

Family Tax Planning Forum

By Robert S. Keebler

Tax/Financial Planning for Concentrated, Low-Basis Stock Positions

Many affluent families hold most of their wealth in highly appreciated stock of one company. This may happen, for example, if the family business was exchanged for stock in a public company or one of the spouses received the stock as executive compensation. The lack of diversification is not only risky, but generally reduces the expected return on the portfolio. If the portfolio could be diversified, it would not only be safer, but would ordinarily produce a substantially higher compounded return.

If not for taxes, the solution to this problem would be easy. The taxpayer could simply sell most of the concentrated stock position and reinvest in a diversified portfolio. Unfortunately, the family often has a very low basis in the stock, and would incur substantial capital gains if the stock was sold. Moreover, it may be bullish about the stock's short-term prospects and want to continue holding it for a period of time before selling. This raises some difficult questions for the tax/financial planner. For example, would the family be better off simply holding the stock to avoid capital gains or would it be better off selling and diversifying the portfolio? If the family wants to keep the stock for a year or two, can it lock in the gains while hedging against the possibility of a sharp drop in price? Are there any strategies that enable the taxpayer to have the best of both worlds?

This topic is too broad to cover in one column. The current column lays out some background information on the dramatic economic benefits of diversification and the tax economics of selling



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versus holding stock. A future column will address ways to lock in gains while deferring tax, hedging strategies and the possibility of having the best of both worlds.

Background— Asset Diversification

Much of the difficulty in planning for concentrated low-basis stock positions is the interaction between the powerful economic benefit of asset diversification and the substantial reduction in current wealth resulting from a sale of stock. Let's look at the economics of diversification first. Consider the following example:

Example 1. Assume three investment portfolios, 1, 2 and 3, each starting with \$100 and having the same average (simple) return of 10 percent, but with very different volatility and compounded return. The

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Table 1.

Portfolio	Year 1	Year 2	Year 3	Year 4	Final Value
1	+10%	+10%	+10%	+10%	\$146.41
2	+25%	-15%	+20%	+10%	\$140.25 ¹
3	-30%	+30%	+45%	-5%	\$125.35

¹ 25% - 15% + 20% + 10% = 40. 40/4 = 10% average return.

Table 2.

Portfolio	Year 1	Year 2	Year 3	Year 4
Stock A	-30%	+30%	+45%	-5%
Stock B	+40%	-15%	-25%	+40%

Table 3.

Portfolio	Year 1	Year 2	Year 3	Year 4	Final Value
A + B	+5	+7.5%	+10%	+17.5%	\$145.89 ¹

¹ In Year 1, the return on stock A is -\$15 (0.3 × \$50), and the return on Stock B is +\$20 (0.4 × \$50). This produces a return for the portfolio in Year 1 of +5, or 5%. The same process is used to determine the returns in subsequent years.

degree of volatility is measured by the standard deviation, with the higher the standard deviation the more volatile the portfolio. Portfolio 1 produces the same 10-percent return each year and has a standard deviation of zero. Portfolio 2 has a standard deviation of 17.8, comparable to the standard deviation for the S&P 500. Portfolio 3 holds only one stock, Stock A and has a standard deviation of about 34, comparable to the standard deviation of the average single stock. Table 1 shows the amounts the portfolios will grow to after four years.

Note the effect volatility has on the compounded returns of the portfolios. The higher the portfolio volatility, the lower the compounded return and the lower the final value will be. The compounded return on Portfolio 1 is 10 percent, the same as its simple return. The compounded returns on Portfolios 2 and 3 are much lower. For Portfolio 2, the compounded return is about 8.82 percent.¹ This means that the portfolio's volatility reduced its return by about 1.18 percentage points. For Portfolio 3, the compounded return is only about 5.79 percent, a reduction of 4.21 percentage points.

Benefit of Diversification

The effect of diversification is to smooth out returns and make the compounded return closer to the simple return in Portfolio 1. The more stocks we add to the portfolio and the lower the correlation of the returns on the stocks, the higher the compounded return the portfolio will produce. As the following example shows, adding even one stock might make a big difference.

Example 2. Assume that instead of having \$100 worth of Stock A in a portfolio, there is \$50 worth of Stock A and \$50 worth of Stock B in a portfolio. Stock B produces the same 10-percent simple return and the same compounded return as Stock A, although the returns are not the same

each year. The annual returns for the two stocks are shown in Table 2.

If we combine the two portfolios, the standard deviation is reduced to about 5.4 and the annual returns and future value look like as outlined in Table 3.

Correlation Coefficient

The scale measuring the extent to which stock returns move together is referred to as the “correlation coefficient.” A score of +1 on the scale means there is a perfect positive correlation (scores always move together), a score of -1 means there is a perfect negative correlation and a score of zero means there is no correlation. The lower the correlation coefficient between two stocks, or among stocks in a portfolio, the more effective diversification. The reason the final value increased so much in Example 2 when only one stock was added was that we had an almost perfect negative correlation between the returns of

Table 4.

Portfolio	Year 1	Year 2	Year 3	Year 4
Stock A	-30%	+30%	+45%	-5%
Stock B	+40%	-15%	+40%	-25%

Table 5.

