Do Tax Pass Through Entities Have a Valuation Premium Relative to C Corporations of Equivalent Risk?

OF COURSE THEY DO!

Tax Pass Through Entities (TPTEs) have premiums because they are only taxed once while C Corporations (C-Corps) are taxed twice. This characteristic has a value - taxes not paid on a distribution to owners.

Issues

Modigliani and Miller (M&M) have shown that shielding income from taxes has a value.

The Internal Revenue Service (IRS) has argued that TPTE should not be tax effected denying the M&M view that tax benefits have value.

Rate of return data used to develop the cost of capital comes from guideline public companies that are predominately C-Corps. Therefore, this information cannot be used directly to value a TPTE.

Method to Value a TPTE

Basic equation: the value of a TPTE is identically equal to the value of a C of equivalent risk plus the value of its tax benefits.

Create a transitional fiction: first, a TPTE is taxed as a C; and second, the TPTE's tax saving on the distribution, which is equal to Net Operating Profit After Taxes (NOPAT) - change in operating working capital – net capital expenditure - interest expense

Tax saving, the amount that owners of C-Corps pay that owners of TPTEs do not - is equal to rate, e.g. the dividend rate - multiplied by the distribution.

What is the basis of a TPTE premium relative to an equally risky C-Corp?

- M&M initially argued that enterprise value is independent of capital structure. This changed when entity level and personal tax rates were added, and the concept of the tax shield emerged - anything that legally reduces taxes.

- A TPTE's income is also shielded from taxes since it is not subject to double taxation and hence owner's tax burden is reduced relative to the owner of a C-Corp of equal risk.

Value TPTE with the Tax Pass Through Benefit

1. Value the entity using the discount free cash flow to firm method assuming a C-Corp's marginal tax rate

   a) Cost of capital is estimated with the C-Corp marginal tax rate.

   b) Calculate NOPAT and subtract changes in both net operating working capital and net fixed capital for each projection year. The result is free cash flow to firm.

   c) Under the assumption that a firm operates with a fixed capital structure, calculate the enterprise value at each projection year. Calculate the portion that is debt-based on a fixed capital structure - and then calculate the interest expense on the new debt level at each projection year.

   d) Calculate the difference between the C-Corp marginal tax rate and the applicable personal tax rate and then multiply this difference by EBT for each projection year.

   e) Calculate the avoided tax as the avoided tax rate – e.g. dividend rate of 25% (combined Federal and state tax) - multiplied by the distribution (free cash flow to firm minus interest expense).

   f) Value the tax pass through benefit as the sum of the value of the tax differential between the C-Corp tax rate and the personal tax rate plus the present value of taxes avoided.

2. The value of the TPTE is then equal to the value of a C-Corp plus the value in 1(f) above - the tax pass through benefit.

Valuing the TPTE: An Example

Business Enterprise Value Calculation on a C Corporation (C-Corp) Basis   Valuation Date: December 31, 2019; USD

Row	Fiscal Year End: Dec 31	Historical Annual Dec 31, 19	Projected Annual Dec 31, 20	Annual Dec 31, 21	Annual Dec 31, 22	Annual Dec 31, 23	Annual Dec 31, 24	Source
1	**Net Revenue**	$1,000,000	$1,020,000	$1,040,400	$1,061,208	$1,082,432	$1,104,081	Axiom
	% Revenue Growth		2.00%	2.00%	2.00%	2.00%	2.00%	$R1(t) / R1(t-1) - 1$
2	Cost of Goods Sold	600,000	612,000	624,240	636,725	649,459	662,448	Axiom
3	**Gross Profit**	$ 400,000	$ 408,000	$ 416,160	$ 424,483	$ 432,973	$ 441,632	R1 - R2
	Gross Profit Margin	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	R3 / R1
4	Operating Expenses including Depreciation and Amortization	350,000	357,000	364,140	371,423	378,851	386,428	Axiom
5	**Earnings Before Interest and Taxes (EBIT)**	$ 50,000	$ 51,000	$ 52,020	$ 53,060	$ 54,122	$ 55,204	R3 - R4
	EBIT Margin	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	R5 / R1
6	C-Corp Taxes (27.0% Tax Rate)		13,770	14,045	14,326	14,613	14,905	Tax Rate * R5
7	**Net Operating Profit After Taxes (NOPAT)**		$ 37,230	$ 37,975	$ 38,734	$ 39,509	$ 40,299	R5 - R6
	NOPAT Margin		3.65%	3.65%	3.65%	3.65%	3.65%	R7 / R1
8	Fixed Capital (10.0% Fixed Capital Ratio of Revenue)	$ 100,000	$ 102,000	$ 104,040	$ 106,121	$ 108,243	$ 110,408	Fixed Capital Ratio * R1
9	*Net Change in Fixed Capital*		2,000	2,040	2,081	2,122	2,165	$R8(t) - R8(t-1)$
10	Working Capital (15.0% Working Capital Ratio of Revenue)	$ 150,000	$ 153,000	$ 156,060	$ 159,181	$ 162,365	$ 165,612	Working Capital Ratio * R1
11	*Net Change in Working Capital*		3,000	3,060	3,121	3,184	3,247	$R10(t) - R10(t-1)$
12	**Free Cash Flow to the Firm (FCFF)**		$ 32,230	$ 32,875	$ 33,532	$ 34,203	$ 34,887	R7 - R9 - R11
13	Discount Period (Mid-year Convention)		0.50	1.50	2.50	3.50	4.50	Axiom
14	Present Value Factor (20.0% Discount Rate)		0.9129	0.7607	0.6339	0.5283	0.4402	$1 / ((1 + \text{Discount Rate})^{\wedge} \text{Discount Period})$
15	Present Value of FCFF		$ 29,422	$ 25,009	$ 21,257	$ 18,069	$ 15,358	R12 * R14
16	**Sum of Present Value of Discrete Cash Flows**	109,115						Sum (R15)
17	Present Value Factor (20.0% Discount Rate)						0.4402	R14
18	Perpetuity Value (2.0% Long-term Terminal Growth Rate (g))						$ 228,361	Last Period NOPAT * (1 + g) / (Discount Rate - g)
19	**Present Value of Residual Cash Flows**	100,532						R17 * R18
20	**Business Enterprise Value on a C-Corp Basis**	$ 209,647						R16 + R19

