



Pharmaceutical Prices: International Issues

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The Agenda

- Are drug prices higher in the US on average?
 - Biases in most cross-national price comparisons
- Should prices be uniform cross-nationally?
- Policy implications



Some preliminaries

- Drug price increases are not a major driver of expenditure growth
 - Higher volumes
 - Expanded insurance coverage
 - Major new products
- Appropriate insurance for seniors is a separate issue
 - Regulating prices is no alternative to sound insurance



Are Drug Prices Higher in the US?

- 1993 GAO: ex-manufacturer prices
 - US 30% higher than Canada
 - 121 leading, branded products
 - US 60% higher than UK
 - 77 leading, branded products
- 1998 Minority Staff: retail prices
 - US 70% higher than Canada
 - US 102% higher than Mexico
 - 10 leading, branded products



Accepted Methods for Valid Price Comparisons

Standard Price Indexes

- Large, representative market basket
- Prices at same level in the distribution chain
 - Retail price vs. Manufacturer price
 - Retail = Manufacturer + distribution margins
- Price index is a volume-weighted average of individual product prices
 - Weights reflect relative importance

Violation of Standard Methods

1. Small, biased samples

- Leading, branded drugs
 - Atypical discounts
 - No generics: generics are 46% of scripts, treated as perfect substitutes by payers and BLS
 - Generics have lower prices, higher volumes in unregulated markets such as US
 - Valid cross-national price comparisons must include generics
- Single pack: ignores volume discounts



Violation of Standard Methods

2. Unweighted average

- Minority Staff report average of price ratios
- Average price ratio, unweighted, is very sensitive to sample
 - 10 drugs: 106%
 - 8 drugs: 83%
 - 12 drugs: 254%
 - 1 drug: 1,407%!



Violation of Standard Methods

3. Manufacturer vs. Retail Price

- International comparisons based on retail prices
 - Domestic comparisons mix retail and manufacturer
 - Average manufacturer price (AMP)
 - manufacturer price to wholesaler
 - Wholesale margin = 3%
 - Retail margin \geq 22%
- => Retail price = AMP x 1.03 x 1.22 = AMP x 1.26
- => Retail exceeds manufacturer price by 26%
- ⇒ solely due to distribution margins



Challenges in International Drug Price Comparisons

- Different molecules and utilization
 - weighting matters
 - Different manufacturers of same molecule
 - brand originator, licensees, generics
 - Different forms, strengths, pack sizes with different prices
 - price per pill, per pack, per dose?
 - Price/age profiles differ due to regulation
- => Large representative sample is critical



Most Comparisons Biased by Small, Unrepresentative Samples

Drugs Included

- 10 leading drugs
- Branded, originator
- Rx
- One “typical” pack

Drugs Excluded

- Most drugs
- Generics + licensed
- OTCs
- Most forms, strengths and packs
 - US volume discounts



Data for our analysis

- Sample = all matching molecules (US-foreign) 1992
- Brands and generics
 - All packs and dosage forms
- Weighted average price per molecule
- Manufacturer prices (IMS)
- Price per gram and price per dose
- BUT US data do not reflect HMO/PBM discounts
 - => our measures overestimates US prices



Price Comparisons for All Matching Single-Molecule Drugs, 1992

U.S. Weights

	price/gram	price/dose	N
Canada	-13.0	+3.0	458
Germany	-2.8	+27.3	471
France	-43.0	-29.9	412
Italy	-26.1	-9.3	406
Japan	+28.2	-7.7	396
Switzerland	+4.9	+44.4	308
Sweden	-18.9	+8.9	261
United Kingdom	-32.2	-23.9	453

Source: Danzon, Patricia M. ^AThe Uses and Abuses of International Price Comparisons.[®] In *Competitive Strategies in the Pharmaceutical Industry*, edited by Robert B. Helms. Washington, D.C.: AEI Press, 1996.



Conclusions on Average Price Differences

- 1992 US prices on average comparable to other countries
 - No single, perfect index of price differences
 - Results depend on sample, weights, etc.
 - Regulation undermines generic competition
 - => Representative indexes must include generics
- ⇒ Price differences reflect many factors
- ⇒ Market conditions, regulation, exchange rates etc.



Price Differentials Are Not Necessarily Bad

- Discounts are a common competitive strategy in many industries
- Discounts to managed care are common
 - physicians, hospitals, pharmacies, drugs
- Market segmentation based on price sensitivity
 - Promotes competition
 - Customers benefit from lower prices
 - Price differences do not imply “cost-shifting”

Current Government Policies Undermine Price Differences

- US: private sector discounts must be passed on to public payers
 - EU: parallel trade is permitted within EU
 - wholesalers profit from price differences
 - Governments regulate prices based on foreign prices
- => Markets are no longer separable
- => Prices tend to converge downward



Manufacturer Response to Loss of Market Segmentation

Economic Theory

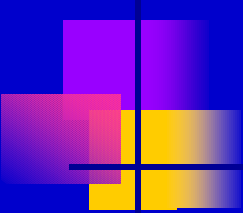
- Manufacturers will attempt to price in narrow band in all markets
 - ⇒ Discounts and low prices unavailable
 - ⇒ Delay in launch

Evidence

- New product prices tend to converge in major markets
- **But, A uniform price is not sound public policy for pharmaceuticals**

The Cost Structure of Pharmaceuticals

- High costs of R&D: 13-20% of sales
 - 30% of total costs, including forgone interest
- R&D is a “common cost”, serves patients worldwide
 - => R&D costs cannot rationally be allocated to specific countries/patients
- Who should pay for the common R&D costs?



Optimal Pricing With Common Costs (Ramsey Pricing)

- A uniform price is not best policy for products with large common costs
 - Price-sensitive consumers should pay less
 - Price-insensitive consumers should pay more
- Differential pricing is common in other industries with high common costs
 - regulated utilities; airlines

Uniform Price is not Sound Policy for Pharmaceuticals

- Uniform prices too high for low income countries
 - Reduce utilization, loss of patient well-being
 - Even though they would pay $P > MC$
- Uniform prices will reduce revenue and reduce incentives for R&D
 - fewer new drugs, though consumers would have been willing to pay

The Threat of Pharmaceutical Price Regulation

- R&D costs are sunk at launch
- Powerful payers can force price to marginal cost
- MC (production, distribution) is 25-50% of total cost
- Low regulated prices in one country spill over to other countries, through price comparisons
- If everyone pays marginal cost, who pays for R&D?



Conclusions

- No perfect index of price differences
- 1992 US prices on average comparable to other countries
 - US consumption weights, all matching products, including generics
- Price differences are common in other industries and other sectors of medical care
- Price differences benefit consumers
 - Appropriate means to recoup R&D