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**Written Statement
for the
Senate Finance Committee**

**Hearing on
Retirement Security: Picking Up the Enron Pieces
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**Retirement Security and Defined Contribution Pension Plans:
The Role of Company Stock in 401(k) Plans¹**

by

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1 Introduction

Chairman Baucus, Ranking Member Grassley, members of the committee. I am Jack VanDerhei, a faculty member in the risk insurance and health care management at the Fox School of Business, Temple University, and research director of the Employee Benefit Research Institute Fellows Program.

1.1 Objectives of the Testimony

My testimony today will focus on retirement security and defined contribution pension plans with special emphasis on 401(k) plans with company stock. This draws on the extensive research conducted by the Employee Benefit Research Institute and on the EBRI/ICI 401(k) database. Portions of this testimony borrow heavily from a recent publication I co-authored with Sarah Holden of the Investment Company Institute, "401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2000," *EBRI Issue Brief*, November 2001.

2 Defined Benefit/Defined Contribution Trends

More than a quarter-century ago, Congress enacted the landmark law that still governs employment-based retirement plans in the United States. The Employee Retirement Income Security Act of 1974 (ERISA), after more than two decades of amendments and regulatory embellishments, remains the basis of the federal government's approach to retirement plan regulation. Widely praised for achieving its goal of greater retirement security for those American workers who have pensions, it is simultaneously criticized for contributing to the demise of the traditional defined benefit corporate pensions that it was created to secure and encourage. The number of these traditional pension plans has sharply declined, while new forms of defined benefit plans have increased their position of dominance.² These new plans include cash balance plans,³ which are technically defined benefit plans but are often more readily understood by employees as a result of their use of "individual accounts" and "lump-sum distributions," and defined contribution plans, which are typified by the 401(k).

The decline in traditional defined benefit plans has been well-documented and is continuing.⁴ Several reasons for the decline of defined benefit plans have been suggested: the change in the industrial patterns of employment in America favoring the small service industry; administrative costs of operating defined benefit plans, which have been especially burdensome for small and medium-size plans; competition from 401(k) salary deferral plans, which are easier for employees to understand and which came along just as the cost and complexity of defined benefit plans began to skyrocket; and tax policy that has restricted funding of defined benefit plans.

2.1 The Relative Growth of Defined Contribution Plans From 1978 to 1997⁵

In 1978, the first year detailed data were collected after ERISA, there was a total of 442,998 private pension plans, 29 percent of which were of the defined benefit variety. By 1997, the most recent year for which detailed data are available, the number of plans had increased to 720,041 but the relative share of defined benefit plans had decreased to 8 percent. Even though defined benefit plans have always been in the minority, they tend to be sponsored by large employers and accounted for 65 percent of the 44.7 million active participants in 1978. The number of active participants increased to 70.7 million in 1997, but the relative share of defined benefit plans fell to 32 percent.

A total of \$377 billion of private pension assets existed in 1978. This number grew to \$3.55 billion in the following 20 years. Although defined benefit plans represented 72 percent of the total in 1978, it fell to only 49 percent in 1997. If the latest numbers are any indication, it would appear that this financial trend will not reverse any time soon. In 1978, net contributions (the difference between contributions and benefits disbursed) amounted to \$29.4 billion for all private plans, and 68 percent of this was from defined benefit plans. By 1997, net contributions had fallen to a negative \$54.5 billion. Although defined contribution plans contributed a positive \$12.8 billion, defined benefit plans had a negative net contribution of \$67.4 billion.⁶

2.2 The Increasing Importance Of Defined Contribution Plans For Family Retirement Security

Although the preceding section documented the increasing importance of defined contribution plans with respect to plan aggregate data, for purposes of this testimony it may be even more important to consider how the relative value of these plans has changed from the standpoint of the family's retirement security. Craig Copeland and I⁷ analyzed data from the Federal Reserve Board's triennial Survey of Consumer Finances (SCF), which

provides the most comprehensive data available on the wealth of American households. We tracked information from the 1992, 1995, and 1998 (the most recent data currently available) surveys and found the following:

- The percentage of families with a pension plan who have defined benefit coverage has decreased from 62.5 percent in 1992 to 43.1 percent in 1998, and the significance of 401(k)-type plans for those families participating in a pension plan more than doubled, from 31.6 percent in 1992 to 64.3 percent in 1998.
- The percentage of family heads eligible to participate in a defined contribution plan who did so increased from 73.8 percent in 1995 to 77.3 percent in 1998. Of those families choosing not to participate in a defined contribution plan, 40.3 percent were already participating in a defined benefit plan.
- Overall, “personal account plans” represented nearly one-half (49.5 percent) of all the financial assets for those families with a defined contribution plan account, IRA, or Keogh, in 1998. This was a significant increase from 43.6 percent in 1992. The average total account balance in personal account plans for families with a plan in 1998 was \$78,417, an increase of 54 percent in real terms over the 1992 balance of \$50,914 (expressed in 1998 dollars).

2.3 Size And Importance Of 401(K) Plans

Profit-sharing plans with cash or deferred arrangements (more commonly referred to as 401(k) plans) grew in number from virtually no plans in 1983⁸ to 265,251 by 1997 (the most recent year for which government data are currently available), accounting for 37% of qualified private retirement plans, 48% of active employees, and 65% of new contributions.⁹

As of 1997, the most recent year for which published government data are currently available, there were 265,251 401(k)-type plans with 34 million active participants holding \$1.26 trillion in assets. Contributions for that year amounted to \$115 billion, and \$93 billion in benefits were distributed.¹⁰ By year-end 2000, it was estimated that approximately 42 million American workers held 401(k) plan accounts, with a total of \$1.8 trillion in assets.¹¹

2.4 What Will The Future Hold?

While it is impossible to predict with certainty how future developments for legislative and regulatory constraints and opportunities as well as plan sponsor and participant decisions will translate into future defined benefit/defined contribution trends, Craig Copeland of EBRI and I modeled the likely financial consequences of continuing the status quo. Our preliminary findings¹² from the EBRI/ERF Retirement Income Projection Model were presented at the National Academy of Social Insurance 13th Annual Conference on The Future of Social Insurance: Incremental Action or Fundamental Reform?

Results of the model are compared by gender for cohorts born between 1936 and 1964 in order to estimate the percentage of retirees' retirement wealth that will be derived from DB plans versus DC plans and IRAs over the next three decades. Under the model's baseline assumptions, both males and females are found to have an appreciable drop in the percentage of private retirement income that is attributable to defined benefit plans (other than cash balance plans). In addition, results show a clear increase in the income retirees will receive that will have to be managed by the retiree. This makes the risk of longevity more central to retirees' expenditure decisions.

3 Background on Company Stock

Although the topic of company stock investment in 401(k) plans has recently been the focus of considerable interest, the concept of preferred status for employee ownership has been part of the U.S. tax code for more than 80 years.¹³ When the ERISA was passed in 1974, it required fiduciaries to diversify plan investments for defined benefit plans and some types of defined contribution plans. However, ERISA includes an exception for "eligible individual account plans" that invest in "qualifying employer securities."¹⁴ An Employee Stock Ownership Plan (ESOP) normally qualifies for this exception, as do profit-sharing plans.¹⁵

The concept of legislating diversification for qualified retirement plan investments in company stock was first applied to ESOPs via a provision enacted as part of the Tax Reform Act of 1986.¹⁶ Employees who are at least age 55 and who have completed at least 10 years of participation must be given the opportunity to diversify their investments by transferring from the employer stock fund to one or more of three other investment funds.¹⁷ The right to diversify need be granted only for a 90-day window period following the close of the plan year in which the employee first becomes eligible to diversify and following the close of each of the next five plan years. This right is limited to shares acquired after 1986¹⁸ and is further limited to 25% of such shares until the last window period, when up to 50% of such shares may be eligible for diversification.

