Discussion of

"Markups and Firm-Level Export Status"

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Slovenia 1990-2006

Growth accounting

$$Y_t = A_t K_t^{\alpha} L_t^{1-\alpha}$$

$$K_{t+1} = (1-\delta) K_{t+1} + I_t$$

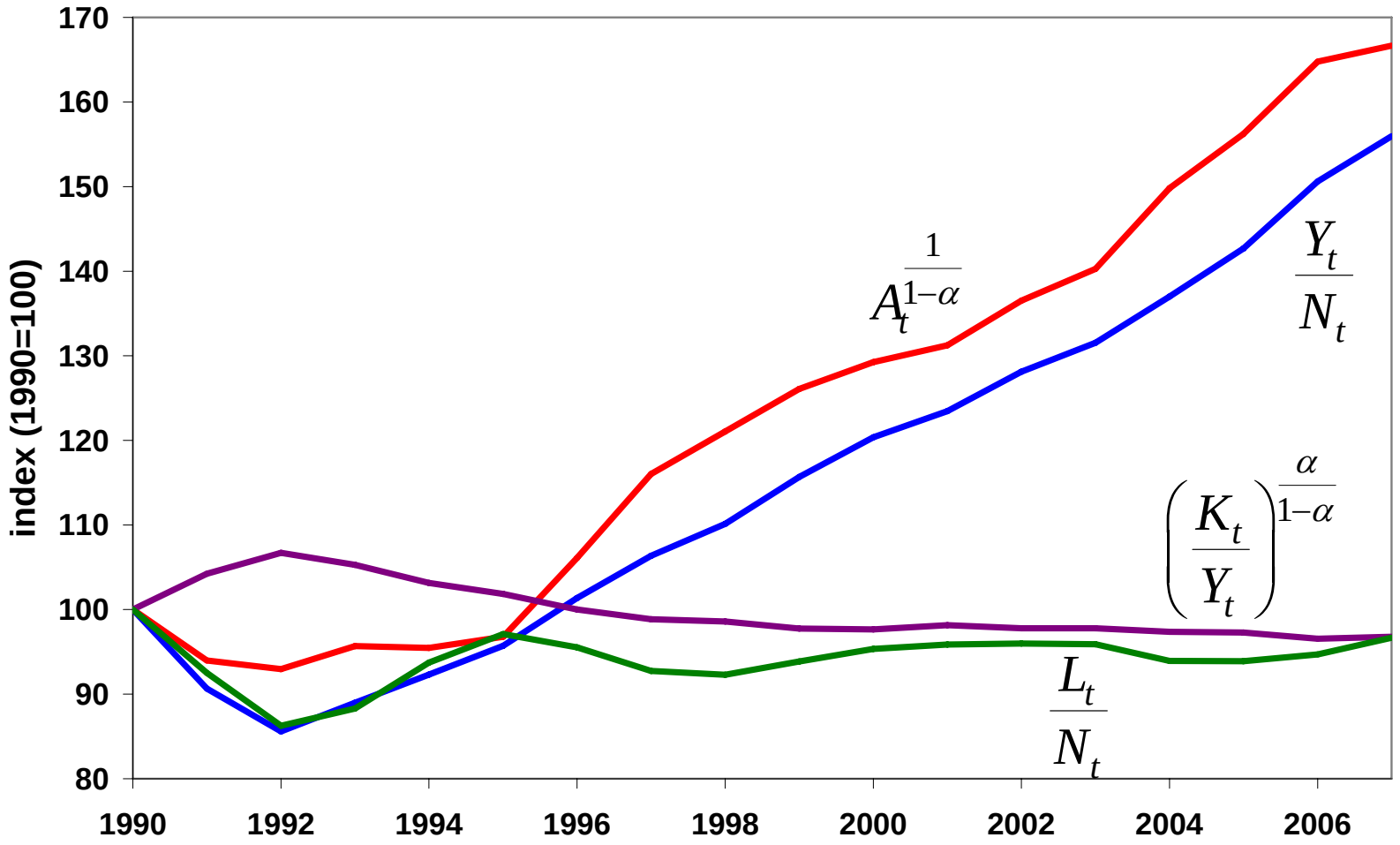
$$\frac{Y_t}{N_t} = A_t^{\frac{1}{1-\alpha}} \left(\frac{K_t}{Y_t} \right)^{\frac{\alpha}{1-\alpha}} \frac{L_t}{N_t}$$

Important dates

1991 independence from Yugoslavia

2004 integration into the European Union

Growth accounting for Slovenia



Did increased exporting activity drive the aggregate increase in productivity during in Slovenia in the 1990s?


International trade in Slovenia
percent GDP
100
90
80
70
60
50
40
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
exports
imports

Did increased exporting activity drive the aggregate increase in productivity during in Slovenia in the 1990s?

In 1980s and 90s, Mexico expanded its exporting activity far more rapidly than did Chile, but productivity grew far more rapidly in Chile than it did in Mexico.

De Loecker-Frederic Warzynski paper

Dataset: all 7,915 firms active in Slovenian manufacturing 1994-2000.

Export status: domestic producer, export entrant, export quitter, or continuing exporter, by year.

$$\Delta q_{it} = \mu\left[\alpha_{Lit}\Delta \ell_{it} + \alpha_{Mit}\Delta m_{it} + \alpha_{Kit}\Delta k_{it}\right] + \Delta\omega_t + \Delta\varepsilon_{it}$$

Set $i_{it} = i_t(\omega_{it}, k_{it})$, and assume that $\dfrac{\partial i_t(\omega_{it}, k_{it})}{\partial \omega_{it}} > 0$. Then

$$\omega_{it} = h_t(i_{it}, k_{it})$$

$$\Delta q_{it} = \mu\left[\alpha_{Lit}\Delta \ell_{it} + \alpha_{Mit}\Delta m_{it} + \alpha_{Kit}\Delta k_{it}\right] + h(i_{it}, k_{it}) - h(i_{it-1}, k_{it-1}) + \Delta\varepsilon_{it}$$

$$\Delta q_{it} = \mu\left[\alpha_{Lit}\Delta \ell_{it} + \alpha_{Mit}\Delta m_{it}\right] + \left[\alpha_{Kit}\Delta k_{it} + h(i_{it}, k_{it}) - h(i_{it-1}, k_{it-1})\right] + \Delta\varepsilon_{it}$$

$$\Delta q_{it} = \mu\left[\alpha_{Lit}\Delta \ell_{it} + \alpha_{Mit}\Delta m_{it}\right] + \tilde{\phi}_t(i_{it-1}, k_{it-1}, P_{it}) + \Delta\varepsilon^{*}_{it}$$

P_{it} is survival probability at $t-1$

Use ℓ_{t-1} and m_{t-1} to instrument for ℓ_t and m_t.

