

Calculations of the median voter's return from "investing" in Social Security suggest that for a majority of voters the U.S. Social Security system provides higher ex-post, or actual, returns than alternative assets.

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*The author is a Research Fellow at IGIER, Università Bocconi and Center for Economic Policy Research (CEPR).

Social Security: A Financial Appraisal for the Median Voter

by Vincenzo Galasso*

Summary

Several explanations have been proposed for why voters continue to support unfunded social security systems. Browning (1975) suggests that the extremely large unfunded pension systems of most democracies depend on the existence of a voting majority composed of middle-aged and older people who fail to fully internalize the cost of financing the system. In fact, when voting, economically rational workers consider only their current and future contributions to the system and their expected pension benefits—not their past contributions, which they regard as sunk costs. If, for a majority of voters, the expected continuation return from social security exceeds the return from alternative assets, an unfunded social security system is politically sustainable.

This article explores the validity of Browning's proposition by quantifying the returns that U.S. voters in presidential elections from 1964 to 1996 have obtained, or expect to obtain, from Social Security. Did "investments" in Social Security outperform alternative forms of investment, such as mutual funds or pension funds, for a majority of the voters? What can be expected for the future?

The U.S. Social Security system redistributes income within age cohorts on the basis of sex, income, and marital status. To account for some of these features, the median voter is represented by a family unit whose members—a husband who accounts for 70 percent of household earnings and a wife who accounts for 30 percent—make joint economic and voting decisions. Thus, retirement and survival benefits paid out to the spouse of an insured worker can be included in the calculation of Social Security returns. Interval estimates of voters' family incomes from the U.S. Census Bureau were used to obtain the median voter's household earnings. The median voter's age is derived from the ages of those who voted in presidential elections, not from the ages of the entire electorate.

The median voter's contributions to Social Security are the product of the joint employer/employee Old-Age and Survivors Insurance (OASI) tax rate and employee earnings. Data on actual contributions are available for median voters in the 1964 to 1976 elections; Social Security Administration (SSA) estimates are used for future tax rates and average wage growth rates. Data on actual old-age, retirement, and survivor benefits, as well as estimates of future benefits, are also available from SSA.

Analysis of ex-post returns from “investing” in Social Security and from a buy-and-hold strategy applied to three alternative assets—the Standard & Poor’s Composite Index (S&P), the Dow Jones Industrial Average (DJIA), and U.S. government bonds—shows surprising results. In 1964 and 1968, Social Security largely outperformed the other three assets. In 1972, Social Security and the stock market performed almost equally. In 1976, however, the median voter would have been better off in the stock market.

The expected returns for median voters in later elections cannot be directly compared with realized returns from alternative assets. However, estimates range from 5.7 percent in 1984 to 7.0 percent in 1996 and thus compare favorably with average returns of 5.6 percent for S&P, 5.3 percent for DJIA, and 2.1 percent for government bonds over the 1964-1996 period. Although these findings must be taken with caution since they compare ex-post returns, they show that, despite a continuous reduction in profitability, Social Security still represents a safe, high-return asset for a majority of families.

Introduction

Most democracies have large, unfunded social security systems. Numerous explanations have been proposed for why such intergenerational transfer schemes emerged and particularly for why generations of voters have continued to support them (see Hammond 1975). Some analysts view social security as an equilibrium outcome of a voting game that takes place among successive generations of players.¹

Past and present political support for social security systems hinges on the existence of a majority of voters who fail to fully internalize the cost of financing the system, Browning (1975) suggests. When voting, economically rational workers consider only their current and future contributions to the system and their expected pension benefits; they do not consider past contributions, which they regard as sunk costs. If the expected return from social security exceeds the return from alternative assets for most voters, the system is politically sustainable. In a general equilibrium environment, social security may be politically sustainable even if it does not outperform other assets, because an unfunded system reduces capital accumulation and thereby decreases wages and increases interest rates (Cooley and Soares 1999; Galasso 1999; Boldrin and Rustichini 2000).

This article examines the validity of Browning’s explanation by quantifying the deal that U.S. voters in presidential elections from 1964 to 1996 obtained, or expected to obtain, from Social Security. The return from “investing” in Social Security is calculated for the median

voter at these elections. (The median voter represents the majority of voters and is described in detail in the section on methodology.) Social Security is considered an asset, and its continuation internal rate of return (CIRR) is calculated as the rate of discount that equalizes the present value of current and expected future contributions to the present value of expected pension benefits.

