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A Hands-On Approach to S Corporation and Pass-Through Entity Valuations

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For the last several years, every time we have received an assignment to appraise a minority interest in an S corporation or some other pass through entity for tax purposes, we have cringed a little inside due to the difficulty in explaining how it is done. As you all know, the *Gross vs. Commissioner* tax court case has shown that simply tax affecting the income stream, as we would ordinarily do for any C corporation, just does not capture the complexity of the various benefits received by pass through entities in how they are taxed.

Fortunately, Chris D. Treharne, ASA, MCBA, BVAL published an article entitled "Valuation of Minority Interests in Pass-Through Entities" in *Business Valuation Review*, the September 2004 issue, on pages 105-116. Since then we have seen several updates and explanations of how the model works. We think that the work done on this model is brilliant and have been using it in our reports. The only problem we have with it is its complexity. It is very difficult to understand how it works. Over the last couple of years we have spent enormous amounts of time analyzing the model, periodically calling Chris with questions as we tried to become comfortable explaining how it works. (We feel that if we are going to use something in our reports, we need to be able to provide a better explanation than the "black box just does something".) Chris has been very kind and patient with us and really went over and beyond the bounds of friendship in his assistance. We think we finally grasp the concepts and can stop begging further clarification from Mr. Treharne. Thank you Chris!

It should also be noted that there are a number of other models in the appraisal literature. We like the Treharne Model the best.

We have noticed that the several articles and updates that Chris Treharne has published in relation to his model focus mainly on the theory and showing how it works using three S corporation scenarios: 1) distributing only the amount required to pay the associated tax liability, 2) distributing nothing at all to the shareholders, and 3) distributing 100% to the shareholders. His articles have shown how each of these different scenarios affects the ultimate value of a minority shareholder's interest in the subject company. Unfortunately, most companies fall somewhere between scenario two and three with a few landing square on scenario one. We thought that it would be beneficial to everyone to show how using the Chris Treharne Model works in an actual application. We personally learn better by doing, rather than by just reading about concepts, so we thought it would be a good idea to take a company and run it through the Treharne Model in a step by step process, explaining why each step is important and how it works. This is what we did with a company we refer to throughout this article as the Subject Company.

Before we get into the example, we think it is important to summarize exactly *why* the Treharne Model works. Pass through entities, such as S corporations, have three distinct benefits over the average C corporation and the Treharne Model takes each of them into account.

First, minority interest owners in an S corporation receive their distributions pretax. In an equivalent C corporation, the distributions happen after taxes. This is a benefit to the S corporation minority interest holder as he, or she, will receive a greater return on his investment than if he had invested in an equivalent C corporation.

Second, C corporation distributions are theoretically taxed twice. (We all know that very few privately held C corporations actually pay dividends – there are too many other ways to get earnings out of a C corporation.) First, C corporations are taxed on earnings at the corporate level, and shareholders are taxed personally when dividends are paid out. S corporations do not have this problem. This is another benefit to an owner of a minority interest in an S corporation.

Third, S corporation minority interest holders pay income taxes based on their personal income tax rates, which may be lower than the equivalent corporate rate.

These three benefits must be accounted for and Chris Treharne's model does exactly that.

We have attempted to illustrate exactly how and why the Treharne Model works as well as it does in the following pages; however if by some mysterious chance you caught something that we misunderstood, please let us know and we will correct it.

The following shows the Subject Company's forecast pretax net income:

Table 1

	12/31/2009	**12/31/2010**	**12/31/2011**	**12/31/2012**
Net Income	139,890	263,122	306,903	371,047

Now, we have created a whole wonderful, very well supported and reasonable forecast for the Company. Unfortunately, it is beyond the scope of this article to illustrate this forecast, but rest assured, that the bits we show you are actually the result of a well thought out forecast.

As if it were a C Corporation

Now the first part of the Treharne Model values the Subject Company **as if it were** a C corporation. This is done in order to showcase the differences in value caused by how S corporations are taxed differently than C corporations. By the end of this article you will see exactly what we're talking about on this point.

In order to value the Company as if it were a C corporation, the Pretax Net Income needs to be tax affected. The following illustrates this in the format used by the Treharne Model.

