Banking, Trade and the Making of a Dominant Currency
by Gita Gopinath and Jeremy Stein

Discussion by: Fabrizio Perri
Minneapolis Fed

NBER Summer institute, EFG
July 2018

Features of dominant currency ($)

- Large amount of trade between non$ countries invoiced in $
- Large amount of liabilities (banks and firms) in non$ countries denominated in $
- Risk free assets denominated in $ pay lower rate (exorbitant privilege)

Features of dominant currency ($)

- Large amount of trade between non$ countries invoiced in $
- Large amount of liabilities (banks and firms) in non$ countries denominated in $
- Risk free assets denominated in $ pay lower rate (exorbitant privilege)
- All in presence of underlying exchange rate risk (i.e dominated currencies still circulate)

Questions

1. Is there a connection between dominance in trade, dominance in banking and exorbitant privilege?
2. Why a dominant currency?
3. Is it efficient to have a dominant currency? is it good for the dominant? Is it good for the dominated?

Discussion plan

- A simpler version of the GS set-up
- Some discussion on questions 2 and 3

The idea in words

- Importers save. Exporters borrow and make invoicing decision
- If large fraction of trade invoiced in $, importers save in $ (reduce exchange rate risk)

The idea in words

- Importers save. Exporters borrow and make invoicing decision
- If large fraction of trade invoiced in $, importers save in $ (reduce exchange rate risk)
- If saving in $ high, rate on $ assets low

The idea in words

- Importers save. Exporters borrow and make invoicing decision
- If large fraction of trade invoiced in \$, importers save in \$ (reduce exchange rate risk)
- If saving in \$ high, rate on \$ assets low
- If rate on \$ assets low, exporters want to borrow in \$..
- that exposes them to exchange rate risk, unless..

The idea in words

- Importers save. Exporters borrow and make invoicing decision
- If large fraction of trade invoiced in \$, importers save in \$ (reduce exchange rate risk)
- If saving in \$ high, rate on \$ assets low
- If rate on \$ assets low, exporters want to borrow in \$..
- that exposes them to exchange rate risk, unless..
- they invoice in \$, validating importers high saving in \$!

A world economy

- Two periods. Two dominated economies with a common currency (€), and a dominant currency ($)
- Importers in economy 1 save in period 1 to purchase goods from exporters in economy 2
- Share a common market for $ assets
- Exogenous exchange rate ε (€per $), $\varepsilon_1 = 1$, $E(\varepsilon_2) = 1$, $Var(\varepsilon) > 0$

Importers

- Endowed with 1\$ in period 1
- Decide between consumption in period 1 and 2. Mean variance prefs
- Save in \$: s to purchase imports
- Take α, share of dollar invoiced imports, as given
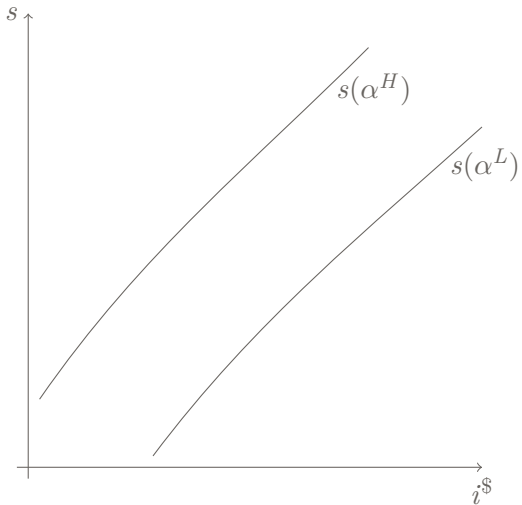
Importers Payoffs and Choices

