# Privatization of Public-Sector Pensions

## *The U.S. Navy Pension Fund, 1800–1842*

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Recent projections indicate that expenditures on Social Security retirement benefits will begin to exceed payroll-tax revenues and trust-fund earnings before the year 2020, and the Old Age, Survivors, and Disability Insurance (OASDI) trust fund will be depleted within roughly ten years of that date. If substantial changes are not made in the Social Security system, then expenditures are projected to exceed revenues by more than 5 percent of the payroll covered by the Social Security tax. Numerous analysts, commissions, business groups, and labor organizations have studied this situation and made recommendations for changes in the system. One proposal is for changes in the investment strategy of the OASDI trust fund. Presently, tax receipts beyond current outlays are placed into the trust fund, which is permitted to invest only in special-issue U.S. Treasury "bonds," which are essentially accounting entries in the budget of the U.S. government. Many reformers favor some type of private investment of Social Security funds. Proposals include (1) retaining the current structure of Social Security benefits but investing part of the existing trust fund in private equities and bonds, (2) establishing small indi-

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*The Independent Review, v.III, n.4, Spring1999, ISSN 1086-1653, Copyright © 1999, pp. 549–564*

vidual accounts that would be centrally managed with some or all of the funds being invested in private securities, and (3) directing most of an individual's Social Security taxes into private accounts that would have a wide range of private investment opportunities.

Proponents of investing Social Security funds in private securities point to the higher expected returns compared to current investment practices. If the funds were invested in the equity or liabilities of private corporations and if they earned returns similar to the average returns over the past fifty years, then Social Security recipients could enjoy greater retirement benefits at the same cost, or the same benefits with a lower tax burden, or some combination of the two. Depending on the proposal and the investment strategy, such a change in investment practice could partially alleviate the system's long-run financing problems.

Opponents of investing a portion of Social Security funds in private assets highlight the greater risk associated with private securities relative to federal debt. Those risks include greater variation in year-to-year returns, possibilities of large capital losses, and the risk of fraud and malfeasance in the management of the funds specifically and in financial markets more generally. Inevitably, with private investments some retirees may have lower pension benefits than they would have had if all funds had been invested in government bonds, whereas other retirees will have higher benefits.

The debate over permitting the Social Security trust fund to invest in private securities has proceeded without reference to past U.S. experience with the investment of public pension funds in private securities. Indeed, our review of the literature suggests that participants in this debate have assumed, either implicitly or explicitly, that federal pension funds have never been invested in private assets. But they have been. In the first half of the nineteenth century, a substantial proportion of the assets in the U.S. Navy pension fund were used to purchase equity in private companies.

Although the modern Social Security system dwarfs the nineteenth-century navy pension fund in both size and scope, the issues involved in the coverage and funding of the benefits reflect many of the same concerns facing the Social Security system today, and the history of the navy pension fund provides a case study of the potential problems associated with the investment of public pension funds in private equities. Among those problems are the government's inability to credibly shift the

1. In this article we use the term "privatization" synonymously with "investing in the equity or liabilities of private corporations." Although this meaning is not always what people have in mind when using the term privatization, we believe the gains from concision outweigh any resulting confusion.

risks associated with privatization to those insured by the fund and the government's tendency to increase the benefits as the fund grows.[1] In the case of the naval pension fund the bankruptcy of private firms whose equity composed a substantial proportion of the fund's portfolio ultimately led to taxpayer-funded bailouts. Also, Congress substantially extended the benefits in response to an existing surplus in the pension fund, an action that ultimately resulted in its insolvency. This history has relevance to current debates about the privatization of Social Security.[2]

## The Navy Pension Fund

During the earliest years of the republic, Congress decided to provide disability pensions for naval personnel. Although today the term *pension* is associated with retirement, the navy pension fund was essentially a disability fund.[3] From 1790 through 1797, these pensions were paid to naval (and army) personnel from general appropriations. Legislation enacted in July 1797 provided that officers, marines, and seamen injured in the line of duty were entitled to a disability pension. In the case of officers, the pension was not to exceed half pay, and the benefit for marines and seamen was not to exceed $5 a month. In both cases, the benefit depended on the extent of the disability (Seybert [1818] 1969). Additional legislation enacted in 1798, 1799, and 1800 established a separate pension fund for naval personnel, providing a disability benefit with a maximum of half pay for marines and seamen as well as officers. That fund was ultimately to be financed by the sale of prizes, either ships of war or merchantmen of belligerent states or neutral merchantmen carrying contraband.

