



VALUATION SERIES

No. 32 / JULY 2019

PUBLIC CHOICE ALTERNATIVES

Flying Into a Promising But Uncertain Future

A VALUATION & STRATEGIC APPRAISAL OF
TORONTO-PEARSON INTERNATIONAL AIRPORT

BY IAN MADSEN



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EXECUTIVE SUMMARY

Toronto-Pearson International Airport, coded as 'YYZ,' is the airport serving the Greater Toronto Area, GTA domestically and internationally. It is a non-profit entity governed by several GTA regions, the City of Toronto, the Province of Ontario, and the federal government.

Using an **intrinsic value method**, with net income substituted for free cash flow (which is negative and forecast to remain so) and taxed at statutory rates, the company's value is estimated from \$6.65B to a maximum of \$46.52B, with a tighter, more plausible range of a median (midpoint of all the relevant values) of \$11.63B to a mean (simple average of all the relevant values) of \$14.97B.

Under the **market-based valuation system**, using five standard valuation metrics (Trailing Price/Earnings, Price/Sales; Price/Book Value; Enterprise Value to Revenue; Enterprise Value to Earnings Before Interest, Taxes & Depreciation & Amortization [EV/EBITDA]; and Price/Operating Cash Flow), the current value ranges from \$3.01B to \$10.33B, with a mean of \$6.73B and a median of \$7.43B.

The company has positive free cash flow and positive returns on assets, equity, and capital employed. Similar utility-like companies usually pay a dividend to investors. The company is showing sufficient income to pay a dividend; a plan to provide one would make its public market flotation more successful (several large airports around the world are already publicly listed and traded; others are owned by other investors, so divestment is quite normal).

Some scenario experiments indicate that YYZ should have part of its debt extinguished to optimize total sale proceeds to the citizens of the city, region, province, and nation. As the entity's debt level is a little high in relation to its cash generation capacity and its capital expenditure needs exceed operating cash flow, much, if not all, of the first sale proceeds of treasury shares in a partial divestiture might, or should, be used to lower Pearson's debt and not go to government coffers. The experiments indicate, albeit not definitively, that using proceeds to retire at least one quarter of its long-term debt is likely the optimal strategy. Also, ownership of YYZ will need to be clarified prior to sale; several regions, the City of Toronto, the Province of Ontario and the federal government all seem to have some stake in or responsibility for the entity.

Caveat: This report is nothing approaching a prospectus. Only intensive, meticulously minute appraisal of all of Toronto-Pearson's assets, including its physical assets, all its accounts, and hidden assets and liabilities, plus all its contractual, legal, and regulatory obligations, would give an accurate valuation of the company, albeit still dependent on subjective reasoning and assumptions. Even then, it would not necessarily indicate what magnitude of proceeds could or would be garnered in a divestment. The estimates, projections, observations, or analyses herein are neither definitive nor authoritative. Other analysts may have valid, alternative ways of scrutinizing and valuing Toronto-Pearson International Airport.

INTRODUCTION

History of Toronto-Pearson International Airport (YYZ)

Toronto Pearson's predecessor airport was built in 1937, when the federal government acquired nine farms in the Malton area for that purpose.¹ Toronto-Pearson International Airport, which has the global symbol 'YYZ,' serves Canada's largest city and metropolitan area. It experienced 49.5 million passengers in 2018, up 5 percent over 2017. International passenger growth was higher, rising by 6.7 percent. YYZ claims to be North America's second largest airport measured by international traffic.²

In 2018, YYZ scheduled international non-stop flights to 175 destinations comprising about 72 percent of global GDP.³ Last year, YYZ handled some \$35B in goods shipped from producers all over Canada to nearly every nation in the world; about 67 percent of all Canadian airborne exports.⁴ These exports have grown at a compound annual rate of 5.4 percent since 2014.⁵ An independent study commissioned by the Greater Toronto Airports Authority in 2016 found that YYZ generates about \$42B annually, or 6.3 percent of its host province Ontario's GDP.⁶ According to Pearson's 2018 Annual Report, YYZ generates or facilitates \$23B annually in inward foreign direct investment (FDI) and \$25B in outward FDI.⁷ In 2018, commercial (non-aeronautical) revenues grew by 11.4 percent to a record \$501.9M—an all-time high.⁸ Landing and other airline-related fees, including airport improvement fees, have been held steady or declined on a per-passenger basis for several years, and are projected to keep this trajectory maintaining YYZ's competitiveness.⁹

In 2017, the GTAA announced plans for an integrated transit centre at Toronto Pearson that would link rail and bus networks in the region and ultimately connect Toronto's western suburbs with much of Southern Ontario. This would alleviate aggravated traffic congestion in the greater Toronto area and strongly improve transit access for users of YYZ.¹⁰ There will be new rail lines and stations at the airport, to Toronto itself, in suburbs, and regional cities such as Kitchener-Waterloo.¹¹ Pearson projects it will serve 85 million passengers a year and generate 8.5 percent of Ontario's GDP by 2037.¹² There are no plans for another runway; other facilities and technology are believed to handle the near doubling of passenger throughput and the doubling of cargo volumes.¹³

INTRINSIC VALUE: VALUATION OF YYZ AS A BUSINESS, IN ITS CURRENT STATE

For the intrinsic value, projecting future cash flow growth, and bringing it to a net present value, a relatively conservative approach was taken, which could undervalue the company (please see Table 1). A simple capitalization perpetuity formula was used, which is appropriate for a mature company. The company's free cash flow nominal (i.e., not adjusted for inflation) growth rate range was held within a restrained 2 to 4 percent range, and the required rate of return or cost of capital range was from 5 to 8 percent.

The entity could theoretically have higher growth in the future so a modest growth rate was considered reasonable. Its cost of capital, given low expectations, the quality of its assets, and

high current valuations in the stock market, could well be lower than the range used (and thus raise its estimated value), although there is also a chance that interest rates and the rate of return investors demand on equity (share) investment could increase.

The statutory tax rate used in calculations may be lower in the future, as there is continued global pressure to lower corporate tax rates exemplified by the recent drop in the US corporation income tax rates, the slow decrease in Quebec, new cuts in Australia, and a recent more ambitious schedule of decreases announced by the new government in Alberta.

