Reassessing the gains from monetary policy cooperation

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Kuala Lumpur, June 2013

Little Gains from Cooperation

Prior to the global financial crisis, the overwhelming view among international macroeconomists has been that the gains from international monetary policy coordination are small.

In the academic literature this view has been most forcefully stressed by the Obstfeld and Rogoff (2002). Rather than chasing some gains second-order gains, central banks should focus on keeping their own house in order.

Challenges to the Conventional Wisdom

Times of economic crisis lead to reflections on conventional wisdoms.

Highly accommodative monetary policy stance in developed countries to combat the ongoing economic stagnation has led to irritations between policymakers in developed and emerging economies.

Calls for more policy coordination frequently emerge in the press (currency wars, Abenomincs, Bernanke's US-centric justifications of US monetary policy).

Whereas the current policy discussion relates to financial market issues, many of the underlying issues apply more broadly.

Optimal Monetary Policy in Open Economies and the Origins of the Conventional Wisdom

This paper does NOT talk about financial market issues and quantitative easing.

Instead we analyse the optimal monetary policy with and without coordination in a variety of international New Keynesian Models.

We find that introducing oil into an otherwise standard model has the potential of leading to larger welfare gains from policy cooperation than previously measured in the literature.

Absent cooperation, central banks may feel tempted to influence their terms of trade; similar to the optimal tariff literature but in dynamic context and through monetary policy.

Baseline Monetary Model of Macroeconomic Interdependencies

Consider a two country model, with nominally rigid prices, complete financial markets and frictionless trade in goods.

The following five equations plus (quadratic) objective functions for the central bank summarize the model dynamics.

The open economy Phillips curves are given by:

$$\pi_{1,t} = \kappa_1 \left[x_{1,t} + \psi_1 \widetilde{rer}_t + u_{1,t} \right] + \beta E_t \pi_{1,t+1} \quad (1)$$

$$\pi_{2,t} = \kappa_2 \left[x_{2,t} - \psi_2 \widetilde{rer}_t + u_{2,t} \right] + \beta E_t \pi_{2,t+1} \quad (2)$$

$$\widetilde{rer}_t = \frac{\sigma}{1 - (\psi_1 + \psi_2)(\sigma + \varphi)} \left(x_{1,t} - x_{2,t} \right) \quad (3)$$

Baseline Monetary Model of Macroeconomic Interdependencies

$$
\begin{aligned}
x_{1,t} &= E_t\left(x_{1,t+1}\right) - \frac{1}{\sigma}\left(i_{1,t} - E_{t+1}\pi_{1,t+1} - r^n_{1,t}\right) && (4)\\
&+ \psi^*_1 E_t\left(\widetilde{rer}_{t+1} - \widetilde{rer}_t\right) \\
x_{2,t} &= E_t\left(x_{2,t+1}\right) - \frac{1}{\sigma}\left(i_{2,t} - E_{t+1}\pi_{2,t+1} - r^n_{2,t}\right) \\
&- \psi^*_2 E_t\left(\widetilde{rer}_{t+1} - \widetilde{rer}_t\right) && (5)
\end{aligned}
$$

$r^n_{1,t}$ and $r^n_{2,t}$ are the natural rates in the two countries. Shocks to technology, government spending, or preferences enter through the natural rate.