The laws establishing the navy pension fund also prescribed the fund's administrative structure, its management, and the eligibility conditions for receipt of benefits.[4] The fund was placed under the management of the secretaries of the Navy, Treasury, and War Departments. The 1799 legislation stated that the commissioners of the pension fund should invest all funds in "six percent or other stock [bonds] of the United States, as a majority of them, from time to time, shall determine to be most advantageous." However, the 1800 legislation authorized the commissioners to invest

2. Another concern, not considered here, is the risk that because of the government's tendency to respond to political rather than market forces the value of the firms in which the government owns a stake could be driven below their free-market value. On the other hand, the government might employ its powers to artificially drive up the value of firms in which it has a stake at the expense of potential competitors and perhaps taxpayers.

3. American Express established the first formal employer-provided pension plan in the United States in 1875, and by the turn of the century a handful of private companies, mainly railroads, had added such plans (Latimer 1932). Although a few municipalities provided pensions to police officers, firefighters, and teachers, the first plan for state employees was established by Massachusetts in 1911, and the federal civil-service pension plan was created in 1920 (Craig 1995).

4. The 1800 legislation, designated an "Act for the Better Government of the Navy of the United States," specified that the commissioners of the pension fund must provide annual reports to Congress on the operations of the fund. Those reports provide information on the activities of the pension fund and are the primary source of data employed in this article.

the fund's monies "in any manner which a majority of them might deem most advantageous" (Seybert [1818] 1969, 692). The commissioners of the fund took advantage of their broad charge in 1809 by purchasing a large number of shares in a local bank, the Bank of Columbia. Later they invested in two other local banks, Union Bank and Washington Bank. Prior to these purchases of shares, all investments of the fund had been in U.S. bonds. Although the fund's revenue increased during the War of 1812 due to the availability of prizes, the Bank of Columbia failed in 1823–24, causing a loss of income and a temporary loss of capital at a time of increasing obligations to pay benefits. As the pension fund grew, the commissioners found it increasingly difficult to manage through three federal departments. Eventually they requested that Congress place the fund under a single department, and in 1832 the secretary of the navy was made the fund's sole manager. At that time Congress mandated that the Treasurer of the United States hold all fund assets in custody, and directed the secretary of the navy to invest all pension funds in stock of the Bank of the United States (Glasson 1918, 102). The reorganization of the fund's management arose from problems associated with the investment in the Bank of Columbia (about which we say more later).

The 1800 act also provided that "every officer, seaman and marine, disabled in the line of his duty, shall be entitled to receive for life, or during his disability, a pension from the United States, according to the nature and degree of his disability, not exceeding one-half of his monthly pay" (*American State Papers,* Naval Affairs, vol. 4, report no. 529, Jan. 17, 1834, 487).[5] In order to receive a disability pension, a person had to complete an application indicating the circumstances of the injury, when it occurred, the extent of the injury, and the extent of the resulting disability. The application had to be signed by the company surgeon and commanding officer. Injuries could result in a partial or total disability, and the amount of the pension depended on the extent of the disability. Pensions were forfeited if the veteran was convicted of a felony (*American State Papers,* Naval Affairs, vol. 4, report no. 524, Dec. 23, 1833, 427).

Table 1 lists the value of the interest- and dividend-earning assets of the navy pension fund, the annual returns on its portfolio, the number of beneficiaries, the total amount of annual benefits paid, and the average benefit per recipient for each year between 1800 and 1842.[6] The figures show that the number of beneficiaries, the total cost associated with their pensions, and per capita expenditures generally increased during the life of the fund. The number of pensioners increased from 22 in 1801, receiving annual benefits of $1,605 ($72.95 per recipient), to 946 beneficiaries at an annual cost of $107,129 in 1842 ($113.24 per recipient for "ordinary" benefits and $232.60 per recipient including "extraordinary" payments).[7]

5. In June 1812, Congress created a similar fund for privateers. The fund, to be supervised by the secretary of the navy, would receive 2 percent of all U.S. prize money. It was depleted in 1837.

6. Through 1836 these data are from the various annual reports by the commissioners of the navy pension fund; thereafter, they are from the annual reports of the secretary of the navy, which were required by Congress.

7. The estimates of extraordinary payments are largely back benefits as required by subsequent legislation (described later).

