



Taxing the Sick: How “Fees” in Health Care Reform Hurt Patients

By Alex Brill

The Senate Finance Committee’s health care bill imposes fees on brand name pharmaceutical and medical device manufacturers. These fees are essentially excise taxes. While they have some political appeal given the common but erroneous perception that these companies will be forced to forgo some of their alleged “excessive” profits, the new taxes will essentially require sick people to subsidize health care for other sick people. In addition, the legislation calls for an increase in the Medicaid drug rebate that drug manufacturers must pay to Medicaid. The increase in the rebate will also cause manufacturers to raise prices on consumers.

The Senate Finance Committee has concluded its consideration of the *America’s Healthy Future Act of 2009*. The legislation intends to address a number of policy objectives, but one overriding concern is controlling the rising cost of health care.¹ As a recent White House report notes, “Americans pay more for health care each year but get less coverage and fewer services for the premiums they pay. . . . With each passing year, families face increasing deductibles, copayments, and other out-of-pocket expenses, requiring them to make difficult decisions in order to make ends meet.”² It is surprising, therefore, that some of the provisions of this legislation will in fact lead to higher costs for health care consumers.

The bill includes fees on certain segments of the health care industry as well as an increase in the Medicaid drug rebate amount for both brand name and generic drugs. The primary purpose of this *Outlook* is to examine the *economic incidence*—that is, the distribution of the true economic burden—of these policies. The fees in

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the Finance Committee bill are equivalent to excise taxes. As a result, the economic burden of these new taxes will be largely transferred to consumers in the form of higher prices, regardless of the *statutory incidence*, or legal construction, of the fee. Although the increased Medicaid drug rebate differs from an excise tax, the economic incidence of an increased rebate also falls largely on consumers in the form of higher drug prices. In general, these policies would require consumers of health care products—sick

Key points in this *Outlook*:

- The Senate Finance Committee health reform bill includes what are essentially excise taxes on brand name pharmaceutical and medical device manufacturers.
- These taxes will raise prices for sick people who need to buy these products.
- The legislation also increases the rebate all pharmaceutical manufacturers pay to Medicaid, which will also result in consumers’ paying higher prices.

people—to bear the burden of subsidizing health care for other sick people.

America's Healthy Future Act of 2009 includes two health care subsector “annual fees.” Beginning in 2010, the bill would impose a \$2.3 billion annual fee on brand name pharmaceutical manufacturers and importers and a \$4 billion annual fee on medical device manufacturers and importers with assessments on each individual firm determined by its market share. These fees would be assessed each year, based on sales and market-share data from the previous year. The aggregate fee amount is fixed by statute, but the share paid by an individual firm will vary year to year. Initially, the bill also included a \$750 million annual fee on clinical labs, but this provision was removed during the markup of the bill. In addition, the bill imposes a \$6.7 billion annual fee on certain health insurance providers.

This *Outlook* discusses key terminology, tax incidence theory generally, and empirical evidence from the incidence of other excise taxes. Following that, it focuses on the incidence of the pharmaceutical excise tax proposal and certain design flaws in the Finance Committee’s class of health care excise tax proposals. The *Outlook* then discusses the proposed increase in the Medicaid drug rebate and examines how it will have an effect similar to an excise tax.

Some Key Definitions

An excise tax is any tax levied on the purchase of a good. Excise taxes apply to everything from tackle boxes to tires. While a general sales tax imposes the same tax rate on the purchases of all goods, excise taxes are referred to as “selective sales taxes” because a different tax rate applies to the purchases of different products.³ Because each of the fees mentioned above is a function of the value of goods sold (rather than income earned), each fee is equivalent to an excise tax.

The first principle of tax incidence is that the burden of a tax is not determined by the statutory language in the tax code or where the revenue is collected. The fact that the gasoline tax, for example, is collected at the point of production (which means that the prices posted at the pump already include the taxes levied) does not mean that the tax falls on gasoline producers. Similarly,

the fact that the state sales tax is collected at the point of sale and therefore is added to the bill at the cash register does not mean that the tax falls completely on the consumer. The choice of where to impose the tax does not affect who ultimately bears the burden.

