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Portfolio Management For Private Taxable Wealth: Basic Concepts and Operations

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Goals for Today

- Summarize best practices in managing private taxable wealth

- Most of today's material is drawn from:
  - *INVESTMENT MANAGEMENT FOR TAXABLE, PRIVATE INVESTORS: A HANDBOOK (2006)*
  - Jarrod Wilcox, Jeffrey Horvitz and Dan diBartolomeo
  - Free to download from the CFA Research Foundation website
  - http://www.cfapubs.org/toc/rf/2006/2006/1

- Bad news or good news (depending on who you are)
  - Only a few big firms have made progress in implementing operations around these concepts
  - Our best guess is that about 100,000 portfolios are being run in a compatible way in the US, and a smaller number abroad

What We Want to Cover in the Next Hour

- Operational challenges of private clients
- Finance theory and the private investor
- Changing preference functions through the life cycle
- Lifestyle and wealth transfer considerations in asset class selection
- Overview of taxation of investments
- Key differences between managing institutional assets and high net worth clients
- Portfolio management as a manufacturing exercise
- Integration of tax deferred (i.e. retirement plans) and taxed assets
- Householding

The Challenge of Private Clients

- Private clients are heterogeneous. They require a high degree of customization
  - Most investments are taxable, and taxes are a vastly bigger issue than the transaction costs that all investors face
  - Private investors will have different pools of wealth set aside to fund specific consumption events
  - Investor preference functions evolve during a finite life span. The goals and objective will be constantly changing
  - The desire to liquidate investment assets for consumption is less predictable than institutions
  - **Too much similarity among multiple private client accounts can be considered an illegal, unregistered mutual fund by the SEC**

Good Practices with Private Clients

- Even very wealthy individuals rarely have a staff of investment experts and consultants to help them create sound investment policies

- It is incumbent upon the investment firm to act in a greater fiduciary capacity
  - Clients have to be educated about the economic ramifications of policy decisions in an *after-tax* context, particularly the pros and cons of active versus passive management of taxable assets
  - You can't assume that if an investor buys into your investment product that it's the right product for them
  - For institutional portfolios, the intellectual capacity of the investment firm can be concentrated on investment markets.
  - For high net worth individuals equal attention must be focused on constant adaptation to client needs and preferences

Finance Theory and the Private Investor

- The Quasi-Efficient Market
  - If the market is relatively efficient after we take account of traditional transaction costs, it will seem all the more efficient when the large bite of taxes is included
  - Adding alpha through tax deferral and risk control builds wealth more reliably than the vast majority of active strategies

- Utility Theory
  - The finite and complex lives of individuals may very difficult to express their economic utility via simple utility functions
  - Most institutional investors need extensive analysis to establish appropriate levels of investment aggressiveness.
  - How can we expect high net worth investors who are not investment experts to numerically articulate their preference functions?

More Theoretical Concerns

- Markowitz mean-variance optimization
  - We need to have inputs in an after-tax form
  - Private investors care a lot about absolute risk as well as tracking error
  - Estimation errors are especially important as it's often expensive to rebalance taxable portfolios.
  - Asset allocation and risk analysis need to include illiquid assets, as these are often a large part of investor wealth
  - Asymmetries in the tax code may create skew in the after tax return distribution in some extreme cases
  - Markowitz MVO is a single period model. There is only "now" and "forever". The IRS doesn't see the world that way.
  - Risk tolerance changes over time and with wealth. High rebalancing costs create significant linkages across time periods so returns may be serially correlated.

Even More Concerns

- The Capital Asset Pricing Model
  - Assumes no trading costs and no taxes
  - Limited research on what passive portfolios would be most efficient on an after-tax basis
- Option Valuation Theory
  - Assuming costless continuous rebalancing of the hedge
  - The choice to realize a taxable gain or loss can be modeled as an option, so asset specific risk can be a plus
- Stochastic Growth Theory
  - We know how aggressive investors should be if all they care about is maximizing logarithm of wealth at the end of time, with no consumption concerns in the interim

$$C = A - S^2/2$$

  - This doesn't fit very well conceptually with the finite lives of individuals

Changing Preferences Through the Life Cycle

- The key issue in formulating investment policies is how aggressive or conservative an investor should be to maximize the median of their long term wealth subject to a shortfall constraint (a floor on wealth). The Discretionary Wealth Hypothesis (Wilcox 2003) states:

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

  - L is the ratio of total assets/net worth
  - In Northfield terminology RAP = 200/L
  - T* is the effective tax rate

- 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, retirement living, insurance, estate taxes

Life Cycle Investing

- The "life balance sheet" concept integrates changes in both age and financial wealth into a single determinant of optimal aggressiveness
- Using this procedure will maximize the median rather than the mean of log wealth in the long run. This is similar to the concept to Constant Proportion Portfolio Insurance
- The value of "flexibility options" such as changing careers, or cutting expenses to increase savings can be roughly approximated for inclusion on the balance sheet
- Even if an investor can't describe every "implied asset" or "implied liability" this a great framework for discussion of risk preferences

Wealth Transfer Considerations

- There are lots of potential high net worth investors
  - We estimate that there are more than 150,000 in the world with net worth in excess of $30 Million and 15 million people with net worth in excess of $1 Million, excluding primary residence
- Spending and consumption are different
  - If you're rich enough it's hard to consume your wealth
  - Think of a hierarchy of expenditure needs
  - Spending requires cash not income, unless legally constrained
- Deferral of capital gain tax becomes more valuable with age, but estate tax only impacts the wealthiest 2% of US investors
  - *The mechanism of tax deferral is not a tax free loan. It's more like a limited partnership where the government is a silent partner. Deferring taxes allows for faster wealth accumulation through faster compounding*
  - *In the US, the government gets their share eventually unless you die, as there is no capital gain tax after death.*

Lifestyle and asset class selection

- Gross returns to net wealth accumulation are reduced by
  - Costs and management fees
  - Income, capital gain and estate taxes
  - Inflation
  - Consumption

- Each major asset class has pros and cons
  - Both equities and fixed income as asset classes have had very long periods of positive and negative after tax real returns
  - Cash equivalent instruments are highly correlated with inflation but consistently produce negative real returns after taxes
  - Real estate provides significant tax benefits but isn’t liquid

Are Hedge Funds an Answer?

- Hedge fund investments are popular with high net worth managers and family offices:

  After-tax volatility is less than pre-tax, so hedge funds often look surprisingly low risk to taxable investors

  But hedge fund returns are highly taxable from short term gains

Consider an investor who has two hedge funds: fund A has 40% return, fund B is -40%.

What's the total fee if each fund is 1% + 20% of profit?

Overview of Taxation of investments

- The "effective" mechanism of income taxation
  - Published rates are less crucial to effective tax rates than the definition of taxable amounts, character of profits, netting limitations
  - Taxes on income are hard to defer, while the option to defer capital gain taxes has significant value if done for long terms
  - Limitations on tax loss "carry-forward" complicate economic valuation of netting options
  - State and local taxes matter too
- In the US AMT impacts investors with large investment returns relative to earned income
  - An extra tax that is levied on investment returns that otherwise would be subject to lower (or zero) rate of tax. For example, the income on tax-exempt bonds
  - Effective tax rates on different asset classes are close together than the published rates would suggest
- Offset of capital gain and loss must be of like character

US Tax Treatment of Asset Classes

- Fixed Income
  - Taxable interest at the highest marginal rate
  - Alternative minimum tax must be considered for the taxable/tax exempt bond allocation
  - "Taxable equivalent yield" is a useful measure only if the bond is likely to be held to maturity. Since most people don't hold to maturity, the effective tax rate for long term tax exempt bond is higher than short maturities due to potential for capital gains
- Equities
  - "Qualified" dividends taxed at long term capital gain rate
  - High cross-sectional dispersion increases the value of tax deferral options, reducing effective tax rate
  - Short positions are taxed at the higher short term gain rate
- Mutual funds and REITs
  - Pass through of capital gains but not losses
  - Possible acceleration of capital gain taxes due to "embedded" capital gains