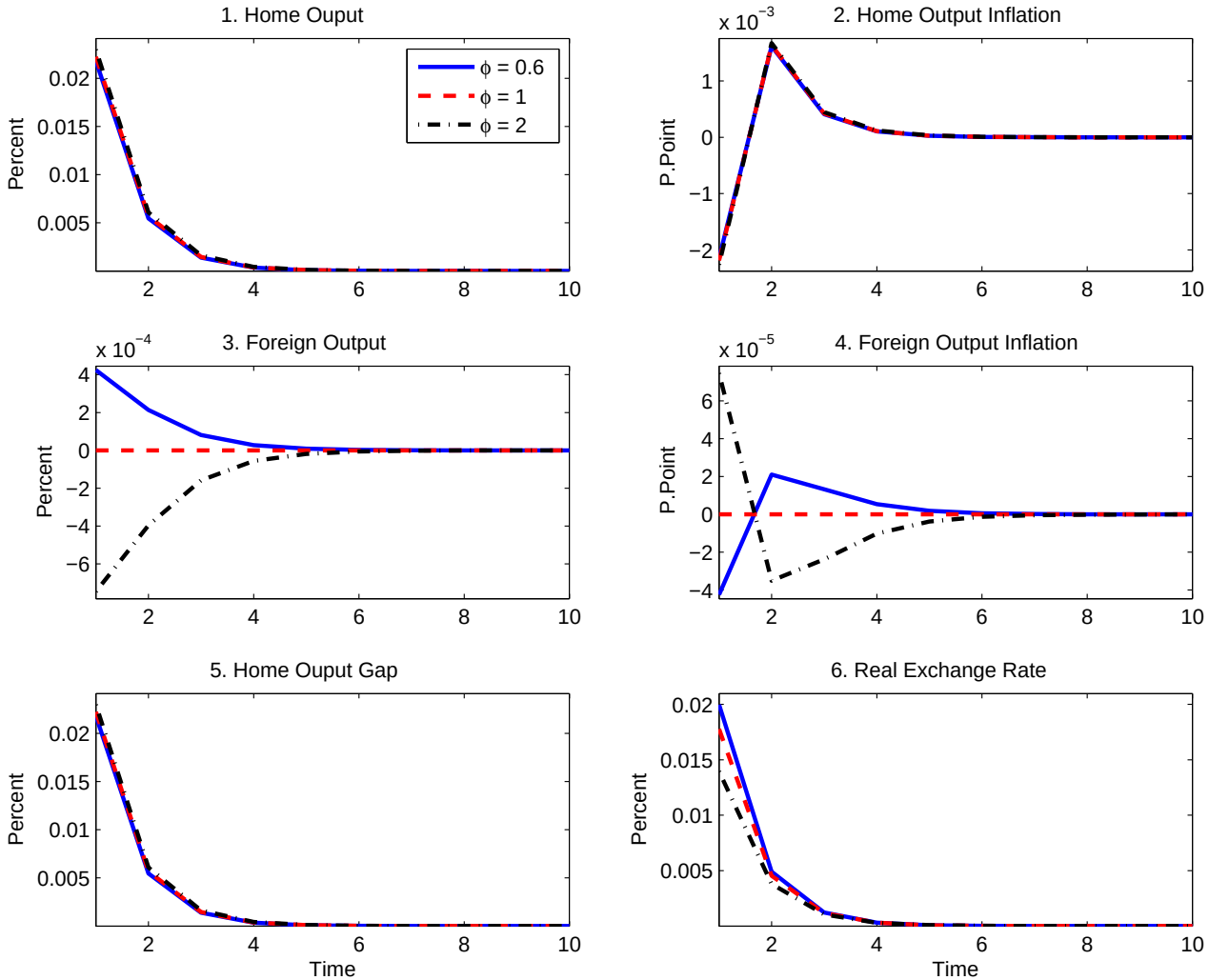
Strict Inflation Targeting

Price inflation induces welfare costs in the NKM.