Table 1								
Intrinsic Value, 2019, Using Free Cash Flow								
METHOD 1: Present Value of Projected Fully Taxed Free Cash Flow for FY2019 (\$B)								
Present Value of Discounted Free Cash Flow = Estimated Next Year Free Cash Flow (Required Rate of Return [r] = Growth Rate [g])								
Projected Fully Taxed Free Cash Flow Estimate for FY2025 (\$B): \$ 0.4652								
Matrix Values (\$B) $g=v; r=>$	4.00%	5.00%	6.00%	7.00%	8.00%	9.00%	10.00%	
0.00%	\$ 11.63	\$ 9.30	\$ 7.75	\$ 6.65	\$ 5.82	\$ 5.17	\$ 4.65	
1.00%	\$ 15.50	\$ 11.63	\$ 9.30	\$ 7.75	\$ 6.65	\$ 5.82	\$ 5.17	
2.00%	\$ 23.26	\$ 15.50	\$ 11.63	\$ 9.30	\$ 7.75	\$ 6.65	\$ 5.82	
3.00%	\$ 46.52	\$ 23.26	\$ 15.50	\$ 11.63	\$ 9.30	\$ 7.75	\$ 6.65	
4.00%	--	\$ 46.52	\$ 23.26	\$ 15.50	\$ 11.63	\$ 9.30	\$ 7.75	
5.00%	-\$ 46.52	--	\$ 46.52	\$ 23.26	\$ 15.50	\$ 11.63	\$ 9.30	
6.00%	-\$ 23.26	-\$ 46.52	\$ --	\$ 46.52	\$ 23.26	\$ 15.50	\$ 11.63	
7.00%	-\$ 15.50	-\$ 23.26	-\$ 46.52	\$ --	\$ 46.52	\$ 23.26	\$ 15.50	
	Minimum	Maximum	Median	Mean (Average)				
Total Market Value (\$B)	\$ 6.65	\$ 46.52	\$ 11.63	\$ 14.97				

Note: 'g' is Growth Rate in Free Cash Flow or Proxy, 'r' is the Required Rate of Return; Bold font figures are used in the Mean, Median, Minimum and Maximum determinations. Source: Author's calculations based on reports made available by the company.

The proprietary model used in projecting the line items that determine the various inputs into the intrinsic value employ calculations based on recent and historic trends in those line items. The model then uses formulas to project the line item numbers for the following year. All main constituent line-item factors that determine net income, operating and free cash flow were projected on the basis

of historic behaviour and mathematical analysis. Using this method, the calculations resulted in the estimates of a minimum of \$6.65B to a maximum of \$46.52B, with a tighter, more plausible range of a median (midpoint of all the relevant values) of \$11.63B to a mean (simple average of all the relevant values) of \$14.97B (Table 1).

MARKET-BASED VALUE: VALUATION OF YYZ USING STOCK MARKET AND FINANCIAL METRICS

With respect to the market-peer comparison valuation, there are a few complications. Some of the publicly traded airport companies around the world have either inflated or depressed financial results, and the most extreme anomalies among them had to be deleted. There were still sufficient sample data for reasonable comparative purposes.

As noted in the Executive Summary, using five standard valuation metrics (Trailing Price/Earnings, Price/Sales; Price/Book Value; Enterprise Value to Revenue; Enterprise Value to Earnings Before

Interest, Taxes & Depreciation & Amortization [EV/EBITDA]; and Price/Operating Cash Flow), the current value ranges from \$3.01B to \$10.33B, with a mean of \$6.73B and a median of \$7.43B (Table 3).

Enterprise Value to Earnings Before Interest, Taxes & Depreciation & Amortization [EV/EBITDA]; Revenue/EBITDA; Price/Operating Cash Flow), the current value ranges from \$3.34B to \$7.81B, with a median of \$5.88B and a median of \$6.73B. Please see the details of the models' results in Table 2.

Table 2					
Market Valuation Using Financial Metrics from Comparable Companies					
Method 2: Toronto-Pearson Airport Projections are for FY2019; Fully Taxed					
Valuation metrics applied to Toronto-Pearson Airport. Figures in \$B.	Trailing P/E (Market Value to Net Income)	Value/Revenue Price to Sales	Enterprise Value/EBITDA (subtracting net debt)	Enterprise Price to (subtracting net debt)	Operating Cash Flow
Average Eleven Airport or Airport Terminal Operating or Holding Companies	\$ 2.68	\$ 2.92	\$ 7.48	\$ 1.09	\$ 4.11
Average Nine Port or Port Terminal-Dominated Utility Companies	\$ 4.05	\$ 4.37	\$ 7.61	\$ 18.64	\$ 13.64
Average of All Nineteen Companies	\$ 3.38	\$ 7.48	\$ 3.01	\$ 9.44	\$ 10.33

Source: Capital IQ via Yahoo!Finance, additional material from BMO-Investorline, Valuation model formulae.

Market Value Using Comparable Companies and Five Viable Valuation Ratios				
	Minimum	Maximum	Median	Mean (Average)
Total Market Value (\$B)	\$ 3.01	\$ 10.33	\$ 7.48	\$ 6.73

Source: Calculations based on OPG Annual Report financial data, comparison company data from Capital IQ via Yahoo!Finance.

FINANCIAL PERFORMANCE OF TORONTO PEARSON AIRPORT, AND TRENDS IN SAME

As shown in Table 4, next page, all of YYZ's returns on assets, equity, and capital employed, have gradually improved over the past nine years, whether the numerator in the ratios is Earnings Before Interest, Taxes and Depreciation and Amortization (EBITDA); net income; operating

cash flow; or free cash flow. This is with the exception of ratios incorporating equity; YYZ has negative equity at this time. These return ratios are also higher than the weighted average interest rates of 4.62 percent that the firm is paying on the debt it is borrowing.

