

Are negative nominal interest rates expansionary?

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This paper

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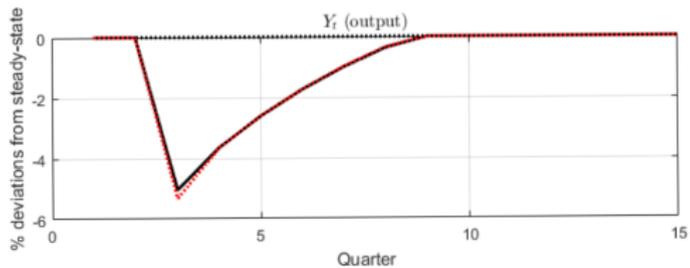
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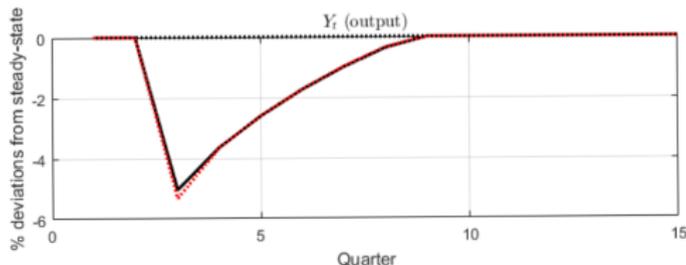
- ▶ Asks: Are negative interest rates expansionary?
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- ▶ Proposes a model to analyze the effect of negative policy rates when there is no pass through:
 - ▶ patient and impatient households in a NKM (based on Benigno, Eggertsson and Romei, 2014)
 - ▶ financial sector with reserves as input into the loan production function (based on Curdia and Woodford, 2011)
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- ▶ Finds: negative rates are not expansionary

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Why are negative rates not expansionary?

- ▶ No expansionary effect via intertemporal substitution
 - ▶ The savers' interest rate can't move
 - ▶ The borrowers' interest rate can only move up (depends on: 1) the funding costs - fixed; 2) loan production costs - can only go up)

Main result: Negative policy rates are contractionary (cont.)

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- ▶ Key assumptions:
 - ▶ ZLB on deposit rates
 - ▶ $\frac{\partial^2 \Gamma}{\partial L \partial \pi}(\pi_t, L_t, \cdot) < 0$, i.e. the deposit-loan spread decreases in profits

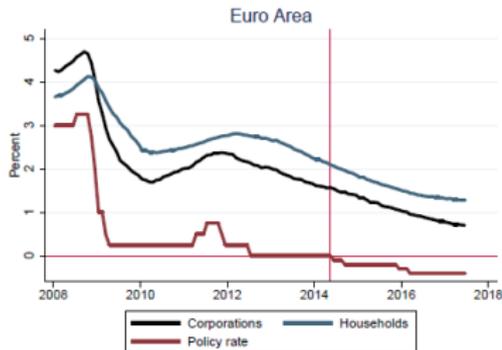
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- ▶ Unclear:
 - ▶ Aggregate wealth effects: abstracted from currently
 - ▶ Redistributive effects: due to the particular way banks' profits, loan production "costs" and seniorage are allocated (to savers)

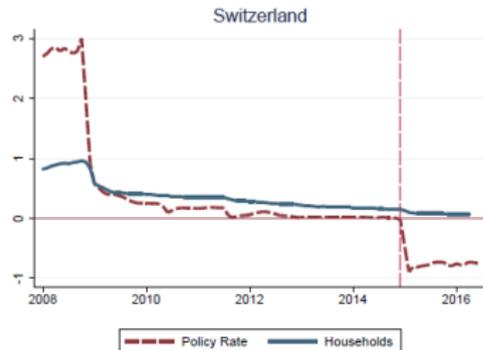
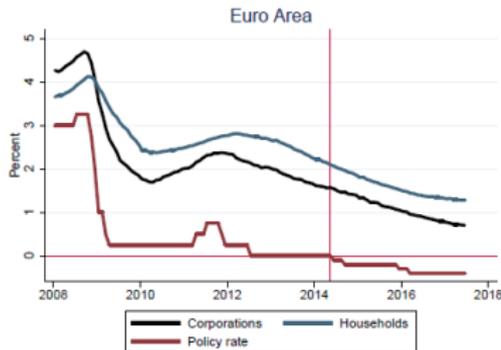
Comment 1: Data: On the pass through

