Financial and Labor Market Frictions in a Small Open Economy Model

Lawrence J. Christiano

Northwestern University

Mathias Trabandt

Sveriges Riksbank

Karl Walentin

Sveriges Riksbank

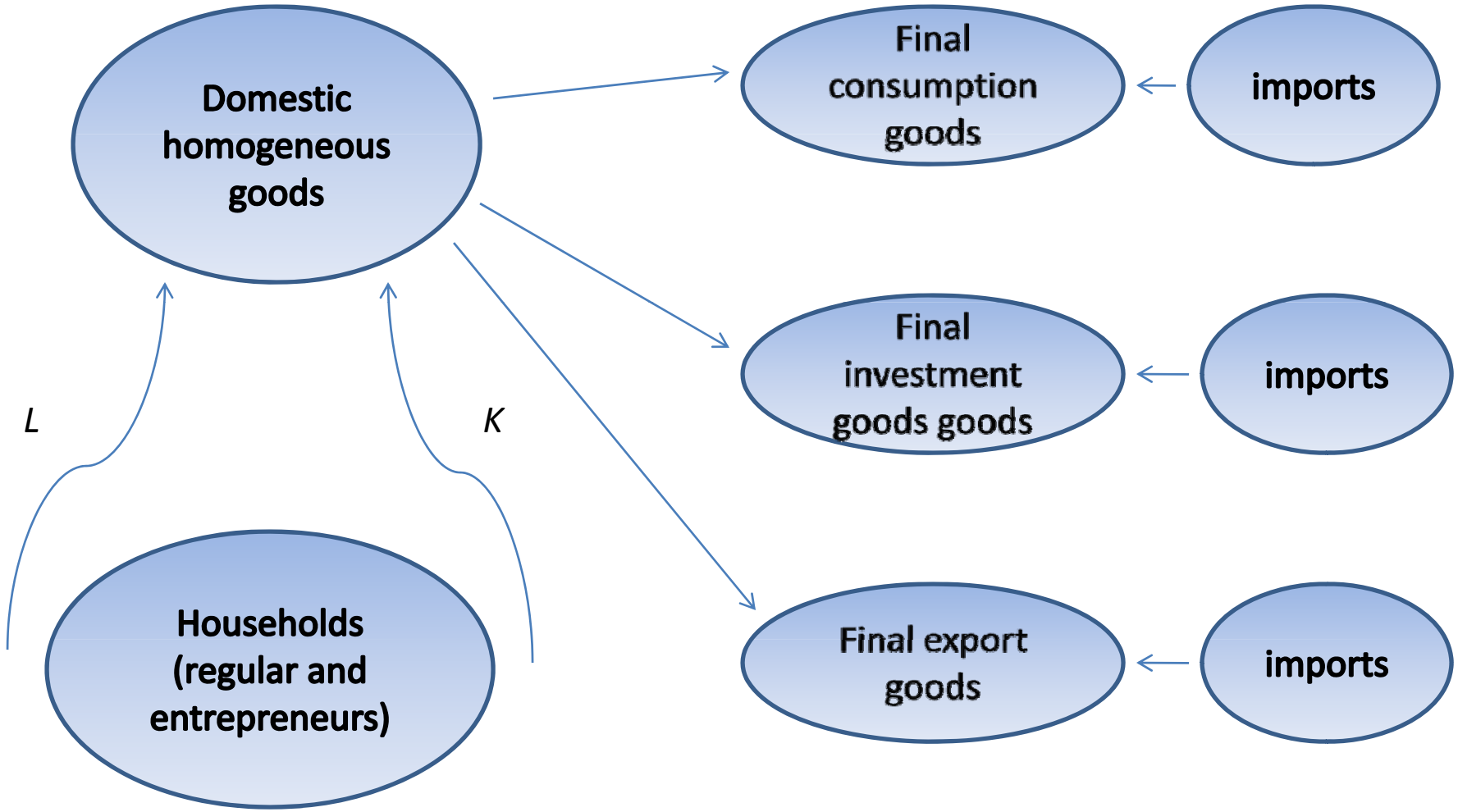
Questions:

- Are Financial Frictions Important as a Source of Shocks and/or Propagation in Aggregate Data?

