# Discussion of "Monetary Policy During Unbalanced Global Recoveries"

Luca Fornaro, Federica Romei

Veronica Guerrieri
Chicago Booth

Global Research Forum on International Macroeconomics and Finance
NYFed, November 2022

# Overview

**Question:** What is the national optimal monetary policy when there is a global rise of demand for tradable goods?

**This paper:**

- Inflation is the cost to bear to reduce real wages and hence stimulate production of tradable goods
- National monetary policy has externality on global supply of tradable $\rightarrow$ deflationary bias
- During times of high global demand for tradables, expansionary monetary policy abroad has deflationary spillovers at home

# Set Up

- continuum of small open economies $i \in [0,1]$ identical to each other
- continuum of infinitely-lived households with disutility cost from inflation
- two consumption goods: tradables and non-tradables with
  $\omega$ = share of tradable goods in consumption basket
- labor only factor of production, inelastically supplied and fully mobile

$$Y_t^N = L_t^N \text{ and } Y_t^T = \left(L_t^T\right)^{\alpha}$$

- **short run ($t = 1$):** reallocation shock ($\omega \uparrow$) and $W_1 = 1$
- **long run ($t \geq 2$):** economy goes back to steady state and flexible prices

# Closed Economy

- two key equilibrium conditions: labor demand and relative good demand

$$Y_t^T = \alpha^{\frac{\alpha}{1-\alpha}} \left(\frac{W_t}{P_t^T}\right)^{-\frac{\alpha}{1-\alpha}} \text{ and } Y_t^N = \frac{1-\omega_t}{\omega_t}\frac{P_t^T}{P_t^N} Y_t^T$$

- $t=0$: SS with full employment and zero inflation ($P_1^T = P_1^N = 1$)
- $t=1$: shock $\omega_1 > \omega_0$ with nominal rigidities ($P_1^N = W_1 = 1$)
- what is optimal monetary policy in a closed economy?
- if $P_1^T = 1$, production of tradable does not increase and labor demand in non-tradable sector decreases $\rightarrow$ unemployment
- increase in $P_1^T$ increases production of tradables and of non-tradables!

# Open Economy

- assume all countries are hit by the same reallocation shock
- consider a monetary expansion in country $i$ = increase in $P^T_{it}$
- externality: the increase in $Y^T_{it}$ reduces pressure in global market for tradables
- equilibrium in country $j$:

$$Y^T_{jt} = \alpha^{\frac{\alpha}{1-\alpha}} \left( \frac{W_{jt}}{P^T_{jt}} \right)^{-\frac{\alpha}{1-\alpha}} \quad \text{and } Y^N_{jt} = \frac{1-\omega_t}{\omega_t} \frac{P^T_{jt}}{P^N_{jt}} C^T_{jt}$$

- even if monetary policy abroad does not change, more production in non-tradable sector
- $\rightarrow$ **deflationary bias**

# Two contributions

- **positive result**: inflation rates in tradable goods are *strategic substitutes* across countries
- if a country chooses higher inflation, it makes tradable more abundant in the world and reduces incentives in other countries to stimulate tradable production
- **normative result**: Nash equilibrium inflation rates are too low relative to optimum
- this is due to the positive externality

# Scarce Good

- What if a scarce good (e.g. oil) is used for the production of tradables?

$$Y_{it}^{T} = \left(L_{it}^{T}\right)^{\alpha} \left(X_{it}\right)^{(1-\alpha)}$$

with

$$\sum_{i\in[0,1]} X_{it} = \bar{X}$$

- if price of tradables increases, there is more production in the domestic tradable sector
- $\rightarrow$ more domestic demand for scarce good that reduce its availability abroad
- $\rightarrow$ less consumption of tradable abroad and hence of non-tradable as well
- can this lead to **inflationary bias**?

# Fiscal Policy

- in Mundell-Fleming framework, international spillovers of fiscal and monetary policy are different
- why?
- monetary policy causes exchange rate depreciation and lowers cost of imported goods for foreign countries $\rightarrow$ lower inflation abroad
- fiscal policy causes exchange rate appreciation and increases cost of imported goods for foreign countries $\rightarrow$ higher inflation abroad
- that is why concern for emerging economies when the US does a combination of expansionary fiscal policy and contractionary monetary policy
- does this model generates a similar tension? if not, why not? maybe depends on the composition of government spending?

# Other comments

- standard microfundation of inflation cost in the utility function would need rigidities also in tradable sector ...
- what if large open economy? Does the general equilibrium effect on interest rates amplify the externality?
- what if labor mobility across sectors is costly? maybe the persistence of the shock then matters?
- very nice paper!