Design Choices in Privatized Social-Security Systems: Learning from the Swedish Experience

By Henrik Cronqvist and Richard H. Thaler*

In the 2000 U.S. Presidential campaign, George W. Bush advocated a partial privatization of the Social Security system. According to his plan, a portion of the payroll tax would be designated for individual savings accounts. At the same time as this issue was being debated in the United States, Sweden was in the process of launching a system that is very similar to President Bush's proposal. Although Bush's plan did not get much attention in the early years of his administration, the proposal may resurface either in the United States or in other countries. If so, important lessons can be learned from the Swedish experience. In particular, the Swedish plan adopted an interesting mix of design choices that can now be evaluated based on three years of post-implementation experience.

Although there is a large literature in economics on the design of social-security systems, most of that literature is concerned with macroeconomic considerations such as funding. In contrast, there has been much less attention devoted to the details of how plans might be designed, in part because these details do not seem important from a standard economic perspective. In this paper, we reverse this usual pattern and focus our attention on the design aspects of the Swedish plan. We find that, although most of the design choices are those that might be approved by most economists, in some cases these choices produced undesirable consequences.

I. Design of the Swedish Privatization Plan

If one were to pick a single phrase to characterize the design of the Swedish plan it might be "pro choice." At almost every stage the designers used a laissez-faire approach. In particular, the plan has the following features:

(i) Participants were allowed to form their own portfolios by selecting up to five funds from an approved list.
(ii) One fund was chosen (with some care) to be a "default" fund for anyone who, for whatever reason, did not make an active choice.
(iii) Participants were encouraged (via a massive advertising campaign) to actively choose their own portfolios.
(iv) Both balances and future contributions can be changed at any time, but unless some action is taken, the initial allocation determines future contribution flows.
(v) Any fund meeting certain fiduciary standards was allowed to enter the system. Thus, market entry determined the mix of funds participants could choose from. As a result of this process, there were initially 456 funds to choose from.
(vi) Information about the funds, including fees, past performance, and risk, was provided in book form to all participants.
(vii) Funds set their own fees (except for managers included in the default fund, whose fees were negotiated).
(viii) Funds (except for the default fund) were permitted to advertise to attract money.

From the perspective of standard neoclassical economic theory, none of these design choices appears to be controversial. The combination of free entry, unfettered competition, and free choice seems hard to quarrel with. However, if participants are not well informed or highly motivated, then maximizing choice may not lead to the best possible outcome. An alternative approach to maximizing choice is to adopt what Thaler and Cass R. Sunstein (2003) call "libertarian paternalism." The idea is for the program designer to create an environment in which unsophisticated participants are gently

* Graduate School of Business, University of Chicago, 1101 E. 58th Street, Chicago, IL 60637. We thank Morningstar, the National Social Insurance Board of Sweden, and the Premium Pension Authority for providing us with data. Cronqvist thanks Torsten och Ragnar Söderbergs stiftelser for financial support.

guided in a manner that is intended to make them better off without restricting the freedom of the more sophisticated participants. Here we use the Swedish experience to illustrate how the libertarian paternalist approach can guide policy choice.

II. The Default Fund

A lesson that economists are beginning to learn is that the choice of a default option can be extremely important. For many reasons, including status quo bias (William Samuelson and Richard J. Zeckhauser, 1988), laziness, procrastination, and so forth, when one option is designated as the default, it will attract a disproportionate market share. Plan designers must then be very careful when selecting a default option. In the Swedish social-security privatization context there are a range of options that could have been considered. Some of these include the following:

(A) Participants are not given any choice: the default fund is the only fund offered.
(B) A default is picked, but its selection is discouraged.
(C) A default is picked, and its selection is encouraged.
(D) A default is picked, and its selection is neither encouraged nor discouraged.
(E) There is no default option; participants must make an active choice, or they forfeit their contributions.

This list is meant to be suggestive of some possible options and is certainly not exhaustive. The first point to notice is that there are many reasonable alternatives to consider. The Swedish designers elected option B, but it is not obvious that this choice is better than (say) options C, D, or E. If the plan designers think that participants will typically do well choosing for themselves, then perhaps E should be preferred to B.[1] Alternatively, if the planner thinks that participants would typically be better off with the default than with their own mix, then C (or even A) might be better.

In any case, the Swedish plan adopted a version of plan B; participants were actively encouraged to choose their own portfolios via an extensive advertising campaign. This advertising effort seems to have had the desired effect since two-thirds (66.9 percent) of participants did select a portfolio on their own. (Participants were more likely to make an active choice if they had more money at stake, and holding money constant, women and younger participants were more likely to make an active choice.)

Of course, 33.1 percent allocated to the default fund might seem to be a big number, not a small one. It was, in fact, the largest market share of any fund. Still, a sense of the impact of the campaign to encourage active choosing can be inferred by what has occurred in the three years since the plan was launched. Everyone who was then in the labor force had to choose a portfolio in 2000. Since 2000, new workers (mostly young people) have joined the plan, and they were also asked to choose a portfolio. However, efforts to encourage active choosing have diminished. After the initial enrollment period, the government significantly reduced its advertising expenditures, as did the funds trying to attract investments. Interestingly, the proportion of people choosing their own portfolios fell as well. For those workers joining the plan in April 2003 (the most recent enrollment period) only 8.4 percent of workers selected their own portfolio. Since these new participants are primarily young workers, this percentage is most usefully compared with that of workers who were less than age 22 when the plan was launched in 2000. That group chose their own portfolios 56.7 percent of the time in 2000, less than the aggregate, but much more than now.