Table 2

		Tax Rates	Equivalent C Corporation Forecast 2009	Forecast 2010	Forecast 2011	Forecast 2012	Present Value
	Retained Cash Flow						
1	Pretax Income		139,890	263,122	306,903	371,047	
2	Income Taxes (C Corp)	See Note	48,439	105,865	126,267	154,355	
3			----------	----------	----------	----------	
4	Net Income		91,451	157,257	180,636	216,691	

Now, in the examples provided by Chris Treharne himself, he wisely kept things as simple as he could by using a fixed 40% Corporate Tax Rate. This worked well because he was still proving that his model worked and covered all the bases. Well, we are sold on it and are applying it in our individual appraisal assignments as needed. We calculate the estimated taxes for each forecast year based on the most current year's IRS tax tables. It rarely works out to be the same tax rate for each year. This is why we use "See Note" for the tax rate. How the corporate taxes have been calculated is shown below.

Table 3

Federal Corporate Tax Rates - 2008	**Over -**	**But not Over -**	**Tax is:**	**Of the Amount Over -**
	-	50,000	15%	-
	50,000	75,000	7,500 + 25%	50,000
	75,000	100,000	13,750 + 34%	75,000
	100,000	335,000	22,250 + 39%	100,000
	335,000	10,000,000	113,900 + 34%	335,000
	10,000,000	15,000,000	3,400,000 + 35%	10,000,000
	15,000,000	18,333,333	5,150,000 + 38%	15,000,000
	18,333,333	----	35%	-

	Forecast 2009	Forecast 2010	Forecast 2011	Forecast 2012
Pretax Net income	139,890	263,122	306,903	371,047
Total Federal Taxes Due is	37,807	85,868	102,942	126,156
Actual Calculated Federal Tax Rate	27.0%	32.6%	33.5%	34.0%

Now this is just the Federal Tax Rates; one must also include the expected State Income Tax Rates as well. In Idaho, the State Corporate Income Tax Rate is a straight 7.6% of Taxable

Income. Your State's rates will likely vary, but since we live in Idaho, we used Idaho's rates and show the calculation below.

Table 4

		Forecast 2009	Forecast 2010	Forecast 2011	Forecast 2012
Pretax Net income		139,890	263,122	306,903	371,047
Idaho State Tax	7.6%	10,632	19,997	23,325	28,200

Next shows the combined Federal and State taxes. Note the differences in total tax rates.

Table 5

	Forecast 2009	Forecast 2010	Forecast 2011	Forecast 2012
Total Taxes Due - Dollar Amount	48,439	105,865	126,267	154,355
Total Taxes Due - Actual Calculated Tax Rate	34.6%	40.2%	41.1%	41.6%

We think that since the point of the model is to differentiate between tax treatments, that we should expend a little bit of effort and calculate as close as we can what the forecasted income taxes should be for each year.

Next comes the part we are all familiar with, the calculation of Net Cash Flow to Equity. This is shown again in the format used by Chris Treharne's model:

Table 6

			Equivalent C Corporation				
		Tax Rates	Forecast 2009	Forecast 2010	Forecast 2011	Forecast 2012	Present Value
	Retained Cash Flow						
1	Pretax Income		139,890	263,122	306,903	371,047	
2	Income Taxes (C Corp)	See Note	48,439	105,865	126,267	154,355	
3			----------	----------	----------	----------	
4	Net Income		91,451	157,257	180,636	216,691	
5	Noncash Expenses		84,870	72,224	51,006	38,360	
6	Changes in Working Capital		75,000	123,750	75,900	30,740	
7	Capital Expenditures		(60,000)	(60,000)	(60,000)	(60,000)	
8	Changes in Long-Term Debt		(27,548)	52,452	(36,432)	42,831	
9			----------	----------	----------	----------	
10	Net Cash Flow to Equity		163,773	345,683	211,111	268,622	

We won't spend a lot of time explaining how each of the four net cash flow adjustments was calculated, as that is beyond the scope of this article. Instead you may assume that we did our homework and these have been calculated appropriately and Line 10 – Net Cash Flow to Equity accurately represents the expected dividend paying capacity of the Subject Company **as if it were** a C corporation.

The next several lines will have no impact on this portion of the model, as they illustrate adjustments that are made depending specifically on how the Subject Company calculates the distributions it makes, but they will be shown here as this is how the Treharne Model is set up. It illustrates admirably the differences in value between an S corporation and **as if it were** an equivalent C corporation.

