

Optimal Monetary Policy under Dollar Pricing

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- 6 Are there gains from a currency union (**Eurozone**)? (Mundell'61)

Relation to the Literature

- Empirical evidence:

- prices are sticky in dollars: Gopinath (2016), Goldberg & Tille (2008), Gopinath & Rigobon (2008), Gopinath, Itskhoki & Rigobon (2010)
- international spillovers under DCP: Casas, Diez, Gopinath & Gourinchas (2017), Boz, Gopinath & Plagborg-Møller (2018), Auer, Burstein & Lein (2018), Cravino (2014), Zhang (2018)

- Theories of currency choice:

- prices are sticky in dollars: Krugman (1980), Rey (2001), Gopinath & Stein (2017), Corsetti & Pesenti (2015), Bacchetta & van Wincoop (2005), Engel (2006), Goldberg & Tille (2008), Mukhin (2018)

- Optimal monetary policy in open economy:

- cooperative: Obstfeld & Rogoff (2002), Devereux & Engel (2003), Engel (2011), Corsetti, Dedola & Leduc (2018), Mukhin (2018)
- non-cooperative + PCP: Clarida, Gali & Gertler (2001), Benigno & Benigno (2003), Sutherland (2004), Gali & Monacelli (2005), Faia & Monacelli (2008), De Paoli (2009), Farhi & Werning (2012)
- DCP + log preferences: Corsetti & Pesenti (2007), Goldberg & Tille (2009), Casas, Diez, Gopinath & Gourinchas (2017)

MODEL

- Continuum of small open economies (Gali & Monacelli 2005)
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 - U.S. is symmetric except for DCP
- Key assumptions:
 - 1 international prices are sticky in dollars
 - 2 foreign intermediates in production

- Consumers:

- CES consumption bundle with home bias

$$C_{it} = \left[(1 - \gamma)^{\frac{1}{\theta}} C_{iit}^{\frac{\theta-1}{\theta}} + \gamma^{\frac{1}{\theta}} \int C_{jit}^{\frac{\theta-1}{\theta}} dj \right]^{\frac{\theta}{\theta-1}}$$

- complete asset markets

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- Firms:

- Cobb-Douglas technology

$$Y_{it} = A_{it} X_{it}^{\alpha} L_{it}^{1-\alpha}$$

- Rotemberg pricing:

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- Government:

- monetary policy with commitment
- labor subsidy (\rightarrow domestic markup) + export tax (\rightarrow dynamic ToT)

OPTIMAL POLICY

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 - * changing export prices is costly
 - * private and social costs coincide
 - * under appropriate subsidy, benefits coincide too
 - * without other distortions, *laissez-faire* is efficient subject to adj. costs

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The optimal policy in non-U.S. countries:

- 1 *fully stabilizes domestic prices,*

— Generalization of Casas, Diez, Gopinath & Gourinchas (2017)

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$$P_{it}^{1-\theta} = (1-\gamma) P_{iit}^{1-\theta} + \gamma (\mathcal{E}_{it} P_t^*)^{1-\theta}$$

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The optimal policy in non-U.S. countries:

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- 3 *gives rise to a Global Monetary Cycle.* [▶ show](#)

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- Farhi & Werning (ECM'2016): risk-sharing is generically inefficient when allocation is not the first best due to “AD externality”
- Monetary policy under DCP eliminates AD externality and equalizes private and social values of transfers

- **Assumption:** focus on a case with no intermediates $\alpha = 0$ and equal inter/intra-temporal elasticities $\theta = \frac{1}{\sigma}$
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Lemma

Welfare loss function of the U.S.:

$$\mathcal{L}^{US} \approx \frac{L}{2} \mathbb{E} \sum_{t=0}^{\infty} \beta^t \left[\sigma \tilde{y}_{it}^2 + \varphi \pi_{it}^2 + \gamma \bar{\Psi} \int \tilde{s}_{jt}^2 dj \right] + t.i.p.,$$

with output gap \tilde{y}_{it} and ToT gap \tilde{s}_{jt} .

