Rethinking Asset Location
between tax-deferred, tax-exempt and taxable accounts

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Abstract
The Asset Location (AL) decision determines which of the assets owned should be held in which account-type (tax-deferred, tax-exempt or taxable) in order to maximize the possible benefits from those accounts.

This paper argues against AL practices that a) phrase general rules in terms of asset-types, instead of in terms of the metrics that decide the issue, b) produce rules for AL that are shown to fail to maximize wealth and c) ignore the impact of a change in tax rates between contribution and withdrawal, and d) make the objective of AL to maximize utility, when investors assume AL decisions maximize wealth.

A general model of the accounts is created that calculates their benefits and deconstructs the total benefit into its two sources. The two sources of benefits are analyzed to develop AL rules.

An AL procedure is illustrated to deal with all situations. The metrics used for ranking assets are the same calculations that deconstruct the accounts’ benefits. The procedure is extended to include the Asset Allocation decision.

Keywords: Asset location; Asset allocation; Tax-exempt; Tax-deferred; taxes and retirement savings; portfolio selection; Roth IRA; IRA; RRSP; TFSA

JEL Classification G11
INTRODUCTION
The Asset Location decision determines which of the assets owned (or to be owned after the Asset Allocation decision) should be held in which account-type in order to maximize the possible benefits from those accounts. Although the broader issue includes many other account types (e.g., trusts, offshore accounts, insurance policies, etc.) this paper limits the accounts considered to

- normally taxable accounts,
- tax-deferred accounts (TDAs), and
- tax-exempt accounts (TEAs).
- When comments apply to both TDAs and TEAs the term ‘tax shelter accounts’ will be used in this paper.

The broader issue includes decisions to move money between accounts, but this paper assumes the size of each account is a given. Government regulations that differ between countries restrict movement in and out of tax shelter accounts.

This paper looks at the math to determine how the decision should be made, and whether there are any broadly relevant rules of thumb.

DESCRIPTION OF THE TAX SHELTER ACCOUNTS
Many countries encourage savings, particularly savings for retirement, with special accounts that reduce taxes otherwise payable in taxable accounts. Despite fine-tuned regulations that differ from country to country, there are two common generalized structures.

For both TDAs and TEAs, profits earned inside the accounts are never taxed. Past Asset Location literature has limited itself to this benefit, which is equal between the two accounts.

Contributions to TEAs come from after-tax savings, the same as contributions to a taxable account. There is no tax event when assets are withdrawn from TEAs.

Contributions to TDAs come from before-tax savings. This is effected by claiming the contribution as a reduction to taxable income in the year of the contribution. The reduced taxable income reduces taxes owing according to the tax rate applicable. That contribution tax rate is a personal marginal rate in Canada and the United States.

Withdrawals from TDAs are added to taxable income in the year of withdrawal. The resulting additional tax exactly equals the future value of the original tax reduction, compounded at whatever rate of return was realized by investments in the account.¹ This is an allocation of principal between the owner and the government, not a tax of profits.

¹ For a conceptual model of TDAs see the spreadsheet http://www.retailinvestor.org/RRSPmodel.xls and explanation http://www.retailinvestor.org/RRSPmodel.html .
The tax reduction on contribution can be thought of as a loan from the government. The government’s money gets invested along with the investor’s own after-tax savings. There is no benefit from this loan because the amount to be repaid grows at the same rate as the realized returns.

When the marginal tax rate on withdrawal is lower (or higher) than the rate on contribution, an additional bonus (or penalty) is created. Past Asset Location literature has ignored this bonus/penalty.

**Phrasing of Advice**

Conclusions regarding the optimal Asset Location decision often take the form of generalized rules for particular asset-types (e.g. “Typically bonds are held in TDAs to defer tax”).

These conclusions are worthless because it is not the asset-type that determines the issue. The issue is determined by the specific attributes of each asset; the rate of return and the tax rate on its profits. These attributes will differ between assets within any asset-type. They will differ over time, and between individuals. Any generalization will be wrong in many situations, without the investor knowing.