Table 7

			Equivalent C Corporation				
		Tax Rates	Forecast 2009	Forecast 2010	Forecast 2011	Forecast 2012	Present Value
	Retained Cash Flow						
1	Pretax Income		139,890	263,122	306,903	371,047	
2	Income Taxes (C Corp)	See Note	48,439	105,865	126,267	154,355	
3			----------	----------	----------	----------	
4	Net Income		91,451	157,257	180,636	216,691	
5	Noncash Expenses		84,870	72,224	51,006	38,360	
6	Changes in Working Capital		75,000	123,750	75,900	30,740	
7	Capital Expenditures		(60,000)	(60,000)	(60,000)	(60,000)	
8	Changes in Long-Term Debt		(27,548)	52,452	(36,432)	42,831	
9			----------	----------	----------	----------	
10	Net Cash Flow to Equity		163,773	345,683	211,111	268,622	
11	C Corp Dividends Paid		-	-	-	-	
12	S Corp Tax Distribution Paid	See Note					
13	S Corp "Excess Distributions" Paid						
14			----------	----------	----------	----------	
15	Retained Cash Flow		163,773	345,683	211,111	268,622	
16	C Corp Valuation Adjustment		-	-	-	-	
17			----------	----------	----------	----------	
18	Retained Cash Flow (C Corp Basis)		163,773	345,683	211,111	268,622	

Lines 11 through 16 will be explained later on when we actually go through the calculations of each of these adjustments.

Line 18 – Retained Cash Flow (C Corp Basis) is exactly how much cash the Subject Company would have available to distribute **as if it were** a C corporation.

The present value of these income streams plus the terminal value is the value of the Subject Company **as if it were** a C corporation. You all know how to calculate the time value of money, and the rates we determined by way of the build-up method for the Subject Company are shown here.

Table 8

	Retained Cash Flow
Discount rate	24%
Growth rate	3%

Capitalization rate	21%

The next chart illustrates the whole section of the Treharne Model valuing the Subject Company **as if it were** a C corp.

Table 9

			Equivalent C Corporation				
		Tax Rates	Forecast 2009	Forecast 2010	Forecast 2011	Forecast 2012	Present Value
	Retained Cash Flow						
1	Pretax Income		139,890	263,122	306,903	371,047	
2	Income Taxes (C Corp)	See Note	48,439	105,865	126,267	154,355	
3			----------	----------	----------	----------	
4	Net Income		91,451	157,257	180,636	216,691	
5	Noncash Expenses		84,870	72,224	51,006	38,360	
6	Changes in Working Capital		75,000	123,750	75,900	30,740	
7	Capital Expenditures		(60,000)	(60,000)	(60,000)	(60,000)	
8	Changes in Long-Term Debt		(27,548)	52,452	(36,432)	42,831	
9			----------	----------	----------	----------	
10	Net Cash Flow to Equity		163,773	345,683	211,111	268,622	
11	C Corp Dividends Paid		-	-	-	-	
12	S Corp Tax Distribution Paid	See Note					
13	S Corp "Excess Distributions" Paid						
14			----------	----------	----------	----------	
15	Retained Cash Flow		163,773	345,683	211,111	268,622	
16	C Corp Valuation Adjustment		-	-	-	-	
17			----------	----------	----------	----------	
18	Retained Cash Flow (C Corp Basis)		163,773	345,683	211,111	268,622	
19	Terminal Value					1,317,528	
20			----------	----------	----------	----------	
21	Total		163,773	345,683	211,111	1,586,150	

22	Present Value (Retained Cash Flow)	147,073	250,349	123,298	747,082	1,267,802
	Number of Periods	0.5	1.5	2.5	3.5	

Line 19 – Terminal Value is a very important line that is most easily overlooked. We need to remember to include the terminal value in each calculation of present value.

We use the mid-year convention, as the Subject Company receives its income throughout the year, not just at the end. This is why the row labeled "Number of Periods" is done in increments of 0.5.

The indicated value of the Subject Company **as if it were** a C corporation is $1,267,802 or **$1,270,000** rounded. (An interesting side note here is that this value indication is also exactly what you would calculate if you were valuing a 100% controlling interest in the S corporation.)