The returns from three alternative assets—the Standard & Poor’s Composite Index (S&P), the Dow Jones Industrial Average (DJIA), and government bonds—are calculated on the assumption that the same amount of money contributed to Social Security is used to buy shares of these other assets and that the shares are liquidated upon retirement. Clearly, this methodology undervalues the benefits of Social Security, which, as an annuity, provides insurance against the uncertain length of life.

Did Social Security outperform alternative forms of investment, such as mutual funds or pension funds, for the majority of voters in the presidential elections between 1964 and 1996? What can it be expected to do in the future? The answers to these questions may help assess the political sustainability of the Social Security system.

Several assumptions underlie the analysis in this article:

- At every election, voters determine only the current size of the Social Security system. However, they may expect their voting behavior to affect future voters through a social contract between successive generations. Young and middle-aged voters agree to transfer resources to current retirees since they expect to receive a corresponding transfer in their old age. This social contract sustains the system as long as Social Security remains profitable for the median voter (see Galasso and Profeta (2002) for a detailed discussion).
- Voters have perfect foresight. Once they have cast their ballots, they predict all future changes in the system. Since voters consider previous contributions to be sunk costs, the age of the median voter—and hence the length of time over which future contributions will be made—is critical in computing returns. Older median voters obtain higher returns because they expect benefits for the same length of time as younger voters but have a shorter contribution period.
- Because Social Security redistributes income within each generation on the basis of characteristics other than age, the median voter need not be the voter with the median age. Thus, Social Security may be supported by a voting majority of retirees, all adults, and low-income young people (see Tabellini 2000;

Conde-Ruiz and Galasso 1999; and Persson and Tabellini 2000). Moreover, a social security system is composed of several features other than size about which voters may want to express their preferences, for example, a provision for early retirement (Conde-Ruiz and Galasso 2000).

- The median voter represents a family unit in which agents make joint economic and voting decisions. Thus it is possible to include in calculations of Social Security returns the retirement and survival benefits paid out to dependents of an insured worker. Returns from the Social Security “investment” are calculated for five household types within an age cohort, an expansion of Browning’s original idea. This strategy sheds light on intragenerational redistribution of benefits and helps identify which segments of the population support Social Security.

After a brief description of the Social Security system in the United States, this article explains the methodology and data used to construct the median voter and to calculate the CIRR from “investing” in Social Security. Finally, it presents the results of those calculations for the median voter and conclusions that can be drawn from them.

The U.S. Social Security System

President Franklin D. Roosevelt instituted Social Security in 1935 to “. . . give some measure of protection to the average citizen and to his family against the loss of a job and against poverty-ridden old age.”² Created as a fully funded system, Social Security was put on a pay-as-you-go basis in 1939. Since then, its main characteristics have remained unchanged:³ namely, coverage is compulsory; eligibility for benefits depends on previous contributions; benefits received are not directly linked to contributions made; and the cost of the system is borne mainly by covered individuals. The Social Security system is composed of several programs, but this article concentrates on Old-Age and Survivors Insurance (OASI)—that is, pensions to retirees and their survivors—for voters at every presidential election year since 1964, the first year for which data on the median voter are available.

OASI Contributions

By 1964, nearly all employees of private and public employers were covered by the Social Security system.⁴ Then, as now, mandatory contributions took the form of a tax on earnings, to be paid in equal parts by employee and employer.⁵ The tax rate was the same for everyone, but it was applied only to earnings below a certain base amount. These features make the OASI contribution a regressive tax; that is, the more a person earns above the

base amount, the smaller his or her contribution-to-earnings ratio becomes.

The combined OASI tax rate—the sum of the tax rate applied to employee and employer contributions—and the taxable base are shown in Table 1. The combined tax rate almost doubled between 1964 and 1996, from 6.8 percent to 11.2 percent. The taxable base has also increased greatly, even in real terms.