- E.g. Debt assets include high-yield junk bonds that are fully taxed, as well as low-return Municipal bonds that attract no tax.
- E.g. Historical average rates of return from Debt are unlikely when 10-year Treasuries currently yield 1.5%.
- E.g. Rules developed using top marginal tax brackets will not apply to investors in the bottom tax bracket.

Any generalized advice and rules for Asset Location should be phrased so that investors can make their own decisions based on their particular situations.

**Commonly Heard Asset Location Rules**

The most commonly heard rule of Asset Location is “Long-run wealth accumulation generally will be maximized by placing the most heavily taxed assets in the tax-deferred account while holding the less heavily taxed asset in the taxable account”. True or false? It is based upon the misunderstanding that profits while in TDAs are taxed on withdrawal at full tax rates (as discussed above).

It can be tested with a spreadsheet model that tracks over time a taxable account and tax shelter account, where two assets are held and rebalanced. By comparing the resulting wealth when prioritizing one asset inside the tax shelter, with the result when prioritizing the other asset, you see the rule does not hold true. In the example below Asset B is taxed at twice the rate of Asset A, but when it is prioritized in the tax shelter the resulting wealth is lower.

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4 Access spreadsheet at [http://www.retailinvestor.org/Challenge.xls](http://www.retailinvestor.org/Challenge.xls) Tab at bottom called “YearByYear”
Figure 1:

<table>
<thead>
<tr>
<th>Variables</th>
<th>A</th>
<th>B</th>
<th>Tax Rate on Contributions 30%</th>
<th>Tax Rate on Withdrawals 30%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate of Return</td>
<td>7.0%</td>
<td>3.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income Tax %</td>
<td>15.0%</td>
<td>30.0%</td>
<td>TDA Balance @ Start $1,000</td>
<td>or $700 in a TEA</td>
</tr>
<tr>
<td>Allocation</td>
<td>50%</td>
<td>50%</td>
<td>Taxable Balance @ Start $700</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Asset A Prioritized in Tax Shelter Account</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>T=0</strong></td>
</tr>
<tr>
<td><strong>Profit</strong></td>
</tr>
<tr>
<td><strong>Tax</strong></td>
</tr>
<tr>
<td><strong>T=1</strong></td>
</tr>
<tr>
<td><strong>Rebalance</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>T=29</strong></th>
<th><strong>A</strong></th>
<th><strong>B</strong></th>
<th><strong>TEA</strong></th>
<th><strong>TDA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rebalance</strong></td>
<td>2,827.52</td>
<td>1,308.20</td>
<td>1,412.36</td>
<td>-</td>
</tr>
<tr>
<td><strong>Profit</strong></td>
<td>2,774.04</td>
<td>1,361.68</td>
<td>1,412.36</td>
<td>-</td>
</tr>
<tr>
<td><strong>Tax</strong></td>
<td>194.18</td>
<td>47.66</td>
<td>49.43</td>
<td>-</td>
</tr>
<tr>
<td><strong>T=30</strong></td>
<td>2,968.22</td>
<td>1,409.34</td>
<td>1,446.96</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Asset B Prioritized in Tax Shelter Account</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>T=0</strong></td>
</tr>
<tr>
<td><strong>Profit</strong></td>
</tr>
<tr>
<td><strong>Tax</strong></td>
</tr>
<tr>
<td><strong>T=1</strong></td>
</tr>
<tr>
<td><strong>Rebalance</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>T=29</strong></th>
<th><strong>A</strong></th>
<th><strong>B</strong></th>
<th><strong>TEA</strong></th>
<th><strong>TDA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rebalance</strong></td>
<td>1,898.31</td>
<td>-</td>
<td>2,650.15</td>
<td>683.54</td>
</tr>
<tr>
<td><strong>Profit</strong></td>
<td>1,898.31</td>
<td>-</td>
<td>2,616.00</td>
<td>717.69</td>
</tr>
<tr>
<td><strong>Tax</strong></td>
<td>66.44</td>
<td>-</td>
<td>183.12</td>
<td>25.12</td>
</tr>
<tr>
<td><strong>T=30</strong></td>
<td>1,964.76</td>
<td>-</td>
<td>2,771.65</td>
<td>735.27</td>
</tr>
</tbody>
</table>

