Monetary policy and exchange rate regimes under dominant currency paradigm

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US dollar dominance in trade

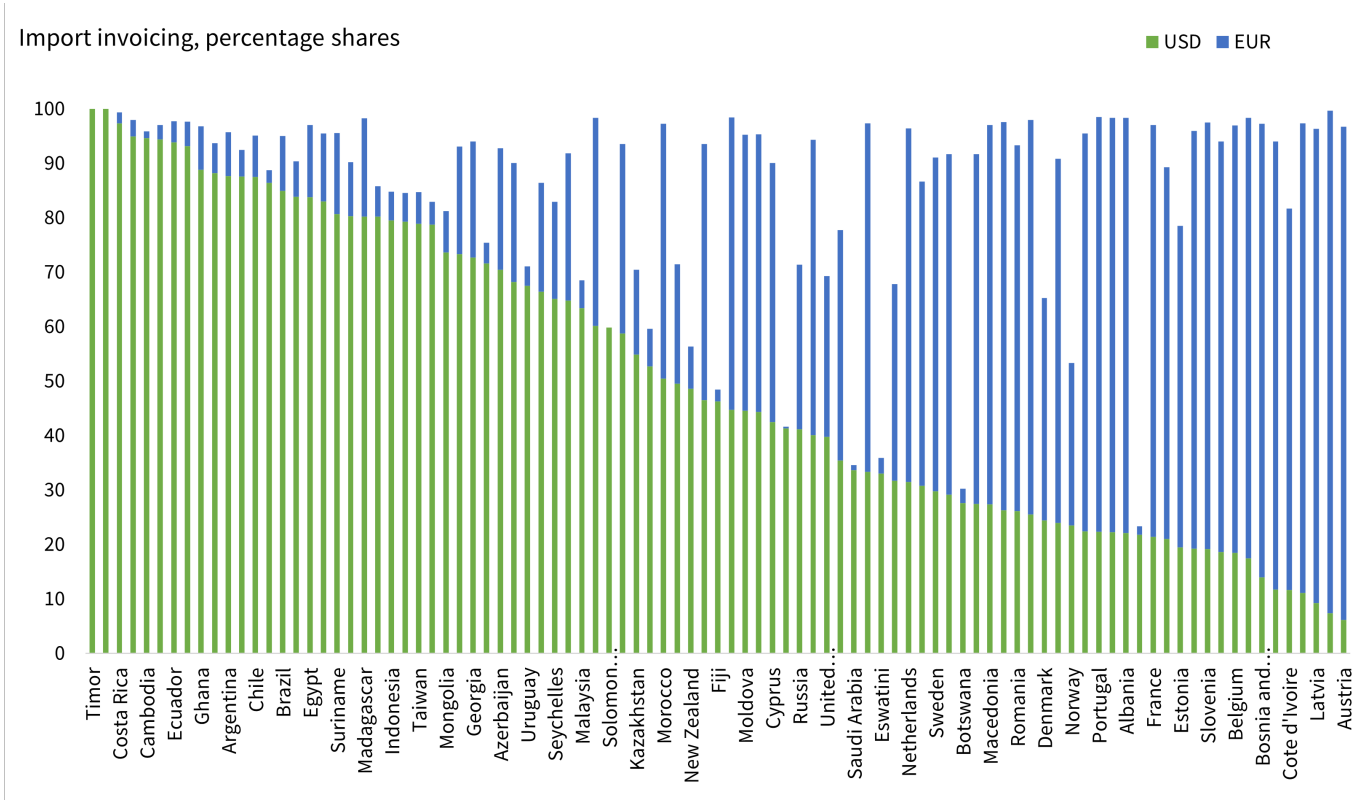


Figure 1 – Import invoicing

The figures show the average shares of the US dollar in import invoicing between 1990-2019. Source : Dovonou (2023)

