Peer Review for Default Investment Safe Harbor Regulation,

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This report is a review of the methods and data used by the Employee Benefits Security Administration (EBSA) of the Department of Labor to predict the likely effects on participant pension balances of a proposed regulatory safe harbor for the investment of contributions when participants fail to provide investment direction. To estimate the effect of the proposed safe harbor, EBSA employs PENSIM, an econometric model that can simulate the accumulation of pension balances while taking account of individual life events, such as education, employment, and earnings, and systematic risk factors. If an individual is employed, it models eligibility for pension coverage and pension characteristics, and then rates for participation, contribution, investment, roll-over, and withdrawal.

EBSA assumes that the effect of the proposed safe harbor will show through in two ways. First, more firms will adopt auto-enrollment programs which will raise participation rates. Second, more contributions will be invested in equities under the proposed default investment option. The quantitative effects of the proposed safe harbor are presented by comparing simulation results from alternative scenarios based on these assumptions. The primary comparisons are between a baseline of auto-enrollment for 25 percent of eligible workers, with a default contribution rate of 3 percent and default investment mix of stable value assets and alternatives that raise the auto-enrollment to 35 percent (low impact) or to 45 percent (high impact), with the same contribution rate of 3 percent but a default investment mix of a life-cycle fund. The main findings of the PENSIM simulations based on EBSA's assumptions relative to the baseline scenario are: 1) pension balances and retirement income will rise on average and that balances of more accounts will increase rather than decrease, and 2) most of the gains in balances and income arise from the increase in participation rates.

Overall, I think that the critical assumptions about initial changes in participation and contribution rates are reasonable and rely on the best, though limited, available evidence. However, the scenarios ignore important financial risk factors. Of primary importance, I do not agree that the baseline scenario with default contributions in stable value assets should be characterized as risk-free, which is the case when they only

consider the expected values for interest rates and inflation rates and ignore their variances. By characterizing the baseline scenario as risk-free, the results may attribute too much risk to adding equities to the savings accounts. (Other comments regarding financial assumptions about the equity premium and the risk of company stock are below). In addition, I think that more consideration should be given to possible negative consequences of increased automatic enrollment. In particular, the outcomes should be evaluated based not only on expected values from retirement balances but also utility since workers are likely to be risk-averse. For lower income workers with few other financial assets, the additional volatility in pension balances might be especially costly. Another possibility would be to consider alternative scenarios based on whether workers would move away from the default options at different rates under the new safe harbor versus the baseline default. Account balances could be held down if workers were more likely to stick with the default contribution rate when the default investment option is a life-cycle fund rather than a money market fund.

Specific comments:

The risk-free rate and inflation rate are stochastic. The scenarios assume that interest rates and inflation are non-stochastic. But data from 1926 to 2005 indicate that inflation has a standard deviation of 4-1/4 percent, intermediate-term government returns have a standard deviation of 5-3/4 percent, and long-term government returns have a standard deviation of more than 9 percent (Ibbotson Associates, 2006). More importantly, equity returns, bond returns, and inflation are systematically related (see e.g., Blanchard, Schiller, and Siegel (1993)). A more reasonable and realistic simulation would be to adopt a technique that allows one to draw an equity return and, at the same time, the risk-free rate and inflation rate that prevailed at that time. This added complexity would more accurately characterize that a default investment mix in Treasury bills and bonds is subject to inflation risk. The addition would also allow a more accurate characterization of the additional risk from investing assets in equities.

The assumed equity premium may be too high. The assumptions for equity returns are based on realized equity returns from 1926 to present, as presented in Ibbotson. As has

been discussed in the academic literature (see e.g., Mehra and Prescott, 1985) the equity premium that has been realized since 1926 is higher than can be justified by reasonable levels of investor risk aversion or risk under many asset pricing models. While some equity premium is almost certainly needed to compensate investors for the additional risk of holding an equity security, there is considerable debate over the appropriate size of that required premium. For these scenarios, EBSA assumes an average equity premium of about 3.5 percentage points. But, it has been documented that the equity premium has been considerably lower in more recent decades (see e.g., Fama and French, 2002). An alternative scenario that assumes a lower equity premium, say about 2 percentage points, would be useful.

