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Macroeconomic Interdependence and the International Role of the Dollar

Discussion by

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Macroeconomic Interdependence and the International Role of the Dollar

by Linda Goldberg and Cedric Tille

A discussion by

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Exchange Rates – IMF Eight Jacques Polak

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Motivation and questions

A significant share of imports and exports between countries is invoiced in dollar.

What are the implications (if any) for international transmission of shocks and policy design?

This paper addresses this interesting issue building on a baseline open-economy monetary model (in the tradition of the New Open Economy Macroeconomics).

Good idea, nice and elegant paper.

Local currency price stability of imports and 'LCP'

A vast body of evidence documenting the local currency price stability of imports has motivated the assumption (common in the literature) that all import prices are sticky in the currency of the destination markets.

- hypothesis of 'Local Currency Pricing,' or LCP, as opposed to the classical assumption of 'Producer Currency Pricing' or (PCP).

With LCP, exchange rate pass-through is zero, and the model predicts significant deviations from the law of one price.

Dollar pricing and asymmetries in the local currency price stability of imports

If all export prices are instead set and sticky in dollars, there are strong asymmetries in exchange rate pass-through and import prices movements.

- In the US, prices of imports are insulated from exchange rate fluctuations.
- Outside the US, the domestic price of all imports will systematically fall with a US dollar depreciation, even when imports are not from the US, *and* bilateral rates do not move.

Then...

- Is there any evidence on a high elasticity of imports prices with respect to the dollar exchange rate?
- Should pass-through still be measured with respect to bilateral exchange rates?

What does the paper do?

Develop a stylized Center-Periphery framework with three countries, as to analyze

- transmission of monetary shocks
- optimal policy design
- gains from cooperation

under 5 alternative configurations of assumptions on export pricing.

Main theses of the paper

Dollar Pricing of Export:

- amplifies the transmission of cyclical fluctuations in the Center Country.
- makes optimal stabilization policy in Periphery country more inward looking. (Negative) spillovers are correspondingly amplified.
- is an obstacle to international policy cooperation, as it burdens the Center country with costs from cooperation.

However, more integration (convergence of consumption patterns, less home bias) makes dollar-pricing less consequential for stabilization and welfare.

I will discuss

- transmission using the NOEM graphs developed joint with Pesenti (NBER ISOM 2008)
- core policy trade-offs
- some issues and generalizations

TRANSMISSION

Next is the NOEM graph developed in joint work with Pesenti (NBER ISOM 2008).

Mundell-Fleming graphs are drawn in the space Y and interest rate (or the exchange rate).

Here Y is replaced by ℓ (but $Y = Z\ell$); the interest rate — by C .

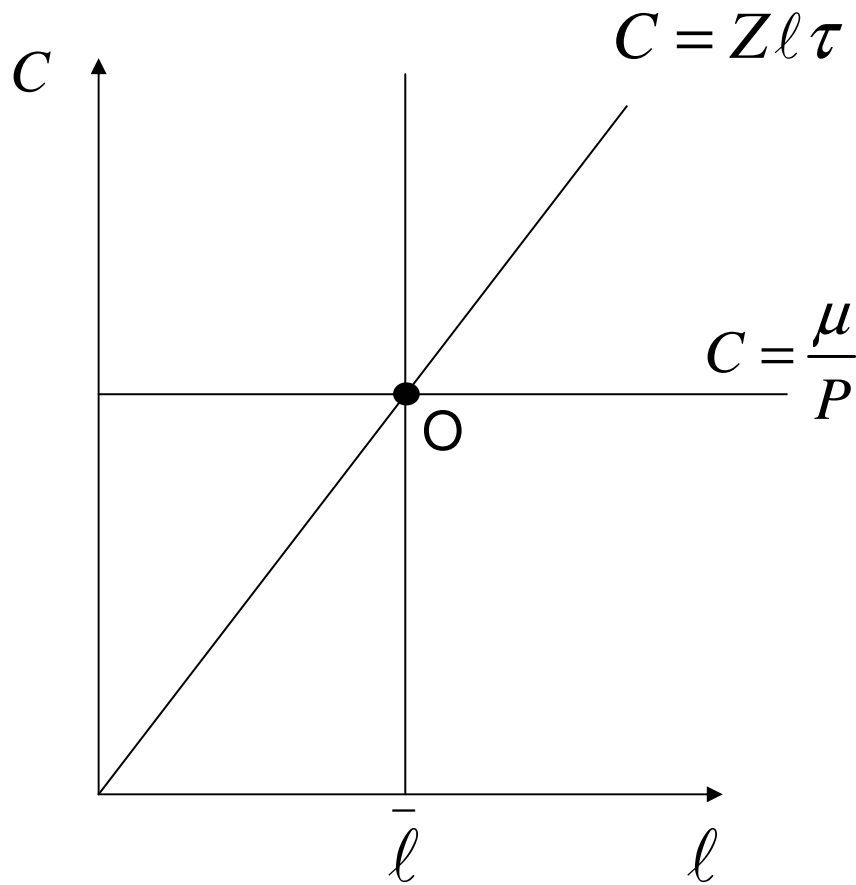
P is the (endogenous but partly predetermined) price level.

