

How to make drugs more affordable without stifling beneficial innovation and competition

# Making Sense of Drug Prices

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RITICS OF THE U.S. PHARMACEUTICAL INDUSTRY allege that U.S. consumers are subsidizing the rest of the world because U.S. drug firms charge higher prices in the United States than in other countries.

A related allegation is that in the United States there is cost shifting to cash-paying, retail customers—including many of the elderly—who pay excessive prices because of discounts to managed-care organizations and government purchasers. Then there is the general belief that drug prices are simply “too high”—that the pharmaceutical industry is making excessive profits.

These bits of conventional wisdom may be conventional but they are not wisdom. Facts and logic will lead us to these conclusions:

- Cross-national and domestic price differences are smaller than has been alleged.
- Discounts to large buyers do not raise the prices paid by the elderly or other cash-paying retail customers.
- Any form of price regulation, including the setting of uniform prices within the United States or cross-nationally, would discourage innovation and competition.
- The best way to make drugs more affordable for the elderly would be to allow them to choose among competing private-sector plans.

## CROSS-NATIONAL PRICE DIFFERENCES: HOW REAL AND HOW LARGE?

**Flawed Studies Overstate Differentials** The view that drug

prices are much higher in the United States than in other countries has been fueled by studies that have attempted to compare drug prices in several congressional districts with prices in Canada and Mexico. One such study was issued in 1998 by the Committee on Government Reform and Oversight of the U.S. House of Representatives as a minority staff report (*Prescription Drug Pricing in the 1st Congressional District in Maine: An International Price Comparison*). It reported that drug prices in the United States were 72 percent higher than in Canada and 102 percent higher than in Mexico. Two earlier studies by the U.S. General Accounting Office (GAO) concluded from data for 1992 that U.S. prices were 32 percent higher than prices in Canada and 60 percent higher than the prices in the United Kingdom (UK).

Most countries other than the United States regulate drug prices, either directly through controls on prices (e.g., France and Italy), indirectly through limits on reimbursement under social insurance schemes (e.g., Germany and Japan), or indirectly through profit controls (e.g., the UK). Studies that claim to find lower drug prices in other countries lend support to proposals for the regu-

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lation of drug prices in the United States.

In fact, the findings in the minority staff report and the GAO studies are misleading because those studies are seriously flawed. First, the studies relied on small samples of leading branded products. For example, the minority staff report looked at prices for the 10 on-patent branded drugs with the highest sales in 1997 under the Pennsylvania Pharmaceutical Assistance Contract for the Elderly. The minority staff report compared retail prices for those drugs at pharmacies in several congressional districts with prices at four pharmacies in Canada and three pharmacies in Mexico. The minority staff did not consider prices of generic substitutes for the 10 on-patent drugs, despite these facts:

- Generics account for 46 percent of prescriptions written in the United States.
- Most managed care and Medicaid programs in the United States allow the substitution of generics for branded equivalents—indeed, they encourage substitution by capping reimbursements for branded products or charging higher co-payments for them.
- Payers in many other countries, including Canada, the UK, and Germany, also allow substitution of generics for branded equivalents.

The U.S. Bureau of Labor Statistics (BLS) recognizes the close equivalence of branded and generic products; since 1996, BLS has effectively treated generics as substitutes for branded drugs in calculating pharmaceutical price indices for the United States. Price comparisons that omit generics tend to overestimate the average price of drugs in countries such as the United States, where generics have a relatively large market share and command relatively low prices.

A second serious flaw in the minority staff report and the GAO studies was their failure to fully account for volume discounts in the United States. The studies generally used U.S. prices for single packs of products, ignoring the deep discounts given for the largest packs.

Finally, the minority staff report and the GAO studies arrived at their findings about relative prices by calculating the arithmetic (unweighted) average of the prices of the 10 drugs in the United States, Canada, and Mexico. The use of unweighted averages is inconsistent with accepted indexing methods. The price of each drug in the sample should have been weighted according to its relative frequency of use. The use of unweighted average prices—especially unweighted averages for such a small sample of drugs—is extremely sensitive to the particular products included in the sample and likely to result in an inaccurate measure of the relative costs of drugs in the three countries.

Correct Analysis, Different Results Jeong D. Kim and I analyzed cross-national drug price differences for seven countries, using *weighted* price indices for all drugs sold in retail pharmacies in 1992. Our 1996 and 1998 studies are listed in the “Readings” at the end of this article. We thank Intercontinental Medical Systems for letting us use their data in those studies.