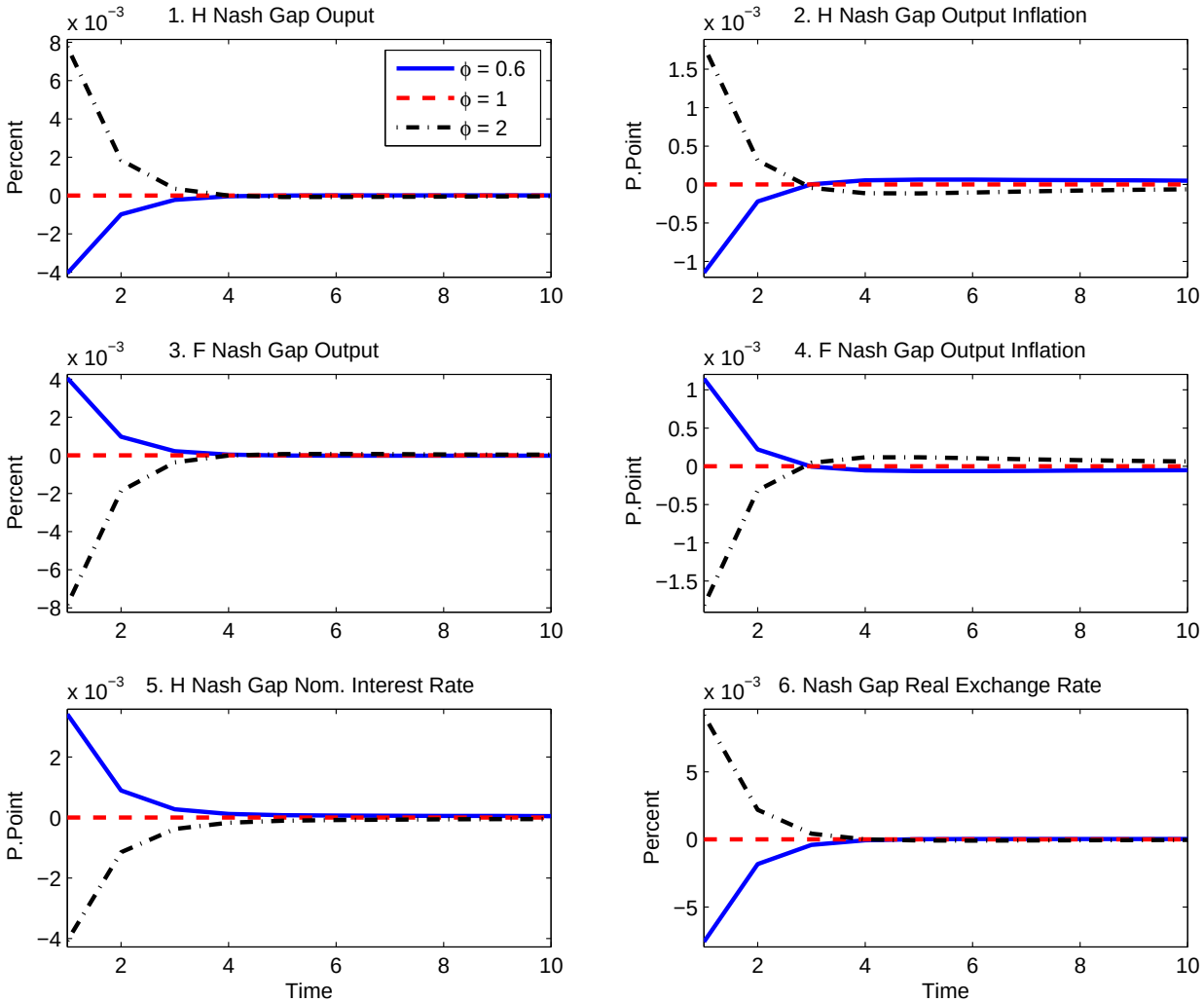
Easiest seen in a model with adjustment costs to prices.

The optimal policy in response to “efficient shocks" that enter through the natural rates prescribes price stabilisation and zero output gaps at all times.