Table 3										
Average Interest Rate Paid on Portion of Debt That Is Interest-Bearing										
Average Interest Rate on Interest-bearing Debt (Cost of Debt Capital)										
Year Ending 31 December	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Average Interest-bearing Debt (\$K)	\$ 7,696,880	\$ 7,590,446	\$ 7,505,436	\$ 7,407,627	\$ 7,095,429	\$ 6,875,681	\$ 6,479,716	\$ 6,258,416	\$ 6,267,221	\$ 6,341,035
Total Interest And Finance Charges Paid	\$ 439,428	\$ 443,087	\$ 427,958	\$ 403,474	\$ 389,611	\$ 363,384	\$ 7,346,729	\$ 335,177	\$ 306,576	\$ 292,916
Average Interest Rate on Interest-bearing Debt	5.71%	5.84%	5.70%	5.45%	5.49%	5.29%	5.35%	5.36%	4.89%	4.62%

Source: Annual reports.

Table 4

Capital Efficiency Performance Metric

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1. RETURN ON ASSETS										
Return on Assets Using EBITDA (Earnings Before Interest, Taxes and Depreciation & Amortization)										
EBITDA (\$M)	\$ 601	\$ 629	\$ 650	\$ 644	\$ 622	\$ 648	\$ 659	\$ 673	\$ 704	\$ 722
Average Assets (\$M)	\$ 7,485	\$ 7,248	\$ 7,015	\$ 6,922	\$ 6,628	\$ 6,383	\$ 6,046	\$ 5,951	\$ 6,077	\$ 6,312
RoA, EBITDA	8.0%	8.7%	9.3%	9.3%	9.4%	10.2%	10.9%	11.3%	11.6%	11.4%
Return on Assets Using Fully Taxed Net Income										
Fully Taxed Net Income (\$M)	\$ 441.78	-\$ 19.85	-\$ 12.59	\$ 9.89	\$ 5.16	-\$ 43.84	\$ 48.44	\$ 62.83	\$ 82.43	\$ 83.57
Average Assets (\$M)	\$ 7,485	\$ 7,248	\$ 7,015	\$ 6,922	\$ 6,628	\$ 6,383	\$ 6,046	\$ 5,951	\$ 6,077	\$ 6,312
RoA, NI	5.90%	-0.27%	-0.18%	0.14%	0.08%	-0.69%	0.80%	1.06%	1.36%	1.32%
Return on Assets Using Fully Taxed Operating Cash Flow										
Fully Taxed Operating Cash Flow (\$M)	\$ 601	\$ 648	\$ 677	\$ 665	\$ 595	\$ 686	\$ 642	\$ 678	\$ 695	\$ 700
Average Assets (\$M)	\$ 7,485	\$ 7,248	\$ 7,015	\$ 6,922	\$ 6,628	\$ 6,383	\$ 6,046	\$ 5,951	\$ 6,077	\$ 6,312
RoA, OCF	0.80%	8.94%	9.66%	9.60%	8.98%	10.74%	10.62%	11.39%	11.43%	11.10%
Return on Assets Using Fully Taxed Free Cash Flow										
Fully Taxed Free Cash Flow (\$M)	-\$ 170	\$ 660	\$ 384	\$ 762	\$ 343	\$ 823	\$ 720	\$ 474	\$ 151	\$ 269
Average Assets (\$M)	\$ 7,485	\$ 7,248	\$ 7,015	\$ 6,922	\$ 6,628	\$ 6,383	\$ 6,046	\$ 5,951	\$ 6,077	\$ 6,312
RoA, FCF	-2.27%	9.10%	5.48%	11.01%	5.17%	12.89%	11.90%	7.97%	2.48%	4.26%
2. RETURN ON EQUITY										
Return on Equity Using EBITDA (Earnings Before Interest, Taxes and Depreciation & Amortization)										
EBITDA (\$M)	\$ 601	\$ 629	\$ 650	\$ 644	\$ 622	\$ 648	\$ 659	\$ 675	\$ 704	\$ 721
Average Equity (\$M)	-\$ 409	-\$ 551	-\$ 702	-\$ 711	-\$ 691	-\$ 712	-\$ 706	-\$ 627	-\$ 526	-\$ 419
RoE, EBITDA	-147.1%	-114.2%	-92.7%	-90.6%	-90.0%	-91.0%	-93.3%	-107.7%	-133.9%	-171.8%
Return on Equity Using Fully Taxed Net Income										
Fully Taxed Net Income (\$M)	\$ 442	-\$ 20	-\$ 13	\$ 10	\$ 5	-\$ 44	\$ 48	\$ 63	\$ 82	\$ 84
Average Equity (\$M)	-\$ 409	-\$ 551	-\$ 702	-\$ 711	-\$ 691	-\$ 712	-\$ 706	-\$ 627	-\$ 526	-\$ 419
RoE, NI	-108.12%	3.60%	1.79%	-1.39%	-0.75%	6.16%	-6.86%	-10.03%	-15.68%	-19.93%
Return on Equity Using Fully Taxed Operating Cash Flow										
Fully Taxed Operating Cash Flow (\$M)	\$ 601	\$ 648	\$ 677	\$ 665	\$ 595	\$ 686	\$ 642	\$ 678	\$ 695	\$ 700
Average Equity (\$M)	-\$ 409	-\$ 551	-\$ 702	-\$ 711	-\$ 691	-\$ 712	-\$ 706	-\$ 627	-\$ 526	-\$ 419
RoE, OCF	-14.7%	-117.6%	-96.6%	-93.5%	-86.1%	-96.3%	-91.0%	-108.2%	-\$ 132.1	-\$ 167.0
Return on Equity Using Fully Taxed Free Cash Flow										
Fully Taxed Free Cash Flow (\$M)	-\$ 170	\$ 660	\$ 384	\$ 762	\$ 343	\$ 823	\$ 720	\$ 474	\$ 151	\$ 269
Average Equity (\$M)	-\$ 409	-\$ 551	-\$ 702	-\$ 711	-\$ 691	-\$ 712	-\$ 706	-\$ 627	-\$ 526	-\$ 419
RoE, FCF	41.55%	-119.76%	-54.76%	-107.22%	-49.60%	-115.56%	-101.91%	-75.67%	-\$ 28.71	-\$64.14
3. RETURN ON CAPITAL EMPLOYED (Cash, Restricted Cash and Short Term Investments were Subtracted from Total Liabilities + Shareholders Equity)										
Return on Capital Employed Using EBITDA (Earnings Before Interest, Taxes and Depreciation & Amortization)										
EBITDA (\$M)	\$ 601	\$ 629	\$ 650	\$ 644	\$ 622	\$ 648	\$ 659	\$ 675	\$ 704	\$ 721
Average Capital Employed (\$M)	\$ 7,112	\$ 6,887	\$ 6,692	\$ 6,584	\$ 6,468	\$ 6,321	\$ 6,040	\$ 3,912	\$ 6,034	\$ 6,295
RoCE, EBITDA	8.45%	9.13%	9.72%	9.79%	9.61%	10.25%	10.91%	11.42%	11.66%	11.45%
Return on Capital Employed Using Fully Taxed Net Income										
Fully Taxed Net Income (\$M)	\$ 442	-\$ 20	-\$ 13	\$ 10	\$ 5	-\$ 44	\$ 48	\$ 63	\$ 82	\$ 84
Average Capital Employed (\$M)	\$ 7,112	\$ 6,887	\$ 6,692	\$ 6,584	\$ 6,468	\$ 6,321	\$ 6,040	\$ 3,912	\$ 6,034	\$ 6,295
RoCE, NI	6.21%	-0.29%	-0.19%	0.15%	0.08%	-0.69%	0.80%	1.06%	1.37%	1.33%
Return on Capital Employed Using Fully Taxed Operating Cash Flow										
Fully Taxed Operating Cash Flow (\$M)	\$ 601	\$ 648	\$ 677	\$ 665	\$ 595	\$ 686	\$ 642	\$ 678	\$ 695	\$ 700
Average Capital Employed (\$M)	\$ 7,112	\$ 6,887	\$ 6,692	\$ 6,584	\$ 6,468	\$ 6,321	\$ 6,040	\$ 3,912	\$ 6,034	\$ 6,295
RoCE, OCF	0.84%	9.41%	10.12%	10.10%	9.20%	10.85%	10.63%	11.47%	11.51%	11.13%
Return on Capital Employed Using Fully Taxed Free Cash Flow										
Fully Taxed Free Cash Flow (\$M)	-\$ 170	\$ 660	\$ 384	\$ 762	\$ 343	\$ 823	\$ 720	\$ 474	\$ 151	\$ 269
Average Capital Employed (\$M)	\$ 7,112	\$ 6,887	\$ 6,692	\$ 6,584	\$ 6,468	\$ 6,321	\$ 6,040	\$ 3,912	\$ 6,034	\$ 6,295
RoCE, FCF	0.84%	9.41%	10.12%	10.10%	9.20%	10.85%	10.63%	11.47%	11.51%	11.13%

