To: Office of Regulations and Interpretations
Employee Benefits Security Administration, Room N-5669
U.S. Department of Labor
200 Constitution Avenue, NW
Washington, DC 20210
Attention: 401(k) Plan Investment Advice RFI

From: Dick Purcell
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Re: Rules for computer model certification

Guidance with New Models?
or MIS-Guidance with Current Models?

For fiduciary advisers' guidance of employees in 401(k) plans, computer models can offer unique power for applying investment theory in guiding participants toward prudent investment selections for their lifetime needs and goals.

But in current computer models for individual-investor guidance, investment theory is *grossly mis*applied -- to ignore pursuit of the investor's best interests in favor of higher investment-industry fees.

It is *most* important that the requirements for 401(k) computer model certification authorize only computer models designed for pursuit of participants' best interests – and protect the nearly 50 million participants from misguidance featured in current computer models.

How current computer models misguide investors to riskier bets with growth-choking fees

Current computer models misguide investors in favor of higher fees through a two-step process: *divert and switch*. First, investment-diversification theory is misused to divert the investor's attention to the individual year, where the long-term growth-choking effect of higher fees cannot be seen. Then the investor is switched to less-diversified riskier investments with higher fees.

1. **Divert** -- ***Computer models ignore pursuit of best prospects for the investor's future needs and goals. Instead they divert investor attention to fear of short-term return-rate variation labeled with the fear-word "risk."***

   Current computer models are said to "optimize" an asset allocation for an investor – but their so-called "optimizing" is done *without considering what allocations are optimal for the investor's future!*

   The very core of what computer models *should* do is show an investor how asset allocations along the conservative-to-aggressive range compare and which offer optimal prospects *for that investor's future* -- for her future dollar-value needs and goals. But this they do *not* do.

   Instead, current computer models base the so-called "optimized" choice for an investor on comparison of asset allocations in return-rate probabilities for the *mere individual year*. They mislead the investor to make the choice based on her fear of short-term return-rate variation for the individual year, and inflame that fear by comparing investments in a technical measure of those short-term variations labeled with the fear-word "risk."

   This fatally deficient comparison is *mis*application of investment theory. It does not even address the investment purpose, the investor's future dollar-value needs and goals. It omits amounts and times of what the investor plans to invest. It omits the mighty effects of compounding along the way.

With this approach, nobody knows which allocations might be best for the investor's future, or how much worse for her future the "optimized" asset allocation may be.

Who then is it optimized for?

For the investment industry, this diversion is most beneficial. With the focus diverted to the individual year, the investor cannot see the terrible "drag-on-compounding" effect of higher investment-industry fees. *The investor cannot see how higher fees smother the long-term compound value growth required to meet her future needs.*

For example: If an investment earns 10% per year for a 35-year lifetime, an annual fee of 2% will take away *more than half* of the investor's total net return. But with the focus diverted to the individual year, the investor does not see this terrible effect on her future. She sees only the small-in-appearance 2% for the individual year.

2. **Switch -- *After choosing an asset allocation based on whole asset classes, with widest diversification to minimize risk, current computer models lead investors to switch from investment in those whole asset classes, to bets on investment managers with lower average net returns and greater risk – and higher fees.***

   This switching amounts to undermining the asset-class performance assumptions and widest diversification on which the asset allocation was based. This switching is commonly based on the *stunning misrepresentation* that individual actively managed funds classified *within* asset classes have the same future-performance probabilities and no more risk than the *whole diversified asset classes*.

   Of course, actively managed mutual funds have future-performance prospects that *differ* from their asset classes. T*hat's their purpose!* They choose investments *intending* to differ from their asset classes, in the odds-against hope of beating their asset classes enough to cover their higher fees.

   But instead, actively managed mutual funds deliver *lower* average net returns – because of extraction of higher fees. Annual returns just a little lower produce *much* lower long-term growth for future needs and goals.

   And actively managed funds have more uncertainty and risk, for a host of reasons – generally much less history, less diversification, more concentration in market sectors, "drift" from asset class to asset class, frequent changes in who is managing them and choosing their investments.

   Obviously, for the investor community this switching is not good: *lower* average net returns, at *greater* risk.

   But for the investment industry, this switching is most beneficial. It opens opportunity for oceans of so-called "investment data", "investment analysis", and "investment management" for many thousands of actively managed mutual funds and other investments, for all of which investors are charged those higher fees.

How can this be?

This process of divert-and-switch is certainly not pursuit of investors' best interests. How have computer models applying this process won acceptance and use? Mathematical Greek with misleading labels!