The Taxpayer Relief Act of 1997 applied a limit on mandatory investment of 401(k) contributions in employer stock. This was a more modest version of a proposal by Sen. Barbara Boxer (D-CA) to impose a separate limitation of 10% of plan assets on the mandatory investment of 401(k) contributions in qualifying employer stock and real property.¹⁹

The Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA) expanded the dividend deduction for ESOPs to include dividends paid on qualifying employer securities held by an ESOP that, at the election of participants or beneficiaries, are: 1) payable directly in cash; 2) paid to the plan and distributed in cash no later than 90 days after the close of the plan year in which the dividends are paid to the plan; or 3) paid to the plan and reinvested in qualifying employer securities.²⁰ A 401(k) plan with a company stock fund that regularly pays dividends may consider designating a portion of the plan that includes the company stock fund to be an ESOP in order to take advantage of this deduction.²¹

At Enron, 57.73% of 401(k) plan assets were invested in company stock, which fell in value by 98.8% during 2001.²² The decrease in share price and eventual bankruptcy filing of Enron resulted in huge financial losses for many of its 401(k) participants. This has prompted several lawsuits as well as congressional and agency investigations into the relative benefits and limitations of the current practice. In addition, the practice of imposing “blackout” periods when the 401(k) sponsor changes administrators has recently been called into question in light of the Enron situation.²³

Certainly, the Enron situation has caused the retirement income policy community to focus increased attention to the desirability of current law and practices regarding company stock in 401(k) plans, resulting in much debate. Presumably, any recommendations to modify current pension law would attempt to strike a balance between protecting employees and not deterring employers from offering employer matches to 401(k) plans. Some have argued that if Congress were to regulate 401(k) plans too heavily, plan sponsors might choose to decrease employer contributions or not offer them at all. Previous research²⁴ has shown that the availability and level of a company match is a primary impetus for at least some employees to make contributions to their 401(k) account. Others have argued that individuals should have the right to invest their money as they see fit.

4 The Concentration of Company Stock In 401(k) Plans

4.1 Percentage of 401(K) Plans and Participants With Company Stock

In Figure 1 of my February 13, 2002, hearing testimony before the House Education and Workforce Committee’s Subcommittee on Employer-Employee Relations,²⁵ I show that for the 1996 version²⁶ of the EBRI/ICI database, only 2.9% of the 401(k) plans included company stock (1.4% of the plans had company stock but no guaranteed investment contracts (GICs)²⁷ while 1.5% of the plans had both company stock and GICs). However, the plans that do have company stock are generally quite large and represented 42% of the 401(k) participants in the database that year (17% of the participants had company stock but no GICS, while 25% had both options).²⁸ In terms of account balances, plans with company stock account for 59% of the universe (23% of the assets were held in plans that had company stock but no GICS, while 36% of the assets were held in plans that had both options).²⁹ The fact that plans with company stock had higher average account balances was no doubt partially due to the bull market preceding this time period, but may also be a function of the plan’s generosity parameters and average tenure of the employees.

4.2 Company Stock as a Percentage of Total 401(K) Balances

The overall percentage of 401(k) account balances in company stock has remained consistently in the 18–19% range from 1996 to 2000.³⁰ The age distribution for year-end 2000 is somewhat of an inverted “U” shape, with younger and older participants holding slightly less than participants in their 40s (where the value peaks at 19.7%).³¹

Although often quoted, this figure is somewhat misleading given that a sizeable percentage of the 401(k) participants are in small plans that do not generally include company stock in the investment menu. The average asset allocation in company stock is:³²

- Less than 1% for plans with fewer than 500 participants,
- 3.8% for plans with 501–1,000 participants,
- 8.7% for plans with 1,001–5000 participants, and
- 25.6% for plans with more than 5,000 participants.