Source: Company Financial Statements. Taxes were calculated using current federal and provincial rates applied retroactively for comparability.

As shown on Table 5, the ratios of debt to equity, total debt to EBITDA, and the growth rate of debt divided by the growth in EBITDA have generally all shown slightly positive trends.

However, its liquidity, denoted by 'Quick Ratio,' has declined. The company, aside from having negative book value, is in healthy financial condition, and improving.

Table 5										
Solvency, Interest Coverage, Capital Expenditure Coverage										
Financial Strength and Solvency	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Debt/Equity	-1,933%	-1,099%	-1,100%	-1,048%	-1,073%	-927%	-989%	-1,118%	-1,429%	-1,824%
Debt/Total Assets	105%	110%	110%	111%	110%	112%	111%	110%	108%	106%
Debt/Total Capital Employed	114%	113%	118%	114%	112%	112%	111%	111%	108%	106%
EBITDA/Finance Charges	--	-143%	-147%	-151%	-154%	-166%	-181%	-195%	-210%	-235%
EBITDA/Finance Charges+Capex	262%	-139%	-434%	-123%	-412%	-123%	-150%	-472%	337%	577%
Quick Ratio ({(Current Assets - Inventories)/Current Liabilities})	49%	44%	42%	87%	73%	55%	28%	31%	13%	11%
Quick Ratio Excluding "Restricted Cash"	49%	44%	42%	87%	73%	55%	28%	31%	13%	11%
EBITDA/Net Interest Paid	--	141%	142%	146%	149%	162%	171%	191%	205%	229%
Pre-Tax Operating Cash Flow/Net Interest Paid	--	144%	147%	151%	143%	167%	179%	199%	211%	232%
Total Debt/EBITDA	1,345%	1,194%	1,218%	1,140%	1,173%	1,065%	1,002%	971%	945%	945%
Growth in Debt/Growth in EBITDA	-190%	-152%	160%	785%	22%	-125%	-265%	-29%	35%	100%

Source: Company Financial Statements. Debt and Equity are the averages for the year. Taxes were calculated using current federal and provincial rates applied retroactively for comparability. NOTE: The enterprise has negative equity (book value).

STRATEGIES AND ALTERNATIVES FOR COMMERCIALIZATION, DIVESTITURE OR PRIVATIZATION

1. Partial divestment

Quite often, when a state-owned enterprise is divested or 'privatized,' it is not done entirely at once. This is because it may not be possible to sell the whole company into the stock market and get the maximum price for the seller, especially if the firm has assets in the billions of dollars, or if there are unusual aspects to the nature of the company, or the circumstances in which it operates. Hence, an initial, small minority allotment of shares are sold to help establish at least a crude market valuation of the company's shares as they become openly traded.

However, having a majority stake retained by a government introduces some doubt about the true independence and commercial status of the partially divested firm. There could be fear on the part of

investors that politicians may interfere with the strategy or operations of the firm. This could result in there being a discount that the firm's shares suffer in the market. While there are no current signs of government meddling or public controversies, there are several different government stakeholders, who may or may not have actual ownership in Pearson. They potentially or theoretically can complicate partial or total sale of the operation.

Selling part or all of YYZ, with much of the proceeds used to reduce the debt, would make it significantly healthier and also allow it to fetch a higher price upon its sale, benefiting citizens, ratepayers, and taxpayers. Hence, a couple of different scenarios were explored. For reference, the three scenarios are laid out in Table 6.