Run regressions of this form, and alternatives, that include dummy variables for export status.

This is the only place where information on international trade enters the model.

Notice that to disentangle the change in productivity term from the cost of capital term, we need to use information on α_{Kit}.

Macro data show that if it is exports driving productivity growth, it is not aggregate exports, but the composition of exports.

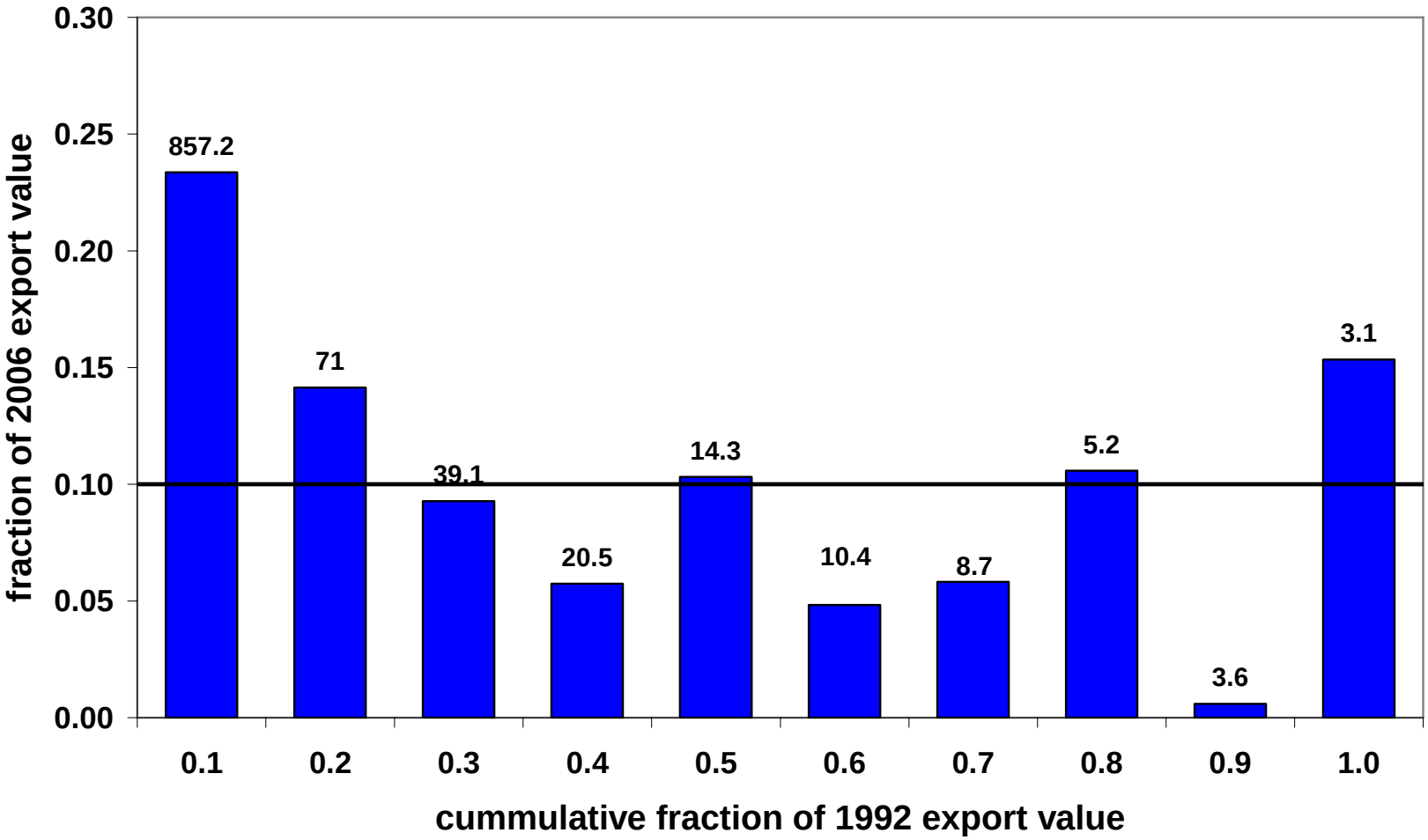
Why not look at imports? (Broda-Weinstein 2004)

Kehoe and Ruhl (2002, 2009), "How Important is the New Goods Margin in International Trade?"

