
Price Cap Compliance Performance Review

*British Columbia
Ferry Commission*

March 2019

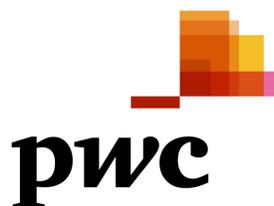


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Executive Summary

PricewaterhouseCoopers LLP (“PwC”) was engaged by the B.C. Ferry Commission (the “Commission”) to review British Columbia Ferry Services Inc.’s (“BCFS”, “BC Ferries”, or the “Company”) price cap calculations in accordance with Section 38 (2) of the Coastal Ferry Act (the “Act”).

PwC was asked to review the information provided by BCFS, and, using determinations found in the Commissioner’s Orders and their professional expertise, provide an assessment of BCFS’ compliance with price caps during Performance Term 4 (“PT4”).

Price cap compliance during PT4 was determined based on a review of BCFS’ supporting analysis used to calculate price cap indexes. The analysis provided was for an interim PT4 period from July 1, 2018 to September 30, 2018. The analysis is consistent with the Commission’s Orders. In addition, key inputs for historical revenues and traffic volumes could be accurately traced back to the general ledger and accounting systems for the selected sample quarterly period ending September 30, 2018. BCFS appears to be in full compliance with price caps for the PT4 period from April 1, 2016 to September 30, 2018.

Notice to Reader

This Report is issued by PwC for the exclusive use of the Commission in connection with its review of BCFS' compliance with price caps under Section 38 (2) of the Coastal Ferry Act.

Our work did not constitute an audit conducted in accordance with generally accepted auditing standards, an examination of internal controls nor attestation nor review services in accordance with the standards established by the Chartered Professional Accountants of Canada. Accordingly, we do not express an opinion nor any other form of assurance on the financial or other information, or operating internal controls, of the Project.

PwC did not examine, compile or apply agreed upon procedures to satisfy the requirements of the Chartered Professional Accountants of Canada to the financial information used in this Report and we therefore are unable to express assurances on such information except where expressly stated in the Report to form part of the scope of our work.

Further this Report does not constitute an opinion as to legal matters, including the interpretation of the Coastal Ferry Act or any other similar matters. The economic impact of the various options is also outside the scope of PwC's work.

Our work is based primarily on the information and assumptions listed in the body of this Report. We did not perform checking or verification procedures except where expressly stated in the Report to form part of the scope of our work. Our work and commentary is subject to assumptions, which may change with the benefit of further detailed information. We make no representation regarding the sufficiency of our work and had we been asked to perform additional work, additional matters may have come to our attention that would have been reported to the BC Ferry Commission.

The outputs of the Report are intended to provide the BC Ferry Commission with information to assist in informing their decision making process pertaining to the price caps. PwC accepts no liability in respect of any loss, damage or expense of whatsoever nature caused by any use the reader may choose to make of this Report, or which is otherwise consequent upon the gaining of access to the Report by the reader.

Our Report, including schedules and appendices, must be considered in its entirety by the reader. Selecting and relying on specific portions of the analyses, or factors considered by us in isolation may be misleading.

Background

In April 2003, the Province of British Columbia established the B.C. Ferry Authority (the “Authority”), an independent corporation that holds the single issued voting share of the British Columbia Ferry Services Inc. (“BCFS”).

BCFS as the operating subsidiary of the Authority provides coastal ferry services on the west coast of British Columbia. With 35 vessels travelling between 47 terminals, on 24 routes, BCFS is one of the largest ferry operators in the world, both in terms of fleet size and passengers carried.

A Coastal Ferry Services Contract existing between the Province and BCFS defines service levels on each regulated route and the Commission sets price caps across the route groups every four years. Within its operating framework, BCFS can decide on fares, and can access capital markets directly.

The BC Ferry Commission (the “Commission”) is a provincial regulatory agency operating under the *Coastal Ferry Act* (the “Act”) with responsibilities for making regulatory decisions affecting ferry operators in the Province.

Under Section 38 (2) of the Act, the BC Ferry Commissioner (the “Commissioner”) is required to determine quarterly, for each route group, whether the average fare charged by a ferry operator is within a price cap. In the event that an operator’s average fare is not within the price cap over any four consecutive quarters, Section 48 of the Act indicates the actions required of the operator to bring about compliance by the operator.

By Order 05-01, dated February 9, 2005, the Commission ordered that ferry operators should:

1. Calculate and compare average fare and price caps quarterly, for each route group, in a manner consistent with the *Determination of Procedure for Calculation and Comparison of Average Ferry Fares and Price Caps*, which was attached to Order 05-01.
2. Provide the comparison to the Commissioner within 60 days of the end of each quarter in a format indicated in the determination.