Table 6			
3 Cases: Debt Level As Is; One Quarter of Long-term Debt Gone; Half of Long-term Debt Retired			
Retirement of Debt Scenarios Assumed to Occur in Fiscal Year 2019	Current: No Debt Retirement 2018 Valuation=v	Case 1 One Quarter Long-term Debt/Retired 2019 Valuation=v	Case 2 Half Long-term Debt/Retired 2019 Valuation=v
Total Liabilities	\$ 6,811,064	\$ 5,218,500	\$ 3,625,937
Total Assets	\$ 6,437,554	\$ 6,437,554	\$ 6,437,554
Shareholders Equity	-\$ 373,510	\$ 1,382,263	\$ 3,031,160
Total Interest-bearing Debt	\$ 6,370,255	\$ 4,777,691	\$ 3,185,128
Total Interest Expenses	(\$ 306,576)	-\$ 229,982	-\$ 153,288
EBITDA	\$ 720,616	\$ 751,215	\$ 751,215
EBIT	\$ 443,642	\$ 443,642	\$ 443,642
Interest Income	\$ 8,021	\$ 8,344	\$ 8,344
Interest Expense	(\$ 306,576)	-\$ 229,982	-\$ 153,288
Pre-tax Income	\$ 145,641 (Adjusted)	\$ 222,054	\$ 298,698
Income Tax (Combined 26.5%)	\$ 38,547	\$ 58,844	\$ 79,155
Net Income	\$ 106,914	\$ 163,210	\$ 219,543
Operating Cash Flow	\$ 749,013	\$ 805,309	\$ 861,643
Capital Expenditures	-\$ 245,231	-\$ 245,231	-\$ 245,231
Free Cash Flow	-\$ 503,782	\$ 560,078	-\$ 616,411

Alternative Scenario One:

One Quarter Long-term Debt Retired; Proceeds Net of Debt Paid Back

Table 7

Intrinsic Value, One Quarter of Long-term Debt Extinguished**CASE 1: Present Value of Projected Fully Taxed Free Cash Flow for FY2019 (\$B); One Quarter of Long-term Debt Retired**Present Value of Discounted Free Cash Flow = Estimated Next Year Free Cash Flow (Required Rate of Return [r] = Growth Rate [g])

Projected Fully Taxed Net Income as a Proxy for FCF for FY2019 (\$B): \$ 0.5601

Matrix Values (\$B) $g=v; r=>$	4.00%	5.00%	6.00%	7.00%	8.00%	9.00%	10.00%
0.00%	\$ 14.00	\$ 11.20	\$ 9.33	\$ 8.00	\$ 7.00	\$ 6.22	\$ 5.60
1.00%	\$ 18.67	\$ 14.00	\$ 11.20	\$ 9.33	\$ 8.00	\$ 7.00	\$ 6.22
2.00%	\$ 28.00	\$ 18.67	\$ 14.00	\$ 11.20	\$ 9.33	\$ 8.00	\$ 7.00
3.00%	\$ 56.01	\$ 28.00	\$ 18.67	\$ 14.00	\$ 11.20	\$ 9.33	\$ 8.00
4.00%	--	\$ 56.01	\$ 28.00	\$ 18.67	\$ 14.00	\$ 11.20	\$ 9.33
5.00%	-\$ 56.01	--	\$ 56.01	\$ 28.00	\$ 18.67	\$ 14.00	\$ 11.20
6.00%	-\$ 28.00	-\$ 56.01	\$ --	\$ 56.01	\$ 28.00	\$ 18.67	\$ 14.00
7.00%	-\$ 18.67	-\$ 28.00	-\$ 56.01	\$ --	\$ 56.01	\$ 28.00	\$ 18.67
		Minimum	Maximum	Median	Mean (Average)		
Gross Value (\$B)	\$ 8.00	\$ 56.01	\$ 14.00	\$ 18.02			
Minus Sale Proceeds Used to Retire One Quarter Long-term Debt	\$ 1.59	\$ 1.59	\$ 1.59	\$ 1.59			
Net Value (\$B)	\$ 6.41	\$ 54.42	\$ 12.41	\$ 16.43			

Source: Calculations from model derived from Company Annual Reports.

The Scenario One for the intrinsic value yields (net of the amount of proceeds used to extinguish one quarter of the firm's long-term debt) a minimum of \$6.41B to a maximum of \$54.42B, with a more

plausible range of a median (midpoint of the array of projected values) of \$12.41B to a mean (simple average) of \$16.43B.

Table 8

Market Value, One Quarter of Long-term Debt Extinguished; Net Proceeds

Valuation metrics applied to Toronto-Pearson Airport; ie, Market Value of Common Equity. Figures in \$B; 1/4 of LTD Extinguished	Trailing P/E (Market Value to Net Income)	Forward P/E (Market Value to Estimated Net Income)	Price to Sales	Price to Book Value	Enterprise Value/Revenue (subtracting net debt)	Enterprise Value/EBITDA (subtracting net debt)
Average Eleven Airport or Airport Terminal Operating or Holding Companies	\$ 5.23	\$ 2.87	\$ 7.74	\$ 7.74	\$ 35.52	\$ 5.08
Average Nine Port or Port Terminal Operating or Holding Companies	\$ 7.93	\$ 3.77	\$ 7.93	\$ 7.93	\$ 3.67	\$ 6.60
Average of All Above	\$ 6.51	\$ 3.02	\$ 7.83	\$ 7.83	\$ 20.44	\$ 4.01

Market Value Using Comparable Companies and Six Viable Valuation Ratios

	Minimum	Maximum	Median	Mean (Average)
Gross Value (\$B)	\$ 3.02	\$ 20.44	\$ 7.17	\$ 8.27
Minus Sale Proceeds Used to Retire One Quarter Long-term Debt	\$ 1.59	\$ 1.59	\$ 1.59	\$ 1.59
Net Value (\$B)	\$ 1.43	\$ 18.84	\$ 5.58	\$ 6.68

Source: Capital IQ via Yahoo!Finance, additional material from BMO-Investorline, Valuation model formulae.

