

Cross-National Effects of Pharmaceutical Pricing Policies

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Implications of Globalization for Pricing of Pharmaceuticals

- ◆ Pharmaceuticals are potentially global products
 - ◆ Chronic diseases now predominate in most countries
- ◆ But access to medicines in less affluent countries is limited
 - Delays and non-launch of new drugs
 - High prices, relative to per capita income
- ◆ Regulatory policies in affluent countries contribute to this
- ◆ Limiting cross-national effects of pharmaceutical pricing policies could improve differential pricing, increase access for middle/low income countries and increase pharmaceutical R&D

Social Welfare Perspective: Differential Pricing is Efficient and Equitable Way to Allocate Joint R&D Costs

- ◆ Medicines are R&D-intensive, compared to other goods
 - ◆ R&D benefits consumers globally: Who should pay?
 - ◆ Economic theory : “Ramsey pricing” maximizes social welfare, subject to covering joint costs (including normal profit)
 - Lower prices in more price-elastic markets
 - Higher prices in less price-elastic markets
- ⇒ Prices should differ across countries based on average per capita income
- assuming price-sensitivity depends on per capita income

Industry Perspective: Incentives for Differential Pricing If Markets are Separate

- ◆ Differential pricing => higher sales and profit than uniform price
- ◆ Economic theory: Profit maximizing price *differentials* reflect price sensitivity
 - Lower prices in more price-elastic markets
 - Higher prices in less price-elastic markets

=> Manufacturers' private incentives to charge *differential* prices across countries are aligned with social interest

- ◆ This is intuitive: Charging lower prices in lower-income markets increases utilization
 - which benefits consumers and industry sales

But Markets are Increasingly Connected and Actual Prices Differentials are Limited

1. Parallel trade

- ◆ Permitted within EU; Under debate in the US

2. Price Regulation Based on External Referencing

- ◆ Formal: Canada, Italy, Japan, Netherlands, Spain, etc.
- ◆ Informal comparisons in many countries: UK, US