On October 22, 2011, the Commission issued Order 11-03 revising the average fare and price cap calculation according to the *Revised Methodology for Calculation of Average Ferry Fares for Comparison with Price Caps*, which was attached to Order 11-03.

On September 30, 2012, the Commission issued Order 12-02 stating the price cap indexes for PT3 period beginning April 1, 2013 and ending March 31, 2016. Order 12-02 also reset the index for each route group to 100 as of April 1, 2012 based on the weighted average tariffs that existed as of March 31, 2012.

On March 20, 2014, the Commission issued Memorandum 45 allowing BCFS to transfer the amount of revenue earned in fiscal 2014 in excess of the price cap to a fuel deferral account. As a result, BCFS was in compliance with the price cap index as at March 31, 2014.

On September 16, 2015, the Commission issued Order 15-03 stating that the price cap index shall be reset to 100 at the commencement of PT4.

The route groups were revised over the course of PT3:

- At the end of PT2, price cap compliance testing was required for four separate route groups: Major routes, Route 3, Minor routes and Northern routes.

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- On April 1, 2012, the beginning of PT3, the Minister of Transportation and Infrastructure (the “Province”) and BCFS executed the Performance Term Three Agreement amending the Coastal Ferry Services Contract (“CFSC”) to provide for the amalgamation of the Major routes and Route 3 into a single route group.
 - On March 31, 2013, the Province and BCFS executed the Route Group Agreement amending the CFSC to amalgamate all route groups into a single route group until expiration of the Agreement on March 31, 2016. Upon expiration of the Route Group Agreement, unless otherwise agreed to by the parties, the route group would revert back to the Major, Northern and Minor route groups.
 - On April 1, 2016, the Province and BCFS executed the Performance Term Four Agreement amending the CFSC to extend the single route group concept for PT4.

Scope and Approach

PwC was asked to review the information provided by BCFS, and using determinations found in the Commissioner’s Orders and their professional expertise, provide an assessment of BCFS’ compliance with price caps during PT4. Our review was conducted in accordance with Orders 05- 01, 11-03, 12-02 and 15-03.

The focus of PwC’s review was on BCFS’ price cap calculations and accuracy of their data sources. The scope and approach of our work included:

Scope	Approach
a) Review of the Act, Commission’s Orders and Memorandums related to price caps	<ul style="list-style-type: none"> Reviewed the Act, Route Group Agreement, Orders 05-01, 11-03, 12-02 15-03 and Memorandum 45
b) Review of BCFS’ price cap calculation Excel spreadsheets and supporting data for PT4	<ul style="list-style-type: none"> Examined the structure of the Excel spreadsheets and key formulas to verify that inputs and calculations were consistent with the Commission’s Orders Recalculated key outputs to verify the accuracy and completeness of the price cap calculations Reviewed the spreadsheet for errors and formula consistency using a spreadsheet analytics tool For a sample quarter (Q2 of F2019 ending on September 30, 2018), traced revenue and traffic data in the price cap calculation spreadsheet to BCFS’ general ledger source
c) Review of BCFS’ price cap calculations for PT4	<ul style="list-style-type: none"> Examined the structure of the Excel spreadsheets and key formulas to verify that inputs and calculations were consistent with the Commission’s Orders
d) Discussions with representatives of BCFS	<ul style="list-style-type: none"> Met with BCFS representatives in person to discuss the price cap calculation methodology and walk through data flow between BCFS’ general ledger, traffic system data and the price cap calculation spreadsheet
e) Finalization of the report	<ul style="list-style-type: none"> Discussed results with representatives of the Commission Debriefed a draft version of this report with the Commissioners

PT4 Price Cap Compliance

Price Cap Framework

The purpose of the price cap compliance test is to determine whether weighted average ferry fares are more or less than the price caps allowed by the Commission.