More US Tax Stuff

- Real estate
  - Depreciation deductions can help convert ordinary income to capital gain taxed at a special rate
- Constructive ownership/disposition
  - A lot of hedging schemes are tax risky as they can be construed as "constructive disposition"
  - Triggering "wash sales" through trading "nearly identical securities"
- The Federal Estate tax is often referred to a "nearly optional, as there are numerous ways to avoid most of it through trusts and other legal structures
  - But watch for the Generation Skipping Tax
- Retirement accounts are tax-deferred with deductible contributions, or have non-deductible contributions with tax exempt withdrawals

Basics for Improving After-tax Performance

- Basic #1: *Pay attention to tax lots*
  - If your portfolio management system can't tell you which lot you're selling, don't manage private clients
- Hold all securities for long term capital gain
  - Nobody is good enough to overcome a 20% incremental tax
  - Take short term gains only when avoiding special risk situations
- Harvest tax losses whenever feasible
  - Taking 30% loss is a good rule of thumb
- Controlling turnover is key
  - Keep investment related turnover to an absolute minimum
  - Passive management is an excellent choice for high net worth investors, *except small cap equities*
  - Active managers **absolutely must** intelligently offset gains/losses
- Consider actuarial probability of stepped up cost basis at death to escape capital gain taxes entirely

More Tax Aware Investing

- 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
  - Tax "loss harvesting" has always been a prevalent practice among tax exempt bond investors
- You can generate tax deferral by holding on to position that is "nearly hedged" with a derivative
  - But make sure you've calculated after-tax hedge ratio and the tax treatment of the hedging instrument
  - Many derivative based tax deferral strategies involve overpriced OTC options or warrants

Checklist for Institutional Managers Taking on a Private Client

- Private client objectives are not easily summarized in conventional benchmark indices
  - What is the economic meaning of "after-tax" tracking error?
  - "Suitability" means as much as optimality
- Taxes are a key driver
  - Use effective tax rates for asset allocation decisions
  - Run security portfolios with tax-efficiency in mind
  - Tax "alpha" is real, consistently available and large (30 to 100 bps)
  - Specifics on tax alpha strategies are covered in related presentations
- Asset managers have a fiduciary duty to advise clients
  - What's your realistic expectation of your active management alpha after taxes? If it's negative, passive management is the way to go
- The volatility of after tax returns is reduced proportionately to the effective tax rate

More Issues for Private Wealth Managers

- Performance measure of taxable accounts is problematic
  - CFA standards require that if you report after-tax returns you have to count tax payments as costs, and changes in contingent tax liabilities ought be communicated to clients,
  - Some people advocate "full liquidation" performance calculations. After-tax return is the percentage change of periodic after-tax liquidation value
- Risk management policies are crucial
  - It can be very expensive to revise asset allocations
- Private clients often have large concentrated positions as a result of inheritance or business ownerships
  - Any transition strategy must weigh taxes carefully against the improved compounding through lower risk
- Private clients care a lot about absolute return and risk
  - You need cash for spending
  - Taxes are levied on absolute profits, not index relative profits

Portfolio Management as "Manufacturing"

- "Mass customization" is the key to managing large volumes of high net worth clients. Separate the investment process into three distinct roles
  - Client relationship to define client needs and wants
  - Investment research and "best ideas" investment models
  - Adaptation of "best idea models" to individual client needs. This is the usual bottleneck for large volumes, but it can now be effectively automated
- Most firms do a poor job with private client accounts
  - Taxes are often ignored, or treated as a last minute afterthought
  - Or they use taxes as an excuse to do "pseudo passive" management at active management fees

More Portfolio Manufacturing

- Use "tax aware optimization" to index track the "best ideas" model portfolios to different clients
  - Adjust alphas to reflect expected after-tax dividend stream
  - Treat capital gain taxes as big transaction costs
  - Amortize taxes to reflect portfolio turnover, compounding value of tax deferral, and likelihood of stepped up cost basis
  - Adjust risk aversion to both absolute and index relative risks
  - Adapt number of stock names to different portfolio sizes
  - Exploring the tax/risk efficient frontier to maximize long term wealth accumulation for transition of legacy portfolios

- Emphasize tax aware strategies
  - Value strategies sell what went up. Bad for taxes compared to momentum strategies at the same turnover
  - Quant strategies are more flexible than bottom up stock picks
  - Stock universes with higher cross-sectional dispersion (e.g. small cap) increase the value of the tax deferral option