## Table 1: Estimated Annual Navy Pension Fund: Amount Invested, Investment Returns, Number of Pensioners, and Annual Outlays of the Fund Paid to Pensioners, 1800–1842

| Year | Fund[a,b] Investment (dollars) | Annual Returns (dollars) | Number of Pensioners | Annual Outlays (dollars) | Per Capita Outlays (dollars) | |
|---|---|---|---|---|---|---|
| | | | | | Ordinary | Extraordinary[d] |
| 1800 | 26,552 | 489 | - | - | - | - |
| 1801 | 56,556 | 4,748 | 22 | 1,605 | 72.95 | - |
| 1802 | 79,056 | 5,485 | - | - | - | - |
| 1803 | 126,325 | 8,457 | 37 | 3,567 | 96.40 | - |
| 1804 | 129,712 | 9,147 | 37 | 3,261 | 88.13 | - |
| 1805 | 164,595 | 10,478 | 49 | 4,413 | 90.06 | - |
| 1806 | 165,963 | 13,364 | 65 | 5,298 | 81.51 | - |
| 1807 | 177,344 | 14,206 | 78 | 6,396 | 82.00 | - |
| 1808 | 175,460 | 14,407 | 85 | 6,863 | 80.74 | - |
| 1809 | 220,397 | 11,341 | 90 | 6,671 | 74.12 | - |
| 1810 | 192,809 | 14,821 | 93 | 7,043 | 75.73 | - |
| 1811 | 206,076 | 15,967 | 107 | 8,045 | 75.19 | - |
| 1812 | 210,701 | 17,204 | 122 | 9,287 | 76.12 | - |
| 1813 | 206,076 | 10,896 | 148 | 11,273 | 76.17 | - |
| 1814 | 484,852 | 31,392 | 176 | 13,667 | 77.65 | - |
| 1815 | 598,557 | 39,255 | 252 | 20,547 | 81.54 | - |
| 1816 | 594,041 | 32,589 | 327 | 27,627 | 84.49 | - |
| 1817 | 724,950 | 52,153 | 358 | 32,036 | 89.49 | - |
| 1818 | 877,236 | 57,221 | - | 34,970 | - | - |
| 1819 | 874,672 | 57,739 | 438 | 39,340 | 89.82 | - |
| 1820 | 870,862 | 52,330 | 480 | 43,863 | 91.38 | - |
| 1821 | 891,895 | 53,338 | 491 | 44,488 | 90.61 | - |
| 1822 | 906,662 | 52,654 | 431 | 38,772 | 89.96 | - |
| 1823 | 910,515 | 49,016 | 423 | 37,248 | 88.06 | - |
| 1824 | 819,436 | 46,340 | 524 | - | - | - |
| 1825 | 900,166 | 49,606 | 524 | - | - | - |
| 1826 | 917,902 | 47,482 | 533 | 49,653 | 93.16 | - |
| 1827 | 911,252 | 47,519 | 534 | - | - | - |
| 1828 | 642,633 | 40,569 | 570 | - | - | - |
| 1829 | 950,675 | 36,204 | 596 | - | - | - |
| 1830 | 967,081 | 42,406 | 536 | 31,938 | 59.58 | - |
| 1831 | 1,003,880 | 34,476 | 536 | - | - | - |

Year Fund[a,b] Annual Number of Annual Per Capita Outlays

| | Investment (dollars) | Returns (dollars) | Pensioners | Outlays (dollars) | (dollars) | |
|---|---|---|---|---|---|---|
| | | | | | Ordinary | Extraordinary[d] |
| 1832 | 937,047 | 37,465 | - | - | - | - |
| 1833 | 947,545 | 52,443 | - | - | - | - |
| 1834 | 1,142,462 | 50,000[c] | - | - | - | - |
| 1835 | 1,160,162 | 50,000[c] | 442 | 54,083 | 122.36 | - |
| 1836 | 1,143,639 | 50,886 | 466 | 58,009 | 124.48 | - |
| 1837 | 1,049,232 | - | 678 | 87,768 | 129.45 | 296.00 |
| 1838 | 390,832 | - | 847 | 103,120 | 121.74 | 255.06 |
| 1839 | 253,139 | - | 901 | 110,123 | 122.22 | 247.55 |
| 1840 | 158,739 | - | 914 | 108,750 | 118.98 | 242.53 |
| 1841 | 23,600 | - | 959 | 113,903 | 118.77 | 236.52 |
| 1842 | - | - | 946 | 107,129 | 113.24 | 232.61 |

[a]Excludes cash holdings; therefore annual returns less outlays do not equal the change in the value of the fund's assets.

