Detailed Briefing Paper for

EFFICIENT TAX™
PORTFOLIO OPTIMIZER

Introduction

The American financial services industry has not introduced any major improvements in the management of taxable equity portfolios for over two decades. It still relies largely on the goals and metrics of success offered by the traditional tax efficiency approach of minimizing taxes in a current year. Currently, after-tax performance is calculated by deducting the amount of tax liability resulting from the realization of gains and losses during the year, from the before-tax rate of return achieved in a calendar year. This calculation seems reasonable on the surface, which is one reason why tax efficiency has heretofore been embraced as the best solution to tax sensitive equity investing. Until now. Our company, **Efficient Tax LLC** proudly introduces our products **Efficient Tax** and **Efficient Tax Portfolio Optimizer**. Representing the greatest advancements in tax sensitive equity management in over two decades.

Efficient Tax and **Efficient Tax Portfolio Optimizer** represent two breakthrough advancements over current practices in tax sensitive equity management. The first breakthrough is changing the investing goal from minimizing taxes to maximizing after-tax wealth over time. This is done by calculating, via our patented process and methods, how much **Extra** return is necessary from an alternative investment in order to exceed the cost of selling a taxable security.

Efficient Tax is a fundamental sell discipline, guiding investors when to realize gains and losses at the tax-lot level, individually or across entire portfolios. Our techniques have the potential to add as much as 0.5-1.5% in after-tax Alpha per year in portfolio performance. This leads to a possible double digit 10-30% increase in after-tax, fee and inflation real wealth accumulation, over time, for an investor**.** **Efficient Tax Portfolio Optimizer** is able to apply its fundamental sell discipline over entire portfolios, making it easy for the user to determine the best sequence and combination of tax-lots to sell when trying to raise cash while minimizing taxes, but not at the expense of future after-tax returns.

Each tax-lot has its own set of break-even economics. **Efficient Tax** offers an advanced approach for calculating after-tax Alpha. With each tax-lot we compare its projected after-tax value at the end of a chosen investment horizon with that of selling now and reinvesting the after-tax proceeds. Waiting until the long-term window is eclipsed before selling and reinvesting is also taken into consideration. Given a set of investor facts, tax-lot facts and performance expectations, **Efficient Tax** identifies which decision is forecasted to be optimal

on an after-tax basis, over time. In order to maximize after-tax wealth, one has to step into the after-tax world. **Efficient Tax's** patented methods offer investors the critical after-tax metrics necessary to forecast and measure success in after-tax terms.

In the taxable word, second only to losing money, taxes represent the biggest cost of taxable investing. And their impacts on rational decision making is now possible though the economic lens of **Efficient Tax**. In the non-taxable world, the cost of capital redeployment, or selling one asset in favor of the purchase of what is considered a better investment, is very small usually. A commission to sell and a commission to purchase. However in the taxable world, the cost of capital repositioning includes the cost of a very material tax in most cases. And can only really be justified if a replacement investment is expected to out-perform the original holding by at least the amount of the tax. The likelihood of that happening in a single year is most often quite unachievable and problematic. But if one considers a longer term horizon, such as three to five years, then after-tax returns can be maximized over those time horizons.

However, the U.S. financial services industry has been unable to agree on a standard tax sensitive portfolio optimization discipline. This is because the traditional tax efficiency model is not adequate enough to lend itself to expansion into a proper portfolio optimization strategy. The implementation of **Efficient Tax,** applied across an entire portfolio through the utilization of our **Efficient Tax Portfolio Optimizer**, represents the second breakthrough advancement in tax sensitive equity investing.

By generating a rigorous after-tax sell disciplined Alpha ranking of tax-lots to be sold in a sequence across an entire portfolio, portfolio after-tax performance is enhanced first by selling those tax-lots whose level of after-tax proceeds upon sale add the greatest forecasted extra after-tax return over time through a reinvestment when compared with holding onto it. And further improved by retaining those tax-lots with the greatest after-tax return potential remaining by selling those with the least after-tax return potential remaining higher in the ranking process.

We recommend the selling of partial or whole tax-lots that are forecasted to generate the greatest after-tax Alpha over a specified time horizon, by doing so first. Then selling the remaining tax-lots in sequence, starting with the least after-tax return potential remaining. Therefore, portfolios are managed in a manner in which taxes are minimized, but not at the expense of future after-tax wealth accumulation. Custom to each taxable investor or entity.

Further, investment rates of returns on a tax payment investment as a capital redeployment cost in the selling of a profitable tax-lot, are also able to be forecasted, on an after-tax basis. Either on a custom basis for each taxpayer, considerate of their own tax rates, cost basis, and realized gain and loss values, or at the mutual fund level as well. With the capability of significantly reducing the instances when investors suffer tax liability without matching returns.

