

Bank of England

Panel Discussion on Long-term R*

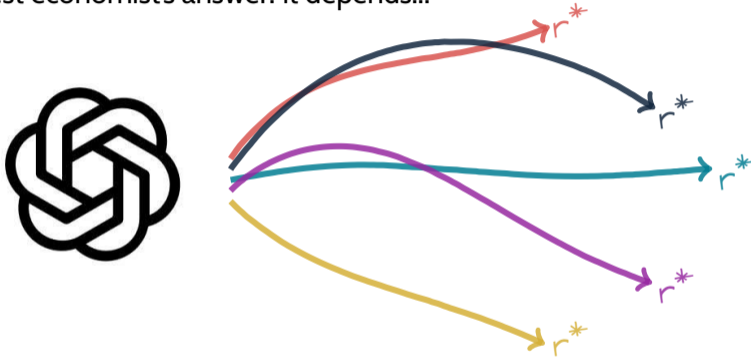
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24 June 2026

*The views expressed in this paper are solely those of the author and should not be taken to represent those of the Bank of England or its committees.



What's the Effect of AI on r^* ?

- ▶ The honest economist's answer: it depends...



- ▶ But important to understand assumptions and underlying mechanisms

What's r^* Anyway?

“The ‘equilibrium interest rate’ is the interest rate that, if the economy starts from a position with no output gap and inflation at the target, would sustain output at potential and inflation at the target.

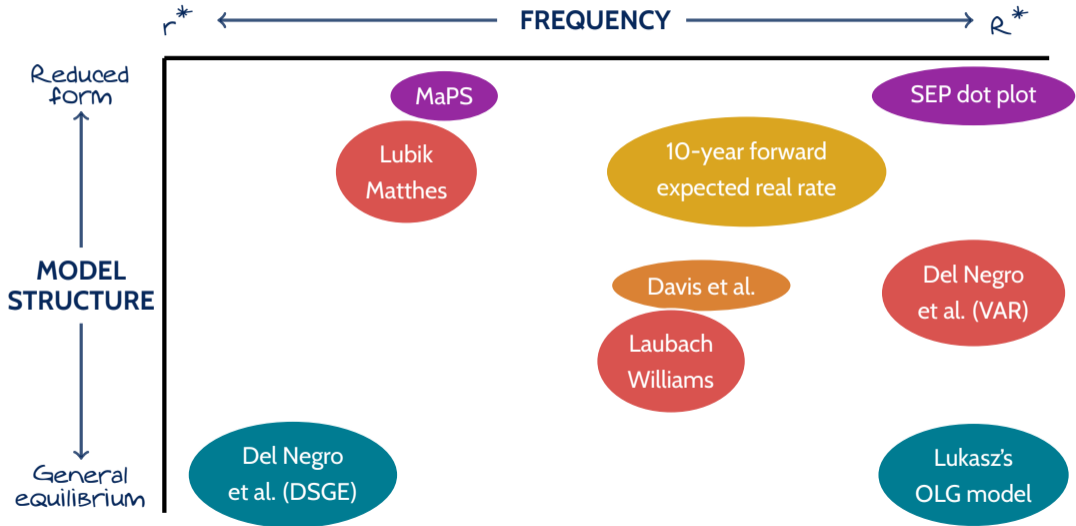
August 2018 Inflation Report

- ▶ Two notions based on a trend/cycle decomposition (neoclassical synthesis):

$$\underbrace{r^*}_{\text{Equilibrium real rate}} = \underbrace{R^*}_{\text{Trend real rate}} + \text{Cyclical stuff}$$

- ▶ In practice it matters, as
 - * Different models use different notions
 - * Response of r^* depends crucially on the nature of shocks

Many Models, Many r^*



AI, Productivity, and r^*

- ▶ Many factors may be at play, but productivity is the most prominent — and most debated
- ▶ How does productivity affect r^* ? The nature of the shock and its profile matter (a lot)

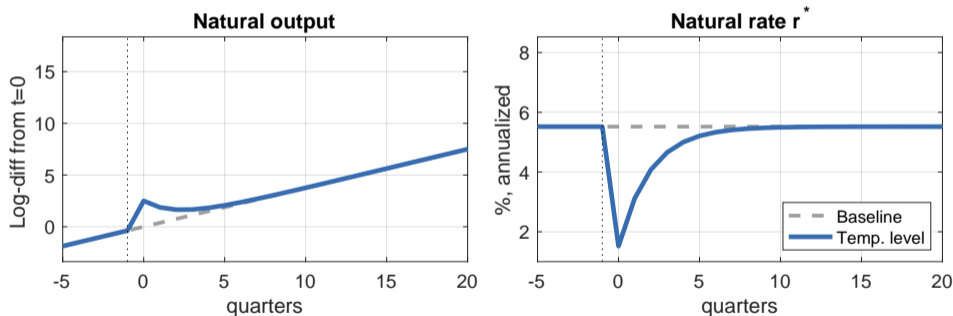


FIGURE 1: TEMPORARY SHOCK TO THE LEVEL OF TFP

AI, Productivity, and r^*

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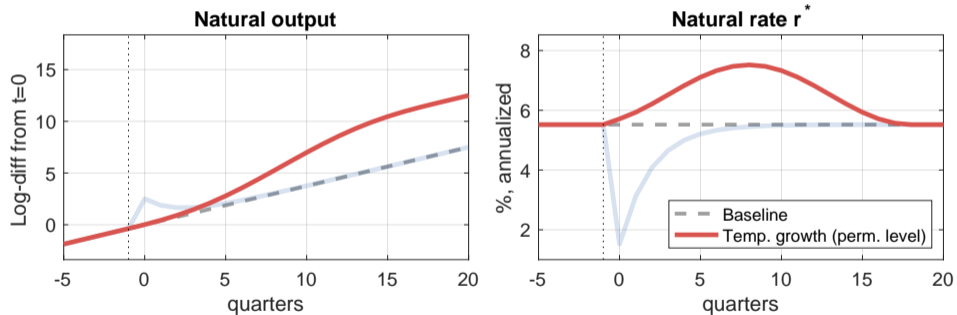