Investments should be compared to reveal the best in prospects for what the investor *will need* in future years and can *best understand*: *dollar value*. Instead, current computer models compare investments in mathematical measures of return-rate probability for the individual year that *almost nobody understands*. The labels "return" and "risk" conceal the single-year nature and limitation of these comparisons, and make them appear sufficient for selecting investments for longer-term goals – which they *are not*. These labels also give an appearance of "fact" to numbers for mutual funds' "return" and "risk" that as indicators of future prospects are no better than gamblers' guesses.

(Most trained, credentialed, well-intentioned financial planners and investment advisers cannot protect investors from this computer-model misguidance, because their training features the same misguidance featured in the computer models: diversion and switching, presented in investment-theory mathematical Greek and misleading labels. But that's another story.)

A better direction

In recent years there's been a surge in computer-model assessment of a selected investment in probability of meeting the investor's future dollar needs and goals, through simulation. Incorporation of simulation can advance computer models for investor guidance toward what these models should be and do.

But simulation is not enough. Some models apply the simulation only *after* an asset allocation or investment has been selected according to a diversionary comparison in "return" and "risk" for the individual year. After the simulation, some computer models lead investors to switch from investment in asset classes to bets on actively managed funds. In these cases, simulation is merely an add-on to continued divert-and-switch.

To make computer models inform and guide 401(k) participants (and their advisers) toward investment selections in the participant's best interests, simulation must be integrated with investment-diversification theory *before* the allocation selection, so participants and advisers can see how conservative-to-aggressive allocations compare and which are best in prospects *for the participant's future* – replacing the current diversion to the individual year. And after this selection, the participant's money should be invested in the whole diversified asset classes, avoiding growth-smothering, risk-increasing switches to bets on investment managers.

Most important for 401(k) participants

In the past, computer-model-based misguidance of investors (and advisers) has been directed toward wealthier investors, who offer advisers high percent-of-assets fees. These investors have means to purchase and compare investment advice from multiple sources. They have wealth to live well through retirement years even with investment misguidance. They have opportunities to make up for investment adversities with intricate tax reduction steps.

But most employees with 401(k) plans do not have these advantages, and depend on best investment advice for modest lifestyles through their retirement years. For the nearly 50 million employees with 401(k) plans, it is not acceptable to provide the divert-and-switch investor misguidance of current computer models. For certification of computer models used to provide investment advice to the nation's holders of 401(k) plans, rules should require that the computer models be designed for pursuit of each participant's best interests.

Essential rules for computer model certification

Computer models *can* be designed to inform participants and advisers for pursuit of participants' best interests. For this purpose, computer model certification should include these three simple, straightforward reules:

1. **Focus on the purpose.**

   For certification, a computer model must be designed to compare asset allocations through the conservative-to-aggressive range, and reveal the best, in measures of probability *for the investment purpose – results for the investor's projected lifetime investment plan and future needs and goals.*

   Do not certify computer models that divert the focus of asset-allocation comparison-and-selection to measures of return rate for the individual year – so-called "return" and "risk" -- or that divert investor attention and investment selection to the investor's fear of short-term return-rate variations – so-called "risk."

2. **Make it understandable for investors (and advisers).**

   For certification, a computer model must present investment assessments and comparisons in measures of probability for the results the investor *will need* in future years and can *best understand – dollar value*.

   Do not certify computer models that present the investment assessments and comparisons on which selections are to be based in technical measures of return rate for the individual year.

3. **Invest in the chosen asset classes.**

   For certification, a computer model should define the appropriate placement of the investor's money as investment in the whole diversified asset classes chosen in the asset allocation or in index funds or ETFs designed to match the performance of the indexes used to define the asset classes and select the allocation.

   Do not certify computer models that encourage placement of the investor's money in investments with greater risk of performing differently than the chosen asset classes, such as actively managed mutual funds or other bets on performance of investment managers.

Bottom line

Several fundamental conditions and trends make employee 401(k) investment selection of surpassing importance to the American people, economy, and nation. The provision of fiduciary adviser guidance based on a computer model, authorized by the Pension Protection Act, offers marvelous potential for moving employee investment selection toward the most prudent it can be.

But to meet this potential, computer models must be designed for this purpose – best prospects for the employee's lifetime needs and goals. This requires the certification rules outlined above. If instead current computer models providing the misguidance outlined in this memo are certified, the computer models will have the effect of misapplying investment theory, to divert employee attention to fear of short-term return-rate variation and siphon off most of employees' investment growth potential in investment-industry fees. That would be a colossal national disgrace, dwarfing any and all the recently publicized investment-financial scandals.

Respectfully submitted,

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