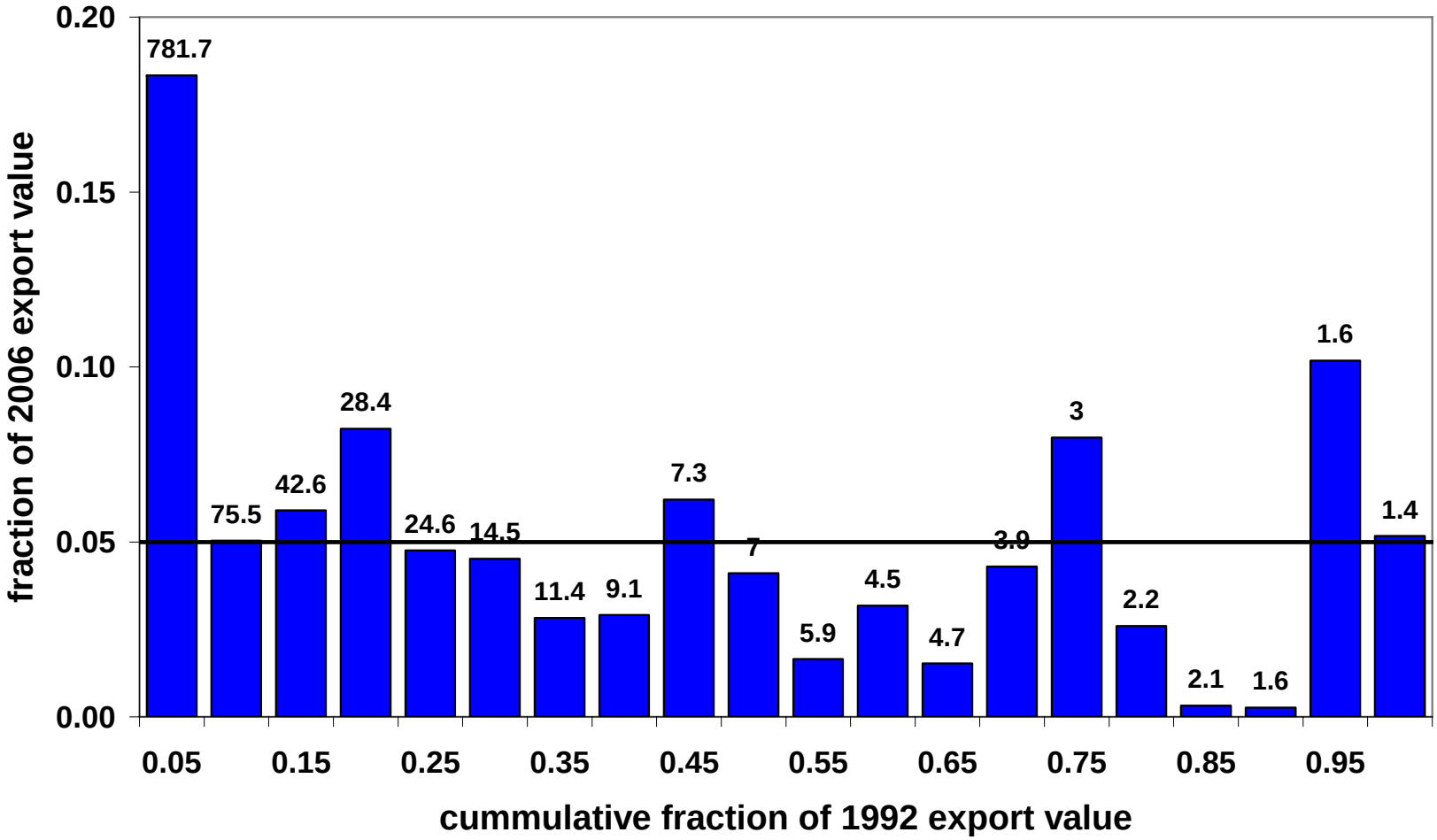
Data:
four-digit SITC bilateral trade data (1033 categories in SITC.R3 — source: OECD).

Exercise:
- rank categories in order of base year exports (averaged with two subsequent years).
- form sets of categories by cumulating exports in base year — the first 2 categories account for 10 percent of exports, for example; the next 4 categories account for 10 percent of exports; and so on.
- calculate the fraction of exports in subsequent years accounted for by each set of categories.

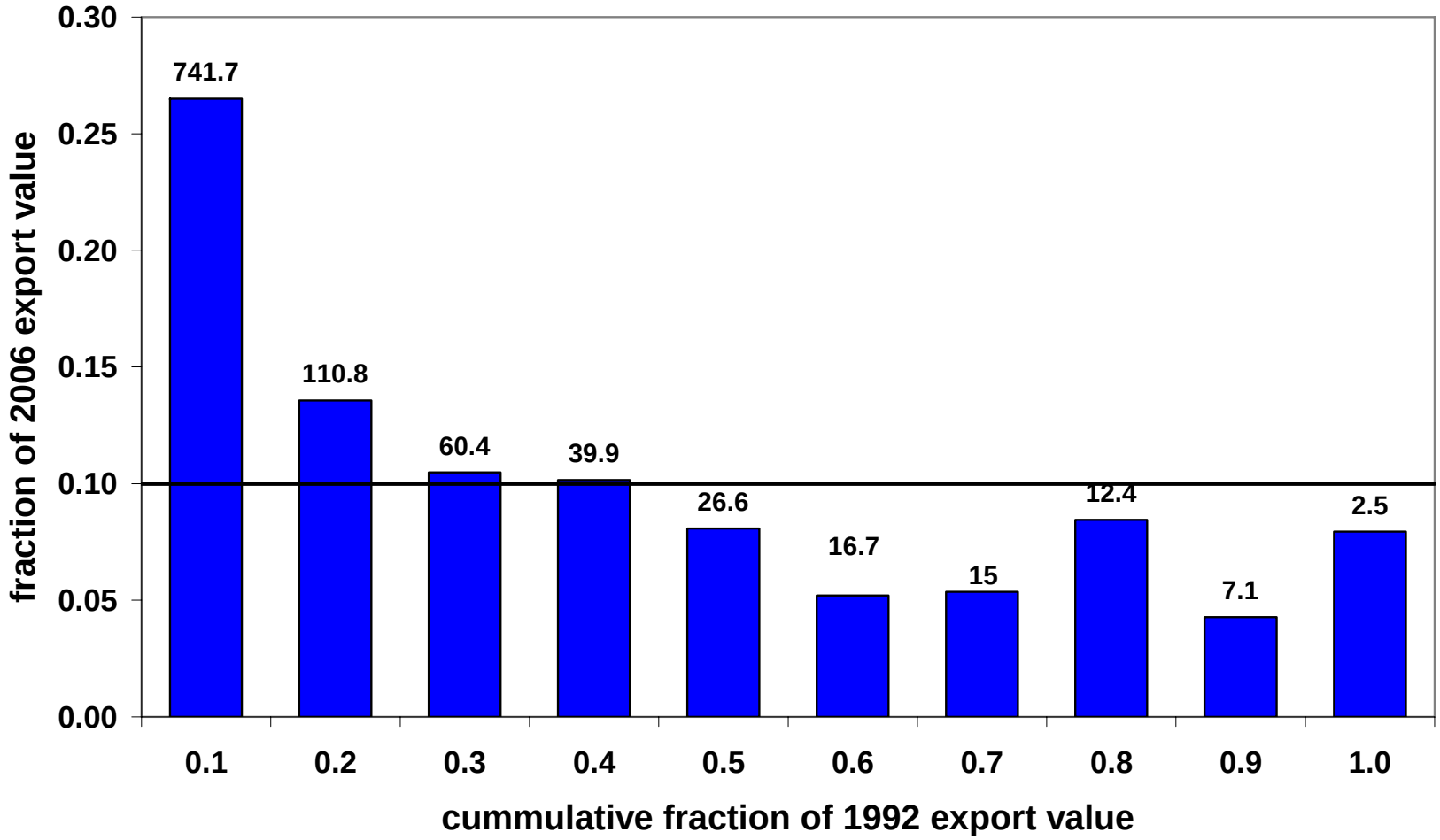
Composition of exports: Slovenia to Germany



