

Active and Passive (Un)conventional Monetary and Fiscal Policies for Debt Stability

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- At the same time, large scale asset purchase programmes continued
- We investigate a novel potential way of achieving debt stability - **Quantitative Easing** - and compare it with existing alternatives

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 - Conventional passive monetary policy. Accommodates the inflation needed for debt stabilization

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- ...while together with the GE effects QE can shift a contractionary debt shock in the case of passive fiscal policy to an expansionary one

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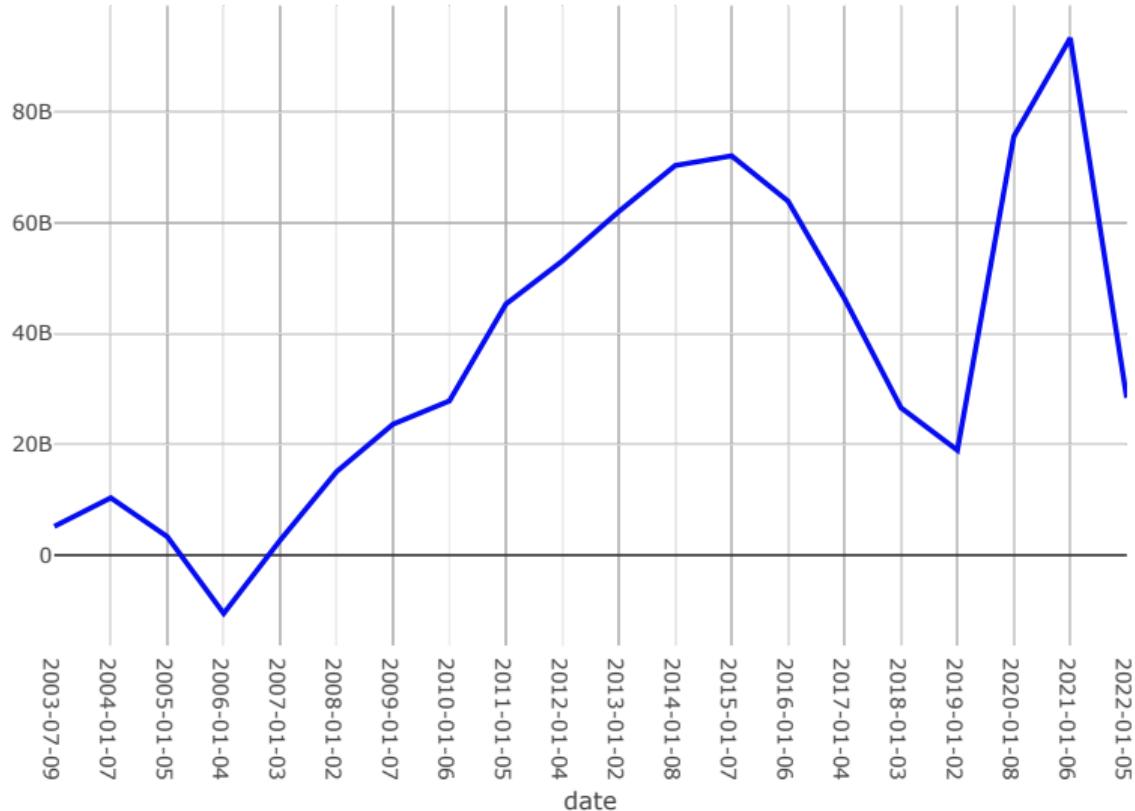
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- We calculate weekly revenue as

