



RESEARCH REPORT

January 6, 2019

Canadian Telecom Analysis Revisiting our Call on Telco

Currently, TMT's Canadian portfolio is comprised entirely of telecommunication stocks; specifically, Bell and TELUS. Given our overweight position in the space, the team wanted to take a deeper dive into "The Big 3" (Rogers, Bell, and TELUS) to determine where we should allocate our capital (or if we should withdraw from the sector altogether).

In our analysis, we determined that the Canadian telecommunication sector remains an attractive space to invest in. The firms in the space face limited competition and do not face any credible regulatory threats.

To decide between the firms, we looked at the qualitative strengths of each firm as well as their respective valuations. We believe that Bell has the best competitive position in the industry; the firm has a robust wireless network, a prominent media arm, and a strengthening wireline business. Despite these promising attributes, the firm trades at a lower adjusted multiple than TELUS, and is only marginally more expensive than Rogers. Based on these findings, the TMT team looks to shift some of their TELUS holdings into Bell.

Tech., Media & Telecom

Matthew Mastromarco

mmastromarco@quiconline.com

Nick Gakena

ngakena@quiconline.com

Allen Chen

achen@quiconline.com

Nikola Cugalj

ncugalj@quiconline.com

The information in this document is for EDUCATIONAL and NON-COMMERCIAL use only and is not intended to constitute specific legal, accounting, financial or tax advice for any individual. In no event will QUIC, its members or directors, or Queen's University be liable to you or anyone else for any loss or damages whatsoever (including direct, indirect, special, incidental, consequential, exemplary or punitive damages) resulting from the use of this document, or reliance on the information or content found within this document. The information may not be reproduced or republished in any part without the prior written consent of QUIC and Queen's University.

QUIC is not in the business of advising or holding themselves out as being in the business of advising. Many factors may affect the applicability of any statement or comment that appear in our documents to an individual's particular circumstances.

Table of Contents

Canadian Telecommunications Market	3
Company Segment Overview	4
Wireless Segment Assessment	5
Wireline Segment Assessment	6
Media Segment Assessment	7
Valuation	10
References	11

Canadian Telecommunications Market

Overview

Globally, telecommunication players have faced challenges. In a market ripe with new entrants as well as disruption from over-the-top services, virtually every region in the world has seen compounding declines in average revenue per user (ARPU) over five- and ten-year periods.

The Canadian telecommunication players, however, have fared much better than their global peers. While reporting changes has obscured certain metrics, ARPU has typically grown steadily year over year. When adjusted for dividends, the big three (Rogers, TELUS, and Bell) significantly outperformed the global communications index over both a five- and ten-year time horizon. This outperformance is largely attributed to pricing; Canadians pay among the highest rates in the world for mobility and telecommunication services. While other markets face intense pricing pressure, Canadian prices have remained relatively stable.

Sources of Pricing Power

In the wireless market, established players are not required to license their spectrum to mobile virtual network operators (MVNOs), which is a departure from the regulations in other countries. This limits competition from low-cost players who utilize existing network capacity and resell it to end-users.

Secondly, foreign companies are restricted to a maximum of 10% market share, limiting growth and acquisition potential. Foreign firms are also burdened with a tedious application and approval process, which further complicates market entry. The only true competition Bell, TELUS, and Rogers face is from regionally-focused firms with a limited scope of product offerings. Unless this changes, it is unlikely that firms will face intense competition.

Regulatory Risk

For years, politicians have made promises to regulate the telecommunications market to help consumers. In

practice, these efforts have been largely unsuccessful. One example of this is the \$25/month basic cable package mandated by the Canadian Radio-television and Telecommunications Commission in 2016. In principle, the policy was designed to give consumers more modularity for the channels they subscribe to so they can realize cost savings. A CBC report on the new plans, however, concluded that the implementation of the plans resulted in "a deal many consumers simply won't want." This change – championed as a political win – did little to help consumers.

