PANEL 1: SCARS OR SCRATCHES: HOW DAMAGING IS THE FALL-OUT FROM THE CRISIS FOR THE REAL ECONOMY AND THE NATURAL RATE OF INTEREST?

Eva Ortega
Banco de España
Panel 1: Scars or scratches: how damaging is the fall-out from the crisis for the real economy and the natural rate of interest?

- How strong is the impact of the crisis on potential output?
- Are hysteresis scars deeper in Europe than in the US?
- How did the crisis interact with more secular trends such as the productivity slowdown and population ageing?
- How low is the natural rate in the new normal?
- How much debt overhang is still there?
Panel 1: Scars or scratches: how damaging is the fall-out from the crisis for the real economy and the natural rate of interest?

- How strong is the impact of the crisis on potential output?
- Are hysteresis scars deeper in Europe than in the US?
- How did the crisis interact with more secular trends such as the productivity slowdown and population ageing?
- **How low is the natural rate in the new normal?**
- How much debt overhang is still there?
Panel 1: Scars or scratches: how damaging is the fall-out from the crisis for the real economy and the natural rate of interest?

- How strong is the impact of the crisis on potential output?
- Are hysteresis scars deeper in Europe than in the US?
- How did the crisis interact with more secular trends such as the productivity slowdown and population ageing?
- How low is the natural rate in the new normal?
- How much debt overhang is still there?
HOW LOW IS THE NATURAL RATE?

The natural rate: equilibrium real interest rate: equilibrium real return on capital, in line with trend growth, demographics, risk aversion → Beyond business cycle. Metric towards which real rate gravitates in the long run.

Linking natural rate gaps to business cycle and inflation → setting $r = r^*$ stabilises output gap and inflation. E.g. Laubach-Williams (2003) model:

$$r^*_t = g_t \text{ (related to long-term growth)}$$
$$+ z_t \text{ (related to other factors, including risk aversion)}$$

aggregate demand equation: output gap as a function of $r - r^*$

Phillips curve: inflation as a function of output gap
HOW LOW IS THE NATURAL RATE?

Cross-country historical estimates of $r^*$ (%)

Econometric estimates of $r^*$ for euro area (in %)


THE DETERMINANTS OF THE DECLINE IN $R^*$: DEMOGRAPHY

Fertility rates in %

Life expectancy at birth

Old-age dependency ratio in %

Euro area. Source: European Commission.
THE DETERMINANTS OF THE DECLINE IN $r^*$: DEMOGRAPHY

$r^*$ equates demand and supply for capital which, in turn, are affected by demographics:

1. Lower fertility rates = lower labour input $\rightarrow$ ↑ capital per worker $\rightarrow$ ↓ mg product of capital $\rightarrow$ ↓ investment $\rightarrow$ ↓ $r^*$

2. Higher life expectancy $\rightarrow$ ↑ saving in anticipation of a longer retirement period $\rightarrow$ $r^*$ ↓

3. Rising proportion of old age, dissavers $\rightarrow$ ↓ savings $\rightarrow$ ↑ $r^*$

Literature: #1 and #2 dominate $\rightarrow$ Ageing $\rightarrow$ $r^*$ ↓
THE DETERMINANTS OF THE DECLINE IN $R^*$: DEMOGRAPHY

THE DETERMINANTS OF THE DECLINE IN R*: NON-GROWTH COMPONENT

Demographic trends will continue $\rightarrow$ lower $r^*$ projected using OLG models


A turn to higher $r^*$ could come then from, e.g.:
- lower risk aversion
- technology-driven boost in productivity or growth-promoting structural reforms,
- pension reforms (affecting dependency ratio and saving decisions).
WHAT CAN POLICY DO TO REVERSE THE DECLINING TREND IN R*?

**Structural reforms** can help support productivity growth and investment

- **Product market reforms** → competition → incentives to innovate and invest in human and physical capital

- **Institutional reforms** towards more efficient public administration

- **Training and education** → lower skill mismatches → higher diffusion of technology and growth of more innovative and productive firms

- In the euro area, **completing Banking Union** → more efficient allocation of financial resources (→ enhance potential growth) and attenuate flight to safety (→ increase the equilibrium level of the safe rate of interest)
WHAT CAN POLICY DO TO REVERSE THE DECLINING TREND IN R*?

Demographic trends can be affected by policies:

- Increases in the retirement age can mitigate the decrease in r* due to ageing
- Changes in the pension system replacement rates
- Public policies that encourage labor force participation and human capital accumulation → boost investment rates and sustain the productivity of older age cohorts
Thank you for your attention