

Why (no) Global Competition Policy is a Tough Choice

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comments welcome

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Motivation

Globalization has created a global market place — yet, as of now, there is no global competition authority to safeguard competition in that market.

One might suspect that the absence of such an institution leads to too lax a global competition policy because national authorities ignore international externalities.

However, this is true only as long as national competition authorities limit their reach to national mergers.

As soon as they exercise extra-territorial powers, the result could be too strict a policy because the ultimate decision resembles an order statistic.

A prominent example is the (ultimately unsuccessful) merger proposal of G.E. and Honeywell.

The deal was approved by the U.S. authorities but then effectively blocked by the Europeans.

That is, both sides had a go at investigating the merger and one side eventually took issue with the deal.

We will explain how this can happen even if both national authorities possess the same information and base their decisions on identical objective functions.

We will also show how a hypothetical global authority with a similar policy reaction function would have decided in this particular case.

Outline

- Current institutional setting
- Our modeling framework
- Scope for conflict
- Different policy regimes
- Estimating policy functions
- Simulating global policy
- Conclusions

Current Institutional Setting

2 important players: the US and the EU, plus a fringe of smaller countries.

US competition policy:

- Two agencies involved: DoJ and FTC.
- Legal basis: Clayton Act and the Hart-Scott-Rodino Antitrust Improvements Act.
- Notification if:
 - either party has sales or assets in excess of 100 million USD
 - and the other in excess of 10 million USD
 - holding exceeds 15 million USD or 50% of anything in excess of 25 million USD.
- both must file notification and pay fee
- 30 days waiting period

- cases allocated to DoJ/FTC depending on expertise
- they may request more info: second request
- Horizontal Merger Guidelines:
 1. relevant market: product/geographic
 2. HHI index: 1000, 1800; or Δ of 50, 100
 3. ease of entry
 4. competitive effects
 5. efficiencies
- finally, seek injunction or order cease and desist (FTC only)

EU competition policy:

- legal basis: EC Merger Regulation from 1989, based on articles 85, 86, 89, 90 of the treaty of Rome.
- created DG competition in addition to national authorities
- criteria for commission to take a case:
 - combined world-wide turnover exceeds 5 billion Euro
 - community-wide turnover of exceeds 250 million Euro
 - not more then $\frac{2}{3}$ of each from single country
- notification and second request as in the US
- substantive test focuses on potential dominance
- orders have to be appealed before the European Court of Justice

- Reform proposal as of Dec 2002:
 - retain dominance vs. SLC
 - more consideration for merging parties and consumers
 - extend economic expertise
 - clear best practice rules
 - flexible timing
 - more scope for referral of cases between EU and national authorities

International cooperation:

- OECD global forum: mainly talk
- Global Competition Network: technical assistance
- bilateral agreements of the US with several countries
- cooperation between US and EU
 - information sharing, provided companies agree
 - coordination of timing
 - convergence of objectives

Our Modeling Framework

Consider a horizontal merger in a particular market. We can distinguish 3 groups of market participants:

- merging companies or insiders
(two in most cases)
- other suppliers or outsiders
- “consumers”

The total effect of the merger can thus be decomposed into 3 parts:

$$\Pi_{in}, \Pi_{out}, \text{ and } CS$$

According to the literature, the competition authority's objective function could depend on:

- CS only
- the external effect
- mainly profits
- plain welfare

We do not take a stand and leave this to the data.

Open Economy

In a global context, the merger potentially affects many countries. For simplicity, and b/c they are the main players, we consider two: the EU and the US.

There are 2 additional aspects to consider:

- country where transaction takes place (if markets are segmented)
- country of residence of the agents involved

We denote the share of a surplus that arises in country j by s_{in}^j , s_{out}^j , and s_{cs}^j (s for source).

Re the 2nd aspect, we denote the share of a surplus that accrues to residents of country j by d_{in}^j , d_{out}^j , and d_{cs}^j (d for destination).

The two competition authorities have the following general objective functions:

$$F^j(\Pi_{in}, \Pi_{out}, CS; S^j) \quad j = EU, US$$

where :

- $S^j = (s_{in}^j, s_{out}^j, s_{cs}^j, d_{in}^j, d_{out}^j, d_{cs}^j)$
- and $S^{EU} = (1, \dots, 1) - S^{US}$

As an example, consider national welfare maximization:

$$F^j = d_{in}^j \Pi_{in} + d_{out}^j \Pi_{out} + d_{cs}^j CS$$

the source of a surplus becomes important if there are taxes, spill-overs, unemployment ...