U.S. Prices—in the Middle Our analysis covered generics as well as branded products and included all formulations, strengths, and pack sizes. To address the question of how

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much U.S. consumers might pay if they faced foreign prices but maintained U.S. consumption patterns, we weighted prices according to the volume of purchases by U.S. consumers. We found that the average U.S. consumer would have paid 3 percent more in Canada, 27 percent more in Germany, 30 percent less in France, 9 percent less in Italy, 8 percent less in Japan, 44 percent more in Switzerland, 9 percent more in Sweden, and 24 percent less in the UK.

Thus, a correct analysis shows that drug prices in the United States in 1992 were far from the highest in the industrialized world. Moreover, our estimates overstate U.S. prices because we were unable to estimate the value of direct rebates given by manufacturers to managed-care providers and government purchasers.

The Importance of Weighting There is no “right” answer to the question of how high drug prices are in the United States relative to drug prices in other countries. The answer depends on the drugs included in the sample (especially whether or not generics are included), on whether the weighting reflects U.S. or comparison country volumes, and on the unit priced. For example, when we assigned U.S. volume weights and used price per gram, we found the average price in Japan to be 28 percent higher than in the United States. But when we assigned Japanese volume weights and used price per dose, we found the average price to be 55 percent lower in Japan than in the United States.

Our analysis is nevertheless more reliable than the minority staff report and the GAO studies, which were based on small samples and unweighted prices. To illustrate the bias that can result from using unweighted prices, we used our comprehensive sample to calculate unweighted rel-

ative prices for the United States and Canada. Taking Canada as the base, we found prices in the United States to be 218 percent higher; taking the United States as the base, we found prices in Canada to be 171 percent higher.

Such contradictory results are possible, especially in a small sample, because relative prices can vary widely from drug to drug. Suppose, for example, there are four drugs with U.S.-Canada price ratios of 0.1, 1, 10, and 0.2, which means that the Canada-U.S. price ratios for the same four drugs are 10, 1, 0.1, and 5, respectively. The average U.S.-Canada price ratio is 2.8 (United States 2.8 times as expensive as Canada), but the average Canada-U.S. price ratio is 4 (Canada 4 times as expensive as United States).

**Generics Make a Difference** Countries such as France and Italy, which strictly regulate manufacturers' prices and retail pharmacies' margins, tend to have negligibly small generic sectors. That is because the prices of branded products are kept low through regulation, and because there are no price-sensitive customers to whom generics might appeal.

In the United States, however, generics rapidly erode the market share of branded products after the expiration of branded products' patent protection. And competition among generics tends to push prices down over time.

Thus, comparisons that focus solely on patented products, to the exclusion of generics, tend to overstate the average price of drugs in countries such as the United States, where generics have a relatively large market share and relatively low prices.

**A Closer Look at Prices in Canada** There are three reasons why drug prices might be lower in Canada than in the United States. First, product liability can significantly affect drug prices, and there is less exposure to product liability in Canada than in the United States. Second, Canada's federal government controls the prices of new products, and post-launch prices may not rise faster than the consumer price index. (Some Canadian provincial governments also impose controls, such as British Columbia's reference price system.) Third, until recently, Canada's price controls were backed by a threat of compulsory licensing; that is, if the manufacturer of a patented drug did not accept the government's price, the government could force the manufacturer to license the product to a manufacturer who would produce a generic version. Although compulsory licensing was terminated before ratification of the North American Free Trade Agreement, prices of products that were launched under the compulsory licensing regime may still be affected by its tendency to suppress prices.

**Understanding Mexico's Prices** Lower prices are to be expected in Mexico—and in other countries with lower per capita incomes than the United States. In 1997, Mexico's per capita spending on health care was one-tenth of per capita spending in the United States and Mexico's per

capita outlay for medicines was about one-third that of the United States.

As noted in a 1998 report by National Economics Research Associates (NERA), *The Health Care System in Mexico*,

it appears that prices in the private sector in Mexico are lower than in most [major industrialized] countries, and some support for this view can be shown by a simple comparison of average pack prices in Mexico and other countries.... Expressed in U.S. [dollars], even in 1995, Mexican prices were less than half European prices in 1993, although the limits to the usefulness of such a calculation (e.g., it may be comparing the prices of different products or packages) should be acknowledged. (p. 84)

Conclusions drawn without the benefit of representative sampling and weighting must be tentative. Nevertheless, it seems that Mexican prices are generally low in relation to European prices, not just in relation to U.S. prices.

