



**Marine Atlantic**  
**Marine Atlantique**



## **V A L U A T I O N S E R I E S**

*No. 14 / DECEMBER 2018*

**PUBLIC CHOICE ALTERNATIVES**

# **No Easy Way to Pay the Ferryman**

## **A VALUATION OF MARINE ATLANTIC**

**BY IAN MADSEN**



*Ideas that change your world / [www.fcpp.org](http://www.fcpp.org)*



## IAN MADSEN

Ian Madsen, B.A. (Alberta), M.B.A. (Toronto), CFA, is a Senior Policy Analyst at the Frontier Centre for Public Policy. He has extensive experience in portfolio and financial analyses, managing investment portfolios, and managing investment research operations (including overseas). He lives in Surrey, B.C.



203-2727 Portage Avenue, Winnipeg, Manitoba Canada R3J 0R2  
Tel: 204-957-1567  
Email: [newideas@fcpp.org](mailto:newideas@fcpp.org)

The Frontier Centre for Public Policy is an independent, non-profit organization that undertakes research and education in support of economic growth and social outcomes that will enhance the quality of life in our communities. Through a variety of publications and public forums, Frontier explores policy innovations required to make the prairie region a winner in the open economy. It also provides new insights into solving important issues facing our cities, towns and provinces. These include improving the performance of public expenditures in important areas such as local government, education, health and social policy. The author(s) of this study have worked independently and the opinions expressed are therefore their own, and do not necessarily reflect the opinions of the board of the Frontier Centre for Public Policy.

Copyright © 2018 by the Frontier Centre for Public Policy.

Valuation Series No. 14 • Date of First Issue: December 2018.

Reproduced here with permission of the author(s). Any errors or omissions and the accuracy and completeness of this paper remain the responsibility of the author(s).

ISSN 1491-78

*Ideas that change your world / [www.fcpp.org](http://www.fcpp.org)*

**VALUATION SERIES***No. 14 / DECEMBER 2018***PUBLIC CHOICE ALTERNATIVES:****No Easy Way to Pay the Ferryman****A VALUATION OF MARINE ATLANTIC****BY IAN MADSEN****TABLE OF CONTENTS**

Executive Summary	4
Introduction	5
Marine Atlantic, A History	5
Intrinsic, Discounted Free Cash Flow Value of MA	6
Table 1: Intrinsic Value, Scenario I	6
Table 2: Intrinsic Value, Scenario II	7
Table 3: Intrinsic Value, Scenario III	8
Market Value Comparison Valuation of MA	9
Table 4: Market Value, No Government Operating or Capital Funding	9
Table 5: Market Value, No Gov't Op'g Funding; CF & FCF projected; 'Off Books' Capex	10
Conclusion & Recommendation	11
Appendix 1: Rationale for Divestiture or Privatization	12

## EXECUTIVE SUMMARY

Marine Atlantic, (MA), is the provider of ferry services between Nova Scotia and Newfoundland and Labrador. It is owned by the federal government of Canada. It could theoretically be worth as much as \$789M, under the most optimistic conditions and assumptions, were it divested; or far less if investors believe that its operations cannot be improved or expanded, or that they are constrained by government policy. As a business, its value, today, as is, without subsidy, is estimated between negative \$904M and negative \$6.3B.

If capital expenditures were taken 'off books', it could be worth a positive \$113M-\$789M, with a more plausible range of a median value of \$197M to a mean value of \$254M.

Another method, comparing metrics of peer Canadian transport firms and US-listed cargo water-based shipping firms applied to MA, the range is \$266M-\$765M, with a median value of \$334M and a mean value of \$425M. These last market value-based figures were estimated with optimistic assumptions or projections, and may be currently unrealistic.