Notice above, how the government’s loan, created by the TDA’s reduced taxes on contributions, is not included in either the calculation of the investor’s wealth or the rebalancing. The government’s money just goes along for the ride alongside the investor’s wealth (as discussed in the Description of Tax Shelter Accounts section above).
Another rule sometimes explicit but normally implicit in academic papers is to prioritize assets with the largest difference between the nominal rate of return and the after-tax rate of return.

**Calculation 1:**

\[(\text{Nominal Rate of Return}) - (\text{AfterTax Rate of Return})\]

E.g. Asset A difference = 7% - [7%*(1-0.15)] = 1.05, and Asset B difference = 3.5% - [3.5%*(1-0.3)] = 1.05

Another description of the same value is: the tax dollars paid per $100 invested.

**Calculation 2:**

\[(\text{Nominal Rate of Return}) \times (\text{Tax Rate})\]

E.g. Asset A = 7% return * 15% tax rate = 1.05, and Asset B = 3.5% return * 30% tax rate = 1.05.

When tested this rule fails as well. The two assets in the example already shown have the same metric. The results should be the same whichever asset is in the tax shelter. But the results are different. To see why, track two years of growth.

<table>
<thead>
<tr>
<th>Year</th>
<th>Asset A Holdings</th>
<th>Asset A Income</th>
<th>Asset A Tax</th>
<th>Asset B Holdings</th>
<th>Asset B Income</th>
<th>Asset B Tax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>1,000</td>
<td>70.00</td>
<td>10.50</td>
<td>1,000</td>
<td>35.00</td>
<td>10.50</td>
</tr>
<tr>
<td>Year 2</td>
<td>1,070</td>
<td>74.90</td>
<td>11.24</td>
<td>1,035</td>
<td>36.23</td>
<td>10.87</td>
</tr>
</tbody>
</table>

The taxes are equal in only the first year. By the second year the taxes (which would be sheltered) are larger for Asset A with the larger rate of return. It takes time to show the difference.

**The Benefits of Tax Shelter Accounts**

It is necessary to understand how the tax shelter accounts produce benefits before trying to maximize those benefits. This step is missing from all other papers. Below is a spreadsheet’s screenshot. It calculates the accounts’ benefits as the difference between the resulting wealth if in a taxable account, and if in a tax shelter account. Then it deconstructs the total benefit into two sources.

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5 “The Optimal Allocation of Pension Fund Assets” 1991 Potts, Reichenstein
http://www2.stetson.edu/fsr/abstracts/vol_1_num1_p9.pdf
6 Access spreadsheet at http://www.retailinvestor.org/Challenge.xls
Figure 2:

Deconstruction (A) measures the benefit from the profits not being taxed. Both accounts produce this benefit. It equals the difference between the future value of the after-tax savings compounded at the nominal rate of return, and the value compounded at the after-tax rate of return.

**Calculation 3: Benefit from tax-sheltered profits**

\[
\text{Benefit} = \left[ \text{AfterTaxSavings} \times (1 + \text{Rate of Return})^{\#\text{years}} \right] \\
\text{less} \\
\left[ \text{AfterTaxSavings} \times (1 + \text{After Tax Rate of Return})^{\#\text{years}} \right]
\]
Deconstruction (B), for TDAs only, may be either a Bonus or a Penalty depending on whether the tax rate on withdrawal is smaller or larger than the tax rate on contribution. It equals the amount withdrawn from the TDA multiplied by the change in tax rates.