OASI Benefits

Retirement benefits can be claimed by fully insured individuals when they reach retirement age.⁶ Benefits depend on workers’ earnings during their working life and are calculated using the average monthly wage (AMW) before June 1978 and the average indexed monthly earnings (AIME) thereafter. The income paid monthly to a fully insured retiree (known as the primary insurance amount, or PIA) is calculated by applying a formula to the AMW or AIME. Official PIAs by earnings brackets for 1964 to 1978 have been released by SSA. The 1977 Social Security amendments simplified the benefits structure. Every year, two bend points are determined, X and Y, with X being less than Y. The PIAs are the sum of 90 percent of the AIME below X, plus 32 percent of the AIME between the two bend points, plus 15 percent of the AIME above Y.

Retirement insurance also provides benefits to the family of an insured worker. Spouses who are not entitled to retirement or disability insurance on the basis of their own earnings receive benefits equal to 50 percent of the insured worker’s PIA.⁷ Widows and widowers receive survivors’ insurance benefits equal to the deceased worker’s PIA, reduced by any amount they are entitled

Table 1.
Social Security taxable base and tax rate, 1964-1996

Year	Taxable base (dollars)	Tax rate (percent)		
		Old-Age and Survivors Insurance	Disability Insurance	Hospital Insurance
1964	4,800	6.75	0.50	0
1968	7,800	6.65	0.95	1.20
1972	9,000	8.10	1.10	1.20
1976	15,300	8.75	1.15	1.80
1980	25,900	9.04	1.12	2.10
1984	37,800	10.40	1.00	2.60
1988	45,000	11.06	1.06	2.90
1992	55,500	11.20	1.20	2.90
1996	62,700	11.20	1.20	2.90

SOURCE: Social Security Administration. Data available at www.ssa.gov/oact/cola/index.html.

to as retirement or disability insurance benefits. (This article considers only widows' and widowers' benefits, not survivors' benefits payable to children.) All benefits claimed by family members are subject to a family maximum.

The benefits scheme is regressive, for two reasons. The PIA formula causes the ratio of benefits to income (or AIME) to decrease as income increases, and family benefits are capped.

OASI and Income Redistribution

Because it treats groups within each age cohort differently, Social Security redistributes income on the basis of such characteristics as sex, income, and marital status (see Boskin and others 1987). The following redistributions are relevant to this article:

- Under the current Social Security system, the effective value of the coverage is higher for women than for men because women have a longer life expectancy.⁸
- Both contribution and benefit schemes are regressive; thus they redistribute income in opposite directions. The overall effect seems to favor low-income groups (see Myers 1993, 504-506).
- Married workers and their spouses may benefit from the additional income awarded to a covered worker's spouse, both during the worker's lifetime and after the worker's death, regardless of the worker's or the spouse's contributions.
- The number of wage earners in a family and the proportion of total earnings each brings in can also result in redistribution, mainly because of the formula used to calculate the PIA.

Methodology and Data

As noted above, the profitability of Social Security for the median voter is measured by the CIRP from "investing" in Social Security (Boskin and others 1987). In other words, Social Security insurance is viewed as an asset, and the CIRP is calculated as the rate of discount that equalizes the present value of current and expected future contributions to the present value of expected pension benefits for the median voter.

Characteristics of the Median Voter

The median voter belongs to an intermediate generation and chooses the optimal Social Security tax rate by weighing the current and future costs of the tax rate against the future benefits of the pension. Previous contributions to the system, which may have been made in the voter's youth, represent a sunk cost and thus do not affect the current decision.

Each agent in the economy, and thus the median voter, is considered here not as a single individual but as a family unit that makes joint economic and political decisions. This interpretation has two advantages. It avoids having to identify the median voter's sex, which would strongly affect the results, and it allows the analysis to take into account the impact that potential future benefits paid out to the dependents of an insured worker has on the worker's political decisions.

The median voter is considered to be the voter with the median age, but to account for differences within age cohorts, this article considers differences in earnings, household type, marital status, and life expectancy. The U.S. Census Bureau has published data on voters' ages at congressional and presidential elections since 1964. Table 2 shows the median age of the entire electorate and of those who reported having voted in the presidential elections. The median age of voters is higher than the median age of the electorate because older people vote at a higher rate than younger people. The median age dropped after 1971, when voting rights were extended to 18-year-olds, and has remained fairly stable since then.

