



# Joint IMF-IMFS Webinar on “Negative Interest Rates: Taking Stock on the Experience So Far”

# Main thesis

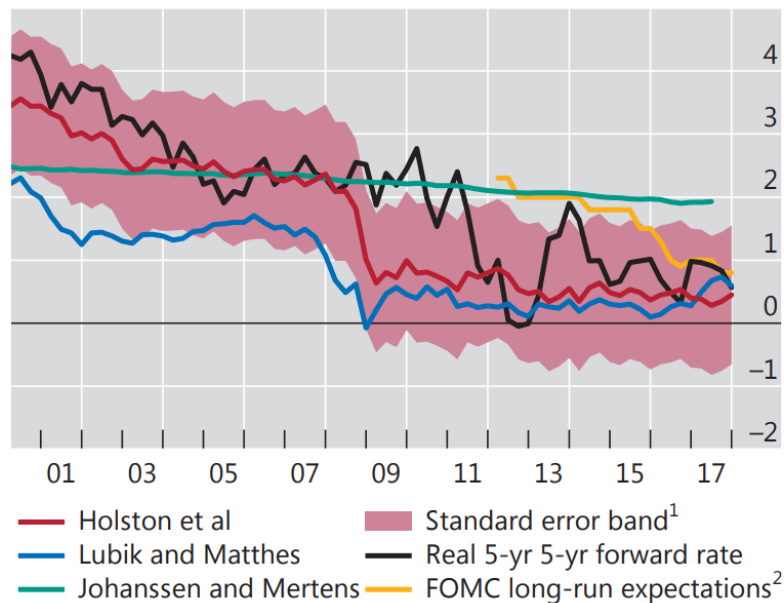
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- I Is the equilibrium real rate low enough to justify NIRP?
- II NIRP did not lower inflation much
- III Negative side effects of NIRP to rise over time
- IV Exit from NIRP is difficult

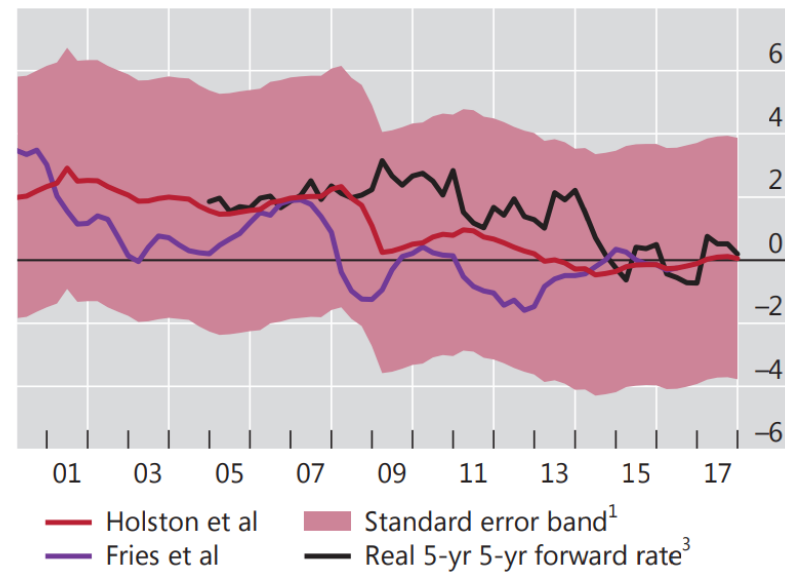
# Estimates of $r^*$ are highly uncertain

Estimates of the equilibrium real interest rate by various authors; standard error band around estimates of Holston et al (2016), in %

US natural rate measures



Euro area natural rate measures



<sup>1</sup> One standard error bands around natural rate estimates of Holston et al (2016), based on sample averages. <sup>2</sup> Longer-run median projection from the SEP for the federal funds rate less 2% inflation target. <sup>3</sup> Based on French government bond yields, supplemented by German government bond yields to interpolate missing data.

Source: BIS Annual Report 2018

## Questionable assumptions behind models to estimate $r^*$

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Laubach-Williams model for estimation of  $r^*$  rests on questionable assumptions