The important question is not “from whom does the government collect the revenue?” but rather “who bears the burden of the tax?” The first question asks for the statutory incidence, while the second asks for the economic incidence.⁴

Tax Incidence Theory

In order to analyze where the burden of a given tax policy falls, one must look at the sensitivity of demand and supply to price changes. Economists measure a

consumer or producer’s sensitivity to price changes by calculating the demand or supply elasticity, which is the ratio of the percent change in the quantity demanded or supplied due to a 1 percent change in price.

If consumers are not very sensitive to price changes, producers will respond to an increase in their costs, such as a tax, by increasing the price of their good, and they will still be able to sell the same quantity. This situation, which is referred to as inelastic demand, is likely to apply to necessities. In the short run, for example, gasoline demand tends to be relatively unresponsive to changes in fuel prices. People still need to drive from home to work, to the store and back home again. Where demand for a good is more inelastic, a larger proportion of a tax will be shifted to consumers because suppliers know that increasing the price of their product will lead to only a small decrease in sales.

Conversely, consider a good for which demand is very sensitive to price changes. Taxes on elastic goods tend to be borne by producers because they cannot raise prices without losing their customers. Luxury goods are often thought to have an elastic demand. Consider, for example, the 10 percent tax Congress imposed on luxury yacht sales in 1990. Because consumers could refrain from purchasing yachts and spend their money elsewhere, boat makers were forced to bear the burden of the tax.⁵ By 1991, luxury boat sales had declined 70 percent from the previous year, and many boat companies were forced to downsize significantly or to go out of business. By early 1992, Congress repealed the tax, having recognized that the demand for these

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items was highly elastic. Because the drop in sales coincided with a recession, it is difficult to separate the impact of the two factors precisely, but the magnitude of the decline in sales following the enactment of the tax suggested strongly that demand is elastic.

The sensitivity of supply is also important. If producers are able to adjust their production to a change in price easily, they will respond to an increase in their costs, such as a tax, by decreasing production, thereby pushing up the price. So, consumers tend to bear the tax burden when supply is elastic. Goods with elastic supply are those for which producers can readily control the quantity of their output. In the long run, most firms are likely to have elastic supply curves. Less profitable firms will decrease production, shut down, or shift their production to more profitable areas, thus lowering the quantity of a good available in the market and driving up prices. In the long run, an excise tax is likely to be largely shifted onto the consumer because the supply curve is likely to be highly elastic.

Many goods have inelastic supply in the short run, however, because it could take a few months or years to build new factories to accommodate decreased costs or to shut down production to accommodate increased costs. In such cases, the tax burden falls on the producer because the producer cannot reduce output to push up prices.⁶

The burden of an excise tax depends on the elasticity of both demand and supply. Specifically, the burden of the tax falls more heavily on the more inelastic party. Because producers are able to adjust their production in the long run, the long-run incidence of an excise tax generally falls on the consumer.⁷ That is particularly true if consumers have relatively inflexible demand.

Cigarette and Gas Taxes

Empirical evidence of tax shifting abounds in the economics literature. Economists agree, for example, that the payroll tax is largely or completely borne by workers, despite the fact that the statutory burden is split between the employer and the employee.⁸

Empirical studies in the United States and in Europe have shown that the consumer bears nearly the full burden of tobacco taxes, with almost no burden on producers; a 1999 study by economists William N. Evans, Jeanne S.

Ringel, and Diana Stech found that for every dollar of tax revenues raised from cigarette taxes, tobacco companies lose only eight cents of before-tax profits.⁹

Similar results have been found for the gasoline tax. A 2003 Congressional Budget Office (CBO) study esti-

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mated that for every dollar of revenue gained from gasoline excise taxes, the consumer bears approximately eighty-five cents.¹⁰ A 2008 paper by Joseph J. Doyle Jr. and Krislert Samphantharak examining the expected impact of a gas tax moratorium found that when the tax is reinstated, 80 to 100 percent of the burden would be passed along to consumers.¹¹ A 2005 paper by economists James Alm, Edward Sennoga, and Mark Skidmore confirmed this result, finding “full shifting of gasoline taxes to the final

consumer, with changes in gasoline taxes fully reflected in the tax-inclusive gasoline prices almost instantly.”¹² It is for this reason that environmental groups support increasing the gas tax in order to decrease gasoline consumption (and the associated carbon emissions). If the tax were not “passed forward,” such a tax would not have the desired environmental impact.