## INTRODUCTION

Marine Atlantic, (MA), is the provider of ferry services between Nova Scotia and Newfoundland and Labrador. It is owned entirely by the federal government. It is considered a vital service linking surface transportation in Atlantic Canada. It owns four ice-resistant vessels and two main ferry terminals.<sup>1</sup>

The service is available all year, with additional routes in the summer. Ferry customers include commercial and institutional ones, with fresh food, medical supplies, and occasionally dangerous goods having to be transported.<sup>2</sup>

## Marine Atlantic, A History

Marine Atlantic Inc. is a Crown corporation owned by the Government of Canada. Marine Atlantic was created on June 27, 1986 as a parent Crown corporation through the *Marine Atlantic Inc. Acquisition Authorization Act*. It is headquartered in St. John's, Newfoundland and Labrador, and its mission is to provide regular, reliable service between Newfoundland and Nova Scotia. Vessels are strong enough to handle sea ice.<sup>3</sup>

1. See <https://www.marineatlantic.ca/en/terminals-fleet/Fleet/>.

2. See [https://www.marineatlantic.ca/uploadedFiles/Content/About\\_Us/Corporate\\_Information/2016\\_-\\_2017\\_Annual\\_Report.pdf](https://www.marineatlantic.ca/uploadedFiles/Content/About_Us/Corporate_Information/2016_-_2017_Annual_Report.pdf), p6.

3. See [https://www.marineatlantic.ca/uploadedFiles/Content/About\\_Us/Corporate\\_Information/2016\\_-\\_2017\\_Annual\\_Report.pdf](https://www.marineatlantic.ca/uploadedFiles/Content/About_Us/Corporate_Information/2016_-_2017_Annual_Report.pdf), p7.

## INTRINSIC, DISCOUNTED FREE CASH FLOW VALUE OF MA

An intrinsic value is the value a firm has by virtue of generating cash, specifically free cash flow, which is revenues minus cash expenses only, including capital expenditure. The **corporation's intrinsic value**, as is, could range from negative \$904M

to negative \$6.33B. This is the value should it no longer receive government operating funding or capital expenditure funding. As the company is loss-making and thus non-taxable, taxability is not an issue.

Table 1									
Intrinsic Value, Scenario I									
<b>Scenario I: No Government Operating Funding; Government Does NOT Fund Capital Expenditure</b>									
<b>Free Cash Flow with NO Government Operating Funding, for FY2018, from projection calculated above: -\$ 63,315</b>									
<b>Present Value of Discounted Free Cash Flow = Estimated Next Year Free Cash Flow (Required Rate of Return = Growth Rate)</b>									
<b>Free Cash Flow Estimate for FY2018 (\$M): -\$ 63.31</b>									
Matrix Values (\$K) g==v; r==>	4.00%	5.00%	6.00%	7.00%	8.00%	9.00%	10.00%		
0.00%	-\$ 1,583	-\$ 1,266	-\$ 1,055	-\$ 904	-\$ 791	-\$ 703	-\$ 633		
1.00%	-\$ 2,110	-\$ 1,583	-\$ 1,266	-\$ 1,055	-\$ 904	-\$ 791	-\$ 703		
2.00%	-\$ 3,166	<b>-\$ 2,110</b>	<b>-\$ 1,583</b>	<b>-\$ 1,266</b>	<b>-\$ 1,055</b>	<b>-\$ 904</b>	-\$ 791		
3.00%	-\$ 6,331	<b>-\$ 3,166</b>	<b>-\$ 2,110</b>	<b>-\$ 1,583</b>	<b>-\$ 1,266</b>	<b>-\$ 1,055</b>	-\$ 904		
4.00%	--	<b>-\$ 6,331</b>	<b>-\$ 3,166</b>	<b>-\$ 2,110</b>	<b>-\$ 1,583</b>	<b>-\$ 1,266</b>	-\$ 1,055		
5.00%	\$ 6,331	--	-\$ 6,331	-\$ 3,166	-\$ 2,110	-\$ 1,583	-\$ 1,266		
6.00%	\$ 3,166	\$ 6,331	\$ --	-\$ 6,331	-\$ 3,166	-\$ 2,110	-\$ 1,583		
7.00%	\$ 2,110	\$ 3,166	\$ 6,331	\$ --	-\$ 6,331	-\$ 3,166	-\$ 2,110		
	<b>Minimum</b>	<b>Maximum</b>	<b>Median</b>	<b>Mean (Average)</b>					
<b>Total(s)</b>	<b>-\$ 6,331</b>	<b>-\$ 904</b>	<b>-\$ 1,583</b>	<b>-\$ 2,037</b>					

Source: Valuation model based on trends (and projections of them) in constituent factors in company financial reports.

