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Social Security is perhaps the most important government program of the XXth century. Not only it dominates the budgets of the richest countries but it is also the program that has experienced the largest growth rates over the last hundred years (the first social security program in the world was created by the “Iron Chancellor”, Otto von Bismark in 1889, so all the programs in the world have virtually grown from zero to their current size during the century). For example, largest federal program in the United States today is, by far, social security: the elderly receive public pensions from this one program totaling 22.4% of federal outlays and almost 5% of GDP. If we count other programs which are not direct pensions, but which are mainly enjoyed by the elderly, we can say that about 50% of the Federal Budget is dedicated to the elderly, which is close to 10% of GDP. And this numbers are small if we compare them with the ones we get in other OECD economies (to name a few, Italy spends 13% of GDP on the elderly, Sweden 16%, and Belgium 20%) or even some less developed countries like Brazil (7% of GDP).

The growth rates of these programs have also been spectacular, especially over the second half of the century. Back in 1950, social security represented only 1.8% of total spending and a 0.3% of GDP in the United States. If we add other programs mainly enjoyed by the elderly, the payments or subsidies to services used by the elderly was only 7.9% of federal spending (1.3% of GDP). One could argue that the explanation behind this growth is the increase in the number of elderly. This is far from true. In 1950 the number of citizens in the United States aged 65+ was 12.4 million (8.1% of the population) while in 1996, they were 33.9 million (12.8% of the population). The population share of the 65+ has therefore grown by a factor of 1.6. Without changing political influence, therefore, the fraction of Social Security would have increased by less than a factor of 1.6. However, the share of Social Security (narrowly defined) in GDP has grown by a factor of 15.6 while the share of all federal programs devoted to the retired has grown by a factor of 7. Demographics do not explain the extraordinary growth of the social security program.

As the new millennium starts, there is a lot of talk about reforming old age Social Security. Observers argue that the current demographic trends will render the program insolvent in one or two decades (as the number of old people increases both because of increasing life expectancy and because of the retirement of the baby boom generation and as the number of taxpayers declines, current benefits cannot be maintained with current taxes so the system needs to be “reformed”.)

Two important questions come to mind. First, is reforming Social Security desirable? That is, will the reform improve welfare for a significant number of people? Answering this question

is impossible without a positive theory of the creation and evolution of Social Security. For example, if we evaluate various reform proposals under the belief that Social Security plays a certain role (say, if we think that Social Security was created to make sure that the young “save enough” for their elder years), but in reality, Social Security plays another role (say, it was created to induce the elderly to retire so their jobs could be given to more productive young workers), then we may end up adopting the wrong reform: one which maximizes the rate of return, but keeps the elderly working!

The second question in evaluating reform is whether it is sustainable. Are the most popular proposals sustainable? In particular, is a “fully funded” system sustainable? Is an “individual accounts” system sustainable? An important reason to question the sustainability of fully funded reforms is that no Social Security program in history has been fully funded for any important length of time. At the same time there are several Social Security programs which were supposed to be fully funded, but were unfunded by the political system in short order. Take, for example, Chile’s original Social Security program, Germany’s original program, one of the original French programs, the first U.S. Social Security law (passed in 1935, scheduled to come into effect in 1937 and to be partially funded, but rescinded in 1939), and Sweden’s first system. A number of individual accounts systems have also failed to be politically sustainable, including those in Seychelles and Egypt and St. Vincent, the system for the American clergy, and some African and Caribbean Provident Funds².

To answer the question of whether reforms are sustainable, we also need to have a positive theory of social security that explains, not only

why Social Security exists, but also what are the social, economic, and political forces that create these programs, keep them in place and allow them to grow. In Mulligan and Sala i Martín (1999a, 1999b) we show that the 15 most popular models that are used in the literature are inconsistent with the main features of the data, so a new positive theory of Social Security needs to be constructed. The present research project is an attempt to do so. Before we discuss the theory, it is interesting to highlight the important features found in the many social security programs that exist around the world today.