Removing the S Corporation Benefits

Next we illustrate the part needed to answer the question, "what is the value of the subject minority interest in Subject Company, Inc. with all the related tax benefits included"?

We will start with the beginning, looking at Lines 1 through 4.

Table 10

Subject Company, Inc.
An Idaho S Corporation

			Treharne Model				
		Tax Rates	Forecast 2009	Forecast 2010	Forecast 2011	Forecast 2012	Present Value
	Retained Cash Flow						
1	Pretax Income		139,890	263,122	306,903	371,047	
2	Income Taxes (C Corp)	See Note	-	-	-	-	
3			----------	----------	----------	----------	
4	Net Income		139,890	263,122	306,903	371,047	

Note, no taxes have been charged against the Pretax Net Income. S corporations do not pay income taxes at the entity level – instead, the shareholders pay income taxes personally.

Next we apply the exact same Net Cash Flow adjustments that were applied in the example **as if it were** a C corporation.

Table 11

Subject Company, Inc.
An Idaho S Corporation

			Treharne Model				
		Tax Rates	Forecast 2009	Forecast 2010	Forecast 2011	Forecast 2012	Present Value
	Retained Cash Flow						
1	Pretax Income		139,890	263,122	306,903	371,047	
2	Income Taxes (C Corp)	See Note	-	-	-	-	
3			----------	----------	----------	----------	
4	Net Income		139,890	263,122	306,903	371,047	
5	Noncash Expenses		84,870	72,224	51,006	38,360	
6	Changes in Working Capital		75,000	123,750	75,900	30,740	
7	Capital Expenditures		(60,000)	(60,000)	(60,000)	(60,000)	
8	Changes in Long-Term Debt		(27,548)	52,452	(36,432)	42,831	
9			----------	----------	----------	----------	
10	Net Cash Flow to Equity		212,212	451,548	337,378	422,978	

Note that the Net Cash Flow to Equity as an S corporation is larger than the equivalent C corporation. This right here is the main argument for why S corporations might be worth more than an equivalent C corporation, which is why in the Treharne Model, **this difference is adjusted away.** Below we show the adjustments that do this:

Table 12

Subject Company
An Idaho S Corporation

			Treharne Model				
		Tax Rates	Forecast 2009	Forecast 2010	Forecast 2011	Forecast 2012	Present Value
	Retained Cash Flow						
1	Pretax Income		139,890	263,122	306,903	371,047	
2	Income Taxes (C Corp)	See Note	-	-	-	-	
3			----------	----------	----------	----------	
4	Net Income		139,890	263,122	306,903	371,047	
5	Noncash Expenses		84,870	72,224	51,006	38,360	
6	Changes in Working Capital		75,000	123,750	75,900	30,740	
7	Capital Expenditures		(60,000)	(60,000)	(60,000)	(60,000)	
8	Changes in Long-Term Debt		(27,548)	52,452	(36,432)	42,831	
9			----------	----------	----------	----------	
10	Net Cash Flow to Equity		212,212	451,548	337,378	422,978	
11	C Corp Dividends Paid						

12	S Corp Tax Distribution Paid	See Note	(38,005)	(85,017)	(102,792)	(129,101)
13	S Corp "Excess Distributions" Paid		(27,978)	(52,624)	(61,381)	(74,209)
14			----------	----------	----------	----------
15	Retained Cash Flow		146,229	313,907	173,206	219,667
16	C Corp Valuation Adjustment		(10,434)	(20,848)	(23,475)	(25,255)
17			----------	----------	----------	----------
18	Retained Cash Flow (C Corp Basis)		135,795	293,059	149,730	194,413

Remember when we said we would explain Lines 11 through 16 when we actually go through the calculations of each of these adjustments? Well here it is.

Line 11 – C Corp Dividends Paid will always be empty, because this model will typically only be used to value a minority interest in a pass through entity, and pass through entities typically do not pay dividends.

Line 12 – S Corp Tax Distribution Paid is the exact amount of tax liability associated with the S corporation income that its shareholders will have to pay personally. The tax rate used is shown as "See Note" again because we calculated the forecasted taxes based on the 2008 tax tables as shown below.

