"Understanding Markups in the Open Economy"

by B. de Blas and K.N. Russ

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What this Paper is About

- Illustrate analytically the **pro-competitive effects of trade** in an economy with heterogeneous firms operating under Bertrand competition.

  - Trade structure *á la* BEJK 03 with **free entry**.

  - Differences in **technology** and **geography** affect **contestability, prices and mark-ups**.

- Main results:

  - (under symmetry) free trade increases contestability and decreases prices and mark-ups $\Rightarrow$ important for the calculation of the **gains from trade**;

  - variable markups $\Rightarrow$ incomplete pass-through, pricing to market, and higher rigidity of export prices compared to domestic prices.

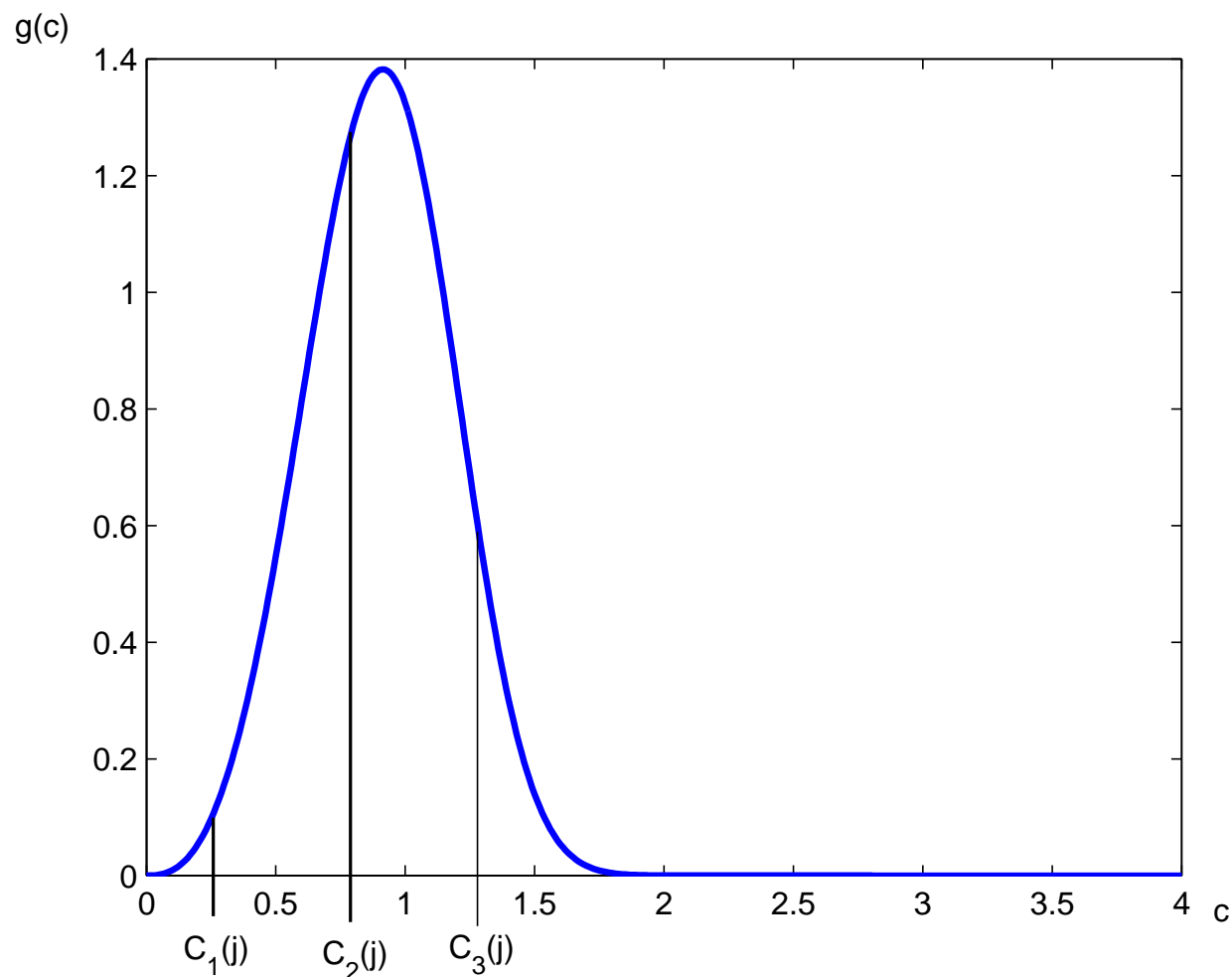# Contestability, Prices, and Mark-ups

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Figure 1: Distribution of unit costs to produce good j, $r = 3$.