US dollar dominance in trade

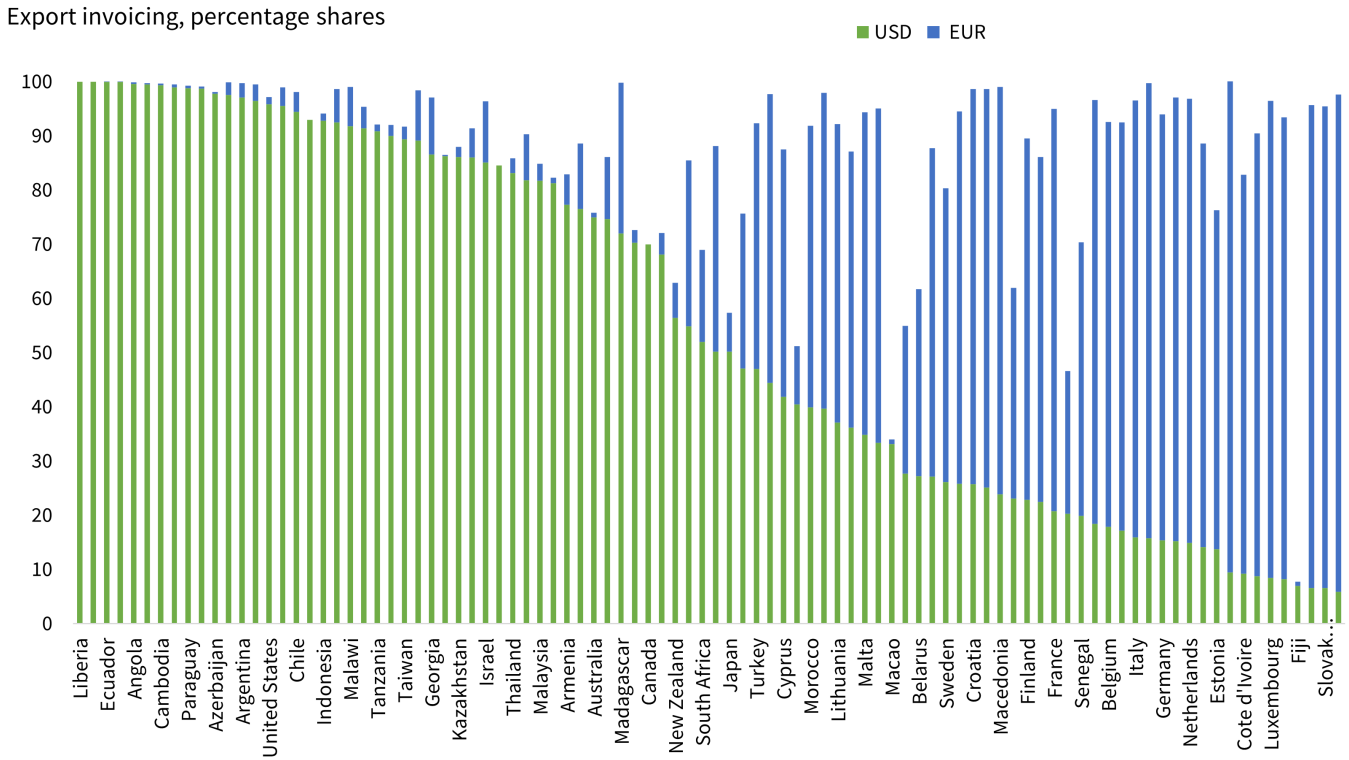


Figure 2 – Export invoicing

The figures show the average shares of the US dollar in export invoicing between 1990-2019. Source : Dovonou (2023)