[b]Holdings vary according to whether the assets are valued at cost or in terms of par. It is not always clear which definition is being used.

[c]Authors' estimates.

[d]The figures in this column were derived by equating the two extraordinary Treasury remittances, which appear to have been passed "straight through" a cash position to beneficiaries, with the extraordinary claims for back benefits resulting from the act of 1837.

*Source:* Authors' calculations based on information in the tables and data of Clark, Craig, and Wilson (1998) and original sources cited therein.

Although the long-run trends of pensioners and benefits were upward, legislation regulating the fund tended to expand coverage, benefits, or both when the fund expanded, regardless of its actuarial condition.[8] For example, in 1813, benefits were extended to the widows of navy personnel who died from wounds received in the line of duty. Those benefits, equal to half the monthly pay of the deceased, were to be paid for a five-year term. Payments could be renewed for additional terms of five years each. If no surviving widow existed, these survivors' benefits could be paid to children under sixteen years of age. In April 1816, the commissioners were authorized to provide benefits in excess of half pay in cases of hardship.[9] The extension of benefits to widows and orphans, along with the growth of naval personnel during the War of 1812, dramatically increased the payment of pensions. In 1816, payments of $27,627 went to 327 veterans, widows, and orphans. In 1817, benefits to widows and orphans

8. On the rent-seeking advantage of small, well-defined groups, see Olson (1965, 53–65). The success of federal workers in such activities is detailed in Johnson and Libecap (1994, 126–48). For a survey of empirical studies documenting this phenomenon for public-sector workers in general, see Mueller 1989, and on federal pensions in particular, see Craig 1995.

were expanded to include those whose husband or father had died "*in consequence* of disease contracted or of casualties or injuries received" (emphasis added). If a veteran's dependents could show that his death was somehow connected to his previous service, then they would be eligible for benefits. The extension sharply increased expenditures, and by 1823 pensions totaling $37,248 were being paid to 423 beneficiaries. In 1824 that provision was repealed. Persons already receiving benefits were allowed to continue receiving payments; however, the act stipulated that no future pensions would be awarded to widows. Despite this change, the total number of beneficiaries continued to increase, reaching 596 in 1829, and the fund continued to grow, reaching $950,675 in the same year.[10]

With the fund approaching $1 million and the number of pensioners stabilizing in the early 1830s, Congress could not resist the temptation to expand the coverage of the pension plan. In June 1834, in response to the growth of the fund, Congress restored the provisions for widow-and-orphan benefits that had been in effect between 1817 and 1824. The *American State Papers* made the case that the fund had sufficient resources to cover the expansion of benefits, though given the lack of new monies resulting from prizes and the aging of the veterans of the War of 1812, it would have been difficult to support such a claim with plausible actuarial scenarios (*American State Papers,* Naval Affairs, vol. 4, report no. 529, Jan. 17, 1834, 489). The legislation provided for the extension of benefits to widows of officers, seamen, and marines who had died since 1824. That extension of benefits resulted in "a heavy charge [being] made upon the fund" (*American State Papers,* Naval Affairs, vol. 4, report no. 616, Mar. 21, 1836, 863). The number of widows granted a pension benefit under the terms of all previous acts totaled fifty-six, but the new legislation added eighty widows to the rolls at an annual sum of $20,031, an amount equal to nearly 40 percent of the whole of navy pensions (*American State Papers,* Naval Affairs, vol. 4, report no. 616, Mar. 21, 1836, 863).

In November 1835, the fund had assets of $1,160,262, and the income for 1835 was $66,083. Expenses totaled $23,842 paid to 306 disabled veterans and $30,241 paid to 136 widows and orphans. In assessing the implications of the 1834 legislation, the commissioners, who were also the trustees of the fund, lamented Congress's improvident expansion of benefits:

9. In the annual report filed in January 1816, the commissioners concluded that limiting the benefit to half pay "proved inadequate to the maintenance of disabled seamen and marines, particularly the latter, which cannot exceed three dollars per month. The extension of the law, so as to vest in the commissioners a discretionary power to allow, in extreme cases, to the full amount of monthly pay, or otherwise to provide for the necessary subsistence of those who are totally unable to take care of themselves, would, it is believed, obviate causes of complaint, and reflect honor upon the liberality and justice of the National Legislature" (*American State Papers,* Naval Affairs, vol. 1, report no. 134, Jan. 9, 1816, 381).