3. Most-favored Nation Clauses

- ◆ Country A requires lowest price given to other countries

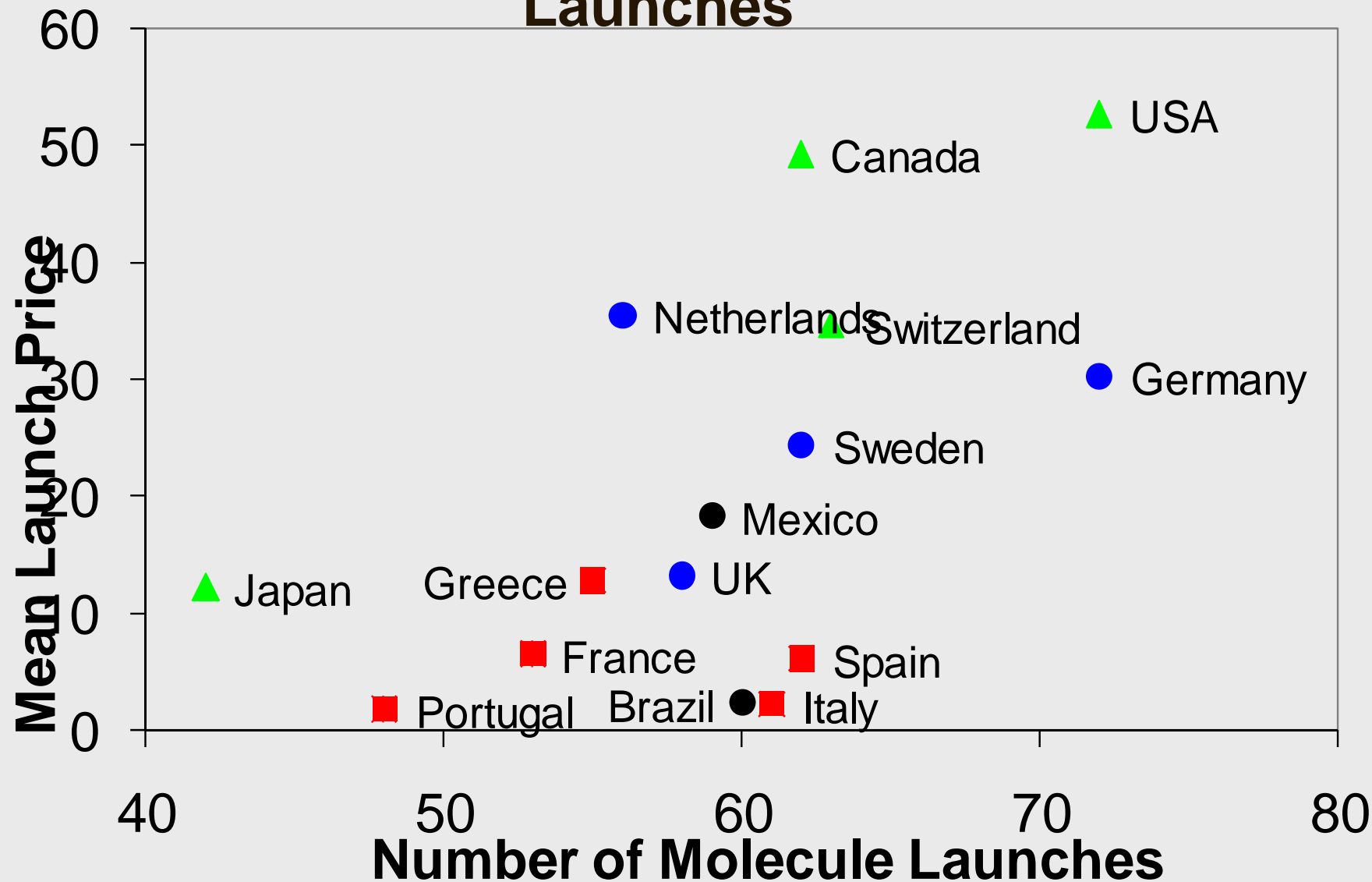
When Markets Are Connected, Manufacturers Seek to Charge Uniform/Similar Prices

- ◆ If a low price in one market will reduce prices in other markets, a manufacturer will rationally charge a single target price (or narrow band) in all connected markets
 - If Country A rejects or cannot pay the target price => delay or no launch
- ◆ Launch delays and non-launch reduce access for consumers and revenue for companies