**Calculation 4: Bonus / Penalty from change in tax rates between contribution and withdrawal**

\[ \text{Withdrawn} \times (\text{TaxRate on Contribution} - \text{Tax Rate on Withdrawal}) \]

Look at the presumptions used in past Asset Location papers. Potts and Reichenstein (1991)\(^7\) thought:

> “Pension tax structures generally have three advantages and one potential disadvantage when compared to non-pension tax structures. The first advantage is the tax-deferral of the investment amount until withdrawal.’ The second is the tax deferral until withdrawal of investment return-interest, dividends, and capital gains. The third advantage stems from the common expectation that individuals will be in lower tax brackets upon retirement.

> A potential disadvantage is present due to a possible reinstatement of a capital gains exclusion; under a pension tax structure all capital gains are taxed upon withdrawal, while capital gains realized outside of a pension could benefit from the exclusion.”

None of that is correct. They confused the individual mechanics with the net benefits of the whole. They make a presumption of benefits that may be penalties in reality. If you start with wrong assumptions about where the benefits of tax shelter accounts come from, you will surely end up with wrong conclusions.

**Benefits From Tax-Sheltered Profits**

In both TDAs and TEAs profits grow without ever being taxed. *Calculation 1 and Calculation 2* above seem to be valid metrics to measure this benefit. But once you take Time into consideration the rate of return variable becomes the most importance. Higher returns grow the account faster. A larger account produces larger profits and larger taxes, no matter how small the tax rate.

The *Calculation 3* above, used in *Figure 2’s* deconstruction of benefits, proves to be a valid metric that correctly ranks assets benefits. When using *Figure 2’s* model for the Asset Location decision, there is an implicit assumption that the asset is never rebalanced with another asset in a taxable account. This is an extreme assumption. But it is not the specific dollar value generated that matters here. All that matters is whether the relative metric produces the correct ranking. Comparing results from this ‘never-rebalance’ model to the results from the ‘yearly-rebalancing’ model (*Figure 1*), shows they are consistent in most situations. The exception is when the time frame is short, in which case results should be confirmed with yearly-rebalancing model (*Figure 1*).

\(^7\) “The Optimal Allocation of Pension Fund Assets” 1991 Potts, Reichenstein

[http://www2.stetson.edu/fsr/abstracts/vol_1_num1_p9.pdf](http://www2.stetson.edu/fsr/abstracts/vol_1_num1_p9.pdf)
A visual representation of the relative importance of the rate of return, compared to the tax rate, is shown below. The benefit is calculated for each intersect and gradient lines show how the benefit changes – increasing from bottom left to top right.

Note how horizontal the gradients are at higher tax rates. An increase in tax rates increases benefits only very, very slowly. An increase in the rate of return easily doubles benefits. But when the profits are taxed at lower rates the slope of the gradients approaches 45 degrees, the trade-off is more equal.

A general rule for all TEAs, and for TDAs assuming no difference in tax rates between contribution and withdrawal would be “A higher rate of return will result in a much larger increase in benefits than the same increase in tax rates, especially at higher tax rates”. The next section will show the opposite when the penalty from higher withdrawals tax rates is included.

Of course no one objects to an obvious rule “When profits attract no tax do not waste the room in tax shelter accounts protecting non-existent tax”.

“For any given rate of return, the larger the tax rate the larger the benefit, and vice versa” is a pretty obvious rule. It can be extended to “If you do not Asset Allocate, put the highest taxed assets in the tax shelter accounts”. These people will always buy the security promising the highest return. The returns expected from assets in the tax shelter accounts would be the same as in the taxable account.

Although the benefits from both TDAs and TEAs will be equal, there is another factor to consider. Investors in retirement may rely on pensions (and other benefits) from the government. Those pensions may be reduced by the inclusion into taxable income of the withdrawals from a TDA. Locating high growth assets in the TDA will result in a larger account, with larger withdrawals, creating larger taxable income in retirement, that may reduce government pension benefits.
So a rule could be “When all else is equal, if withdrawals from TDAs in retirement will reduce other government benefits, locate assets with higher growth rates in TEAs in preference to TDAs”. The problem is, that rarely is all else equal. Another way to deal with this wrinkle is to translate the dollar of benefits lost into a higher tax rate assumed for withdrawals from TDAs. Or the issue can be ignored if the investor feels his good fortune never qualified him for those pension benefits in the first place.