A second scenario was created, wherein there is no government operating funding but either the government or some other outside source finances projected capital expenditure. In this scenario, the estimated value of the firm is still negative, but not as dramatically. The value ranges from negative \$443M to negative \$3.1B, with a median value of negative \$775M and a mean value of \$998M.

Table 2								
Intrinsic Value, Scenario II								
<b>Scenario II: No Government Operating Funding; Government (or Other) Funds Capital Expenditure</b>								
<b>Free Cash Flow with NO Government Operating Funding, but Outside (Government or Other) Funding of Capital Expenditure for FY2018, from projection calculated above: -\$ 31,012</b>								
<b>Present Value of Discounted Free Cash Flow = Estimated Next Year Free Cash Flow (Required Rate of Return = Growth Rate)</b>								
<b>Free Cash Flow Estimate for FY2018 (\$M): -\$ 31.01</b>								
Matrix Values (\$K) $g=v; r=>$	4.00%	5.00%	6.00%	7.00%	8.00%	9.00%	10.00%	
0.00%	-\$ 775	-\$ 620	-\$ 517	-\$ 443	-\$ 388	-\$ 345	-\$ 310	
1.00%	-\$ 1,034	-\$ 775	-\$ 620	-\$ 517	-\$ 443	-\$ 388	-\$ 345	
2.00%	-\$ 1,551	<b>-\$ 1,034</b>	<b>-\$ 775</b>	<b>-\$ 620</b>	<b>-\$ 517</b>	<b>-\$ 443</b>	-\$ 388	
3.00%	-\$ 3,101	<b>-\$ 1,551</b>	<b>-\$ 1,034</b>	<b>-\$ 775</b>	<b>-\$ 620</b>	<b>-\$ 517</b>	-\$ 443	
4.00%	--	<b>-\$ 3,101</b>	<b>-\$ 1,551</b>	<b>-\$ 1,034</b>	<b>-\$ 775</b>	<b>-\$ 620</b>	-\$ 517	
5.00%	\$ 3,101	--	-\$ 3,101	-\$ 1,551	-\$ 1,034	-\$ 775	-\$ 620	
6.00%	\$ 1,551	\$ 6,331	\$ --	-\$ 3,101	-\$ 1,551	-\$ 1,034	-\$ 775	
7.00%	\$ 2,110	\$ 3,166	\$ 6,331	\$ --	-\$ 3,101	-\$ 1,551	-\$ 1,034	
	<b>Minimum</b>	<b>Maximum</b>	<b>Median</b>	<b>Mean (Average)</b>				
<b>Total(s)</b>	<b>-\$ 3,101</b>	<b>-\$ 443</b>	<b>-\$ 775</b>	<b>-\$ 998</b>				

Source: Valuation model based on trends (and projections of them) in constituent factors in company financial reports.

Yet a third scenario was created, wherein the projected net operating cash flow was projected for the next year, the estimated operating subsidy from the government was subtracted from that first number, and capital spending, again, was funded 'off the books' somehow.

This scenario finally yielded, at last, a positive intrinsic value for the company, ranging from \$113M to \$789M, with a more realistic range of a median of \$197M to a mean of \$254M.

