Chapter 2

Case Studies of Anticompetitive SOE Behavior

R. Richard Geddes

Direct competition between state-owned enterprises (SOEs) or government-sponsored enterprises (GSEs) and privately owned, unsubsidized firms occurs more frequently than is commonly appreciated. It is, or historically has occurred, in the provision of electricity, water, financial services, postal services, weather forecasting, information, freight transport, mortgage lending, and many other activities. Where possible, GSEs and SOEs will expand their revenue base by venturing into new, competitive business lines. They will underprice in those businesses in which they compete directly with private firms and will engage in a variety of other anticompetitive activities. These activities are discussed by David Sappington and Gregory Sidak in Chapter 1.

Scholars have rarely focused on such behavior. That is surprising because academic economists accept that private, regulated firms are inclined to shift costs onto their core, monopolized activities and away from activities in which they face competition. For example, it

.... 10609$ $CH2 02-19-04 11:13:26 PS

has been shown that regulated, investor-owned utilities that have other commercial business interests will shift overhead costs onto the regulated activity.[1] Defense contractors with both sole-source contracts and commercial products facing competition will shift costs to their sole-source contracts, where they face less competition.[2] Hospitals are inclined to shift costs from payers using fixed-price reimbursement methods to those using reported costs.[3]

As Sappington and Sidak suggest, SOEs and GSEs are likely to engage in similar cost-shifting behavior when they face competition from private firms. In this chapter, I catalog a number of cases of such competition. I first review the government-granted advantages that SOEs and GSEs typically enjoy and then examine ways in which those privileges allow them to successfully compete with private firms even though they may be less efficient. I discuss cases in which government and private unsubsidized firms compete and consider the lessons and implications of those cases.

This chapter is not intended to provide an exhaustive list of all instances of government-private competition or to provide a definitive treatment of each case. Rather, it is to demonstrate that such competition is a general phenomenon and that similar issues arise in each case. Collectively, the case studies presented here suggest that concerns about cost shifting in other industries are also appropriate when government and private firms compete.

Special Privileges and Immunities Enjoyed by SOEs and GSEs

SOEs and GSEs enjoy a variety of government-granted subsidies, privileges, and immunities. Those privileges give government firms an artificial competitive advantage over private rivals.[4] By artificial I mean that the firm's competitive advantage is not based on superior management skills, more efficient technology, enhanced innovation, better negotiating techniques, or indeed on any other economic factor. Its competitive advantage is government created.

Inefficient competition between government and private firms occurs when SOEs and GSEs use government-granted privileges and immunities to price below private rivals that would be lower cost in the absence of those benefits. That is, special privileges and immunities distort the prices offered by SOEs and GSEs. Such behavior has several harmful effects. First, there is a direct misallocation of resources because prices do not reflect true economic cost. The true economic cost of an enterprise includes, for example, tax payments, undistorted interest payments on debt, a market return on equity, and the cost of complying with reporting requirements, among many others. Prices in competitive markets should reflect those costs. Second, as Sappington and Sidak showed in Chapter 1, a government firm will be willing to set price even below the subsidized cost it actually faces and keep it there without regard to long-term losses.

Third, more efficient but unsubsidized private firms will contract, not invest, or may not start up if they observe or anticipate competition from a government rival. If there is uncertainty over the government firm's intention or ability to expand into a particular activity, that uncertainty will contribute to private disinvestment.

Fourth, if a government firm prices below cost, then less (or none) of its overhead costs will be covered by the price of the service, which means that taxpayers (or some other captive group) must pay for more of the cost of the overhead. Such competition is thus also a drain on the taxpayer.

Although specific institutional arrangements vary across particular organizations, the privileges discussed below are common. Each can be used to artificially expand SOE or GSE revenues where it faces competition.

Monopoly Power

Government firms often receive explicit government-protected monopolies in their core activities. For example, the federal government grants the U.S. Postal Service exclusive monopolies over both the delivery of letter mail and over the use of customers' mailboxes. Amtrak has a monopoly over the carriage of passengers on intercity railroad routes. Electric utilities (federal, state, municipal, and private) often possess geographic monopolies over their service territories.

The implication of monopoly power for anticompetitive behavior is straightforward. A government firm can shift costs onto activities in which customers are held captive to the monopoly and away from activities where it faces competition. Stated differently, it can use economic profits (or rents) from its monopolized activities to cross subsidize (or underprice) in activities where it faces competition.

Legally enforced monopoly creates significant, legitimate anticompetitive concerns. However, there are at least six additional government-bestowed privileges and immunities typically granted to SOEs and GSEs. Because money is fungible, the government firm can shift rents from each to help sustain inefficient competition with private rivals.

Credit Guarantees

Government firms can borrow at taxpayer-guaranteed preferential rates, which artificially reduces borrowing costs. The guarantee is either explicit or implicit. The Postal Service, for example, is allowed to borrow directly from the Federal Financing Bank. The federal government guarantees its debt. The TVA also enjoys a government debt guarantee. As a result, both firms have saved enormous amounts on debt service due to lower interest payments. As Paul MacAvoy and George McIssac state, "The public enterprises have had special access to capital through the Federal Financial Bank (FFB) which guarantees public bonds at interest charges less than market rates for private companies of comparable risk. Both TVA and USPS financed their placements of debt with the FFB at a 12.5 basis-point premium above Treasury bond rates. This rate was lower than on bonds of companies with comparable financial performance. . . . If these organizations had not had access to FFB financing, the additional interest charges which they would have incurred would have exceeded $5 billion over the first half of the 1980s.”[5]

Even if firms do not possess explicit government-provided credit guarantees, financial markets view those firms as possessing implicit guarantees if the government would disallow default. Fannie Mae and Freddie Mac are viewed as possessing an implicit government debt guarantee. The savings from lower interest rates as a result of an implicit guarantee are also substantial. By lowering debt costs, express or implied government debt guarantees artificially enhance an SOE’s or a GSE’s ability to price below rivals offering competitive services.

Captive Equity

By captive equity I refer to the fact that in an SOE, equity is locked in the firm, whereas in a private, publicly traded corporation, equity shares are transferable. Taxpayer-owners, who funded the government firm’s original capital stock, are prohibited from withdrawing their funds in the event of poor firm performance. The use of legal coercion to keep capital within the firm is a (perhaps *the*) unique feature of government ownership.