US dollar dominance in finance

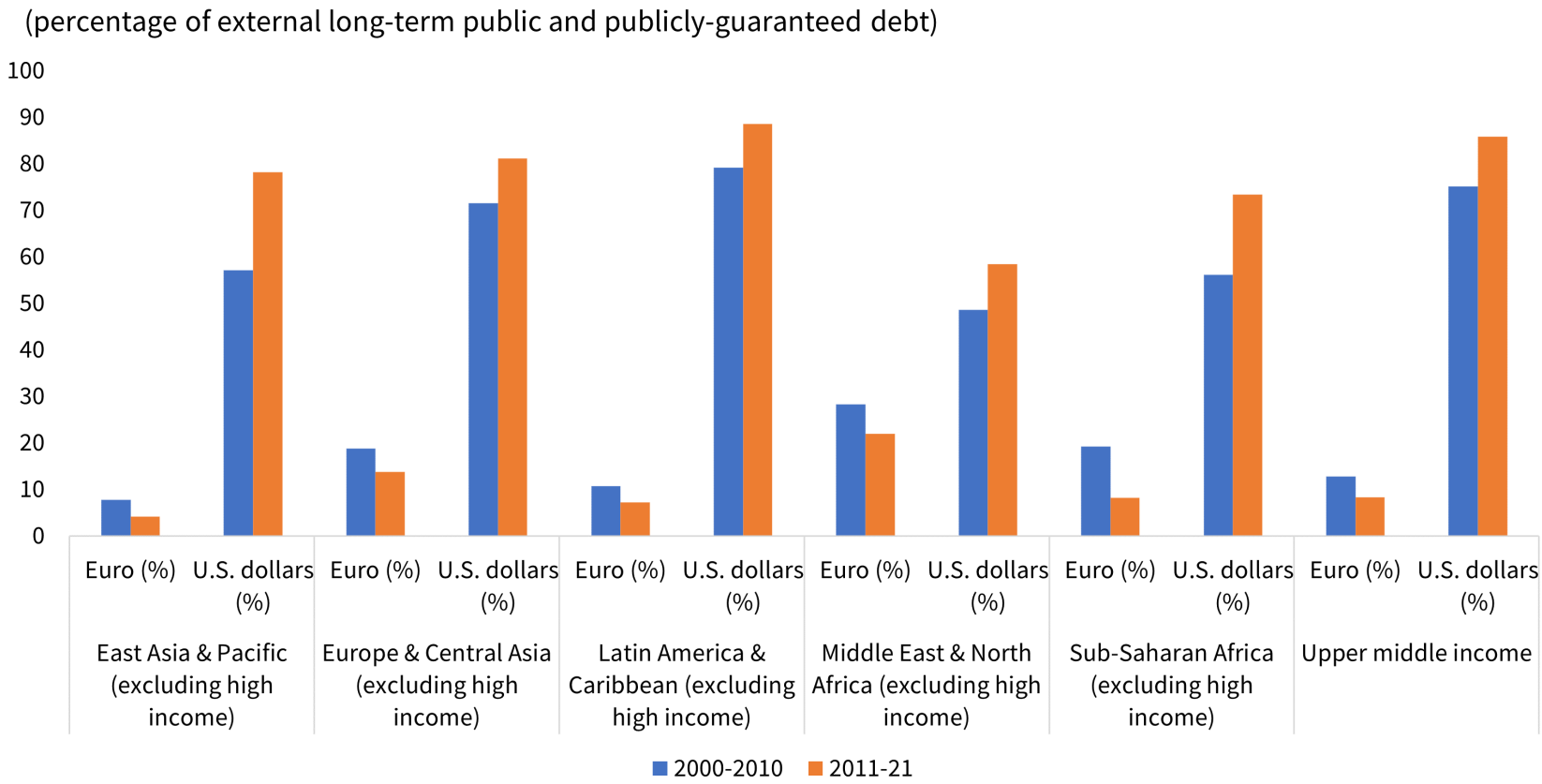


Figure 3 – External debt composition

Source : Dovonou (2023)

Monetary autonomy in open economies

- *Traditional Mundell's trilemma* : a flexible regime ensures monetary policy autonomy in an open economy.
- *Empirical evidence* : a broad adoption of intermediate exchange rate regimes - "managed" exchange rate, and "partial" monetary autonomy *(Mohanty and Klau, 2004 ; Levieuge, 2006)*
- *Dominant currency paradigm, Gopinath et al. (2020)* : monetary policy of small open economies is most probably dependent on the monetary policy of a dominant currency issuer - Dilemma (*Rey, 2015*)
- *Empirical evaluation of Dilemma* : the foreign dominant US interest rates are key determinants of domestic interest rates in many emerging countries (*Klein and Shambaugh, 2015 ; Georgiadis and Zhu, 2019*)

Our contribution

- Use a simple theoretical framework to reconsider trilemma in the context of Dominant Currency Paradigm (DCP) and free capital flows.
- Propose a new monetary rule able to characterize regimes with different degrees of monetary autonomy/ exchange rate flexibility.
- Implement the new monetary rule in Gopinath et al. (2020) DCP framework
- Seek for an optimal degree of monetary autonomy / exchange rate flexibility that insures the best stabilization of national variables in the case of adverse foreign monetary shocks