Efficient Tax LLC offers firms across the financial services landscape, including separate account and mutual fund investment advisors, financial advisors, bank trust department managers, financial planners, insurance underwriting pool managers, family office managers, certain categories of hedge and private equity investment managers, and sophisticated retail investors themselves, both a low cost and scalable software solution available through the web, or a custom integration option suitable for the largest of organizations. Described in detail below is the set of break-even sell discipline economics at the tax-lot level, and their integration into a five step after-tax wealth driven portfolio optimization process.

Fundamental Summary:

EFFICIENT TAX™
PORTFOLIO OPTIMIZER

Achieving an extra dollar in after-tax wealth accumulation over three years, after investing an extra dollar in tax as a cost of capital redeployment, would capture for an investor a 33% annual after-tax return on that extra dollar in tax paid. We at **Efficient Tax LLC** believe it is focusing on after-tax wealth, and looking beyond one year, that should be both the investor's and manager's goal. **Efficient Tax Portfolio Optimizer** uniquely helps users to describe and understand what combination of economic circumstances, or expectations, have to be in place in order to justify keeping risk on by holding onto a taxable security. Users are alerted when those combination of fundamental circumstances no longer exist, including any tax consequences.

Fatal Flaws with the current Tax-Efficiency model

In order to understand the advantages of **Efficient Tax** one must first understand the fatal flaws in the current "state-of-the-art" goal of simply minimizing taxes. Remember that the investment goal of tax efficiency is largely to "Minimize Taxes In Any One Year". Tax efficiency is usually accomplished by waiting to sell tax-lots that are profitable when they achieve the long-term capital gains tax status, if at all. And by offsetting gains and losses for the goal of minimizing taxes in any one year. At first glance, this might all seem quite reasonable.

In addition, in today's taxable investment world, the measurement of success of tax efficiency investing is identified by the metric of the level of "Tax Efficiency". If an investor captures a 10% before tax rate of return, measured by the change in market value, plus dividends, and by today's tax efficiency metrics has a 7% after-tax return, the level of tax efficiency is determined to be 70%. The higher that number, presumably, the better job of tax

sensitive investing has been accomplished.

The way after-tax performance is measured today through tax efficiency measurements, is to take the before tax rate of return, calculate the realized gains and losses for a tax year, along with their associated tax liability, and deduct that measured tax liability from the before-tax rate of return. Then presumably, an investor has their yearly after-tax rate of return. In other words the measure of how well an investor has done in terms of advancing their after-tax wealth. We believe this approach is very flawed, and is greatly improved with **Efficient Tax** and the **Efficient Tax Portfolio Optimizer.**

First, tax efficiency's tax minimization goal is the wrong goal. Instead the proper goal should be to Maximize one's after-tax wealth over time, even if one has to pay more taxes to do so. This is done by calculating how much extra return is required from an alternative investment in order to exceed the taxes associated with selling a taxable asset, (recognizing that cost-basis, tax rates and time make a big difference in each break-even calculation), and identifying when those circumstances are likely to exist.

The higher the tax rate an investor suffers from, or the lower the cost basis they have in a stock, the greater the embedded tax-liability. Therefore, a greater amount of extra return is required from a substitute investment in order to recover and profit from a tax cost over an acceptable time period, and justify a sale. That can happen because of a price increase that reduces future returns relative to a price target will expand the extra relative return available from a substitute reinvestment. Lower tax rated investors can justify higher portfolio turnover and selling earlier and at lower prices than higher tax rated individuals.

If one out-stretches their right arm out to a certain level, we can describe the after-tax rate of return expectation of holding onto an existing tax-lot. Out-stretching one's left arm above it can then represent the after-tax return potential of a replacement purchase or return assumption. The difference between those two lines can in effect represent the gross margin or revenue forecasted to be produced by purchasing a better investment.

Then think of a tax liability as in the shape of a box. That box gets bigger either because of a lower cost basis, or a higher tax rate, yielding greater overall tax liability. The question becomes when does the area between the lines, or the Alpha margin, become greater than the space in the box? That, in part, is what **Efficient Tax** is figuring out.

An investor is often better off selling a fully or over-valued stock, paying the deferred tax imbedded and reinvesting the after-tax proceeds in a superior investment, than they are holding onto the stock. This holds as long as the superior investment's extra performance expectation is likely to exceed that of the taxes paid over an investment horizon. A key departure from current practice is the ability to calculate the amortization of tax costs over time, given reasonable assumptions. In the end, the goal should be to maximize after-tax wealth over time by measuring

what it takes to achieve it.