$$P(j) \quad = \quad \min\left\{\frac{\sigma}{\sigma - 1}C_1(j), C_2(j)\right\}$$

$$M(j) \quad = \quad \min\left\{\frac{\sigma}{\sigma - 1}, \frac{C_2(j)}{C_1(j)}\right\}.$$
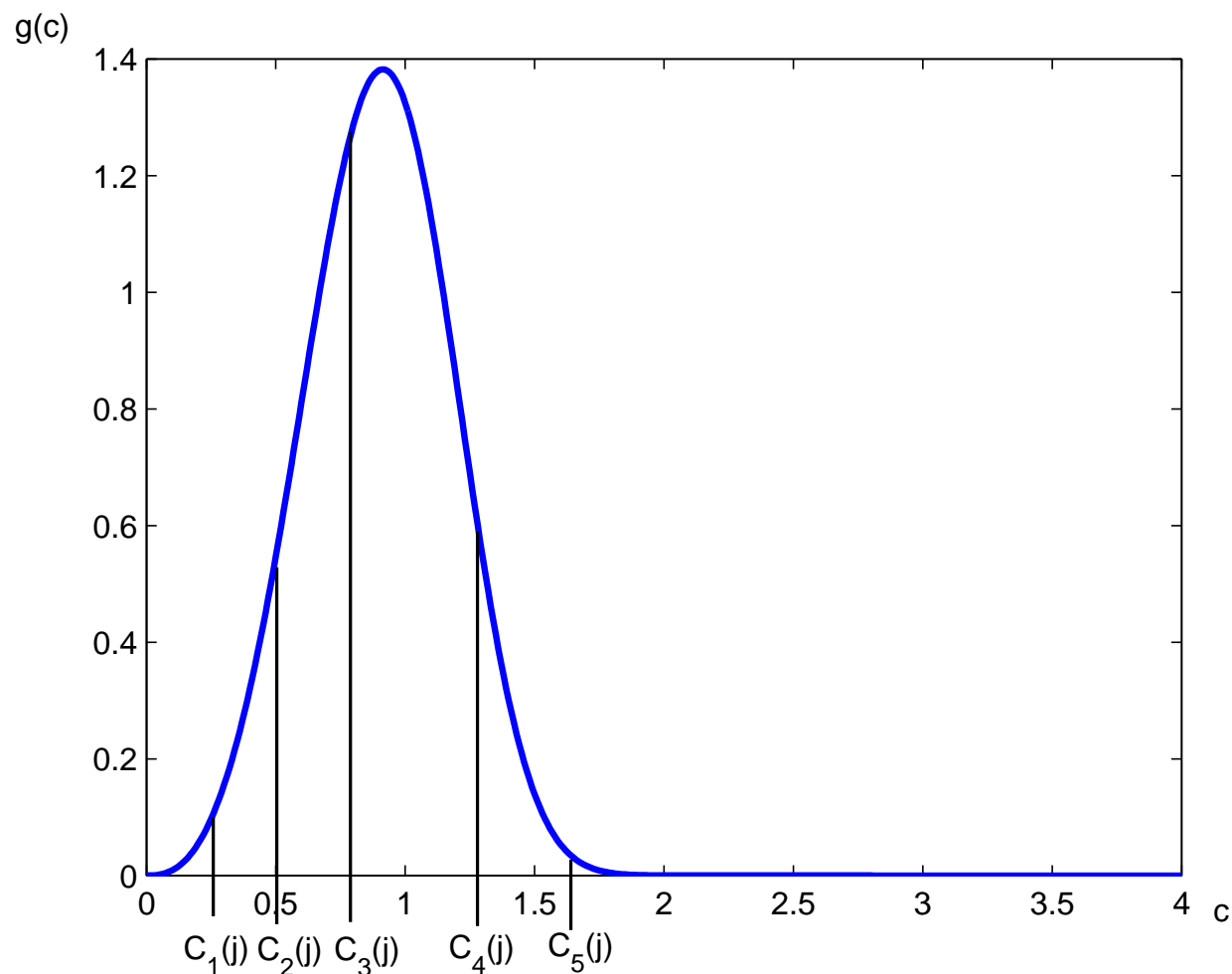
Contestability, Prices, and Mark-ups

Figure 1: Distribution of unit costs to produce good j, $r = 5$.

$$P(j) \quad = \quad \min\left\{\frac{\sigma}{\sigma - 1}C_1(j), C_2(j)\right\}$$