		Historical	Projected				
Tax Pass-through Benefit Calculation - Future Interest Expenses Estimation (Part 1 of 4)						**Valuation Date: December 31, 2019; USD**	
		Annual	**Annual**	**Annual**	**Annual**	**Annual**	
Row	**Fiscal Year End: Dec 31**	**Dec 31, 19**	**Dec 31, 20**	**Dec 31, 21**	**Dec 31, 22**	**Dec 31, 23**	**Source**
21	**Future Interest Expenses Estimation**						
22	Present Value of FCFF	$ 109,115	$ 95,631	$ 78,745	$ 57,762	$ 31,847	(Cash Flows (R12) Forward One-less-period) * (Discount Rate (R14) Backward One-less-period) for Each Forward Year
23	Present Value of Residual Cash Flows	100,532	120,639	144,767	173,720	208,464	Perpetuity Value (R18) * (Discount Rate (R14) Backward One-period) for Each Forward Year
24	**Business Enterprise Value on a C-Corp Basis**	**$ 209,647**	**$ 216,270**	**$ 223,512**	**$ 231,482**	**$ 240,311**	R22 + R23
25	Value of Debt (50.0% Debt Ratio of Enterprise Value)		108,135	111,756	115,741	120,155	Debt Ratio * R24
26	**Interest Expenses (5.0% Interest Rate)**		**$ 5,407**	**$ 5,588**	**$ 5,787**	**$ 6,008**	Interest Rate * R25

Tax Pass-through Benefit Calculation - Corporate Level Tax Difference (Part 2 of 4)   **Valuation Date: December 31, 2019; USD**

Row	Fiscal Year End: Dec 31	Historical Annual Dec 31, 19	Projected Annual Dec 31, 20	Annual Dec 31, 21	Annual Dec 31, 22	Annual Dec 31, 23	Source
27	**C-Corp & Tax Pass-through Entity - Corporate Level Tax Difference**						
28	EBIT		$ 51,000	$ 52,020	$ 53,060	$ 54,122	R5
29	Interest Expenses		5,407	5,588	5,787	6,008	R26
30	**EBT**		$ 45,593	$ 46,432	$ 47,273	$ 48,114	R28 - R29
31	C-Corp Federal and State Tax (27.0% Tax Rate)		$ 12,310	$ 12,537	$ 12,764	$ 12,991	C-Corp Tax Rate * R30
32	Tax Pass-through Entity Personal Federal and State Tax (35.0% Tax Rate)		15,958	16,251	16,546	16,840	Tax Pass-through Entity Personal Tax Rate * R30
33	**C-Corp & Tax Pass-through Entity - Corporate Level Tax Difference**		$ (3,647)	$ (3,715)	$ (3,782)	$ (3,849)	R31 - R32
34	Discount Period (Mid-year Convention)		0.50	1.50	2.50	3.50	R13
35	Present Value Factor (20.0% Discount Rate)		0.9129	0.7607	0.6339	0.5283	1 / ((1 + Discount Rate) ^ Discount Period)
36	Present Value of Corporate Level Tax Difference		$ (3,330)	$ (2,826)	$ (2,397)	$ (2,033)	R33 * R35
37	**Sum of Present Value of Corporate Level Tax Difference**	(10,586)					Sum (R36)
38	Present Value Factor (20.0% Discount Rate)					0.5283	R35
39	Corporate Level Tax Difference Perpetuity Value (2.0% Long-term Terminal Growth Rate (g))					$ (21,812)	Last Period Corporate Level Tax Difference * (1 + g) / (Discount Rate - g)
40	**Present Value of Residual Corporate Level Tax Difference**	(11,523)					R38 * R39
41	**C-Corp & Tax Pass-through Entity - Corporate Level Tax Difference**	$ (22,109)					R37 + R40