Secondly, tax efficiency's measurement of tax sensitive investing success has major shortcomings. By way of example, let us assume that an investor inherited a concentrated position in a stock twenty-five years ago, and that the stock has risen fairly consistently during that twenty-five year period. In this case, the investor has twenty-five years of rising embedded and deferred tax liability that isn't due until the stock is sold. Let's then suggest, for example, that the S&P 500 gained a 10% before-tax rate of return in a just ended tax year. Additionally the investor's entire portfolio achieved a 12% before-tax rate of return, but the concentrated position, whose gains were realized in the year, advanced 15% before being sold. Deducting 25 years of accrued tax liability against a single year's before tax performance could grossly under-estimate any real measure of after-tax performance. And very importantly, it also violates two key accounting principles.

1. It doesn't match revenues with expenses. The time periods are different. Twenty-five years of accrued tax liability being offset against one year of capital appreciation and dividend income. The gross margin wealth generated from rising asset values, should be offset by an associated marginal accrued tax liability associated with the amount a stock price has risen. Not a series of prior period's accrued tax liability, as realized by a sale. Further, a large tax on one stock shouldn't represent an expense against the unrealized gains of a basket of stocks.

2. It mixes cash and accrual accounting. A cash accounting would be calculated by deducting from the proceeds from a sale, the cost basis and directly associated tax liability, measured across a holding period. Tax Efficiency metrics would have one deducts from a current year's rise in market value over twelve months, twenty-five years of accrued but deferred tax expenses. This does not accurately measure the increase in an investor's after-tax spendable wealth over time.

A much better way to calculate the change in after-tax wealth improvement achieved in a portfolio by an investor over time in terms of what is most important to them, is to use the accrual method. By calculating the after-tax value of a portfolio on January 1st, for example, as if all positions were sold, and any tax liability paid, and compare that to the December 31st value by the same measure. Without putting any more money in or taking any out during the year, as that complicates the calculations. The difference between those two after-tax values is the after-tax wealth accumulation of the investor. In terms of how much extra after-tax wealth they would have at the end of a year after expenses, including taxes, to spend, invest or gift. It is what an accountant would allow an investor to put on their balance sheet. That is likewise, and for the same reasons, the way **Efficient Tax Portfolio Optimizer** calculates past and *prospective* after-tax performance at the tax-lot level, and in the portfolio optimization process. By comparing a tax-lot's current after-tax value relative to a forecasted one.

In order to maximize after-tax wealth, an investor must view the market through an after-tax lens. In order to do that, we need not only cost basis, but sell price as well. That is why one **Must** embrace price targeting in order to gain clarity and a full picture of the tax selling economics necessary for good tax sensitive decision making. Learning that holding onto an existing tax-lot can only be justified at current prices with price targets calculated using excessive or unreasonable forecasted earnings growth rates, or PE's would be important to know.

In the end, the investment decision maker has to take responsibility for any forecast or expectation inputs. Fortunately, to make it easy to start, and as a guide, we incorporate two sets of independent 3-5 year price targets as important system drivers in **Efficient Tax Portfolio Optimizer**. Including one from one of America's leading and most respected independent equity research house, Value Line. Combining a full array of credible forecasts with **Efficient Tax Portfolio Optimizer's** higher mathematics, can consistently generate after-tax Alpha for managers and investors. We will add additional price forecasting data from additional vendors, as time goes by.

Efficient Tax Portfolio Optimizer Outputs

Efficient Tax Portfolio Optimizer generates a variety of outputs on a tax-lot by tax-lot basis. We archive Results Sets for future viewing and review with clients. The three most important outputs are:

1. **After-Tax Annual Average Recommendation Advantage** - This projected After-Tax Alpha value informs the user what the expected extra yearly average after-tax return is projected to be if the best option is not to hold an investment out to the end of a chosen horizon, but rather to either sell now, or to sell at the long-term window. In effect calculating the potential opportunity cost of doing nothing. Whichever recommendation, either Selling Now, or Waiting to the Long-Term Window before selling and reinvesting is forecasted to generate the greatest after-tax wealth at the end of a chosen time horizon.

2. **Existing Tax-Lot After-Tax IRR** - Compares the current after-tax value of each held tax-lot with its forecasted after-tax value, including dividends, as previously described.

3. **After-Tax Annual Return on Taxes** - Treats taxes like an investment and calculates the extra after-tax return value forecasted to be generated by selling, paying taxes and reinvesting, compared with the tax liability.