The Scenario One for the market value method yields (net of the amount of proceeds used to extinguish one quarter of the firm's long-term debt) a minimum of \$1.43B to a maximum of \$18.84B, with a more

plausible range of a median (midpoint of the array of projected values) of \$5.58B to a mean (simple average) of \$6.68B.

Alternative Scenario Two: One Half Long-term Debt Retired; Proceeds Net of Debt Paid Back

Table 9								
Intrinsic Value, One Half of Long-term Debt Extinguished; Net Proceeds								
CASE 2: Present Value of Projected Fully Taxed Free Cash Flow for FY2019 (\$B); Half of Long-term Debt Retired								
Present Value of Discounted Free Cash Flow = Estimated Next Year Free Cash Flow (Required Rate of Return [r] = Growth Rate [g])								
Projected Fully Taxed Net Income as a Proxy for FCF for FY2019 (\$B): \$ 0.6164								
Matrix Values (\$B) $g=v; r=>$	4.00%	5.00%	6.00%	7.00%	8.00%	9.00%	10.00%	
0.00%	\$ 15.41	\$ 12.33	\$ 10.27	\$ 8.81	\$ 7.71	\$ 6.85	\$ 6.16	
1.00%	\$ 20.55	\$ 15.41	\$ 12.33	\$ 10.27	\$ 8.81	\$ 7.71	\$ 6.85	
2.00%	\$ 30.82	\$ 20.55	\$ 15.41	\$ 12.33	\$ 10.27	\$ 8.81	\$ 7.71	
3.00%	\$ 61.64	\$ 30.82	\$ 20.55	\$ 15.41	\$ 12.33	\$ 10.27	\$ 8.81	
4.00%	--	\$ 61.64	\$ 30.82	\$ 20.55	\$ 15.41	\$ 12.33	\$ 10.27	
5.00%	-\$ 61.64	--	\$ 61.64	\$ 30.82	\$ 20.55	\$ 15.41	\$ 12.33	
6.00%	-\$ 30.82	-\$ 61.64	--	\$ 61.64	\$ 30.82	\$ 20.55	\$ 15.41	
7.00%	-\$ 5.65	-\$ 30.82	-\$ 61.64	--	\$ 61.64	\$ 30.82	\$ 20.55	
		Minimum	Maximum	Median	Mean (Average)			
Gross Value (\$B)	\$ 8.81	\$ 61.64	\$ 15.41	\$ 19.83				
Minus Sale Proceeds Used to Retire Half Long-term Debt	\$ 3.19	\$ 3.19	\$ 3.19	\$ 3.19				
Net Value (\$B)	\$ 5.62	\$ 58.46	\$ 12.23	\$ 16.65				

Source: Calculations from model derived from Company Annual Reports.

The Scenario Two yields (net of the amount of proceeds used to extinguish one quarter of the firm's long-term debt) a minimum of 5.62B to a maximum of \$58.46B, with a more plausible range of a median (midpoint of the array of projected values) of \$12.23B to a mean (simple average) of \$16.65B.

Table 10						
Market Value, One Half of Long-term Debt Extinguished; Net Proceeds						
Valuation metrics applied to Toronto-Pearson Airport; ie, Market Value of Common Equity. Figures in \$B; 1/2 of LTD Extinguished	Trailing P/E (Market Value to Net Income)	Forward P/E (Market Value to Estimated Net Income)	Price to Sales	Price to Book Value	Enterprise Value/Revenue (subtracting net debt)	Enterprise Value/EBITDA (subtracting net debt)
Average Eleven Airport or Airport Terminal Operating or Holding Companies	\$ 5.23	\$ 2.87	\$ 7.74	\$ 7.74	\$ 35.52	\$ 5.08
Average Nine Port or Port Terminal Operating or Holding Companies	\$ 7.93	\$ 3.77	\$ 7.93	\$ 7.93	\$ 3.67	\$ 6.60
Average of All Above	\$ 6.51	\$ 3.02	\$ 7.83	\$ 7.83	\$ 20.44	\$ 4.01
Market Value Using Comparable Companies and Six Viable Valuation Ratios						
	Minimum	Maximum	Median	Mean (Average)		
Gross Value (\$B)	\$ 3.02	\$ 20.44	\$ 7.17	\$ 8.27		
Minus Proceeds of Sale Used to Extinguish One Half Long-term Debt	\$ 3.19	\$ 3.19	\$ 3.19	\$ 3.19		
Net Value (\$B)	-\$ 0.16	\$ 17.25	\$ 3.98	\$ 5.09		

Source: Capital IQ via Yahoo!Finance, additional material from BMO-Investorline, Valuation model formulae.

The Scenario Two for the market value method yields (net of the amount of proceeds used to extinguish one half of the firm's long-term debt) a minimum of negative \$160M to a maximum of \$17.25B, with

a more plausible range of a median (midpoint of the array of projected values) of \$3.98B to a mean (simple average) of \$5.09B. For easier comparison, the three cases are presented together in Table 11.

Comparison of Intrinsic & Market Values for One Quarter, Half & No Debt Reduction						
Figures in \$B.	Intrinsic Value (Average of Mean & Median)			Market Value (Average of Mean & Median)		
	2019 Valuation=v	2019 Valuation=v	2019 Valuation=v	2018 Valuation=v	2019 Valuation=v	2019 Valuation=v
	No Extinguishing of L-T Debt	Extinguishing of 1/4 of L-T Debt	Extinguishing of 1/2 of L-T Debt	No Extinguishing of L-T Debt	Extinguishing of 1/4 of L-T Debt	Extinguishing of 1/2 of L-T Debt
Gross Value (Average of Mean & Median)	\$ 13.30	\$ 16.01	\$ 17.62	\$ 7.08	\$ 7.72	\$ 8.31
Minus Sale of Proceeds Used to Retire Debt	\$ 0.00	\$ 1.45	\$ 1.44	\$ 0.00	\$ 1.59	\$ 3.19
Net Value	\$ 13.30	\$ 14.42	\$ 14.44	\$ 7.08	\$ 6.13	\$ 5.13

Calculations used models incorporating financial results from company Annual Reports, key financial statistics from peer companies.

It is apparent that the optimum amount of debt to be extinguished would be one half of long-term debt, but only using the Intrinsic Value method. Otherwise, it may not make sense. However, a more sophisticated sensitivity analysis could determine a different proportion.