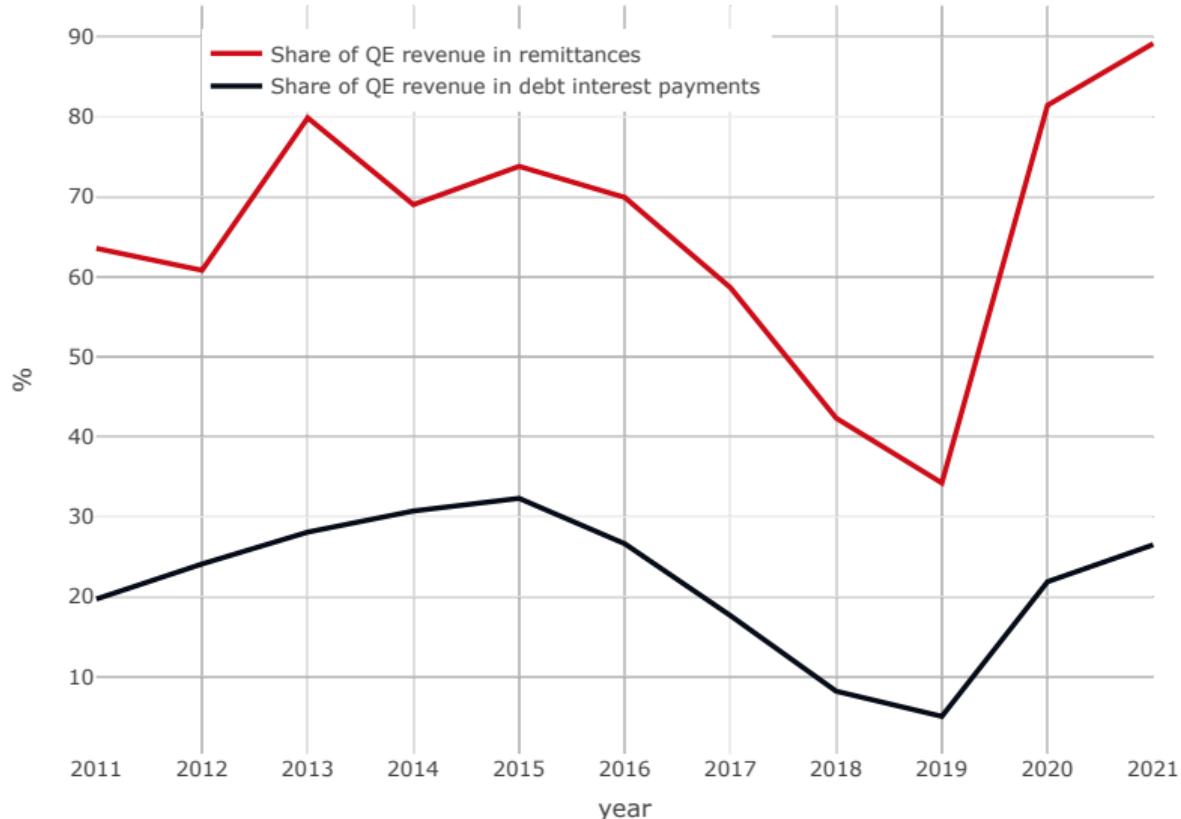
$$\sum_{i=1}^n \frac{\text{BondsParValue}_{i,t} \times (\text{Coupon}_{i,t} - \text{ReservesRate}_t)}{\text{NumberOfWeeksInYear}}$$

for week t and CUSIP i

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- Fiscal policy: Distortionary taxation that responds to debt-to-gdp deviations

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- Their balance sheet is:

$$\underbrace{Q_t S_t + P_t^B B_t^b + M_t}_{\text{Assets}} = N_t + \underbrace{D_t}_{\text{Liabilities}}$$

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- Reserves are risk-free asset: $\omega = 0$

Government and Quantitative Easing

- Government budget constraint:

$$\begin{aligned} P_t^B B_t + \tau_t^L W_t L_t + \tau_t^C P_t C_t + \underbrace{R_{b,t} q_{t-1} B_{t-1}^{CB} - R_{m,t} M_{t-1}}_{\text{QE revenues}} \\ = (1 + \rho P_t^B) B_{t-1} + P_t G_t + P_t Z_t \end{aligned}$$

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- QE evolves as:

$$\hat{b}_t^{CB} = \rho_{b^{CB}} \hat{b}_{t-1}^{CB} + (1 - \rho_{b^{CB}}) \gamma_{QE} (R_t^B - R_t)$$