Integration of Tax Deferred and Taxed Assets

- There are a whole myriad of "individual retirement plans" for US investors. Similar schemes in many countries
  - 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
  - *Instead of an efficient frontier we have a three dimensional efficient surface where the third axis is the percentage of household wealth that is tax advantaged.*
  - 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

Where Most "Tax Sensitive" Firms Fall Short

- The most common failure is to treat security portfolios across asset classes in a unified fashion for taxes
  - A capital loss on a bond can be used to offset a gain on a stock
- Rule based "tax sensitive" processes are deeply flawed
  - Many systems allow you to program in rules like "don't sell a tax lot at a short term gain if it has been held 10 months or more"
  - Such a rule would has been a disaster in a case like Enron, and even more sophisticated rule sets fail in foreseeable circumstances
- Managing taxes as a constraint is almost as bad
  - Some firms operate as "maximize return subject to not taking more than $X in net gains during this tax year"
  - The value of X is usually arbitrary and does not reflect rational tradeoffs between return, risk, current taxes and deferred taxation. Taxes are a cost that should be in the objective function

Dealing with Entire Households

- Multiple accounts held by various members of the same family represent a very special challenge to wealth management organizations.
  - A single family could have accounts that are held in the name of the father, mother, various children, plus trust funds
  - Some of these accounts will be taxable, with a variety of tax circumstances and legacy holdings. Other accounts within the set are likely to be tax-deferred retirement accounts or possibly offshore structures.
  - Even a single individual with a tax deferred account must make the interconnected choice of *asset allocation* and *asset location*.
  - In addition, each of the accounts may have a different level of risk tolerance.

The MRA Structure

- Within a set of multiple related accounts (MRA), there are separate pools of money in various sub-accounts
  - Funds cannot be moved from one to another
  - In some cases, the client has multiple managers each actually managing a "sleeve" or distinct sub-account.
  - In other cases, there are sub-accounts for legal reasons (e.g. husband and wife, 401K, trust fund, etc.)
  - There is no central actual account. Each sub-account may have its own benchmark, tax circumstances and risk tolerance.
- Our goal in this case is to do a "global" optimization of the client's MRA portfolio across all sub-accounts:
  - Caveat: What is optimal for a family group as a whole is not likely to be optimal for any one member of the group. *This can lead to some rather nasty issues in divorces and across generations*
  - Scherer (2014)

MRA Optimization Goals

- Our goals in this case are to do a "global" joint optimization of the client's MRA portfolio across all sub-accounts:
  - tax efficient across the entire MRA portfolio
  - capture as much of the investment performance as possible as would otherwise have occurred in each sub-account
  - keep each of the sub-accounts meeting any position size constraints that were originally imposed on that sub-account
  - No money can move between sub-accounts
- This would be easy to optimize as one big portfolio if the tax rates and risk tolerance were uniform across the sub-accounts, but they aren’t.
- You may also want to control tracking error of each sub-account to bound the “fairness” problem

Unifying the Problem

- Our basic approach is to transform the problem we have (multiple heterogeneous sub-accounts) to a mathematically equivalent problem where all the sub-accounts have effectively uniform properties of tax rate and risk tolerance.

- Mechanics of the entire process including use of implied alphas was described in diBartolomeo (2005)

- Example:
  - For different tax rates across different taxable entities, adjust the cost basis of the positions so that the value of the potential taxes on positions are proper.
  - If I choose a "global" capital gain tax rate of 20%, and one sub-account is taxed at 10%, we adjust the position cost bases to make gains and losses half as large for that sub-account.

Conclusions

- Good asset management for high net worth individuals requires lots of intellectual effort on the clients needs, as well as investment market opportunities
- Lots of good theory and "best practices" have been developed in recent years on how to manage taxable private clients
- Asset allocation and security portfolio strategies can reliably obtain economically substantial "tax alpha"
- The heterogeneity of private clients can be cost effectively handled through the "portfolio manufacturing" paradigm.
  - It's a win-win. Better investment results for the clients and lower operating costs for the asset management firm