**Bonus (or Penalty) From Changed Tax Rates**

The deconstructed benefits in Figure 2 show the impact of a change in tax rates between contribution and withdrawal. Calculation 4 shows the math. It equals the amount withdrawn from the TDA multiplied by the change in tax rates. The resulting bonus (or penalty) applies only to TDAs, not TEAs.

The Asset Location objective is to maximize any bonus and minimize any penalty. Because this factor changes nothing for TEAs, it is a common rule to “Put additional savings into a TDA when the withdrawal tax rate is expected to be lower, to maximize any Bonus. Savings are recommended for a TEA when the withdrawal tax rate is expected to be higher, to minimize any Penalty”.

If tax rates on withdrawal are expected to be lower, there is no change to any of the conclusions reached above in the section on benefits from tax-sheltered profits. The same high-return assets that create the larger benefits from tax-sheltered profits, will also create larger bonuses from a lower tax rate on withdrawal, because the resulting account will be larger.

Higher tax rates on withdrawal though, may reverse those conclusions. The penalty created may more than offset the benefits from tax-sheltered profits. High-return assets that create larger accounts, also create larger withdrawals in retirement, which increase the likelihood of a higher tax bracket and a larger penalty. As shown in the example following, the low-return asset may end up in the TDA. There is no general rule to cover this decision. Each trade-off will be different.

The withdrawal tax rate used here is not the marginal rate on the last dollar of taxable income. It is the average rate applied to the yearly TDA withdrawal total. Government benefits, pensions, and income from taxable accounts are considered taxed in the bottom brackets. The additional TDA withdrawal may be partially taxed in two or more tax brackets.

**The Asset Locating Process**

First make estimates of personal expected rates of return for each group of asset you own. These are estimated from historical averages, personal past performance, market valuations and the health of the economy.

Look up tax rates for each group. Consider personal tax brackets, the marginal tax rate for each income-type, and the effective tax rate when taxes are deferred until profits are realized. Weight the different tax burdens when returns come from multiple income-types. Net the dividend tax debits and credits.
Using the Rate of Return and Tax Rate for each group, calculate the benefit from sheltered profits (Calculation 3), the bonus/penalty (Calculation 4), and the sum of the two (which is the net Benefit from the TDAs). Or use a public spreadsheet.

Rank all three columns – largest benefits on top.

Start by filling the taxable account with the assets ranking lowest in the TDA and TEA columns. The location of the remaining assets between either tax shelter account will not change the benefit from tax-sheltered profits, so the next step is decided by the size of the bonus / penalty. Fill the TEA with assets from the bottom of the Bonus column’s ranking. Lastly fill the TDA with the remaining assets.

**AN EXAMPLE OF THE PROCESS**

This example assumes a higher tax rate on withdrawal – the more difficult Asset Location process. The choice of $20,000 is arbitrary and makes no difference. The term chosen (30 years) need only be a rough estimate. Estimate rates of return and look up tax rates for Assets A, B and C. Calculate the bonus/penalty, the benefit from sheltered profits (the TEA Benefit), and the sum of the two (the TDA Benefit).

<table>
<thead>
<tr>
<th>Asset</th>
<th>Rate Return</th>
<th>Tax Rate</th>
<th>TDA Benefit</th>
<th>TEA Benefit</th>
<th>Penalty</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>8%</td>
<td>15%</td>
<td>9,934</td>
<td>40,122</td>
<td>(30,188)</td>
</tr>
<tr>
<td>B</td>
<td>5%</td>
<td>20%</td>
<td>2,134</td>
<td>15,100</td>
<td>(12,966)</td>
</tr>
<tr>
<td>C</td>
<td>3%</td>
<td>40%</td>
<td>2,791</td>
<td>10,073</td>
<td>(7,282)</td>
</tr>
</tbody>
</table>

Then rank each column.
Fill the taxable account first with the lowest ranked assets in the TDA and TEA columns. Here there is disagreement between Asset B and Asset C, depending on which account the asset will end up in if not chosen for the taxable account. Looking at the Penalty column you see that Asset C is least likely to end up in the TEA. Disregarding Asset C, then, the bottom ranked TEA is Asset B – which agrees with the TDA column. Prioritize Asset B for the taxable account, and then Asset C.