Generally, the lower the debt, the more attractive and salable the company is, which may not be easily shown in any of the analyses above. Intuitively, it seems reasonable to eliminate the airport's negative book value and perhaps as much as one quarter of its long-term debt.

2. Disruptions from evolving competitive and technological forces

There is a relatively rosy outlook for global air traffic growth. The International Air Transport Association, 'IATA,' projects average annual global compound passenger growth of 3.5 percent over the next twenty years, or a doubling from 2018 levels by 2037, although the North American growth rate is estimated at 2.4 percent.¹⁴ Rather than focusing on directly facilitating physical airplane-related matters, YYZ management argues that to ensure that it gets its commensurate share of this growth, passengers and cargo-shipping businesses need to have what they call a new Regional Transit and Passenger Centre, 'RTPC,' at the airport. This will constitute a major part of its near-future capital expenditures. This is considered critical to make the functioning of the airport non-aggravating, quick, and efficient.¹⁵ The Centre will enable an easier service for not just those going to and from Toronto and its suburbs, but also for nearby cities and towns.¹⁶

As information technology and related data management and analysis are believed to be the keys to making current physical assets work more efficiently, spending on terminals and related infrastructure will be less prominent in favour of IT hardware and software. This includes security screening, where the airport aims to speed up throughput, and also kiosks for check-in and bag drop-off, plus automated custom clearance.¹⁷

While the International Air Transport Association, Transport Canada, and YYZ itself are optimistic about the future of air travel and for Pearson itself, there are some things that could make that future less bright. There could be regional or other wars that make air travel less safe or attractive, and even stop it in some parts of the world. Even an uptick in terrorism could do this. So could exacerbated trade hostilities, or a 'New Cold War' between the West and China. Improved fast rail travel could dent growth, as could self-driving automobiles, which would make long-distance travel by car less aggravating. Augmented reality, 'AR,' and Virtual Reality, 'VR,' could be enhanced to the point where much business, family, and vacation travel could be substituted by those technologies.

If one could have a realistic, immersive experience in an exotic or culturally significant place without having to pack or deal with airports or security, AR and VR could be major competitors to many such experiences. Already, many personal and professional meetings are avoided by using Internet audio-visual meeting services. Air cargo may face threats from not just rail, ship, and trucks, but also from 3-D printing at the point of, or near, the end-user of products, eliminating any need for freight transportation. Draconian 'Green' Climate Change legislation or regulations could restrict air travel, which is CO₂-emission-intensive.

Finally, we may not be able to discern, at this point, what could make air travel less attractive in the future, any more than railway executives and investors in the 1940's could foresee that highways and airlines would devastate their passenger business within thirty years' time. These factors are just more reasons why governments should remove themselves from the ownership risks of such assets as airports.

3. Ready for Sale, or 'Who Actually Owns This Thing, Anyway?'

The first thing that needs to be resolved regarding YYZ and its future is who ultimately owns it. While airports have traditionally been considered federal government responsibilities, it is unclear if Ottawa is the ultimate owner of them. Perhaps the money spent on them could be a guide. Whatever is today's inflation-adjusted equivalent non-loan dollar amount contributed by each party in the past could potentially be considered its contribution to the total book value of the airport. If not, there could be some unpleasant wrangling between the various Toronto-area regions, the City of Toronto, the Province of Ontario, and the federal government. These disputes could last long past any initial public offering date, as initially, the first sale proceeds could, and probably should, be kept by YYZ to pay down debt. Yet, resolved it must eventually be, for the sake of outside investors buying into a public-sector-controlled entity. They will want to know who the main shareholders are, if not they themselves.

Infrastructure investments usually pay a dividend to their investors. The airport is showing a sufficient income statement with an accounting-based net income to pay a small dividend, but, given current modest cash generation, investors may not consider the dividend sustainable. So, some investors, who like a substantial and growing dividend, may not find YYZ attractive once it is floated, if its Board decides that it cannot currently afford a higher dividend. Nevertheless, the company does have positive free cash flow and satisfactory returns on assets, equity, and capital employed. In any case, there may need to be an operational adjustment to improve margins before the company issues any equity to the public so that higher value can be realized in any such sale.

The company shows an accounting negative book value; that is, its liabilities exceed its assets. Pearson has made a commitment to reduce its debt and intends to continue to make payments.¹⁸ It is not crucial to have the negative book value be transformed into a positive one prior to sale, but it will be encouraging for prospective investors to realize that YYZ does not intend to remain "underwater."

CONCLUSION

In general, entirely private sector companies tend to perform better than those within the government orbit or ownership. Crown ownership of a company exposes taxpayers, citizens, and even customers and suppliers to the risks of business, economic, and technological trends that are unnecessary to experience; that is what private, institutional, individual, or corporate investors undertake in nearly every sector of the economy. It may not have occurred to anyone in the past that an airport, seaport, or other infrastructure could be in the hands of private investors or be ensconced in a publicly listed company. Today, however, there are many such infrastructure companies, and there is much more infrastructure that is owned by private equity funds or pension, endowment, and sovereign wealth funds. There is a keen appetite for infrastructure investments of all kinds among these private and institutional investors.

Airports have a number of public controversies that make them contentious assets to own. They are expensive to build or expand. They occupy a lot of land, so there are land use and zoning disputes, and it can be hard to expand their operations by, for instance, building a new runway. They generate a lot of noise and vehicular traffic, so there are arguments over their operations and further expansion.

Originally, Pearson was to be replaced or augmented by a large new airport at Pickering, east of the City of Toronto (Pearson is northwest of the city), but that was cancelled years ago due to some of the aforementioned concerns. The Pickering cancellation decision and the pressure to not build another runway at Pearson, plus the earlier sad story of the large, expensive, modernistic Mirabel International Airport in Montreal (incapable of handling traffic that was anticipated for it so it had to be closed down), means that political meddling, even if substantially less prevalent now than in the past, will not be far from investors' minds. If Pearson is divested, the governments involved must explicitly forswear any intervention. True independence is crucial.