Table 3								
Intrinsic Value, Scenario III								
<b>Scenario III: Projected Operating Cash Flow (proxy for Free Cash Flow), minus Projected Government Operating Funding; Government (or Other Source') Funds Capital Expenditure</b>								
<b>Free Cash Flow with NO Government Operating Funding, but Outside (Government or Other) Funding of Capital Expenditure for FY2018, from projection calculated above: \$ 7,889</b>								
<b>Present Value of Discounted Free Cash Flow = Estimated Next Year Free Cash Flow (Required Rate of Return = Growth Rate)</b>								
<b>Projected Free Cash Flow Estimate (ie., proxy) for FY2018 (\$M): \$ 7,889</b>								
Matrix Values (\$M) $g=v; r=>$	4.00%	5.00%	6.00%	7.00%	8.00%	9.00%	10.00%	
0.00%	\$ 197	\$ 158	\$ 131	\$ 113	\$ 99	\$ 88	\$ 79	
1.00%	\$ 263	\$ 197	\$ 158	\$ 131	\$ 113	\$ 99	\$ 88	
2.00%	\$ 394	<b>\$ 263</b>	<b>\$ 197</b>	<b>\$ 158</b>	<b>\$ 131</b>	<b>\$ 113</b>	\$ 99	
3.00%	\$ 789	<b>\$ 394</b>	<b>\$ 263</b>	<b>\$ 197</b>	<b>\$ 158</b>	<b>\$ 131</b>	\$ 113	
4.00%	--	<b>\$ 789</b>	<b>\$ 394</b>	<b>\$ 263</b>	<b>\$ 197</b>	<b>\$ 158</b>	\$ 131	
5.00%	-\$ 789	--	\$ 789	\$ 394	\$ 263	\$ 197	\$ 158	
6.00%	-\$ 394	-\$ 789	\$ --	\$ 789	\$ 394	\$ 263	\$ 197	
7.00%	-\$ 263	-\$ 394	-\$ 789	\$ --	\$ 789	\$ 394	\$ 263	
	<b>Minimum</b>	<b>Maximum</b>	<b>Median</b>	<b>Mean (Average)</b>				
<b>Total(s)</b>	<b>\$ 113</b>	<b>\$ 789</b>	<b>\$ 197</b>	<b>\$ 254</b>				

Source: Valuation model based on trends (and projections of them) in constituent factors in company financial reports.

## MARKET VALUE COMPARISON VALUATION OF MA

There are thirteen Canadian publicly listed transportation companies, and twenty-two US-listed water-based ones used here.

Several standard market valuation metrics were initially used, including Trailing Price to Earnings ratio and Forward Price to Earnings ratios (P/E); Price to Sales (P/S) ratio; Price to Book Value (P/BV); Enterprise Value to Revenue (EV/Rev), Enterprise Value to Earnings Before Interest, Depreciation and Amortization (EV/EBITDA), and Price to Operating and Free Cash Flow (P/CF, P/FCF) (Please consult the accompanying valuation spreadsheet file in Excel for details).

Two scenarios were used. In the first one, using existing negative net income without government operating subsidy, and negative free cash flow without the government capital funding, the **corporation's estimated fully taxed value** could range from \$24B to \$113B, with a median value of \$35.4B and a mean value of \$54.1B.

Some metrics had to be discarded due to insufficient information on either the comparator companies or HQ, or the inapplicability of the ratio, or negative or otherwise anomalous results. Four ratios were ultimately used: P/S, P/BV, EV/Rev, EV/EBITDA, and P/CF. The results are in Table 4.

Table 4					
Market Value, Scenario I: No Government Operating or Capital Funding					
Scenario I: Market Value, No Government Operating or Capital Funding As Is: Net Income, other metrics BEFORE Government Funding					
Valuation Metrics Applied to Marine Atlantic, i.e., Market Value of Common Equity (Figures \$M)		Price to Sales	Price to Book	Enterprise Value/Revenue (subtracting net debt)	Price to Operating Cash Flow
Average Thirteen Canadian Transportation Companies	Untaxed, Loss-making	\$ 210.60	\$ 1,288.40	\$ 190.70	\$ 190.80
Average Twenty-two US-listed Shipping (Water-based) Companies	Untaxed, Loss-making	\$ 302.30	\$ 424.20	\$ 538.00	\$ 339.50
Average of All the Above	Untaxed, Loss-making	\$ 266.10	\$ 764.70	\$ 396.90	\$ 270.50
Market Value Using Comparable Companies, and Four Viable Valuation Ratios					
	Mean (Average)	Median	Minimum	Maximum	
Total Market Value (\$M)	\$ 424.60	\$ 333.70	\$ 266.10	\$ 764.70	

Source: Capital IQ via Yahoo!Finance; company annual reports; calculations from consultant.