10. Note that the figures in column 1 of table 1 include only interest- or dividend-earning assets. The cash holdings of the fund are unavailable; thus, for example, the dip in the fund's value in 1828 appears to be simply the result of a temporary increase in the fund's cash position.

> It will be perceived that, by the act of 1834, a pension is allowed to the widow of every person who may die in the naval service by reason of disease contracted while in his line of duty; a phrase than which nothing can be more vague or more liable to abuse, and which is nearly tantamount to authorizing a pension to be granted to the widow of every person who may die in the naval service. To such an extension of the pension system, the committee are decidedly opposed. (*American State Papers,* Naval Affairs, vol. 4, report no. 616, Mar. 21, 1836, 863)

By March 1837, despite the recent increase of claimants and outlays, the fund had increased to $1,115,330, and interest and dividends exceeded $50,000. Disregarding future claims that would ultimately arise as the War of 1812 veterans died, Congress once again expanded benefits, approving the "Act for the More Equitable Administration of the Navy Pension Fund" (the Jarvis Act). The legislation required the fund to pay pensions to widows and orphans from the dates of the veteran's death. In addition, it stipulated that pensions granted to veterans be paid from the time they were disabled, thereby creating substantial liabilities because of the previous nonpayment of such benefits.

Perhaps not coincidentally, the passage of the act was simultaneous with a 50 percent increase of naval personnel between 1836 and 1837 (U.S. Bureau of the Census 1975, 1142). That expansion was planned during the peak of the business cycle, and Stanley Lebergott's wage series for "able-bodied seamen" shows a peak in 1836 (Lebergott 1964, 530); so it may well have been the case that Congress was simply increasing the total compensation of naval personnel in order to recruit new seamen. If that was so, the panic and subsequent recession of 1837, which began two months after the act was passed, ultimately made it unnecessary (Thorp 1926).

In any case, the commissioners of the pension fund opposed the Jarvis Act. The payment of back pension benefits ran as high as $6,000 to $8,000—roughly 5 to 9 percent of the total annual outlay at that time. The annual number of pensioners increased to 847, and annual expenditures to $103,120. "Arrears payments soon consumed nearly $600,000. Between March 3, 1837, and October 1, 1838, about $725,000 of the invested capital of the fund was sold, and the proceeds, with the interest and dividend on the capital were applied to payment of pensions and arrears" (Glasson 1918, 104). Note that the figures in columns 4 and 5 of table 1 do not include those extraordinary expenditures for back claims; however, the inclusion of such payments (in column 6) more than doubled the per capita outlays after 1837.

The sharp reduction of the pension fund reduced annual income while the increased number of beneficiaries sharply increased expenditures, resulting in the fund's further decline. Complaining about the pressures Congress had put on the fund, the secretary of the navy reported that the act of 1837 "has decreased [the fund] with increasing celerity, a large portion of the pensions granted in conformity with its provisions involving arrearage commencing many years anterior to its passage." Primarily, this development arose from the first section of the act, which provided that pensions to widows and orphans "shall be paid from the date of the demise of the husband or fathers. The only condition is, that the demise shall have happened in the naval service." The secretary concluded that

> arrearage of pensions for more than thirty-seven years, in one instance involving the payment of more than $20,000, have been paid under this section which has mainly caused the rapid diminution of a fund originally constituted for the sole purpose of providing for officers and seamen only, disabled in naval service.[11]

Following the passage of the Jarvis Act, the fund declined in two years from $1,115,330 to $253,139. Concluding that "the primary source of the decline of the navy pension fund is the act of 1837," the secretary went on to note:

> It is therefore certain that at the end of two years, at the farthest, the navy pension fund will be exhausted. Under the existing laws there is not the least prospect of any decrease in the number of pensioners or the amount of their pensions; and consequently, Congress will be called upon to . . . make good any deficiency in the navy pension fund arising out of its own legislation. (U.S. Senate 1839)

And that is exactly what happened.

With the pension fund facing total liquidation, Congress passed new legislation in August 1841 appropriating $139,666 to provide for the continued payment of pensions to current beneficiaries until the close of the next session of Congress. Benefits would not be paid to the widows and orphans of men who died after the passage of that act. In 1842, Congress appropriated another $84,951 and formally repealed the act of 1837. In 1843, Congress began the practice of authorizing the payment of two years of benefits from general tax revenues (Glasson 1918, 103).

The history of the legislation pertaining to the navy pension fund shows that Congress, after yielding to the temptation to expand the fund's coverage beyond its actuarial capacity to support those covered, ultimately shifted the liability to taxpayers. The fund's performance also reflected the other risk we mentioned in our introduction, that associated with holding equity or the liabilities of private firms. To that aspect of the navy pension fund we turn next.

