

CBO crowding out framework

Discussion by Nicolas Crouzet (Kellogg)

SIEPR conference, Summer 2025

The question

When the government deficit increases, by how much does private investment fall?

“crowding out”

↑ deficits → ↑ gov't debt → ↑ interest rates → ↓ private investment

Why do we care?

short-run: reduces fiscal multipliers

long-run: depresses potential output

The old CBO framework

(Investment) (Deficit) (Private savings)

$$I \quad + \quad D \quad = \quad S$$

$$dI \quad + \quad dD \quad = \quad dS$$

$$\underbrace{\frac{dI}{dD}}_{=-0.57} \quad + \quad 1 \quad = \quad \underbrace{\frac{dS}{dD}}_{=0.43}$$

The new CBO framework

$$\textcircled{1} \quad I = I(r, \dots)$$

$$\textcircled{2} \quad S = S(r, \dots)$$

$$\textcircled{3} \quad dD = \underbrace{dD_u}_{\text{aggregate demand stimulus}} + \underbrace{dD_s}_{\text{incremental savings}}$$

$$\text{"crowding out"} = \underbrace{\frac{dD_u}{dD}}_{\text{deficits} \rightarrow \text{demand (policy-specific)}} \times \underbrace{\frac{dr}{dD_u}}_{\text{demand} \rightarrow \text{rates}} \times \underbrace{\frac{dI}{dr}}_{\text{rates} \rightarrow \text{investment}}$$

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$$\frac{dI}{dD} = \underbrace{\frac{dI_u}{dD}}_{\substack{\text{direct effect on investment} \\ \text{policy-specific}}} + \text{"crowding out"}$$

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New framework

$$\frac{dI}{dD} = \underbrace{\frac{dI_u}{dD}}_{\text{direct effect on investment policy-specific}} - 0.65 \times \underbrace{\frac{dD_u}{dD}}_{\text{effect on aggregate demand (policy-specific)}}$$

Comments

1. What do we know about $\frac{dI}{dr}$?
2. Short- vs. long-run

Comment 1: what do we know about $\frac{dI}{dr}$?

$\frac{dI}{dr}$ is a key input into the new framework:

$$\text{crowding out} = \frac{\frac{dI}{dr}}{\frac{dS}{dr} - \frac{dI}{dr}} \times \underbrace{\frac{dD_u}{dD}}_{\text{policy-specific}}$$

Sensitivity of aggregate investment to the cost of capital (loosely speaking)

In new framework, = -1.1

(100bps increase in cost of capital \rightarrow -110bps decline in I/Y_{pot})

What does the literature say?

Comment 1: what do we know about $\frac{dI}{dr}$?

$$\frac{d(I/Y^*)}{dr}$$

Crowding-out
coeff.

Note: Column 1 reports responses to different components of the cost of capital (risk-free rates, credit spreads).

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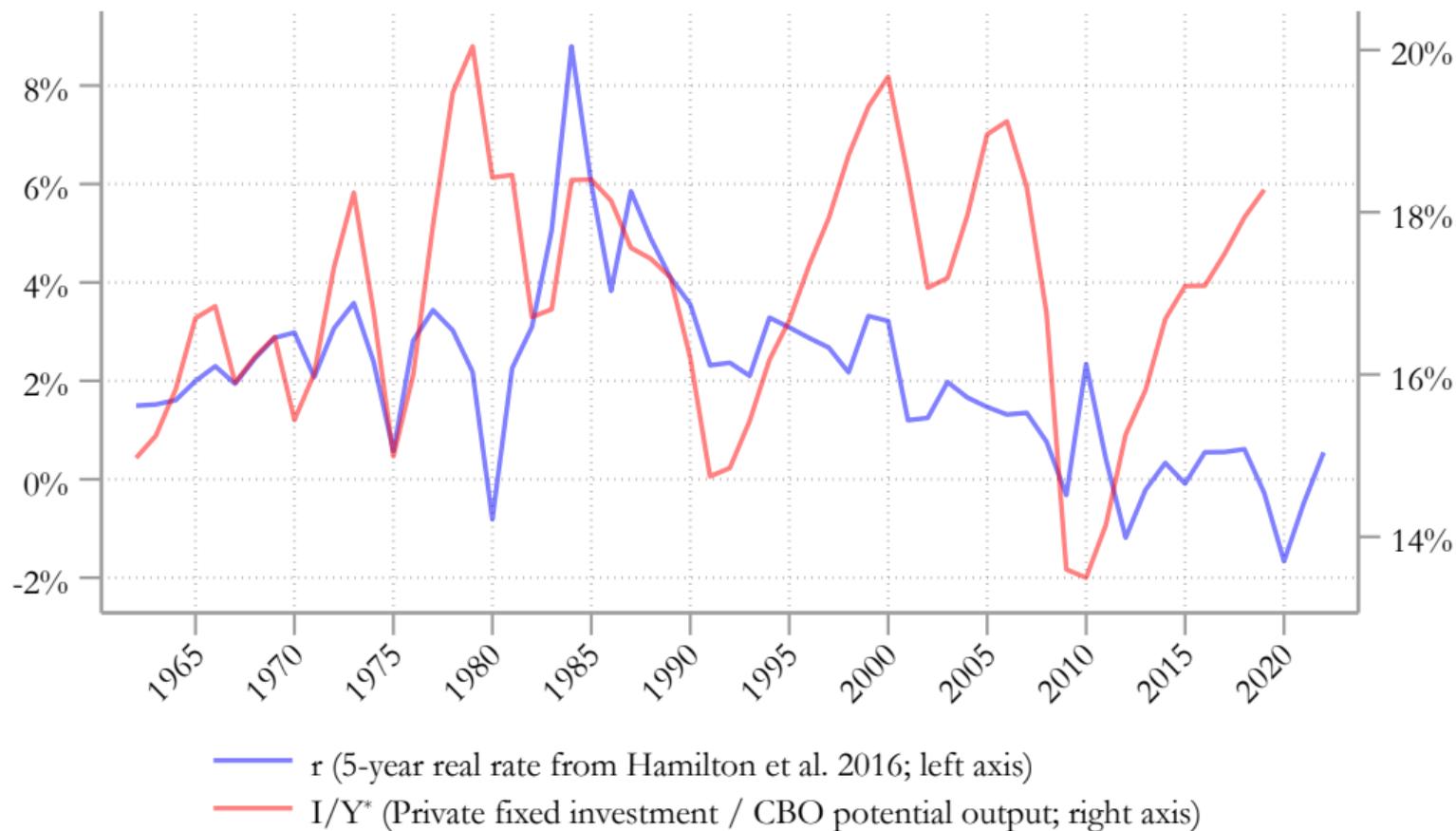
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Aggregate r and I/Y^*