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The optimal policy in the U.S. deviates from price stabilization by responding less to domestic shocks and targeting the global ToT gap.

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- cooperative policy: $MC_{it} = 1, \forall i \neq \text{U.S.}, \int MC_{it}/\varepsilon_{it} di = 1$

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Proposition

Under $\alpha = 0$ and $\theta = \frac{1}{\sigma}$, Eurozone problem is isomorphic to the problem of the U.S. and achieves the same welfare under the optimal policy.

Conclusion

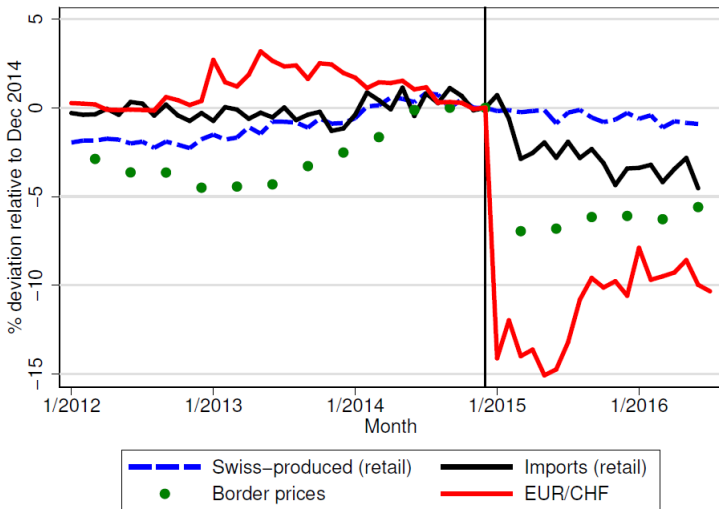
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- 3 Can **capital controls** help?
- 4 Are there gains from international **cooperation**?
- 5 Is there an “**exorbitant privilege**” from DCP for the U.S.?
- 6 Are there gains from a currency union (**Eurozone**)?

Conclusion

- ① Does U.S. monetary policy generate negative **spillovers** on the RoW?
If so, should the Fed be concerned about it?
 - **yes & yes**
- ② What is the optimal response of other countries **float vs. peg**?
 - **partial peg**
- ③ Can **capital controls** help?
 - **not much**
- ④ Are there gains from international **cooperation**?
 - **not for the U.S.**
- ⑤ Is there an “**exorbitant privilege**” from DCP for the U.S.?
 - **yes**
- ⑥ Are there gains from a currency union (**Eurozone**)?
 - **yes**

APPENDIX

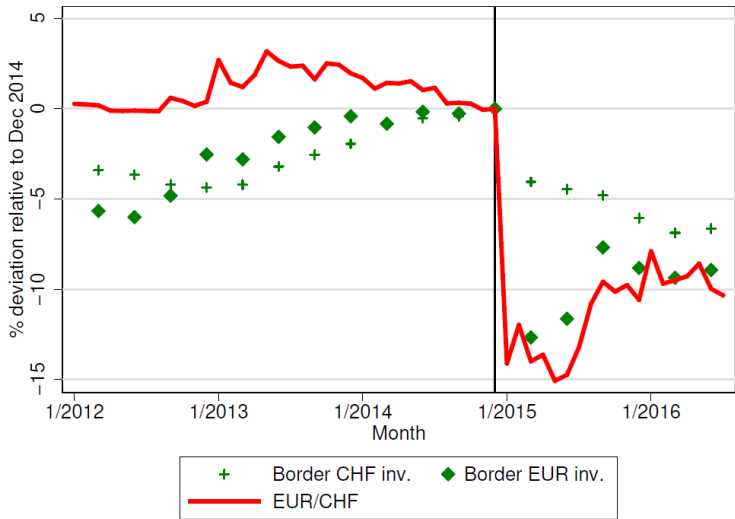
Pass-through to Border and Retail Prices



Source: Auer, Burstein, and Lein (2018)