Composition of exports: Slovenia to Germany

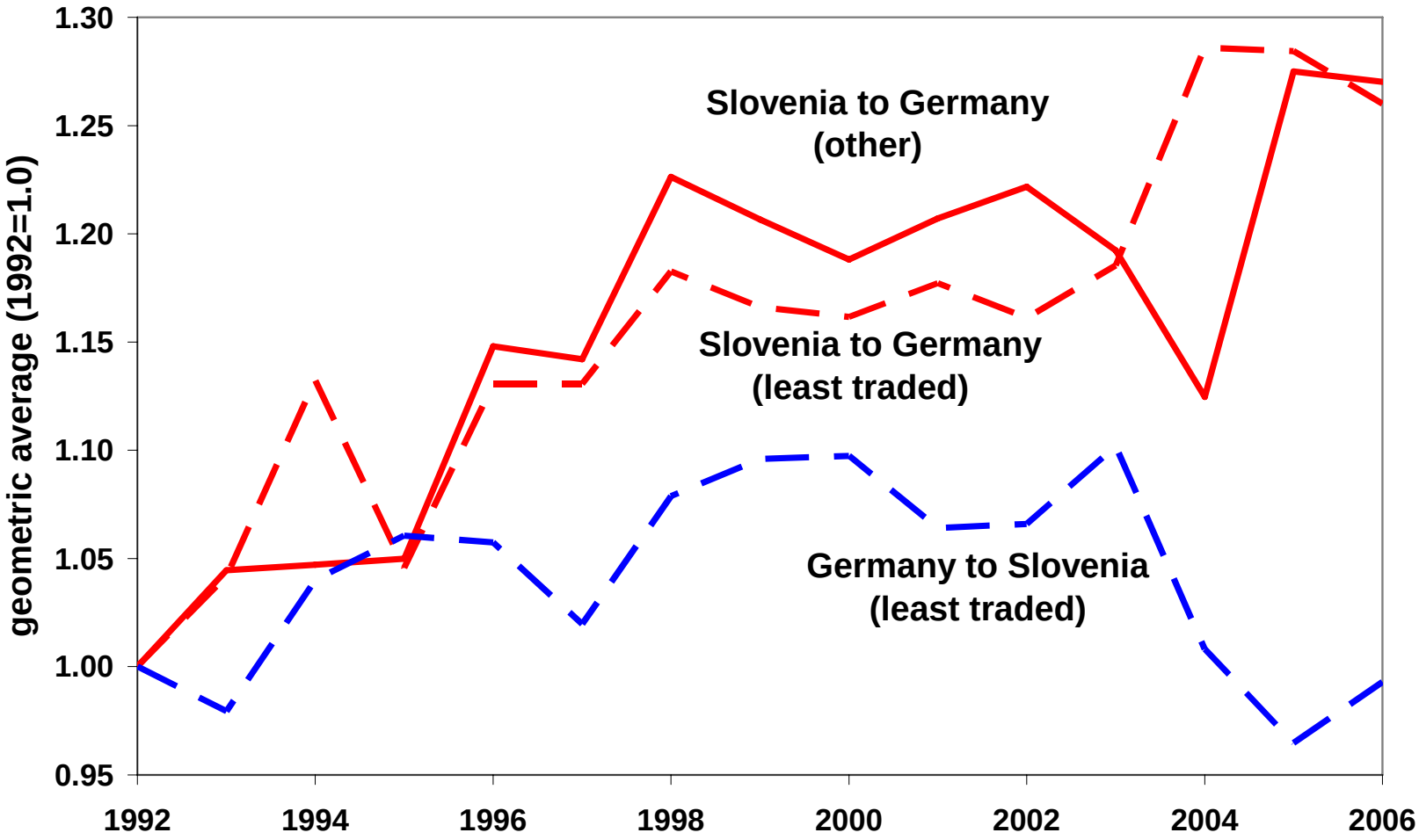


Composition of exports: Germany to Slovenia




Least traded goods: Germany and Slovenia
fraction of export value
0.30
0.25
0.20
0.15
0.10
0.05
0.00
1992
1994
1996
1998
2000
2002
2004
2006
Slovenian exports to Germany
German exports to Slovenia

Prices relative to German exports to Slovenia (other)



Why should exporters be able to charge higher markups?

Germans and Italians have different utility functions than do Slovenians.

Germans and Italians have higher incomes and utility is nonhomothetic. (Goksel 2008 and Simonovska 2008)

Nature of competition may be different in Germany and Italy than it is in Slovenia.

Wiseman (2009), “Heterogeneous Firms, Markups in Free Entry Equilibria, and Location Models”

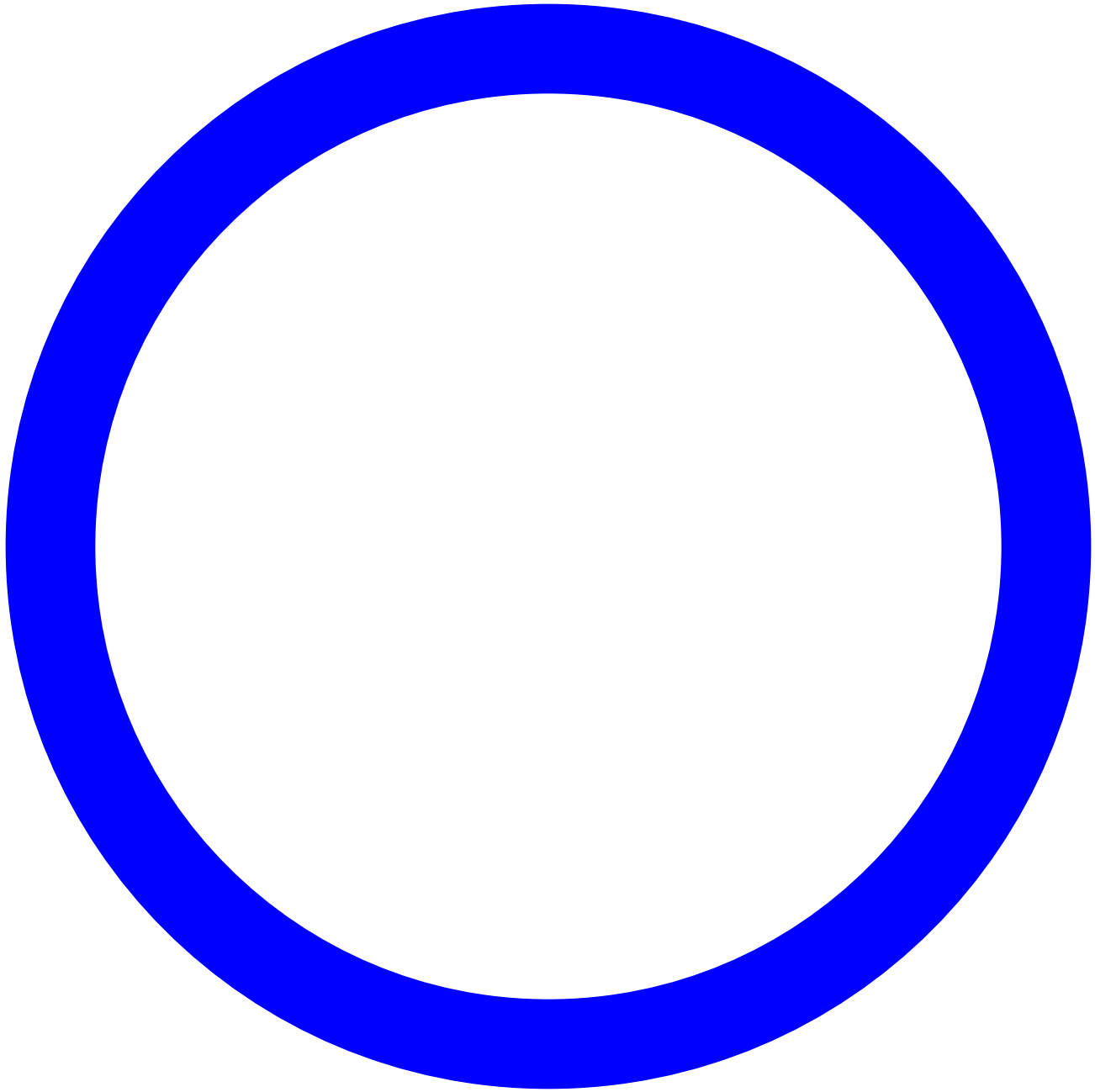
In the classic location model (extension of Vogel 2008)