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Estimated structural investment models		
Winberry (2020): Q-theory + fixed adjustment costs	-0.7	-0.5
Crouzet and Tourre (2023): Q-theory + financial constraints	-1.4	-0.7

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Some issues I'm sweeping under the rug

how to measure r ?

(Aggregate vs. firm-level? Debt vs. equity?)

how state-dependent is $\frac{dI}{dr}$?

(Recessions vs. expansions? Deficit composition?)

Still, bottom line: estimates range from -0.2 to -2.5

\implies crowding-out coefficient range of -0.3 to -0.7

acknowledge & quantify this uncertainty when reporting effects

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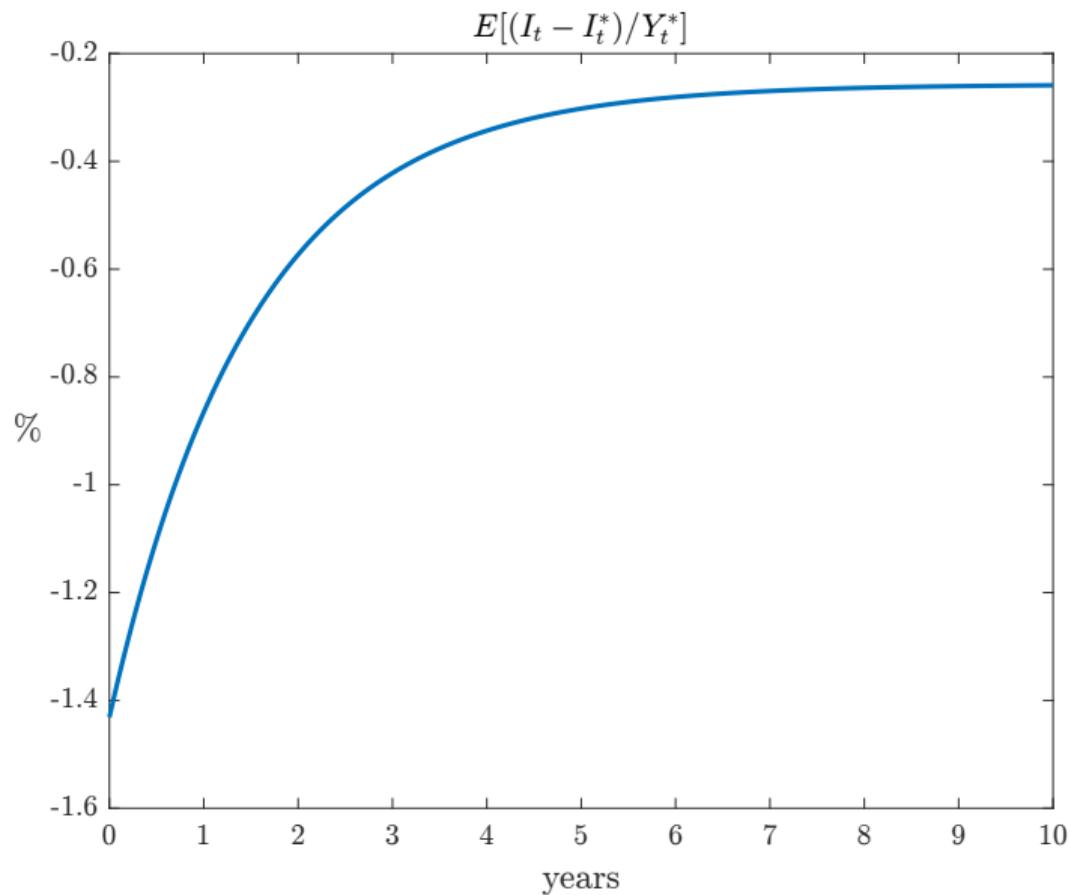
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Response of I/Y^* to a 100bps shock to r in Crouzet and Tourre (2023)



