 6)
      - Same logic why FC-based measures of potential output work pre-crisis
  - Defining the equilibrium rate without reference to financial stability is incomplete
    - How can one argue that an equilibrium rate causes instability?
  - Long-term interest rates can be misaligned for very long periods
    - All asset prices can be (common source of financial instability)
    - Should we now think that SS is not a big risk because markets have changed their mind?

# Graph 6: The financial cycle helps explain the variation in the output gap and the natural rate

Output gap



Natural rate

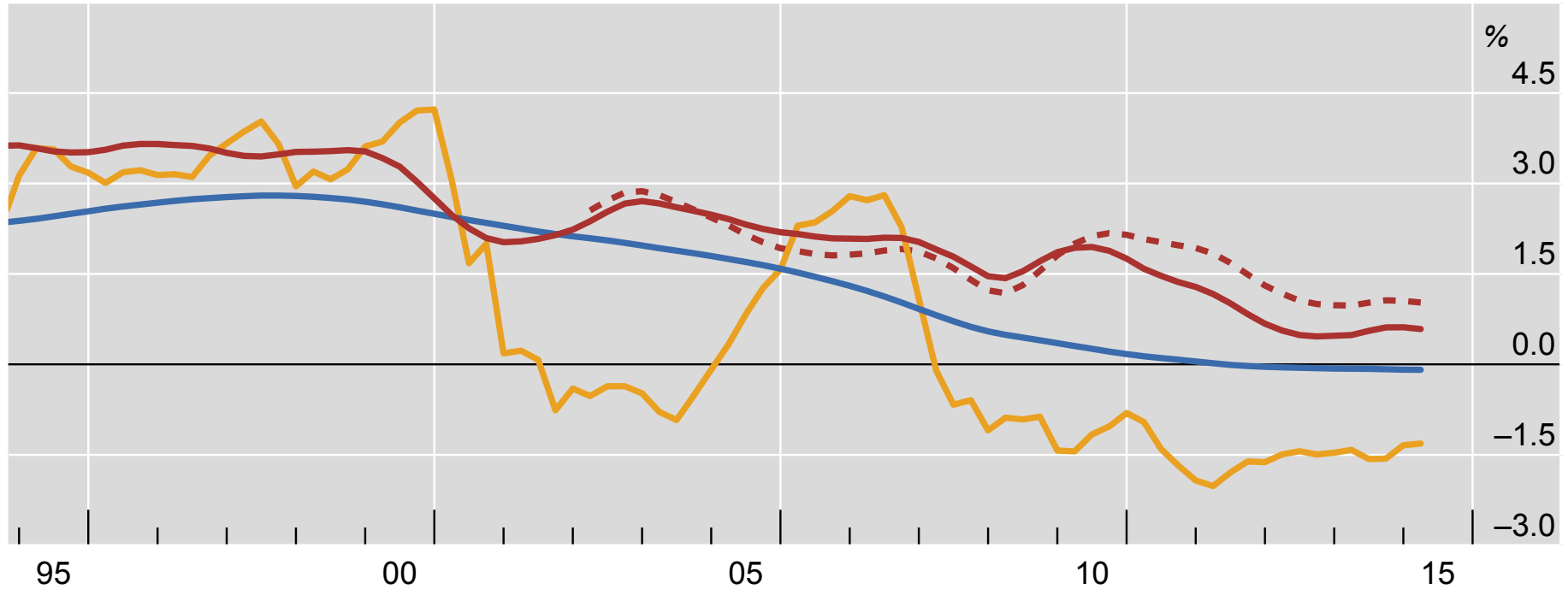


The leverage gap and debt service gap are proxies for the financial cycle. The graph indicates that the information content of inflation (grey shade) for the output gap (potential output) and for the natural rate is quite limited once the data are allowed to choose between inflation and financial cycle proxies.

Source: Juselius et al (2016); based on US data.

# Comparing interest rates: standard and financial cycle-adjusted

(Graph 7)



- Real policy rate
- Standard natural rate
- Financial cycle-adjusted natural rate
- - - Financial cycle-adjusted natural rate (counterfactual)

The standard natural rate estimate follows a common procedure, which assumes that inflation provides the key signal. The financial cycle-adjusted estimates allows, in addition, financial cycle proxies to play a role. The dotted line traces what the natural rate could have been in a counterfactual exercise in which monetary policy had leaned systematically against the financial cycle in addition to output and inflation as opposed to following its actual historical path.

Sources: Juselius et al (2016); based on US data.

## III – Three risks and two policy suggestions

- Risk 1: Conjunctural
  - Further episodes of serious financial stress where FIs have built up
    - Traditional indicators have been flashing amber or red
    - Watch closely the international US dollar funding market
- Risk 2: Structural
  - Entrenching instability in the global economy
    - Asymmetrical policies across successive FCs could lead to a sequence of crises, a loss of policy ammunition and a debt trap
- Risk 3: Institutional
  - Ultimately, rupture in the open global economic order?
    - Retreat into trade and financial protectionism
- Policy suggestion 1: Conjunctural
  - Rebalancing the policy mix
    - Less traditional aggregate demand management, especially MP (overburdened), and more structural
- Policy suggestion 2: Frameworks
  - Adjust them to address the FC more systematically

# Conclusion

- I have argued that the FCD hypothesis does a better job than its SS counterpart
  - Financial market participants now seem to have lost faith in the SS hypothesis...
  - ...but only time will tell!
- Regardless of the perspective, the future raises huge challenges
  - The FCD hypothesis does assert that headwinds are temporary...
  - ...but it also points to a “risky trinity” (see latest BIS Annual Report)
    - Productivity growth that is unusually low
    - Global debt levels that are historically high
    - And a room for policy manoeuvre that is remarkably narrow
- A successful policy response requires tackling the FC
  - Shifting the focus from the short term to the long term is essential
  - Nothing new, exceedingly hard but more important than ever



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