Table 2.
Characteristics of voters in U.S. presidential elections, 1964-1996

Year	Electorate	Median age		Median family income (dollars)			Average share of personal income from wages
		Reported voters	Low	Medium	High		
1964	45	46	5,000	6,250	7,500	0.71	
1968	...	46	7,500	8,750	10,000	0.71	
1972	42	44	10,000	12,500	15,000	0.73	
1976	41	45	15,000	20,000	25,000	0.71	
1980	40	44	20,000	22,500	25,000	0.71	
1984	39	43	25,000	30,000	35,000	0.69	
1988	40	44	25,000	30,000	35,000	0.69	
1992	41	44	25,000	30,000	35,000	0.68	
1996	...	44	27,500	33,000	38,500	0.68	

SOURCES: U.S. Census Bureau, *Voting and Registration in the Election of 19***, various issues, 1964-1996; U.S. Census Bureau, *Statistical Abstract of the United States*, various issues, 1966-1998.

NOTES: Before 1976, the Census Bureau provided only interval estimates for the ages of the electorate and reported voters.

... = not available.

The median age of the entire electorate in presidential election years was between 39 and 45; the median age of voters in those years was between 43 and 46.⁹ The Census Bureau also provides an interval estimate for the family income of voters, from which median family income can be obtained (see Table 2). This article considers the median voter to have median family income and the median age of reported voters.

The median voter's family is composed of two adults (husband and wife) with no dependents; both adults are the median voter's age. Although these assumptions are clearly not realistic, they result in very conservative estimates, usually underestimates, of the return from Social Security. The absence of children implies that no additional transfers, such as dependents' insurance benefits, can be claimed. However, the equality in age typically decreases the length of the husband's contributions and increases the length of the wife's, without affecting benefits. Compare, for example, the case of 44 years for both individuals with a more realistic case of 46 years for the husband and 42 for the wife. These assumptions tend to reduce the overall family contribution, provided that the husband earns more than the wife and that his earned income is not above the taxable base. (Conditional life expectancies for men and women for the periods covered here can be obtained from the U.S. Department of Health and Human Services' *Vital Statistics of the United States*.¹⁰)

Finally, this article examines returns from Social Security by marital status for five household types: single woman, single man, married couple with a single earner (the husband), married couple whose earnings are split 50/50, and the baseline case, a married couple in which the husband accounts for 70 percent of earnings and the wife accounts for 30 percent. The latter was chosen as the baseline case because aggregate data indicate that for married, two-earner couples with the median income, the husband's share of family income ranged from 76.8 percent in 1965 to 65 percent in 1992.

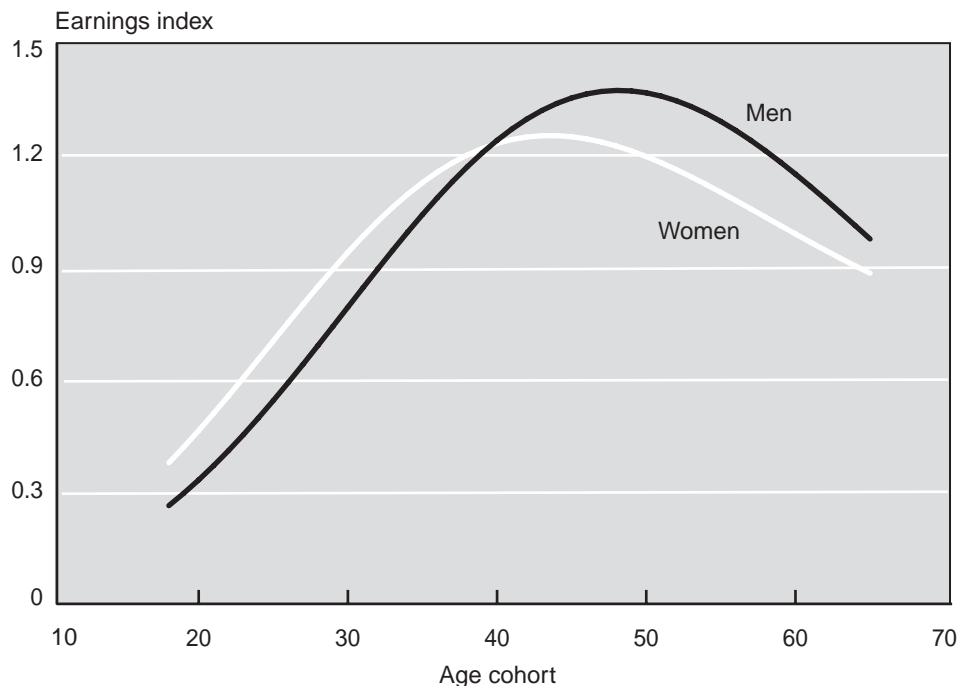
Social Security Contributions and Benefits