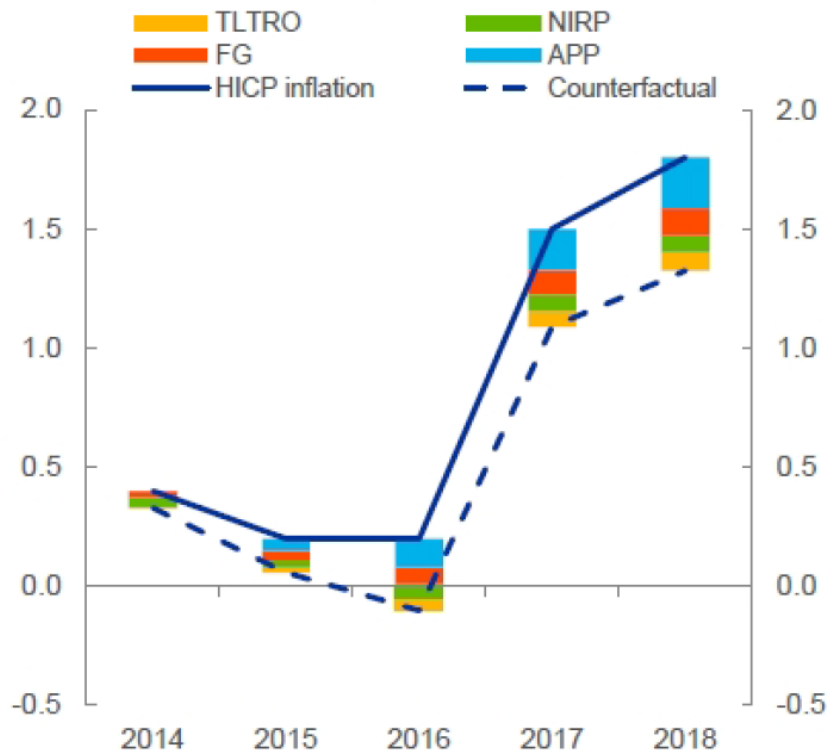
- Is low inflation only caused by a weak economy (Phillips curve)?
- Is weak economy only caused by restrictive monetary policy?

Rachel-Smith estimate  $r^*$  based on savings-investment imbalances

- $r^*$  can also be influenced by central banks' bond purchases
- Estimates of the impact of structural drivers such as demography on savings and investment curves highly uncertain
- Estimates of the impact of  $r$  on savings and investment highly uncertain

## NIRP has only small impact on inflation according to the ECB

Actual eurozone inflation rate, and counterfactual paths in absence of ECB's non-standard measures



Source: ECB Working Paper No 2346, Dec 2019

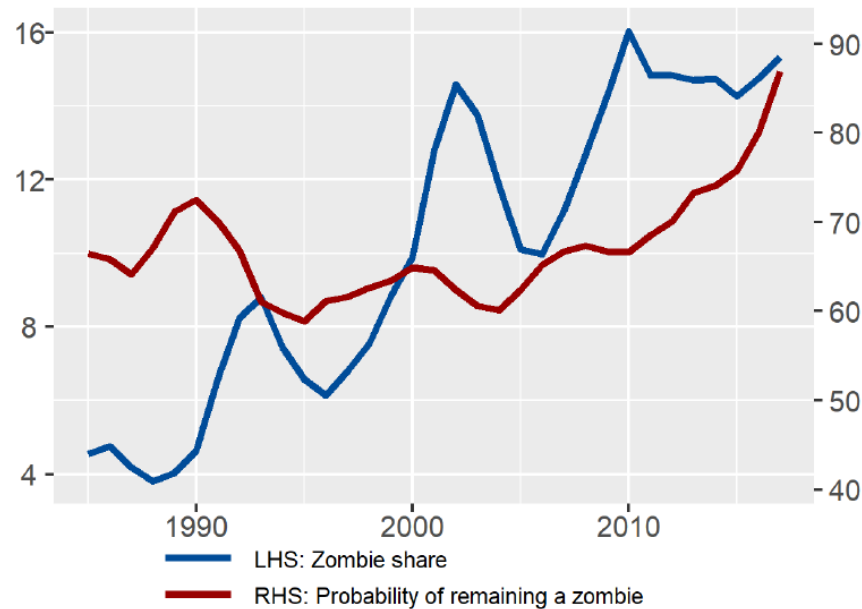
## Main effects of NIRP to decline over time, while negative side effects become more prominent

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- Consumers can't bring consumption forward forever, expansionary impact of NIRP to decline over time
- Negative side effects to grow over time
  - Decline in the profitability of banks
  - Governments get used to borrow at non-positive interest rates
  - Zombification of corporates
  - Bubbles in financial and real estate markets due to hunt for yield

# Rising share of zombie firms

## Share of firms classified as zombies, 14 advanced economies



<sup>1</sup> Zombie firms defined as firms with both an interest coverage ratio of less than 1 and a Tobin's q below the median firm in the sector over two years. To be declassified as a zombie firm, an ICR larger than one or a Tobin's q above the sector median over two years is required. The probability of remaining a zombie firm is calculated as the number of firms that are classified a zombie in year  $t$  that remain a zombie in year  $t+1$  divided by the number of firms that are classified a zombie in year  $t$ .

Source: BIS Working Paper No 882, September 2020

# Hunt for yield raised equity valuations

## Price-earnings-ratio for the EuroStoxx50



Source: Datastream



## Exit from NIRP is difficult

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Arguments which make exit from NIRP difficult:

- Exit should be met with resistance by politicians who fear higher government bond yields
- Exit may cause zombie firms to fail
- Exit may cause bubbles to burst

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