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 - ▶ Generates negative effect on **banks profits**
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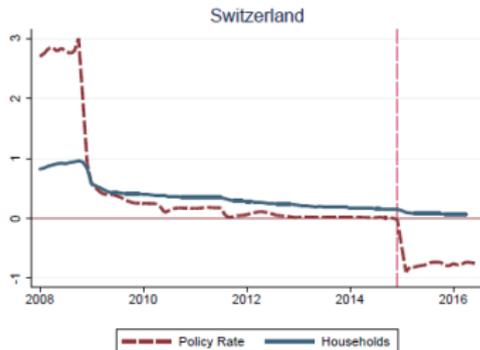
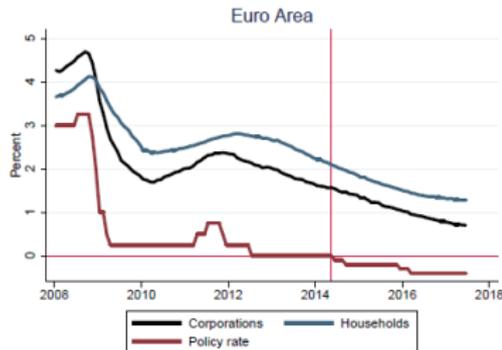
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- ▶ However banks have other forms of income besides the interest rate
- ▶ Basten and Mariathan 2017: Using the Swiss negative interest rate policy as a quasi-experiment, they show that negative policy rates did **not** lead to lower profit margins (due to fees)

Comment 2: Model: Missing channels?

Other channels, that may be relevant in practice but are missing

- ▶ effect on bank profits through
 - ▶ valuation effects (+)
 - ▶ compression of net interest rate margins (-)

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- ▶ signaling effect by the central bank (+)

Comment 3: Model: Policy space

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- ▶ if $i^s > i^r$ holds in normal times, i.e. if banks are non-satiated in reserves, then negative rates are **initially expansionary**

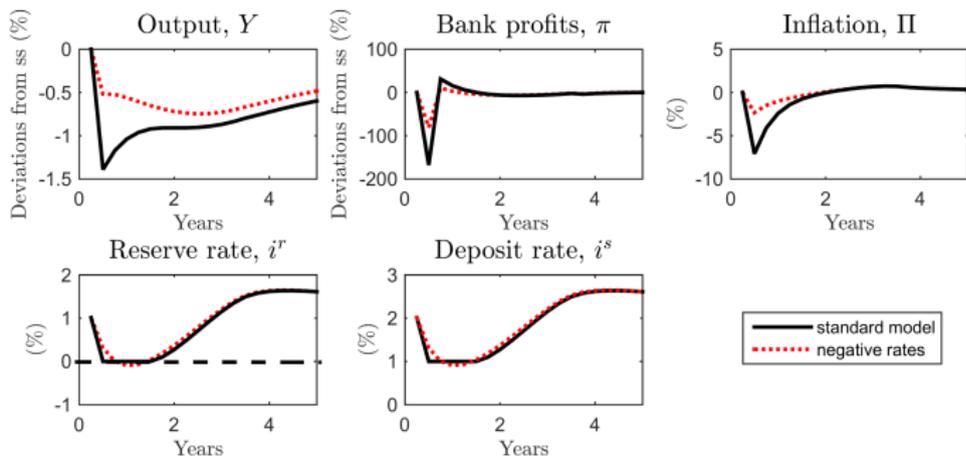


Figure: Arce, Nuño, Thaler and Thomas (2017)

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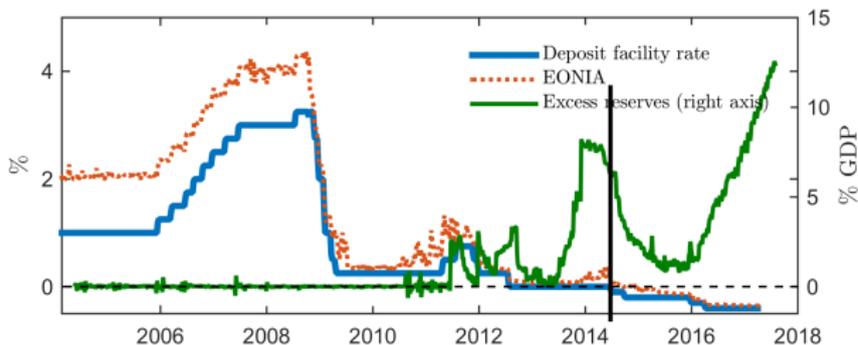
- ▶ implies an **increase in the deposits-reserve rate spread**
 - ▶ since the deposit rate is bounded at 0
- ▶ requires a **reduction in the amount of reserves**
 - ▶ the increase in the deposit-reserve spread makes reserves less attractive