Social Security contributions are the product of the joint employee/ employer tax rate and the earnings of each adult in the median voter's family (see Table 1). Earnings at

the time of presidential elections are obtained by multiplying the family income of the median voter by the average share of personal income attributable to wages—information contained in the *Statistical Abstract of the United States* (see Table 2). Since the Census Bureau provides an interval estimate of the median voter's family income, this article calculates three values: low (the lowest value of the interval), medium (the mean point in the interval), and high (the highest value of the interval). These values represent measures of the median voter's family earnings in presidential election years.

To provide an estimate of the earnings of each man and woman in a median voter's family before and after an election year, this article takes into account the differences in earnings by age and the growth in labor productivity. First, it estimates the earnings of male and female workers, by age, from 1994 Census Bureau data. These estimates yield an earnings index by age for each sex (see Chart 1).¹¹ Measures of the growth in labor productivity are taken from SSA data on the changes in the average wage from 1964 to 1996. To calculate growth from 1997 to 2016, the last year of Social Security contributions for the 1996 median voter, this article applies a 1 percent real growth rate to the average wage in each of those years as in SSA's estimates. It then combines estimated earnings with measures of labor productivity to construct, for each presidential election

Chart 1.
Relative earnings profiles of men and women



SOURCE: Author's calculations using data from U.S. Census Bureau. 1994. *Money Income of Households, Families, and Persons in the United States: 1994*. Washington, D.C.: U.S. Government Printing Office.

year, the real wage of each earner in the median voter's family from ages 21 to 65 (even though the relevant contribution period extends only from the median voter's current age to his or her retirement age). Finally, based on SSA estimates, the joint employee/employer OASI tax rate from 1997 to 2016 is assumed to be the same as its 1996 value of 11.2 percent.

Benefits are calculated on the assumption that workers retire at age 65 and that they have contributed (or will contribute) to the system for 32 years, the minimum required. This is a conservative assumption, since any additional year of contributions would increase the benefits but would not affect the computation of current and future payments for the median voter, who is more than 33 years old. Depending on family composition, computations also include old-age, spousal, or survivor benefits, or any combination thereof.

Estimates of benefits are obtained with the computer program ANYPIA, provided by SSA's Office of the Actuary.¹² Given a worker's characteristics, such as birth date, past earnings, and type of benefits, the program calculates the worker's PIA. The program can produce an actual PIA for any case after 1940 and projects PIAs until 2070.

The Baseline Case

The baseline case is a two-earner family with medium earnings split on a 70/30 basis. Both individuals contribute to Social Security according to their earnings. Upon retirement, which occurs simultaneously for both of them, the main earner receives his retirement pension, and his spouse receives either her own retirement pension or spousal benefits (50 percent of her husband's retirement pension). If the spouse survives her husband, she is entitled to his entire pension as a survivor benefit. Under these conditions, the CIRR for the median voter can be obtained as follows:

$$\sum_{t=0}^{RA-MVA} \frac{\tau_t (s_t^f w_t^f + s_t^m w_t^m)}{(1 + CIRR)^t}$$

$$= \sum_{t=RA-MVA+1}^N \frac{s_t^m s_t^f \max\{b_t^f, b_t^m / 2\} + (s_t^m + s_t^f (1 - s_t^m)) b_t^m}{(1 + CIRR)^t} \quad (1-1)$$

where RA and MVA are the retirement age and the median voter's age, respectively; τ_t is the joint employee/employer OASI tax rate; s_t^f and s_t^m represent the wife's (f) and husband's (m) survival probability; w_t^f and w_t^m are the wages for wife and husband;¹³ N is the maximum life span (fixed at 85 years); and b_t^f and b_t^m are the retirement benefits for wife and husband.