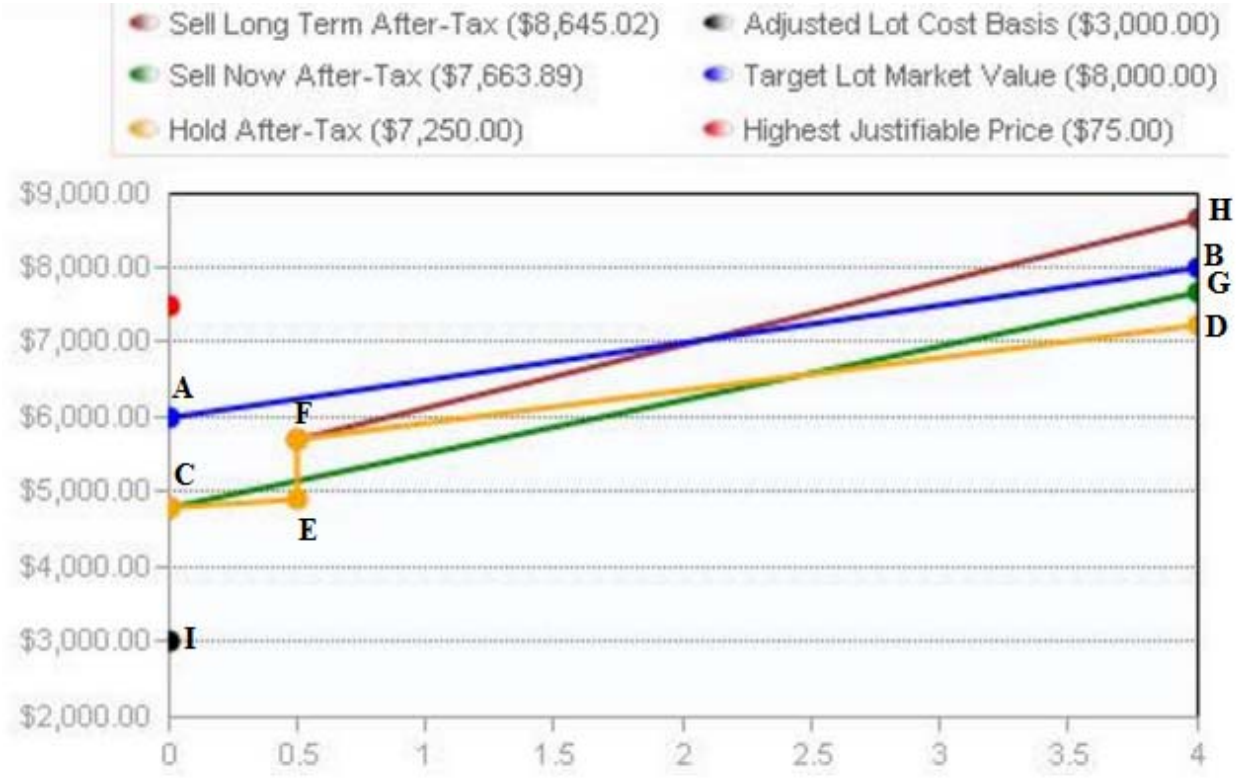
Achieving an extra dollar in after-tax wealth over five years as a result of paying one dollar today yields a 20% “After-Tax Annual Return on Taxes”. The bigger the first and third numbers are, and the lower the second value is, the more compelling a sell decision becomes. The higher the After-Tax Annual Average Recommendation Advantage, or Alpha, for tax-lots recommended to be sold now, the higher it is ranked to be sold in the portfolio optimization process. While in the end, those tax-lots that contain the greatest remaining after-tax return potential, are recommended to be sold last.

Main Principles for Efficient Tax

There are three primary principles that **Efficient Tax** stands on: Base Case, Tax Loss Harvesting and Highest Justifiable Price.

Principle 1: Base Case- Short Term

In the Base Case, described below, an investor has owned an individual tax-lot in a profitable short-term position, for six months.



In the Base Case legend shown above, the upper left values up top are ranked from the highest after-tax value investment choice, to the least.

Point I - Represents the total cost of a number of shares purchased on a particular day; the Cost Basis. In this case, six months ago.

Point A - Represents the current market value of the tax-lot. The stock price times the number of shares.

Point B - Represents a projected or target market value four years from now for the existing holding.

Blue line connecting Points A&B - Hold Market Value Line. Projected current holding's linear price path over time. All the other lines in the graph are in after-tax dollars.

Point C - Represents the after-tax value should the tax-lot be sold today and short-term taxes paid.

Point D - Represents the amount of after-tax dollars resulting after an additional four year projected holding period, assuming the tax-lot was purchased at the designated cost, is expected

to be sold at the forecasted market value, with associated capital gains taxes being paid, dividends collected and their taxes paid, along with any associated brokerage and advisory fees deducted.

Orange line connecting Points C&E Indicates the after-tax value of the Blue Hold Market Value Line before a stock goes long term.