Captive equity is a frequently overlooked subsidy to SOEs, but it is important for several reasons. First, because of captive equity, government-owned firms are absolved from paying dividends or indeed any expected return to shareholders to induce them to contribute capital to the firm. That, in addition to any express or implied debt guarantee, artificially lowers the cost of capital relative to that of a privately owned, publicly traded corporation. Conversely, government firms are free to dissipate owners’ equity through consistent losses over time without fear of the owners selling their equity stake.

.... 10609$ $CH2 02-19-04 11:13:27 PS

Government firms can use that lower cost of capital to subsidize activities in which they face competition.

Second, captive equity removes a key market-based constraint on pricing products and services below cost. When private firms price below cost in an attempt to drive out a rival firm, it is known as predatory pricing. Predatory pricing by private firms is rarely profitable.[6] A predatory firm must not only price below cost but also expand output at that low price and maintain its low price long enough to drive the rival out.

Because they create stock prices, tradable ownership shares constrain private corporations from predatory pricing. Stock prices fall rapidly when losses are incurred because of below-cost pricing. If the wealth of managers is tied to performance of the firm (through bonuses, restricted stock, or stock options) as is typical in most large corporations, then managers' wealth will decline if they predate. Managers of private firms thus have little incentive to predatory price.

Managers of government-owned firms, however, face no such constraint. There are, by definition, no stock prices to react to the firm's below-cost pricing. SOE managers' wealth will not be reduced by predation. Instead, the manager is likely to value the increased output associated with predation for its own sake and can indulge that preference with impunity. If the firm is not profit maximizing, there is no need to subsequently raise prices to recoup losses from predation. In addition to directly lowering the cost of equity, captive equity removes any market-based constraint on below-cost pricing.

Exemption from Bankruptcy

The companion privilege to captive equity is exemption from bankruptcy. Because owners cannot withdraw capital, government firms can operate for years while earning losses long after private firms would have gone bankrupt. Amtrak, for example, lost $908 million in 2000, $819 million in 2001, and $752 million in 2002. The U.S. Postal Service lost $200 million in 2000, $1.7 billion in 2001, and $676 million in 2002. Both firms continue to operate, which indicates that they can sustain long-term losses in activities where they face competition.

The lack of a bankruptcy constraint confers an artificial competitive advantage on government firms. As Michael Crew and Paul Kleindorfer observed, "In addition, a public enterprise is not subject to the pressure of competition in the same way that a private company is, in that it is insulated from bankruptcy. The insulation from the discipline of bankruptcy also means that a public enterprise, unless strongly reined in by government, can get into competitive ventures on favorable terms and therefore compete unfairly and inefficiently with privately owned companies."[7]

In addition to actually reducing the revenues of a private rival through lack of a bankruptcy constraint, the perception that an SOE or a GSE does not face bankruptcy is likely to discourage a private competitor from entering into or investing in an activity in which it might face government competition.

As with captive equity, there are subbenefits from a bankruptcy exemption. Because Amtrak has never earned a profit, for example, it has successfully avoided paying corporate income tax, to which it is in principle subject.

Tax Exemptions

Government firms are often exempt from various taxes to which private firms are subject. For example, Fannie Mae, Freddie Mac, Amtrak, the Tennessee Valley Authority, and the Postal Service, among others, are exempt from paying certain taxes. Such an exemption is a selective subsidy. It artificially lowers the government firm's costs and thus enhances its ability to price below more efficient, but taxed, rivals offering competitive services. Tax exemption also lowers an SOE's cost of tax calculation and tax council.

Direct Subsidies

Some SOEs receive direct government subsidies to defray capital and operating costs. Amtrak, for example, has never made money in its entire 32-year history. As of 2002, it had received over $44 billion (in 2002 dollars) in direct federal subsidies since it began operations in 1971. Until 1983, the Postal Service received a general public service subsidy. Perhaps because they are such transparent assistance (and a drain on the Treasury), direct subsidies are somewhat rare compared to other government-granted privileges.

Regulatory Exemptions

Government firms are often immune from a variety of regulatory requirements to which private firms are subject. For example, the Postal Service, Amtrak, and the TVA are immune from antitrust prosecution.[8] Additionally, because they do not have tradable ownership shares, SOEs and GSEs are not subject to the same costly SEC disclosure requirements as privately owned, publicly traded corporations. Government firms may also be exempt from certain environmental and health and safety regulations.

Other Government-Granted Privileges

There are a variety of additional government-granted privileges and immunities that apply to government firms on a case-by-case basis. The Postal Service, for example, has the power of eminent domain. It is immune from paying parking tickets for its vehicles and from paying for vehicle registrations. It can also purchase fuel tax exempt. It does not have to apply for building permits or conform to local zoning regulations. Clearly, the institutional details of each firm should be examined carefully for a full accounting of all government-granted privileges and immunities.

Anticompetitive Uses of Government-Granted Privileges

The array of privileges, immunities, and subsidies potentially enjoyed by SOEs and GSEs allows them to set prices below those of more economically efficient private rivals and enhances their ability to unnaturally force those rivals out. There are several ways in which a government firm can use those advantages to inefficiently compete with rivals not enjoying government-granted advantages.

Perhaps the most straightforward way for a government firm to use the privileges enumerated above in an anticompetitive fashion is to shift costs away from competitive and onto monopolized activities. Even though a private rival may be more efficient, the government firm can, by pricing services below cost, reduce the rival's share of the market, force it out of business entirely, or deter its entry. That phenomenon is often termed *cross subsidization*, reflecting the prevailing view that the government firm uses rents from monopolized activities to subsidize competitive activities.

The term is misleading however. Because money is fungible, the government operator can use the entire array of benefits discussed above, in addition to monopoly rents, to inefficiently subsidize activities where it faces competition. To recap, in addition to monopoly power, those rent sources include credit guarantees, immunity from paying investors an expected rate of return, exemption from bankruptcy, tax exemptions, direct subsidies, and immunity from antitrust prosecution, disclosure requirements, and other regulations. All such privileges and immunities are valuable and, absent preventive policies, can be used at the government firm's discretion. If the government firm values output or size, per se, then it will use those rents to reduce prices, thus expanding output, in activities where it faces competition.