Low prices in Mexico can be attributed to several factors in addition to that country's low per capita income. First, the Mexican government regulates drug prices. Second, Mexico did not enact patent protection for pharmaceuticals until the Ley de Patentes of 1991, and that law did not apply retroactively to products already on the market nor did it protect products then under development. Thus many drugs must still compete with cheap copies of products that would be on-patent if the Ley de Patentes of 1991 had been enacted sooner. Third, as NERA reported, "many prescription medicines are thought, in practice, to be widely available without prescription." Such direct, consumer-driven demand is likely to be more price-sensitive than it is in the unmanaged sector in the United States, where physicians write prescriptions with little knowledge of or concern for price. There is anecdotal evidence for the importance of consumer-driven demand in Mexico: retail pharmacists allegedly compete by offering products at prices below those set by the government.

#### DOMESTIC PRICE DIFFERENCES: FACTS VS. RHETORIC

**Dissecting More Flawed Analysis** The House Committee on Government Reform and Oversight issued another minority staff report in 1998 (*Prescription Drug Pricing in the United States: Drug Companies Profit at the Expense of Older Americans*), which asked "whether pharmaceutical manufacturers are taking advantage of older Americans through price discrimination and, if so, whether this is part of the explanation for the high drug prices being paid by older Americans." This report on domestic price differentials was based on the same sample of 10 branded prescription drugs as the minority staff's report on cross-national price differentials. The domestic study compared retail pharmacy prices to Federal Supply Schedule (FSS) drug prices, which it characterized as prices offered to "most favored customers, such as large insurance companies and HMOs." The domestic study

concluded that the average differential between retail and FSS drug prices was 106 percent, whereas the average price differential for nonpharmaceutical consumer products was only 22 percent.

But the minority staff's study of domestic price differentials used flawed methods and, hence, reached conclusions that are misleading, at best. First, the comparison of retail pharmacy prices with FSS prices is "apples to oranges" because those prices are at different levels of the distribution chain. FSS prices are manufacturers' prices, whereas pharmacies' retail prices include wholesale and retail distribution margins, which add about 26 percent to manufacturers' prices. Second, drug manufacturers are required by statute to give to the four largest federal customers a discount of 24 percent, a discount that effectively becomes the ceiling for the FSS price. Distribution margins and the statutorily required discount to federal purchasers alone would account for a 65 percent retail-to-FSS price differential, which is three-fourths of the median retail-to-FSS differential in the minority staff's sample. Third, the small, unrepresentative sample of 10 leading drugs appears to focus on products for which discounts are atypically large.

The seemingly large disparity between the retail-to-FSS ratios for drugs as compared with other products is readily explained. Manufacturers of nonpharmaceutical products are not required to give a 24-percent discount to federal purchases. Moreover, makers of pharmaceuticals forgo reimbursement under Medicaid if they do not accept FSS prices. Makers of nonpharmaceutical products do not face a similar penalty. In addition, retail margins are likely to be higher for drugs than for other consumer products that face competition from other retail outlets.

In sum, the minority staff's 106-percent retail-to-FSS differential for drug prices is simply an irrelevant statistic, and one that should not be compared with the 22-percent differential for nonpharmaceutical products. We must turn to economic theory and evidence from other studies for relevant analyses of discounts to private buyers.

**Correct Analysis, Different Results—Again** Theory suggests that it is implausible that drug makers would typically give discounts of more than 15 percent to "favored customers," such as insurance companies and HMOs, because such discounts also would have to be given to Medicaid, in accordance with the Omnibus Budget Reconciliation Act of 1990 (OBRA). That theory is confirmed by three studies that are far more comprehensive than the minority staff's effort.

**The Facts about Discounts** One of the studies was conducted in 1994 by GAO, a second in 1996 by the Congressional Budget Office (CBO). Both looked at the size of best-price

discounts to private buyers in the early 1990s, following enactment of OBRA 1990. GAO found that between 1991 and 1993 the median best-price discount declined from 24 percent to 14 percent for HMOs and from 28 percent to 15 percent for group purchasing organizations. CBO found that the weighted average best-price discount in a sample of about 800 brand-name products declined from 37 percent in 1991 to 19 percent in 1994. These "best-price" discounts of 14, 15, and 19 percent presumably exceed typical discounts for private buyers.