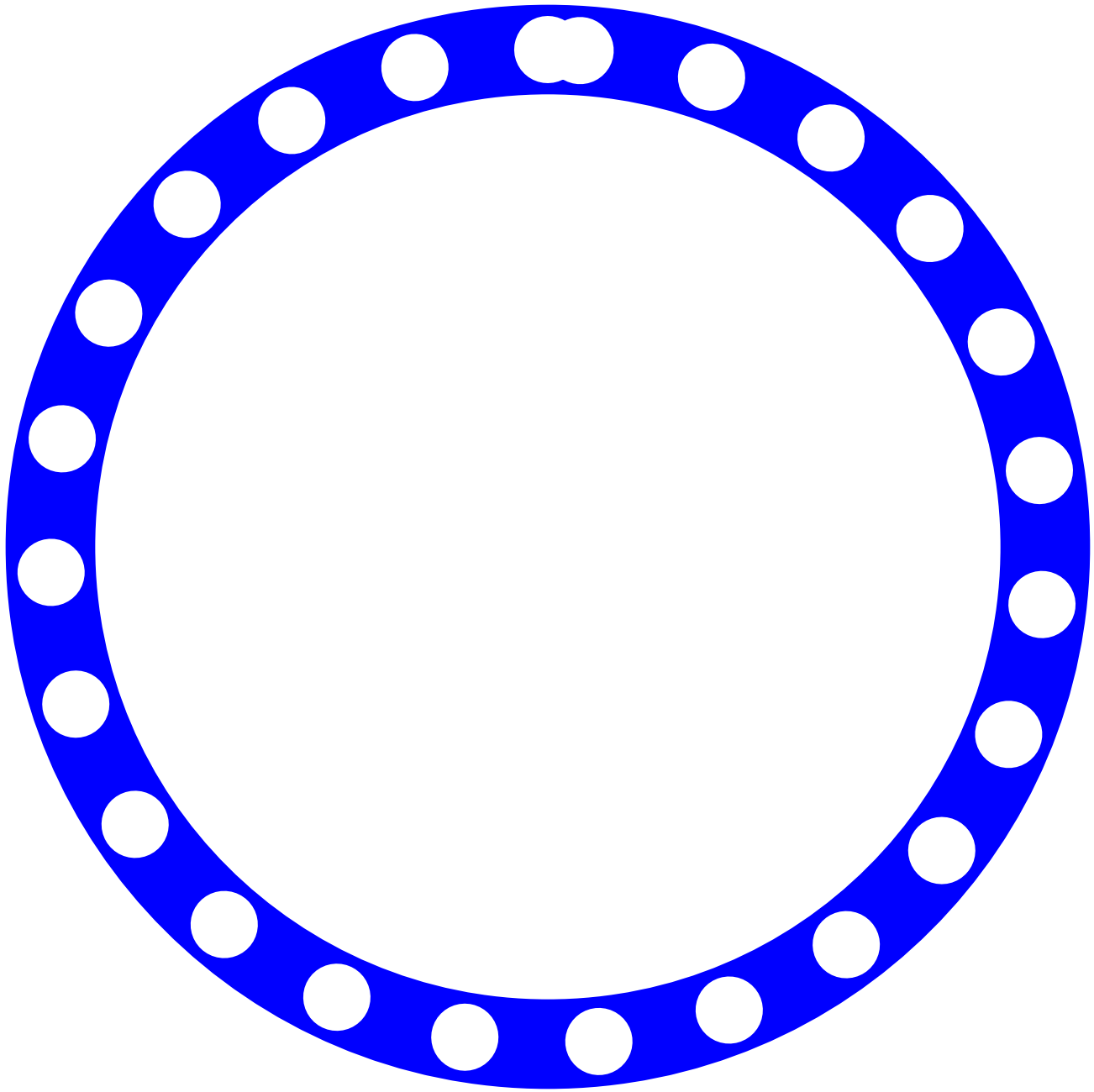
Consumers are uniformly distributed around the circumference of a circle.