## Management of the Navy Pension Fund

The fund began investing in interest-yielding securities in 1800 and followed a fairly regular pattern of remaining fully invested with a "buy and hold" strategy until the legislation of the 1830s ultimately led to its liquidation.[12] The strategy reflected the flow of funds from prizes. As noted before, the initial legislation provided that the fund would be financed by proceeds from the sale of prizes, which would be placed in

11. The 1839 report of the secretary of the navy also noted that the second section of the act of 1837 contributed to increased expenditures from the fund. "The section of the same act provides, that 'pensions which have been granted, or which shall here after be granted to officers, seamen, and marines, in the naval service, disabled by wounds or injuries received in the line of their duty, shall commence from the time when they were disabled.'"

the fund and remain there for the purpose of paying the promised pension benefits. If the sale of prizes provided insufficient funds to pay the promised benefits, Congress would appropriate additional funds to make up the shortfall. That promise led the commissioners to request that Congress reimburse the fund for losses on its investment in the Bank of Columbia, which collapsed in 1824 (about which, more later). They made the request even though at the time the fund had sufficient assets to make expected payments. Shortly after Congress authorized the reimbursement of those funds in 1834, the pension program was expanded, as we have already described. If the sale of prizes yielded excess funds, the surplus was to remain in the fund to provide for future benefits. As far as we can determine, no estimates of long-term expenditures were made before the 1820s, and there was no direct link between expected revenues from the sale of prizes and expected expenditures on pension benefits.

Relying on the capture and sale of prizes provided an uncertain flow of funds into the fund for two reasons. First, the actual capture of prizes depended on the current international military and political situations, not to mention the skill of American seamen. Second, once the prizes were taken, they had to be sold and the proceeds returned to the fund in accordance with the law. The latter condition often proved as uncertain as the former, as shown in the fund's annual reports. For example, in January 1816, the commissioners wrote:

> [We] find it necessary to claim the further aid of the Legislature, not only to enable them to collect the arrearage of the prize money, which belongs to the fund, but to secure, in future, a punctual and faithful accountability on the part of those officers who are charged with the prosecution and sale of prizes, and the collection and distribution of the proceeds of the sales. The imperfections of the existing laws are great, and have given rise to many abuses. (*American State Papers,* Naval Affairs, vol. 1, report no. 134, Jan. 5, 1816, 380)

The prize monies that provided the basic capital of the fund were not consistently reported, but the data available show great irregularity and extreme variance from year to year. The irregularity of the flow of prize money manifested itself in an audit entitled "Statement of the Condition of the Navy Pension Fund," issued in 1829 (*American State Papers,* Naval Affairs, vol. 3, report no. 390, Feb. 20, 1829, 323). Between 1814 and 1828, the fund received $451,694.51 from the sale of prizes. Peak years of annual revenues were 1814 with $150,367 and 1819 with $174,848; however, no revenues at all were received during six of the fifteen years. A basic portfolio strategy would be to convert the prize proceeds into a regular income flow to match the somewhat more regular payments to pensioners. With a buy-and-hold strategy for government securities redeemed at par, capital gains and losses would depend on whether the original assets

12. For the details of the management of the fund's portfolio, see Clark, Craig, and Wilson 1998.

were bought at a premium, yielding a loss, or at a discount, yielding a gain.

Annual reports of the fund vary in their date of submission between September and the following January, and vary considerably in detail regarding vouchers. The 1824 report was not submitted, but it was finally made available in 1828, having been reconstructed well after the event. Income from the fund sometimes confused reimbursements with interest received, and in several years the dividends paid by bank stocks were neither received nor recorded to the credit of the fund. The results of the reported periodic and special audits differ from the data in the annual reports. Curiously, the quality of the financial data is probably better for the earlier reports than for the later ones.

The portfolio from 1800 through 1808 was invested in U.S. government stocks, representing a mix of coupon amounts among the Sixes, Eights, and Threes, the last sort being first purchased in 1806. (The names of the securities refer to their coupon rates.) Although the Threes had a lower coupon, the price at Philadelphia in 1805–6 ranged between $59.00 and $64.00, representing a current yield of about 5 percent. The Navy Sixes were redeemed in 1807 and the proceeds invested in the Louisiana Sixes and the Threes.