Portfolio	Year 1	Year 2	Year 3	Year 4	Final Value
Stock A + B	+5%	+7.5%	+42.5%	-15%	\$136.72

Table 6.

Year	SALE	NO SALE
0	\$800,000	\$1,000,000
1	\$880,000	\$1,080,000
2	\$968,000	\$1,166,400
3	\$1,064,800	\$1,259,712
4	\$1,171,280	\$1,360,489
5	\$1,288,408	\$1,469,328
6	\$1,417,249	\$1,586,874
7	\$1,558,974	\$1,713,824
8	\$1,714,871	\$1,850,930
9	\$1,886,358	\$1,999,005
10	\$2,074,994	\$2,158,925
11	\$2,282,493	\$2,331,639
12	\$2,510,743	\$2,518,170
13	\$2,761,817	\$2,719,624

the two stocks -0.95. This high negative correlation is very effective at producing a smooth combined return. Now suppose, instead, that the returns for Stock B were as outlined in Table 4, producing a much higher correlation coefficient.

If we combine the two stocks into one portfolio, the combined returns and the final value are as shown in Table 5.

While we have a two-stock portfolio as in the previous calculation, the final value is lower because we have a higher correlation coefficient (-0.035) and a higher standard deviation of about 23.9.

Sell and Reinvest in a Diversified Portfolio vs. Hold the Stock

Selling and reinvesting in a diversified portfolio has a number of advantages. The taxpayer locks in gain, eliminates single-stock risk and should obtain a much higher return for the level of risk assumed. On the other hand, the taxpayer recognizes all the gain currently and pays capital gains tax. As such, how can one analyze this tradeoff?

The key variable in the analysis is the taxpayer's time horizon. Typically, the taxpayer will hold the portfolio for a number of years and then pass it on to heirs at death, giving the heirs a stepped-up basis under Code Sec. 1014. If the taxpayer plans to hold the diversified portfolio for only a few years after the sale, the expected increase in returns will generally not be enough to offset the income tax cost.

Example 3. Martha, a widow, owns B Stock with a basis of \$0 and a fair market value of \$1 million. The stock is the only asset in her investment portfolio and it is expected to produce an after-tax return of eight percent. If she sold the stock and invested in a diversified portfolio, she would have an expected after-tax return of 10 percent. Assume that Martha dies five years later when the long-term capital gain rate is 20 percent. Martha's only heir is her son Doug.

If Martha holds the stock until she dies, it will grow to \$1,469,328 (\$1 million appreciated at eight percent for five years). Doug will take a stepped-up basis in the stock equal to its date of death value, eliminating all gain in the stock prior to Martha's date of death.

Table 7.

Years	Return Needed
1	35.0%
2	20.7%
3	16.3%
4	14.2%
5	12.9%
6	12.1%
7	11.4%
8	11.0%
9	10.7%
10	10.4%
11	10.2%
12	10.0%
13	9.9%

Now assume instead that Martha sells the stock and invests the proceeds in a diversified portfolio. The taxable gain on the sale will be \$1 million (\$1,000,000 FMV – \$0 basis), producing a tax of \$200,000 ($0.2 \times \$1,000,000$). This leaves only \$800,000 for Martha to re-invest in the diversified portfolio. Thus, as of the date of sale, Martha is \$200,000 behind. Because the diversified portfolio is expected to grow faster than the B Stock, however, Martha's wealth in the sale scenario will gain on her wealth in the no-sale scenario over time. The only question is whether the time horizon is long enough for the sale alternative to catch up. With a five-year time period, the \$800,000 will grow to \$1,288,408 when Martha dies and she would be better off holding the stock until she died.

How much longer would the time horizon in Example 3 have to be for the sale alternative to catch up? As shown in Table 6, the required time period would be between 12 and 13 years.

We could also analyze how high the return on the diversified portfolio would have to be for the sale alternative to catch up given various time horizons (see Table 7).

Return Differential Between Average Single Stock and S&P 500 Index

How much difference could we expect to see between the return for the average single stock and the return for the S&P 500 index? This question was addressed in a 2004 article entitled *The Envious Dilemma: Hold, Sell or Hedge Stock*.² The authors found that during the period 1984–2003, the annualized compounded return on the S&P 500 was 13.0 percent while the annualized compounded return for the average stock was only 9.9, almost 24 percent less. This suggests that the break-even time horizon calculated in the first chart above might be too long and that the benefit of diversification might be even greater. Note that the higher the taxpayer's basis in the single stock and the more volatile the single stock is (higher its standard deviation), the more favorable selling is compared with holding the stock.

Conclusion

This column sets the stage for further analysis of the concentrated low basis stock position planning problem. In a future column, I will discuss strategies like buying a put, creating a collar, variable forward sales, charitable remainder trusts and exchange funds.

ENDNOTES

¹ \$100 appreciated at 8.82 percent for four years = \$140.25.

² P. Boyle, D. Loewy, J. Reiss and R. Weiss, *The Envious Dilemma: Hold, Sell or Hedge Stock*, J. WEALTH MGMT., Fall 2004.

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