Orange line connecting Points F&D - Indicates the after-tax value of the Blue Hold Market Value Line after a stock goes long term.

Green line connecting Points C&G - Represents the after-tax value over time should the investor Sell Now, pay the short-term tax, and then reinvest the after-tax proceeds at some expected before tax rate of return, out to the end of the investment horizon, with all of its associated benefits and costs accounted for.

Red line connecting Points F&H - Forecasted after-tax value should the investor wait until the long-term lower tax rate is achieved before selling and reinvesting out to the end of the common investment horizon. Notice the step-up in after-tax value on the 366th day of ownership as a result of the lower long-term tax rate achieved.

Whatever decision will reasonably likely achieve the most after-tax wealth at the end of a chosen investment horizon is what the investor should consider doing. It would not be advisable to sell if one was only expecting to make an extra dollar, but the wider the deviation between the after-tax value of holding something versus selling and reinvesting, the more compelling the sell decision becomes. An investor or manager must decide for themselves how much extra money forecasted makes it worth selling as compared to holding onto a stock. **Efficient Tax Portfolio Optimizer** assists with that decision by having a minimum extra return or Alpha input option available as well. It is called the Minimum Compound Selling Advantage. We also include the ability to add a special input for Risk Premium Adjustments. In the case above, one can see that even though one is forecasted to achieve greater after-tax wealth by selling now versus holding, the decision to wait another six months until the long-term window is achieved to sell is the optimal decision, as is often the case, because of the extra tax savings that can be reinvested on a compound basis.

Principle 1 continued: Base Case- Long Term

On the other hand, in a second scenario, if an ownership position had already achieved the long-term lower tax rated status, everything else being equal, the picture would like something like the following;

Blue line connecting Points A&B - Hold Market Value Line. All the other lines in the graph are in after-tax dollars.
Orange line connecting points F&D - Represents the after-tax value should an investor hold the security to the end of the time horizon.
Green line connecting points F&H - Represents the forecasted end-of-horizon after-tax strategy value choice to Sell Now and Reinvest, and confirms that selling at the long-term window, which becomes Sell Now, once the long-term tax-window is achieved, pricing and forecasts still being the same as before, is more advantageous than holding, depicted with the orange line.

In this case the After-Tax Annual Average Recommendation Advantage is projected to be about five extra percent. **Efficient Tax Portfolio Optimizer** is a comprehensive and holistic discipline, dealing with both profitable and losing positions with complete internal consistency.

Principle 2: Tax Loss Harvesting

An extremely valuable facet of the **Efficient Tax Portfolio Optimizer** is in Tax Loss Harvesting. The process of determining when to realize gains and losses, and how to allocate losses against taxable investment gains. **Efficient Tax** quantifies the hidden value in losses, and guides investors in how to optimally harvest them. For example if a tax lot is purchased for $10 per share and then sold for $20 per share, while subject to a 40% tax bracket, there will be $16 left after-tax. Net of the $4 in taxes owed on the $10 profit. Conversely, if an investor makes more money than they lose over time, whereby at some point they will be able to make use of a loss, and a purchase for a stock is made for $20 per share, and later it is sold for $10, the after-tax value, with a 40% tax rate, is $14. That is true if one could either currently, or in the foreseeable future, allocate the $10 loss against a like gain, and save $4 in taxes that the investor would otherwise have to pay. And can add that tax savings value to the market value of the shares sold for reinvestment purposes, and in calculating future after-tax values. The result is an investor has $14 after-tax to reinvest and compound instead of just $10, on a relative after-tax basis. *

A stock at a profit, is worth less on an after-tax value, than a stock at a loss. That is because a stock at a profit is worth its market value less its associated tax liability. While a stock at a loss is worth its market value plus the tax savings value of its loss. And even though a short-term loss can avoid more tax liability when offsetting a short term gain, than an equal amount of long-term loss, a long-term loss that is more than twice as much as a short-term loss, can avoid more tax liability than that short-term loss.

Efficient Tax will calculate the after-tax value when sold, of a currently under water investment position held out to the end of a chosen investment horizon and price target, inclusive of dividends, net of any tax obligation and other costs. We compare this end of horizon after-tax value with the end of horizon after-tax value assuming a loss were realized today, with the resulting stepped up after-tax proceeds being reinvested out to the end of the horizon. If **Efficient Tax** calculates that one would be materially better off in this scenario, by selling rather than holding, then the investor should consider selling and realizing the loss. Later we describe how the hidden value of a loss is harvested to its maximum forecasted potential, in the portfolio optimization process. If a whole or partial currently profitable holding that is fully valued can rationally be sold through the allocation of a realized loss, then a loss can immediately add value with both sets of proceeds then redeployed more productively without any taxes being owed.