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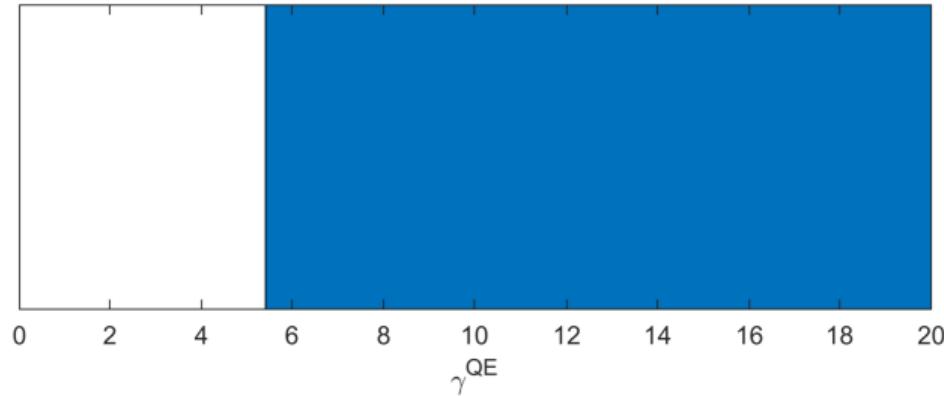
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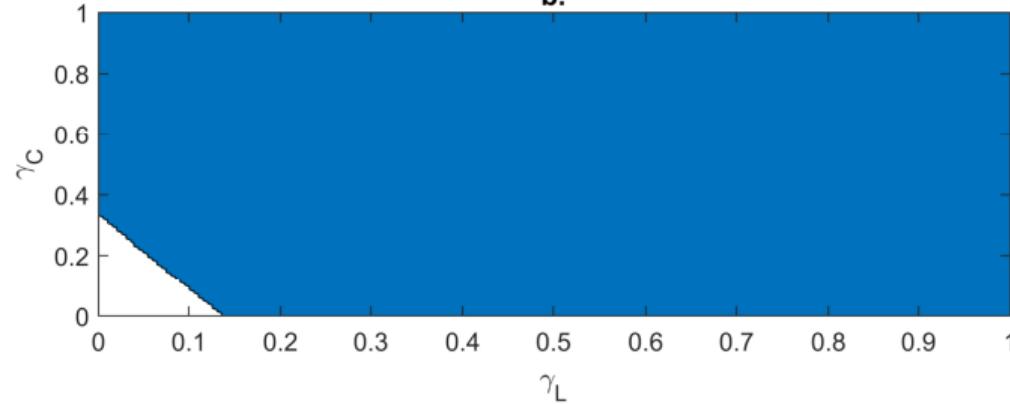
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 - As more debt is issued and Δ increases, QE loosens more the constraint