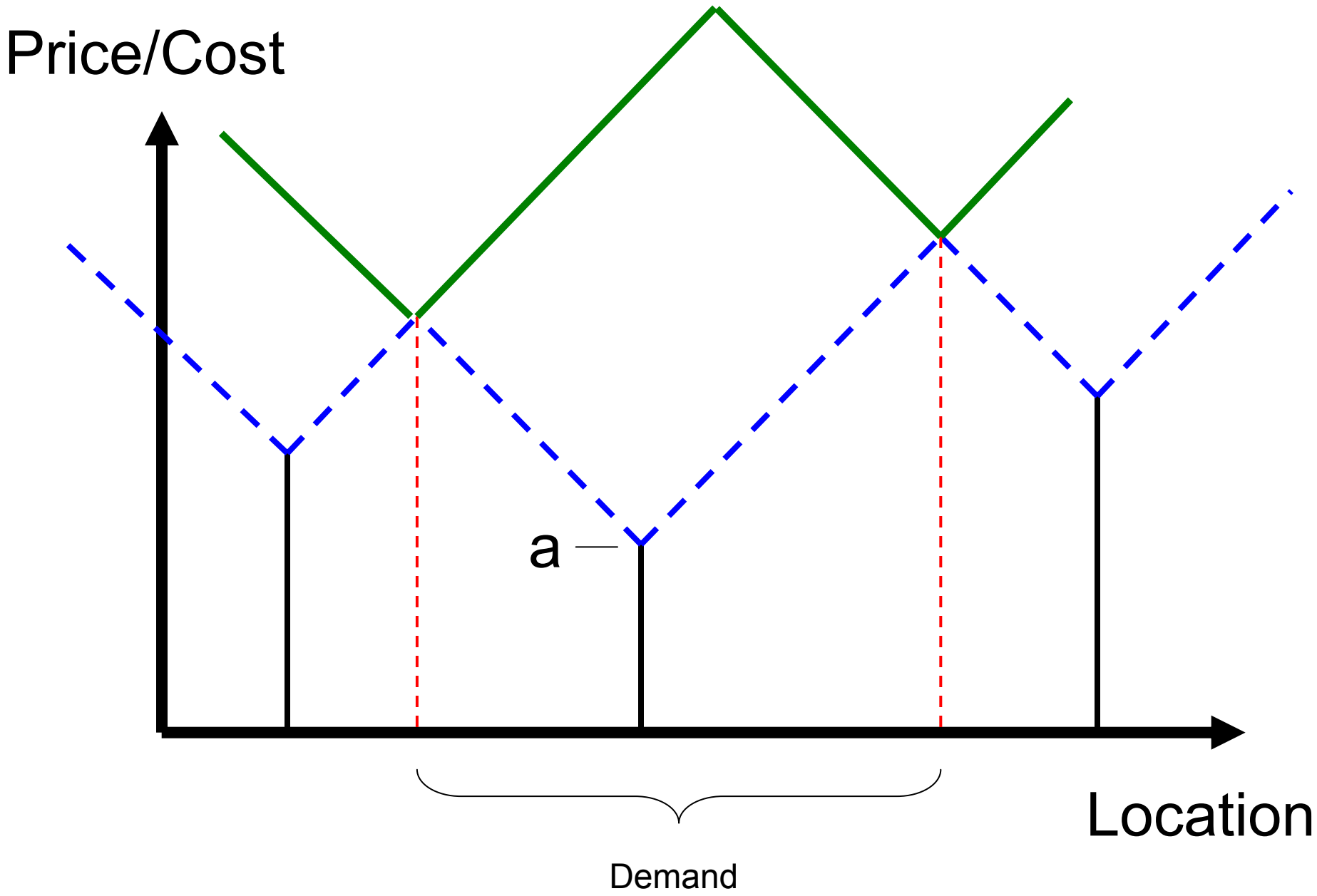
Consumers inelastically demand 1 unit of a homogeneous good.

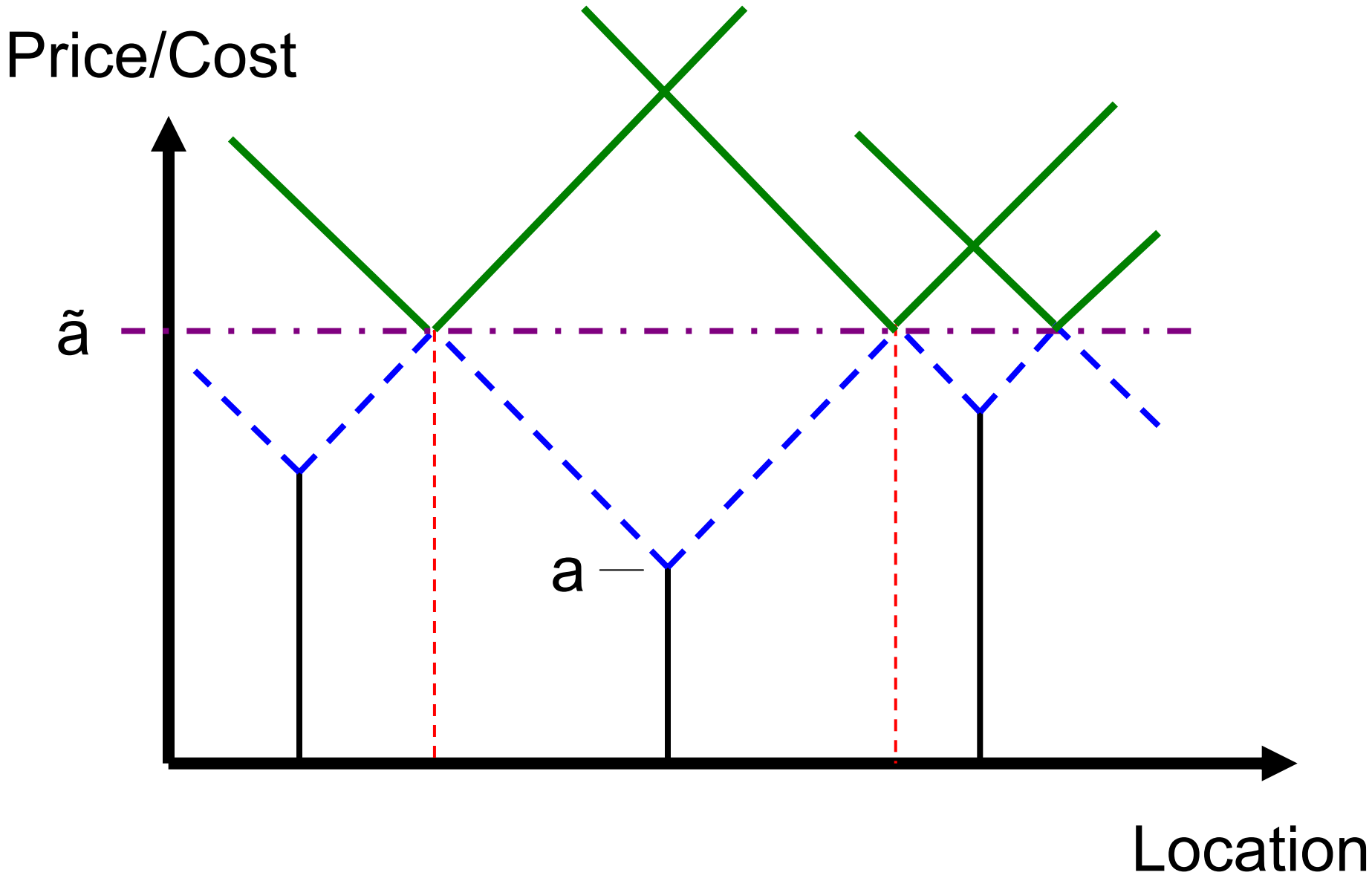
Firms pick a location and a price.