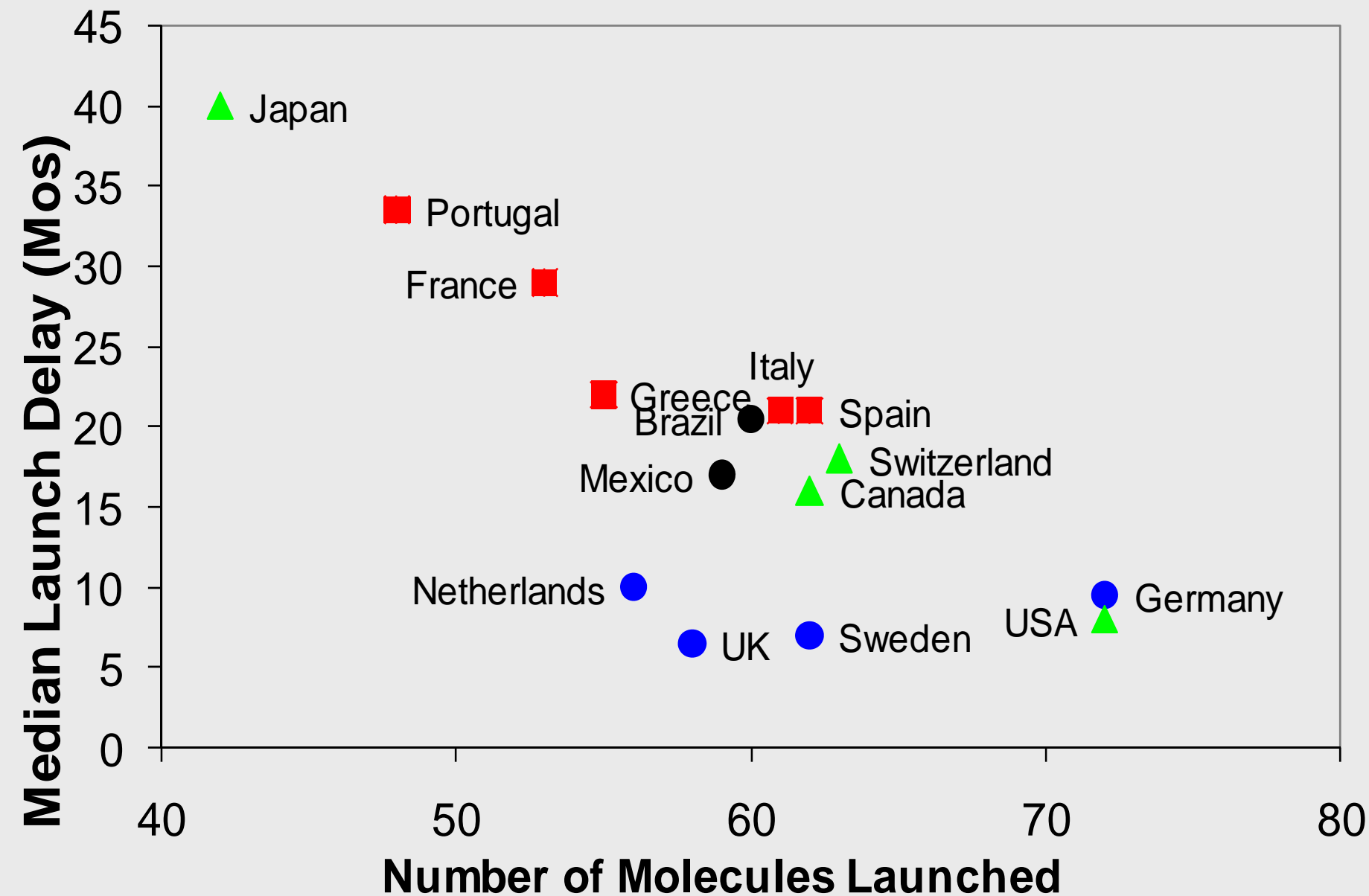
Evidence

- ◆ 1990-2000s Delays and non-launch in lower-price EU countries