When only plans that include company stock are analyzed, plans that offer company stock but not GICs have an average of 31.8% of the account balances invested in company stock, while the figure decreases to 27.7% for plans that also include GICs. Once the influence of the investment menu is controlled for, the impact of plan size is less significant.³³

I also illustrate the impact of salary on company stock allocation for the subset of the EBRI/ICI database for which we have the requisite information.³⁴ For plans both with and without GICs, there appears to be an inverse relationship between the level of salary and the percentage of 401(k) balance invested in GICs, although the relationship is much less significant in the former case. The extent to which this is due to non-participant-directed matching contributions making up a larger percentage of annual contributions for lower-paid individuals awaits further investigation.³⁵

4.3 Distribution of Company Stock Allocations

Several legislative proposals have called for an absolute upper limit on the percentage of company stock that an employee will be allowed to hold in his or her 401(k) account. Figure 8 of my February 13th testimony provides the year-end 2000 company stock allocation for the EBRI/ICI universe of plans offering company stock. A total of 48% of the 401(k) participants under age 40 in these plans have more than 20% of their account balances invested in company stock. The percentage decreases to 47% for participants in their 40s, 45% for those in their 50s and drops to 41% for participants in their 60s.

5 Employee Reaction When Employers Mandate That Matching Contributions Be Invested in Company Stock

Typically, in a 401(k) plan, an employee contributes a portion of his or her salary to a plan account and determines how the assets in the account are invested, choosing among investment options made available by the plan sponsor (employer). In many plans, the employer also makes a contribution to the participant's account, generally matching a portion of the employee's contribution. Some employers require that the employer contribution be invested in company stock rather than as directed by the participant.³⁶ Participants in these plans tend to invest a higher percentage of their self-directed balances in company stock than participants in plans without an employer-directed contribution. Company stock represents 33% of the participant-directed account balances in plans with employer-directed contributions,³⁷ compared with 22% of account balances in plans offering company stock as an investment option but not requiring that employer contributions be invested in company stock.³⁸

When total account balances are considered, the overall exposure to equity securities through company stock and pooled investments is significantly higher for participants in plans with employer-directed contributions. For example, investments in company stock, equity funds, and the equity portion of balanced funds represent 82% of the total account balances for participants in plans with employer-directed contributions, compared with 74% of the total account balances for participants in plans without employer-directed contributions. This higher allocation to equity securities holds across all age groups.

6 What Would Happen to Employees If Company Stock Were Not Permitted in 401(K) Plans?

Well before the plight of Enron 401(k) participants had made the headlines, personal finance and investment advisors had long touted the benefits of diversification.³⁹ While the trade-off of a diversified portfolio of equities for an individual stock may be of limited advantage for employees, what many of the commentators in this field have disregarded is the potentially beneficial attendant shift in asset allocation resulting from the inclusion and/or mandate of company stock, especially for young employees, who otherwise exhibit extremely risk-averse behavior in the determination of equity concentration for their 401(k) portfolio.

What I will attempt to demonstrate in the following section is that although forcing the employer match into company stock obviously increases the standard deviation of expected results relative to a diversified equity portfolio, for each of the last five years the EBRI/ICI data base has demonstrated that, left to their own choices, the employee's asset allocation would have lower concentrations in equity (defined as diversified equity plus company stock plus 60% in balanced funds) and therefore have a lower expected rate of return.

In my February 13th testimony, I start with some stylized examples of how the inclusion of company stock may work to the benefit of employees in general and expand the analysis by simulating the expected change in 401(k) account balances if company stock were prospectively eliminated from 401(k) plans for birth cohorts from 1936–1970. These results may be useful in analyzing previous charges that company stock should not be used in

tax-subsidized accounts. In an attempt to assess the first-order impact of eliminating company stock in 401(k) plans, I programmed a new subroutine to the EBRI/ERF Retirement Income Projection Model to simulate the financial impact on 401(k) account balance.⁴⁰

6.1 Simulation Results

The simulation was performed for birth cohorts between 1936 and 1970, and the results indicate the overall gain or loss from (prospective) retention of company stock in 401(k) plans (as opposed to company stock being entirely eliminated immediately). The estimated gain of retaining company stock is 4.0% of 401(k) balances, assuming complete independence with respect to the probability of company stock in a subsequent plan and 7.8% assuming perfect correlation.

Figure 1 (below) provides the results of the simulation by gender and preretirement income, assuming complete independence.⁴¹ Preretirement income was categorized as either high or low by simulating the income in the year prior to retirement and comparing it with the median income for participants in the same birth cohort. Males would gain more than females from retention of company stock for both levels of relative salary. Participants in the lower relative salary levels would stand to gain more than their higher paid counterparts for both genders.