Conflict of Interest

The objective functions could be different.

But suppose the objectives take exactly the same functional form, i.e. $F^{EU} \equiv F^{US} \equiv F$.

There is still scope for disagreement because:

- shares enter with opposite signs
- profits from domestic and foreign market might be weighted differently for tax, employment, or other reasons.
- surpluses of domestic and foreign agents are weighted differently

We will analyze how these conflicts play out under different policy regimes.

Different Policy Regimes

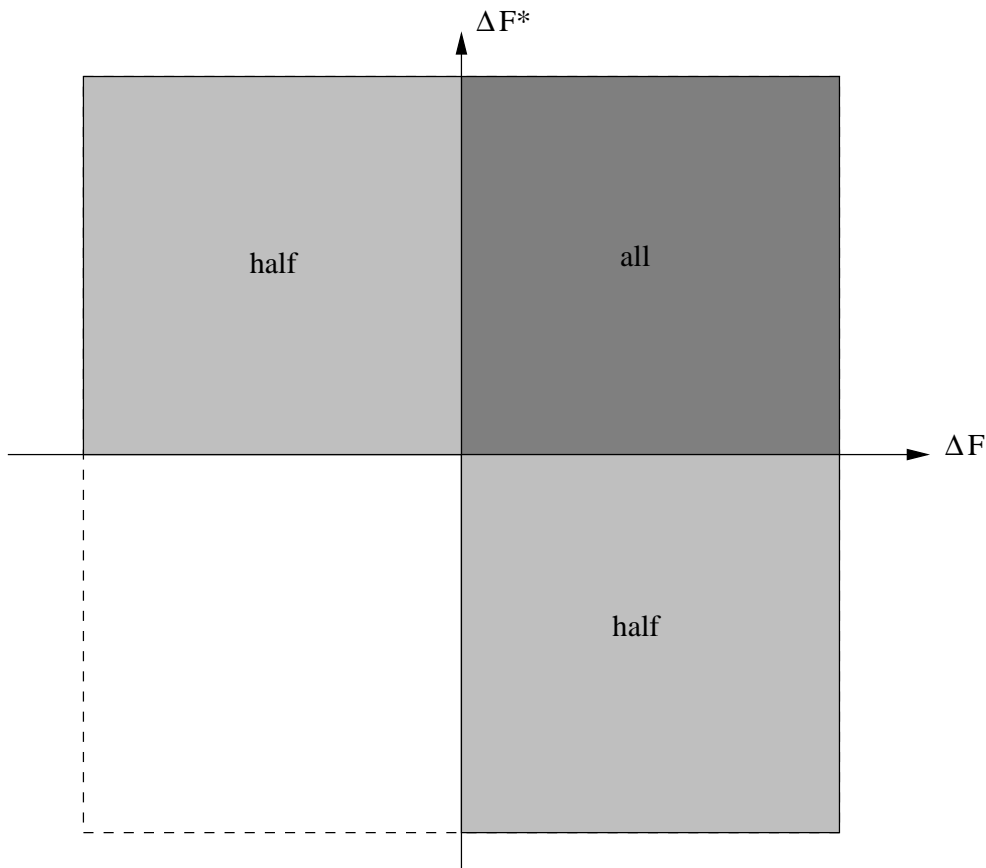
Let us consider possible mergers of the form $(\Delta F, \Delta F^*)$ distributed uniformly over the square $[-1, 1]^2$.

Furthermore, suppose that half of them fall under the territorial jurisdiction of each country.

