Ryan
Conference

Boots for Everyone
(Speaker's Notes)

Jeremy Gold

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Slide 1

Recall:

Absent taxes, s/h's indifferent to pension asset allocation.

$1mm swap in pension plan =>
offsetting $1mm swap in s/h personal portfolios.

Now we consider taxes.

Slide 2

We assume 35% corporate income tax rate.

S/H's maintain risk exposure by personal swaps of $.65 for every $1 swap in the pension plan.

This neutralizes s/h position before taking into account the s/h's personal income taxes.

So final result depends on the impact on s/h personal taxes.

Slide 3

Plan base case is same as before:

$1mm bond assets = liability cash flows.

We add taxpayer personal tax rates:

40% on bond income

15% on equity returns -- this is an estimate.
Actually a declining function of holding period.

5% risk-free rate.

Slide 4

Following a $1mm bonds --> S&P pension swap,

and s/h $650K S&P --> Bond swap,

s/h personal taxes are increased by:

5% of 162.5k every year.

Details left as an audience exercise.

Slide 5

The after tax present value of the tax increase in perpetuity is $270.8k.

A LOSS to s/h's.

In reverse, Boots-like reallocation adds $270.8k of after-tax present value per $1mm swap.

Slide 6

Each $1mm shift adds $270.8k to s/h's. This may be compared to the entire value of the $1mm held by the pension plan.

The $1mm in the plan has an after-tax value to s/h's of $552.5k.

So re-allocating from stocks to bonds adds 50% to the value of the amount shifted.

$2b well-allocated (bonds) is as valuable as $3b mis-allocated (stocks).

Slide 7

This is not the result of some statistical model or estimate.

It does not depend on the future performance of the capital markets.

It is a risk-free arbitrage gain.

Slide 8

I have illustrated the value gain as though it depended on s/h action.

With transparency and reasonably efficient markets, the value gain arises from the pension transactions alone.

The s/h reaction is mostly a didactic device used to illustrate the value of the gain.

One alternative way to capture the value is for the company to increase balance sheet leverage -- as Boots has recently announced.

Slide 9

UK analysts have asked whether their capital markets could accommodate immediate wholesale pension plan emulation of Boots.

No.

Suppose slower propagation combined with share buy-backs. What is the new equilibrium?

Firm balance sheet leverage, no pension leverage, less notional equity, more bonds, less cross-ownership, companies more focused on own business -- not running mutual fund.

Slide 10

What transition effects may we anticipate?

Pension plans act faster than balance sheets.
Pressure to sell equities, demand for bonds.

Poor equity returns during transition.

First mover pension plans win.

Slide 11

Remember:

Shareholder indifference w/o taxes

Actuarial error => equities
Apparent 90% gain

Taxes + transparency => bonds
Real 50% gain

First mover pension plan advantage

Notes Second Half of Ryan – Boots for Everyone

Recall that, absent tax considerations, shareholders are indifferent to the allocation of assets within a company's DB plan. Recall that a $1 swap of stocks for bonds in the pension plan leads to a $1 swap of bonds for stocks in shareholder personal portfolios.

Now we add tax considerations.

Observation I – With a corporate tax rate of 35%, every time that the plan sells $1 worth of bonds and buys stock, the shareholders react by selling $.65 worth of stocks to buy bonds. This maintains the shareholder indifference by maintaining the shareholder's after-tax equity exposure. We next want to examine the net effect on the shareholder after taxes at both the corporate and personal levels.

Example – We suppose a DB plan with $1 in bond-like liabilities and $1 in matching bond assets. We assume a taxpayer subject to personal tax rates of 40% annually on bond income and 15% annually on total equity returns. (Note that this latter value is an approximate annual equivalent of a rate that actually diminishes with the length of the holding period.) We also assume a risk-free bond return rate of 5%.

When the DB plan sells $1 in liability-matching bonds in order to buy $1 in stocks and the shareholders sell $.65 worth of stock and buy $.65 worth of bonds, everything is unchanged except that the shareholder's personal taxes are increased by:

$$(.65)(.05)(.4 - .15) = (.05)(.1625)$$

When we deem this to be a permanent investment policy of the pension plan, we must compute the present value of losing this much in taxes forever:

$$PV = (.05)(.1625)/((.05)(1 - .4)) = .2708$$

Notice that even though no shareholder pays the increased taxes forever, as long as the plan policy is to invest in stocks, what the shareholder does not lose in taxes himself must be lost when he sells his interest in the company to another shareholder who will continue to face tax losses. The stream of shareholders faces tax losses in perpetuity.

This is the case when the pension plan switches from bonds to stocks. It is the same in reverse when a typical plan, heavily invested in stocks today, switches from stocks to bonds. If an American firm were to imitate Boots tomorrow, this is the kind of gain in value that its shareholders would receive.

Each shift of $1 by the pension plan from stocks to bonds is worth $.2708 to the shareholders after accounting for all taxes. Consider that $1 of plan assets is worth $.5525 to shareholders after paying corporate and personal taxes. This means that the shift of $2b from stocks to bonds is worth as much as an instant $1b windfall inside the pension plan. Over time, $2b properly allocated is as valuable to the company's shareholders as is $3b improperly invested. And note that this value is not the result of some statistical estimate, it is not conditional on expected or average or extraordinary future returns. It is a risk-free arbitrage gain to shareholders resulting directly from the transfer of assets within the pension plan.

Observation II – As long as markets are reasonably efficient, it will not be necessary for shareholders to react precisely as outlined for the tax-arbitrage value to be realized. The reduction in pension leverage combined with transparent accounting will cause the favorable revaluation of the firm's shares in accordance with the tax value added. One of the ways that the reduced pension leverage can result in added shareholder value is for the company to recapitalize itself, offsetting the reduced pension leverage with increased balance sheet leverage (as Boots recently announced it will do).

Equilibrium and the first mover advantage

U.K. analysts have asked whether their capital markets could accommodate wholesale imitation of Boots. The short and immediate answer is NO. The bond market is too small and the sale of all the shares held by pension plans could destroy the equity market.

Assuming that the Boots theme propagates across the U.K. over time rather than instantly, what kind of new equilibrium should we expect? BTW, the same analysis will apply in the U.S.

Intense pension demand to acquire bonds and dispose of equities will depress equity prices and lower interest rates. This will, on the margin, encourage corporations to borrow more and to issue less (or repurchase more) of their own equity. This will continue to a new equilibrium in which there appears to be more debt and less equity but, in fact, all we will have done is cancel out cross ownership. Companies will be more narrowly devoted to their own businesses because they will no longer be carrying a diversified mutual fund in their pension subsidiaries.

Companies may, as has Boots, do their own releveraging in conjunction with the reallocation of their pension plans but this is not a necessity of a new equilibrium. In the entirety, however, the new equilibrium will include bonds in pension plans and more highly leveraged corporate balance sheets.

Pension plans can reallocate more readily and rapidly than corporations can recapitalize. This suggests that the journey towards equilibrium will be characterized by too great a supply of equity and a scarcity of bonds.

This implies that pension plans that act sooner will be rewarded somewhat beyond the neutrality implied in my analysis above. Thus first movers will be able to provide their investors with double benefits – tax arbitrage and market timing gains.