Model Structure

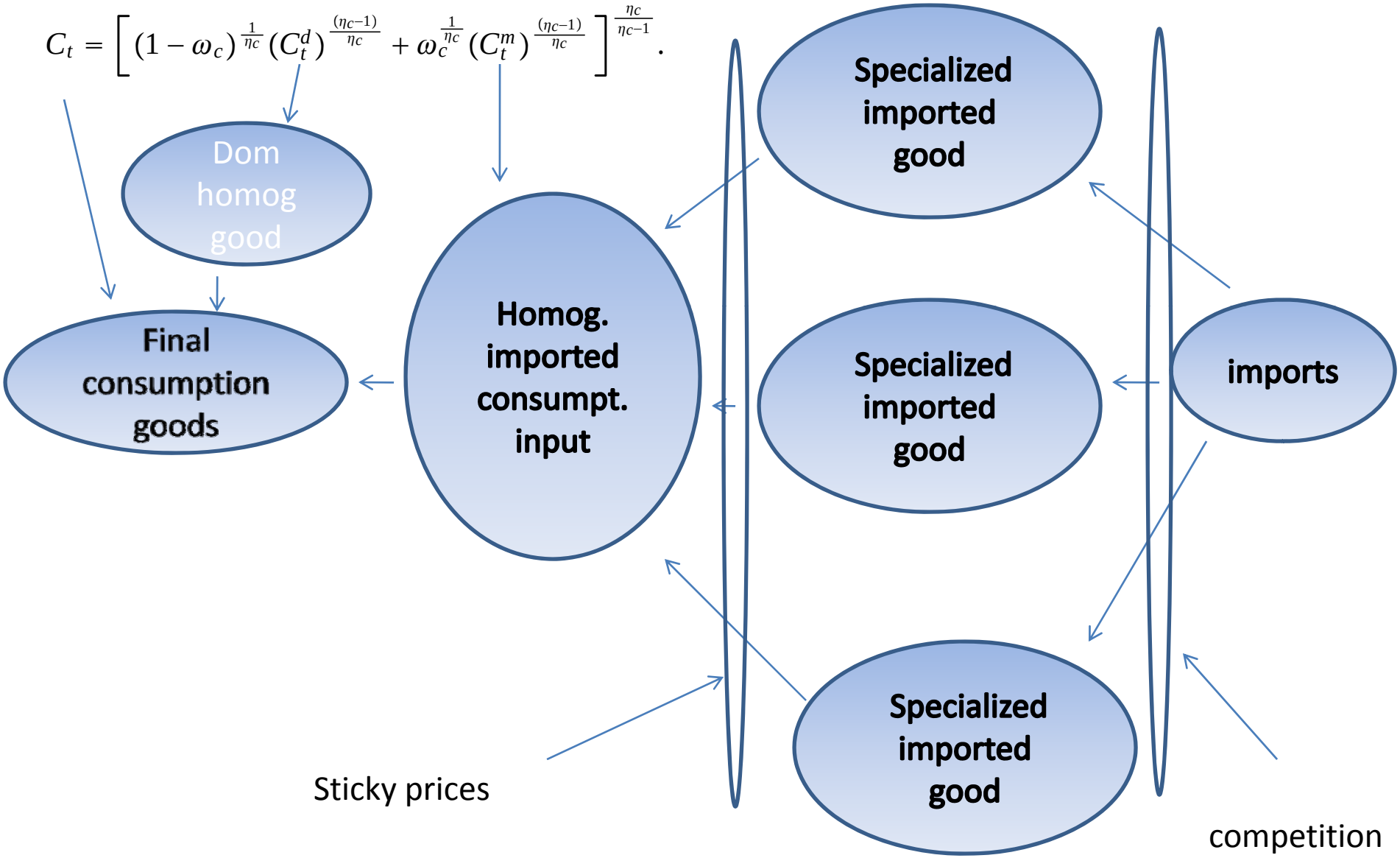
- Base: closed economy model of CEE.
- Add: Financial Frictions as in BGG, CMR.
- Add: Labor Market Frictions as in MP, Gertler-Trigari, CIMR.
- Add: Open Economy as in Adolfson, Laséen, Lindé and Villani (2005)

Small Open Economy



Small Open Economy

$$C_t = \left[(1-\omega_c)^{\frac{1}{\eta_c}} (C_t^d)^{\frac{(\eta_c-1)}{\eta_c}} + \omega_c^{\frac{1}{\eta_c}} (C_t^m)^{\frac{(\eta_c-1)}{\eta_c}} \right]^{\frac{\eta_c}{\eta_c-1}}.$$