III. Are Active Choices Better?

We have seen that the government's efforts to get participants to make active choices during

[1] Option E might be difficult to implement since inevitably some participants will fail to respond to attempts to reach them (perhaps because they are out of the country, ill, unable to communicate, etc.). Cutting such people off from all benefits is probably not a politically acceptable solution. For a discussion of required active choosing, see James J. Choi et al. (2003).

the initial launch period had the intended effect. The next question to ask is whether the participants were made better off by choosing their own portfolios. Although the usual presumption in economics is that individuals are best equipped to choose what is in their best interest, recent research calls that presumption into question. For example, Shlomo Benartzi and Thaler (2002) asked participants in a retirement plan to compare the projected distribution of returns from three alternative portfolios, one of which, unbeknownst to the subjects, was their own portfolio. Most of the participants preferred the median portfolio of their co-workers to the one they had picked for themselves. Therefore, it should not be a foregone conclusion that the portfolios the participants picked for themselves are better, in some sense, than the default fund.

Since we do not know the participants' utility functions and do not have information on their other investments, it is not possible for us to say anything definitive about how good a job they did picking a portfolio. Still, it is possible to compare the portfolios people elected with the default fund on some dimensions that rational investors might value, such as fees, risk, and performance.

The default fund appears to have been chosen with some care (see Table 1 for details). The asset allocation is: 65 percent foreign (i.e., non-Swedish) stocks, 17 percent Swedish stocks, 10 percent inflation indexed bonds, 4 percent hedge funds, and 4 percent private equity. Across all asset classes, 60 percent of the funds are managed passively. Specifically, all of the North American exposure is indexed, as is 50 percent of the investments in Europe and 25 percent of the Swedish holdings. One reflection of this high proportion of indexing is that the expense ratio for the fund is very low: 0.17 percent. Finally, investments outside of Sweden were partially (50 percent) hedged using derivatives to protect against currency risk relative to the Swedish kroner. Although some might consider both the equity exposure and proportion invested in Swedish stocks too high, this was certainly an intelligently designed default fund, and an attractive investment option on an *ex ante* basis.

To see how the active choosers did as a group, we have calculated the comparable figures for the mean aggregate portfolio (see Table 1).[2] There are several points of interest in this comparison. First, although the allocation to equities in the default plan was quite high, it is even higher in the portfolios actively chosen: 96.2 percent. Second, there is a substantial "home bias" (Kenneth R. French and James M. Poterba, 1991) reflected in the active choices: 48.2 percent of the money is invested in Swedish stocks.[3] Third, only 4.1 percent of the funds in the selected portfolios were indexed. Fourth, the fees for the active choosers are higher: 77 basis points.[4] In summary, those who selected

TABLE 1—COMPARISON OF THE DEFAULT FUND AND THE MEAN ACTIVELY CHOSEN PORTFOLIO

	Percentages[a]	
Portfolio characteristic	Default	Mean actively chosen portfolio
Asset allocation		
Equities	82	96.2
Sweden	17	48.2
Americas	35	23.1
Europe	20	18.2
Asia	10	6.7
Fixed-income securities	10	3.8
Hedge funds	4	0
Private equity	4	0
Indexed	60	4.1
Fee	0.17	0.77
Beta	0.98	1.01
Ex post performance	−29.9	−39.6

Notes: The table compares the default fund and the mean actively chosen portfolio. The data on the asset allocations are from data on funds' holdings from Morningstar. Fee is the yearly expense ratio as a percentage of fund assets. Beta is the beta from regressing monthly returns on Morningstar's comparative index for a fund over a three-year post-reform period. *Ex post* performance is returns over a three-year post-reform period (31 October 2000 through 31 October 2003). Funds' market shares following the portfolio choices in year 2000 have been used as weights to calculate the characteristics of the mean actively chosen portfolio.

[a] Except for entries in the row for beta.

[2] We are conducting a detailed analysis of individual portfolios. This will be reported in future research.

[3] For the sake of comparison, in 2000 Sweden represented about 1 percent of the world market capitalization, North America about 50 percent, and Europe (excluding Sweden) about 30 percent.

[4] This fee is the average fee reported by funds in the information book supplied by the government. Subsequently, funds offered some discounts not reflected in this reported fee, and the actual fees paid by participants averaged 57 basis points. We report the 77-basis-points number

portfolios for themselves selected a higher equity exposure, more active management, much more local concentration, and higher fees.

It would be hard to make the case on an *ex ante* basis that the actively selected portfolios were better than the default fund. Furthermore, although three years of returns does not prove anything, the default fund has done better *ex post* as well as *ex ante*. The returns for the first three years (31 October 2000 through 31 October 2003) for the default fund were −29.9 percent, while the actively chosen funds lost 39.6 percent. Indeed, the performance of the default fund has been so good over this period that the fund-rating service Morningstar recently awarded the fund its highest five-star rating (compared to other "global" funds).[5] In contrast, the aggregate portfolio selected by participants would probably have received three stars if it were considered a single global fund.