Again, the after-tax value of a profitable position is the market value of the tax-lot, minus the tax liability. Conversely, the after-tax value of a losing position is the market value of the tax-lot, plus the tax savings resulting from not having to pay taxes on an otherwise profitable position, either currently, or in a foreseeable future.

Determining when to realize a loss, and then how to allocate it against a gain is often referred to as Tax Loss Harvesting. The first step is knowing when to realize a loss. We can demonstrate that with the following chart;

Blue line connecting Points A&B- Represents the Hold Market Value Line.
Orange line connecting Points C&E- Represents the after-tax value of the blue Hold Market Value Line before going long term. Adding the tax savings value of a loss to its market value.
Orange line connecting Points F&D- Represents the after-tax value of the blue Hold Market Value Line after going long term.
Green line- Represents the Sell Now after-tax value option. With an after-tax value being greater while still in the short-term window, not having been held one day more than twelve months yet, and being able to add more tax saving value to its market value, than a long-term loss could add. A short-term loss being able to eliminate a higher tax rate short term gain tax liability is more valuable than a long-term loss offsetting a lower tax rated long-term gain.
Red line- Represents the sell long term after-tax value.

In this case where an unrealized loss exists, the black Cost Basis dot on the left hand side is above the blue market value dot. The orange after-tax value dot is still between the cost basis and the market value, but because of the drop in price, we add the potential extra value of tax savings accompanying any tax-loss harvesting. This is in contrast to deducting taxes from market value in the case of a profit. In the above example, as you can see along the right hand side, not only is the orange hold option after-tax value the least optimal after-tax value, but the Sell Now is the highest end of horizon after-tax value option. As reflected in the step-down in after-tax

value of a hold option once the long-term window would be reached. The opposite of when a gain exists. Representing part of the internal consistency we spoke about earlier.

The above picture depicts the economics over time of the realization of a loss. In a companion sense, the harvesting of any loss, effectively from a tax liability perspective, has the equivalent impact of allowing the selling of as many profitable shares in a tax-lot that there are losses available in a Tax Loss Harvesting process, in which the full market price proceeds can be reinvested without any taxes having to be paid. Economically depicted by effectively simulating the raising of the cost basis on a profitable stock to that of the market value, for as many shares of a profitable tax-lot that may be sold without incurring any cash tax liability. Therefore that picture would show results of Holding or Selling over an investment horizon, where the Cost Basis is adjusted and in a tax avoidance process, would equal the current market value for the number of shares harvesting a loss. In which case the decision to sell would be primarily dependent upon whether the reinvestment rate of return exceeds the return potential remaining from the owned position. Adjusted for risk as appropriate, by utilizing our Risk Premium Adjustment feature.

The maximum use or allocation of a loss would be against a profitable tax-lot, that when sold, due to its sub-par remaining return potential, would generate the greatest extra after-tax return on reinvested sale proceeds, compared with all other profitable tax-lots within a portfolio. That in part is what happens in the portfolio optimization process.

Principle 3: Highest Justifiable Price

The final principle of **Efficient Tax** recognizes again that every stock has some price that it makes sense to sell, pay the tax and reinvest, even if it is in the short-term window. Under normal circumstances, one would want to wait until the long-term window is achieved before selling in the case of a fully valued profitable tax-lot held less than one year. However, there is an exception when the stock is abnormally vulnerable to falling in price significantly before the long-term window is reached because of any excessive valuation.

If a stock's price is significantly overvalued, it may be more beneficial to sell it in the short-term window, pay the associated tax, and reinvest, than it would be to take the risk that a significant correction might occur prior to reaching the long-term window when it would qualify for the lower capital gains tax rate. This occurs when the price of the stock exceeds that of what we define as the Highest Justifiable Price, in an amount sufficient such that an investor is likely to lose more value on an after-tax basis due to a price drop to its Highest Justifiable Price, than they are likely to save in taxes by waiting until the long-term window, compounding effects included, out to the end of an investment horizon.

For example: Let's suggest that ten months ago an investor purchased a stock for $50 a

share, and now it is trading for $130. But the investor feels it is fully valued at $95 and may fall back to that level at any time. We first calculate what the investor would be forecasted to have in after-tax dollars at the end of a chosen horizon, should he or she sell their currently overvalued position for $130 per share, pay the higher short-term tax and reinvest. And we compare that with what they would have in after-tax dollars at the end of their chosen investment horizon should the stock drop to the Highest Justifiable Price the next day, $95 in this instance. With the Hold position's price then tracking towards its end of horizon value, where it is forecasted to be sold on day 366th at the long-term window. With its lower price and lower taxed proceeds then reinvested. Therefore, if one is likely to lose more value on an after-tax basis due to price decay, than they are likely to save in taxes by waiting until the long-term window, compounding effects included, a sale in the short-term window might be justified. Commensurate with the extra potential after-tax value likely to be achieved. As can be depicted in the next chart.