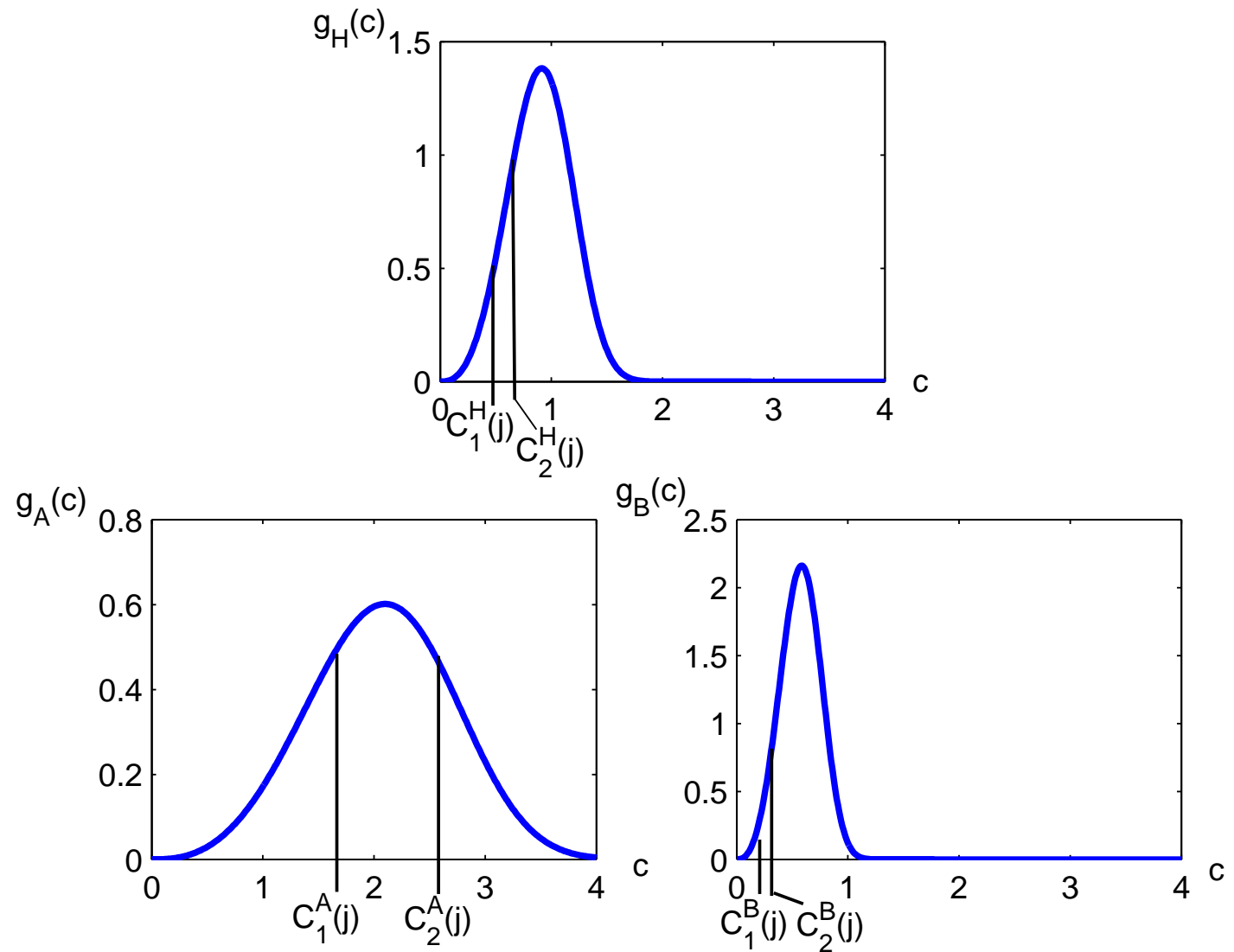$$M(j) \quad = \quad \min\left\{\frac{\sigma}{\sigma - 1}, \frac{C_2(j)}{C_1(j)}\right\}.$$

Opening to Trade

Figure 2: Distribution of unit costs to produce good j, 3 asymmetric countries

Opening to Trade (contd.)

In an asymmetric world with trade frictions, **trade liberalization**:

- (weakly) **reduces prices**.

    ○ Ricardian effects + possible reductions in mark-ups.

- is likely to **reduce mark-ups**.

    ○ Mark-ups could increase if opening to trade with a "superstar".

Two questions:

1. is the pro-competitive effect important **quantitatively**?

2. what is the role of **free entry**? (endogenous contestability r)

On the Pro-Competitive Effect of Trade

ACDR 2012: the **pro-competitive effect of trade** is **negative** in models with monopolistic competition and variable mark-ups.

- with log-concave demand systems, a drop in d induces firms to reduce their prices and increase their mark-ups, so the gains are lower compared to models with constant mark-ups.

A different mechanism in BEJK and De Blas and Russ!
Because competition is within each variety, a drop in d:

a. may decrease the cost of the 1st best supplier (and increase the mark-up)

b. may decrease the cost of the 2nd best supplier (and lower the mark-up $\frac{C_2(j)}{C_1(j)}$)

In BEJK the two effects cancel out (no pro-competitive effect), while De Blas and Russ argue that b. dominates.