One interesting feature of the Swedish experience is that the launch of the fund occurred just as the bull market in equities (and bubble in technology stocks) was reaching an end. Although it is impossible to say with any precision what effect this accident of timing had on the choices people made (or even the decision to launch the privatization program) there are some strong hints in the data. We have already noted that the actively chosen portfolios had an equity exposure of 96.2 percent. Had the launch occurred just two years later, the proportion invested in stocks would likely have been lower. A good comparison is with new participants in 401(k) plans in the United States. In retirement savings plans managed by Vanguard, participants who enrolled near the market peak, in 1999, were still contributing 72 percent to equities as of June 2003. Yet, for those who enrolled in the first six months of 2003, the allocation to stocks was just 48 percent.[6]

Not surprisingly, the investments were also tilted toward technology stocks. To give one illustrative example, the single fund that attracted the largest market share (aside from the default fund) was Robur Aktiefond Contura which received 4.2 percent of the investment pool. This fund invested primarily in technology and health-care stocks in Sweden and elsewhere. Its performance over the five-year period leading up to the choice was 534.2 percent, the highest of the 456 funds in the pool. In the three years since the launch of the program it lost 69.5 percent of its value.

The finding that the investments of participants are influenced by recent returns in various segments of the market implies that the timing of the launch of the program can have a strong impact on the asset allocations of the participants. This effect can be long-lasting because very few participants have altered their portfolios. In the first three years, the percentages of participants who made no changes to their portfolio during the year were 98.3, 97.3, and 96.9, respectively. Inertia has also been found in U.S. 401(k) plans (see Samuelson and Zeckhauser, 1988; John Ameriks and Stephen P. Zeldes, 2001). The combination of paying undue attention to recent returns in the initial asset-allocation decision plus inertia implies that the accident of timing (when the new system is launched) can end up having a profound impact on the investments that participants choose.[7]

IV. Conclusions

If there is a single conclusion from this analysis it might be that economists need to pay greater attention to the old expression: "the devil is in the details." Many of the choices made by the designers of the Swedish reform had consequences that may have been unanticipated. Perhaps one indication of this is that the government has now explicitly decided to end its efforts to encourage active choosing by participants.

If the United States adopts a similar partial privatization of its own Social Security system, many lessons can usefully be learned. Since the U.S. economy is more than 30 times bigger than

because that is the fee that participants thought they were selecting.

[5] Part of the good returns to the default fund can be attributed to its fortuitous decision to hedge currency risk over a period in which the kroner has appreciated relative to the dollar.

[6] Thanks to Steve Utkus at Vanguard for providing these data.

[7] Perhaps "accident of timing" is the wrong phrase, since a privatization plan is more likely to be launched after a prolonged bull market than after a bear market.

Sweden's, if a similar free-entry system were adopted here the number of funds would likely be in the thousands. Surely that cannot be the optimal number of choices. It might well be better to go in the opposite direction and give investors a very small number of options. For example, there might be just three funds, similar to the Swedish default fund, but with varying levels of risk. Managers would compete for the business of running components of the (largely passive) portfolios. Competitive bidding would lead to tiny fees paid to the portfolio managers.[8] A more radical plan would be to offer just a single fund. Although such a plan seems unattractive to many economists and some politicians, it has a lot going for it. Administrative costs (0.30 percent per year in the Swedish system) would be considerably lower if there were no need to accommodate individual choice in so many individual accounts, many of which are small, at least initially. Also, the Swedish experience shows that apparent benefits of providing choice can be illusory. Over 90 percent of those participants now joining the plan are choosing the default plan, and a tiny percentage of participants make any changes to their portfolio. With so few participants exercising their right to choose, is it a worth spending the extra money to offer choices? Furthermore, even sophisticated investors who may be capable of making a sound, rational investment choice on their own are little harmed by being forced to include some of the hypothetical default fund (a low-cost blend of global stocks and bonds) in their total retirement savings portfolio. They can adjust their overall asset allocation elsewhere. In this sense, the participants who would most gain from having choice simply make their choices elsewhere.

One implication of having just one (or a few) government-administered (but privately managed) fund is that private advertising would not play an explicit role in determining the asset allocation choices of the participants. Although in principle such advertising could play a helpful role in informing individual choices, Cronqvist (2004) finds that only a small percentage of the ads in the Swedish campaign could be construed as "informative." Rather, the Swedish experience suggests that the overall effect of advertising is to exacerbate (rather than eradicate) any biases the individual investors might have. We have seen that the portfolios individuals formed themselves seemed heavily influenced by recent returns (an extrapolation bias) and by a preference for investing at close to home (a "familiarity" bias). This is a useful reminder of a general point: markets can actually increase the biases individuals display in nonmarket settings.

[8] Large-cap index funds can earn fees by lending out some of their shares to short-sellers, and thus charge nothing (or less!) to very large investors.

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