Point C- Current holding after-tax value reflective of selling the aforementioned stock at $130 per share in the short-term window. The orange after-tax value line then drops towards its day 365 after-tax value result from a forecasted price drop to $95, its Highest Justifiable Price.
Point P- Highest Justifiable Price red dot reflects the price that a stock is exposed to collapse to at any time. With the market price then projected to track out from there to its long-term price.

The remainder of the lines are as described previously.

The after-tax value steps up again when the tax rate drops on the 366th day of ownership. In this instance, an extra $1,225.41 is forecasted to be earned after-tax by selling in the short-

term window as opposed to waiting until the long-term window to sell. Should the price drop significantly in the interim. Representing about an extra 2% per year after-tax return improvement. A hefty after-tax Alpha. Again, the investor has to decide how much extra return is necessary in order to justify a sale. And how vulnerable to a material price drop a stock may be exposed to. The use of the Highest Justifiable Price is most valuable coincident with both stock and market bubbles.

Efficient Tax Portfolio Optimizer Explained

An **Efficient Tax Portfolio Optimizer Analysis** delivers an optimized ranking of which individual tax-lots should be sold in a sequence that, based upon stock price forecasts an investor believes are reasonable, maximizes projected future after-tax wealth accumulation. In the end, portfolio optimization's goal should be to guide investors when capital should be redeployed because higher after-tax returns are likely available through alternative investments. While retaining the best investments with the highest after-tax return potential.

An **Efficient Tax Portfolio Optimizer Analysis** is a highly data and calculation intensive data analysis mining optimization process. Or what the industry refers to as "Cloud Based Big Data Predictive Analytics". It first identifies which individual tax-lot, among all of those within a portfolio, if it were sold, would generate the greatest excess after-tax return or Alpha through a sale and reinvestment, versus holding onto it. It includes inputs such as cost basis, market price, up-to-date realized gain and loss values, future price targets, and tax rates. And can be adjusted for risk, as will be described later.

Then by updating the realized gain and loss values with the forecasted gain and loss realization impacts from that sale candidate, our process identifies from the remaining tax-lots, which tax-lot sale would generate the greatest Alpha or excess, risk adjusted, return. Thereby becoming the second tax-lot in sequence to sell in an optimization process. Repeating that reiterative process until all tax-lots are ranked in descending order of potential Alpha forecasted, if any.

After all tax-lots that would generate Alpha are identified and ranked, an **Efficient Tax Portfolio Optimizer Analysis** converts the ranking sequence. The tax-lots with the least **Existing Tax-Lot After-Tax IRR** are suggested to be sold first. The tax-lot, when comparing its current after-tax value with its end-of-horizon forecasted after-tax value, ranks lower than any other tax-lot included in a portfolio optimization process. In the end, resulting in a ranking that recommends the selling of tax-lots that are likely to generate the greatest excess return first, and ultimately keeping those tax-lots with the greatest after-tax return potential remaining. That is how the **Efficient Tax Portfolio Optimizer** minimizes taxes, but doesn't sacrifice future after-tax wealth accumulation by doing so.

Five Step Optimization Process

An **Efficient Tax Portfolio Optimizer Analysis** has five steps to its optimization process. As one can understand, inputting up-to-date realized gain and loss values is critically important in the portfolio optimization process. Keeping in mind that there are many reasons to sell other than valuation, such as having too much of any one stock. We therefore include an initial step that accommodates this truism.

Step 1: **Efficient Tax Portfolio Optimizer** provides the user, at three different points of time, with the flexibility of Designating any number of shares to sell from any specific existing tax-lot, as an independent decision. Therefore all such Designations are accounted for prior to any real optimization process. Accruing and displaying gross and after-tax proceeds, in addition to updating the realized gain and loss values in a reiterative fashion, as a precursor to the full optimization process. So that an accurate accounting of any resulting impacts on realized gain and loss values can be calculated for any such tax-lot sale Designations. An **Efficient Tax Portfolio Optimizer Analysis** ranks all tax-lot sale Designations alphabetically by ticker, for consistency, recognizing that regardless of which sequence designated shares are sold, the end-resulting realized gain and loss values will be the same. Along with the other accumulating results values.