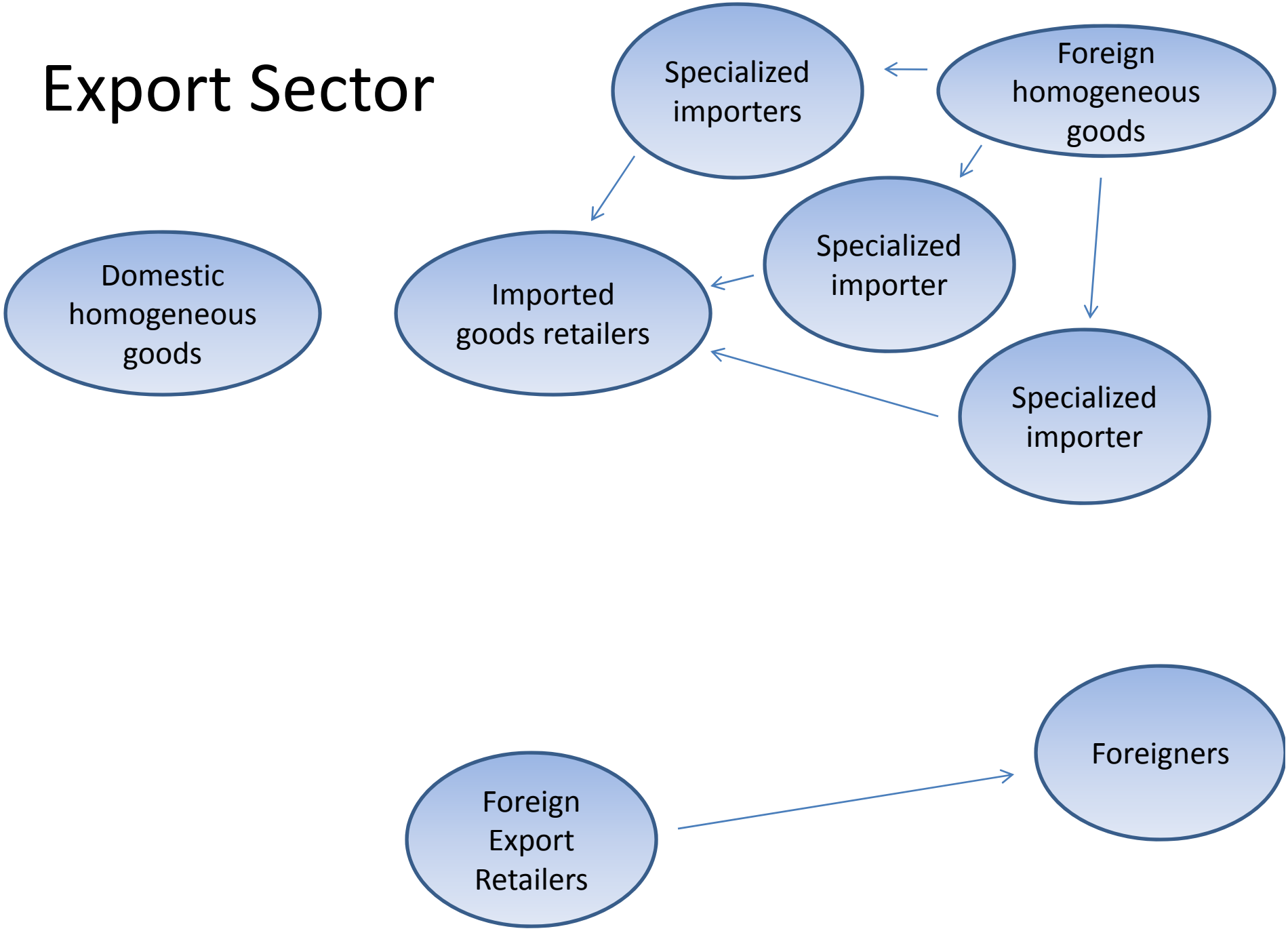
Need Additional Price Frictions in Export Sector

- Exports potentially defeat ‘hump-shape’ response of output to a monetary shock.