Stability Regions

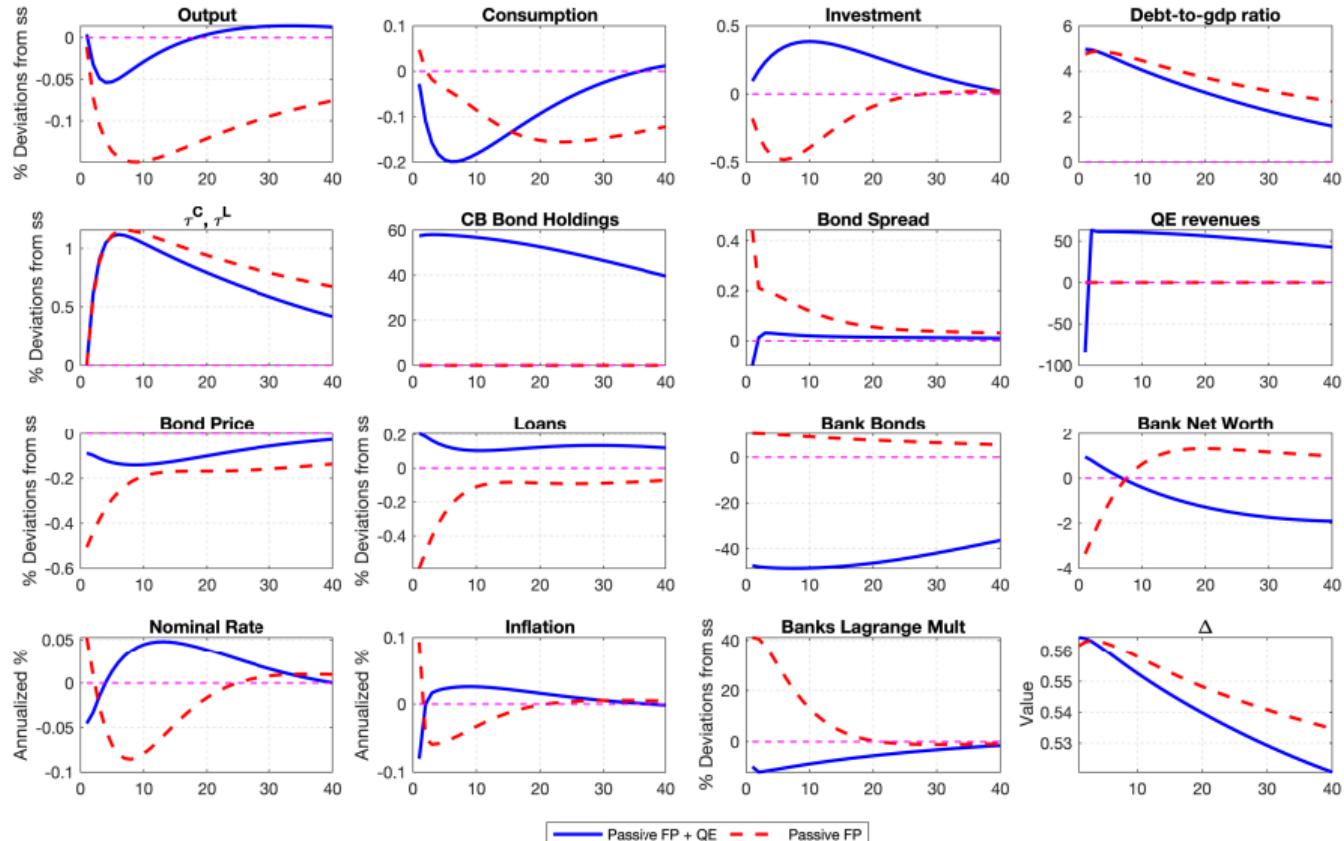
a.



b.