Step 2: The **Efficient Tax Portfolio Optimizer** optimization process recognizes that an investor may want to sell or Designate for sale, a specified number of shares from a position, but in many cases, a position will be made up of more than one tax-lot. For example, 500 shares of IBM may be owned across four different tax-lots purchased on different days. Because of the position's increased portion of a portfolio due to its rise in price, an owner may want to sell 175 shares, but doesn't know which shares should be sold from the possible four tax-lots in the 500 share position.

In **Step 2** of an **Efficient Tax Portfolio Optimizer Analysis**, we will determine which shares from which tax-lot within a position, if sold, are forecasted to generate the highest after-tax extra return or After-Tax Alpha by doing so.

In **Step** 3, if more shares are Designated to be sold out of a position than **Efficient Tax Portfolio Optimizer** would calculate a forecasted Alpha if sold, additional share sales would come first from any residual tax-lot, from which, if shares were sold, they would have the least after-tax return potential remaining. Repeating the reiterative process, ranking in ascending order, those tax-lots with the least after-tax return potential remaining first. Therefore keeping tax-lots with the greatest after-tax return potential. All else being equal, short-term losses would be sold first, then long-term losses, then long-term gains, and then finally short-term gains. But also recognizing that a long-term loss that is more than twice as much as a short-term loss, may avoid more actual tax dollars related to a long-term profitable sale, than the dollar tax savings of allocating a less than half amount of short-term losses against short-term gains.

Step 4: Any residual shares not sold via a Designation, are then included in the main optimization process. Whereby again, tax-lots are ranked to be sold in a sequence such that those that would generate the greatest After-Tax Alpha are sold first.

Step 5: Finally, any remaining partial or whole tax-lots not yet ranked for sale, and still suitable for ownership, are ranked as a sale candidate from the least after-tax return potential remaining to the highest. Future and higher portfolio after-tax returns therefore are forecasted to come

from existing tax-lots with greater after-tax return potential remaining.

Please be patient for results to display from large portfolio analysis submissions. A 1,000 tax-lot portfolio can take more than twelve minutes to process due to the fact that the last ranked tax-lot for selling will have been evaluated at least 1,000 times, and the second to last one 999 times. And so on and so forth. **Efficient Tax Portfolio Optimizer** is a horrendously calculation intensive process that increases almost exponentially as the number of tax-lots in an analysis rises.

Important Features Used in Efficient Tax

There are two more important features utilized in **Efficient Tax** that were previously mentioned, that are worthy of more clarification on.

1. **Minimum Compound Selling Advantage**- One shouldn't sell just to achieve a single dollar in excess return over an investment horizon. But if there is a desire to require an **Efficient Tax Portfolio Optimizer Analysis** to forecast, based upon a user's chosen price targets, a minimum 1% annual After-Tax Alpha percentage before a sale is recommended, one can input that value into the initial input set. That will have the impact of artificially raising each of the Hold end-of-horizon after-tax values by 1% per year on a compound basis. Making it more difficult, by that amount on an annual compound basis, for a sell and reinvestment strategy to be recommended. Please be alert that this will make the Hold end of horizon value number an artificial number. And the Minimum Compound Selling Advantage output will be reduced by that amount as well.

2. **Risk Premium Adjustment-** This is available as an input for each company on the input page. If a stock that is owned is considered riskier than the market as a whole or a reinvestment alternative, a prudent investor will require extra after-tax return potential in order to reward and compensate for taking extra risk. For example an investor might require an extra 2% after-tax return each year in order to be compensated for the extra risk of owning an airline. An input of 2% will lower the value of the Hold strategy after-tax value by 2% on an annual compound basis, in order to make it easier for the reinvestment to overtake the Hold choice. A less risky, or a -2% risk premium value, would have the opposite impact.

Finally, a three year investment horizon requiring a tax cost return in that timeframe requires a greater level of extra return versus a Hold in order to recoup a redeployment tax cost than either a four or five year horizon. A one or two year horizon requires more aggressive rates of return in order to justify a sale. Forecasts beyond five years become riskier. That is why we offer 3, 4 or 5 year investment horizon options.

There are additional features to **Efficient Tax** and, **Efficient Tax Portfolio Optimizer,** but the above description encompasses a full summary of the main concepts and

principles. **Efficient Tax's** goal is to determine when to realize a gain and a loss for the goal of maximizing after-tax wealth over time. We hope **Efficient Tax** *and* **Efficient Tax Portfolio Optimizer** will change the way you currently may think about an overall taxable investing strategy, to the way you want to think.

* Due to the complexity of incorporating the time value of money on the difference in the timing on when gains and losses are realized and matched for Tax Loss Harvesting purposes, and because of their very minor impact on an analysis results set, that difference, and their possible separate return is not included in any after-tax value calculations. There are no values ascribed to a dividend other than the dividend itself as well.

Please take the time to review our other education elements within our Education Library. And good luck in the markets.