The mechanism used by a government firm to cross subsidize activities in which it faces private competition can be more complex than direct cross subsidy. There are various institutional arrangements that allow a government-subsidized firm to transfer subsidies to another, affiliated firm. For example, the government-subsidized firm may form a joint venture with another, previously unsubsidized firm. It can then transfer subsidies to its venture partner, allowing the partner to inefficiently compete with unsubsidized rivals.

Similar to joint ventures, mergers and acquisitions provide an opportunity for a government-subsidized firm to inefficiently subsidize activities in which it faces competition. The government firm can shift rents to its acquisition, which may operate in a competitive market.

Joint ventures and acquisitions between government and private, previously unsubsidized firms are common in the postal industry, for example. Post Denmark, Finland Post, Norway Post, and Sweden Post created a joint venture in the express delivery market called Vasagatan 11 International AB. The U.S. Postal Service and Federal Express have also formed a joint venture.

Acquisitions of private firms by government postal operators have become common with the liberalization of postal markets. Deutsche Post World Net embarked on a substantial program of mergers and acquisitions after privatization. It acquired a major stake in the international express company DHL in 1998. Similarly, in 1991, the Dutch post office, PTT Post, joined with the post offices of France, Germany, the Netherlands, Canada, and Sweden to purchase 50 percent of the Australian transportation conglomerate TNT. In August 1996, PTT Post acquired complete control of the joint venture operations by purchasing TNT itself.

The subsidies, privileges, and immunities discussed above also allow the government firm to artificially pay more for acquisitions, which can distort market structure. To the extent that the government firm maximizes size, it will be willing to pay more for an acquisition that allows it to expand into other businesses. That is inefficient because the price paid for the acquisition will not reflect its true resource cost.

.... 10609$ $CH2 02-19-04 11:13:28 PS

There are other ways in which special privileges allow a government firm to compete inefficiently. For example, the mailbox monopoly in the United States has important effects in reducing competition and thus assisting in the acquisition of additional rents for the USPS. It raises the costs to rivals of competing with the Postal Service because they may not leave material in the customer's mailbox. It discourages other firms, such as utilities, from integrating into mail delivery because they may be loath to establish their own messenger services. Indeed, discouraging such competition was the original reason for the creation of the mailbox monopoly in 1936.[9] The monopoly also discourages customers from using alternate delivery services because they must install an additional mail receptacle to receive such deliveries.

Case Studies of Competition between Government and Private Firms

In this section, I review seven examples of competition between government and private firms. In each case, I present relevant historical background and institutional detail. I also catalog privileges and immunities government firms enjoy as a result of their special status. I then discuss the nature of the competition between the two entities.

Freight Carried by Passenger Rail

The Rail Passenger Service Act of 1970 created the National Railroad Passenger Corporation, or Amtrak (short for *American travel by track*) in the wake of the Penn Central bankruptcy.[10] Amtrak was established "to provide fast . . . modern, efficient, intercity rail passenger service."[11]

Amtrak enjoys a number of government-granted privileges and immunities. First, although the 1970 act authorized Amtrak to issue common and preferred stock, it has never done so. It remains a state-owned enterprise benefiting from captive equity. Second, it has a government-granted monopoly over intercity railroad passenger service in the lower 48 states. It has used that monopoly power to block entry.

Third, Amtrak benefits from the lack of a bankruptcy constraint. Although it was originally created as a for-profit enterprise and was expected swiftly to become profitable, it has never earned a profit. The General Accounting Office stated that "Amtrak spends almost $2 for every dollar of revenue it earns in providing intercity passenger rail service."[12] Cumulative losses for Amtrak as of 1997 were $13 billion.[13] Such losses would have bankrupted a private firm.

Fourth, Amtrak receives direct government subsidies to defray its capital and operating costs. For example, it received $2 billion in capital funds from Congress in 1999 to modernize its operations, increase productivity, and create new revenue. It received $521 million in direct subsidies each year from 2000 through 2002. Its total lifetime subsidies in 2002 dollars exceeded $44 billion.

Amtrak also received government-granted subsidies through the 1970 act in the form of mandated payments from private railroads. Private railroads were required to make specified payments to Amtrak before they were allowed to discontinue their unprofitable intercity passenger services.[14]

Fifth, Amtrak has the power to force freight railroads to allow it to use their tracks.[15] Amtrak trains take precedence over freight trains when it uses their tracks, making that power even more valuable. It does not pay for the delay costs imposed on freight railroads. Finally, Amtrak is exempt from state and local taxes. It is subject to corporate income tax in theory but has never earned a profit and thus has never paid that tax.

Amtrak is obviously under severe budgetary pressure, and that has encouraged it to venture into new activities. As the *Wall Street Journal* reports, "The railroad (Amtrak), which is partly subsidized by Congress, has been struggling for years with mounting debt and losses and has been looking for new ways to generate revenue."[16] Consistent with theoretical predictions, it has ventured into competitive activities outside of its core service of intercity passenger rail. In 1998, over the objections of competitors such as Union Pacific Corporation, it won approval from the Surface Transportation Board to carry freight on its passenger trains. To initiate its new express freight venture, Amtrak leased 500 freight cars and express vehicles and opened cargo terminals. It began to carry fruit juice, magazines, tuna fish, apples, machinery parts, paper, beer, auto parts, and other goods on freight cars attached to its passenger trains. It also started carrying California tomatoes and Florida oranges and ventured into same-day express package delivery on its Metroliner service between New York and Washington, D.C.

That expansion into freight carriage competed not only with private freight railroads but also with trucking companies. Although potential customers wanted the program expanded into their regions, trucking companies were concerned. Scott Woods, director of national accounts for Dick Simon Trucking, Inc., stated, "This is a competitive industry that Amtrak should stay out of . . . Amtrak's business is moving people, not produce."[17]

Amtrak worked actively to expand its freight service both by increasing service on some routes and by adding new routes. Some long-haul trains ended up carrying more freight than people, and Amtrak started adding new trains based on expected revenue from express freight service.[18] It also expressed interest in operating between Chicago and Portland a new freight-carrying train that would have used Union Pacific's tracks.

Although Amtrak ultimately decided to end its express freight service in 2002, this episode suggests that SOEs will enter new, competitive lines of business to find additional sources of revenue.