1. Some Important Facts About Social Security

1.1. Some Internationally and Historically Common Design Features

Despite a large cross-country variation in the size of social security programs, there are certain design features that are fairly common across countries. We think that a good positive theory of social security ought to explain these common features. In other words, we can use these common features to theorize on the true reason behind the creation, existence and growth of social security programs around the world.

To investigate how different countries design their social security programs, we use the *Social Security Programs throughout the World*, published by the U.S. Social Security Administration (various issues). This publication reports the main rules and regulations governing the Social Security programs of 144 countries for a number of years. In this paper we use the data for 1995 and for those 89 countries with government finance data reported by the International

Monetary Fund to establish a number of interesting regularities on the way Social Security programs are designed³. Some of the summary statistics are displayed in Table 1.

Table 1's first row shows that the overwhelming majority of the programs throughout the world *induce* retirement in one way or another. Of the 73 countries for which this information was available, 55 (75%) induce the elderly to retire in order to collect their pensions. When considering the retirement incentives implicit in benefit formulas, four criteria are considered. First, we consider whether benefits in a given year at or after the earliest retirement age decline with labor income - a policy known as a "retirement" or "earnings" test. Second, for those countries with a retirement or earnings test, we consider whether benefits lost due to the test were credited towards benefits received after full retirement - a policy known as a "delayed retirement credit" (DRC). If there is a delayed retirement credit, we judged whether it was actuarially fair (namely, whether it was close to or greater than 8% per year)⁴. Countries with fair DRC's we judged not to induce retirement regardless of their use of a retirement or earnings test. Third, in countries with substantial and recent reforms, we attempt to assess whether retirees after the reform are covered by current formulas or formulas from previous laws. Two countries, Burundi and Peru, had pre-reform formulas inducing retirement and their reforms have formulas which do not induce retirement, but have not retired many people under the new formulas. Fourth, we classify the Netherlands as inducing retirement because, according to Kapteyn and de Vos (1997), the "unemployment" portion of Social Security is used as an old age pension. We suspect there may be other countries satisfying the final two criteria for induced retirement (i.e., Chile, Iceland,

Table 1
Social Security Program Design in a Cross-Section
of 89 Countries, 1995

Design Feature	% Countries
Social Security Benefits Induce Retirement _____	75%
<i>Of which:</i> - retirement required (no DRC)	48%
- retirement required (unfair DRC)	12%
- tax incentives for retirement (no DRC)	10%
- tax incentives for retirement (unfair DRC)	3%
- current retirees covered by previous law inducing retirement	3%
Social Security Benefits Do Not Induce Retirement _____	25%
<i>Of which:</i> - benefits paid at fixed age regardless of labor force status	22%
- "fair" credits paid to those delaying retirement	3%
- current retirees covered by previous law not inducing retirement	0%
Financed with Payroll Taxes _____	96%
Employers and employee share the tax _____	90%
Some Earnings exempt from payroll tax _____	32%
Payroll tax is capped _____	49%
Benefits increasing with taxes paid _____	85%
<i>Of which:</i> - proportional to taxes paid	14%
- otherwise increasing with taxes paid	72%
Benefits largely independent of asset income _____	89%
<i>Of which:</i> - small means-tested portion of program	10%
- entire benefit independent of asset income	78%
Pay-as-you-go _____	98%
<i>Of which:</i> - the entire old age system is "pay-as-you-go"	83%
- a substantial part of the old age system is "fully funded"	15%

Notes: (1) Constructed from 89 individual country data provided in *Social Security Programs Throughout the World 1995*.

(2) 16 countries had missing data regarding the inducement of retirement.

(3) "DRC" = delayed retirement credit

Singapore), but we do not tabulate them as such in Table 1.