τ defines how many units of domestic output you need to produce to buy one unit of consumption (which includes exports).

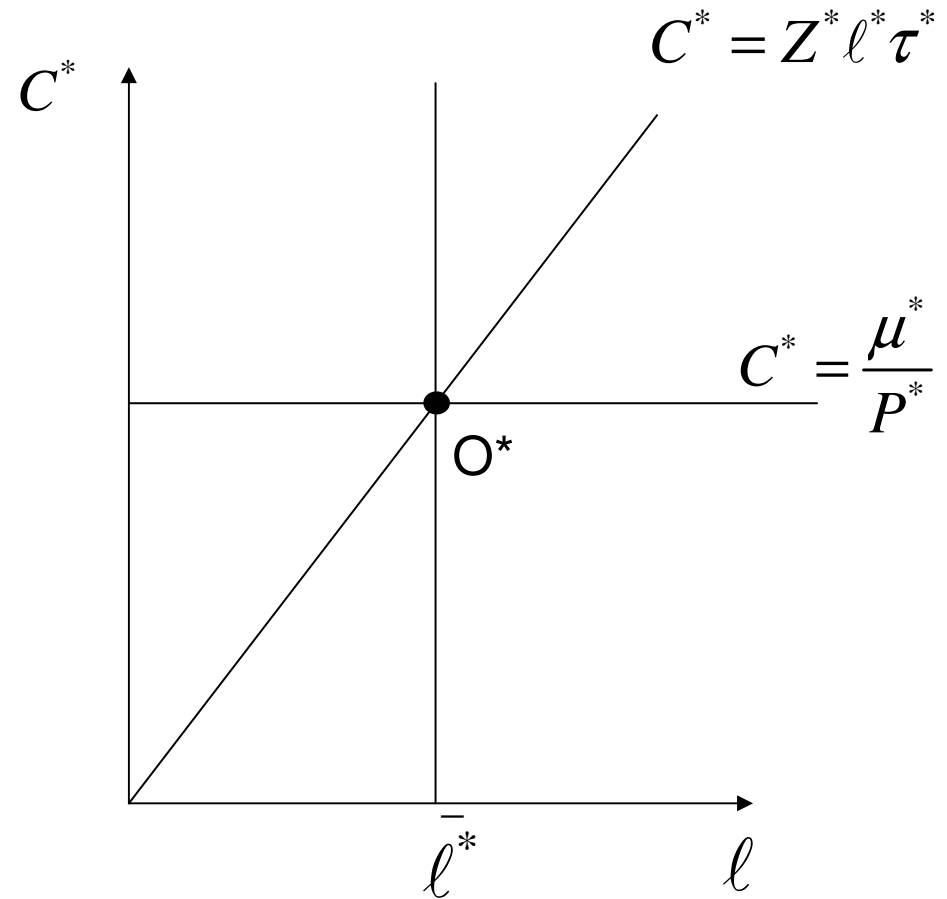
Z (which is K in the Goldberg and Tille paper) is the productivity of labor.