Financial Services

The Federal Reserve System is the central bank of the United States. It was created by Congress in 1913 to provide the nation with a stable monetary and financial system. The Federal Reserve (the Fed) summarizes its duties as "(1) conducting the nation's monetary policy; (2) supervising and regulating banking institutions and protecting the credit rights of consumers; (3) maintaining the stability of the financial system; and (4) providing certain financial services to the U.S. government, the public, financial institutions, and foreign official institutions."[19]

Regarding the fourth task, the Fed provides to member banks various financial payment services including check clearing, wire transfers, automated clearinghouse transfers, securities safekeeping, currency processing, and settlement. The provision of payment services placed the Fed in direct competition with large commercial banks and clearinghouses.[20] The Federal Reserve System's reaction to the Monetary Control Act of 1980 provides insights into the behavior of government firms when they enter competitive activities.

Before the Monetary Control Act, Federal Reserve Banks were not required to recover the cost of providing those services through fees. Payment services were provided at no charge to member banks, whereas nonmember banks were not given access to the services. Under the 1980 act, the Fed was to ensure that all major services it supplied were explicitly priced.

The act required that the fees charged for Fed services be based on all the direct and indirect costs incurred by the Federal Reserve. The fees were also to include the *imputed costs of taxes* and *the return on capital* the Fed would have to pay if it were privately owned.[21] Those requirements are noteworthy because they explicitly recognize in law that exemption from taxes and from paying a return on capital to investors create unfair advantages to SOEs in areas in which they compete. The act required that float be priced at the federal funds rate. The Fed was also required to reduce budgets commensurately when demand for services fell as fees increased. Fee revenue reverted to the Treasury.

As a result, the Fed lost market share. The market share for its check processing business, for example, fell from 43 percent before the act to 33 percent in 1983.[22] The Fed reduced staff because of the decreased check-clearing volume.[23]

Competing commercial banks argued that the Fed, concerned about those losses, began understating its costs where it faced intense competition. As Charles Bates of the American Bankers Association stated, the reason they understated costs was "because their share of market was falling. They were going to have to cut their staffs. What they have done is clearly predatory—and you can put my name on that and blaze it all over Washington."[24] The Fed responded that it was not understating its costs but that its fees were low because of enhanced efficiency.

Ken Cavalluzzo, Christopher Ittner, and David Larker conducted a formal econometric analysis of the effects of the Monetary Control Act.[25] Their results address the disagreement. They found that the Fed reacted to the act both by improving its efficiency and by reallocating some of its indirect costs to less competitive activities. They also found that overhead costs decreased in competitive, priced activities but increased in other activities consistent with at least some indirect costs being reallocated from more competitive to less competitive activities.

There are several lessons in this episode. First, it suggests that below-cost pricing of government-provided services indeed crowds out private firms. The pricing of check-clearing services, for example, led to the entry or expansion of 95 local check-clearing associations.[26] Second, the Fed responded to the Monetary Control Act by reallocating some indirect costs from priced to nonpriced services. If that evidence and the commercial bank's arguments are correct, then, consistent with Sappington and Sidak's theory, the Fed was attempting to maintain market share by depressing prices at which it faces competition.

Water Utilities

The water utility industry provides an instructive historical example of direct competition between government and private firms. There was a wave of municipal acquisitions of private water companies in the United States between 1880 and 1930.[27] City governments wanted to acquire the waterworks at least cost and employed a range of strategies to get private water companies to reduce their asking prices.

Some cities secured passage of state laws allowing them to acquire water companies through the power of eminent domain.[28] Others used their regulatory powers to undermine the value of private enterprises. In Kansas City, local politicians used a tortured interpretation of a phrase in a private water company's franchise as a pretext for seizing the company's plant and distribution system without offering any compensation.[29]

However, the most common strategy employed by cities to get private companies to reduce their asking price was to construct competing public waterworks. Some private water companies sued for injunctive relief, and courts expressed unease about competing municipal waterworks. Echoing concerns about competition between government and private firms today, the Supreme Court noted that competition from "the city may be far more destructive than that of a private company" because the city could conduct its "business without regard to profit" and "resort to public taxation to make up for losses."[30]

A handful of state and federal judges believed that competition from municipal waterworks violated private water companies' rights to substantive due process, in effect depriving private companies of their property without "just compensation or due process of law." In a dissent to a decision by the New York Supreme Court that allowed a municipal water company to enter into competition with a private company, Justice Bartlett wrote, "[I]t is obvious that the municipal water company is in no legal sense the ordinary competitor of the old company, but is armed with powers that will inevitably drive the latter from the field, and its bondholders and stockholders be subjected to a total loss of all capital invested." According to Bartlett, this "is not competition; it is annihilation."[31]

To some extent, private water companies anticipated that behavior and often demanded provisions in their franchises limiting the authority of local governments to regulate, tax, and construct competing enterprises. The problem with such contractual provisions, however, is that they were often either unenforceable or interpreted in unforeseeable ways. For example, the courts ruled that, as corporations chartered by the state, cities could not contract away their powers to regulate and tax, regardless of the franchises they granted to private water companies. Hence, if a state legislature empowered a local government with the authority to regulate water rates, the municipality could not forsake that power in a contract; only the state could revoke such power.

Moreover, the courts were bound to interpret ambiguous or unclear franchise provisions against the franchisee (the private water company) and in favor of the local government. In the words of the Supreme Court, "grants of franchises and special privileges are always to be construed most strongly against the donee, and in favor of the public."[32]

The impact of that interpretive principle is illustrated by a case in which a city included in the franchise of a private water company a provision promising that the city would, under no circumstances, "grant to any other person or corporation" the privilege of furnishing water to the city. Twenty years later, when the city in question built its own waterworks to compete with that same private water company, the private company sued for injunctive relief. Ruling against the company, the Supreme Court held that the franchise merely implied that the city did not have the right to build a competing works. Apparently, the phrase *any other person or corporation* might or might not have included the city.[33]

The water utility example also reveals the efficiency cost of competition from government firms, particularly due to underinvestment. There is evidence that private water companies facing a high risk of municipal takeover refused to extend water mains or build water filtration systems without additional promises from city authorities that they would not be taken over or that they would at least be adequately compensated if taken over.[34]