Monetary policy rule

- **Usual Taylor rules**

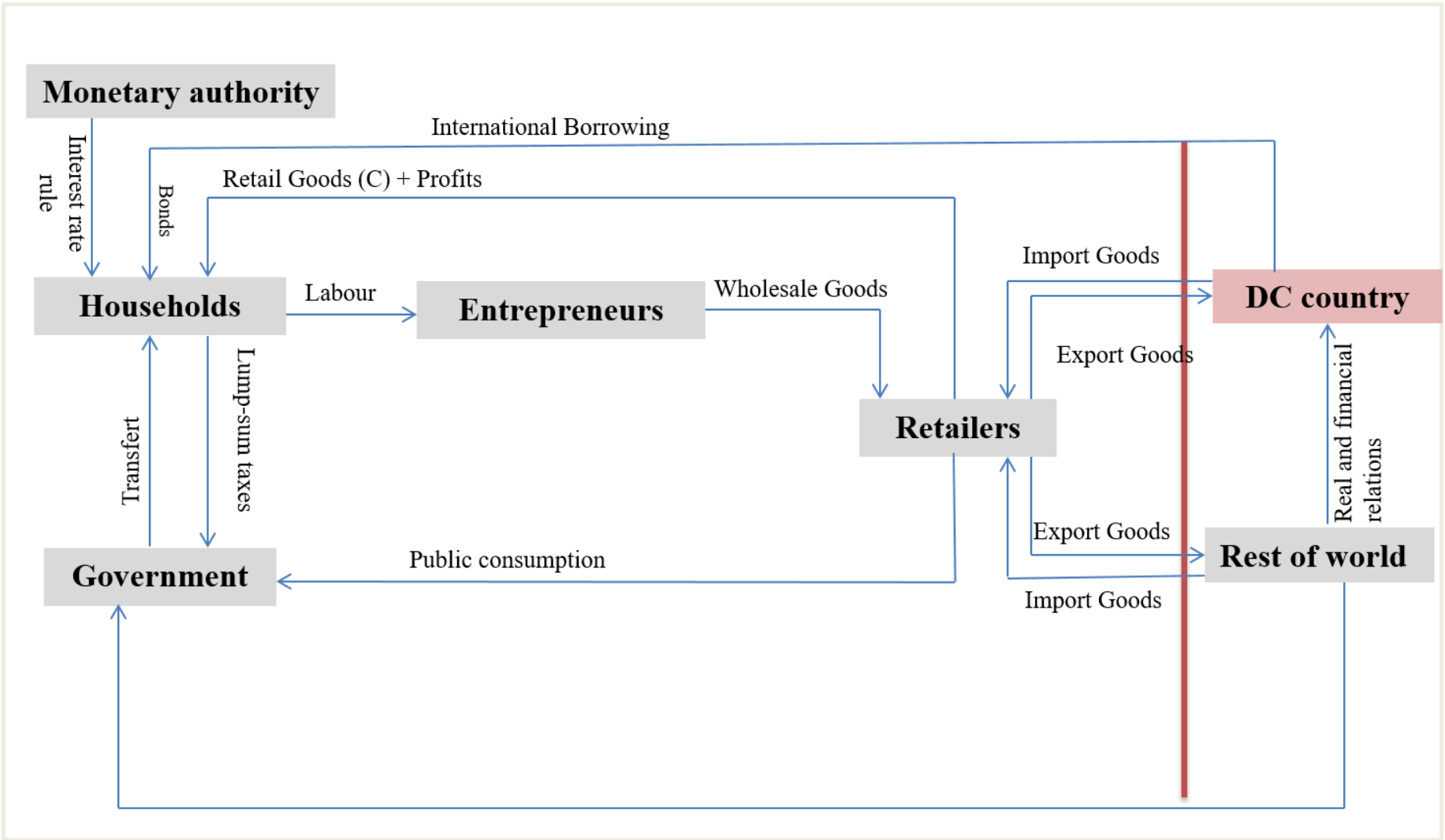
$$i_{H,t} = i^* + \phi_M(\pi_{H,t} - \pi^*_H) + \phi_Y \tilde{y}_{H,t}$$

$$i_{H,t} = \rho_m(i_{H,t-1}) + (1-\rho_m)[i^* + \phi_M(\pi_{H,t} - \pi^*_H) + \phi_Y \tilde{y}_{H,t}]$$