IRFs to a Debt Shock



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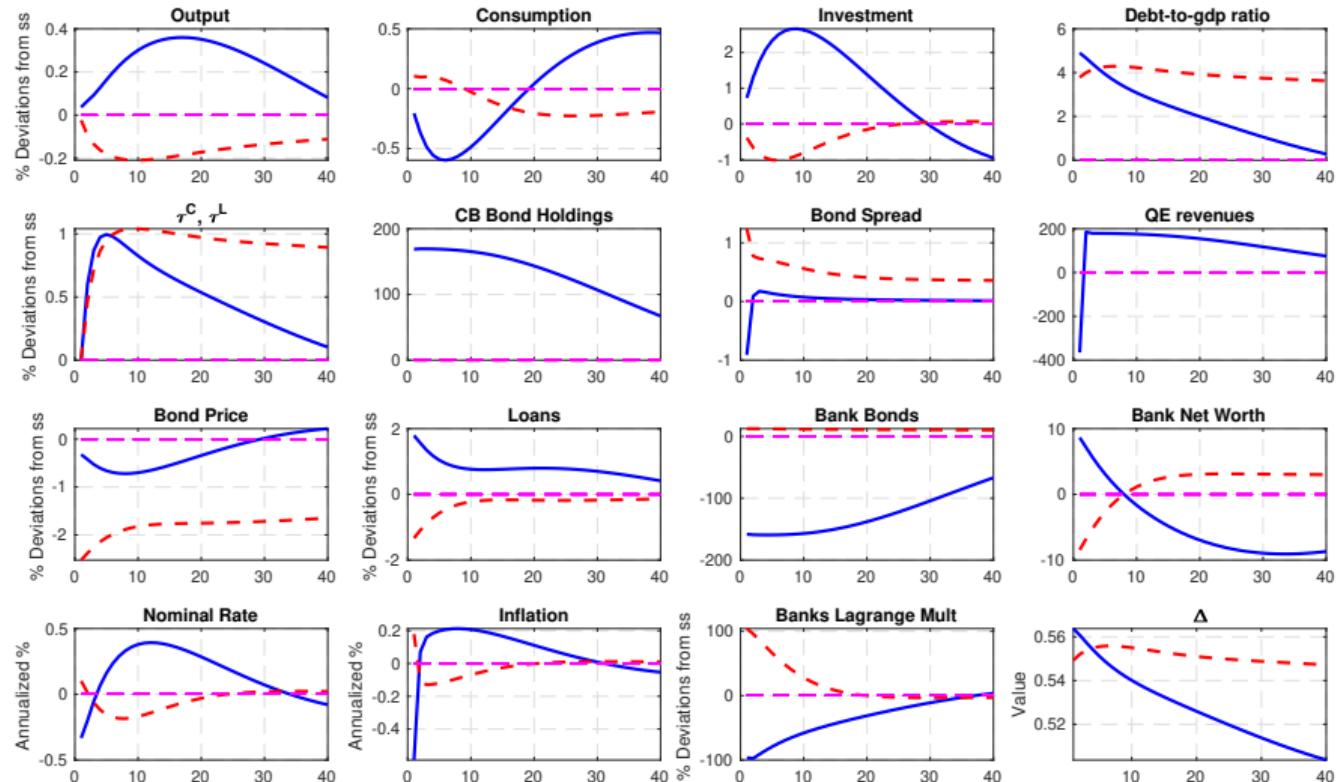
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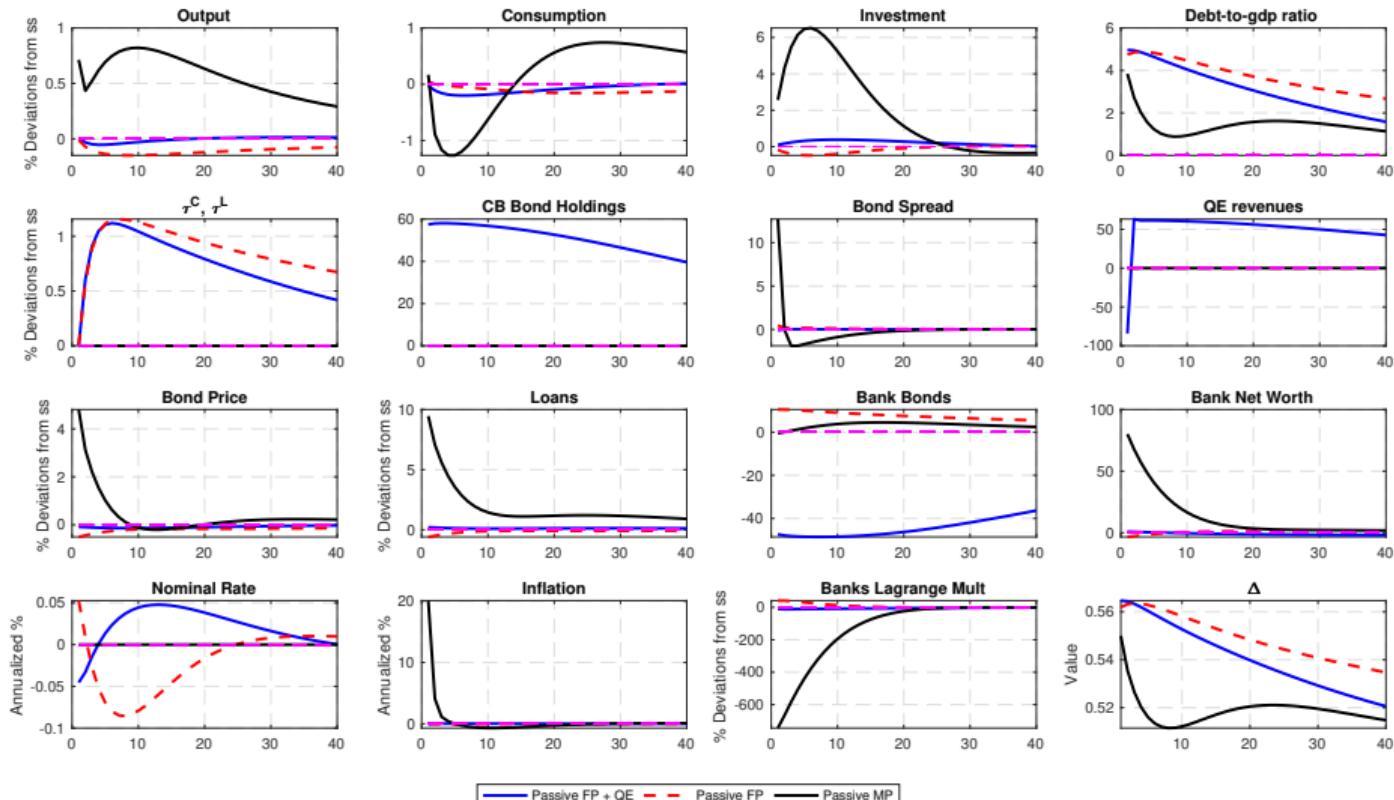
$$N_{t+1} = R_{k,t}Q_t S_t + R_{b,t}P_t^B B_{j,t-1}^b(1 - \Delta_t^d) + R_{m,t}M_t - R_t D_t$$