World economy model

Center contry



Perifery country



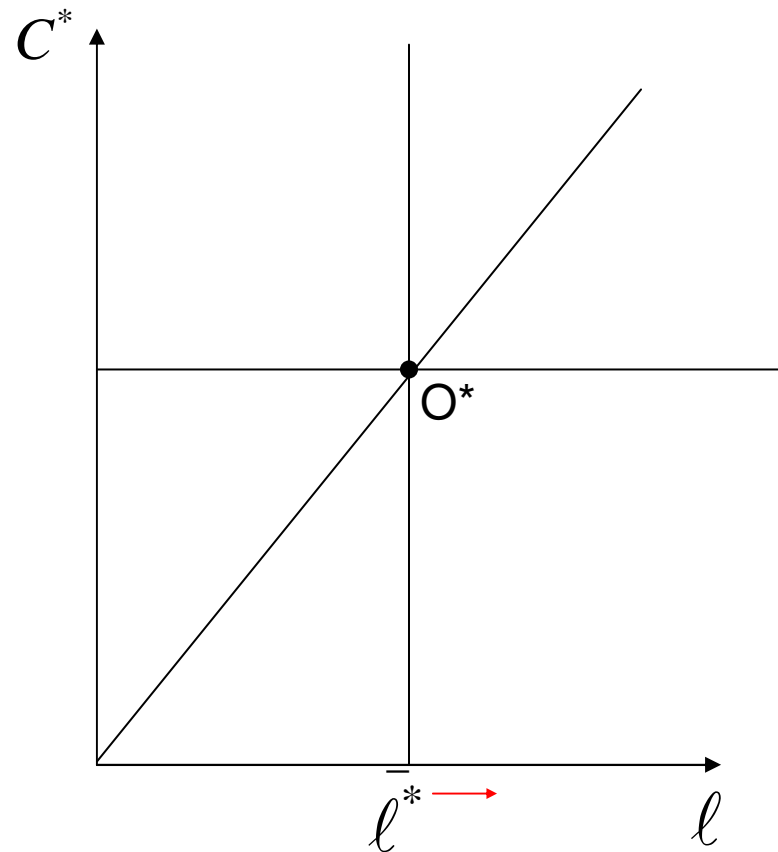
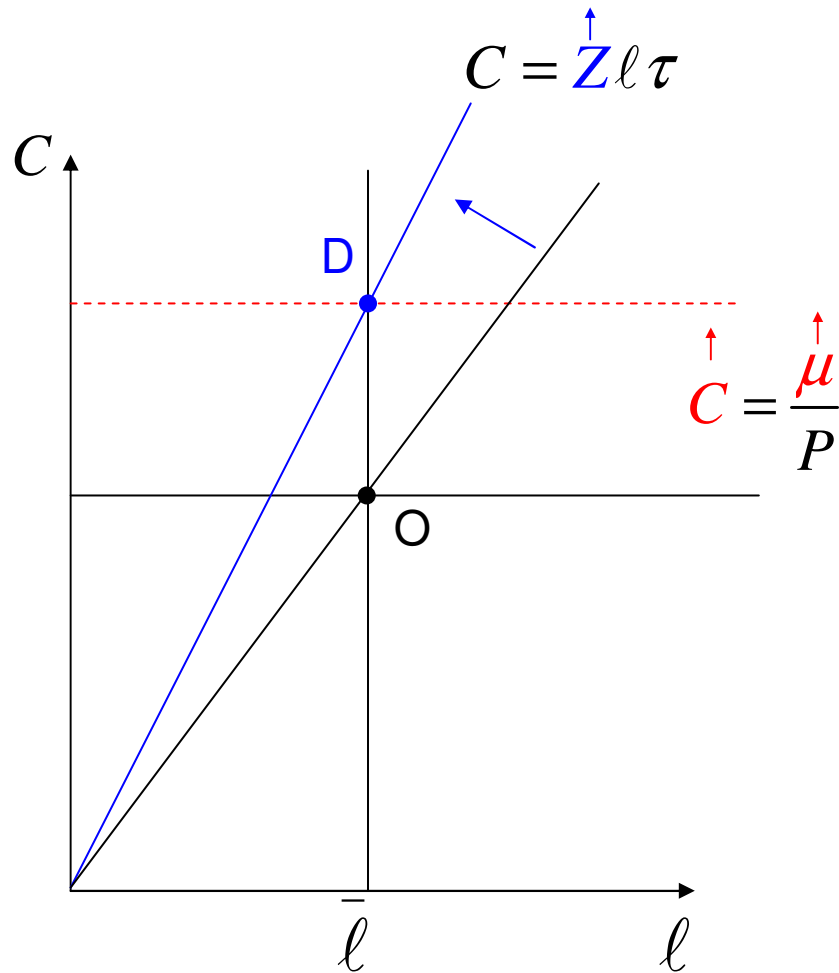
The transmission problem revisited: the Center