Fill the TEA next with the lowest ranked assets in the Penalty columns – Asset A and then Asset B, so that the assets with the smallest Penalty go into the TDA.

Lastly fill the TDA with the remaining assets.

**Combine Asset Location and Asset Allocation**

Once the assets have been given ranked priorities for the different account-types, how is the Asset Location decision combined with an Asset Allocation decision? Continue the example above with assumed account balances and a 30% tax bracket. You allocate your own wealth, and ignore the government’s portion of the TDA.

<table>
<thead>
<tr>
<th></th>
<th>Account Balance</th>
<th>30% Loan</th>
<th>Wealth</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TDA</strong></td>
<td>200,000</td>
<td>60,000</td>
<td>140,000</td>
</tr>
<tr>
<td><strong>TEA</strong></td>
<td>50,000</td>
<td></td>
<td>50,000</td>
</tr>
<tr>
<td><strong>Taxable</strong></td>
<td>100,000</td>
<td></td>
<td>100,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>350,000</td>
<td></td>
<td>290,000</td>
</tr>
</tbody>
</table>

Further assume a desired Asset Allocation weighting of assets.

<table>
<thead>
<tr>
<th></th>
<th>AA</th>
<th>Wealth</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Asset A</strong></td>
<td>20%</td>
<td>58,000</td>
</tr>
<tr>
<td><strong>Asset B</strong></td>
<td>30%</td>
<td>87,000</td>
</tr>
<tr>
<td><strong>Asset C</strong></td>
<td>50%</td>
<td>145,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>290,000</td>
</tr>
</tbody>
</table>

Now locate the assets according to the priority developed in the previous section. The taxable account gets all Asset B, and fills the remaining 13,000 with Asset C. The TEA gets most of Asset A. The TDA gets the remains of Asset A and Asset C.
The allocated wealth is grossed up to include the government loan portion of the actual account values.

THE ASSET LOCATION OBJECTIVE

Much of the literature on Asset Location for the past decade has the implicit objective to maximize utility.\(^8\) That objective conflicts with the commonly understood objective to maximize wealth. Their Asset Location conclusions are a by-product of the Asset Allocation process that optimizes the investor’s position along the risk-reward spectrum.

The literature started to address Asset Allocation and Asset Location in the same process when it was decided that investors experience the risk and return of an asset in a taxable account as lower than those of the same asset in a tax shelter account, because they are measured and experienced ‘after-tax’.\(^9\)

Real life would argue that while investors appreciate the fact of ‘after-tax returns’ it is the nominal returns that they react to emotionally. It is the investors’ emotional reaction that determines their tolerance for portfolios’ greater or lesser risk.

Taxes are rarely paid from cash in the investment account, so the investor sees no change in value when taxes are paid or recovered. Taxes are paid yearly, long after gains and losses are realized, so their impact would never be in real-time when the emotional response matters.

Will investors make calculations of accrued taxes and pencil in notes on their monthly statements to reduce the stated value? Will they reduce their calculations of year-to-date profits by that accrued tax? Will their emotional response to a 20% loss in a taxable account be the same as a 10% loss in a tax shelter account, because intellectually they know they are taxed at 50%?

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http://www.mccombs.utexas.edu/faculty/clemens.sialm/SSJPUBE.pdf

\(^9\) Good overview of past discussion - James William Reichenstein, “Implications of principal, risk, and returns sharing across savings vehicles”, Financial Services Review Volume 16 (Nov 2007);  
http://www2.stetson.edu/fsr/abstracts/vol_16_num1_p1.pdf
Unlikely. The investor who wants to Asset Locate will view his portfolio as a whole, with all the assets in all the accounts together. He will not be paying attention to the changing values of separate accounts. He will not ‘see’ any tax impact. What he does not see he will not worry about it.