In 1964, the husband's and wife's wages were \$3,100 and \$1,330, respectively. The wages are below the

maximum taxable earnings of \$4,800, below the medium income (\$4,576) as defined by SSA, and above SSA's low income (\$2,056). The corresponding CIRR is 9.8 percent.

Results

For the 1964 to 1976 election years, calculations of the CIRR for the median voter are based on actual contributions from the year of the election until the last year of contributions. These ex-post, or actual, returns are compared in Table 3 with returns obtained from investing the same amount of money for the same length of time in S&P, DJIA, and government bonds, holding those assets until retirement age, and then liquidating them. For the 1980 to 1996 election years, CIRR calculations rely on estimates of future contributions and cannot be compared with returns realized from alternative investments. The median voter's CIRR from investing in Social Security in the 1964 to 1996 election years ranges from 6.3 percent to 9.8 percent. The exception is a CIRR of 5.7 percent for the 1984 election, when the median voter's age dropped to 43 (see Chart 2).

A closer analysis of ex-post returns for median voters in the 1964 to 1976 elections shows that for the 1964 and 1968 voter, Social Security greatly outperformed the three alternatives (see Table 3). For the 1972 median voter, returns from Social Security and the stock market were similar, but the stock market would have been a better alternative for the 1976 median voter. The difference between the ex-post returns from Social Security and S&P is especially striking for the 1964 median voter, whose extremely large CIRR from Social Security, 9.8 percent, is compared with an almost zero return from the stock market. This difference shrinks over the years both because S&P's performance improves and the CIRR from Social Security decreases.

Table 3.
Median voter's returns from Social Security and alternative assets, selected years 1964-1976 (in percent)

Year	Social Security ^a	S&P	DJIA	U.S. bonds
1964	9.8	0.7	-0.2	-3.8
1968	8.0	3.8	3.7	1.3
1972	6.7	6.7	6.9	4.5
1976	6.3	9.4	10.0	5.0

SOURCES: Global Financial Data on S&P Composite, Dow Jones Industrial Average, and U.S. government bonds, available at www.globalfindata.com.

a. Estimates of the continuation internal rate of return (CIRR) from equation 1-1.

In the first group of election years, 1964 to 1976, CIRRs from Social Security decrease over time for all earnings and household groups (see Table 4). The decrease is driven by the combined effect of two factors: a drop in the median voter's age (Table 2), which increases the number of contributions included in the calculation, and an increase in the OASI tax rate (Table 1).

In the second group of election years, 1980 to 1996, the estimated returns for all earnings and household groups are almost constant, except for 1984, when the median voter's age—and hence the returns—drop (Table 4). The CIRR for the median voter ranges from 6.3 percent in 1988 to 7.0 percent in 1996. These surprising results may overestimate the returns from Social Security. In fact, they may depend on the two assumptions put forward by SSA: namely, that future tax rates will be constant at their 1996 value and that future benefits will not be substantially reduced.¹⁴ Any increase in future tax rates or reduction in benefits would reduce these CIRRs.

Finally, Table 4 provides additional evidence that Social Security redistributes income within age cohorts. In fact, in all election years and for every household type, the CIRR from Social Security is larger for low-income families. The differences in CIRRs are sizable but not as large as they would have been over a wider income interval. Redistribution of income by marital status is surprisingly large. For a given income, the married couple with one earner receives the highest CIRR, followed by a

two-earner couple with a 70/30 earnings split. The returns for single women are comparable with those for a two-earner couple with a 50/50 earnings split, whereas a single man obtains the worst deal from the Social Security system. The one-earner couple's CIRR may be twice as large as the CIRR for a single man with the same income—for example, 7.4 percent versus 3.6 percent for the medium income in 1976.

Conclusions

Several scholars have argued that the U.S. Social Security system represents a poor savings instrument for current and previous generations of young workers. However, despite a continuous reduction in profitability, Social Security represents a safe, high-return asset for a majority of middle-aged and older workers, provided they regard past contributions to Social Security as a sunk cost (Browning 1975).