- **Revised Taylor rule for open economies**

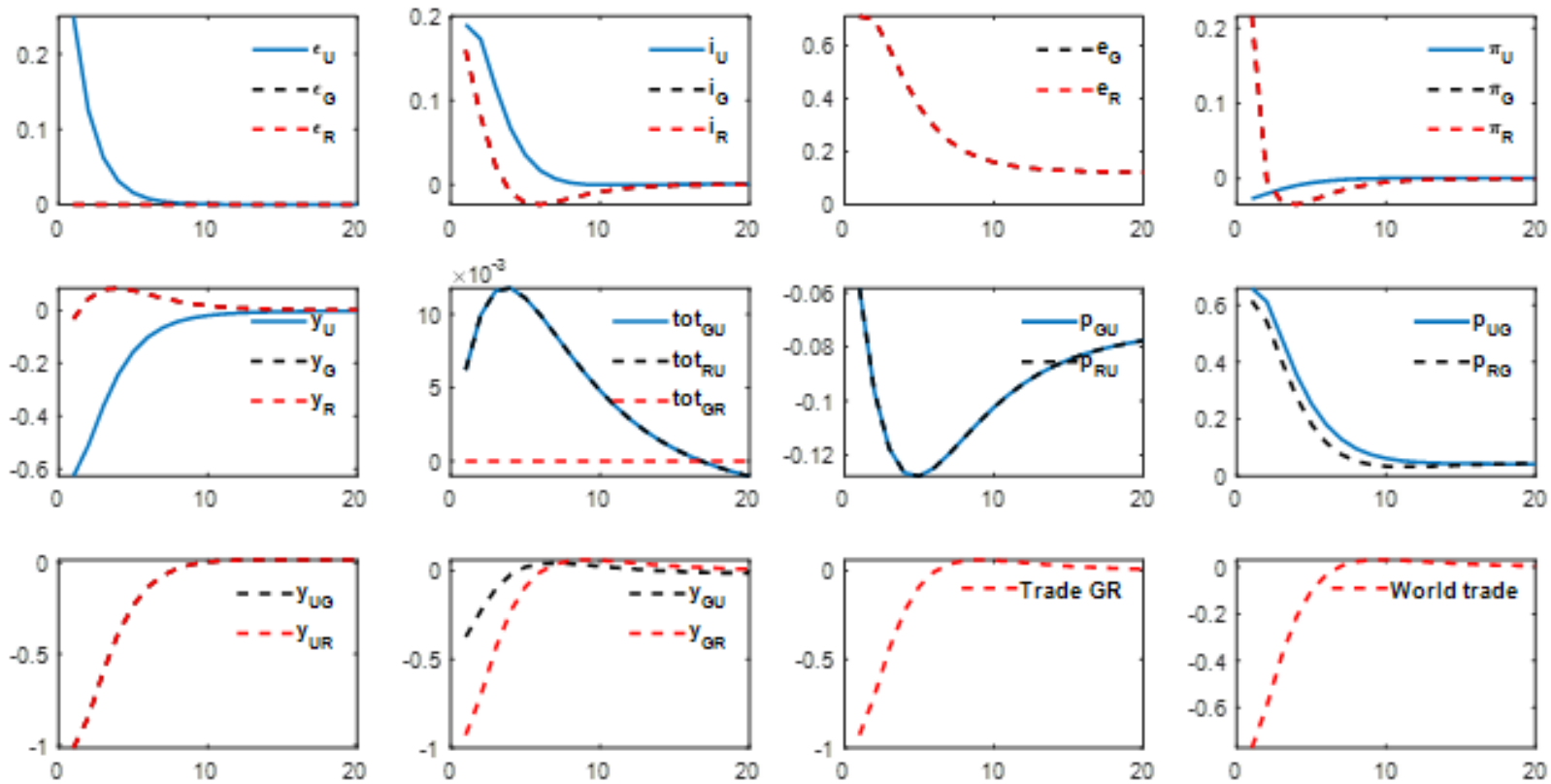
$$i_{H,t} = \rho_m i_{H,t-1} + \rho_{mD} i_{D,t} + (1-\rho_m-\rho_{mD})[i^* + \phi_M(\pi_{H,t} - \pi^*_H) + \phi_Y \tilde{y}_{H,t}]$$