Optimal Monetary Policy under Cooperation – Negative Markup Shock and Trade Elasticity



Nash Gaps and Gains from Cooperation – Negative Technology Shock

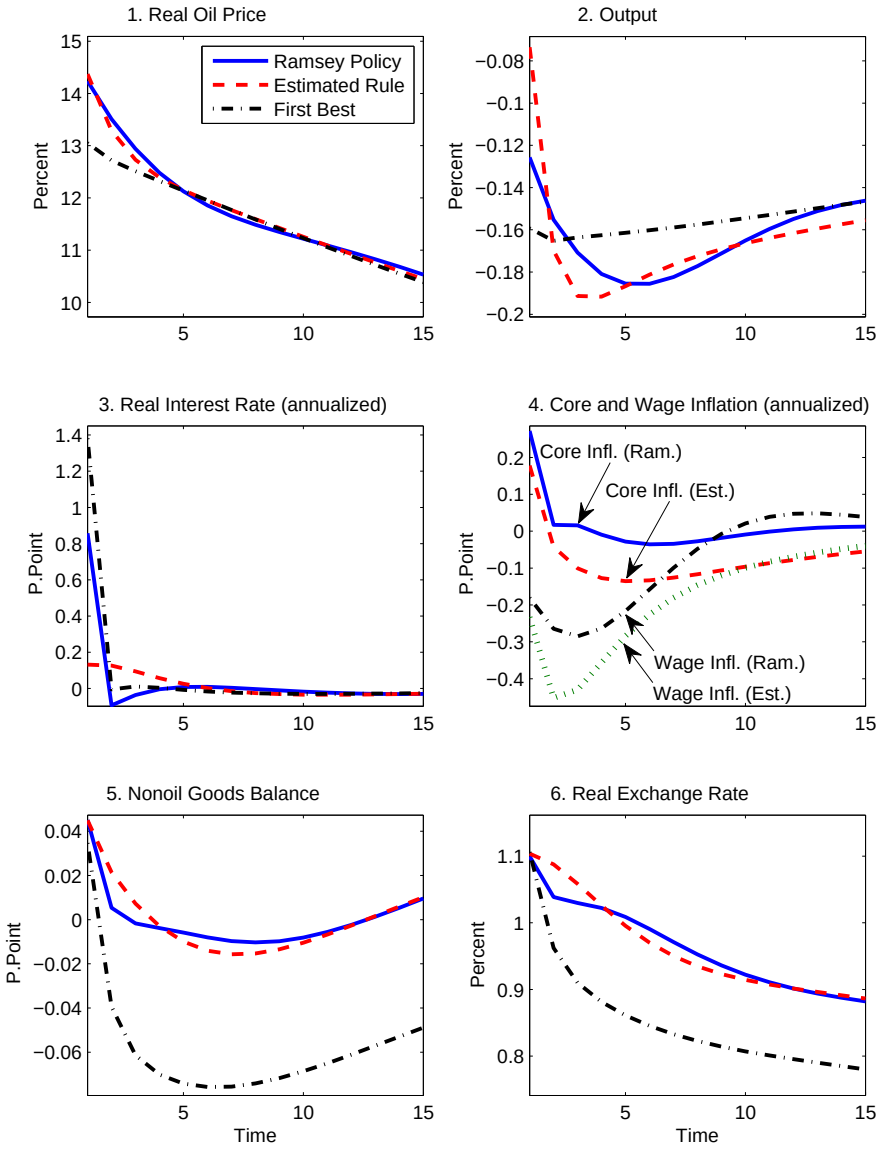


Reasons to Reconsider

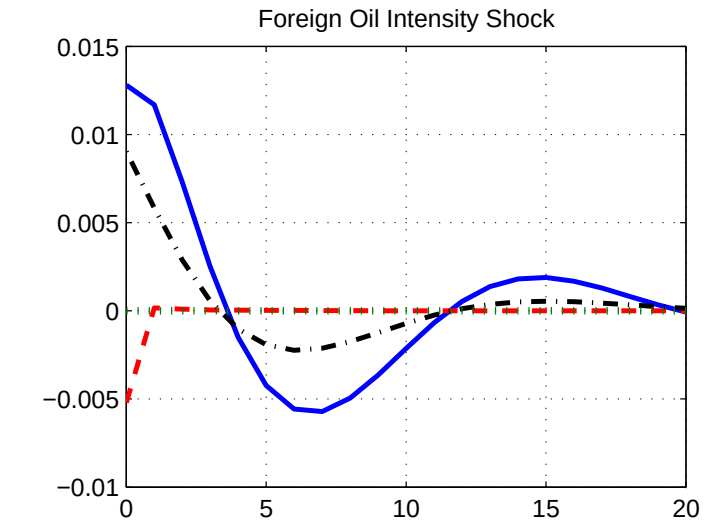
Difference between Nash and Ramsey outcomes is determined by terms of trade behaviour.