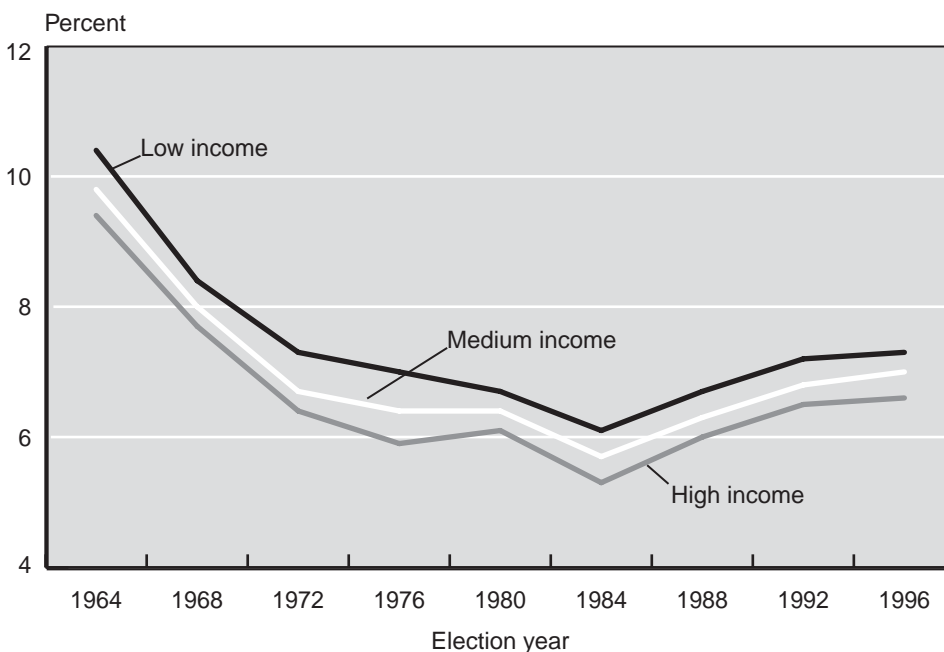
Although this article does not directly analyze the impact that a social security system has on capital accumulation, and thereby on the returns on capital, its findings are consistent with Browning's argument that Social Security has often performed better than the stock market for the median voter. Analysis of returns from Social Security and from a buy-and-hold strategy applied to three alternative assets—S&P, DJIA, and government bonds—shows that for the 1964 and 1968 median voter, Social Security largely outperforms the other three

assets. The 1972 median voter benefits almost equally from Social Security and the stock market, whereas the 1976 median voter would have been better off in the stock market.

Clearly, this evidence should be taken with some caution, since it represents a comparison of ex-post returns between a fairly safe asset (Social Security) and two high-volatility, high-return assets (S&P and DJIA). A more general portfolio selection approach to social security would determine the optimal composition of assets in the worker's portfolio by analyzing the correlations among the different assets and the median voter's labor and human capital wealth.¹⁵

Surprisingly, the findings presented here do not capture the large drop in future Social Security returns hinted at by Boskin and others (1987). SSA's assumptions

Chart 2.
Median voters returns from investing in Social Security



SOURCE: Author's calculations, as described in the section Methodology and Data and discussed in the section Results.

Table 4.
Continuation internal rates of return (CIRR) from Social Security in
the 1964-1996 presidential election years, by earnings and household
type (in percent)

Earnings	Married earners			Single earners	
	Husband 100%	Husband 70%, wife 30%	Husband 50%, wife 50%	Men	Women
1964 to 1976					
1964					
Low	11.3	10.4	9.2	7.2	9.0
Medium	10.8	9.8	8.6	6.7	8.6
High	10.4	9.4	8.4	6.3	8.2
1968					
Low	9.3	8.4	7.1	5.2	7.2
Medium	9.1	8.0	6.7	4.9	7.0
High	8.8	7.7	6.7	4.7	6.7
1972					
Low	8.1	7.3	6.1	4.3	6.2
Medium	7.7	6.7	5.6	3.9	5.8
High	7.4	6.4	5.4	3.6	5.5
1976					
Low	7.9	7.0	5.7	4.1	6.0
Medium	7.4	6.4	5.4	3.6	5.4
High	6.7	5.9	5.2	2.9	4.9
1980 to 1996					
1980					
Low	7.5	6.7	5.4	3.9	5.6
Medium	7.3	6.4	5.2	3.7	5.4
High	7.1	6.1	5.1	3.5	5.2
1984					
Low	6.8	6.1	5.0	3.5	5.0
Medium	6.5	5.7	4.6	3.2	4.7
High	6.3	5.3	4.5	3.0	4.4
1988					
Low	7.4	6.7	5.8	4.1	5.5
Medium	7.1	6.3	5.3	3.8	5.2
High	6.8	6.0	5.0	3.5	4.9
1992					
Low	7.9	7.2	6.5	4.7	6.0
Medium	7.6	6.8	6.0	4.4	5.7
High	7.3	6.5	5.6	4.1	5.4
1996					
Low	8.0	7.3	6.6	4.9	6.1
Medium	7.7	7.0	6.7	4.5	5.8
High	7.4	6.6	5.7	4.3	5.5