A Brand Name Pharmaceutical Excise Tax

Due to patent protections and data exclusivity, brand name pharmaceutical companies are essentially granted monopolies over their drugs for a fixed period of time. During this period of time, although competing therapies may enter the market, there can be no direct competition in the market for a given treatment.

The monopoly power afforded brand name pharmaceuticals combined with incentives generated by insurance companies (which require only a patient’s copayment for prescriptions) leads to a highly inelastic demand curve for brand name drugs. A 2005 RAND study, for example, found that the price elasticity of demand for pharmaceuticals is between -0.05 and -0.08 , which means that a 1 percent increase in price will generate a 0.05 to 0.08 percent decrease in demand.¹³ Another recent study in *Health Economics* by Paul Contoyannis, Jeremiah Hurley, Paul Grootendorst, Sung-Hee Jeon, and Robyn Tamblyn estimated price elasticities for pharmaceuticals at between -0.12 and -0.16 .¹⁴

The highly inelastic demand for brand name pharmaceuticals implies that any excise tax would be largely

passed forward to consumers. For privately insured consumers and Medicare Part D beneficiaries, the consequence would be higher insurance premiums, higher copays, or both. For the uninsured, the price paid at the pharmacy would rise by an amount similar to the amount of the tax. How much consumer prices would rise, however, is unclear. Depending on market conditions and the functional form of the consumer demand curve, a tax on brand name pharmaceuticals could have tax shifting of greater than 100 percent. Unlike in the perfectly competitive case, in which the polar cases are zero tax shifting and full tax shifting, in imperfectly competitive markets like the brand name pharmaceutical industry, we could see a broader range of results.¹⁵

The \$2.3 billion excise tax on prescription drugs in the bill may result in a modest decline in revenue for a brand name drug company. Assuming an elasticity of demand of -0.10 , perhaps the revenue loss will be \$230 million. Given that total brand name pharmaceutical sales in the United States are approximately \$250 billion, the impact would be small.¹⁶ If pharmaceutical companies are able to increase the price by more than 100 percent of the excise tax, then the revenue consequence would be even less for companies.¹⁷ More significant is the allocation of the burden of the remaining \$2.1 billion, which would fall on consumers. Given the public concern about the high and rising cost of health care, it seems that this policy would clearly run counter to the intent of making health care more affordable for consumers.

Other Design Flaws

There are additional peculiarities with these provisions worthy of note. First, the fees imposed on brand name drug and medical device manufacturers are a function of each company's market share, not a percentage of the company's absolute sales. In each case, the bill draws on a bizarre definition for determining the total market size. The total market share measure for the brand name drug fee is relative to sales to Medicare, Medicaid, the Veterans Administration, and TRI-

CARE, and thus will disproportionately tax manufacturers of drugs used by the elderly and severely mentally ill. The definition of market share does not include

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“orphan drugs,” a class of pharmaceutical originally developed to serve a small population (less than 200,000 people affected by a disease or disorder) and awarded additional subsidies or regulatory relief to encourage their development. Some of the most successful drugs on the market, however, are technically classified as orphan drugs because the designation occurs when the drug is first brought to the Food and Drug Administration (FDA) for approval. Examples of blockbuster orphan drugs include Enbrel, Epogen, Neupogen, and Rituxan.

Unlike with drugs, the market share for medical devices is defined as total U.S. sales of FDA-regulated medical devices excluding Class I products and Class II products costing less than \$100. As a result of these exclusions, the tax will not affect the market for “devices” such as dental instruments, surgical equipment, and tongue depressors. Low-cost Class II products may include such items as pregnancy tests or certain diabetic-testing

equipment. As a result, the tax will be applied only to the more research and development intensive, expensive, and sophisticated medical devices.

The fee assessments, however, are not directly proportional to market share. For brand name pharmaceuticals, market share would be determined by taking into account zero percent of sales up to \$5 million, 10 percent of sales from \$5 million to \$125 million, 40 percent of sales from \$125 million to \$225 million, 75 percent of sales from \$225 million to \$400 million, and 100 percent of sales over \$400 million. A similar sliding scale would apply for the fee on medical devices.