Assume that all exports prices are preset in dollar and posit that (a) the Center productivity Z increases; (b) domestic monetary policy expands as to stabilize the output gap, raising consumption.

Then

- The exchange rate depreciates, with no effect on current domestic prices.
- the price of consumption in terms of output ($1/\tau$) does not change.

Transmission and stabilization policy the Center under dollar pricing DOL-

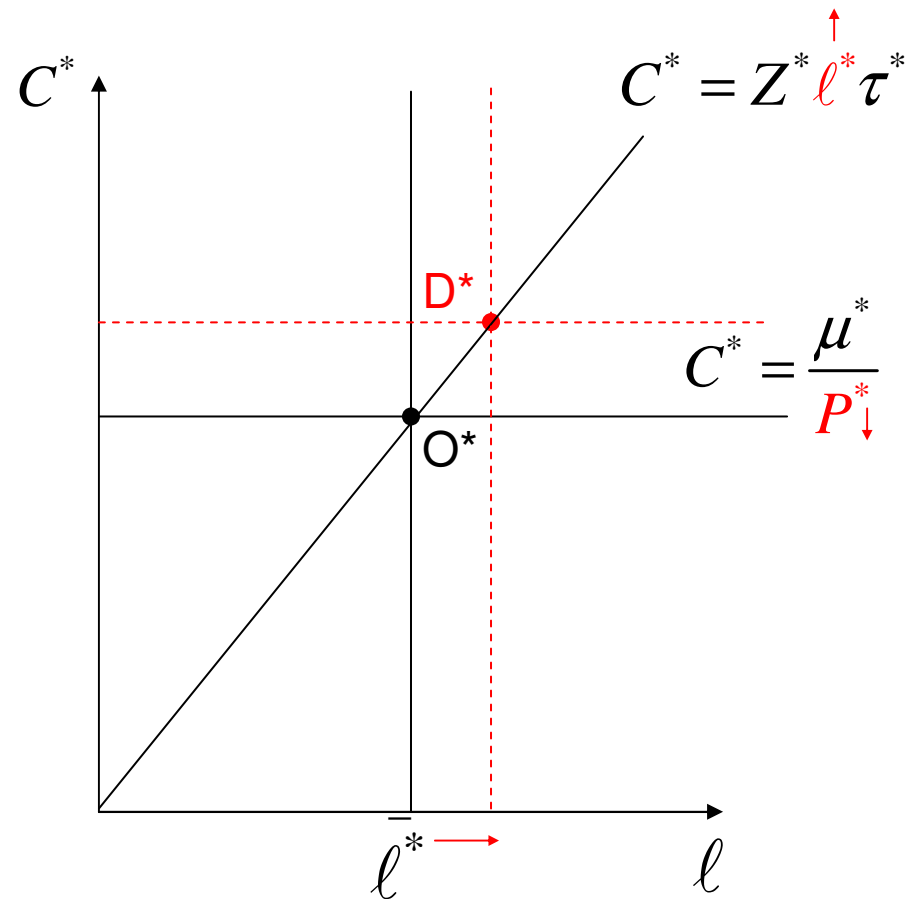
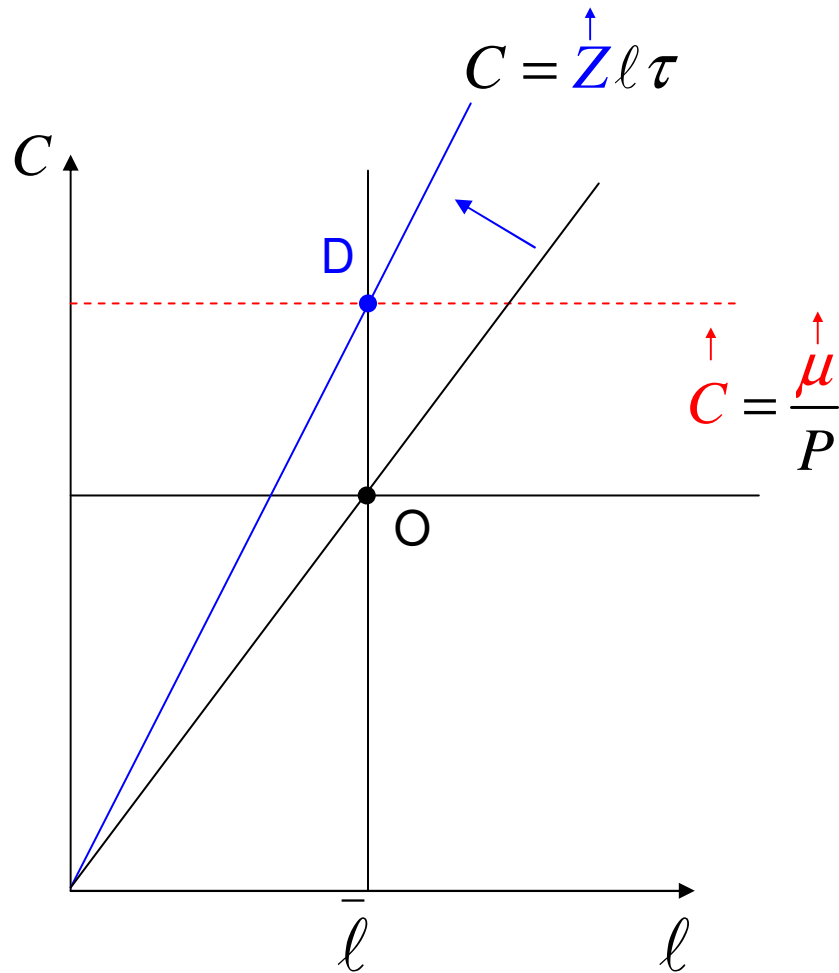


The transmission problem revisited: the Periphery

What happens in the periphery? Abstracting from intra-periphery trade:

- The local price of imports from the Center falls, boosting consumption and output.
- The Center depreciation improves the Periphery terms of trade. But Periphery firms also earn less from sales to the Center at unchanged dollar prices.
 - these two effects offset each other: the price of domestic consumption in terms of domestic output $1/\tau$ stays the same.