Structure of the economy for the domestic country

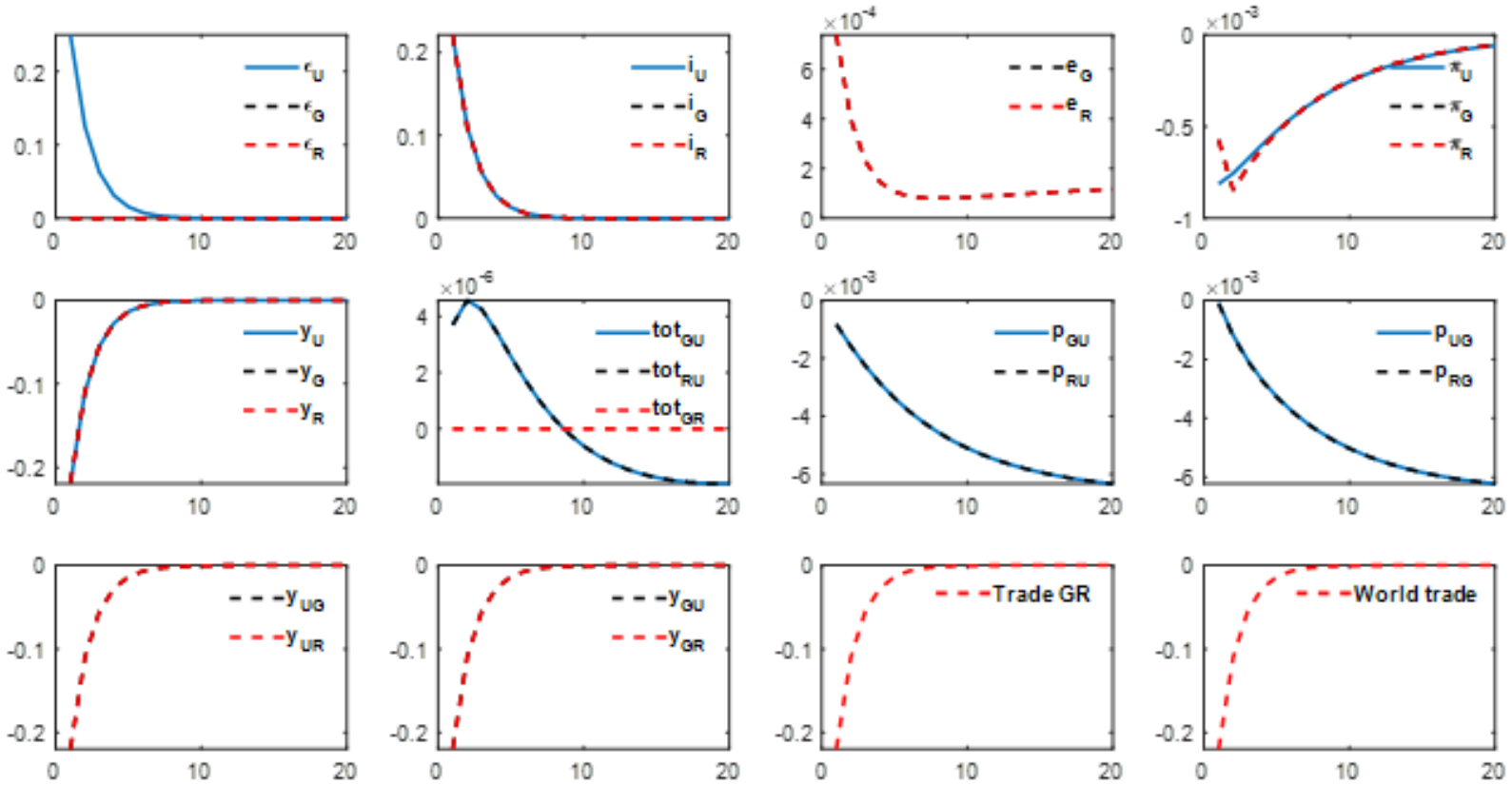


Simulations and results