While, according to these three criteria, Table 1 shows 75% of countries inducing retirement, we believe we have understated the prevalence of retirement inducing government policy. For instance, some governments may require employers to provide pensions that induce retirement. Switzerland is an example of this. Or union rules applying to all or a substantial fraction of the labor force may mandate retirement. This happens, for example, in Sweden. Gruber and Wise (1997) emphasize how European "disability" and "unemployment" programs are often induced retirement programs in disguise. Or formulas for crediting the earnings of those near retirement age toward future Social Security benefits may also act as an implicit tax on work by the elderly⁵. Government policies for providing health insurance may also induce retirement. A more detailed study might therefore show that 85 or 90% of governments induce retirement with Social Security and other policies.

44 of the 73 (60%) countries with available data do not pay any Social Security benefits to somebody employed and do not fairly credit the benefits lost due to employment to future retirement years. Among these, 35 countries pay no DRC at all. Nine countries pay Social Security benefits to elderly workers, but the benefit is reduced according to the amount of the beneficiaries earnings and not fairly credited towards future years. The 1995 United States formulas for those aged 65-69 is one of these nine countries, although current law *plans* to pay actuarially fair credits in the next ten years or so. For 1995, U.S. retirees, a 33% marginal tax rate is levied on the public pension of someone aged 65-69 earning more than \$12,500. If he is ineligible for any old

age pension or chooses not to collect one, then he earns some credit for later years when he does retire, but those credits are actuarially unfair enough that the U.S. earnings test is still an implicit tax on work⁶. The interesting fact is that the same person can make millions of dollars in the stock market and no taxes on his pension are imposed. He loses (part of) his pension only if he works!⁷ This kind of regulation is so overwhelmingly common across countries that we feel it ought to be part of any satisfactory theory of Social Security. Hence, a simple look at social security regulations around the world seems to indicate that the elderly are being discouraged from working.

This finding from Table 1 is important enough to reiterate with some examples of countries taxing the labor income of the elderly at 100% rates (a dollar of pension is lost per dollar earned). As of 1995, elderly Spaniards and Belgians are not allowed to collect their government pension if they earn any labor income at all and those benefits are typically close to or more than what the pensioner would have earned after taxes if he had kept working⁸. France allows pensioners to receive labor income, but not from their pre-retirement occupation (Blanchet and Pele 1997, p. 9, SSA 1997, p. 130). No Austrian under age 65 earning more than 3740 schillings/month may collect a public pension (= \$349/month, SSA 1997 p. 21). Furthermore, the size of the public pension benefits in these and other countries are nearly the size of the average worker's earnings - and therefore the range of income to which the 100% implicit tax applies is very large.

The second row in Table 1 shows that the majority of Social Security programs are financed with special payroll taxes: 96% of the countries do. In practice, this also means that for all these

countries, the Social Security program has its own program. For some reason, most Social Security countries in the world are not financed through the regular budget but, instead, through a special tax, which is usually a payroll tax.

The payroll tax is split between "employer" and "employee," although nearly all those countries with a payroll tax require some contribution by both parties. The fourth and fifth rows show that only 32% of the countries have exemptions in the Social Security tax while 49% have some kind of cap.

Row 6 shows that in 85% of the countries, the Social Security benefits are increasing with amount of years worked (and amount of taxes paid). Some countries pay benefits in proportion to lifetime taxes paid while others have more complicated formulas⁹. The seventh row suggests that in 89% of the countries, asset income is largely irrelevant for computing benefits (a few of them means-test a small portion of the old age benefit). This suggests that most programs are not designed as antipoverty programs¹⁰. Finally, the last row of the Table shows that the overwhelming majority of the programs (98%) have pay-as-you-go (PAYG) features. Of these, a fraction have full-funded much, but not all, of their program¹¹.

At least in the U.S., government spending on the elderly has historically taxed labor income more than asset income (if asset income were taxed at all). The 1935 report of the Committee on Economic Security appointed by President Franklin D. Roosevelt recommended that no benefits be paid before a person had 'retired from gainful employment.' Before 1950, U.S. Social Security mandated retirement (i.e., monthly earnings less than \$15) for Social Security beneficiaries but did not have asset income tests. Although

relaxed slightly, earnings limits were still effectively a “retirement mandate” until 1972. Prior to the 1970s, state administered old age assistance programs typically (implicitly) taxed earnings at a 100 percent rate, although they also had asset income tests. Union army pensions did not have an asset income test. Nor did the Union Army pension have explicit earnings and employment tests, although nonemployment was probably “viewed by employees of the Pension Bureau as evidence of an inability to perform manual labor”, and such evidence was required to obtain a pension¹².