Further evidence that discounts are typically 15 percent—or less—comes from a 1997 GAO report, *Pharmacy*

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The estimated difference between retail and Federal Supply Schedule drug prices is simply an irrelevant statistic; it should not be compared with the price difference for nonpharmaceutical products.

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*Benefit Managers: FEHBP Plans Satisfied with Savings and Services, but Retail Pharmacies Have Concerns.* GAO estimated savings achieved by pharmacy benefit managers (PBMs) on behalf of the Federal Employee Health Benefit Program (FEHBP). GAO concluded that PBMs realized savings of 20-27 percent, of which the share attributed to manufacturers' discounts was at most 21 percent, or 4-6 percent of total costs. GAO attributed a much larger share of the savings—52 percent, or 10-14 percent of total costs—to retail and mail-order pharmacy discounts.

The quite modest savings realized by PBMs on behalf of FEHBP is more evidence that the minority staff's 106-percent estimate is a gross exaggeration of typical discounts given by drug manufacturers to private buyers.

**More about FSS Discounts** CBO noted in its 1996 report that FSS discounts on some products could exceed 15 percent under certain conditions. Large discounts are more likely for products with several competitors (which is the case for most of the 10 products in the sample used in the minority staff study), products with relatively small Medicaid sales, and products to influential end users, such as academic medical centers. It is therefore reasonable to suppose that manufacturers sometimes give unusually large FSS discounts so that their drugs will be used at veterans hospitals, many of which are affiliated with major medical centers and serve as training grounds for young physicians.

Manufacturers may also be willing to grant relatively large FSS discounts because they are required by law to offer their products on the Federal Supply Schedule in order to receive reimbursement from Medicaid. Thus, the choice



for the manufacturer is to accept the FSS price (FSS accounts for only 1-2 percent of sales, on average) or forgo not only sales to the federal government but also sales to Medicaid (which accounts for 11 percent of sales).

A bill introduced in Congress last year (H.R. 664) would extend FSS prices to all Medicare beneficiaries—who account for 36 percent of outpatient drug spending. If that were to happen, manufacturers surely would be more resistant to large FSS discounts. That point was made by several manufacturers during the 1997 debate on the issue of making FSS prices available to state and local government purchasers. (See GAO's *Drug Prices: Effects of Opening Federal Supply Schedule for Pharmaceuticals Are Uncertain*, listed in "Readings.")

### PRICE DIFFERENTIALS: BACKGROUND, PURPOSE, AND BENEFITS

ALTHOUGH CROSS-NATIONAL AND DOMESTIC PRICE DIFFERENTIALS FOR DRUGS ARE SMALLER ON AVERAGE THAN ALLEGED,

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they are not zero and are sometimes large. Why are there differentials, and should they be permitted? In this section, I will assess the reasons for and benefits of domestic price differentials, then turn to cross-national price differentials. I will conclude this section by explaining why price differentials do not imply cost shifting.

The Influence of Managed Care Because of the growth of managed care, price differentials are pervasive for most medical goods and services, not just pharmaceuticals. Managed care came as a competitive response to traditional indemnity insurance, which passively paid providers their customary fees and relied on patient cost sharing as the only constraint on costs. But cost sharing reduces a patient's financial protection, thus undermining the purpose of insurance.

As an alternative to cost sharing, managed care seeks to contain costs through "supply side" controls, which include discounted fees and forms of provider risk sharing (e.g., capitation, or a set payment per patient). To gain leverage in fee negotiations with providers, managed care plans contract with selected networks of providers who agree to accept discounted fees (and other conditions). Providers, in return, expect to see more patients because enrollees in managed care plans are encouraged to use network

providers or make higher co-payments. Discounting by hospitals and physicians is rampant. The rapid growth of managed care suggests that many patients are willing to accept restrictions on their free choice of services, in return for the lower premiums and reduced cost sharing and expanded benefits offered by managed care plans.