Figure 1
**Average Gain From Retention of Company Stock as a Percentage of 401(k) Balance,
 By Gender and Relative Pre-retirement Salary (Assuming Complete Independence)**

Preretirement salary relative to median for age cohort	Gender	
	Male	Female
Low	5.2%	3.5%
High	5.0%	1.6%

Source: Simulations using the EBRI/ERF Retirement Income Projection Model with modifications as described in author's February 13, 2002, written testimony to the House Education and Workforce Committee's Subcommittee on Employer-Employee Relations.

7 What Would Happen If a Minimum Rate of Return Were Guaranteed for 401(k) Participants?

Proposals have been suggested recently that would attempt to transfer part or all of the investment risk inherent in defined contribution plans from the employee to another entity. Although the party initially exposed to said risk varies among the proposals, the likely targets would be the employer, a government agency (perhaps the Pension Benefit Guaranty Corporation) and/or a private insurance company. While the cost of the guarantees and/or financial uncertainty inherent in such an arrangement may be borne by the employer at least initially, it is unlikely that, in the long-term, such a shift in risk-bearing would not somehow alter the provisions of the existing defined contribution plans.

It is obviously impossible to model the financial consequences of such proposals until additional detail is provided; however, a highly stylized example of one method of achieving this objective can be readily simulated. Assume a proposal that would require the employer to ensure that participants receive an account balance no less than what would have been obtained under a minimum rate of return. While some employers may choose to voluntarily assume the additional cost of this arrangement, others may wish to re-think the investment options provided to the employees and provide little or no participant direction. In fact, an easy way of mitigating the new risk imposed by the minimum guarantee would be to force all contributions (whether contributed by the employee or the employer) into a relatively risk-free investment. While this is unlikely to be popular with young employees and other participants desiring high long-term expected returns, it would minimize the new risks shifted to the employer.

Figure 2 shows the expected results of running one such proposal through the EBRI/ERF Retirement Income Projection Model. Instead of allowing employees to direct their own contributions and perhaps those of the employer, assume employers are forced to guarantee a minimum rate of return of five percent nominal and they are able to find a GIC (or its synthetic equivalent) that will provide that return in perpetuity.⁴² If all existing balances and future 401(k) contributions were required to be invested in this single investment option, the average expected reduction in 401(k) account balances at retirement would decrease between 25 and 35 percent for participants born between 1956 and 1970.⁴³

While the results in Figure 2 are specific to the assumptions mentioned above, similar results are obtained (albeit with different percentage losses) under various combinations of minimum guarantees and assumed asset allocations and rates of return.

8 Endnotes

¹ Portions of this testimony borrow heavily from Sarah Holden and Jack VanDerhei, "401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2000," *EBRI Issue Brief* n. 239, November 2001.

² "The Future of Private Retirement Plans," Dallas Salisbury, ed. EBRI Education and Research Fund (Employee Benefit Research Institute, 2000)

³ See Jack VanDerhei, "The Controversy of Traditional vs. Cash Balance Plans." *ACA Journal*, Vol. 8, no. 4 (Fourth Quarter 1999): 7–16.

⁴ For a detailed analysis of these trends from 1985 to 1993, see Kelly Olsen and Jack VanDerhei, "Defined Contribution Plan Dominance Grows Across Sectors and Employer Sizes, While Mega Defined Benefit Plans Remain Strong: Where We Are and Where We Are Going," *EBRI Special Report SR-33* and *EBRI Issue Brief* no. 190 (Employee Benefit Research Institute, October 1997).

⁵ U.S. Department of Labor, Pension and Welfare Benefits Administration. "Abstract of 1997 Form 5500 Annual Reports," *Private Pension Plan Bulletin No. 10* (Winter 2001).

⁶ The rate of return generated by these plans also needs to be considered for a complete analysis of the relative financial cash flow.

⁷ Craig Copeland and Jack VanDerhei, "Personal Account Retirement Plans: An Analysis of the Survey of Consumer Finances," *EBRI Issue Brief* no. 223 (Employee Benefit Research Institute, July 2000).