The main lesson from cross-country and historical comparisons of programs for the elderly is that Social Security programs appear to be strongly related to *labor markets* - “contributions” are a function of labor income, while benefits are a function of labor income and labor force status. A good theory of Social Security ought to explain why the elderly are either forced or induced to stop working before they can collect their pensions, why these pensions are almost always financed with payroll taxes, and why they are not related to how rich the recipient is.

2. Our Economic Approach to Gerontocracy and Social Security

We take a political-economy approach to explain the existence and success of social security alongside the great political success of the elderly: gerontocracy and social security go hand and hand. In case there were still any doubt about it, we point out that several researchers have found that political forces sustained and expanded government spending for the elderly. Costa’s (1998, Chapter 8), Holtzman’s (1963), and Pratt’s (1976) historical accounts, for example,

suggest that well-organized pressure groups were essential for the emergence and growth of American Social Security as well as earlier state old-age assistance and Army pension programs. In fact, those groups include the Grand Army of the Republic and the Townsends, and are among the more famous political pressure groups in American history.

But why are the elderly so successful in the political sector? It can be argued that the elderly “deserve” help from the government. However, many groups “deserve” help and subsidies yet governments do not always subsidize them. What do the elderly have that poor single mothers, blacks and other minorities, poor women, poor men or other groups that (in principle) deserve help do not have? Political theories based on the median voter are not likely to explain the political success of minorities like the elderly¹³. On the other hand, versions of interest group models of Becker (1983, 1985), and Peltzman (1980) do not really answer why one minority might have more influence than another. We explain the success of the elderly, and hence social security, by looking at the links between time allocation and political activity.

The precise assumption and derivations of the model are presented in Mulligan and Sala i Martín (1999c). Here, we provide an intuitive explanation of the main point. Following Becker (1983, 1985), we consider a “political influence function” which allows each of the groups to get a lump sum transfer from the other group. Unlike Becker, we assume that the size of the transfer is an increasing function of the relative *time* devoted to lobbying and to other political activities. Redistribution requires political, moral, and social pressure and that this pressure is related to an allocation of time by program beneficiaries. In

particular, we argue that an **interest group's political influence depends on the amount of non-working time enjoyed by its members.**

Besides the obvious interpretation (citizens who do not work have more time to spend on political activities), one important reason for this is that a group of citizens without jobs is probably more "homogeneous" in its political concerns than a group of citizens with jobs. Those with jobs are likely to be from different occupations and industries, each with its own unique political concerns. Each political group faces a free riding problem since none of its individual members has sufficient incentives to allocate his time to best serve the interests of his group. In an attempt to overcome this free riding problem, political groups may want to impose a "tax" on the labor income of its own members in order to induce them to "retire" so that they can spend some additional leisure time lobbying for the group.

Define $f(\bar{l}_o, \bar{l}_y)$ to be the fraction of potential GNP transferred from the young to the old ($f < 0$ means transfers from the old to the young). That is, the transfers that the elderly get depend on the time they devote to political pressure, which is an increasing function of their leisure time, \bar{l}_o . The transfer also depends (negatively) on the political pressure of the young, which is also a function of their leisure time \bar{l}_y . In other words we assume $f_1 > 0, f_2 < 0$. We assume that if the two groups devote equal effort to lobbying, no transfers are made so $f(\bar{l}, \bar{l}) = 0$. We also assume that the function f is "symmetric" in the sense that $f(a, b) = -f(b, a)$. The symmetry of the influence function means that the "political technology" favors neither the old nor the young.