In some states, private water companies lobbied for, and secured passage of, required-purchase laws. Those laws compelled towns to buy private water companies already in operation before they built their own waterworks. Although courts in a few states struck down required-purchase laws as unconstitutional infringements on the power of local governments, the state courts that upheld them viewed required-purchase laws as mechanisms to promote private investment and development of the water industry in general.[35]

Upholding a required-purchase law in Pennsylvania, the state supreme court clearly articulated its concerns about underinvestment by private firms in the face of government competition: "A municipality, in its beginnings, is perhaps not financially strong, or its debt may approach the constitutional limit so closely that it cannot borrow. Nevertheless the low state of its financial condition does not render less urgent the necessity of water supply. It can obtain it in but one way—by contract with those who have the money, and are willing to invest their private capital in the construction of waterworks. The legislature knew that capital would not be invested in such an enterprise if in the future it were liable to confiscation by competition with a public enterprise operated from a municipal treasury capable of replenishment from the pocket of the taxpayer."[36]

Electric Utilities

Government is heavily involved in the electric power industry. Federal government involvement in electricity occurs through the Alaska Power Administration, the Bonneville Power Authority (BPA), the Southeastern Power Administration, the Southwestern Power Administration, the Western Area Power Administration, and the Tennessee Valley Authority (TVA). There are also state power projects, such as the Salt River Project in Arizona.

I focus on the TVA because of its massive size. The TVA is America's largest wholesale supplier of electricity, marketing about one-half of total federal power production. It operates 113 hydroelectric units, 59 coal-fired units, and 5 working nuclear units. It provides about seven million people in Tennessee, Mississippi, Alabama, Kentucky, North Carolina, Virginia, and Georgia with electricity service.

The TVA was created in 1933 to assist the South during the Great Depression. Its mission was to "strengthen the regional economy by supplying low-cost power" to the region.[37] In addition to electric power development, President Franklin Roosevelt envisioned that the TVA would also control flooding, modernize farming, and attract industry.

In 1959, a federal law was passed that required the TVA's power program to become self-financing through revenues from electricity sales, and the TVA has not received direct government payments for its power-related activities since that time.[38] The law also allowed the TVA to pay for its plants and transmission lines through the issuance of bonds.

The TVA enjoys a number of government-granted privileges and immunities. First, it is government owned. Its taxpayer-owners are disallowed from selling their equity stake in the firm or from acquiring additional equity. Thus, the TVA does not have to pay those owners an expected return; it benefits from captive equity.

Second, the TVA's enormous debt carries an implicit government guarantee, which significantly lowers it costs. The TVA has incurred debt of over $29 billion, just within the statutory limit of $30 billion. Importantly, its bonds are considered to be government securities and are exempt from registration under the Securities Act of 1933. For example, the General Accounting Office noted that

> The TVA Act states that the federal government does not guarantee TVA's bonds . . . because TVA is a wholly owned government corporation, there is the perception in the investment community, including two credit rating firms we contacted (Moody's Investors Service and Standard & Poor's), that the federal government would support principal and interest payments on TVA debt if TVA's solvency were to be seriously impaired. Because they believe that the federal government would intercede to protect TVA's solvency, the two credit rating firms we contacted perceive that there is an implicit government guarantee of TVA bonds. . . . Of the 119 electric utilities rated by one of the firms as of October 2000, TVA was the only utility rated Aaa. The high bond ratings result in lower interest expense for TVA, which in turn reduces its fixed annual operating expense. According to our analysis, as a result of its high bond ratings, the annual interest expense on TVA's bonds outstanding at September 30, 2000, would have been between $137 million and $245 million higher (about 2 to 4 percent of fiscal year 2000 total expenses) if TVA's bond ratings were lower.[39]

In addition to the subsidy to the TVA's debt from an implicit government guarantee, TVA debt holders do not pay state or local taxes on interest from the TVA's debt. Lenders are thus willing to accept a lower rate of interest to hold that debt.

Third, the TVA pays no state or federal income taxes. In lieu of taxes, it makes payments to state and local governments equal to 5 percent of its revenues from power sales to nonfederal agencies. Fourth, it is exempt from hundreds of federal and state regulations and is immune from antitrust laws.[40]

Finally, there are a variety of other idiosyncratic benefits that the

TVA receives because of its government status. For example, in 1998 it refinanced a $3.2 billion loan from the federal government. The loan carried a prepayment penalty, but Congress retroactively changed the loan's terms to exempt the TVA from the penalty.[41]

The TVA's use of government-granted privileges and immunities has given rise to multifarious anticompetitive concerns. One is in its own core area of providing electricity. Although the TVA enjoys a monopoly in its main service area, it faces competition on the margins of its service territory. It competes aggressively to retain customers on those margins.

An instructive example involves the municipally owned electric power distribution system in Bristol, Virginia, which serves about 12,000 customers. Consistent with the Federal Energy Policy Act of 1992, Bristol entered the power market in an attempt to lower its costs and received bids from 19 prospective energy suppliers. The TVA's bid was the least competitive. Bristol was able to reduce its power costs by one-third relative to the TVA's rates by entering into a seven-year contract to purchase power from an investor-owned utility, Cinergy Services, starting January 1, 1998.

In retaliation, the TVA engaged in overtly distortionary pricing.[42] It attempted to reclaim Bristol's large industrial customers by sending them letters stating that "TVA would propose to serve your plant . . . firm power indexed to be 2% less than BVUB's (Bristol Virginia Utilities Board's) legitimate published firm rates."[43] The TVA was thus offering to reduce its price to 2 percent below Bristol's price, regardless of its costs and regardless of what that price might be.

The TVA proceeded to threaten to withhold access to the electrical interchange facilities Bristol needed to be able to exchange emergency power with its sister city of Bristol, Tennessee.[44] The TVA also demanded that Bristol pay it the exorbitant sum of $54.1 million to offset stranded investment costs even though the TVA knew many years before that Bristol was searching for a new supplier and thus could have easily avoided those costs through planning.

.... 10609$ $CH2 02-19-04 11:13:31 PS

Finally, in a thinly veiled threat, the TVA's Chairman, Craven Crowell, wrote a letter to the mayor of Bristol on January 10, 1997, suggesting that the Bristol community was likely to suffer from blackouts if it purchased power from an alternative supplier. Those actions would likely raise the curiosity of antitrust enforcement agencies if undertaken by a nongovernment firm.