Tax Pass-through Benefit Calculation - Dividend Tax Difference (Part 3 of 4) · **Valuation Date: December 31, 2019; USD**

Row	Fiscal Year End: Dec 31	Historical Annual Dec 31, 19	Projected Annual Dec 31, 20	Annual Dec 31, 21	Annual Dec 31, 22	Annual Dec 31, 23	Source
42	**C-Corp and Tax Pass-through Entity - Dividend Tax Difference**						
43	FCFF		$ 32,230	$ 32,875	$ 33,532	$ 34,203	R12
44	Interest Expenses		5,407	5,588	5,787	6,008	R26
45	FCFF without Interest Expenses		$ 26,823	$ 27,287	$ 27,745	$ 28,195	R43 - R44
46	**Dividend Tax (25.0% Tax Rate)**		$ 6,706	$ 6,822	$ 6,936	$ 7,049	Dividend Tax Rate * R45
47	Discount Period (Mid-year Convention)		0.50	1.50	2.50	3.50	R13
48	Present Value Factor (20.0% Discount Rate)		0.9129	0.7607	0.6339	0.5283	1 / ((1 + Discount Rate) ^ Discount Period)
49	Present Value of Dividend Tax		$ 6,122	$ 5,189	$ 4,397	$ 3,724	R46 * R48
50	**Sum of Present Value of Dividend Tax**	19,432					Sum (R49)
51	Present Value Factor (20.0% Discount Rate)					0.5283	R48
52	Dividend Tax Difference Perpetuity Value (2.0% Long-term Terminal Growth Rate (g))					$ 39,943	Last Period Dividend Tax Difference * (1 + g) / (Discount Rate - g)
53	**Present Value of Residual Dividend Tax**	21,101					R51 * R52
54	**C-Corp & Tax Pass-through Entity - Dividend Tax Difference**	$ 40,533					R50 + R53

Step 1 F: Tax Pass-through Benefit Calculation (Part 4 of 4)

		Historical Annual	
Tax Pass-through Benefit Calculation (Part 4 of 4)		**Valuation Date: December 31, 2019; USD**	
Row Fiscal Year End: Dec 31		Dec 31, 19	Source
55	C-Corp & Tax Pass-through Entity - Corporate Level Tax Difference	$ (22,109)	R41
56	C-Corp & Tax Pass-through Entity - Dividend Tax Difference	40,533	R54
57	**Value of Tax Pass-through for Tax Pass-through Entity**	**$ 18,424**	R55 + R56

Step 2: Business Enterprise Value Calculation for Tax Pass-through Entity

		Historical Annual	
Business Enterprise Value Calculation for Tax Pass-through Entity		**Valuation Date: December 31, 2019; USD**	
Row Fiscal Year End: Dec 31		Dec 31, 19	Source
58	Business Enterprise Value on a C-Corp Basis	$ 209,647	R20
59	Value of Tax Pass-through for Tax Pass-through Entity	18,424	R57
60	**Business Enterprise Value for Tax Pass-through Entity**	**$ 228,071**	R58 + R59

The Value of the Tax Pass Through Varies with the Differential Between Corporate and Personal Tax Rates

**Tax Pass-through Value /
C-Corp Basis Business Enterprise Value Percentage**

		C-Corp Tax Rate			
	21.0%	**25.0%**	**30.0%**	**35.0%**	**40.0%**
20.0%	20.7%	25.8%	33.1%	41.8%	52.3%
25.0%	14.7%	19.4%	26.2%	34.3%	43.9%
30.0%	8.7%	13.0%	19.3%	26.7%	35.6%
35.0%	2.7%	6.6%	12.3%	19.1%	27.3%

Pass-through Entity Tax Rate (row labels on left)

Reducing the C-Corp Tax Rate Reduces the Value of the Tax Pass Through, all else equal.