The original methodology used to calculate average ferry fares and price caps was described in an attachment to Order 05-01 entitled “Determination of Procedure for Calculation and Comparison of Average Ferry Fares and Price Caps.” The methodology of Order 05-01 used to calculate average ferry fares is referred to by economists as the Tornquist Index Method. Order 05-01 and its attachment can be found online at:

http://www.bcferrycommission.ca/wp-content/uploads/2011/04/Order_05-01.pdf

Order 11-03 revised the calculation methodology of Order 05-01. The calculation methodology by Order 11-03 replaced the Tornquist index method with the Direct Paasche Price Index. The Direct Paasche Price Index is widely recognized as a valid methodology to calculate price indices. The methodology is described in an attachment to Order 11-03 entitled “Revised Methodology for Calculation of Average Ferry Fares for Comparison with Price Caps”. This change was made to align the calculation methodologies between the average ferry fares and price caps. Order 11-03 and its attachment can be found online at:

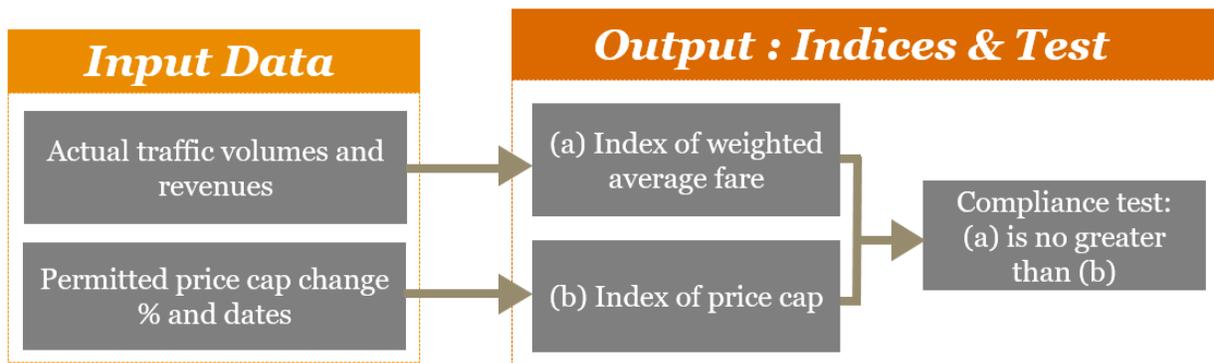
<http://www.bcferrycommission.ca/wp-content/uploads/2011/04/BCFC-Order-11-03-FINAL.pdf>

Price Cap Mechanics

The average ferry fares and price caps are expressed as indices for comparative purposes and we will refer to them as the “Price Compliance Index” and the “Price Cap Index”, respectively. The Price Compliance Index is based on actual revenues and is a measure of the revenue-weighted average fares based on a basket of traffic types. As such, changes in specific “rack rate” tariffs will generally not be equal to changes in the index. The Price Cap Index is a measure actual fares at the beginning of a Performance Term, indexed at a prescribed rate.

The price cap compliance test is applied each quarter and the Price Compliance Index may not exceed the Price Cap Index over any four consecutive quarters. This test is required for each route group.

The diagram below summarizes the approach for measuring and comparing average ferry fares and price caps. The detailed step-by-step calculations can be found in Order 11-03 and 05-01.



BCFS is required to provide the Commission with a price cap compliance report each quarter. The quarterly price cap compliance reports can be found online at:

<http://www.bcferrycommission.ca/reports-press/quarterly-reports/>

There are 10 service categories in each route group. The price cap workbook is subject to a peer review process by a Senior Business Economist. This process confirms the traffic count and revenue data were entered correctly.

The price cap compliance workbook has a transparent structure and has quality control procedures. An outline of procedures is shown below:

1. Run Cognos queries to extract revenue and GL count data. Extract supplementary data for minor routes from the 'FYXX supp workbook', which is updated with traffic data monthly from the 'Supp Data' report provided by the Senior Traffic Statistics Data Clerk.
2. Each quarterly compliance workbook will be created by making a copy of the prior quarter's workbook.
3. Input the revenue, GL count, and supplementary data into the respective input sheets in the workbook.
4. Update the compliance table and charts by selecting the Reporting Quarter date.
5. After inputting the data and updating the tables and charts, the Business Economist will request a peer review by the Senior Economist to double check everything in the workbook is correct.

Procedures and Observations

PwC reviewed supporting analysis used by BCFS to determine price cap compliance. The Price Cap Model provided to PwC covered an interim PT4 period from July 1, 2018 to September 30, 2018.

The Price Cap Model computes a Price Cap Index and a Price Compliance Index for each route group and for a single amalgamated route group. The price cap and price compliance indices are compared against each other to determine price cap compliance. The Price Cap Index begins PT4 at 100 and is indexed according to Order 12-02. The Actual Revenue begins PT4 at 98.87 to reflect actual revenue ending under cap in PT3. The Price Compliance Index is calculated based on inputs for actual historical revenues and traffic volumes.