We will consider four policy regimes:

1. territoriality principle
2. extra-territorial powers
3. global authority
4. territoriality vs extra-territorial

Territoriality Principle



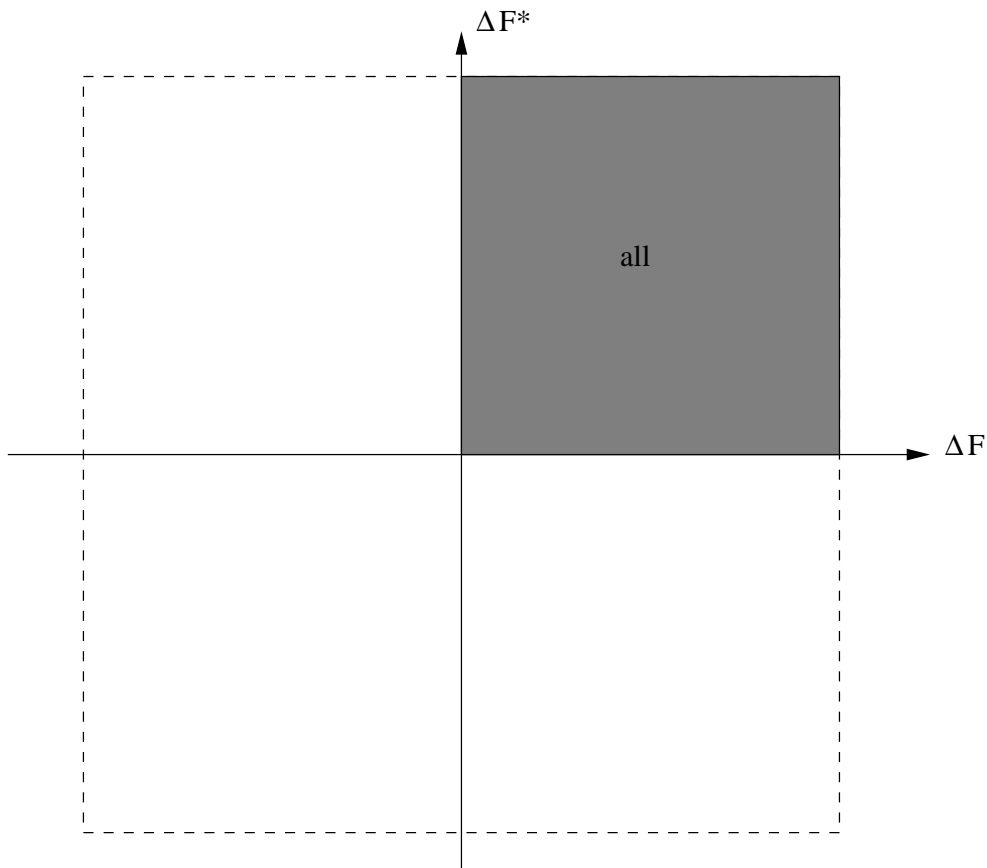
Welfare per country:

$$E(\Delta F) = E(\Delta F^*) = 1/8 + 1/16 - 1/16 = 1/8$$

Total Welfare:

$$E(\Delta F + \Delta F^*) = 1/4$$

Extra-territorial Powers



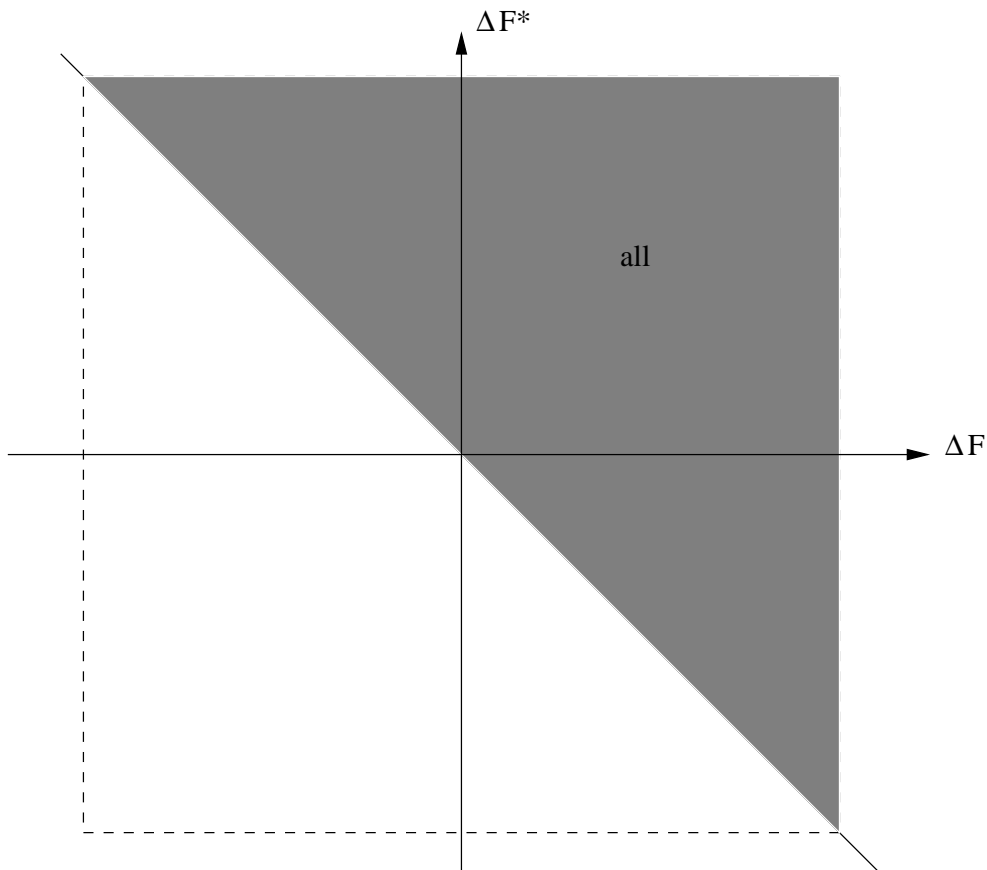
Welfare per country:

$$E(\Delta F) = E(\Delta F^*) = 1/8$$

Total Welfare:

$$E(\Delta F + \Delta F^*) = 1/4$$

Global Authority



Welfare per country:

$$E(\Delta F) = E(\Delta F^*) = 1/8 + 1/12 - 1/24 = 1/6$$

Total Welfare:

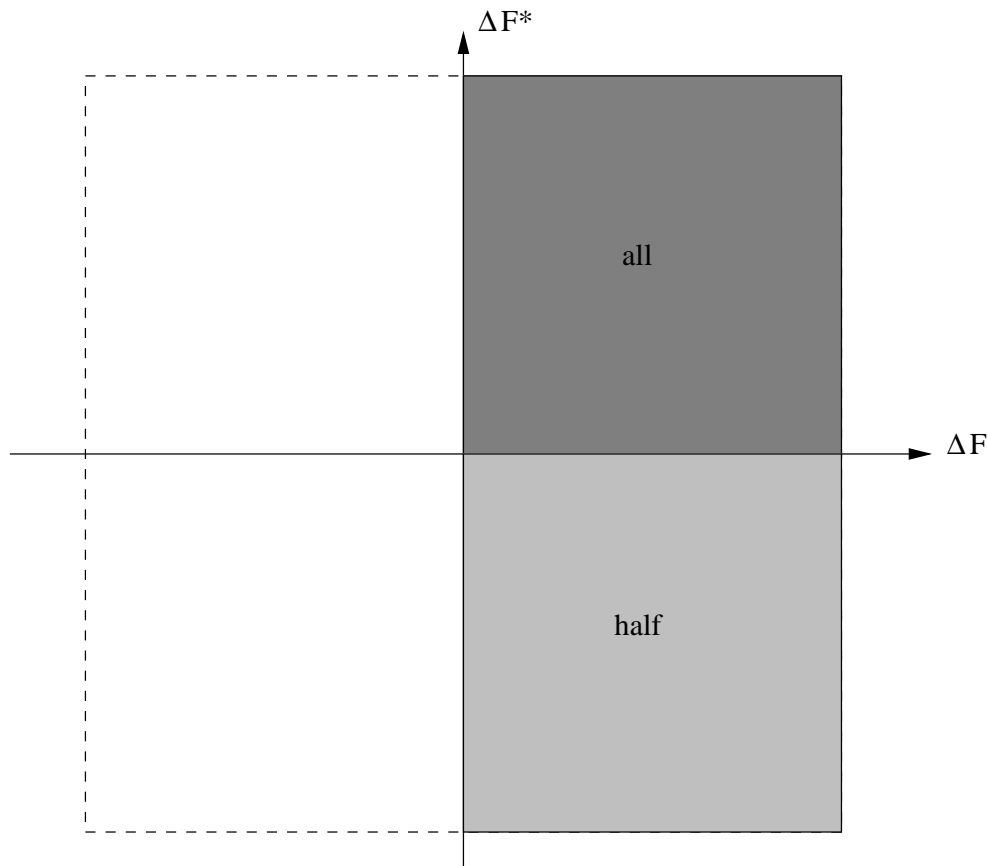
$$E(\Delta F + \Delta F^*) = 1/3 > 1/4$$

What do we learn

- territoriality as well as extra-territorial powers give rise to the same welfare levels
- both are suboptimal
- a global authority is first best and leads to strict welfare gains
- territoriality implies a suboptimally lax global competition policy
- extra-territorial powers a suboptimally strict global competition policy

So why don't we see a global authority?