⁸ Although cash or deferred arrangements have existed since the 1950's, the Revenue Act of 1978 enacted permanent provisions governing them by adding Sec. 401(k) to the Internal Revenue Code. While this was effective for plan years beginning after 1979, the proposed regulations were not released until November 1981. See Jack VanDerhei and Kelly Olsen, "Section 401(k) Plans (Cash or Deferred Arrangements) and Thrift Plans," *Handbook of Employee Benefits*, 5th Ed., Jerry S. Rosenbloom, ed. (Homewood, IL: Dow Jones-Irwin, 2001).

⁹ U.S. Department of Labor, Pension and Welfare Benefits Administration. "Abstract of 1997 Form 5500 Annual Reports," *Private Pension Plan Bulletin No. 10* (Winter 2001). For a review of the academic literature analyzing these trends, see William Gale, Leslie Papke, and Jack VanDerhei, "Understanding the Shift Toward Defined Contribution Plans," in *A Framework For Evaluating Pension Reform* (Brookings Institution/TIAA-CREF/Stanford University), forthcoming. (www.brook.edu/es/erisa/99papers/erisa2.pdf)

¹⁰ U.S. Department of Labor, Pension and Welfare Benefits Administration, "Abstract of 1997 Form 5500 Annual Reports," *Private Pension Plan Bulletin No. 10* (Winter 2001).

¹¹ Holden and VanDerhei (November, 2001), p. 3.

¹² The results were generated prior to the contribution modifications enacted as part of The Economic Growth and Tax Relief Reconciliation Act of 2001" (EGTRRA). The model is currently being modified to allow for the new EGTRRA provisions.

¹³ The first stock bonus plans were granted tax-exempt status under the Revenue Act of 1921. See Robert W. Smiley, Jr. and Gregory K. Brown, "Employee Stock Ownership Plans (ESOPs)," *Handbook of Employee Benefits*, 5th Ed., Jerry S. Rosenbloom, ed. (Homewood, IL: Dow Jones-Irwin, 2001).

¹⁴ ERISA Sec. 407(b)(1).

¹⁵ This is important because an ESOP is to be "primarily invested" in qualifying employer securities. See "Employee Stock Ownership Plans (Part II)," *Journal of Pension Planning and Compliance* (Winter 2000); John L. Utz; pages 1–34.

¹⁶ It should be noted that less than 5% of all ESOPs are in public companies. For an explanation of the challenges that stricter diversification rules may present to private company ESOPs, see Corey Rosen, "Should ESOPs Be Subject to Stricter Diversification Rules?" (www.nceo.org/library/boxer_corzine_bill.html)

¹⁷ Alternatively, amounts subject to the right of diversification may be distributed from the plan. See Everett T. Allen, Jr., Joseph J. Melone, Jerry S. Rosenbloom and Jack L. VanDerhei, *Pension Planning: Pensions, Profit Sharing, and Other Deferred Compensation Plans* (8th ed)(Homewood, IL: Richard D. Irwin, Inc., 1997).

¹⁸ As a result, the impact of this change was *de minimis* during the significant market decline in the fall of 1997. See Jack VanDerhei, "The Impact of the October 1987 Stock Market Decline on Pension Plans," written testimony for U.S. House of Representatives, Committee on Ways and Means, Subcommittee on Oversight, July 1988.

¹⁹ The final version exempts from the 10% limits: (1) *de minimis* (i.e., as much as 1% of pay) mandatory investment provisions, (2) plan designs under which the Sec. 401(k) deferrals (regardless of amount) are part of an ESOP, and (3) plans in which the total assets of all defined contribution plans of the employer are not more than 10% of the total defined benefit and defined contribution plan assets of the employer. The limit applies prospectively with respect to acquisitions of employer stock. The investment of matching or other employer contributions continues to be exempt from any limits. See Louis T. Mazawey, "1997 Tax Law Changes Affecting Retirement Plans," *Journal of Pension Planning and Compliance* (Winter 1998): 72–86. For more detail on the original proposal, see Ann L Combs, "Taking Stock of the Boxer Bill," *Financial Executive* (Jan./Feb. 1997): 18–20.