In the absence of social security taxes and transfers, the two groups choose the same amount of work and leisure. Since when $\bar{l}_y = \bar{l}_o = \bar{l}$

there are no transfers ($f(\cdot)=0$), it follows that we are giving the two groups the *same fundamental political power*. And we do so because we want to show that a social security scheme with a higher political power for the elderly may arise, even if the *old and the young have the same underlying fundamental political power*.

Our version of the model can be formulated as three stages taking place during each "period":

- **Stage 1** Each interest group chooses labor income tax rates for its members, taking into account the effect of taxes on the political participation and utility of its members and on decisions by interest groups representing its members in the future. Each interest group takes the actions of nonmembers and its own past actions as given.

- **Stage 2** Each cohort of individuals chooses current consumption and leisure, taking current and future prices, tax rates, and subsidies as given.

- **Stage 3** Given the amount of redistribution in the previous period, a period's aggregation of leisure by interest group determines the pattern of lump sum taxes and subsidies across interest groups for that period. Holding constant the behavior of interest groups at each date, transfers across groups tend to persist over time.

In Mulligan and Sala i Martín (1999c), we show that the political group with a lower wage has larger incentives to impose retirement-inducing taxes on its members. The intuition is that a high productivity in the labor market is also a high opportunity cost of engaging one's time in political activities. Thus, people with higher wages will tend to spend less time in political

activities. If this were the end of the story, we would be predicting that groups with low wages (like the poor or women) will tend to be more powerful and be able to extract the most resources of the political process. In other words, this would not be a theory of redistribution between young and old (social security).

An additional ingredient of our theory is the fact that political institutions (such as social security) may be *persistent* so the policies and laws enacted today may still be in place in a few years. In the meantime, however, people may switch from one political group to the next. It is clear that the group whose members have a lower probability of switching to competing groups will have a better chance of winning the political process. What makes the elderly more successful than other groups with lower wages (like women or blacks) is that the young eventually become old, while most men do not become women (although some might), most whites do not become black (although some might). Hence, transfers to these particular groups are opposed more strongly than transfers to the elderly.

In sum, our theory explains why the elderly have more political power (*gerontocracy*), why they retire (*retirement*), and why they get transfers (*social security*). The chief reasons are that the elderly have low wages relative to the young (especially in economies that enjoy economic growth so each generation has higher wages than the one before) and that public institutions tend to persist (which means that, we will all become old while there is a good chance that Social Security still exists, so we do not have incentives to fight against an institution that will eventually benefit us).

3. Policy Implications of our Theory:

3.1. The Elderly are Politically Powerful

We do not need fancy econometrics to see that the elderly have a large political clout in most countries. When it comes election time, politicians of all colors propose reforms of various parts of the government. No party and no candidate ever dares to play around with social security in fear that the elderly, a very uniform group, will vote against them. A few days before the election, some candidates falsely accuse other candidates of attempting to reduce pensions in order to get the vote of the retired. Some times, this strategy has worked.

Fortune magazine recently conducted a poll of 329 Washington “insiders”, “including members of Congress, their staffs, and senior White House officials”¹⁴. Respondents were asked to rank the clout in Washington of 120 interest groups, labor unions, and trade associations and to assess the importance of a list of lobbying techniques¹⁵. The American Association of Retired Persons ranked most powerful. Two of the three top rated lobbying techniques were “having *active* allies in a Congressman’s district” and “mobilizing *grassroots* action, such as phone calls and letters”. A successful group has “large numbers of geographically dispersed and politically active members who focus their energies on a *narrow range of issues*”. Three of the worst four techniques involved expenditures of *money* rather than time¹⁶.

The AARP is only one example of an interest group of *retirees* lobbying for public pensions¹⁷. In many European countries, labor unions are important lobbyists for public pensions, and those unions are heavily influenced by retirees. American unions have also served (and continue

to serve) this purpose, although to a lesser extent. They have lobbied for increases in public Social Security benefits¹⁸, benefit formulas encouraging early retirement, and public health benefits. American unions have also encouraged national and union political activity by their retired members, and that activity has influenced pension policy¹⁹.