In a representative example of SOE behavior, the TVA incurred enormous debt through poor management, inaccurate demand forecasting, excessive investment in nuclear plants, and an unwillingness to increase rates. The resulting financial difficulties inspired the TVA to consider seeking more revenue by expanding into new, competitive activities, including cable television and telecommunications.[45]

The TVA's chairman, however, took the additional step of hinting at a taxpayer-funded bailout if Congress was not mindful of the TVA's needs, stating that "If Congress does anything that devalues us, you always have the potential for the Treasury having to get involved."[46] That speaks to the strategic value to the SOE of not facing a bankruptcy constraint.

The TVA example illustrates that an SOE is able and willing to use its government-granted subsidies and privileges to behave anticompetitively in those areas in which it faces competition and to seek new revenues by entering supplementary lines of business.

Weather Forecasting

The National Weather Service (NWS) is a federal agency under the National Oceanic and Atmospheric Administration (NOAA), which is part of the United States Department of Commerce. Its annual expenditures are around $700 million.[47] The legislative authority allowing government provision of weather services was granted through the Organic Act of 1890.[48]

The National Weather Service's mission, as stated in the Organic Act, is to protect life and property and to enhance the national economy. Given that weather-related damages in the United States total about $20 billion per year, that is a significant responsibility.[49] The NWS accomplishes its mission through two core activities. First, it provides forecasts and warnings of severe weather, flooding, and hurricanes. It issues aviation forecasts for airports and produces daily fire weather forecasts and marine forecasts for coastal locations. It is the only entity that can offer official severe storm warnings.

Second, it collects and distributes basic meteorological and climatic data. Surface and upper air data are gathered routinely. It uses satellite imagery to assist in forecasting and radar imagery to assist in issuing severe weather warnings. It also operates NOAA Weather Radio (which has hundreds of transmitters located across the nation) as well as various centers, such as the Storm Prediction Center, the National Hurricane Center, and the National Climatic Data Center.

In recent decades, weather forecasting services in the United States have evolved from being almost exclusively government provided into a combination of government, private, and nonprofit provision. Private weather forecasting is a large, thriving industry in the United States.[50] The National Weather Service reports web sites for 269 commercial weather vendors.[51] Private forecasting firms now provide more than 85 percent of the total weather forecasts in the country.

Private firms offer customized forecasts, tailoring them to specific business needs, and clients pay for forecasts. Some companies use the raw data collected by the National Weather Service as input into proprietary weather forecast models. Private weather firms also provide clients with computer hardware and software, observational systems, imaging systems, displays, and charts. The NWS has competed in many of those same areas, often providing similar services for free.

In 1991, the NWS issued a policy statement entitled "The National Weather Service (NWS) and the Private Weather Industry: A Public-Private Partnership." A key provision of the policy statement says that "The NWS will not compete with the private sector when a service is currently provided by commercial enterprises, unless otherwise directed by applicable law."[52] That provision has not been maintained consistently, however. The NWS in some instances has declined to discontinue competing with private firms, citing the 1890 Organic Act.[53]

Commentators have noted that government competition in weather forecasting may force private firms out of the industry at taxpayers' expense. In 1989, Jerome Ellig observed, "Clearly, if a government weather bureau providing commercial services charges its clients less than the incremental costs of those services, private firms will find it extremely difficult to compete, even if they receive all of the government's weather data for free. In this case, private firms are obviously competing against a taxpayer-subsidized bureaucracy. Some firms that could provide forecasts less expensively, or more accurately, get pushed out of the market. Taxpayers pay a higher bill for the weather bureaucracy, and they get fewer or less useful or less accurate forecasts to boot."[54]

Regarding investment, Rolland Hauser, a professor of geoscience at California State University, stated that "Current federal ag-weather policy, either advertently or inadvertently, has the effect of deterring investment by private meteorology in agricultural weather services."[55] Similarly, Jeffrey Smith, director of the Association of Private Weather Related Companies, stated that "Many commercial meteorologists have been reluctant to take an increased role in forecasting because of the constant threat of government provision of these specialized forecasting services. Private firms do not know what service the government may choose to offer next for 'free.' "[56] The case of weather forecasting suggests the importance of formulating a clear policy with regard to competition between government and private firms. It also illustrates the dynamics of such competition as the private sector evolves to fill new market needs.

.... 10609$ $CH2 02-19-04 11:13:32 PS

The Provision of Information

The National Technical Information Service (NTIS) is a small agency within the Department of Commerce. It was created in 1950 to serve as a clearinghouse within the government for the collection and dissemination of information. Its core mission is to collect, organize, sort, and disseminate government scientific, technical, and engineering information. The NTIS was to be financially self-sustaining, that is, to break even over time, and it charges customers for documents in its clearinghouse. It is thus similar to a state-owned enterprise. Until the late 1980s, the NTIS received a direct appropriation from Congress.

The NTIS's revenue has consistently declined because former customers are now able to download over the Internet documents they would have previously purchased from the NTIS. Its revenue declined 18 percent between 1993 and 1998, and the number of documents it sold also declined.[57] As the model of SOE behavior predicts, the NTIS began to seek new sources of revenue by venturing into competitive activities. Deputy Secretary of Commerce Robert Mallett stated

> It is important to note that, to offset losses, NTIS has significantly changed its business mix. Over half of its revenues are now derived from services provided to other government agencies, up from one-third only five years ago. NTIS has also ventured into other business products; one example is producing and selling a CD-ROM of IRS tax forms. Revenues from NTIS' other business lines in FY 1999 have offset Clearinghouse losses and has allowed the organization to show a profit. But, as the Department's IG (Inspector General) stated earlier this year, "We are also concerned that in order to replace lost sales, NTIS is seeking business opportunities on the perimeter of its statutory mission, where it risks competing against private businesses." Others, including Members of Congress, have raised similar concerns.[58]

Additionally, the NTIS announced a partnership with Northern Light, a private firm. The partnership would have created a fee-based Internet search engine for government documents. Northern Light and the NTIS would have split income fees. The Clinton Administration, however, concluded that the NTIS should withdraw from the venture and that Northern Light should continue on its own.[59] The NTIS example indicates that agencies within government are also likely to behave in an anticompetitive manner when faced with a budget constraint.

Marine Towing Services

The nonemergency marine services industry suggests a successful policy approach to competition between government and private firms. The implementation of policies protecting private firms from government competition can save taxpayers substantial sums and allow private commerce to expand. Competition between the Coast Guard and private firms for nonemergency boat towing offers an example.