These assessments will not be deductible for U.S. income tax purposes. Recall that in general, expenses incurred by a business are deductible for tax purposes and that the corporate income tax is imposed on the profits a business earns. Disallowing the deduction of these fees for income tax purposes creates additional tax distortions on top of an already complex and inefficient corporate income tax system.

Finally, there would be a new regulatory and compliance cost associated with these taxes. The Government Accountability Office discusses the challenges of imposing various excise taxes, including an excise tax on pharmaceuticals, and notes: “[I]mplementing excise taxes . . . [would require the Internal Revenue Service (IRS)] to develop clear and precise definitions of the products to be taxed, as authorized by Congress. . . . In addition, any exemptions to the excise tax would also need to be defined. According to IRS officials, . . . the administrative costs associated with designing and implementing any new excise taxes could be substantial and this process could take more than a year to complete. In addition, once the taxable product(s) have been defined, IRS would also need to modify its excise tax collection and enforcement framework.”¹⁸

Medicaid Rebates Work Like a Tax and Hit Generics, Too

In addition to the fee on pharmaceuticals, Congress has proposed an increase in the Medicaid drug rebate that drug manufacturers must pay to Medicaid. Created in the *Omnibus Budget Reconciliation Act of 1990*, the policy is intended to ensure that Medicaid benefits from the bulk rate “best pricing” discount that it would receive if it purchased drugs directly from the manufacturer instead of reimbursing thousands of small providers who are not entitled to the bulk pricing. Currently, brand name drug manufacturers must pay Medicaid a rebate of 15.1 percent of their average manufacturer’s price, and generics must pay a rebate of 11 percent. Alternatively, the brand name drugs may be sold to Medicaid at the “best price” available to other purchasers.¹⁹

The Senate Finance Committee bill would raise the rebate for brand name drugs from 15.1 percent to 23.1 percent and for generic drugs from 11 percent to 13 percent.²⁰ The policy is not fundamentally different from the excise tax except that the rebate is imposed only on the drugs paid for by Medicaid, while the excise tax applies to all drug sales. Similarly, the incidence of Medicaid drug rebates is not altogether different from the excise tax because drug companies will raise prices on their products.

The CBO reports that as a result of the Medicaid rebate program, drug companies reduced the size of the biggest discounts they offered customers.²¹ Congress attempted to limit the ability of drug companies to pass

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forward the rebate cost by imposing an additional rebate on drugs whose average price rises faster than inflation. Pharmaceutical companies appear to have responded to this policy by launching their products at a higher initial price.

In addition, Yale economist Fiona Scott Morton estimated the impact of the policy in a 1997 paper, which concludes, “Drugstore prices rose for large package sizes, for drugs where Medicaid was a large purchaser, and in markets with many generic competitors.

Although federal and state governments reduced government expenditure . . . some non-Medicaid consumers paid higher prices for some products, and some pharmaceutical firms may have become better off.”²²

While the pharmaceutical excise tax would apply to only some brand name drug products, the Medicaid rebate increase would apply to both brand name and generic pharmaceuticals. In contrast to the brand name pharmaceutical drug market discussed earlier, the market structure for generic drugs closely resembles perfect competition. While the brand name companies enjoy pricing power and are able to charge consumers prices that result in economic profits, the nature of the generic drug industry means prices are driven down by competition.

Ernst R. Berndt argues in a 2002 paper that “competition among generic drug manufacturers should drive price close to marginal production costs.”²³ Economists David Reiffen and Michael R. Ward tested this theory empirically and found “that for markets of sufficient size, . . . entry will ultimately lead to near-competitive pricing.”²⁴ In any market with competitive pricing and constant marginal cost, the full burden of an excise tax must be passed along to consumers because the producer price cannot fall below the marginal cost. While an excise tax or increased Medicaid rebate will be passed forward to consumers as higher prices, this is not to say that the industry will not be affected. If there are cases within the generic drug industry in which pricing power exists (as may be the case for small generic markets),²⁵ then prices may rise by more than the excise tax as the decrease in demand

may reduce the number of firms in that market. As described by Fullerton and Metcalf, “This indirect price effect arises because the decrease in the equilibrium number of firms yields increased market power for the remaining firms.”²⁶

An increase in the Medicaid rebate would lead pharmaceutical companies—both brand name and generic manufacturers—to pass forward the additional rebate cost. Brand name pharmaceutical firms may also realize slightly reduced profits, and generic pharmaceutical firms may realize modest reductions in the number of competitors in certain markets. Ultimately, the economic incidence of an increase in Medicaid rebates will be borne by consumers—that is, by patients.