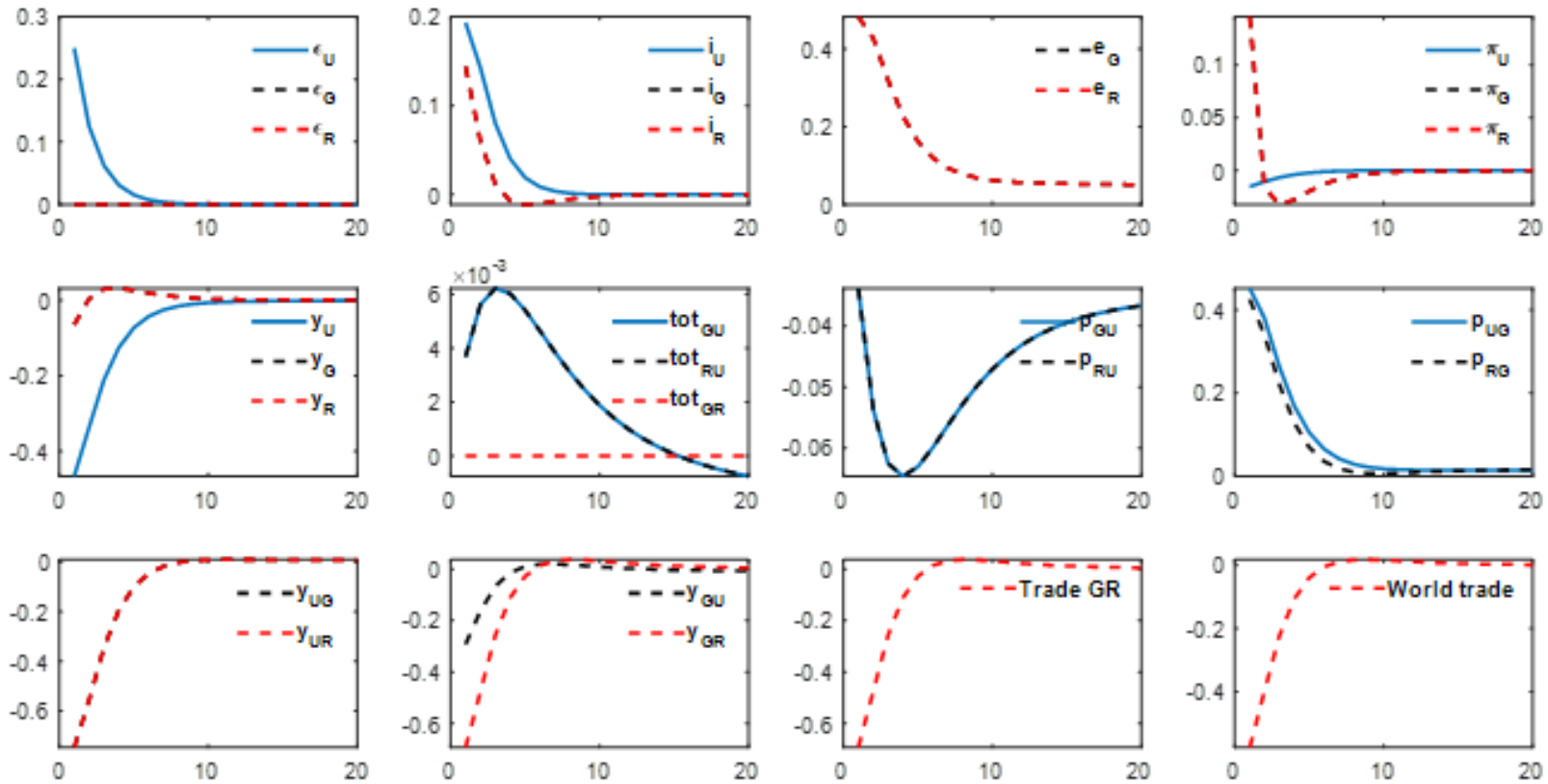
Monetary tightening in the dominant currency country : *Flexible exchange rate regime*