The characterization of the risk of company stock is not realistic. In the scenarios, it is assumed that the company stock realized return is simply the realized market return plus a random disturbance drawn from an assumed distribution with mean of zero and variance of 31 percent. In essence, the simulations assume that firms that provide an employer match in company stock have an average market beta of 1, with substantial additional idiosyncratic risk. In particular, the variance of 31 percent implies a variance for the company stock return of 34 percent, and thus a standard deviation of 58 percent for the company stock return.[1] This standard deviation assumed for an individual stock return appears too high for large companies, and probably for many mid- and small-sized companies as well. Moreover, Brown, Liang, and Weisbenner (2006) show that firms in the S&P 1500 Composite that provide an employer match in company stock are larger and less risky than firms that provide an unrestricted match (although on average they are more risky than the diversified market portfolio). For example, their data suggest that the standard deviation for a company that matches with company stock would average about 10 to 20 percent lower than the standard deviation of a company that provides an unrestricted match.

[1] The variance of the company stock return is the sum of the variance of the market return and variance of the random term: .027 + .31 = .337. The standard deviation is .58 = .337**1/2.

It is not reasonable to assume that company stock is sold at the age of 55. There is not much evidence to suggest that participants would sell their company stock holdings at age 55. Holden and VanDerhei (2005) show holdings of company stock are not substantially different between employees in their 40s and those in their 60s. In addition, there is an important tax incentive for some employees to keep their company stock until they retire because the gains on the company stock would be taxed at the capital gains rate, whereas gains on other equities would be taxed at the ordinary income rate. Although this assumption is held constant across the baseline and alternative scenarios, it has implications for the proposed benefits of an investment default into a life-cycle fund because individuals who already have company stock in their portfolio will benefit less from the expected diversification gains from the additional equity exposure in the life-cycle fund.

The marginal participant drawn into the 401(k) plan is not distributed randomly across the income distribution. Madrian and Shea (2001) show that the participants attracted under auto-enrollment are more likely to have lower incomes than participants who enroll on their own. Moreover, if auto-enrollment is used by firms to meet IRS eligibility requirements, a better assumption would be that new participants are more likely to be in the lower part of the income distribution. This assumption would affect estimated gains from the proposed safe harbor because annual contributions, which are a fixed percent of salary, would be lower.

The presentation of risk results does not consider risk aversion. The proposal presents the percent of accounts with expected balances that would be higher or lower under the alternative scenarios relative to the baseline. But this presentation is more appropriate if workers are assumed to be risk neutral but less appropriate if workers are risk averse. That is, when workers are risk averse, the expected losses would reduce utility by more than an expected gain of an equivalent amount would improve utility. This would be greater for workers who have fewer other assets to cushion a lower retirement account balance, as would be more likely for lower income workers. Thus, some characterization of the effect on worker utility would be very useful. For lower income workers, it could

be the case that the additional expected income from the life-cycle fund may only come with an unacceptable additional amount of risk.

Is adequate attention being paid to possible negative consequences of auto-enrollment? A primary negative consequence of auto-enrollment is that workers stay too long at a low default contribution rate (Choi, et al, 2001). Is it possible that by specifying a life-cycle fund rather than a money market fund as the default investment option, this tendency to stick to the default options could be magnified? The scenarios do consider that some already-active participants might scale back their contributions if a default rate of 3 percent is specified. But, both the baseline and alternative scenarios assume that the default contribution rate and investment choice never change. However, the research suggests that many workers do move away from the default specifications within the first few years after initial enrollment. Is there any research that evaluates whether plan features can help to explain how long participants stick with default contribution rates? It seems quite plausible that workers provided with a default investment in a life-cycle fund would make changes much less quickly than workers provided with a default in a money market fund, which is more likely to appear to be only a temporary place-holder. Thus, it would be reasonable to consider a scenario in which participants make adjustments which would depend on the initial default specifications.

Are the assumed increases in the participation rate reasonable? EBSA is quite clear that they have little data upon which to draw to make their assumptions about how much participation rates might increase under the proposed safe harbor. Thus, they are careful to make what appear to be conservative assumptions and provide two alternative scenarios rather than a single point estimate.

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