Table 13

Federal Married Filing Jointly Tax Rates - 2008	**Over -**	**But not Over -**	**Tax is:**	**Of the Amount Over -**
	-	16,050	10%	-
	16,050	65,100	1,605 + 15%	16,050
	65,100	131,450	8,962.50 + 25%	65,100
	131,450	200,300	25,550 + 28%	131,450
	200,300	357,700	44,828 + 33%	200,300
	357,700	----	96,770 + 35%	357,700

Idaho Fiduciary Tax Computation Schedule - 2008 (Doubled for Married Filing Jointly Use)	**Over -**	**But not Over -**	**Tax is:**	**Of the Amount Over -**
	-	2,544	1.6%	-
	2,544	5,088	41 + 3.6%	2,544
	5,088	7,632	133 + 4.1%	5,088
	7,632	10,176	237 + 5.1%	7,632
	10,176	12,720	367 + 6.1%	10,176
	12,720	19,080	522 + 7.1%	12,720
	19,080	50,882	974 + 7.4%	19,080
	50,882	---	3,327 + 7.8%	50,882

We typically use the tax tables under the section Married Filing Jointly based on the assumption that most of the applicable, hypothetical buyers and sellers of minority interests in privately held S corporations are likely married and also filing jointly. (That way they could be raising up some little hypothetical buyers and sellers that would grow up to fill the same roles for the next generation of business appraisers.) The following charts illustrate how the tax liability was calculated.

Table 14

	Forecast 2009	Forecast 2010	Forecast 2011	Forecast 2012
Pretax Net income	139,890	263,122	306,903	371,047
Total Federal Taxes Due is	27,913	65,559	80,007	101,441
Actual Calculated Federal Tax Rate	20.0%	24.9%	26.1%	27.3%
Pretax Net income	139,890	263,122	306,903	371,047
Idaho State Tax	10,092	19,457	22,785	27,660
Actual Calculated State Tax Rate	7.2%	7.4%	7.4%	7.5%
Total Taxes Due - Dollar Amount	38,005	85,017	102,792	129,101
Total Taxes Due - Actual Calculated Tax Rate	27.2%	32.3%	33.5%	34.8%

Line 13 - S Corp "Excess Distributions" Paid is the forecast amount of distributions paid out to shareholders over and above the tax liability. This line is one of, if not the most important part of this whole model. The forecast “Excess Distributions Paid” has to be determined based on historical analysis and discussions with management and likely, the company accountant. What we forecast here has to match with what has been happening historically, or we have to have a good reason to start forecasting the subject company to start distributing something different now.

If the Company has never distributed anything to its shareholders and each year the shareholders have to come out of pocket to pay income taxes, then that is what we forecast: zero distributions. If the Company has historically distributed just enough to pay the taxes; then that is what we forecast. If however, the Company is one of those who distribute something over and above what is required for taxes, then we need to figure out how our subject company calculates how much “Excess Distributions” it pays out, and calculate our forecast “Excess Distributions” the same way. This is important as companies all determine how much they are going to pay their shareholders based on different formulae.

Some examples are as follow:

- Excess distributions could be calculated based on the change in retained earnings
- Excess distributions could be calculated based on a percentage of reported pre-tax net income
- Excess distributions could be calculated based on some random amount chosen by the controlling shareholders

Of course if the Company distributes absolutely everything it can to its shareholders each year at the expense of having negative retained earnings each year, then you are appraising something similar to what spawned the *Gross vs. Commissioner* court case that created the need for this model.

In this case, the Company historically paid out approximately 20% of its Pretax Net Income to its shareholders, so that is what we forecast in this model as well.

Please note that Lines 12 and 13 are shown as negatives in the model as they are illustrating cash leaving the company. If you change Line 13 to a positive number then the shareholders are paying the Company distributions and not the other way around.

Line 15 – Retained Cash Flow shows how much money the subject S corporation has left over after it has paid out all its distributions.

Line 16 – C Corp Valuation Adjustment is a negative of the exact amount of the difference between the taxes that an S corporation's owners pay and that an equivalent C corporation must pay. This adjustment removes the benefit to the S corporation shareholders of being able to receive an income stream and pay lower taxes than an equivalent C corporation would at the same level. This adjustment is the most difficult to understand. At least it was the one that gave us the most trouble. The reason it exists is integral to how the model works. Remember the list of three distinct benefits that S corporations have over equivalent C corporations we mentioned earlier? Well, the infamous Line 16 is responsible for adjusting away the lion's share of those benefits, so that they may be valued separately later on in the model.