SOURCE: Author's calculations, as described in the section Methodology and Data and discussed in the section Results.

that the future tax rate will be constant at its 1996 level and that future real benefits will not be substantially reduced—assumptions incorporated in this article—may be responsible.

Calculations in this article do confirm Boskin and others' (1987) findings of a large intragenerational redistribution of income by marital status and earnings. Because it redistributes income, Social Security may be supported by a voting majority composed of retirees and low-income workers, as Tabellini (2000) suggests.

Bohn (1999) argues that Social Security and Medicare will survive the retirement of the baby-boom generation because current payroll tax rates will increase to finance "promised" pension benefits. He shows that, because of the increase in the median voter's age, Social Security outperforms a safe asset that yields a 3.7 percent real rate. However, when compared with a higher real rate of return (6.0 percent), Bohn's calculations predict that Social Security and Medicare will not be sustainable. This article challenges Bohn's conclusion by showing that for the median voter, the rate of return has ranged from 5.7 percent to 9.8 percent.

If the CIRR from Social Security exceeds the market rate of return, why does the median voter fail to increase the size of the system? To begin with, any median voter can only increase the current size of the system, not its future dimensions. Moreover, the gains from introducing a social security system accrue differently to successive generations. Cooley and Soares (1999) and Galasso (1999) suggest that the first generation of voters to introduce the system shares the gains with future generations. In contrast, Boldrin and Rustichini (2000) argue that the first generation extracts all the gains, leaving future generations of voters indifferent between keeping the system or dismantling it. This article begins with the 1964 election and thus cannot provide any information on returns for the median voter who introduced the system. Since

1964, however, returns from Social Security have been decreasing, indicating that later generations have obtained a worse deal than the initial ones.

Notes

¹ For a survey on previous work in the political economics of social security, see Breyer (1994), Galasso and Profeta (2002), and Persson and Tabellini (2000).

² Quoted from President Roosevelt's statement upon signing the Social Security Act, August 14, 1935.

³ For an extensive discussion of the U.S. Social Security system, see Myers (1993).

⁴ Except public employees already covered by some form of government retirement system.

⁵ Self-employed individuals' Social Security tax rate has been a percentage of the combined employee/employer tax rate for employed individuals.

⁶ Early retirement benefits can be claimed at age 62.

⁷ An analogous scheme applies to divorced spouses of insured workers, under certain conditions.

⁸ Prior to the 1983 act, men were entitled to smaller benefits than women (see Myers 1993, Appendix 3-2).

⁹ I concentrate on presidential rather than congressional elections, as they appear to be more representative because of the higher turnout; for example, 61.3 percent of the electorate voted in the 1992 presidential election, and only 45 percent voted in the 1990 congressional elections.

¹⁰ I abstract from the difference in survival probabilities across income, because the income range considered for the median voter is quite small.

¹¹ Since I use the earnings profiles obtained with 1994 data for all calculations, these profiles are implicitly assumed to be time invariant.

¹² The program is available online at www.ssa.gov/OACT/ANYPIA/anypia.html.

¹³ As shown in Chart 1, male and female workers have different age/earnings profiles.

¹⁴ This assumption is embodied in the ANYPIA program that estimates future OASI benefits.

¹⁵ See Boldrin and others (1999) for a discussion of a mixed social security system, which combines all these elements.

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