Comment 4: Model: On the choice set of the central bank (cont.)

- ▶ In the model: *reserves* ↓ ⇔ *deposit - reserve spread* ↑

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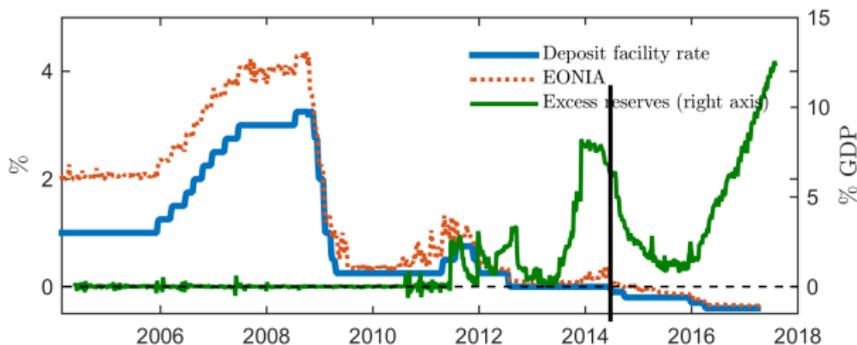
- ▶ In the model: $\text{reserves} \downarrow \Leftrightarrow \text{deposit - reserve spread} \uparrow$



- ▶ However the ECB seems to be able to control the reserve rate **independently** of the amount of reserves

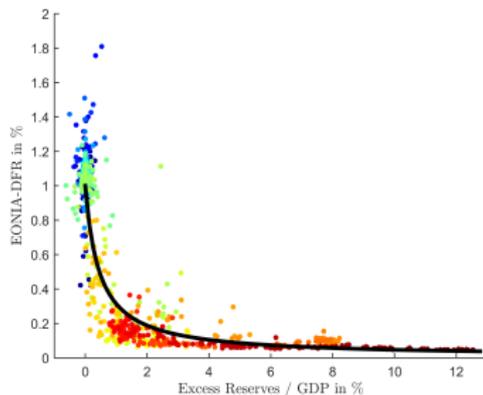
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- ▶ However the ECB seems to be able to control the reserve rate **independently** of the amount of reserves
- ▶ In the data: $\text{reserves} \downarrow \not\leftrightarrow \text{deposit - reserve spread} \uparrow$
 - ▶ unnecessary
 - ▶ weakens the main result given the current specification of Γ

Comment 4: Model: On the choice set of the central bank (cont.)



- ▶ *reserves* \uparrow \Leftrightarrow *interbank - reserve spread* \downarrow
- ▶ Arce, Nuño, Thaler and Thomas (2017) explain this pattern with search friction in the interbank market and use it to explain a novel transmission channel of QE

Minor comments

- ▶ What would change if the central bank did not operate pay-as-you-go?
- ▶ Why not use nonlinear perfect foresight solution?
- ▶ The assumption that cash and reserves are not substitutes is not innocuous (p. 22). If they were perfect substitutes negative rates would be irrelevant.
- ▶ Banking systems with less deposit finance should be less affected by the ZLB on deposits. To measure this one needs to use consolidated banking data (i.e. net of interbank liabilities). Table 2 seems to use unconsolidated data (at least for the Euro Area)
- ▶ Calibrate the reserve satiation level differently: when interbank rates equal deposit facility rates (≈ 4 of GDP for the Euro area)
- ▶ Typo (sign) p. 24: “Whenever $i^s > i^r \dots$ ”
- ▶ Banks' profits π_t and the natural rate r_t^e are undefined in the system of equations in the appendix on p. 46, log-linearized equation 44 is missing on p. 48
- ▶ L_t denotes both labor and loans