That independence and removal of the risk of bad governance can only be guaranteed if YYZ is totally removed from politicians' clutches meaning, if it is fully divested to other, private sector, investors. There are not a lot of infrastructure investment choices available to individual investors, or even to institutional ones. There are very few airports that are publicly listed, but some of them are quite large or important to their regions and nations, such as Tel Aviv's, Beijing's, Auckland's, Sydney's, Bangkok's, Tokyo's, or Frankfurt's. Should Pearson become one such independent company, whether publicly listed or not, it could become very attractive and successful, with many fewer political complications than it is confronting today. To truly soar, it must be free. For governments to shed this risk, it is essential.

APPENDIX 1:

RATIONALE FOR DIVESTITURE OR PRIVATIZATION

While it is up to the people through their elected representatives to decide if a Crown corporation or other government agency or entity should be sold or otherwise privatized and the proceeds used for the benefit of all citizens and taxpayers, there are some established reasons to embark on such a path, some or all of which are cited for divestiture of such enterprises but may not be applicable in any single, specific case.

1. The government has no mandate to own or run a commercial enterprise. The provision of citizens' safety, security and justice is the government's primary role, and its involvement in the economy should generally not extend beyond this.
2. Regulation can usually accomplish any public policy reason for direct involvement in an industry. If regulation is not easily feasible, then a direct contract or subsidy to any affected individuals, entity or entities may be more efficient or effective and less economically disruptive or costly.
3. If a government-controlled or sponsored enterprise has a monopoly position, near-monopoly, or effective monopoly in a line or lines of business or businesses, then opportunities are lost in one or more commercial or potentially commercial sectors for entrepreneurs and investors to try to create and grow businesses to enrich and sustain themselves, employees, suppliers, and others.
4. A monopoly, near-monopoly, or effective monopoly market position by a government-owned or sponsored entity could result in far higher prices for customers, the general public, or a section of the public, than would be the case in a fully competitive marketplace for the industry involved.
5. A government-owned or -sponsored enterprise may compete directly against private sector firms, which are owned by or employ citizens, or against individual citizens, all of whom the government is supposed to serve, not disadvantage.
6. The government-owned or -sponsored enterprise may compete unfairly against its private sector rivals in that it had or has access to lower-cost government-sourced and -guaranteed capital (debt). It may have a much larger debt component in its capital versus that which would be tolerated in the private sector. Thus, it may not have to meet high standards for profit and cost control, allowing it to offer lower than true free market-based competitive pricing.
7. Government-owned firms may not need to pay provincial or federal income taxes. This can allow such firms to supply goods or services more cheaply than the private sector companies they are competing with.
8. Government-owned or -sponsored enterprises may not have any kind of profit orientation or target, may be used as public policy vehicles and may be given preference in their activities or even in their transgressions, such as labour or environmental abuses.
9. Government-owned or -sponsored enterprises, by virtue of being public sector vehicles overseen by bureaucrats and politicians, may be places where favoured individuals find employment, particularly at management levels.
10. Since profit is a secondary goal of a government-owned or -sponsored enterprise, it is difficult to evaluate the effectiveness, efficiency or productivity of the enterprise or its employees. Consequently, these employees and assets may not be very productive or effective.

11. Government-owned or -sponsored enterprises are often creations of certain time-fixed circumstances and outlive whatever use or public policy role their creators may have conceived. Often, advances in technology; the modernization of transport, telecommunication or information technology; the evolution of the economy and available products and services and the increasing standard of living make these enterprises potentially obsolete. In the private sector, firms and individuals must adapt and evolve, or decline.
12. Government-owned or -sponsored enterprises perpetuate their possibly obsolete existences by virtue of the constituencies that build up around them: employees, managers, directors and bureaucrats, customers, suppliers and associated advocates or consultants. They can lobby to keep the enterprise going, despite dysfunction or losses. They are far more motivated to do so than are the taxpayers, whose average cost is much less per person and may be indirect, hidden or difficult to calculate.
13. Because they are not profit-oriented, government-owned or -sponsored enterprises are usually less efficient, and thus they lower the overall efficiency of the entire economy. This can make a whole nation less competitive than its global rivals are, whether nations or individual companies. The effects are worse the greater the government involvement in the economy. When taken to its most extreme, as happened in 20th-century communist nations, the countries were unable to compete against capitalist companies, despite their immense direct and indirect subsidies, government support and the lack of profit requirement.
14. Funds tied up in the capital of government-owned or -sponsored enterprises could be used to reduce government debt or lower taxes on individuals or corporations, which they could then spend or invest as they freely choose, and thus they could inject money back into the economy in more-lucrative and -constructive ways.
15. Governments, generally, have a poor record of picking winners, or creating or owning enterprises that have market-competitive profitability, or attractive returns on assets, equity, or even returns that exceed governments' own cost of debt service. If, rarely, they actually do, it generally turns out that they have been provided unusually good market, operational, regulatory, or other conditions not available to other, investor-owned firms.
16. The greater the number and size of government owned or government sponsored enterprises in an economy, the greater the size and power of the government, which is usually the largest single entity in society, increasing the dangers of abuse of power, including injuring individual citizens, companies, or groups. Effective capacity of opposition or recourse against this power diminishes as the portion of the economy the government occupies increases.

ENDNOTES

1. See: <https://www.torontoperson.com/en/corporate/our-future/master-plan>, p 15.
2. See: <https://www.torontoperson.com/ar2018/index.html>, p14.
3. *Ibid*, p2.
4. *Ibid*, p6.
5. *Ibid*, p7.
6. *Ibid*, p19.
7. *Ibid*, p21.
8. *Ibid*, p49.
9. *Ibid*.
10. *Ibid*, p27.
11. *Ibid*, p30.
12. See: <https://www.torontoperson.com/en/corporate/who-we-are/our-story>.
13. See: <https://www.torontoperson.com/en/corporate/our-future/master-plan>, p9.
14. See: <https://www.iata.org/pressroom/pr/Pages/2018-10-24-02.aspx>.
15. See: <https://www.torontoperson.com/ar2018/index.html>, p 27.
16. *Ibid*, p 30.
17. *Ibid*, p 53, p 54.
18. *Ibid*, p 63.



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