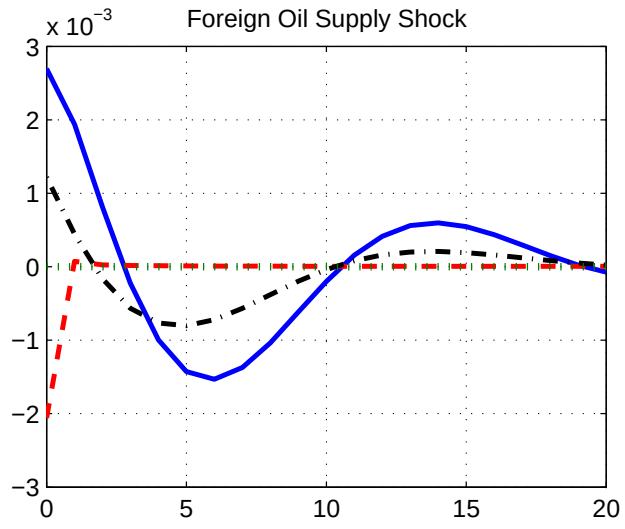
Introduce oil into an otherwise standard DSGE NKM with trade in goods of limited substitutability, sticky wages and prices, real rigidities in consumption and investment, and financial market frictions.

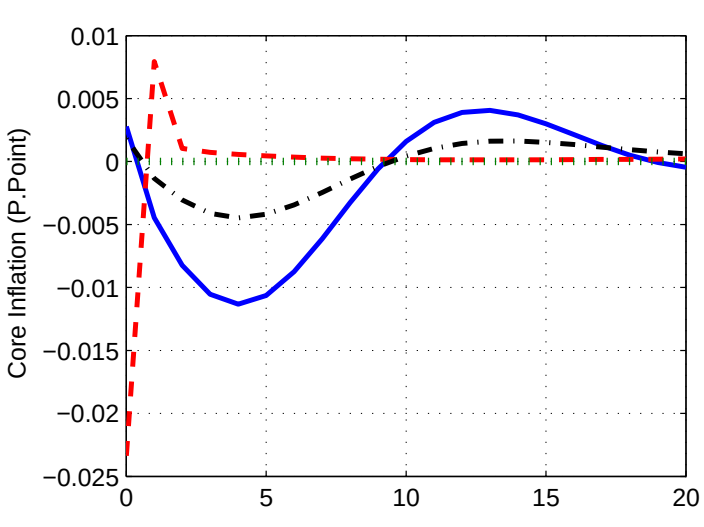
Transmission of Oil Shock: Optimal Policy