PwC performed the following procedures and noted any observations:

Procedure	Summary Observations
Examined the structure of the Excel spreadsheets and key formulas to verify that inputs and calculations were consistent with the Commission's Orders and agree to the general ledger	<ul style="list-style-type: none"> • BCFS' methodology is to calculate the revenue allowable by price cap ("RAPC") for all route groups together as a system • BCFS' methodology for calculating price compliance for a single route group appears to have been implemented correctly in the supporting analysis • BCFS' methodology is consistent with the Commission's understanding of the single route group price cap calculations
Recalculated key outputs to verify the accuracy and completeness of the price cap calculations	<ul style="list-style-type: none"> • PwC found no material errors in the spreadsheet

Reviewed the spreadsheet for errors and formula consistency using a spreadsheet analytics tool

- PwC found no material errors in the spreadsheet

For the sample quarter ending September 30, 2018

- PwC did not note any unexplained discrepancies between the revenue and traffic data inputs in the Price Cap Model and the general ledger/accounting system
- For the purpose of PT4 price cap compliance, 5% GST on Fare Reservation revenue is currently included. This is based on the assumption that an appeal in place with Canada Revenue Agency will be successful and also for the benefit of being consistent with previous price cap compliance reporting

Price Cap Compliance

Based on the reports provided, BCFS has complied with the price caps during PT4. The reported average fare index values are shown below. The actual fares have been below the price caps in all quarters in PT4.

Quarter Ending	Cap	Actual
September 2018	105.02	98.99
June 2018	104.34	100.87
March 2018	103.84	102.11
December 2017	103.48	101.83
September 2017	103.08	101.23
June 2017	102.40	101.44
March 2017	101.90	101.53
December 2016	101.53	101.35
September 2016	101.13	100.68
June 2016	100.48	99.55
March 2016	100.00	98.87

Sample Quarter Results

The actual results for the sampled quarter Q2 F2019 are compared to the base that is indexed at the price cap in the table below. The only significant discrepancy between the Actual and the Base is with the Senior tariff. Starting in F2018, the provincial government increased the senior passenger discount from 50% to 100% for travel Monday to Thursday on the major and minor routes. This has the effect of reducing actual tariffs from this source.

F2019 Q2 (in millions)	Actual	Base	Fare Index
Senior	3.63	8.78	41.36
Adult	223.07	224.83	99.22
Child	6.96	7.06	98.58
Infant - Under 5	0.00	0.00	86.12
Passenger Vehicle	282.90	282.28	100.22
Passenger Vehicle - Oversize	30.35	31.03	97.81
Bus	4.31	4.25	101.36
Truck	26.31	26.64	98.74
Semi	49.94	49.16	101.59
Drop Trailer	13.44	13.43	100.01
Total	640.91	647.46	98.99

The Q2 F2019 revenues in the price cap workbook were agreed to the appropriate revenue accounts in the Cognos general ledger with the exception of GST on Reservations which is treated as a flow-through cost. Q2 F2019 traffic counts in the workbook were also agreed to the Cognos traffic numbers. Minor and Northern route traffic count are updated based on a supplementary data source and numbers were agreed to the source file.

For the purpose of PT4 price cap compliance, 5% GST on Fare Reservation revenue is currently included. This is based on the assumption that an appeal in place with Canada Revenue Agency will be successful and also for the benefit of being consistent with previous price cap compliance reporting.

Impact of Fare Initiatives

There are two initiatives involving fares which had an impact on forecast revenue over the course of the performance term, the net effect being that fares were either flat or reduced across all routes in F2019, with foregone revenue starting in fiscal 2018. These initiatives will impact the price index reset for PT5.

1. BC Ferries' decision to keep fares flat in fiscal 2018 (starting April 1, 2017).

Net Foregone Revenue from FY2018 Fare Initiative (\$Millions)	F2018	F2019	F2020
F2018 Flat Flares	\$6.6	\$6.6	\$6.6

BC Ferries would have earned an additional \$6.6 million in fare revenue in F2018 and subsequent years if fares had not been kept flat on all traffic types and routes except for vehicle fares on the major routes.

2. The fiscal 2019 and 2020 fare initiatives that were partly funded by the Province (starting April 1, 2018).

The second element involves a joint initiative with the Province starting in F2019. The Province provided BC Ferries with a contribution of \$26.5 million in F2019 to partially fund the fare initiative. On a net basis, BC Ferries foregoes \$16.7 million in revenue in F2019 and the total foregone revenue is \$43.3 million.