For many years, the Coast Guard provided nonemergency towing services to boat owners (e.g., those out of gas or aground on a sand bar) at no charge. A 1983 law prohibited the Coast Guard from competing with private firms providing those services. Private marine assistance firms include Sea Tow, Vessel Assist, and Safe/Sea, among others. To comply with the law, the Coast Guard observed a rule whereby it would give private firms preference in assisting a boater in need of nonemergency aid. The Coast Guard would respond only if a private firm could not assist within one hour.

This law has facilitated a dramatic expansion of the marine assistance industry. When the 1983 law was passed, there were fewer than ten private marine assistance firms in the United States. There are currently more than 300 such firms. Customers can buy annual towing insurance memberships, modeled on the American Automobile Association.[60]

.... 10609$ $CH2 02-19-04 11:13:32 PS

The law has also resulted in savings for taxpayers. The annual caseload of the Coast Guard dropped from about 81,000 in 1983 to approximately 47,000 in 1999, despite the fact that there was a marked increase in the number of registered boats during that period. This was due in large part to the rise of private towing services. The reduction has allowed the Coast Guard to allocate its scarce resources to crucial core activities such as marine safety and emergency rescue. It has also placed the cost of nonemergency aid on those using the service, thus enhancing fairness and providing incentives for boaters to take proper precautions.

Summary and Conclusions

Government firms potentially benefit from a number of subsidies, privileges, and immunities not normally granted to private firms. These include monopoly power, credit guarantees, freedom from paying investors an expected rate of return, exemption from bankruptcy, tax exemptions, direct subsidies, and immunity from antitrust prosecution, disclosure requirements, and other regulations. There are also a variety of privileges and immunities that are specific to particular SOEs and GSEs. Where a government firm competes with a private firm, it can use those advantages to diminish or eliminate a rival not enjoying the same benefits.

Government firms, particularly those facing budgetary constraints, have an incentive to search for new sources of revenue. They can secure that revenue by venturing into activities where private firms already operate. However, a government firm, absent its various subsidies, privileges, and immunities, may be higher cost than its private rivals but still able to force those rivals from the market or deter their entry. In cases in which government and private firms compete, more efficient private rivals may reduce their endeavors, or they may be loath to invest in new activities where there is significant government competition or uncertainty about future government competition. Or they may be unwilling to enter the market at all.

Competition between government and private firms in both core and noncore business areas is pervasive. The examples of competition between government and private firms surveyed in this chapter include freight carried by passenger rail, financial services, water utilities, electric utilities, weather forecasting, provision of information, and marine towing services. But there are many others such as the government-sponsored enterprises Fannie Mae and Freddie Mac that compete in automated underwriting, as discussed in Chapter 3.

Notes

1. See, e.g., R. Braeutigan and J. Panzar, "Diversification Incentives Under 'Price-Based' and 'Cost-Based' Regulation," *Rand Journal of Regulation* 20, no. 3 (autumn 1989): 373–91; T. Brennan, "Cross-Subsidization and Cost Misallocation by Regulated Monopolists," *Journal of Regulatory Economics* 2, no. 1 (March 1990): 37–51; and G. Sweeny, "Welfare Implications of Fully Distributed Cost Pricing Applied to Partially Regulated Firms," *Bell Journal of Economics* 13, no. 2 (autumn 1982): 525–33.
2. W. P. Rogerson, "Overhead Allocation and Incentives for Cost Minimization in Defense Procurement," *The Accounting Review* 67, no. 4 (October 1992): 671–90.
3. D. Dranove, "Pricing by Non-Profit Institutions: The Case of Hospital Cost-Shifting," *Journal of Health Economics* 7, no. 1 (March 1988): 47–57; and R. W. Foster, "Cost-Shifting Under Cost-Reimbursement and Prospective Payment," *Journal of Health Economics* 4, no. 3 (September 1985): 261–71.
4. For brevity, I here use the term *government firm* to refer to any firm receiving special government-granted privileges and immunities (including government-sponsored enterprises) as opposed to government-owned firms.
5. Paul W. MacAvoy and George S. McIssac, "The Current File on the Case for Privatization of the Federal Government Enterprises," in *Deregulation and Privatization in the United States, Hume Papers on Public Policy* 3, ed. Paul W. MacAvoy (Edinburgh: Edinburgh University Press 1995).

6. See John R. Lott Jr., *Are Predatory Commitments Credible? Who Should the Courts Believe?* (Chicago: University of Chicago Press, 1999).
7. Michael A. Crew and Paul R. Kleindorfer, "Privatizing the U.S. Postal Service," in *Mail @ the Millennium,* ed. Edward L. Hudgins (Washington, D.C.: Cato Institute, 2000), 155.
8. The Postal Service's antitrust immunity is being questioned in the courts. See *Flamingo Industries (USA) Ltd v. U.S. Postal Service,* 302 F.3d 985, 988–89 (9th Cir. 2002). The case is being appealed to the Supreme Court.
9. See J. Gregory Sidak and Daniel F. Spulber, *Protecting Competition from the Postal Monopoly* (Washington, D.C.: AEI Press, 1996), 345.
10. Public Law No. 91-518.
11. Rail Passenger Service Act of 1970, Public Law No. 91-518, Sec. 101.
12. U.S. General Accounting Office, *Intercity Passenger Rail: Financial Performance of Amtrak's Routes,* May 1998, 2.
13. Christopher B. Cohen, "Get Amtrak Back on Track," *Wall Street Journal*, 30 April 1997.
14. Michael A. Schuyler, *The Anti-Competitive Edge: Government Subsidies to Government Businesses* (Washington, D.C.: Institute for Research on the Economics of Taxation, 1999), 80, n. 118.
15. U.S. Code, Title 49, Chapter 243. U.S. General Accounting Office, *Intercity Passenger Rail: Financial Performance of Amtrak's Routes*, May 1998, 18–19.
16. Daniel Machalaba, "Amtrak Gets Federal Approval to Carry Express Freight on Its Passenger Trains," *Wall Street Journal,* 1 June 1998, B2.
17. Quoted in Brooks Barnes, "Packers Want Amtrak to Help Ship Apples," *Wall Street Journal*, 19 February 2000, NW1.
18. Daniel Machalaba, "Amtrak Is to End Cargo Service; Operation Had $7 Million Loss," *Wall Street Journal,* 14 October 2002, C7.
19. http://www.federalreserve.gov.
20. See R. Trigaux, "Fed Pricing One Year Later: Banks Wary of New Rival," *American Banker* (17 June 1982): 1.
21. Ken S. Cavalluzzo, Christopher D. Ittner, and David F. Larker, "Competition, Efficiency, and Cost Allocation in Government Agencies: Evidence on the Federal Reserve System," *Journal of Accounting Research* 36, no. 1 (spring 1998): 2.
22. D. B. Humphrey, "Resource Use in Federal Reserve Check and ACH

Operations After Pricing," *Journal of Bank Research* 12 (spring 1985): 45–53.