3.2. Designing Social Security Programs with “Persistence Features”

An interesting implication of our theory of social security is that the elderly understand that the program is more likely to be successful if it is designed with some “persistence features” (features that increase the probability that social security will “still be there” when the current young retire). The main objective of these features is to lower the degree of opposition of the young.

For example, it is easy to imagine that it will be harder to eliminate a program in the future if everyone thinks that the program “owes” to the people who have “contributed” to it. In other words, tomorrow’s old will have an easier time “convincing” tomorrow’s young that keeping social security is good if they can argue that the old paid a lot when they were young and that they “deserve” some money back. This may explain why most social security budgets are separate from the regular government budget and why they are financed with payroll taxes (rather than from general revenue): even though the money paid by the young has already been spent to finance the old, the fact that social security has its own budget and the fact that workers pay social security taxes separately from their other taxes strengthens the political perception that tomorrow’s elderly deserve the benefits as a matter of right. Hence, tomorrow’s young will have

to fight a lot harder if they want to get rid of the program. An important point of our theory, however, is that tomorrow’s young will still be able to eliminate social security if they fight hard enough since promises cannot be enforced inter-generationally.

Another design feature that we may be able to explain is the parallel creation of “trust funds” along with the regular transfer programs. The original Social Security Act in the United States (enacted in 1935 and amended in 1939) allows for the accumulation of a trust fund that would grow substantially over the following decades. The stated purpose of this parallel trust fund is that the interest payments would allow benefit payments to exceed revenue collected through payroll taxes. Our theory may explain the creation of such funds as a “persistence feature”: the trust fund is a way to tell the young that people may still be able to collect benefits for a few more decades after the future young refuse to pay social security taxes. In other words, it is a way to introduce persistence (although imperfect because the difficulty with enforcing promises) that makes the program successful by reducing the opposition of the young.

3.3. Increased Life Expectancy and Reduction of Retirement Age

In the discussion of the previous section, the number of elderly is fixed and the amount of time they live is constant (they live one period). In that setup, we show that a critical feature explaining the success of the elderly is the probability that members of other groups will belong to the old group in the future. Holding constant the definition of “old” (say, people above age T), an exogenous increase in life expectancy will increase the probability that today’s young eventually

become old thereby increasing the probability of success of the social security program. Similarly, an exogenous reduction in the “retirement age” (and by this we mean the age in which people are eligible to collect their social security benefits) could also be viewed as a way to increase the probability that the young eventually switch groups.

3.4. Forced Savings may Increase Intergenerational Redistribution

Kotlikoff and Sachs (1998), Feldstein and Samwick (1997), Gramlich (1996), and others have suggested that the United States implement a “forced savings” program. It is presumed that the introduction of such a program would result in less intergenerational redistribution by the government. The question, however, is whether this assumption is consistent with the political, social, and economic forces that produced intergenerational redistribution in the first place. Our theory of the economic origins of gerontocracy offers a negative answer to this question.

The forced savings proposals usually take the form of a proportion of earnings that accumulate interest and are returned to the worker in the form of, say, an annuity that pays beginning on his or her 65th birthday. If leisure is a normal good, we can prove three results:

- (i)** Forced savings increases leisure by the old.
- (ii)** The tax rate chosen by the old lobby falls (because more leisure by the old decreases their marginal political product) or stays fixed (if pressure function is linear).
- (iii)** Forced savings decreases leisure by the young and increases the transfer from young to

old. That is, the total redistribution across generations actually increases.

We see, therefore, that proposals of “privatization” that intend to reduce intergenerational redistribution, proposals that are based on the wrong theory of social security may actually backfire and end up generating even more intergenerational redistribution.