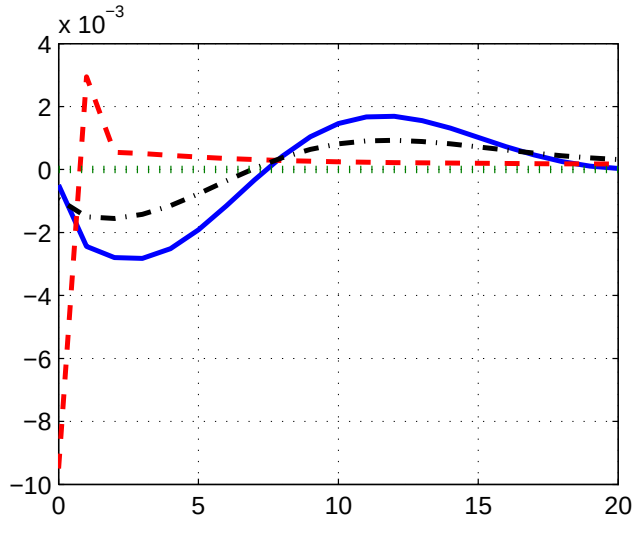


Nash Gaps in the Empirical Model









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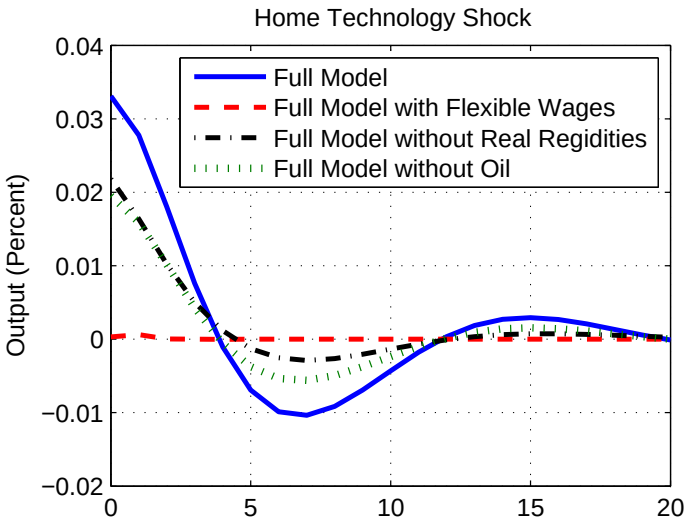