$$\text{where } \Delta_t^d = \Delta^d + \omega^d \left(\frac{P_t^B B_t}{Y_t} - \frac{P_t^B B}{Y} \right)$$

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IRFs to a Debt Shock, Passive MP



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- QE with fiscal policy outperforms a fiscal consolidation only scenario in response to a debt shock
- Passive conventional monetary policy responses are superior to QE after a debt shock; although hard to justify institutionally

Related Literature

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Bianchi, Faccini & Melosi (2021), Elenev et. al (2022)

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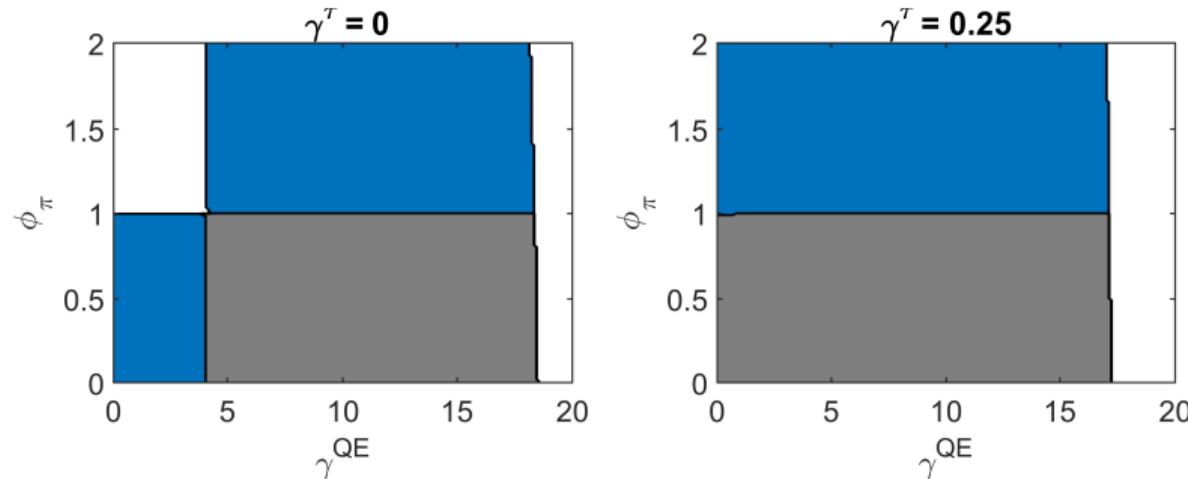
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Determinacy: QE, taxation and interest rate rules



Blue area: determinacy, white area: no stable solution, grey area: indeterminacy

Determinacy 3D Graph