4. Summary

We introduce a very simple model of time-intensive political competition. Despite its simplicity, it explains a number of “facts”:

- 1.** The young pay the old and the system redistributes across cohorts. This fact is explained by our theory because the old guys are the winners of the political game since they benefit from the persistence of institutions and tend to have lower wages.
- 2.** Social security benefits tax work by the elderly. In other words, we can explain why Social Security programs induce retirement or force the old to retire.
- 3.** Social security is financed with special payroll taxes. Our explanation is that payroll taxes and the existence of a special social security budget introduces the perception among workers that the program will persist.
- 4.** Social security as a fraction of GDP is positively correlated with economic growth because growth means that the old generations make less money than the young.
- 5.** Social security as a fraction of GDP is posi-

tively correlated with social security retirement incentives. The larger the retirement incentives, the more powerful the elderly are, which increases the fraction of GDP they can extract through the political process.

6. Social security is not means-tested because social security has nothing to do with alleviating the poverty among the old. Social security is a political game that is won by the old.

7. The old are politically more active, because they retire and political activities take time.

8. The old are more single-minded in their political activities. Since the elderly retire, the range of “issues” that worries them is smaller, which is what could be called “political single-mindedness”.

9. Holding constant economic performance, democracies and nondemocracies do not have different social security programs. Our theory is consistent with this fact because it does not rely on “majority” decisions or other decisions that are specific to democracies.

10. Other groups also receive transfers. Our theory is consistent with other groups also receiving transfers.

11. Other subsidized groups are less successful than the elderly. The main reason is that the probability that a woman, a poor or a black becomes a man, a rich or a white, is the same that the probability that a man, a rich or a white becomes a woman, a poor or a black. The same is not true for the aged: the probability that a young becomes old is one, while the probability that the old become young is zero. This means that, if public institutions tend to persist, the old

will face lower opposition than ANY other group so they will become politically more successful.

12. Social security is administered and financed by the government because its main purpose is not to induce the young to save (as many economists wrongly believe) but to redistribute across cohorts as a result of the political game.

13. Social security can be “too generous,” allowing the old to enjoy as much or more consumption and leisure than do the young because, again, social security is the “prize” that the old obtain for winning the political game.

14. Social security has its “own budget” so that taxes paid as young create a feeling of entitlement.

15. Fully funded and/or individual accounts systems often do not last because they do not provide the intergenerational redistribution that social security is created to provide.

We report and cite a number of empirical results that begin to establish these facts, although more empirical research is needed to further describe the nature of public sector intergenerational transfers in the U.S. and abroad. In addition to explaining some of the international history of social security, we offer predictions for the effects of some proposed social security “reforms.”

Although we sometimes exposit our model as if the old were literally engaged in a time-intensive battle with the young, we offer a number of other interpretations. In particular, we argue that less work may be related to more political power if we interpret the lack of work as a measure of political *single-mindedness*. This can be cast in a probabilistic model of voting where the people

who work have a job-specific preference for a particular political party (they have strong political views on things that are not the pension), while people who do not work worry about the pension only. Politicians do not know whether these biases are in their favor or against them. But they know that if they are in their favor, they can tax the people with strong biases substantially before they switch to the other party. And if they are against them, they would have to offer them large transfers before swinging their vote. Hence, the politician will get more votes for the money if he offers the transfer to the group with few workers, namely, the retirees. In common parlance, those who are not employed are more “single-minded” with regards to transfers across age groups – a small change in the age transfers has a relatively large effect on their votes. As every politician knows – and has been proved in the probabilistic voting literature– the vote-maximizing candidate treats more generously the more single-minded groups.

Noneconomists sometimes believe that there are a fixed number of jobs in the economy and that encouraging retirement is efficiency enhancing because unemployed young are able to find jobs while the old enjoy a leisurely retirement²⁰. Economists usually consider such beliefs to be nonsense, but our model explains why this nonsense is so much more successful than other nonsensical theories. In our model, public pensions inducing retirement are inefficient from an aggregate point of view. If such a policy were, say, introduced because policymakers mistakenly think it to be efficient, it would not be outcompeted by more efficient policies as in Becker (1983) and Wittman (1995), but would instead reinforce the political power of those benefiting. Hence, the “economic nonsense” could lead to a large and persistently inefficient public pension pro-

gram. The causality could also be in reverse, with retirement and other sources of growth of elderly political power leading to attempts by the elderly to convince or “trick” the young into believing the economic nonsense that old age pensions benefit people of all ages. Using the pressure function f , our mathematical model includes the possibility that political activity by the elderly leads to economic nonsense.