$$u = y - (p_i + \tau_i)$$



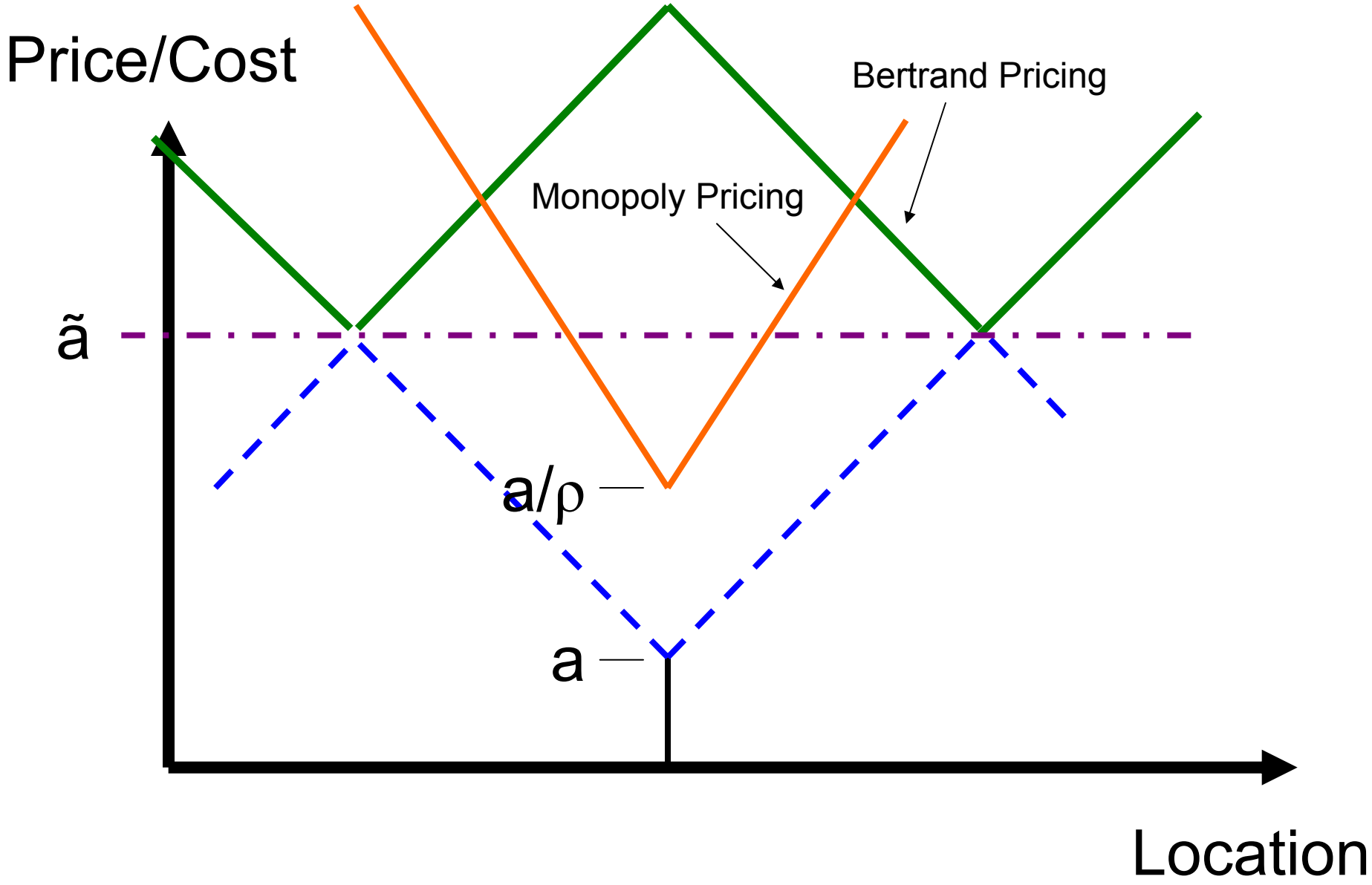


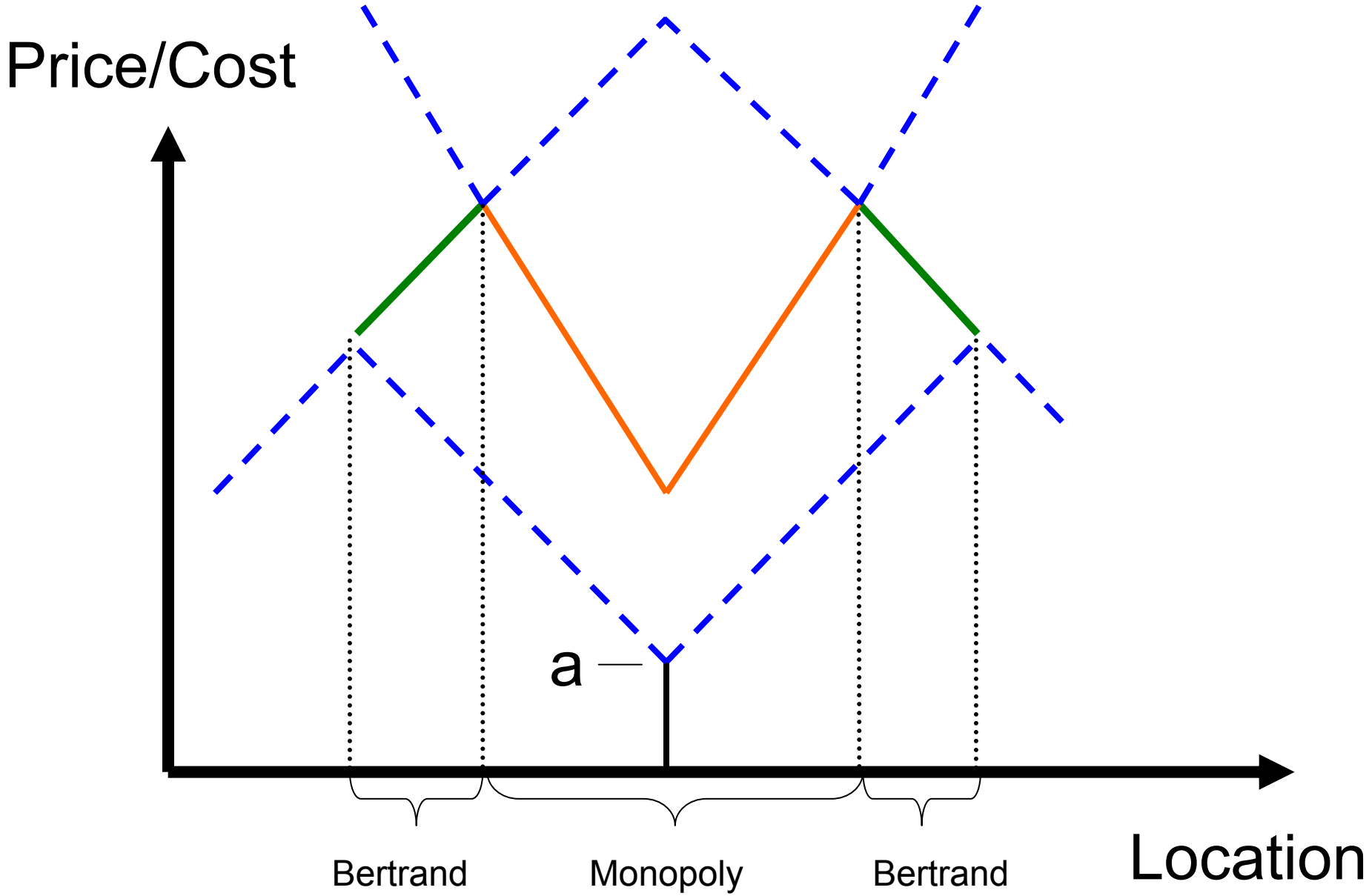

Price/Cost
a
Location
Demand

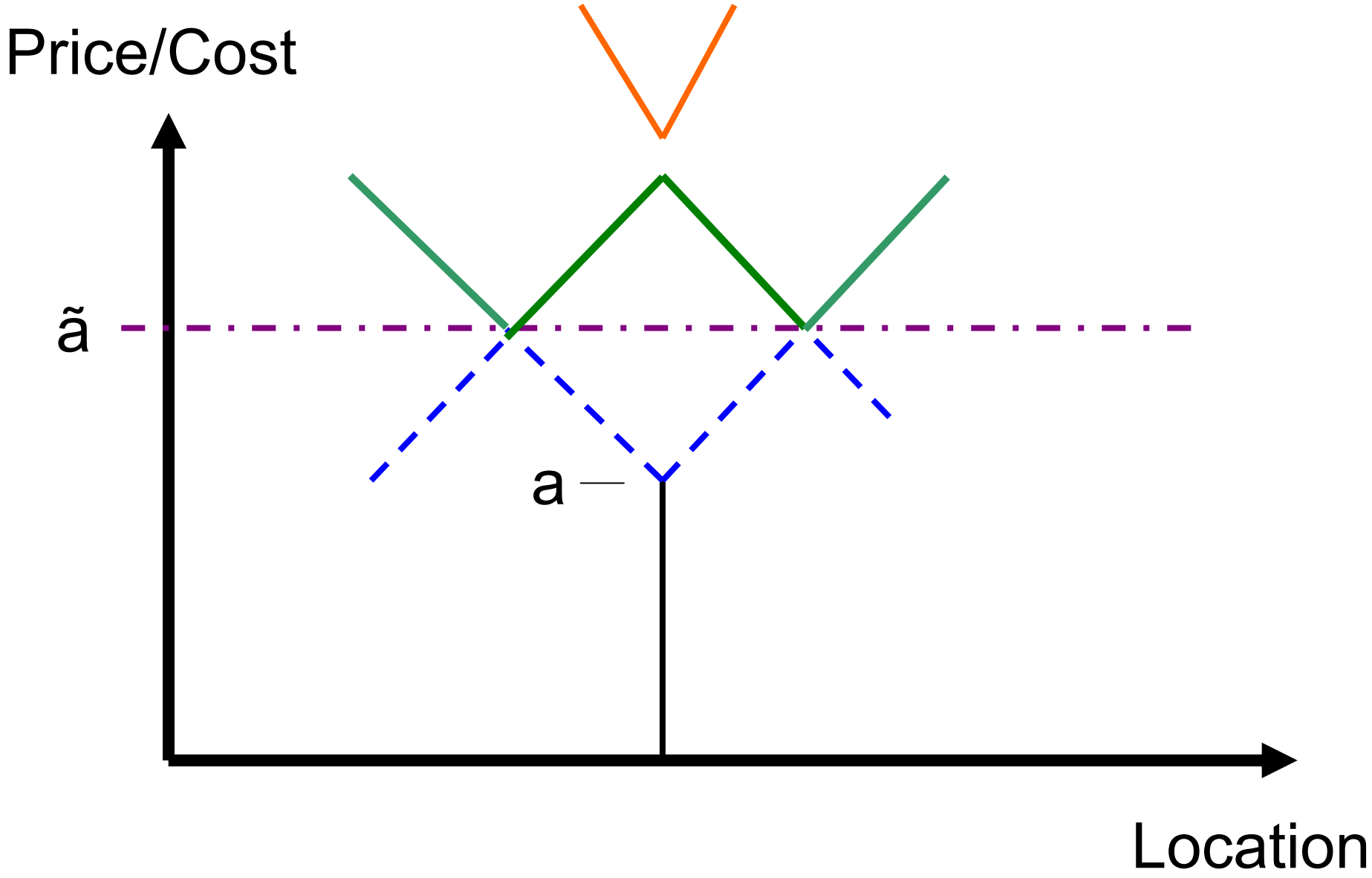

Price/Cost
ã
a —
Location

Location model with elastic demand

$$u = b + \frac{c_i^{\rho} - 1}{\rho}$$


Price/Cost
Bertrand Pricing
Monopoly Pricing
ã
a/ρ
a
Location


Price/Cost
a
Bertrand
Monopoly
Bertrand
Location


Price/Cost
ã
a —
Location