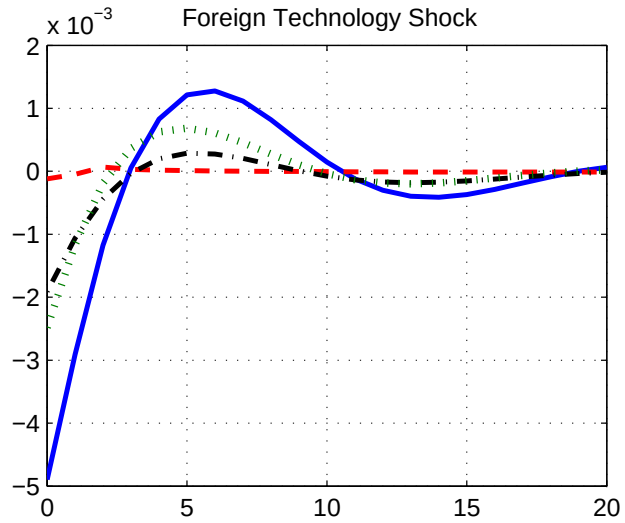
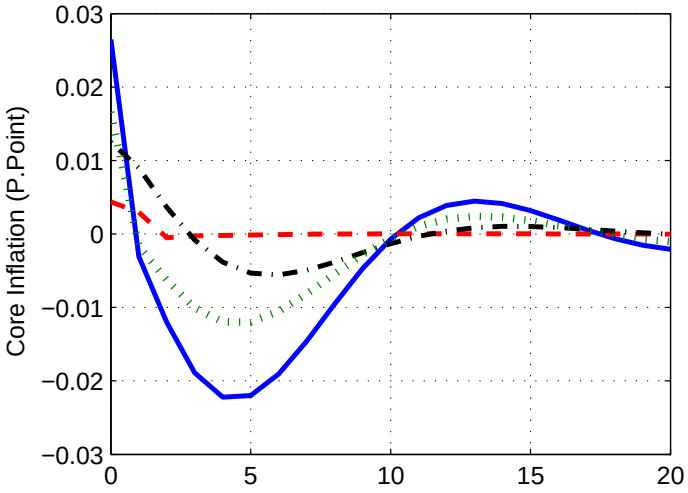
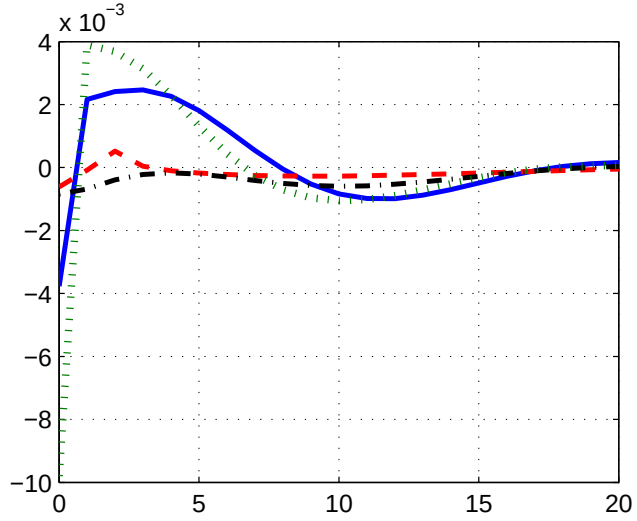
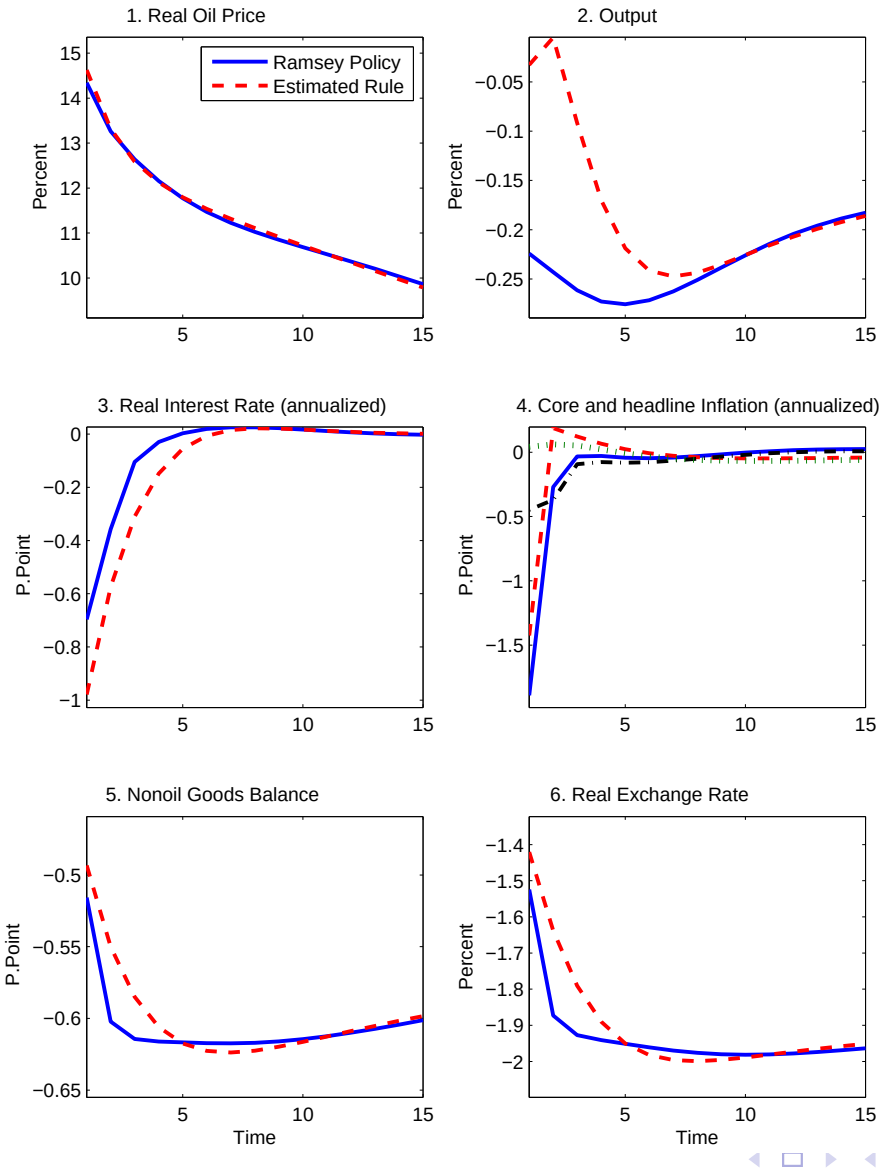