Territoriality vs Extra-territorial



Welfare of home (extra-territorial power):

$$E(\Delta F) = 1/8 + 1/16 = 3/16 > 1/6 > 1/8$$

Welfare of foreign (territoriality):

$$E(\Delta F^*) = 1/8 - 1/16 = 1/16 < 1/8 < 1/6$$

Total Welfare: $E(\Delta F + \Delta F^*) = 1/4$

Implications

- asymmetric case: extra-territorial power dominates territoriality
- neither heavy-weight happy about the other assuming extra-territorial power
- gains from global authority distributed unevenly
- EU and US would prefer cooperation only among themselves

Measurement of Market Power

Generally agreed that Lerner Index is the correct statistic:

$$\frac{P - MC}{P} = \theta_i \eta$$

However, difficulty to measure MC because accounting data is unreliable.

⇒ Residual Demand (cf. Baker/Bresnahan IJIO 88 and Goldberg/Knetter JIE 99)

- residual demand fct: relationship between firm's P & Q , taking into account the supply response of other firms
- perfect competition: residual demand is flat
- monopoly: residual demand is the demand schedule
- product differentiation and/or oligopoly lie in between

- particularly useful when the degree of product differentiation or the boundaries of the relevant market are unclear
- ideally, identify separately market demand as well as supply responses
- however, often not feasible because data not available
- residual demand curve economizes on data
- to identify the residual demand fct, we need exogenous shocks that shift the cost of production of export source country firms relative to other suppliers in the market:
 - exchange rate movements between export source country and destination market rotate the source country's firm supply curve
 - exchange rate movements between other competitors and destination market rotate the rival firm supply curve.
 - changes in currency of the destination market will have both effects.

- other cost shifters, like domestic wage rates, producer price indices
- market definition: exports from within the source country are perfect substitutes, but goods produced outside the source country can be perfect or imperfect substitutes
- estimating residual demand:

$$p_t^{ex} = const + \alpha q_t^{ex} + \beta Z_t + \gamma W_{mt} + \epsilon_t$$

Z are demand shifters: trend, real income, price level

W are cost shifters of competitors: wages, energy, and raw material prices

- IV estimation with the exchange rate instrumenting for export quantity

Empirical Data

- EU Merger Data:
 - DOME database (IfW)
 - information from <http://europa.eu.int/comm/competition/mergers/cases/>
10,000 mergers from 1990 to 2000, almost all waved through, or allowed with conditions, very few dis-allowed
 - we will not use all 10,000 — only those that do export and where we have export information
- EU-US Mergers:
 - obtained from annual reports to congress by FTC & DOJ as required by the Hart-Scott-Rodino act
 - about 300 mergers, excluding companies that do not trade, for which preliminary injunctions were filed. Of these about 20 were blocked, and the majority allowed with divestiture, or other requirements

- US export data
 - issued by the U.S. Dept of Commerce
 - U.S. Exports of Merchandise, quarterly 1990 to 2001, SIC and NAICS

- Compustat database for US companies and large European ones
 - distributed by Standard and Poor's
 - financial and market information of companies comprising the S&P Industrial Index as well as the larger companies traded on the NYSE and NASDAQ
 - SIC (or NAICS) industry codes of companies, their sales as well as exports.
 - data is annual from 1983 to 2001
 - sources: news wire services, news releases, shareholder reports, direct company contacts, and quarterly and annual documents filed with the SEC.

- IFS: exchange rates, interest rates, and other macro variables for most countries

Estimation of Policy Functions

- policy reaction function for EU and US:

$$Pr(\text{decision}) = f(\text{market power}, \text{market power}^*, S)$$

- where market power is proxied by residual demand estimates.
- dependent variable could be:
 - binary: approved/dis-allowed
 - ordered: e.g. approved, approved with divestiture requirements, blocked.
- Estimate using a (ordered) probit or logit.

Next step: simulate global policy

Simulation of Global Policy

Conclusions