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Enterprise Risk Management (ERM):

*Equities in DB Plans –
Is the Traditional 60/40 Mix a Dinosaur?*

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Newsflash! During 2000 and 2001, Boots, a UK pharmaceutical company, sold all of the equities within their pension plan and invested in bonds. This was hailed as the beginning of a new trend that would affect pension plans in both the UK and the US. Many experts thought that pension plans would change their asset allocation from the traditional mix of 60% equities and 40% fixed income but guess what happened next?

Nothing. Even Boots, in its most recent annual report (2005), showed a 10% allocation to equities.

Boots' drastic change in investment strategy was a fantastic exercise in application of enterprise risk management (ERM). In fact, Harvard Business School is drafting a case study for its students. Now, with four years passed, let's examine Boots' decision within the current environment, including why companies should review their asset allocation from a risk management perspective and offer insights on why companies – even given the strong evidence – are still not prepared to go all the way to bonds.

Background

Boots cited three advantages to moving 100% into bonds in its Boots Pension Scheme Trustees Review 2001:

- Increased security for participants
 - Matching pension assets and liabilities increases security since any change in value of the liabilities is matched by an approximately equal change in assets.
- Reduces investment management fees
 - Boots used active management for its equities at a cost of 50 basis points. By moving to 100% bonds with a “buy-and-hold” strategy, it reduced its investment management fees by over 95%.
- Reduces Boots' financial risk

- Again, matching the assets and liabilities reduces the risk to Boots' shareholders of having to make up any future deficit.

Other issues that put the Boots decision into context include: a) pension plan benefits in the UK are typically linked to inflation (as opposed to US defined benefit plans where the benefits are fixed once you retire); b) Equitable, a very large insurance company, was failing in the UK; and c) the stock market had just passed its peak and had dropped 25% when Boots began its shift to bonds.

ERM Lessons in the Boots Case

Regardless of whether you agree with Boots' decision or not, from an ERM standpoint we can only applaud its process. That's because the firm followed the classic steps of ERM:

- Identify risk: What are the risks present in a defined benefit plan?
- Quantify risk: How big are the risks? Always focus on the largest risk first
- Separate risk: What risks do we want to bear? What risks can we transfer to the marketplace?
- Manage risk: After implementation, continue to monitor the situation and make changes as needed

General Risk Management Framework for Pensions

Moving away from the specifics of the Boots example, let's now focus on the general framework that pension plan sponsors need to follow when deciding on an appropriate asset allocation for their plan. These are:

Identify the stakeholders

Pension plans have many stakeholders such as participants, management, shareholders, and others. The risks associated with a plan affect each party differently. A simplified example will highlight how different stakeholders have different risk profiles. Assuming a \$1000 benefit to be available 10 years from now, notice these differences:

Funding/Asset Allocation	Budgeted Capital	Risk to Participant	Risk to Shareholder
Pay-as-you-go	\$ 0	Will the company be around to pay benefit?	Future shareholders must pay benefits
Balanced (60/40) Asset	\$ 450	Will the company be able to make up any future shortfall?	1. Possible shortfall must be met by future shareholders 2. Possible surplus will be enjoyed by future shareholders
Immunized bond portfolio	\$ 600	Very small	Larger up-front contribution and minimal possibility of surplus

In addition to participants and shareholders, other stakeholders include:

- Government/Society – Our society, through our elected officials and government agencies, has as its goal the commitment to see that pension plans are fully funded while also providing appropriate incentive (tax deductions) for the greater good.
- Management – Management’s two goals of maximizing its own compensation while enjoying continued employment may be at odds with shareholders’ interests. This conflict, called an “agency problem,” arises out of the fact that the typical US corporation is owned by a large group of shareholders, with no single dominant owner. Also, one needs to clarify how various levels of management view risk and communicate the issues at the appropriate level:

Perspective	Role
Control	Functional Leaders (HR, Treasury, Controller)
Efficiency and Stability	Chief Financial Officer
Growth and Opportunity	Chief Executive Officer

Identify Risk

After identifying the stakeholders, pension plan managers should next identify the particular risks they are facing. Today, in the US, the pension risk includes:

- Political/regulatory risks – With the PBGC’s deficit skyrocketing in the last several years (including taking over the recent United Airlines pension plans), premiums all plan sponsors pay will be increasing. It’s only a matter of how high and how fast. In fact, most pension professionals believe that the PBGC cannot exist longterm as currently organized because of flaws that violate the basic tenets of any insurance market
 1. Risk-based Premiums - Premiums charged do not properly reflect the risk being transferred to the PBGC. Since the PBGC can not change its premium structure without Congress, it has been unable to charge a true risk-based premium, i.e. charge more for plans with higher probability of a claim on the PBGC. This would be analogous to the government telling all car insurers to charge one rate to both good and bad drivers.
 2. Moral hazard - . This is an insurance term to describe the situation where the insurer can manipulate their insurance coverage (i.e. claims) to their own advantage. In the PBGC context this moral hazard occurs when plan sponsors adopt expensive plan amendments knowing full well that if the economy does great, they will have money to pay for these amendments. However, if the economy does poorly, the PBGC will guarantee these benefits. This moral hazard is very apparent in the recent airline industry bankruptcies.
- Accounting risk – FASB has indicated that it will be adopting new pension accounting rules that will mark-to-market both assets and liabilities. This will be a continuation of the general trend of convergence of accounting standards across the globe.