²⁰ Hewitt, *Special Report to Clients*, July 2001, "Impact of EGTRRA on Employer Plans." www.hewitt.com/hewitt/resource/wsr/2001/egtrra.pdf

²¹ Watson Wyatt Worldwide, "Retirement Plan Provisions: What, When and How Much?" (Washington, DC: Watson Wyatt Worldwide, 2001).

²² "Enron Debacle Will Force Clean Up of Company Stock Use in DC Plans," *IOMA's DC Plan Investing*, Dec. 11, 2001, p. 1.

²³ Currently, there is no statutory or regulatory limit on the length of time during which participants can be blocked from reallocating assets or conducting other transactions in a 401(k) plan. See Patrick J. Purcell, "The Enron Bankruptcy and Employer Stock in Retirement Plans," *CRS Report for Congress* (Jan. 22, 2002): 5.

²⁴ Jack VanDerhei and Craig Copeland, "A Behavioral Model for Predicting Employee Contributions to 401(k) Plans," *North American Actuarial Journal* (First Quarter, 2001).

²⁵ See Jack L. VanDerhei, "The Role of Company Stock in 401(k) Plans," hearing testimony before the House Education and Workforce Committee Subcommittee on Employer-Employee Relations, "Enron and Beyond: Enhancing Worker Retirement Security," Feb. 13, 2002.

²⁶ Readers should be cautioned that while the EBRI/ICI database appears to be very representative of the estimated universe of 401(k) plans, there has currently been no attempt to develop extrapolation weights to match up these plans with those reported on the Form 5500. See Holden and VanDerhei (November 2001), p. 6 for more detail.

²⁷ Guaranteed investment contracts (GICs) are insurance company products that guarantee a specific rate of return on the invested capital over the life of the contract.

²⁸ See figure 2 of VanDerhei, "The Role of Company Stock in 401(k) Plans"

²⁹ Ibid. See Figure 3.

³⁰ Ibid. See Figure 4.

³¹ Ibid. See Figure 5.

³² Ibid. See Figure 6.

³³ Ibid. See the bottom two panels in Figure 6.

³⁴ Ibid. See the bottom two panels in Figure 7

³⁵ For recent EBRI/ICI research on the contribution activity of 401(k) plan participants, see Sarah Holden and Jack VanDerhei, "Contribution Behavior of 401(k) Plan Participants," *EBRI Issue Brief* n. 238, October 2001.

³⁶ Source of contribution (employer versus employee) can be matched to fund information for a subset of the data providers in our sample. Of those plans in the 2000 EBRI/ICI database for which the appropriate data are available, less than 0.5% require employer contributions to be invested in company stock. However, most of the plans with this feature are large, covering 6% of participants and 10% of plan assets in the subset.

³⁷ For this group, the participant-directed portion of the account balances represents 65% of the total account balances.

³⁸ See figure 9 of VanDerhei, "The Role of Company Stock in 401(k) Plans"

³⁹ See Scott Burns, "Examining Your Gift Horse," *Dallas Morning News*, April 17, 2001, for an excellent example of the tradeoff of risk between the S&P 500 Index and an individual stock.