FIGURE 2: TEMPORARY SHOCK TO THE GROWTH RATE OF TFP

AI, Productivity, and r^*

- ▶ Many factors may be at play, but productivity is the most prominent — and most debated
- ▶ How does productivity affect r^* ? The nature of the shock and its profile matter (a lot)

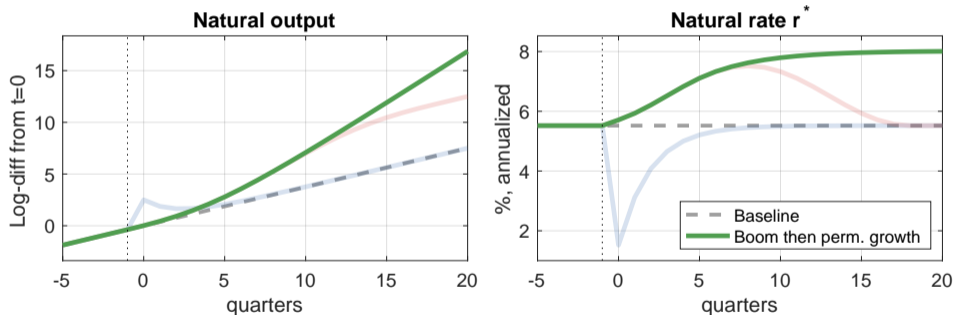
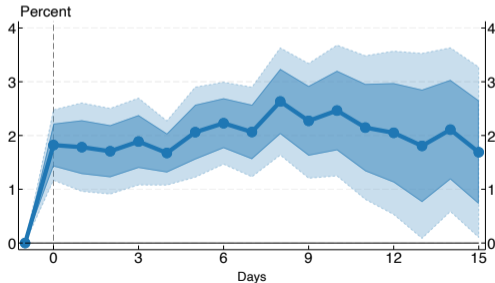


FIGURE 3: PERMANENT SHOCK TO THE GROWTH RATE OF TFP

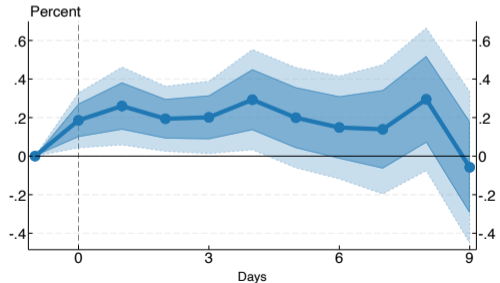
In the Data

- ▶ **Ostry, Vicquéry and Zaratiegui** build high-frequency Mag-7 shocks around earnings releases
 - * Event study tradition: change in equity prices around earnings announcements
 - * Positive earnings news might signal upward revisions in expected productivity

(A) S&P500



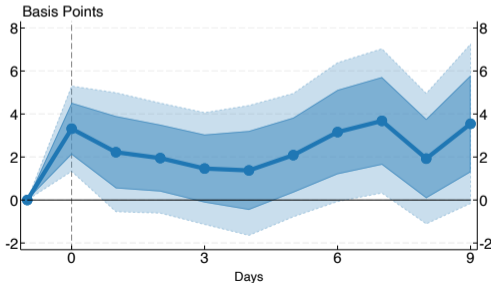
(B) DOLLAR EXCH. RATE



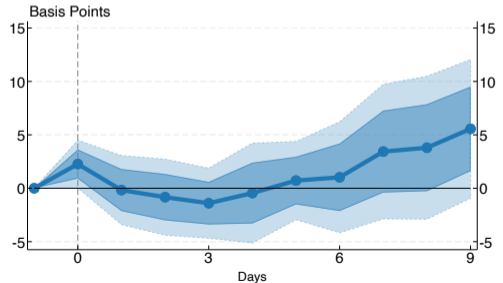
In the Data

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(A) INFLATION



(B) 10-YEAR TREASURY YIELD



In the Data

- ▶ **Ostry, Vicquéry and Zaratiegui** build high-frequency Mag-7 shocks around earnings releases
 - * Event study tradition: change in equity prices around earnings announcements
 - * Positive earnings news might signal upward revisions in expected productivity
- ▶ Consistent with higher expected productivity
 - * Demand front-loads the productivity gain → equity up, exchange rate up, inflation up
 - * Different from unconditional correlation
- ▶ Real long-term yield broadly flat → Consistent with a temporary shock to TFP growth

AI and r^* : Beyond Productivity

Push R^* Down

- ▶ **Investment-specific tech:** cheaper capital goods, effect on r^* ambiguous, likely small (Sajedi–Thwaites)
- ▶ **Distribution of gains:** gains accrue to high-savers, lifting aggregate saving (Mian–Straub–Sufi glut)
- ▶ **Displacement risk:** job-loss fears raise precautionary saving (Aiyagari)
- ▶ **Market power:** higher markups, monopoly rents dampen investment
- ▶ **Safe-asset demand:** uncertainty lifts demand for safe assets (Caballero–Farhi)

Push R^* Up

- ▶ **Automation / capital intensity:** increase in capital share, lifts capital demand (Acemoglu–Restrepo; Moll et al.)
- ▶ **Wealth effects / animal spirits:** persistent asset-price gains drain the saving pool
- ▶ **Fiscal:** AI-race public investment and subsidies raise public borrowing, bidding up R^*

In sum... What's the Effect of AI on r^* ?