Conclusion

Imposing an excise tax on certain health care providers may have political appeal to a Congress seeking to pay for expanded access to health care services to those currently uninsured, especially given the common political perception that many providers earn excess profits from the current system. Although such a tax would impose new regulatory and compliance burdens, a far more important concern is the incidence of the tax, which falls almost entirely on consumers, rather than on shareholders or corporate executives.

A brand name pharmaceutical excise tax is expected to result in consumers’ paying higher prices for health care either through higher copays, higher insurance premiums, or both. For the uninsured, the retail price will rise. The increase in the Medicaid rebate will similarly lead the pharmaceutical industry to push up prices on other consumers. In the case of the medical devices fee, the tax will be passed forward to consumers in the form of higher prices as well, because health care services in general face a relatively inelastic demand curve. When the purchaser of a medical device is a hospital or medical practice, as is the case with equipment such as X-ray machines, the health care providers will face a higher cost and, in turn, will charge more for their services.

Imposing a tax on consumers of health care (the sick) to cross-subsidize the health care of others is a distinctly different concept from the policy of promoting or mandating health insurance coverage. Insurance requires that the healthy pay the costs of the sick, while this proposal is akin to some sick subsidizing other sick.

Notes

1. *America’s Healthy Future Act of 2009*, Chairman’s Mark, Senate Finance Committee, 111th Cong., 1st sess., Open Congress (September 16, 2009), available at www.opencongress.org/baucus_bill_health_care.html (accessed October 15, 2009).

2. See “Out-of-Pocket Expenses: Americans Shoulder the Burden of Growing Healthcare Costs,” HealthReform.gov, available at www.healthreform.gov/reports/out_of_pocket/outofpocket.pdf (accessed October 14, 2009).

3. Harvey S. Rosen and Ted Gayer, *Public Finance*, 8th ed. (New York: McGraw Hill/Irwin, 2008).

4. This *Outlook* will explore only the first-order incidence analysis, known as partial equilibrium analysis, and will explore the direct incidence of the tax only as it relates to the consumer and producer. Determining who bears the final burden is a very difficult question. Consider the cigarette tax, for which the consumer bears a part of the burden through increased prices. Consumers who continue to smoke despite the higher price will be left with less income to spend on other goods; the ultimate impact of the tax depends on which other goods consumers cut back on. Also, the government will collect additional tax revenues, and how those revenues are spent may affect individuals differently.

5. Agis Salpukas, “Falling Tax Would Lift All Yachts,” *New York Times*, February 7, 1992.

6. Of course, some firms can be very responsive: imagine a tax was levied on sugary sodas, but not diet sodas. It would not take long before Coca-Cola would turn some of its regular Coke machines into Diet Coke machines.

7. Mathematically, the share of an excise tax borne by consumers, I_d , (assuming perfect competition) is expressed as $I_d = \eta_s / (\eta_s - \eta_d)$, where η_s and η_d are the elasticities of supply and demand. (Note: $\eta_s > 0$ and $\eta_d \leq 0$.) As demand becomes more inelastic (in other words, as η_d tends toward zero), then I_d tends toward one and the tax is passed entirely forward. Similarly, if supply is very elastic (as η_s approaches infinity), I_d equals one.

8. See Jonathan Gruber, “The Incidence of Payroll Taxation: Evidence from Chile,” *Journal of Labor Economics* 15, part 2 (1997): S72–S101, for details on the empirical evidence that the payroll tax is borne entirely by the worker.

9. William N. Evans, Jeanne S. Ringel, and Diana Stech, “Tobacco Taxes and Public Policy to Discourage Smoking,” *Tax Policy and the Economy* 13 (1999): 1–55. Advocates for higher cigarette taxes believe it is an effective tool for discouraging smoking because the tax is passed forward as a higher price. See Campaign for Tobacco Free Kids, “Raising Cigarette Taxes Reduces Smoking, Especially among Kids (and the Cigarette Companies Know It),” available at www.tobaccofreekids.org/research/factsheets/pdf/0146.pdf (accessed October 14, 2009).