Line 18 – Retained Cash Flow (C Corp Basis) is exactly how much cash the Subject Company would have available to distribute if it paid the same income taxes at the same rate as an equivalent C corporation. If the Subject Company did not, in fact, pay any "Excess Distributions" to its shareholders, this line would exactly match that of the equivalent C corporation example.

The next chart ties all of the above adjustments together and shows the indication of value for Subject Company, Inc. after all three of the benefits described earlier in this article have been removed. After that, we will go into the parts of the model that value each benefit in turn.

Table 15

		Tax Rates	Forecast 2009	Forecast 2010	Forecast 2011	Forecast 2012	Present Value
			Subject Company An Idaho S Corporation Treharne Model				
	Retained Cash Flow						
1	Pretax Income		139,890	263,122	306,903	371,047	
2	Income Taxes (C Corp)	See Note	-	-	-	-	
3			----------	----------	----------	----------	
4	Net Income		139,890	263,122	306,903	371,047	
5	Noncash Expenses		84,870	72,224	51,006	38,360	
6	Changes in Working Capital		75,000	123,750	75,900	30,740	
7	Capital Expenditures		(60,000)	(60,000)	(60,000)	(60,000)	
8	Changes in Long-Term Debt		(27,548)	52,452	(36,432)	42,831	
9			----------	----------	----------	----------	
10	Net Cash Flow to Equity		212,212	451,548	337,378	422,978	
11	C Corp Dividends Paid						
12	S Corp Tax Distribution Paid	See Note	(38,005)	(85,017)	(102,792)	(129,101)	
13	S Corp "Excess Distributions" Paid		(27,978)	(52,624)	(61,381)	(74,209)	
14			----------	----------	----------	----------	
15	Retained Cash Flow		146,229	313,907	173,206	219,667	
16	C Corp Valuation Adjustment		(10,434)	(20,848)	(23,475)	(25,255)	
17			----------	----------	----------	----------	
18	Retained Cash Flow (C Corp Basis)		135,795	293,059	149,730	194,413	
19	Terminal Value					953,548	
20			----------	----------	----------	----------	
21	Total		135,795	293,059	149,730	1,147,961	
22	Present Value (Retained Cash Flow)		121,948	212,237	87,449	540,694	962,328
	Number of Periods		0.5	1.5	2.5	3.5	

The indicated value of Subject Company, Inc. is $962,328 or **$960,000** rounded. Of course this omits all the interesting benefits that S corporations have over equivalent C corporations, but you knew that already or you wouldn't be reading this far down the article.

The next part of the Treharne Model deals with the benefit an S corporation has over an equivalent C corporation on dividend income.

Benefit One – Pretax Distributions

Table 16

			Subject Company An Idaho S Corporation Treharne Model				
		Tax Rates	2009	2010	2011	2012	Present Value
23	**Net Cash Flow to Investor**						
24	S Corp Tax Distribution Paid		38,005	85,017	102,792	129,101	
25	S Corp "Excess Distributions" Paid		27,978	52,624	61,381	74,209	
26	Personal Taxes on S Corp Operations	See Note	(38,005)	(85,017)	(102,792)	(129,101)	
27			----------	----------	----------	----------	
28	Net Cash Flow to Investor		27,978	52,624	61,381	74,209	
29	Terminal Value					363,979	
30			----------	----------	----------	----------	
31	Total		27,978	52,624	61,381	438,188	
32	Present Value		25,125	38,111	35,849	206,388	305,474
	Number of Periods		0.5	1.5	2.5	3.5	

Line 24 - S Corp Tax Distribution Paid is a negative of Line 12 - S Corp Tax Distribution Paid. Where in Line 12 it was representing an outgo of cash, here on Line 24 it is representing an income stream to the investor.

Same with Line 25 - S Corp "Excess Distributions" Paid. It is a negative of Line 13 - S Corp "Excess Distributions" Paid and for the same reasons.

Line 26 - Personal Taxes on S Corp Operations shows the taxes associated with the income generated by the S corporation being paid. (Remember these amounts were calculated above in Table 14.)

Line 28 – Net Cash Flow to Investor shows exactly how much money an investor in the S corporation would receive each year, without needing to include the proceeds as dividends received for income tax purposes. That forecast income stream is included in the overall present value of the subject S corporation on Line 32 – Present Value.