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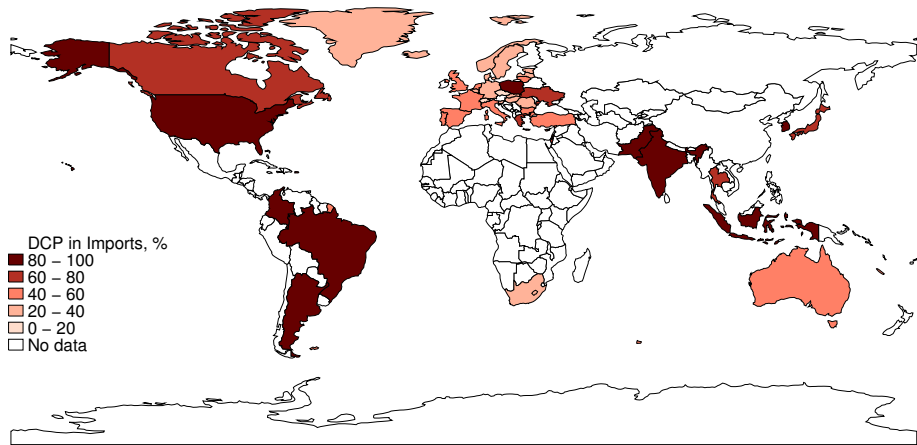
Pass-through to Border and Retail Prices



Source: Auer, Burstein, and Lein (2018)

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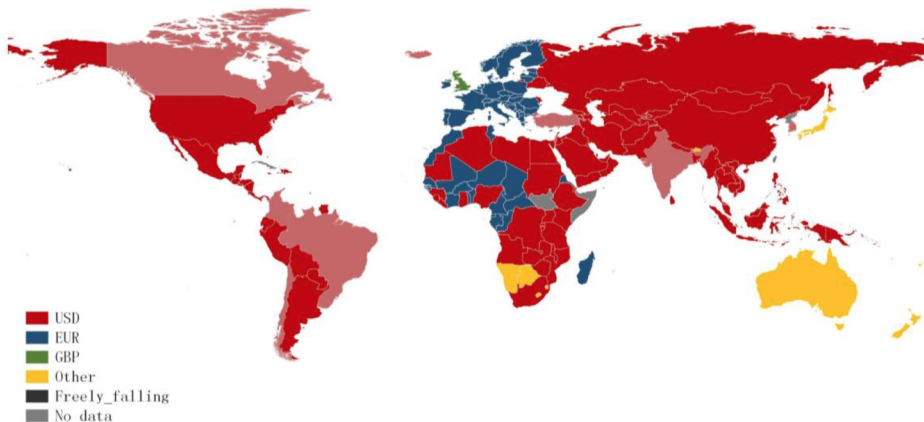
DCP in Imports



Source: Gopinath (2016)

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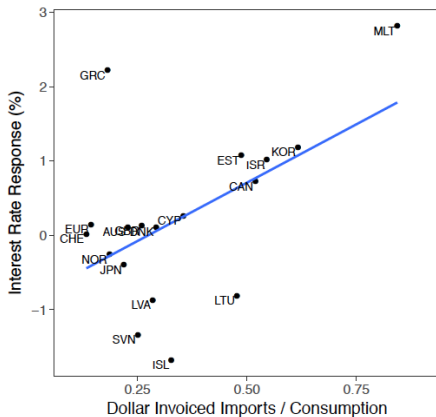
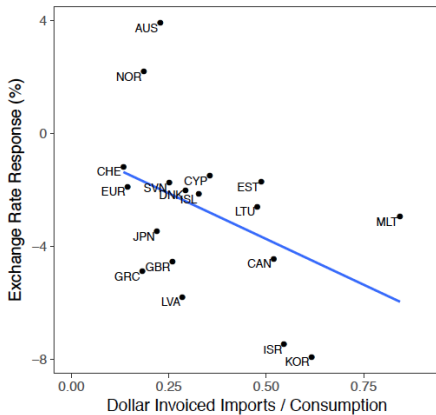
Dollar as an Anchor Currency



Source: Ilzetzi, Reinhart and Rogoff (2017)

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DCP vs. Response to Fed's Shocks



Source: Zhang (2018)

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