Mean 2003 Price by Number of Molecule Launches



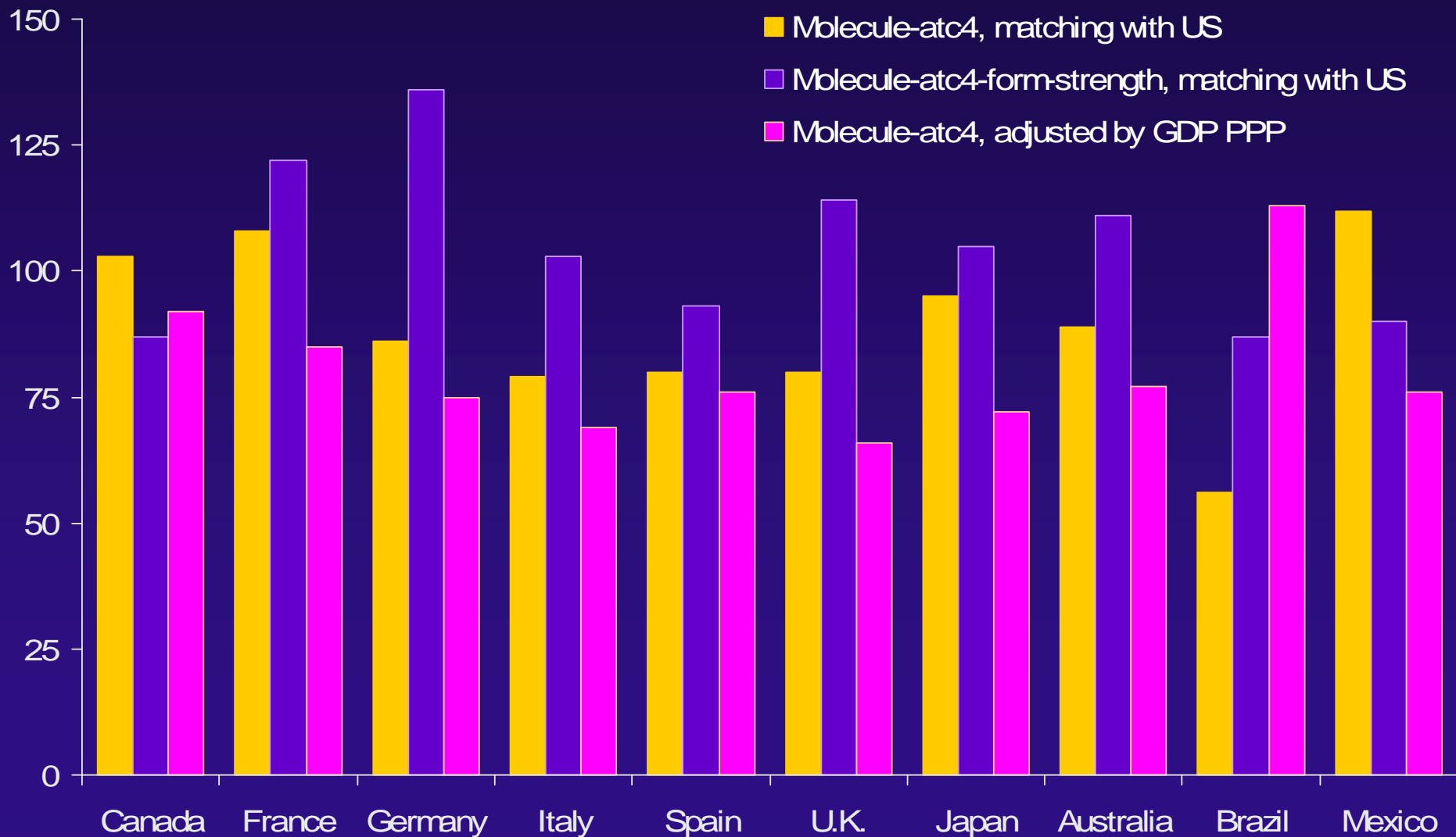
Median Launch Delay by Number of Launches:



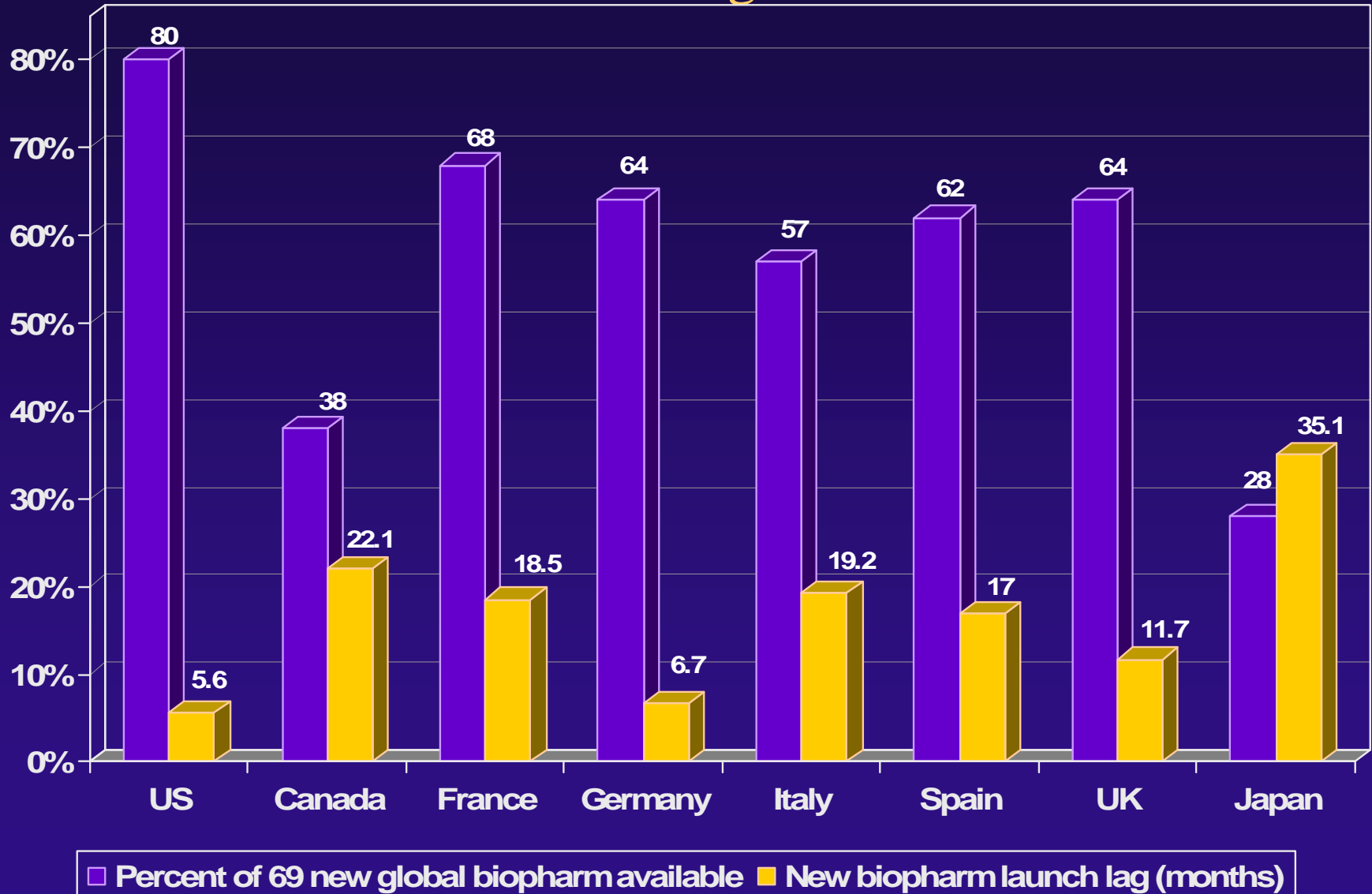
Comprehensive Biopharmaceutical Price Indexes