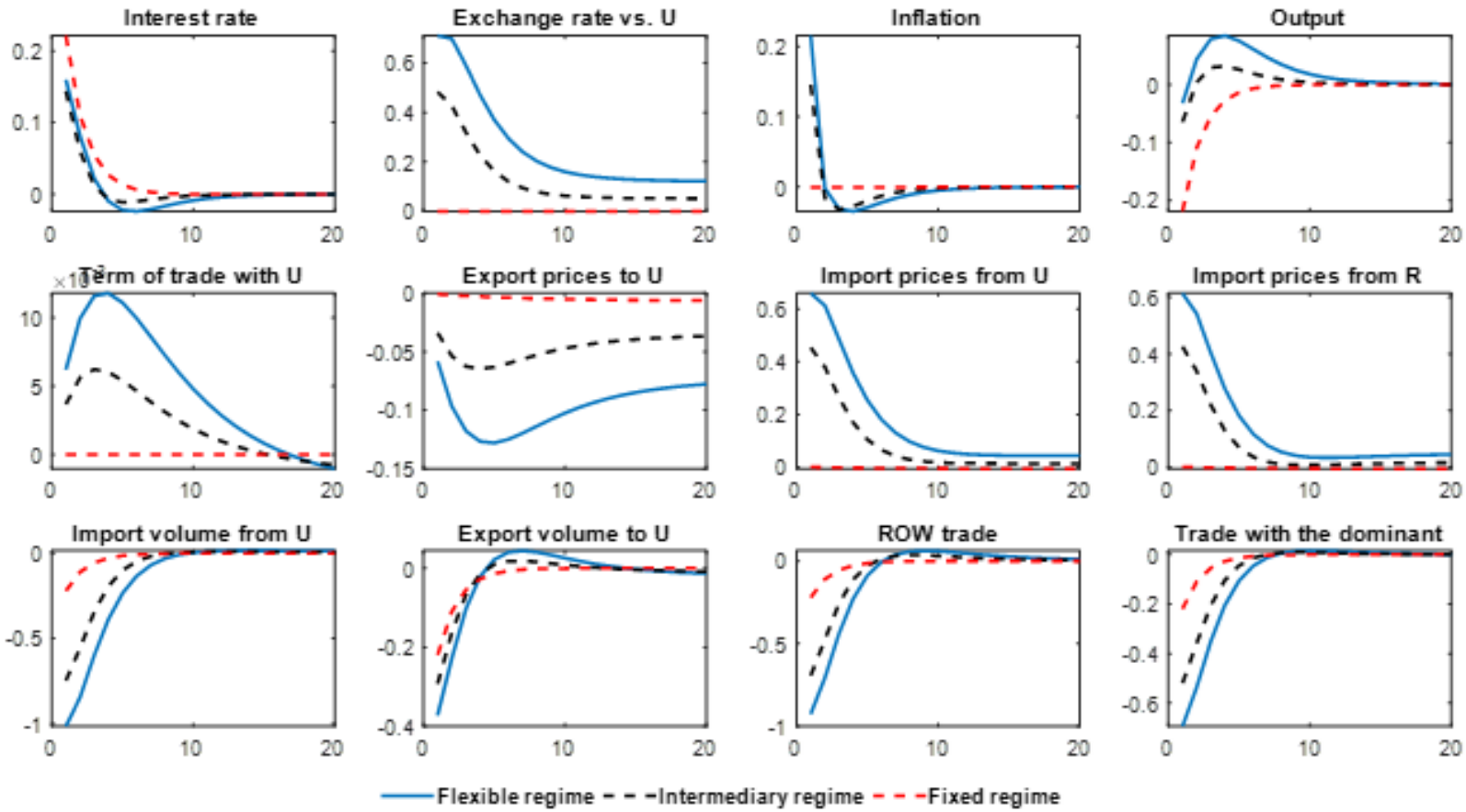
Monetary tightening in the dominant currency country : *Fixed exchange rate regime*



Monetary tightening in the dominant currency country : *Intermediate exchange rate regime*



Domestic non-dominant currency country IRFs to a restrictive foreign shock under different regimes



Simple optimal monetary rule

$$Ł_{CB} = var(di) + \gamma_y var(y) + \gamma_\pi var(\pi),$$

$\gamma_\pi = 1.5; \gamma_y = 1$	$\gamma_\pi = 1.5; \gamma_y = 1.25$	$\gamma_\pi = 1.5; \gamma_y = 1.5$
$\rho_{mD} = 0.78$	$\rho_{mD} = 0.67$	$\rho_{mD} = 0.61$
$\rho_m = 0.034$	$\rho_m = 0.1361$	$\rho_m = 0.19$
$\phi_M = 1.5052$	$\phi_M = 1.4963$	$\phi_M = 1.4908$
$\phi_Y = 1.3482$	$\phi_Y = 1.1212$	$\phi_Y = 1.0055$

Table 1 – Optimal intermediate regime depending on central bank's stabilization preferences

Conclusion

- We propose a theoretical framework with revisited monetary rule allowing to study trilemma under DCP
- We seek to determine an optimal degree of monetary autonomy / exchange rate flexibility that insures the best stabilization of national variables face to adverse foreign monetary shocks.
- We find that the optimal situation corresponds to an intermediate regime with "partial" central bank autonomy and "managed" exchange rate.
- Such regime could explain the high sensitivity of many countries' interest rates to US rates described in the empirical literature.

Further research

- Introduction of some taxes to control capital flows in order to capture the third dimension of the traditional trilemma.
- Analyze how this policy can influence the optimal coefficients of the monetary rule and so the optimal degree of monetary autonomy.
- Estimation of the model for particular countries to determine their own optimal degree of monetary autonomy/exchange rate flexibility.

Thank you for your attention !