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Replicating Default Risk in a Defined-Benefit Plan

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capital losses on workers. Since the enactment in the United States of reversion taxes, which were imposed in steps over the 1986–90 period, using a DB plan to award pension benefits that are contingent on the company's performance has become expensive. As a result, funding in private DB plans has fallen dramatically in the United States and U.S. companies have shifted their focus toward defined-contribution (DC) plans and cash-balance plans.

Can some DC plan arrangement be used to recreate the classic default risks in DB plans? I show that a stock-bonus plan with a provision to permit diversification out of company stock can come close to replicating this exposure. Because it imposes about the same default risks on workers as a DB plan, workers' compensation levels should not need to be adjusted in any other way to accommodate the new pension.

The diversifiable stock-bonus plans (DSBs) that I describe are entirely flexible, in the sense that the diversification formula can be altered to replicate the default risk in any DB plan. In a manner similar to a DB plan, a DSB plan can also incorporate an incentive for workers to join the company and retire at relatively early ages. Moreover, a DSB plan has some distinct advantages over a DB plan. First, default losses in DB plans depend importantly on the nominal interest rate, a variable that is outside the company's control. DSB plan losses depend solely on the company's financial performance. Second, workers may discount the value of DB plans because the

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In addition, the diversification allowed in the DSB plan could be permissible, not mandatory. Thus, workers would not have to diversify up to the maximum allowed by the plan; they could retain the exposure that optimizes the value of the DSB plan within the context of their overall portfolios.

Alternatively, companies could mandate diversification. The company might decide that large losses incurred by some future older workers could impose a kind of externality on the company in the form of adverse publicity. Another reason is that if the company's financial performance deteriorates (but short of bankruptcy) and if older workers remain undiversified, their pensions will fall in value, making them less likely to retire at the very time the company needs to shed workers.

In summary, in an environment in which workers may be rethinking their exposure to their company's financial performance, the value that they attach to the pension plan could importantly depend on the diversification features of the plan. In this sense, the DSB plan provides an ideal hybrid between a classic stock-bonus plan and traditional DB format.

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