Does Free Entry Matter for the Gains from Trade?

In BEJK, the distribution of mark-ups is invariant to d, while it depends on d in De Blas and Russ. However:

- Whether properties of the distribution of mark-ups deliver a sizable pro-competitive effect of trade depends on the calibration, mainly on θ and σ.

- Is possible to obtain a distribution of mark-ups that depends on d also without free entry:

  ○ Garetto (2012): Bertrand competition with incomplete information $\Rightarrow$ each producer cannot observe the cost of his rivals, and set prices based on expectations.

  ○ Numerical simulations of a symmetric 2-country world ($\theta = 3.6$, $\sigma = 3.79$) deliver welfare gains from autarky to free trade (units of consumption per capita) of 4.94%, of which only 0.12% is due to the pro-competitive effect.
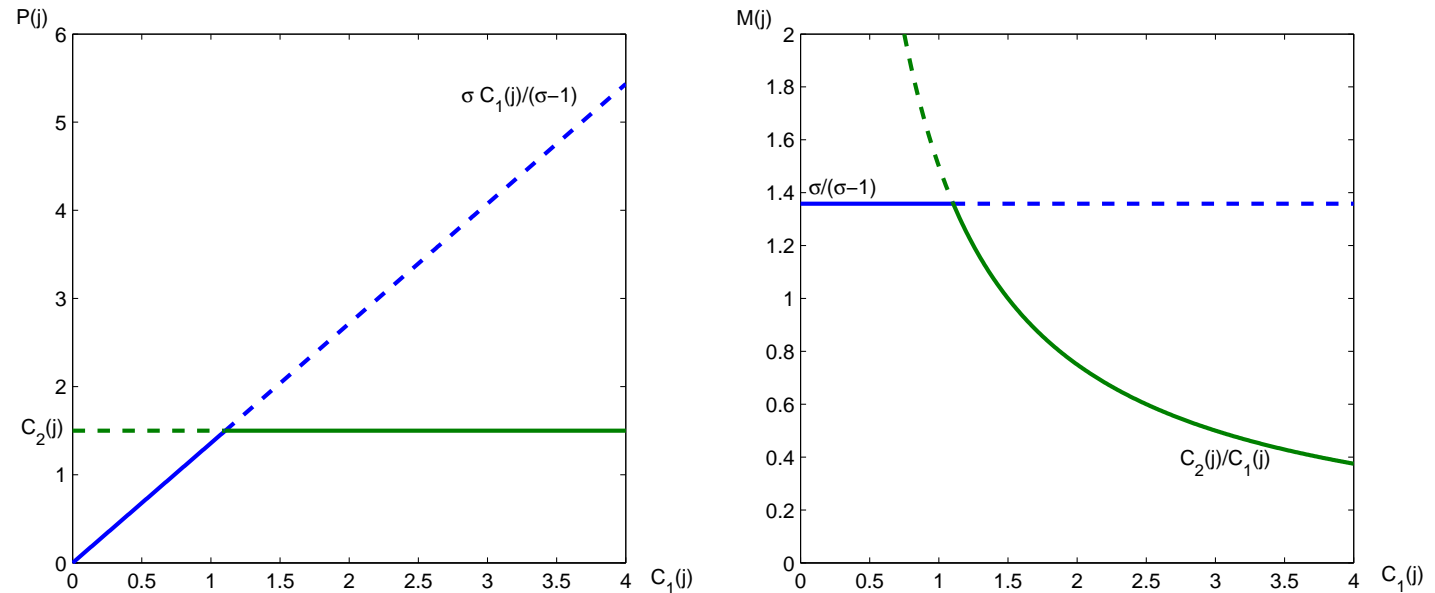
Figure 3: Prices and Mark-ups as functions of unit costs.

- To obtain incomplete pass-through and pricing-to-market, one needs prices (mark-ups) that are concave (decreasing) in unit costs.

- Export sales entail higher unit costs, hence higher prices and lower mark-ups than domestic sales.

On Price Adjustments: Comments

Comments about the numerical results:

- Why not to use the full model (with free entry) to simulate the effects of cost shocks?

- Contestability does not seem quantitatively very important for the "macro" predictions.

- Pass-through on exports close to zero and unresponsive to changes in d, r: seems like the relevant "region" is the one where $P(j) = C_2(j)$. But this again depends on the parameters of the cost distribution.

Conclusions

- Elegant model that sheds light on the interaction of technology, geography and market contestability in an analytical form!

- Interesting results on both the welfare gains from trade and the nature of price adjustments following idiosyncratic shocks.

- I look forward to more work on this agenda!