The total range is from \$266M to \$764.7M, with a narrower inner range of a median of \$333.7M to a mean of \$424.6M. The estimates and data for MA neither optimised its cash flow nor introduced taxability. They are on an 'as is' basis.

A second scenario was created, using more optimistic projections for next year's operating cash flow (not current year, as before), subtracting projected government operating funding, and making the assumption that capital spending would be 'off the books', i.e., paid separately somehow.

Table 5

**Market Value, Scenario II: No Gov't Op'g Funding; CF & FCF projected; 'Off Books' Capex**

Scenario II: Operating Cash Flow and Free Cash Flow use 2018 projections, NO Operating Subsidy and 'Off Books' Capital Funding

Valuation Metrics Applied to Marine Atlantic, i.e., Market Value of Common Equity (Figures \$M)	Price to Sales	Price to Book	Enterprise Value/Revenue (subtracting net debt)	Price to Operating Cash Flow	Price to Free Cash Flow
Average Thirteen Canadian Transportation Companies	\$ 202.40	\$ 1,288.40	\$ 179.50	\$ 69.70	\$ 404.40
Average Twenty-two US-listed Shipping (Water-based) Companies	\$ 290.50	\$ 424.20	\$ 538.00	\$ 124.00	\$ 53.70
Average of All the Above	\$ 255.80	\$ 764.70	\$ 396.90	\$ 98.80	\$ 334.30

  

Market Value Using Comparable Companies, and Four Viable Valuation Ratios				
	Mean (Average)	Median	Minimum	Maximum
Total Market Value (\$M)	\$ 370.10	\$ 334.30	\$ 98.80	\$ 764.70

Source: Capital IQ via Yahoo!Finance; company annual reports; calculations from consultant.

In this scenario, one more metric became positive, Price to Free Cash Flow. The total range is from \$266M to \$764.7M, with a narrower inner range of a median of \$334.3M to a mean of \$370.1M. The results did not change radically, and are still rather fanciful, as the operation's costs and capital spending have to be financed somehow.

However, were the government to remove the capital aspect and assume its burden from the corporation's ambit, which is principally ferry vessels and ferry terminal and mooring equipment and installations, this could put the company on a more viable and sustainable commercial footing.

## CONCLUSION AND RECOMMENDATION

The decision on whether or not to keep or sell off all, most, or part of a Crown corporation is up to the citizens and taxpayers of the province. Marine Atlantic occupies an important role in connecting Newfoundland & Labrador with Nova Scotia, and, thus, the rest of Canada. Owners and managers of MA could find ways to increase revenue and lower costs; perhaps by adding more hospitality and merchandising outlets on the ferries, automate more functions, or use better peak-time and low-demand-time pricing and scheduling.

On the cost side, more flexible labour hours and wages, with bonuses for productivity or service enhancement or cost-cutting ideas; and shrewder fuel price hedging could be done; and more vigorous contracting out of services; and bidding for contracts for equipment and maintenance. These could be investigated further, with many trial and pilot programs.

If, as discussed earlier, the capital spending aspect of the company could be removed and allowed to be put into a separate government infrastructure category, and off MA's books, the company has a chance of being a truly independent and self-sustaining entity that would have serious investor interest, and perhaps fetch much more than current valuation indicates.

Any operation that is dependent on government subsidy is vulnerable to the subsidies being reduced, postponed, or ended entirely. Also, being continually subsidized gives little incentive to improve cost efficiency or otherwise progress towards a state of self-reliance that comes with earning a profit.

MA is in a monopoly position; it could use that tactically, to increase prices at some scheduled times, and prices for ancillary goods and services. There is an opportunity here to optimize the company in preparation for sale. Private investors, including, possibly, institutional ones or strategic ones, may have more creative ideas for how to manage this operation to reach its full commercial and financial potential. Taxpayers need not be on the hook for it forever.

## 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. 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.

back into the economy in more-lucrative and -constructive ways.

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
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.

