Exorbitant Privilege and Exorbitant Duty
by Pierre-Olivier Gourinchas, Hélène Rey and Nicolas Govillot

Discussion by: Fabrizio Perri
Minneapolis Fed

NBER SI International Asset Pricing
July 2017

Outline

- Broad Summary
- Exorbitance and Efficiency
- Some comment on the empirics

Exorbitant privilege and duty

- Privilege: in normal times U.S. earns higher rate of returns on its foreign assets than it pays on its foreign liabilities
- Duty: in crisis times US receives lower rate of returns on its foreign assets than it pays on its foreign liabilities, i.e. in crisis times the US transfers resources to the rest of the world

What is behind the exorbitance?

- In a nutshell, US foreign investment more intensive in stocks, Foreigners more intensive in US bonds
- The exorbitance is yet another face of the familiar equity premium, i.e. stocks in normal times pay a much higher return than bonds (US privilege), even though every once in a while they do much worst (US duty)

Exorbitance and equity premium

- To explain equity premium usual tricks are disaster risk (i.e. states of the world in which stocks do really poorly), and moderate risk aversion

- These alone cannot explain the exorbitance: they might explain the foreigner behaviors, but can't explain the US holding foreign stocks

- The key insight of the paper is differences in risk aversion (rather small) can do the trick

- The more risk averse (ROW) holds more bonds, the less risk averse (US) holds more stocks

Exorbitant but Efficient

- One implication of the theory is that the exorbitant allocation is efficient, i.e. equalizes the ratios of marginal utilities across states
- In a sense, by being long in stock and short in bond US provides insurance to ROW in poor states of the world, and is compensated in good states
- Ex-ante the exorbitant allocation is desirable for both countries (as opposed to Autarky)

Exorbitant but Efficient
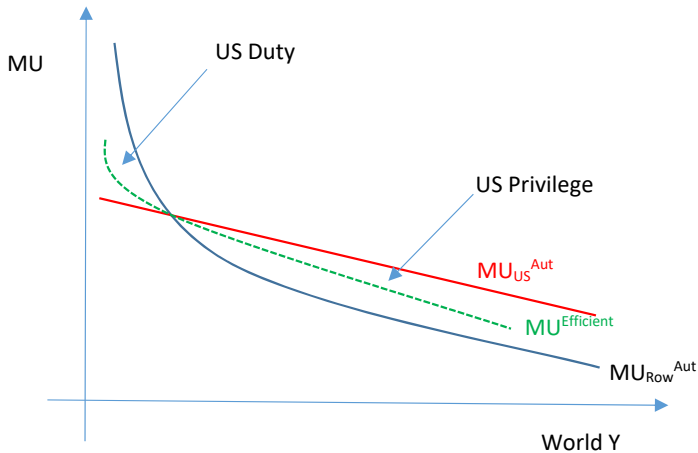
Inefficient exorbitance?

- An alternative stylized model (loosely based on Fahri and Maggiori, 2016)
- Two countries $(\ ,*)$, two periods $(0,1)$
- Identical endowments $y, \phi y, 0 < \phi < 1$ (Generate saving motive)
- Identical preferences
- US: only issuer of risk free debt (key assumption), in fixed quantity $\bar{B}$, price of debt in period 0 is q
- World($*$): receives in period 1 fruits from a tree
  $y^* \sim F(y^*), E(y^*) = 1$,price of tree in period 0 is p

Budget constraints

$$\begin{aligned}
y + q\bar{B} &= c_0 + ps \\
y + p &= c_0^* + ps^* + qb^*
\end{aligned}$$

$$\begin{aligned}
\phi y + sy^* - \bar{B} &= c_1 \\
\phi y + s^* y^* + b^* &= c_1^*
\end{aligned}$$

Market clearing

$$\begin{aligned}
s + s^* &= 1 \\
b^* &= \bar{B}
\end{aligned}$$

Equilibrium

Given $\bar{B}$,

$$p, q, s$$

that solve:

$$
\begin{aligned}
pu'(c_0) &= \beta E_{y^*} y^* u'(c_1) \\
qu'(c_0^*) &= \beta E_{y^*} u'(c_1^*) \\
pu'(c_0^*) &= \beta E_{y^*} y^* u'(c_1^*)
\end{aligned}
$$

- Foreigners price the US bond

Features

- The model generates (by construction) that US FA are more intensive in stocks, and Foreign investments more intensive in bonds (Here US has monopoly power in issuance of bonds)
- Model generates an exorbitant privilege as

$$\frac{1}{p} > \frac{1}{q}$$

stocks command a lower price (and higher return) because they are a worst saving vehicle

- Model generates exorbitant duty as when $\bar{B} > 0$ and y^* is low, US transfer resources to the rest of the world

Features

- The model generates (by construction) that US FA are more intensive in stocks, and Foreign investments more intensive in bonds (Here US has monopoly power in issuance of bonds)
- Model generates an exorbitant privilege as

$$\frac{1}{p} > \frac{1}{q}$$

  stocks command a lower price (and higher return) because they are a worst saving vehicle
- Model generates exorbitant duty as when $\bar{B} > 0$ and y^* is low, US transfer resources to the rest of the world
- So far same as GRG