10. Congressional Budget Office (CBO), *The Economic Costs of Fuel Economy Standards versus a Gasoline Tax*, CBO Study (Washington, DC: Congress of the United States, December 2003), available at www.cbo.gov/ftpdocs/49xx/doc4917/12-24-03_CAFE.pdf (accessed October 15, 2009).

11. Joseph J. Doyle Jr. and Krislert Samphantharak, "\$2.00 Gas! Studying the Effects of a Gas Tax Moratorium," *Journal of Public Economics* 92, no. 3–4 (2008): 869–84.

12. James Alm, Edward Sennoga, and Mark Skidmore, "Perfect Competition, Spatial Competition, and Tax Incidence in the Retail Gasoline Market," Andrew Young School Research Paper, no. 06-01 (November 2005).

13. Jeanne S. Ringel, Susan D. Hook, Ben A. Vollard, and Sergej Mahnovski, *The Elasticity of Demand for Health Care: A Review of the Literature and Its Application to the Military Health System*, National Defense Research Institute and RAND Health, prepared for the Office of the Secretary of Defense, available at www.rand.org/pubs/monograph_reports/2005/MR1355.pdf (accessed October 15, 2009).

14. Paul Contoyannis, Jeremiah Hurley, Paul Grootendorst, Sung-Hee Jeon, and Robyn Tamblin, "Estimating the Price Elasticity of Expenditure for Prescription Drugs in the Presence of Non-Linear Price Schedules: An Illustration from Quebec, Canada," *Health Economics* 14, no. 9 (2005): 909–23.

15. See Don Fullerton and Gilbert E. Metcalf, "Tax Incidence," in *Handbook of Public Economics*, 1st ed., ed. Alan J. Auerbach and Martin Feldstein (Amsterdam: Elsevier Science B.V., 2002), 4: 1787–1872.

16. For 2010, the first year this will be imposed, the economic incidence will be different. Because the legislation is being enacted at the end of 2009 and the fees are imposed on the share of sales for 2009, the first year assessment should be considered a lump sum tax, with the burden falling completely on the manufacturers and importers. Only in future years will the companies have the opportunity to pass the tax on to consumers.

17. See Don Fullerton and Gilbert E. Metcalf, "Tax Incidence," for a discussion of the conditions under which a monopolist would increase prices by more than the amount of the excise tax.

18. U.S. Government Accountability Office (GAO), *Report to Congressional Requesters: Clean Water Infrastructure, a Variety of Issues Need to Be Considered When Designing a Clean Water Trust Fund*, 111th Cong., 1st sess., GAO-09-657 (Washington, DC, May 2009): 21–22, available at www.gao.gov/new.items/d09657.pdf (accessed October 14, 2009).

19. *Omnibus Budget Reconciliation Act of 1990*, Public Law 101-508, 101st Cong., 2nd sess. (November 5, 1990).

20. In the House, the *America's Affordable Health Choices Act of 2009* would increase the rebate for prescription drugs to 22.1 percent. See *America's Affordable Health Choices Act of 2009*, HR 3200, 111th Cong., 1st sess., Open Congress (July 14, 2009), available at www.opencongress.org/bill/111-h3200/text (accessed October 15, 2009).

21. CBO, *How the Medicaid Rebate on Prescription Drugs Affects Pricing in the Pharmaceutical Industry*, CBO Papers (Washington, DC: Congress of the United States, January 1996), available at www.cbo.gov/ftpdocs/47xx/doc4750/1996Doc20.pdf (accessed October 15, 2009).

22. Fiona Scott Morton, "The Strategic Response by Pharmaceutical Firms to the Medicaid Most-Favored-Customer Rules," *RAND Journal of Economics* 28, no. 2 (1997): 288.

23. Ernst R. Berndt, "Pharmaceuticals in U.S. Health Care: Determinants of Quality and Price," *Journal of Economic Perspectives* 16, no. 4 (2002): 59.

24. David Reiffen and Michael R. Ward, "Generic Drug Industry Dynamics," *Review of Economics and Statistics* 87, no. 1 (2005): 49.

25. *Ibid.*, 37–49.

26. Don Fullerton and Gilbert E. Metcalf, "Tax Incidence," 1827.