BC Ferries - Provincial Fare Initiatives (\$Millions)	Total Foregone Fare Revenue		Provincial Contribution		BC Ferries Contribution	
	F2019	F2020	F2019	F2020	F2019	F2020
Routes 1, 2, 30 flat	\$7.5	\$15.4	\$3.7	\$7.7	\$3.7	\$7.7
Thrufare 15% reduction	\$0.2	\$0.2	\$0.1	\$0.1	\$0.1	\$0.1
Route 3 15% reduction	\$7.6	\$8.6	\$3.8	\$4.3	\$3.8	\$4.3
Minors & North 15% reduction	\$18.2	\$20.4	\$9.1	\$10.2	\$9.1	\$10.2
Subtotal	\$33.5	\$44.6	\$16.7	\$22.3	\$16.7	\$22.3
Seniors	\$9.8	\$10.2	\$9.8	\$10.2	-	-
Total	\$43.3	\$54.8	\$26.5	\$32.5	\$16.7	\$22.3

The table above that shows the breakdown of how BC Ferries would have earned the additional \$43.3 million in fare revenue in F2019 includes the seniors discount.

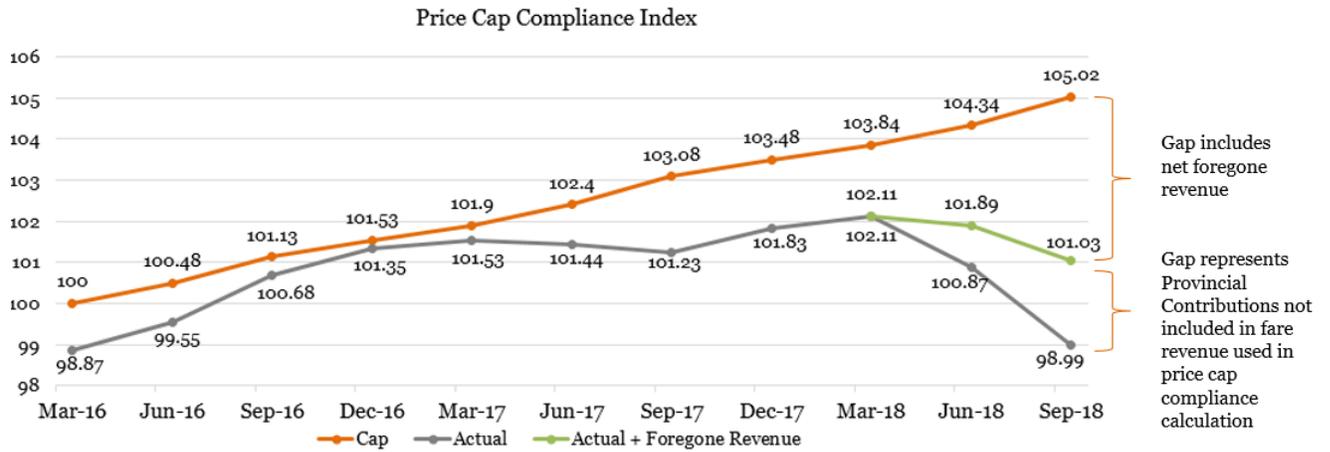
As the provincial contribution revenue is not included in fare revenue used to calculate price cap compliance, BC Ferries' total revenue is only \$16.7 million lower than what it would have been in F2019.

Foregone Revenue from FY2018 Far Initiative (\$Millions)	F2018	F2019	F2020	Total
2018 BC Ferries Initiatives	\$6.6	\$6.6	\$6.6	\$19.8
2019/20 BC Ferries - Province Initiatives	-	\$16.7	\$22.3	\$39.0
Total Foregone Revenue	\$6.6	\$23.3	\$28.9	\$58.8

In the table below, the 'Actual + Provincial Revenue' column highlights the impact of fare initiatives, starting April 1, 2018. It adds the \$26.5 million annual provincial contribution revenue back to fare revenue to calculate what the actual total revenue would be in the absence of the provincial contribution.

Quarter Ending	Cap	Actual	Actual + Provincial Contribution
September 2018	105.02	98.99	100.01
June 2018	104.34	100.87	101.89

These results and are shown visually in the following graph.



A reset of the price cap index for PT5 based on the actual fare index at the end of PT4 could give consideration to foregone revenue.

Conclusion

BCFS appears to be in full compliance with price caps for the PT4 period from April 1, 2016 to September 30, 2018. Based in large part on the provincial government Fare Initiative that resulted in reduced fares on the minor routes and a decision by BC Ferries not to raise fares on routes starting in F2018, the actual fare index is well below the price cap.