**Transmission and stabilization policy
the Periphery under partial DP: DOL-PCP and DOL-LCP**



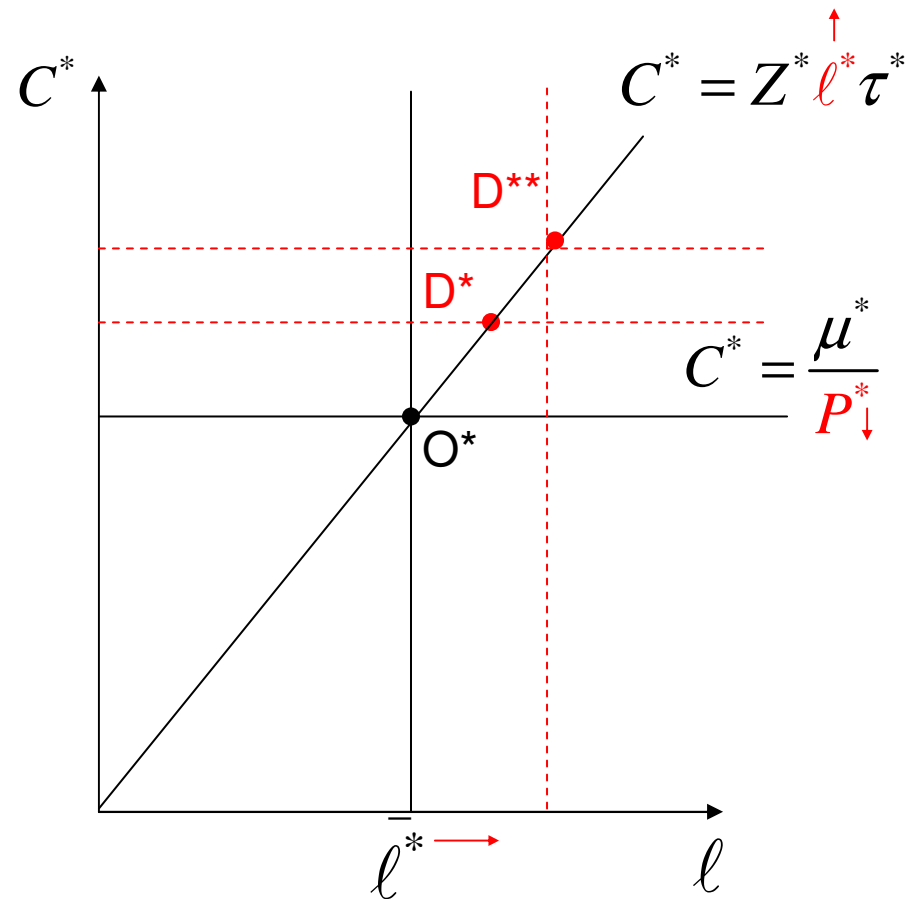
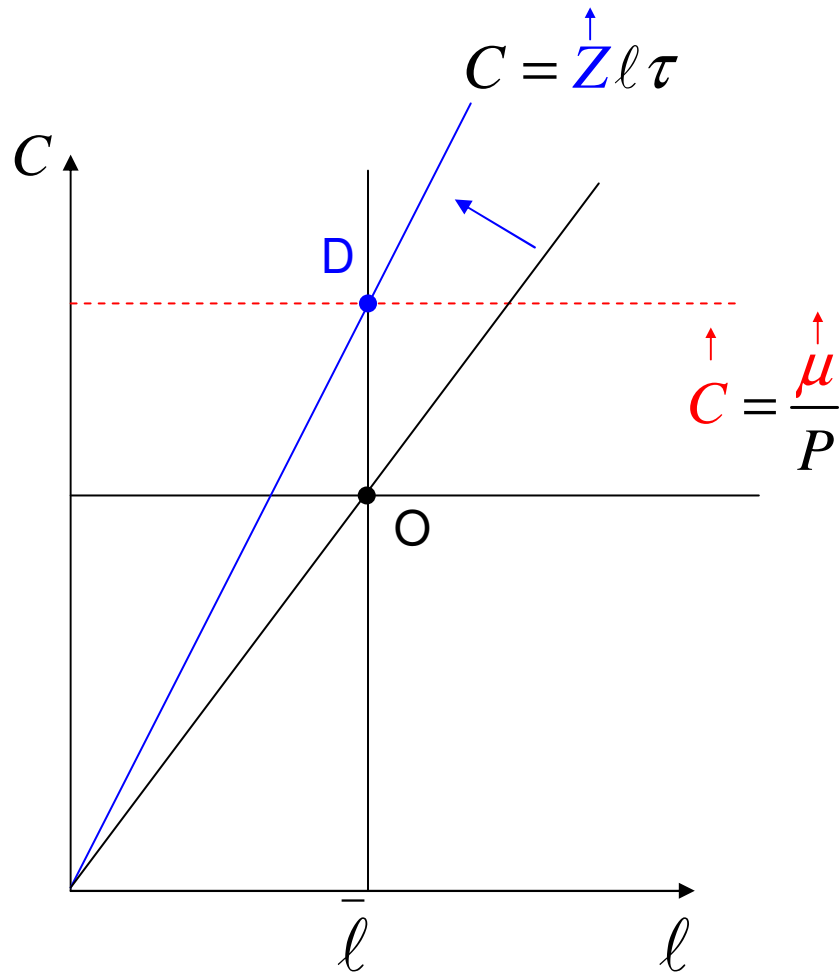
The transmission problem revisited: Periphery cum dollar pricing