Managed pharmacy benefits are analogous to other forms of managed care. PBMS establish networks of selected retail pharmacies, which agree to accept discounted fees and a formulary of preferred drugs. PBMS are able to negotiate discounts with drug manufacturers in return for preferred formulary status because PBMS can shift market share toward formulary drugs through incentives to physicians and differential co-payments to patients (e.g., lower co-payments for generics than for branded products). The ability of PBMS to shift market share makes PBM patients' demand relatively elastic: a discount to a PBM in return for preferred formulary status induces a larger gain in market share than a comparable discount to unmanaged patients, for whom physicians prescribe with less regard for price.

In sum, discounting is a competitive response of hospitals, physicians, pharmacists, and drug manufacturers when faced with price-sensitive managed care purchasers.

Price Discounting as a Common Business Strategy Price discounting of pharmaceuticals and medical services closely resembles the discounting of many other goods and

services, including air travel, restaurant dining, and movie tickets. That is, the discounts reflect the price sensitivity of customers; they are not given only for high-volume purchases that yield economies of scale. The seller maximizes net revenue by offering a lower price to price-sensitive customers and a higher price to price-insensitive customers. Leisure travelers, who are generally more price-sensitive than business travelers, earn deep discounts based on their willingness to book in advance and stay over on Saturday night. The elderly often benefit from discounts at movie theaters and restaurants because age is a proxy for schedule flexibility and price sensitivity for those services.

In the case of drugs, however, the elderly and other cash-paying customers who do not participate in a managed pharmacy program are perceived to be price-insensitive because their demand is not channeled through a price-sensitive PBM but only through a physician, who may be uninformed or unconcerned about price.

Moreover, if drug manufacturers were to give discounts to retail pharmacists, there is no assurance that pharmacists would pass those discounts on to patients. By contrast, PBMS pay fixed, per-prescription fees to pharmacists and pass negotiated discounts directly to payers (insurance companies and HMOs). Payers, in turn, pass those discounts on to

enrollees in the form of competitive premiums and co-payments for prescription drugs.

**The Benefits of Price Differentials** Price discounting benefits the consumers who receive the discounts, but does it make all consumers better off? Generally, in a conventional market with informed consumers and no insurance, all consumers of a product benefit if the total quantity purchased is greater with price discrimination than with uniform pricing. It seems plausible that discounts negotiated by PBMS and HMOs lead to an increase in the total quantity of drugs purchased.

In addition, a quite different and more important social benefit arises from differential pricing of pharmaceuticals. Differential pricing is an efficient way to cover the fixed costs of R&D, which are disproportionately high for the research-based pharmaceutical industry in the United States: 21 percent of total sales, compared with 4 percent for all of U.S. industry. (That 21 percent rises to 30 percent of costs with the addition of the interest income that is forgone during the 12 or more years of the drug development and approval process.)

Because pharmaceutical R&D is a joint cost that creates value for all consumers, it cannot be allocated causally to specific users or countries. Moreover, the cost of R&D already has been incurred by the time a product is launched. Thus, aggressive buyers and regulators can drive prices down to the marginal cost of production and distribution. But because marginal cost may be only 20-50 percent of total cost, sustained marginal-cost pricing would mean the end of R&D.

Of course, high R&D costs and the resulting inadequacy of marginal-cost pricing are not unique to pharmaceuticals. Most industrialized countries therefore recognize patent protection. But should patent protection be defined to permit price discrimination? The answer from economic theory—namely, Ramsey pricing—is a clear “yes.”

Ramsey pricing, which has been applied widely in the regulation of utilities, covers all costs by charging lower prices to price-sensitive buyers than to price-insensitive buyers. Consumers on the whole are better off with Ramsey pricing than they would be with uniform pricing. (Readers who want to pursue the underlying theory should read Chapter 4 of Kenneth Train’s *Optimal Regulation*, which is listed in “Readings” at the end of this article.)

Less price-sensitive consumers (e.g., the cash-paying elderly) face higher prices under Ramsey pricing than under uniform pricing. But, as I will discuss, the higher prices are not the result of cost shifting. Further, as I will discuss in “Conclusions and Policy Implications,” the problem faced by the elderly (and other cash-paying consumers) can and should be addressed without imposing uniform prices or otherwise regulating prices, which would deprive other consumers of the benefits of differential pricing.