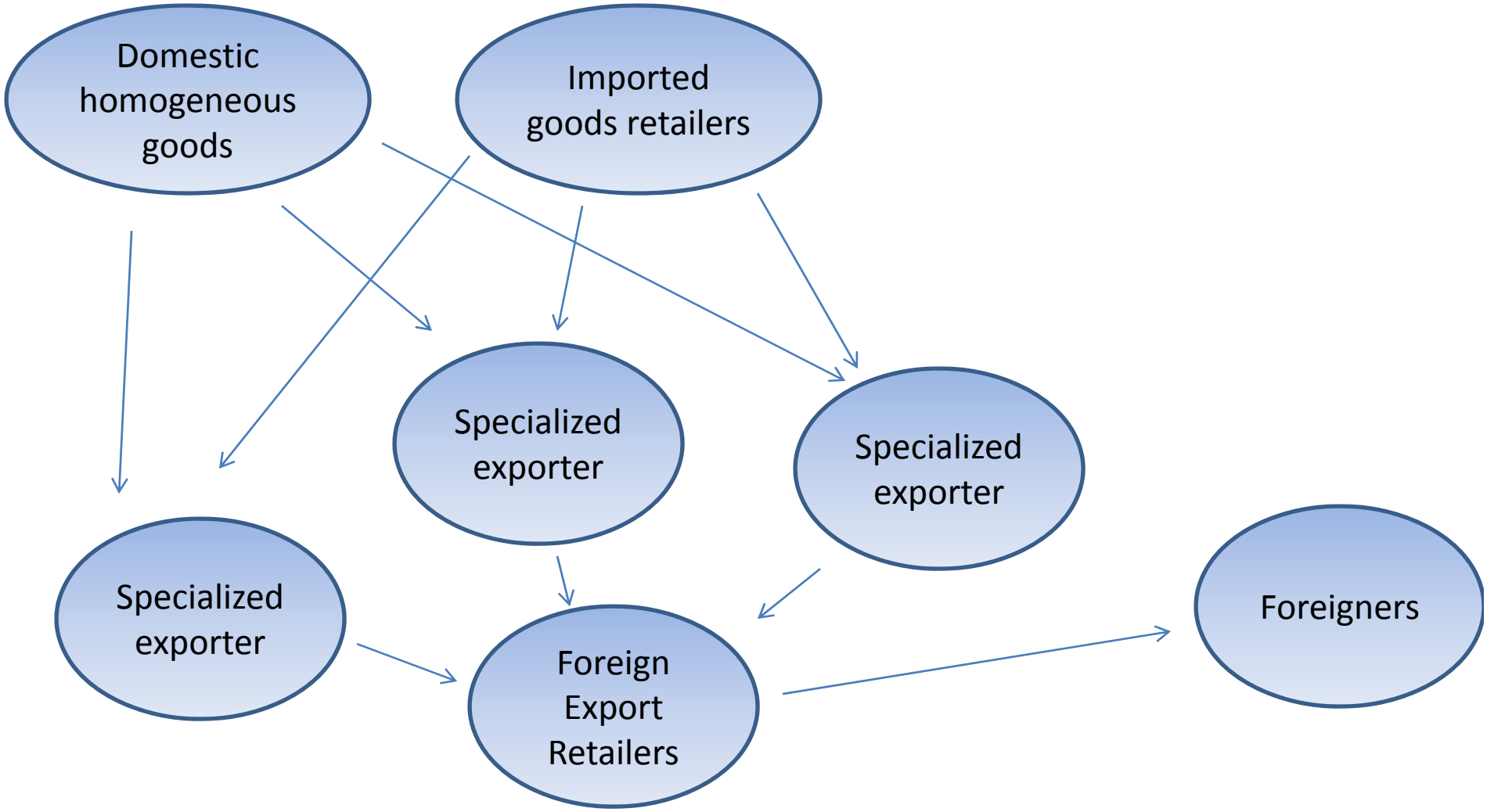
- Recall: habit in consumption, investment adjustment costs limit rise in demand after monetary policy shock, and so limit rise in output in closed economy.