Now, include intra-periphery trade, with exports denominated in dollar (this is the core novelty of the paper):

- US depreciation makes also imports from the Periphery cheaper; causing a further fall in the price level P , thus a further rise in consumption and output.
- The dollar depreciation affects all exports to Periphery: under symmetry, the intra-periphery terms of trade do not change. τ stays the same.

Transmission and stabilization policy

The periphery under general Dollar Pricing: DOL-DOL



Main message: Dollar pricing in the Periphery tends to amplify the global transmission of business cycle shocks in the Center country, relative to other pricing regimes.

POLICY WITHOUT COOPERATION: the Center

In the Center country, all prices are preset in dollar: this means that the Center monetary policy influences pricing strategies by all firms selling in the country (domestic and foreign). Specifically, the average price of each good will depend on how much the domestic monetary policy contribute to stabilize marginal costs:

$$\tilde{P}_j = mrk \cdot E \left[\frac{\text{Marginal Costs}}{Z_j} \right] \quad j = \text{Center, Periphery}$$

In general, stabilizing only domestic marginal costs and output gap is not optimal (an instance of international dimension of optimal monetary policy).

- Stabilize a weighted average of prices of all goods sold in the country.

POLICY WITHOUT COOPERATION: the Periphery

In the periphery, ex post impost prices will vary with the exchange rate, but their average preset level will however be independent of own monetary policy. It depends on the Center's!

$$\tilde{P} = mrk \cdot E \left[\frac{\mu_{Center}}{Z_j} \right] \quad j = Center, Periphery$$

Monetary authorities in these countries optimally focus on domestic output gap stabilization only.

- Very nice observation by G-T: the Periphery country with the largest variance in fundamental shocks is relatively better. It can effectively stabilize its own marginal costs, while creating problems for the other countries, who can only count on the Center's policy to stabilize import prices.

AN OBSTACLE TO INTERNATIONAL MONETARY COOPERATION?

In the non-cooperative solution to the policy problem, the Center ignores the impact of its decisions on the average price of (a) its exports to the Periphery and (b) the intra-Periphery exports. Conversely, there is no global or regional spillovers from Periphery policy.

- Under cooperation, only the Center is required to modify its optimal rule, as to internalize these spillovers. While there are global welfare gains, its position worsens (unless compensation).
- Dollar pricing magnifies this problem by magnifying the scope for spillovers from the Center.

Conclusions

- Paper is quite informative and interesting: nice job!
- Yet another instance of flexibility and usefulness of the NOEM baseline model (which is now 10 years old).
 - (Minor:) in the model firms preset prices in relation to a basket of currency.
- Results are robust to the incorporation of staggered pricing, but there would be additional welfare and policy considerations (see recent NBER wp)

- What makes dollar pricing a good strategy for firms?
 - In light of the model of pricing and monetary policy (joint work with Pesenti), firms in the G-T specification would never find dollar pricing desirable!
 - Again, trade integration (convergence of consumption patterns) smooth out differences across alternative pricing strategies.