Proponents of this idea argue that consistency requires that if you recognize the tax liability embedded in the TDA, you must also recognize that investors bear less than 100% risk on assets held in taxable accounts. But there is no comparison between the allocation of principal and the taxation of profits. There is no comparison between the issues of ownership and risk.

As shown with the example above Asset Allocation and Asset Location can be addressed independently. Most investors manage risk with the Asset Allocation decision. The objective of Asset Location should be to maximize wealth, by maximizing the benefits from tax shelter accounts.

**Conclusions**

Many investors will not bother to worry about Asset Location. They may earmark different accounts for different purposes and Asset Allocate each account independently. Others feel that the liquidity of assets in different accounts is more important than maximizing every tax benefit. Others adopt KISS (Keep It Simple Stupid) and redeploy whatever cash is in whichever account according to their personal overall Asset Allocation, ignoring Asset Location.

There are no rules of thumb that apply in most all situations. The acceptable rules cover only small parts of the issue. A deconstruction of the benefits from tax shelter accounts leads to a completely new understanding of how they work, and how to maximize benefits. It is valuable to know that the commonly accepted rules fail to maximize benefits and should not be used.

1. Many say tax-efficient income should be kept outside TDAs because they believe profits earned inside are taxed at full rates on withdrawal. But the payment on withdrawal from TDAs is an allocation of principal, not a tax on income. It is the repaying of a loan along with all the income earned by that loan. The profits earned in TDAs are never taxed.
2. Some believe that securities with high rates of return should be in TEAs because the resulting larger account is taxed on withdrawal from TDAs. But the payment on withdrawal from TDAs exactly equals the future value of the original reduction in taxes on contribution. It has no cost. If the withdrawal tax rate is higher than the contribution rate then, yes, there would be a penalty, but that situation is not common and should not be a basic assumption.
3. Many correctly see a benefit of the tax shelter accounts as the difference between after-tax and tax-free profits. So they conclude that income being taxed at the highest rates (usually debt interest) should be inside tax shelter accounts. But percentages don’t pay the bills. Dollars do. It is the dollars of tax that count. Examples show the rule to be wrong.

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10 Personal correspondence.
4. Others correctly see a benefit of the tax shelter accounts as the difference between after-tax and tax-free profits. So they conclude that assets attracting the largest tax dollars should be inside tax shelter accounts. But while it is true that tax dollars (the rate of return multiplied by the effective tax rate) measure the benefit of tax shelter accounts in the first year, over time the benefit will be larger when the rate of return is higher, even when the tax dollars in the first year is lower. Examples show the rule to be wrong.

5. Some believe the tax benefit of capital losses is lost in tax shelter accounts so they conclude that common stocks should be held outside. But taxes on profits in taxable accounts are only paid on net profits over time. The benefits from the tax shelter accounts are also calculated on those same net profits. And no one invests with the presumption that they will lose money over time.

6. Academic work of the past decade that has produced rules-of-thumb is likely to have resulted from a process that makes no attempt to maximize benefits.

Without any correct rules of thumb the Asset Location decision is time-consuming and technical. The benefits of each asset-type must be measured and compared for each account type, given the individual investor’s particulars. Investors should be made aware that general rules may be reversed when a higher tax rate on withdrawal is anticipated. But the procedure need not be calculated each year. Neither the types of securities preferred by an individual, nor their personal tax rates, will change much from year to year.

**Published Papers**


James William Reichenstein, “Implications of principal, risk, and returns sharing across savings vehicles”, Financial Services Review Volumn 16 (Nov 2007) ; [http://www2.stetson.edu/fsr/abstracts/vol_16_num1_p1.pdf](http://www2.stetson.edu/fsr/abstracts/vol_16_num1_p1.pdf)