23. W. F. Ford, "The Changing Role of the Federal Reserve in the Payment System," *Journal of Cash Management* (April/May 1983): 12–19.
24. Martin Mayer, "The Fed Goes into Business," *Fortune* (4 April 1983): 169.
25. Ken S. Cavalluzzo, Christopher D. Ittner, and David F. Larker, "Competition, Efficiency, and Cost Allocation in Government Agencies: Evidence on the Federal Reserve System," *Journal of Accounting Research* 36, no. 1 (spring 1998): 2.
26. This is similar to the expansion of private marine assistance services discussed later in this chapter.
27. See Werner Troesken and Rick Geddes, "The Municipalization of U.S. Waterworks, 1897–1915," *Journal of Law, Economics, and Organization* 19, no. 2 (fall 2003): 373–400, for a discussion of why those acquisitions occurred.
28. See, for example, *Long Island Water Supply Company v. Brooklyn*, 166 U.S. 722 1897 and *City of Leavenworth et. al. v. Leavenworth City and Fort Leavenworth Water Company*, 76 Pac. 451 (Kansas, 1904).
29. See *National Waterworks Company v. Kansas City*, 62 Fed. 853 (1894).
30. *Walla Walla Waterworks v. City of Walla Walla*, 172 U.S. 1 1898, 17–18.
31. See *Skaneateles Waterworks Co. v. Village of Skaneateles, et. al.*, 55 N.E. 562 (1899, New York), especially pp. 567–68.
32. *Knoxville Water Company v. Knoxville*, 200 U.S. 22 1906, 28.
33. *Knoxville Water Company v. Knoxville*, 200 U.S. 22 1906, 33–34 and 36–37.
34. See Troesken and Geddes "The Municipalization of U.S. Waterworks" for further evidence on underinvestment by private water utilities due to competitive threats from municipal utilities.
35. See, for example, *Asbury et. al. v. Town of Albemarle*, 78 S.E. 146 (North Carolina, 1913) and *Helena Consolidated Water Company v. Steele*, 49 Pac. 382 (Montana, 1902).
36. *White et. al. v. City of Meadville*, 35 A. 695 (Pennsylvania 1896), 698.
37. *1997 TVA Annual Report*, 6.
38. It continues to receive subsidies for its non-power-related activities.
39. U.S. General Accounting Office, *Tennessee Valley Authority: Bond Ratings Based on Ties to the Federal Government and Other Nonfinancial Factors*, April 2001 (GAO-01–540), 2–3.

40. See Richard Munson, "Restructure TVA: Why the Tennessee Valley Authority Must Be Reformed" (2001), available at http://www.nemw.org/ERtva_reform.htm.
41. Michael A. Schuyler, *The Anti-Competitive Edge: Government Subsidies to Government Businesses* (Washington, D.C.: Institute for Research on the Economics of Taxation, 1999), 67–68.
42. Although it is tempting to call this pricing predatory, that implies the firm will raise its price in the future to recoup its losses from pricing below cost now. Because they are not profit maximizers, SOEs do not need to recoup losses in the future.
43. *W. David Fletcher's Statement to be Presented to United States House of Representatives Committee on the Judiciary Oversight Hearing on 'The Application of the Anti-Trust Laws to the Tennessee Valley Authority and the Federal Power Marketing Administrations' on October 22, 1997.* Available at http://www.house.gov/judiciary/1093.htm.
44. Ibid.
45. Jeffrey Ball, "TVA Plan Seen by Critics as Unfair Grab for Power," *Wall Street Journal*, 5 March 1997, S1.
46. Ibid.
47. See http://www.srh.noaa.gov/bna/vision.html.
48. 15 U.S.C 9 §313.
49. See *Fair Weather: Effective Partnerships in Weather and Climate Services* (Washington, D.C.: National Research Council, 2003), prepublication version, executive summary.
50. Jerome Ellig, *Government and the Weather: The Privatization Option*, Reason Foundation Issue Paper no. 109 (August 1989).
51. See http://205.156.54.206/im/more.htm
52. See *Federal Register*, 56, no. 13, Friday, 18 January 1991, p. 1985.
53. See Michael S. Leavitt, "Testimony of the Commercial Weather Services Association by Michael S. Leavitt, President, Weather Services Corporation, Before the Subcommittee on Energy and Environment, U.S. House of Representatives, April 9, 1997," available at http://www.house.gov/science/leavitt_4-9.html.
54. Jerome Ellig, *Government and the Weather*, 10.
55. Rolland K. Hauser, *The Interface Between Federal and Commercial Weather Services for Agricultural Industries—A Question of Policy*, report prepared for the U.S. Department of Commerce, National Oce-

anic and Atmospheric Administration, Office of the Administrator (November 1985), 42.

56. Jeffrey C. Smith, "Private and Public Roles in Weather Forecasting in the United States," (August 1988), 2.
57. Department of Commerce, A *Report on the National Technical Information Service (NTIS)*, fall 1999.
58. Robert Mallett, *Testimony of Robert Mallett, Deputy Secretary of Commerce, Before the Subcommittee on Science, Technology, and Space, Committee on Commerce, Science and Transportation, United States Senate*, 21 October 1999.
59. Joseph E. Stiglitz, Peter R. Orszag, and Jonathan M. Orszag, *The Role of Government in a Digital* Age, Study Commissioned by the Computer & Communications Industry Association (October 2000), 115.
60. See *Privatization of Coast Guard Marine Assistance Service*, available at http://www.c-port.org/resources/privatization.html.