	P	$E(P)$	$Var(P)$
$T = 1$	$1 - s$	$1 - s$	0
$T = 2$	$s(1 + i^\$)(\alpha + (1 - \alpha)\varepsilon)$	$s(1 + i^\$)$	$s^2(1 + i^\$)^2(1 - \alpha)^2 Var(\varepsilon)$

$$s^* = \frac{i^\$}{(1 + i^\$)^2(1 - \alpha)^2 Var(\varepsilon)}$$

Optimal amount of saving in $\$$ is

- increasing in $i^\$$ (is $i^\$$ not too large)
- Increasing in invoicing in $\$$
- Decreasing in variance of exchange rate

8

$ Saving and $ Invoice shares

Exporters

- Borrow b (fixed) to finance production, mean variance prefs
- Decide share of dollar borrowing (β)
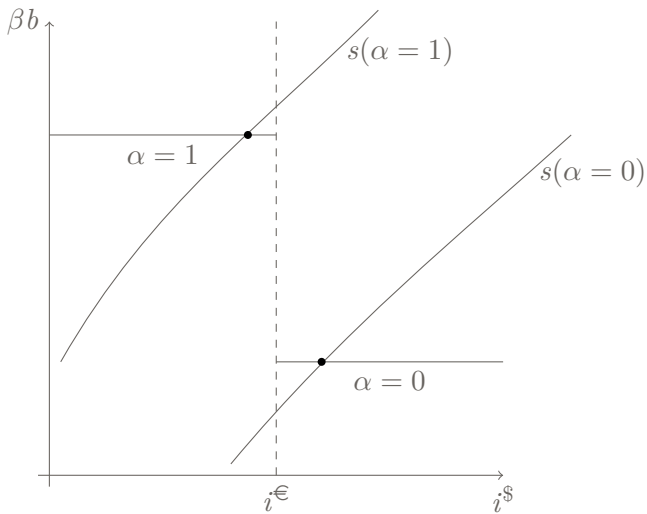- Decide share of dollar invoicing (α)
- per unit profits are

$$\alpha + \frac{(1 - \alpha)}{\varepsilon} - \beta(1 + i^{\$}) - \frac{(1 - \beta)(1 + i^{€})}{\varepsilon}$$

- If $i^{\$} < i^{€}$ cheaper to borrow in \$, set $\beta = 1$ and $\alpha = 1$ to minimize impact of exchange rate on profits
- If $i^{\$} > i^{€}$ cheaper to borrow in €, set $\beta = 0$ and $\alpha = 0$ to minimize impact of exchange rate on profits
- Complementarity between borrowing and invoicing generates bang-bang solution!
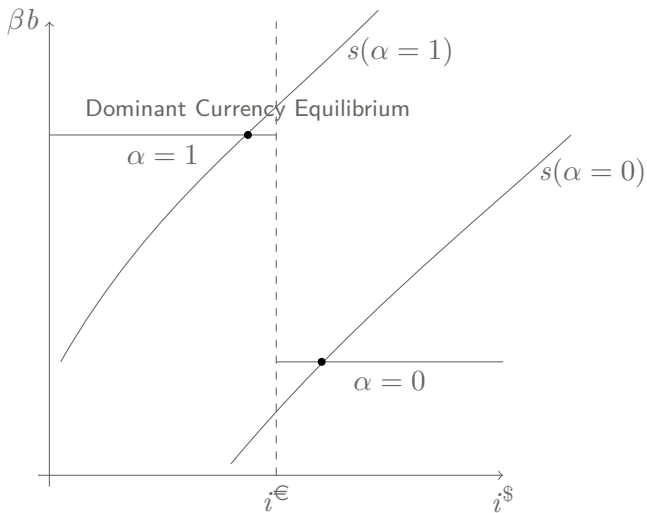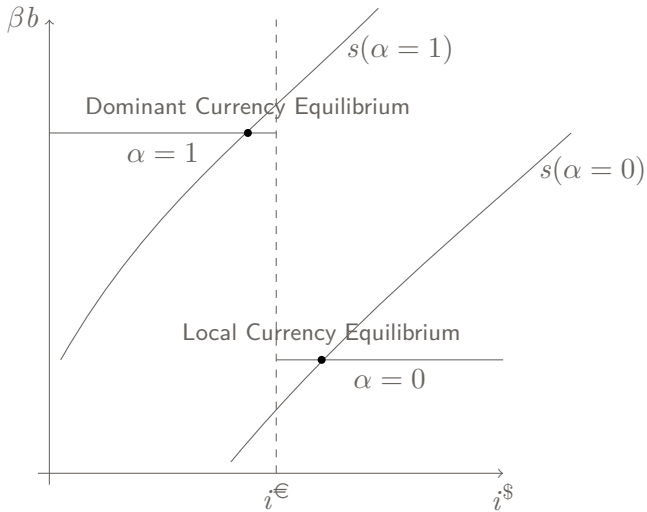
Exporters decisions
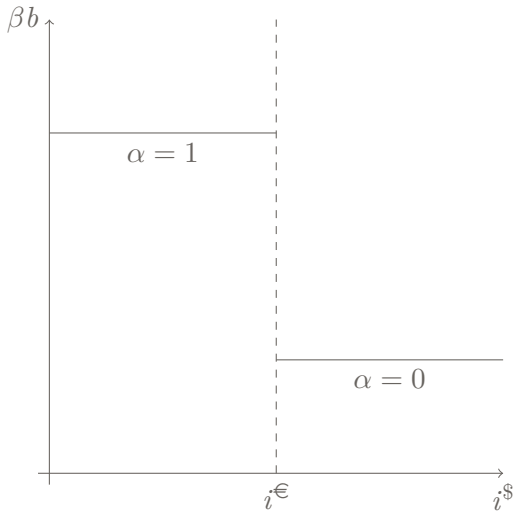
Equilibria