- In open economy, extra source of demand: exports.
  - Expansionary MP shock depreciates exchange rate, S, stimulates foreign demand.
  - To stop this, we suppose that exports have sticky prices, set in foreign currency units (‘pricing to market’)

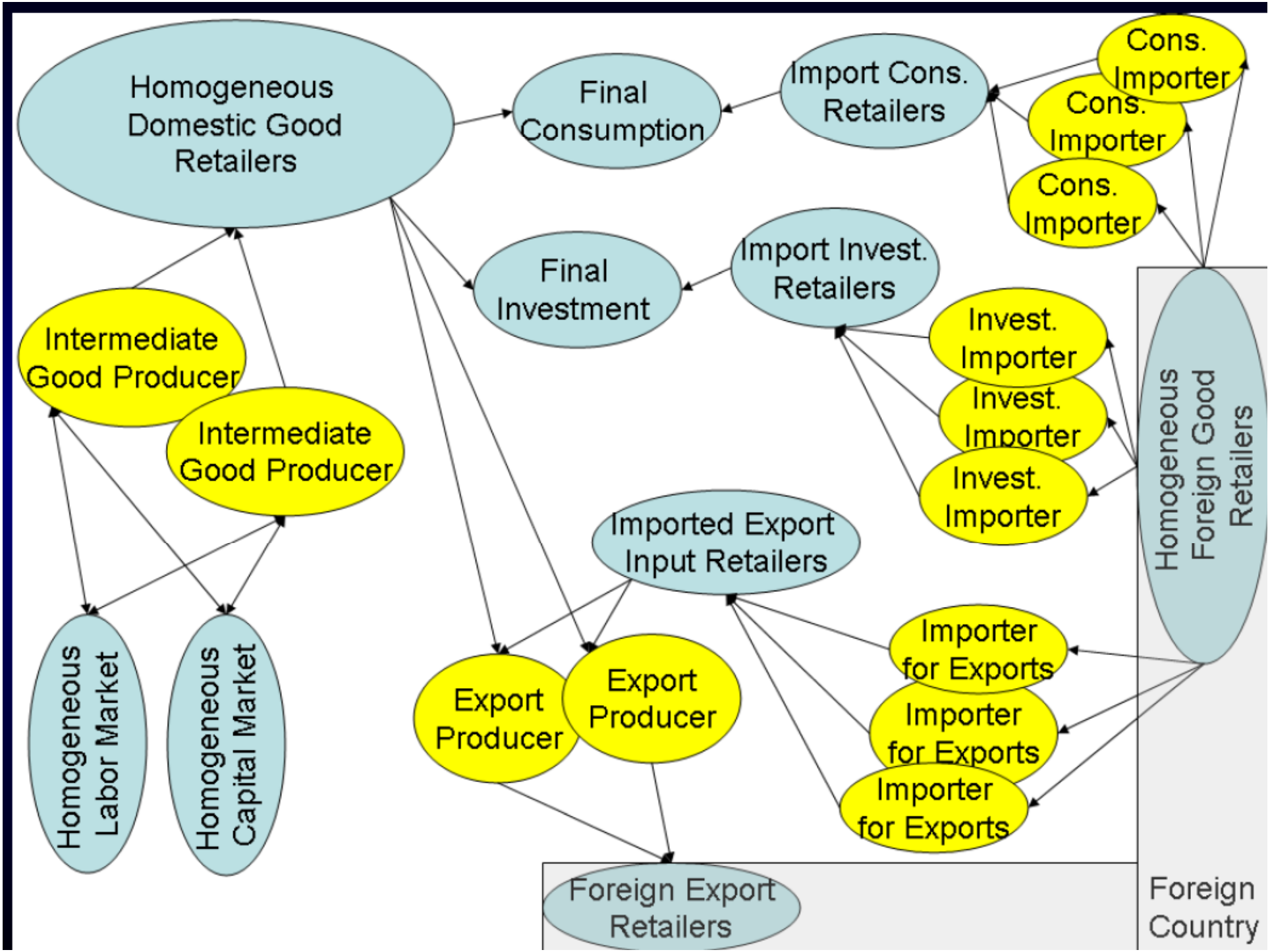
Export Sector



Export Sector



- The whole economy….all at once!


Homogeneous Domestic Good Retailers
Final Consumption
Import Cons. Retailers
Cons. Importer
Cons. Importer
Cons. Importer
Final Investment
Import Invest. Retailers
Invest. Importer
Invest. Importer
Invest. Importer
Homogeneous Foreign Good Retailers
Intermediate Good Producer
Intermediate Good Producer
Imported Export Input Retailers
Homogeneous Labor Market
Homogeneous Capital Market
Export Producer
Export Producer
Importer for Exports
Importer for Exports
Importer for Exports
Foreign Export Retailers
Foreign Country