- Cash Contribution/Deficits – Many plan sponsors, for example private companies, may not be as concerned about accounting risk. However, they may be very concerned about any cash contribution requirements due to large deficits.
- Surplus Risk – Under current tax rules, if a pension plan develops a surplus, i.e., assets in excess of liabilities, the company is not able to pull the money out of the trust. If the company does so, it will pay a combined tax rate approaching 90% (income plus an excise tax). With such a draconian tax, an unintended consequence has been for companies to not fully fund their plans. In essence, their employees then have a free call on the assets of the pension plan: If the assets do well, employees will benefit because the employer can't get the assets out and will most likely increase benefits. If the assets do poorly, the company will have to contribute more. Such “free” calls due to regulatory influence increase the overall cost of running pension plans.
- Mortality and Other Demographic Risk – What are the risks associated with our employees demographics? Are they living longer? Do other risks like health insurance impact the cost of pension plans?

Quantify Risk

Now comes the harder part of identifying stakeholders and risk: How to quantify each of these risks for all parties involved. For most, if not all, of these risks, you may want to employ several different methods of estimation including:

- Best guess – Just use a best guess estimate of the risk, nothing more than scratching down your ideas
- Ignore – You may decide that the risk is there but that it is so small it is not worth the time it takes to estimate the value. Be careful before you place a risk in this category because a risk you face now may appear small, but could grow more significant in future.
- Scenario Testing – Using various scenarios (e.g. high inflation and high investment returns vs. low inflation and low), estimate the risks. This is sometimes called deterministic forecasting since you “determine” the assumptions/scenarios ahead of time.
- Stochastic Forecast – A more sophisticated way for you to estimate the value of risk is by performing a stochastic forecast. Here, you quantify the risk using random variables and provide answers like “We have a 60% chance of a \$1 million contribution within three years.”

Separate and Manager Risk

Now, after all this work, you come to the point of having to make a decision about what risk you want to bear and what you want to pass off onto others. Some of the risks – political, accounting, etc. – cannot be passed off onto others at all. However, some of the other risks faced by pension plans can be passed to others. In your decision-making process, you should evaluate this alternative.

In support of this evaluation is a key-tenet of risk management derived from modern portfolio theory which says you only get “paid” for bearing non-diversifiable risk. In other words, if an efficient market exists for a particular risk, a company would be better off to pass the risk on to this

efficient market, and only keep those risks that are non-diversifiable and that they can manage to produce a superior profit.

During this stage of risk separation, don't forget to look at the impact on various stakeholders. For example, a common exercise – especially given the recent investment returns - is for plan sponsors to focus on the investment risk in their retirement plans. The first question is “Who should bear this risk?” In a defined benefit plan, this risk resides with the plan sponsor. With a defined contribution plan, this risk is transferred to the participant. Moving beyond this first order question, you should then ask, “Who is best able to bear this risk? Both now and in the future?”. Research has shown that when employees direct investments in a defined contribution plan, they typically underperform professional investment managers. So, this risk-shifting becomes asymmetric: It reduces the employers' risk while increasing the employees'... though by a much larger amount. So, remember to look beyond one single viewpoint to include all stakeholders.

Asset Allocation Question

Combining all this together, and getting back to the original question – Is the 60/40 asset allocation a dinosaur? – my opinion is that the jury is still out in the near term. In the long term however, I believe we will see the allocation move to 20% equity and 80% fixed income for the following reasons:

- Tax Arbitrage
 - With current tax rates, holding equities within the pension plan does not optimize corporate capital structure. UBS, in a recent investment research paper, estimated that for every \$1 of equities sold in a pension plan, a company could produce approximately \$0.10 in present value of tax savings by issuing more corporate debt.
- Accounting Change
 - Very soon, FASB will move to a mark-to-market pension accounting that will highlight the true cost of holding equities within a pension plan. As an analogy, consider the current reserving methods for insurance companies, imagining a pension plan as a small insurance company. If an insurance company holds equities, then they must hold higher reserves due to the volatility of the equities (and vice versa, if they hold more bonds, they have a lower reserve requirement). Applied to pension accounting rules, this would mean that if a plan sponsor decided to hold equities, they would, first, record a higher “reserve” i.e., liability, and second, show a higher expense and therefore lower earnings.
- Appropriate Risk Bearing... or “De-risking the Pension Plan”
 - The opacity in our current accounting methods encourages inappropriate risk-bearing that eventually the market will eliminate. Consider this example – an investment in shares of General Motors. Are you really making a bet that GM will build better cars than Ford or Toyota or are you betting that GM's pension committee manages its enormous pension plan better than others? It's just like the key tenet of modern portfolio theory that says you are only compensated for bearing non-diversifiable risk. Companies are in business, i.e., they are not diversified, so you should expect a payment for investing in them. Since many, if not most, of the risk of the pension plan can be diversified away, the market says you should not be compensated for these. Plan sponsors should “de-risk” their plans, and take risks where the market will compensate them – in their core business.

- Frozen Defined Benefit Plans
 - Recent studies has documented the trend toward freezing defined benefit plans and replacing them with defined contribution plans. A 2005 study by Watson Wyatt of the Fortune 1000 showed that over 10% had frozen their db plans. All the arguments above, apply doubly so for frozen plans.

So with all these good reasons, why haven't other companies followed Boot's example? Some industry experts have commented that many Chief Financial Officers would move to more bonds, but have not done so because they do not want to be "penalized" for being a first mover. Also, companies are moving slowing in this direction with small incremental shifts to fixed income securities. Studies of asset allocation of companies have shown small (less than 5% swings). The recent trend to freezing pension plans, is an attempt to reduce employer's risk and slow the bleeding, however, most frozen plans have keep their asset allocation steady.

Ultimately, the catalyst for change will either be from the regulators (FASB changing their accounting rules) or interest rates rise high enough that plan sponsors can terminate their plans with minimal cash contributions.

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