Interestingly, the Eights were redeemed in 1809 and the proceeds invested in the stock of a local bank, the Bank of Columbia, which represents the privatization we discussed above.[13] Additional shares of Columbia Bank, as it was often called, were purchased in 1810, and the stocks of Union Bank and Washington Bank were purchased in 1811 and 1812 in what appears to have been in each case an "initial public offering." Over the period 1809–13, $89,703 was spent on these local bank stocks, placing 44 percent of the fund's portfolio in private, locally traded securities.

The fund grew rapidly between 1800 and 1813, from $26,552 to more than $200,000, because of prize receipts and because annual income and gains exceeded payments to pensioners. Plentiful opportunities existed to buy nationally and internationally traded stocks (bonds) between 1809 and 1813; the U.S. debt alone was approximately $50 million. There is some evidence that commercial banks in the area were paying dividends on the order of 7 to 8 percent. The Bank of the United States paid annual dividends from July 1792 through 1810 of more than 8 percent of par, but the fund never held that asset. The fund's records of income from investments are summarized in table 1. Columbia Bank paid dividends of $3,730 in 1810, which produced a yield of 6.2 percent on the amount invested, and the Union Bank and Washington Bank yielded similar dividends.

The portfolio valuation calculations that led the commissioners to forfeit liquidity and take on the added risk for the potential additional 1 or 2 percent over bond returns

13. The ownership and control of the Columbia Bank read like a who's who of the early republic. George Washington was a stockholder, as was Henry "Light Horse Harry" Lee, a hero of the Revolution and the father of Robert E. Lee. Among the early directors were William Marbury, the plaintiff in *Marbury v. Madison*, and Francis Scott Key. A founder and the second president of the bank, Benjamin Stoddert, was the first Secretary of the Navy (Cole 1959, chap. 3; Walsh 1940, 59–93).

from the three local bank stocks seems unconventional. This observation is important, because the fund ignored the stock of the Bank of the United States. The three bank stocks were acquired in "half" shares and "whole" shares. The subscription schedule for the initial capital in the banks provided an arrangement not unlike a time-purchase plan for acquiring the stocks. It is possible the market price was paid for an exchange, or the purchases might have been arranged in some manner consistent with the initial offerings of the capital stock. All of these and subsequent transactions in bank stocks were handled by an agent, George MacDaniel, and the privatization of the fund has the scent of insider trading.[14]

During the War of 1812, the fund more than doubled between 1813 and 1814, from $206,076 to $484,852.[15] By 1829, it had grown to almost $1 million. The assets purchased from 1814 through 1824 were concentrated on the New Sixes issued to finance the War of 1812. Yet, there were additional purchases of Bank of Columbia stock in 1815, 1818, and 1819, bringing the total expenditures for Columbia Bank stock to $99,502.60. As the authorized capitalization of Columbia Bank was $1 million, the fund owned almost 10 percent of it. The fund's total holdings of private securities in 1819 were $129,266 of the enlarged total portfolio of $874,672; thus 15 percent of the portfolio was invested in private stocks. Between 1819 and 1829, the Sixes and Deferreds were being retired, along with some of the New Sixes, while the fund acquired the new debt being issued by the Treasury in bonds bearing 4.5 percent and 5.0 percent coupon rates. At the end of 1829, the majority of the fund was invested in those securities, with a lesser amount in the New Sixes and the original Threes.

The Columbia Bank ceased accepting new business in 1823 and ended all active operations in 1828. Although the fund continued to carry Columbia stock as "assets" on its books, valued either at cost or at par value, we have excluded those assets as of year-end 1824 in table 1.[16] Recall from our earlier discussion that the acquisition of private assets inevitably increased the risk of the fund's portfolio. Now we see the downside of that decision. With the failure of the Columbia Bank, the fund lost roughly 10 percent of its value.

Typically, one would expect the owners—ultimately, the fund's beneficiaries, who after all would reap the rewards from any capital gains on the assets—to absorb such a loss; but in this case they did not. In July 1834, the fund received $167,164.40 to cover equity and forgone interest and dividends "from the Treasurer of the United States, for Columbia Bank stock purchased of the navy pension fund by the United

14. It was probably not a coincidence that among the directors of the bank was one John MacDaniel, Jr., though we have not yet made a connection between the two MacDaniels; the relationship among the leading families of Georgetown resembled that in New England, documented by Lamoreaux (1986). Elsewhere we explore the potential malfeasance attending the management of the fund (Clark, Craig, and Wilson 1998).