Optimal Policy in Small Open Economies – Oil Importers



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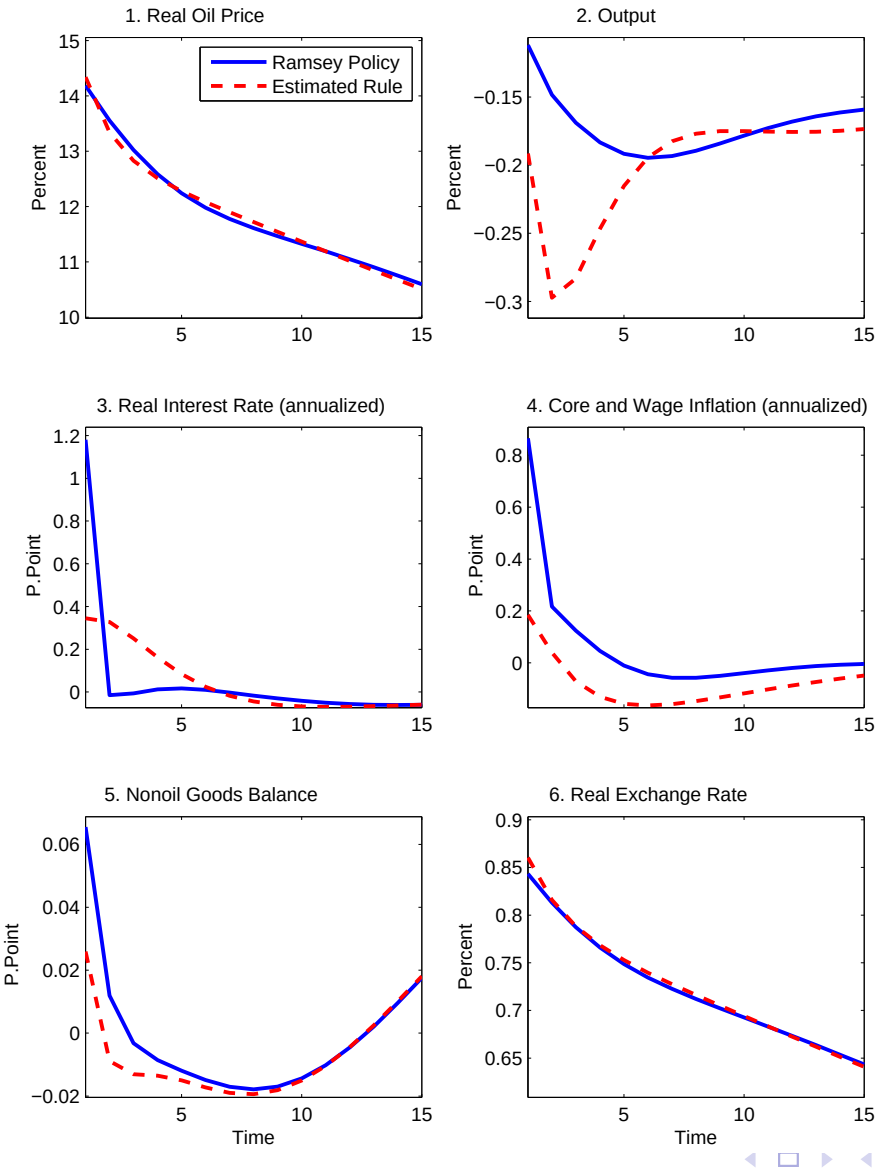

Conclusion

Presence of oil (or other commodity specialization) changes macroeconomic transmission mechanism and has the potential to lead to more room for coordination than earlier models.