US weights, US = 100, 2005 IMS Data

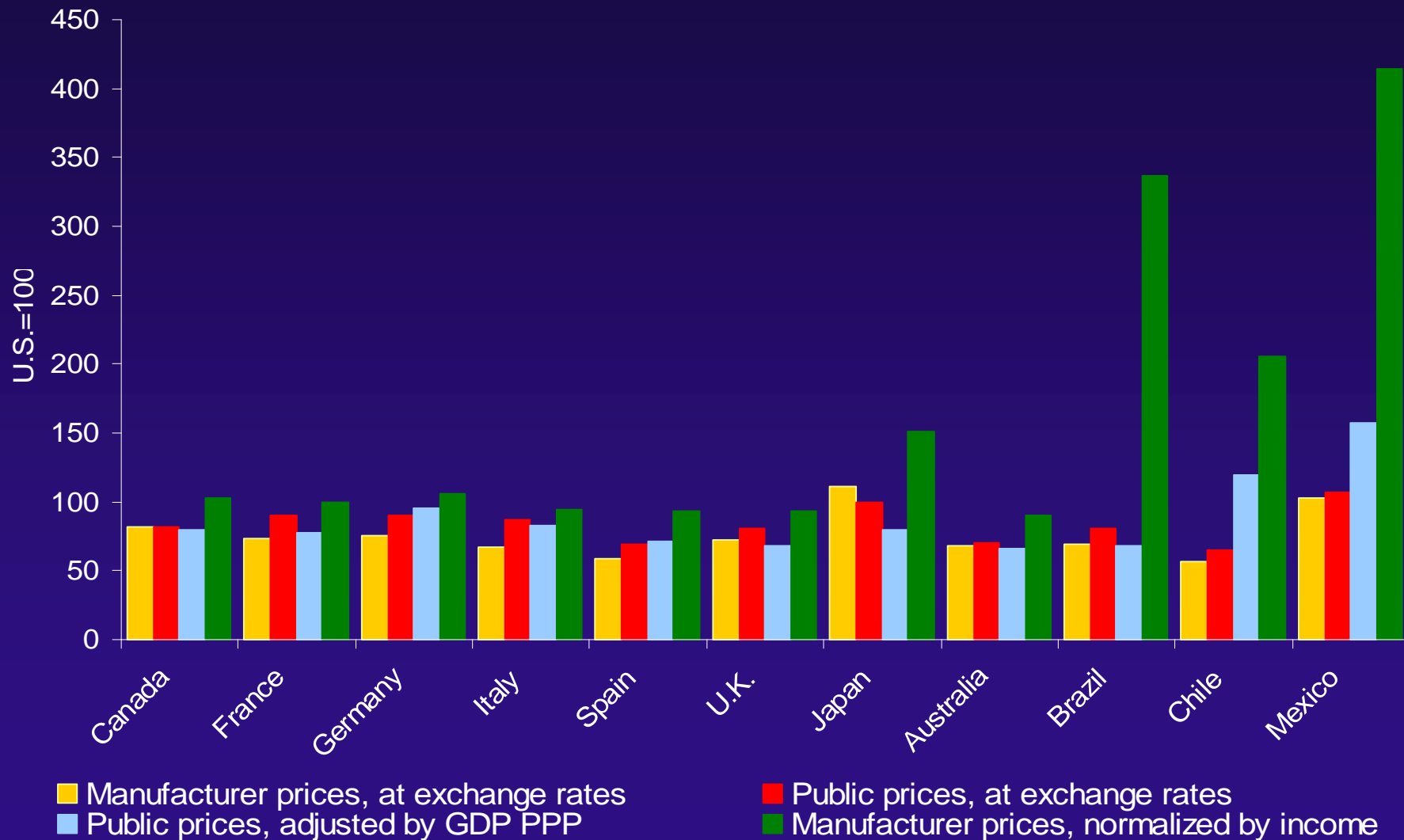
Source: Danzon and Furukawa, 2007



Availability of New (post-1996) Biopharmaceuticals and Mean Launch Lags: 2005 Data



Price Differences Roughly Reflect Income per Capita, Except for Middle Income Countries: 2005 Price Indexes, US = 100; US weights



Conclusions from the evidence

- ◆ Launch delay and non-launch are more likely in countries with lower prices
- ◆ Referencing from high-price to lower-price EU countries contributes to launch lags in the lower-price countries
- ◆ Referencing from high-price EU countries also contributes to higher prices, relative to their income, in lower-price EU countries
- ◆ => Referencing and parallel importation by high-income countries create a dilemma for lower-income countries
 - Pay high prices, relative to their income, or forego availability

Conclusions (2)

- ◆ If US adopts external referencing or parallel trade, negative spillover effects to other countries could be much larger than within-EU effects observed so far
- ◆ High prices in middle/ low income non-EU countries also reflect within-country income differentials
 - New drugs are targeted to affluent, self-pay subgroup
 - Public systems use local branded generics

Policies to Implement Differential Pricing

1. Regulation based on internal, value-based pricing to reflect each country's values
 - Limit use of external referencing and parallel trade
2. Confidential rebates from manufacturers to payers, based on utilization
 - ◆ Confidentiality prevents referencing, promotes competition
 - ◆ Prevents parallel trade: wholesalers buy at global list price
 - ◆ Third party audit could address transparency concerns
 - ◆ Within-country differential rebates could reduce prices to public systems in middle/low income countries