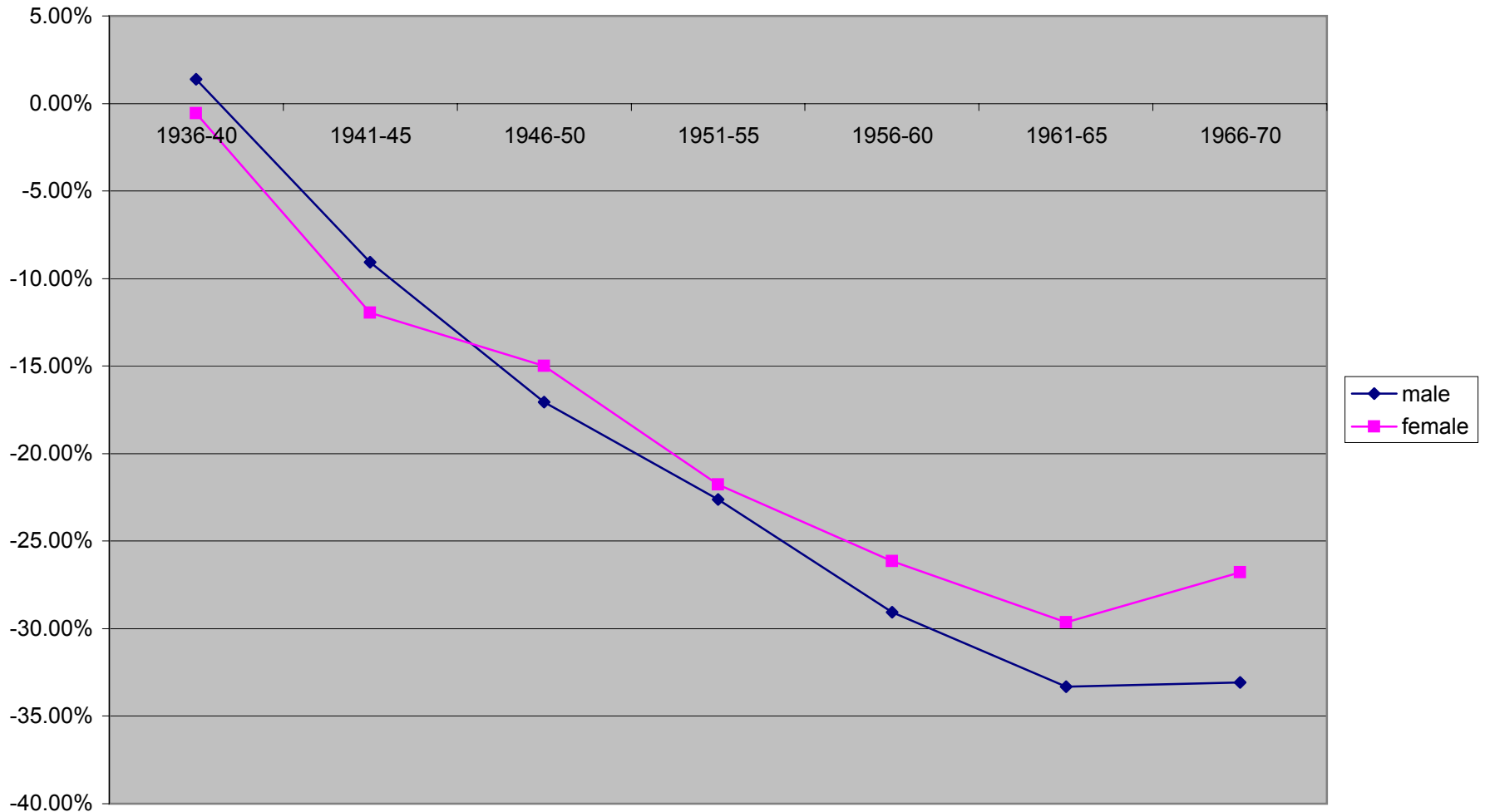
⁴⁰ See VanDerhei, "The Role of Company Stock in 401(k) Plans" for details of the simulation

⁴¹ Ibid. The distributional results for this population are shown in Figure 14.

⁴² The computations assume a long-term average return of 11% for both a diversified portfolio and an individual stock but a standard deviation of 19.6% for the former compared to 65% for the latter. I have arbitrarily assumed all nonequity investments earn an annual rate of return of 6%.

⁴³ This portion of the model does not currently provide simulations for cohorts born after 1970.

Figure 2: Expected change in average 401(k) account balances if all participants were to prospectively change to a guaranteed investment yielding 5 percent nominal, by gender and year of birth (see text for assumptions of asset allocation under status quo)



Source: Simulations using the EBRI/ERF Retirement Income Projection Model with modifications as described in author's February 13, 2002 written testimony to the House Education and Workforce Committee's Subcommittee on Employer-Employee Relations.