The reader may wonder whether a person would tolerate a tax on his work in order to increase the political power of his pressure group. In fact, there are other instances of this type of behavior. Mancur Olson (1971), for example, points out that a union member does not like to attend his union meetings (he has other things that he would like to do with this time) but that same union member favors union rules encouraging attendance at meetings. And those rules are often of the form of a fine for those not attending meeting - in other words, a tax on uses of time hurting the group’s collective interest. It has puzzled some observers that a union member simultaneously dislikes attendance but favors rules encouraging attendance by fellow members (see, for example, the study cited by Olson, p. 89-90) but, according to the economic approach to group behavior, these union rules and the social security rules we have emphasized are quite understandable.

Footnotes

(1) This document is based on a joint research program with Professor Casey B. Mulligan of the University of Chicago.

(2) See references in Mulligan and Sala i Martín (1999c)

(3) See also Sala i Martín (1996)

(4) For countries whose Social Security systems looked like retirement savings accounts ("Provident Fund" systems), we judged whether the rate of return paid on the fund was comparable to a market return. Countries with both a retirement test and, in our judgement, "unfair" returns are: Nepal, Sri Lanka, Tanzania, and Zambia. India has a Provident Fund which may pay a fair return, but it is only part of its Social Security system. Only Malaysia has a Provident Fund with a retirement test but paying apparently fair returns (and thereby not inducing retirement). Other Provident Funds do not have a retirement or earnings test and hence were judged not to induce retirement regardless of the fairness of the return.

(5) Palme and Svensson 1997 suggest this is the case for Sweden.

(6) There is substantial amount of evidence in the labor literature showing that Social Security regulations induce retirement (for micro studies see Pechman, Aaron and Taussig (1968), Boskin (1986), Boskin and Shoven (1987), Kotlikoff and Wise (1987). For cross-country studies, see Gruber and Wise (1997) and Modigliani and Sterling (1983).)

(7) Beginning in 1984, some U.S. Social Security benefits are taxable for those in roughly the top decile of personal taxable income distribution. This provision produces a system similar to one where benefits are not taxable but are subject to a slight asset income test.

(8) Boldrin et al 1997 p. 16, SSA 1995 p. 330, Pestieau and Stijns 1997, p. 9.

(9) The link between benefits and taxes paid can be imperfect in these countries because low earnings workers may enjoy proportionally more benefits, because governments revise benefit formulas and coverage rules, and other reasons.

(10) See Mulligan and Sala i Martín 1999a and b for a more careful analysis of this point.

(11) A fully-funded system can continually pay retirees according to their lifetime taxes plus interest without raising tax rates. A pay-as-you go system pays retirees according to the labor income taxes levied on the young, which typically means returns a less than "fair" unless labor income tax rates increase over time.

(12) Costa 1998 p. 44.

(13) See Mulligan and Sala i Martín (1999a).

(14) December 8, 1997, p. 146.

(15) Each list presented to the respondents was chosen by a panel of experts which included "members of Congress, professional lobbyists, academics, congressional staff, and pollsters" (p. 158).

(16) "Buying TV, radio, and print ads to promote your cause," "spending lots of money on issue-oriented ads for or against a Congressman," "retain high-priced, gun-for-hire lobbyists."

(17) Although, proof of retirement is not required for AARP membership, AARP attracts members with vacation travel discounts and emphasizes volunteerism (<http://www.aarp.org/>) - which are disproportionately attractive to the retired.

(18) Clague et al 1971, p. 5

(19) Clague et al. pp. 39, 124; Deaton 1989 p. 148

(20) See Townsend 1943, pp. 189-92 for one of many examples.

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