If the subject is only paying out the tax liability associated with S corporation income then the result of this section is zero as the tax portion is dealt with in a different section.

The next section deals with the advantage an S corporation has over an equivalent C corporation on the double taxation issue. A C corporation's income is taxed on its income and again when it declares dividends. An S corporation does not pay a dividend tax.

Benefit Two – Avoiding Dividend Taxes

Table 17

			Subject Company An Idaho S Corporation Treharne Model				
		Tax Rates	2009	2010	2011	2012	Present Value
34	**Double Taxation Adjustment**						
35	Total S Corp Distributions (Tax & Excess)		65,983	137,641	164,172	203,310	
36	C Corp Entity-Related Taxes	See Note	(48,439)	(105,865)	(126,267)	(154,355)	
37			----------	----------	----------	----------	
38	S Corp "Excess Distributions" Paid		17,544	31,776	37,905	48,955	
39	S Corp "Excess Dist." Tax Benefit	See Note	2,912	5,275	6,292	8,126	
40	Terminal Value					39,858	
41			----------	----------	----------	----------	
42	Total		2,912	5,275	6,292	39,858	
43	Present Value (Double Taxation Adj.)		2,605	3,774	3,602	18,253	28,234
	Number of Periods		0.5	1.5	2.5	3.5	

Line 35 – Total S Corp Distributions (Tax & Excess) is the total amount of cash distributed to shareholders including the amount allocated towards paying the tax liability associated with the S corporation income.

Line 36 – C Corp Entity-Related Taxes is the exact amount that would be due as income tax if the Subject Company were an equivalent C corporation.

Line 38 – S Corp "Excess Distributions" Paid is the difference between what was actually distributed to shareholders and what would be required to pay the income taxes if it were an equivalent C corporation. This amount would be subject to a dividend tax if it were a C corporation.

Line 39 – S Corp "Excess Dist." Tax Benefit calculates what the dividend tax would be if it were in fact being charged a dividend tax. The dividend tax is calculated using the 15% Federal

Dividend Tax Rate and the State Dividend rate. In the case of Idaho, dividends are taxed at the same rate as personal income and this chart has been shown previously.

Line 43 – Present Value (Double Taxation Adj.) is calculated slightly differently than the other present value calculations. The discount rate used is 1% higher than the rate used throughout the rest of this model. The choice of a larger discount rate for the double taxation adjustment is based on the fact that a minority shareholder cannot force the entity to pay distributions even if the company has generated adequate cash flow to pay distributions. The question could be asked, and we have asked it, "Why only 1%?" The answer we received was that no one knows exactly how to measure that additional risk, and bumping the discount rate by 1% at least shows that the additional risk was acknowledged. The chart showing the discount rate is shown below.

Table 18

	Retained Cash Flow	Double Taxation Adj.
Discount rate	24%	25%
Growth rate	3%	3%
	------	------
Capitalization rate	21%	22%

Now everything has been dealt with, except for the fact that income associated with S corporations and C corporations effectively pay different tax rates. The income associated with S corporations may be charged a lower tax rate and that tax savings is a benefit that must be counted. The following section does that.

Benefit Three – Personal Tax Rates

Table 19

			Subject Company An Idaho S Corporation Treharne Model				
		Tax Rates	2009	2010	2011	2012	Present Value
45	**Tax-Rate Differential Adjustment**						
46	S Corp Entity-Related Taxes	See Note	(38,005)	(85,017)	(102,792)	(129,101)	
47	C Corp Entity-Related Taxes	See Note	(48,439)	(105,865)	(126,267)	(154,355)	
48			----------	----------	----------	----------	
49	S Corp Benefit (Liability)		10,434	20,848	23,475	25,255	
50	Terminal Value					123,868	
51			----------	----------	----------	----------	
52	Total		10,434	20,848	23,475	149,122	

53	Present Value (Tax-Rate Differential Adj.)	9,370	15,099	13,711	70,237	108,416
	Number of Periods	0.5	1.5	2.5	3.5	

As shown above, Line 49 – S Corp Benefit (Liability) is the difference in taxes paid based on personal tax rates and the equivalent C corporation corporate tax rates. Most of the time this line will show a benefit, meaning that the Subject Company, by pure virtue of being an S corporation, allowed its shareholders to keep more of their money than what an equivalent C corporation would. The present value of this benefit stream is also calculated and will be included in the overall indication of value of the subject minority interest in the Subject Company, Inc., an Idaho S Corporation.