Welfare
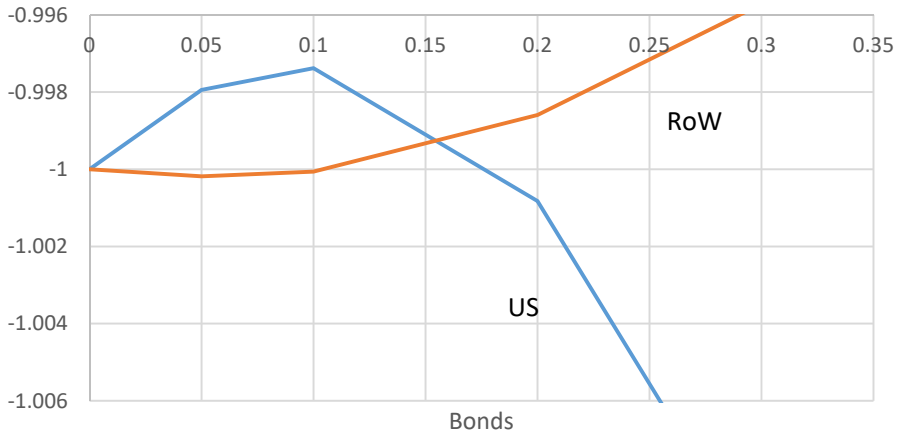
Bonds issuance and welfare

- Supply of safe bonds can affect welfare of both countries in very different ways

- For all all positive $\bar{B}$ US experience exorbitant privilege and duty, but:

- When $\bar{B}$ low US gains and Row loses. US provides insurance but it charges a high price for it (very low interest rate) (Optimal monopolist strategy, as in Costinot, Lorenzoni and Werning, 2014)

- Moreover as a better saving instrument becomes available, stock prices fall, lowering ROW welfare (pecuniary externality, due to incomplete mkts)

- As debt issuance increase, bond prices fall (price of insurance is lowered), stock prices recover, increasing welfare of ROW and lowering welfare of US
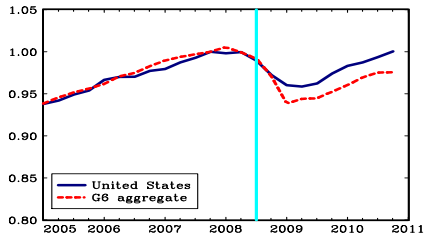
# Asset prices
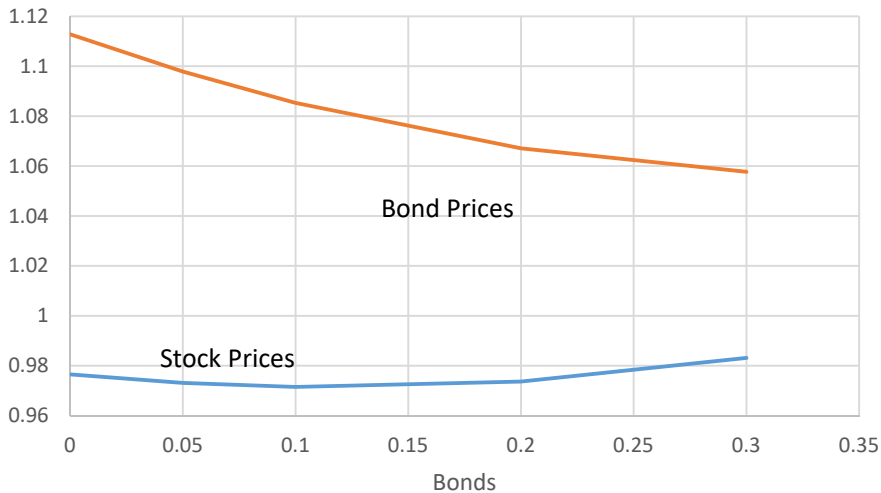
Suggestions on the empirical part

- Where do the duty and privilege come from? i.e. emerging markets? Developed economies? Breaking it down might be useful to pick candidate explanations for the exorbitance

- The data for exorbitant privilege is in term of returns differential, the data for the exorbitant duty is in term changes in NFA. It'be nice to have a visual of duty and privilege in the same units (return differential?)

- This paper, as many others, focuses on insurance properties of financial flows, but these flows should show up in consumption and income..

The Great Recession, GDP and Consumption
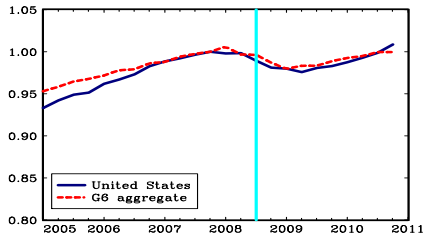
(From Perri and Quadrini, 2016)

Conclusions

- One of the first papers (with Mendoza, Quadrini and Rios Rull, 2009, Caballero, Fahri and Gourinchas, 2008) that started to think about international financial flows in the globalization era through the lens of a structural model

- Substantial improvements from the first version, with a nice quantitative section, stressing the link between asset pricing and financial flows

- Jury is still out on the efficiency of flows, and the welfare impact of of the special role of the US