Equilibria

Equilibria

On multiplicity

- Key Friction: exchange rate volatility (and sticky prices) plus incomplete mkts in the invoice currency -> uninsurable risk
- Exporters make invoicing decisions that have an external effect on importers (affect their exposure to exchange rate risk), and similarly for importers (through saving and interest rate)
- Both equilibria look similar in terms of insurance properties (hard to rank)
- Nothing special about the dominant currency (except maybe that larger countries have a higher chances of being dominant)

Hedging

- In practice markets for exchange rate hedging do exist, and, albeit costly, are massively used by importers and exporters
- Are the cost so large to explain the emergence of a dominant currency?
- Maybe other reasons also important for the making of a dominant currency

Is a dominant currency efficient?

So much of barbarism, however, still remains in the transactions of most civilized nations, that almost all independent countries choose to assert their nationality by having, to their own inconvenience and that of their neighbours, a peculiar currency of their own. (John Stuart Mill, 1848, quoted by Rey, 2001)

- Traditional view: dominant currency is efficient because most countries mismanage their currency (this idea lies at the foundation of the Euro)

Is a dominant currency efficient?

So much of barbarism, however, still remains in the transactions of most civilized nations, that almost all independent countries choose to assert their nationality by having, to their own inconvenience and that of their neighbours, a peculiar currency of their own. (John Stuart Mill, 1848, quoted by Rey, 2001)

- Traditional view: dominant currency is efficient because most countries mismanage their currency (this idea lies at the foundation of the Euro)
- Gains for dominant country? Paper provides interesting evidence on efforts by U.S. and China to establish their currency as dominant,suggesting gains can be large
- Alternative view: original sin, models with financial frictions (see e.g. Bocola Lorenzoni, 2017), borrowing in a dominant currency, although privately desirable, exposes an economy to increased aggregate risk (self-fulfilling risk of depreciation)
- More work (normative as well) can be very useful to better understand the optimal design of the international monetary system

Conclusion

- Enjoyed the paper!
- Tackles a fundamental and yet not settled question in international macro
- It suggests many avenues for further work