**The Role of Competition among Health Plans** Many consumers have access to and choices among health plans. Those consumers can select plans based on their preference for free-

dom of choice, on the one hand, or lower out-of-pocket costs, on the other hand. Strict managed-care plans attract consumers who are more price-sensitive and willing to accept restrictions on choice in return for lower costs. Less price-sensitive consumers choose less restrictive managed-care plans or indemnity plans. The most price-sensitive consumers would select closed-formulary plans, which can offer the lowest premiums because they can extract the deepest price discounts from manufacturers.

To the extent that there is sorting along the lines I have just described, health plans simply act as intermediaries that reflect the price-sensitivities of their enrollees. But there is a major exception in the case of the elderly who rely on Medicare and supplementary (Medigap) plans. Medicare is inflexible. Medigap plans are heavily regulated and cannot compete by designing their coverage to match the preferences of potential enrollees. For example, suppliers of Medigap policies are required by law to cover Medicare deductibles before they add drug coverage, a constraint that surely has limited the range of drug coverage options available to the elderly.

**Understanding Cross-National Price Differentials and Their Effects** There is a different story to tell about cross-national price differentials. But the story has clear policy implications for the United States.

In most countries other than the United States, including all European Union (EU) countries, the government either provides national health insurance (as in the UK and Italy) or strictly regulates quasi-private social insurance funds (as in Germany, France, and the Netherlands). A government agency that is the sole purchaser (or regulator) of medical goods and services has monopsony power, that is, the power to set prices. In the case of pharmaceuticals, a monopsonist faces a great temptation to free-ride, that is, to pay only its country-specific marginal cost and to let other countries cover R&D costs. A regulator in a small country may correctly reason that failure to contribute to R&D costs will have a negligible effect on the future supply of medicines to that country. But an increasing number of countries regulate their domestic prices based on foreign prices, thus magnifying the free-rider problem and eroding the ability of pharmaceutical firms to segment global markets along national lines.

The pharmaceutical industry is more vulnerable than other industries to regulators’ use of their monopsony power. For example, most pricing formulae for electric power generation seek to provide a reasonable return on capital because the capital is specific to a locality or country and must be paid for by local users to ensure their continued access to services. There is no such relationship between pharmaceutical R&D costs and specific countries—thus the free-rider problem.

Moreover, because most multinational drug firms offer many products in a given country (with more in the pipeline), regulators can sustain for several years a policy of setting some prices below the levels required to cover coun-

try-specific overhead before a company will withdraw from that country. In the end, however, monopsony pricing reduces innovation and competition in pharmaceuticals by reducing the base over which R&D costs can be spread.

**Price Differences Do Not Imply Cost Shifting** It is often argued that price differences imply cost shifting. The minority staff report on cross-national price differences concluded “drug manufacturers appear to be engaged in ‘cost shifting.’ They charge low prices to consumers in Canada and Mexico and appear to make up the difference by charging far higher prices to senior citizens and other individual consumers in the United States.” Or, as Sir

erwise have paid, in effect, subsidizing the less price-sensitive consumers, who will pay lower prices than they would otherwise have paid. Evidence from GAO’s 1994 study and CBO’s 1996 study confirms that discounts to HMOs and other private purchasers were reduced after OBRA required drug makers to give best-price discounts to Medicaid.

**What About Profits?** Regardless of the advantages of differential pricing, one may still ask whether pharmaceutical prices are generally higher than necessary to cover costs. That is, are drug companies making excessive profits?

The first point to note is that standard accounting measures of profit are upwardly biased because the book value of assets does not reflect the value of intangible capital (R&D), which is atypically large for pharmaceutical firms. Second, whether current prices and profits are generally “too high” or “too low” is indeterminate—and probably not the right question. Current profits reflect R&D investment decisions made 10 to 20 years ago, based on very uncertain expectations about science, markets, and politics. Actual profits may exceed or fall short of those expectations.

Free entry to pharmaceutical R&D—which is evidenced by the large number of startup companies—will reduce *expected* profits to competitive levels. Efforts to limit profits by dictating current prices will deter entry and reduce R&D. Thus, the best measure of whether current profits are too high is whether current R&D is considered excessive. That is a tough question and it will not be answered here.

## The best way to help the elderly at reasonable cost is to permit them to choose among competing, managed, private-sector plans—just like the enrollees in the Federal Employee Health Benefits Program.

Leon Brittan said in 1992, “A pharmaceutical company may only be willing to sell in a low price country because it can recoup any losses it makes there from sales in high-priced countries.”