15. The fund's holdings are reported in detail in Clark, Craig, and Wilson (1998), available from the authors on request.

States, per act of Congress, approved 30th June 1834." The fund's net loss from the failure of the Columbia Bank was $99,502.60. The difference of $67,661.80 must include forgone interest (at 5.32 percent) since about 1822. In other words, the taxpayers bailed the fund out, as Congress assumed the risk of privatization on behalf of the taxpayers ex post facto. Not coincidentally, at exactly the same time, Congress restored the "widows and orphans" benefits, as detailed earlier.

From 1830 through 1840 the portfolio experienced a great deal of shuffling, because almost all U.S. debt was being redeemed (for details, see Clark, Craig, and Wilson 1998). Between 1829 and 1830, there was a very large increase in the amount of the Threes and Four-and-a-halfs and Fives being held as the last of the New Sixes were redeemed. In 1829, some municipal stock in the Washington Corporation, which went under various names over a few years, had been bought. In 1832, as the Threes were being redeemed, the fund made large purchases of stock of the Second Bank of the United States, in compliance with directions by the navy.[17] As noted earlier, the restriction of purchases to the Second Bank of the United States was related to the failure of Columbia Bank and also to the practice of paying commissions to agents of the fund *while* they were on the payroll as disbursors of pension payments. The navy direction followed several audits and much correspondence from the fund for reimbursement because of inability to pay benefits to the widows and orphans. Also, state bonds of Maryland and Pennsylvania had been acquired, along with the local debt of Cincinnati, all of which paid a 5 percent coupon.[18] Indeed, practically all stocks ever purchased by the fund were at a premium, except the Threes, which typically traded at a discount because of their "less than market" coupon. In 1838 Illinois bonds and a small additional amount of local debt in Washington were added to the portfolio.

Over the period 1830–36, the total amount of the portfolio remained rather constant in the neighborhood of $1 million, but it fell sharply by 1838 to $390,832, as stocks had to be sold to meet the fund's increased pension obligations. Interestingly, after its federal charter expired in 1836, the Second Bank of the United States was rechartered in Pennsylvania. It eventually failed and was liquidated on February 4, 1841. From October 1, 1837, through the end of September 1838, however, the fund received $510,353.90 in principal and interest from the Treasury as compensation for the bank's stock.[19] In addition to these problems, several states defaulted on their debts, and interest rates on state debt climbed to more than 15 percent as the

16. The exact nature of the failure of the Bank of Columbia remains something of a mystery, but evidence suggests at least three reasons: (1) poor management, (2) bad real-estate loans in the District, and (3) a misguided effort to serve as a collection agent for the Second Bank of the United States (Cole 1959, chap. 3; Walsh 1940, 59–93). Of the thirteen banks chartered in the District of Columbia by 1830, four had failed (Gallatin 1831, 99, 104).

17. This stock was purchased from the Treasury at par with no fees involved. The transactions represent subsidies, because the stock was trading at a premium at that time.

18. These stocks were bought at a premium (Clark, Craig, and Wilson 1998).

prices of state bonds fell (Sylla and Wallis forthcoming). This collapse occurred as the fund was selling securities to meet pension obligations, and the value of the portfolio went from $253,139 at the end of 1839 to virtual depletion at the end of 1841. The only assets remaining in the fund were shares of the Union Bank and the Washington Bank, which were nearly worthless.

## Conclusion

The history of the U.S. Navy pension fund and its management demonstrates that the privatization of the fund exposed it to additional risk. Once the fund realized the downside variability that characterizes such risk, Congress simply shifted the risk to taxpayers and bailed out the fund—on two different occasions. This episode offers a valuable lesson for contemporary debates about the privatization of the Social Security system. Specifically, it demonstrates the legislators' inability to credibly ensure that the risks associated with the greater expected returns from privatization were similarly privatized. Ultimately that congressional failure to link risk and return caused the support of the pensioners to be thrown back on the taxpayers. We have little reason to suspect that a similar fate would not befall such an attempt in our own time.

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**Acknowledgments:** The authors thank Lee Alston, Gary Libecap, Richard Sylla, workshop participants at Ball State University, the Triangle Universities' Economic History Workshop, and the Labor Workshop at North Carolina State University, and two anonymous referees for helpful comments and suggestions. In addition, the authors thank Bob Wright for research assistance, and Ms. Jean Porter of the D. H. Hill Library at North Carolina State University for diligent assistance in locating many of the original sources cited in the paper. This research has been partially funded by a grant from TIAA-CREF.