Value Conclusion of the S Corporation Benefits

Table 20

			Subject Company An Idaho S Corporation Treharne Model				
		Tax Rates	2009	2010	2011	2012	Present Value
23	**Net Cash Flow to Investor**						
24	S Corp Tax Distribution Paid		38,005	85,017	102,792	129,101	
25	S Corp "Excess Distributions" Paid		27,978	52,624	61,381	74,209	
26	Personal Taxes on S Corp Operations	See Note	(38,005)	(85,017)	(102,792)	(129,101)	
27			----------	----------	----------	----------	
28	Net Cash Flow to Investor		27,978	52,624	61,381	74,209	
29	Terminal Value					363,979	
30			----------	----------	----------	----------	
31	Total		27,978	52,624	61,381	438,188	
32	Present Value		25,125	38,111	35,849	206,388	305,474
	Number of Periods		0.5	1.5	2.5	3.5	
33							
34	**Double Taxation Adjustment**						
35	Total S Corp Distributions (Tax & Excess)		65,983	137,641	164,172	203,310	
36	C Corp Entity-Related Taxes	See Note	(48,439)	(105,865)	(126,267)	(154,355)	
37			----------	----------	----------	----------	
38	S Corp "Excess Distributions" Paid		17,544	31,776	37,905	48,955	
39	S Corp "Excess Dist." Tax Benefit	See Note	2,912	5,275	6,292	8,126	
40	Terminal Value					39,858	
41			----------	----------	----------	----------	
42	Total		2,912	5,275	6,292	39,858	

43	Present Value (Double Taxation Adj.)	2,605	3,774	3,602	18,253	28,234
	Number of Periods	0.5	1.5	2.5	3.5	
44						

		Tax Rates	2009	2010	2011	2012	Present Value
45	**Tax-Rate Differential Adjustment**						
46	S Corp Entity-Related Taxes	See Note	(38,005)	(85,017)	(102,792)	(129,101)	
47	C Corp Entity-Related Taxes	See Note	(48,439)	(105,865)	(126,267)	(154,355)	
48			----------	----------	----------	----------	
49	S Corp Benefit (Liability)		10,434	20,848	23,475	25,255	
50	Terminal Value					123,868	
51			----------	----------	----------	----------	
52	Total		10,434	20,848	23,475	149,122	
53	Present Value (Tax-Rate Differential Adj.)		9,370	15,099	13,711	70,237	108,416
	Number of Periods		0.5	1.5	2.5	3.5	
54							
55	Present Value (Cash to Investor)						442,124
56							----------
57	**PV of Retained & Investor Cash Flows**						**1,404,452**

The indicated value of the Subject Company as an S corporation is $1,404,452 or **$1,400,000** rounded. (The sum of the three benefits above of $442,124 plus the $962,328 above after all the benefits had been stripped out.) This compares to the value of **$1,270,000** that was determined **as if it were** a C Corporation. This is the reason why S corporations are as popular as they are. If there wasn't a tax advantage in being an S corporation, companies would not elect that status.

Of course, once you get to this point, you have to remember to check your forecast to see if you made any control adjustments such as adjusting rent and officer compensation. If you did, then you get to apply your Discount for Lack of Control as well as your Discount for Lack of Marketability in order to get to your actual conclusion of value.

Summary

This is our understanding of how one actually applies the Treharne Model to value a minority interest in an S corporation or other pass through entity. The model is complicated, but as it was designed to value the tax benefits attributable to S corporations, it was never going to be easy. We have our tax code to thank for that, and Chris Treharne for figuring out the math.

We have not always enjoyed the process, but we are really happy to be able to explain to anyone who asks, exactly why this difficult process is required in our business appraisals of minority interests in pass through entities. It is even more enjoyable, however, when we are being paid hourly to explain how it all works. There are always many questions, most of which we hope we were able to answer in this article. If we missed explaining something as clearly as you would like, feel free to ask us. If we don't know the answer...then we apologize in advance to Chris Treharne, as we will be once again giving him a call.

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