

# Integrating Asset Location and Asset Allocation for High Net Worth Investors

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# The Asset Location and Allocation Decisions are Inextricably Linked

- The most common integration situation is asset allocation across the entire portfolio of an individual including both taxable and tax deferred accounts
- Another case is an individual entity with multiple managers
- A particularly complex integration situation is a family with multiple individuals, trust funds and tax deferred accounts
- Integration of the location problem can be addressed at both the asset allocation level and the individual security level

# Traditional Asset Allocation Adapted

- The key issue in formulating investment policies is how aggressive or conservative an investor should be to maximize their long term wealth subject to a shortfall constraint (a floor on wealth). One way to express this is

$$U = E\{ R * (1-T^*) - L S^2 (1-T^*)^2 / 2 \}$$

- L is the ratio of total assets/net worth
  - In Northfield terminology  $RAP = 2/L$
  - **$T^*$  is the effective tax rate which can vary by asset class**
- Total assets and liabilities on an investor's "life balance sheet" can be flexibly defined to include the present value of implied assets such as lifetime employment savings, expected expenses such as college tuition, insurance, estate taxes

# Basic Considerations for Taxable Clients

- Consider each asset class inside a retirement account as distinct from its taxable counterpart. The effective tax rates are vastly different
- Evaluate the taxable/tax exempt bond decision inclusive of Alternative Minimum Tax if applicable.
  - The tax on municipal bonds is not zero
  - Tax “loss harvesting” has always been a prevalent practice among tax exempt bond investors
- Asset classes with high degrees of cross-sectional return dispersion (e.g. small cap stocks) offer the greatest opportunities for tax deferral. This can reduce the effective tax rate.

# Integration of tax deferred (i.e. retirement plans) and taxed assets

- There are a whole myriad of “individual retirement plans” for US investors.
  - Either tax deductible contributions and tax deferral
  - Or non-deductible contributions and tax exempt investment earnings
  - For the very wealthy, IRPs are of lesser importance
- Asset allocation and asset location are one problem
  - Treat each asset class inside an IRP as distinct from the normal class with its own effective tax used in asset allocation
  - Funding for unexpected expenditures should be outside the IRP as there are penalties for early withdrawals
  - Most heavily taxed asset such as taxable bonds go inside IRPs
- Rebalancing asset allocations will usually mean moving money from stocks to bonds, so a balanced IRP account can minimize rebalancing tax costs
  - Tax inefficient equity funds can go inside IRPs

# How about an Easy Tax Aware MDA?

- Multiple Discipline Accounts are just multiple SMA managers sold to individuals as a package
- Assume each manager ignores taxes in forming a model portfolio for each client
- If the manager mandates are mutually exclusive, one approach is to just build a benchmark that is the weighted sum of the model portfolios
- Passively tax optimize the combined portfolio against the joint benchmark
  - Return proceeds of tax motivated transactions back to the source account for reinvestment

# A Smarter Tax Aware MDA?

- This works better than the simple approach and is necessary if the manager's have overlapping universes
  - At each rebalancing, take each manager's model portfolio and compute "implied returns" using your favorite model of risk
  - Transform tracking error into risk tolerance to allow for different aggressiveness levels across different managers
  - Form the weighted consensus alpha across all managers for each stock
  - Optimize the portfolio to the joint benchmark using the consensus alphas and tax awareness
- Details at:
  - diBartolomeo, Dan. "A Radical Proposal for the Operation of Multiple Manager Investment Funds", Northfield Working Paper, 1999, <http://www.northinfo.com/documents/61.pdf>
- Vanguard Australia is using this technique very successfully with large pension funds (which are taxable entities)

# Lets Consider A More General Case

- We want to find the globally optimal portfolio for a set of related sub-portfolios
  - Possibly ownership of different assets by different individuals or legal entities
  - Potential different tax rates and legacy positions
  - Legal considerations may require different risk levels of risk aversion in different accounts including position size constraints
- We would like
  - To be tax efficient across the entire portfolio
  - Capture as much pre-tax performance as possible
- We can't just optimize as one big portfolio because we can't move money between accounts

# Stupid Optimizer Tricks

- Transform the problem into a mathematically equivalent problem with uniform risk tolerance and tax rates across all accounts
- Create separate versions of each security for each account such as IBM\_Husband, IBM\_Wife, IBM\_IRA
- Some commercial optimizers can handle “composite assets” which is a single representation of a portfolio (such as ETF or index future)
- The market value of all “\_Husband” securities must always add up the starting value less transaction costs
  - Set position size limits on “versions” as needed
  - Factor constraints at the sub-account level

# Conclusions

- Wealth management for individuals and families will inevitably intertwine asset allocation and asset location
- Asset allocation should be undertaken using effective tax rates for each asset class, treating the same asset class separately for each applicable tax situation
- Procedures exist for handling the impact of asset location on portfolio management strategies across multiple accounts of one individual, or multiple accounts held by multiple entities

# More Stupid Optimizer Tricks

- We manipulate the cost basis of positions to create different tax rates in different accounts
  - To simulate an account with no capital gain tax, we can have any tax rate we want as long as the cost basis of any position is equal to its current market price
- We adjust for different risk aversions by making each version of a security contain a varying degree of leverage
  - IBM in an account that is twice as risk averse can be represented as a composite asset consisting of 200% IBM, -100% cash
- Tax optimize the whole thing against an appropriate joint benchmark