In fact, cost shifting is inconsistent with rational behavior by a profit-maximizing firm. For example, a firm that serves two separate customer groups, say A and B, which differ in their price sensitivity will maximize its net revenue by charging different prices to A and B. In the case of an established product, if group A is initially less price-sensitive than group B, the firm will charge group A a higher price than group B. If group B becomes even more price-sensitive, the firm will cut its price to group B. But the price to group A will not change—indeed, raising group A’s price would reduce the firm’s profits. By analogy, managed-care customers may obtain larger discounts than other customers, but those discounts do not cause other customers to pay higher prices.

Consider the same firm’s decision whether to develop a new drug. If the firm uses a simple, net present value rule, it will develop the product if expected total revenue is at least equal to total cost. If low-price users cover at least their marginal costs and make some contribution to R&D costs, prices paid by other users can be lower than they would have been in the absence of price discrimination.

In sum, allegations of cost shifting assume behavior that is inconsistent with profit-maximization by firms. Price discrimination in this context almost certainly raises total consumer welfare. If firms are required to charge uniform prices to all consumers, the more price-sensitive consumers will pay higher prices than they would oth-

### CONCLUSIONS AND POLICY IMPLICATIONS

Price Differentials and the Elderly Recent studies of drug prices have grossly exaggerated cross-national and domestic price differentials. Those studies also have ignored the considerable benefits of unregulated differential pricing, namely, greater consumer welfare, more innovation, and heightened competition. The relevant policy issue is not differential pricing but the affordability of drugs to the elderly (and the uninsured).

Following the model of traditional private indemnity plans, traditional Medicare does not cover outpatient drugs. But in the 1990s most private plans added outpatient drug coverage. About 65 percent of the elderly now have some form of drug coverage, either through a Medicare+Choice plan, a Medigap plan, Medicaid (which covers low-income elderly persons), or a state plan.

Nevertheless, there is room for improvement. The question is how to make things better for the elderly (and others), not worse. What are the alternatives and how do they compare?

**Price Regulation** Any attempt to regulate pharmaceutical prices on the basis of cost—as proposed by President



Clinton in 1994—will be imprecise and arbitrary. Regulators are tempted to set prices to cover only those costs that are clearly attributable to the delivery of particular drugs to particular market segments. That narrow focus tends to result in prices that are too low to cover R&D, therefore stifling innovation and competition.

Regulating drug prices is not an appropriate way to finance pharmaceutical care for the elderly, any more than regulating the price of heart transplants would be an appropriate way to make cardiac services more affordable. Any Medicare drug benefit that involves price regulation will have adverse long-term effects on innovation and competition—and, thus, on consumers.

Best-Price Legislation H.R. 664 would require sales to retail pharmacies at the lowest prices available to federal government purchasers. If enacted, H.R. 664 will have the same effect as OBRA: other private consumers will pay higher prices for their drugs. Moreover, any reduction in manufacturers' prices is likely to increase retail pharmacies' margins, not to reduce prices paid by the elderly.

Variations on Medicare Providing an indemnity benefit through the traditional Medicare fee-for-service program would simply increase the level of inelastic (price-insensitive) demand in the retail sector, which would lead to higher prices for cash-paying customers other than the elderly. Adding PBM coverage to traditional fee-for-service Medicare probably would yield smaller savings than are available through Medicare+Choice plans because traditional Medicare has no network of physicians on which to focus formulary enforcement.

Plan Choice Managed pharmacy benefit plans reduce costs by negotiating discounts with manufacturers and pharmacies and by substituting mail-order systems for retail outlets. The best way to help the elderly at reasonable cost is to permit them to choose among competing, managed, private-sector plans, including Medicare+Choice plans, just as enrollees in the Federal Employee Health Benefits Program can choose among competing plans. If a drug benefit were added to traditional Medicare, offering the elderly a choice between competing PBMs would be preferable to the establishment of a monopoly PBM for each area.

Price Levels and Profits Given the long development and approval process for pharmaceuticals—and the ever-present possibility of political intervention—drug firms face great uncertainty about future profits. But as long as entry to the R&D business remains unrestricted, the level of research activity should adjust to the point that there are no excess expected profits.

Rather than focus on the allegedly high profits of a few leading pharmaceutical firms, policy analysis would do better to assess whether present laws, regulations, and tax rules encourage too much or too little investment in R&D.

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