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Anticipation effects; need more than “repeated static” model

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Channel: deficits may displace not just capex, but also R&D/intangible investment

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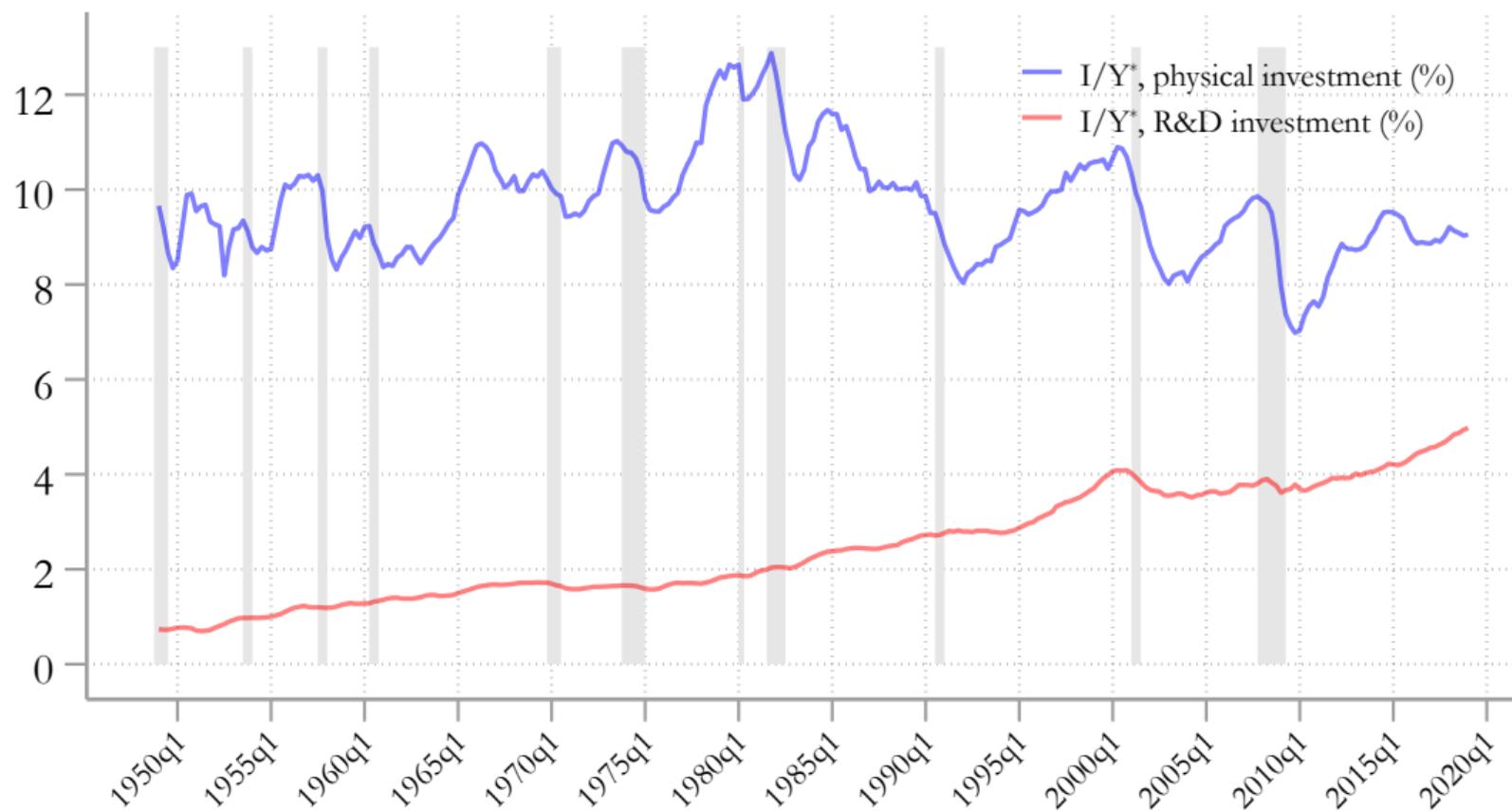
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I/Y^* for physical vs. R&D investment



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Theoretical work linking crowding out and innovation is underdeveloped

Back of the envelope: if R&D spending is only 25% as rate-sensitive as capex, 100bps increase in $r \rightarrow$ 5bps fall in long-term growth rate

Conclusion

Clear improvement over old framework

- policy-specific effects

- decomposition between direct effects and crowding out

Wishlist

- confidence interval around point estimate reflecting current research

- maybe, articulate a more complete model? That is, what are $I(r, \dots)$ and $S(r, \dots)$?

 - link short-, medium and long-term effects