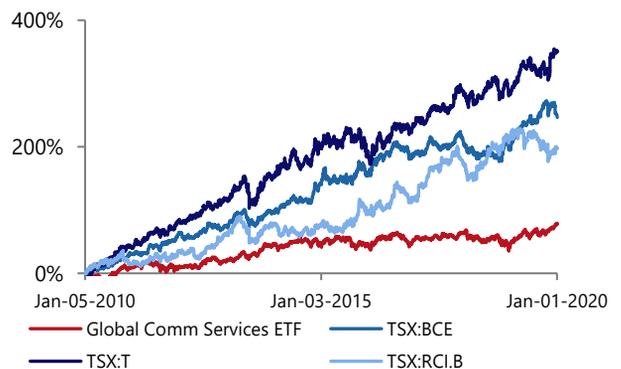
The most current and imminent political risk for telecommunication providers comes from the Liberal Party of Canada, which promised to reduce costs by 25% within for years. Despite this bold vision, there has been little information on how these savings will be realized, leaving pundits skeptical. Until a more concrete proposal is championed, Rogers, Bell, and TELUS appear to be very stable.

Sector Conclusion

The Canadian telecommunications market remains an attractive investment. The firms have been able to maintain pricing power and do not appear to be threatened by impending competitors or regulation.

EXHIBIT I

Dividend-Adjusted Stock Performance



Source(s): Capital IQ

Company Segment Overview

Overview

Canada's telecommunications sector is dominated by three companies: BCE, Rogers, and TELUS. Together they command 90.7% of the Wireless market in Canada. All three companies operate Wireless and Wireline segments. BCE and Rogers operate a third business segment, Media.

Wireless

The Wireless segment provides Wireless telecommunications services such as voice, text, and data to consumers and businesses across Canada. As of FY2018, each firm generated the following percentage of its revenue from this segment: BCE (35.9%), Rogers (60.9%), TELUS (57.2%). The key revenue drivers for this segment are net subscriber additions (subscribers added less subscribers lost) and average revenue per user (ARPU). The most recent count of subscribers for each firm is: BCE (9,834,380), Rogers (10,810,000), and TELUS (8,663,000). The current ARPU for each firm is: BCE (\$57.22), Rogers (\$56.01), and TELUS (\$61.64). The aforementioned factors will be assessed when

determining the relative strength of each incumbent.

Wireline

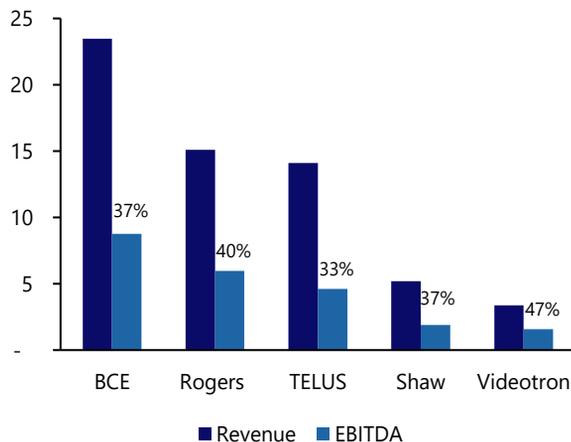
The Wireline segment (Cable for Rogers) provides Internet access and Internet protocol television (IPTV), telephone, and other telecommunication services to residential and business customers. In FY2018, each firm generated the following percentage of its revenue from this segment: BCE (54.0%), Rogers (26.0%), TELUS (44.6%).

Media

For BCE, the Media segment provides conventional TV and streaming services such as CTV (the most popular channel in Canada by far), as well as radio broadcasting. For Rogers, the Media segment owns several large sports and entertainment holdings such as The Toronto Blue Jays and a 12-year agreement with the NHL for all content, with exclusive rights to playoffs and Cup Final games. The companies jointly own Maple Leaf Sports & Entertainment, with Rogers holding 37.5% and BCE holding 28%.

EXHIBIT II

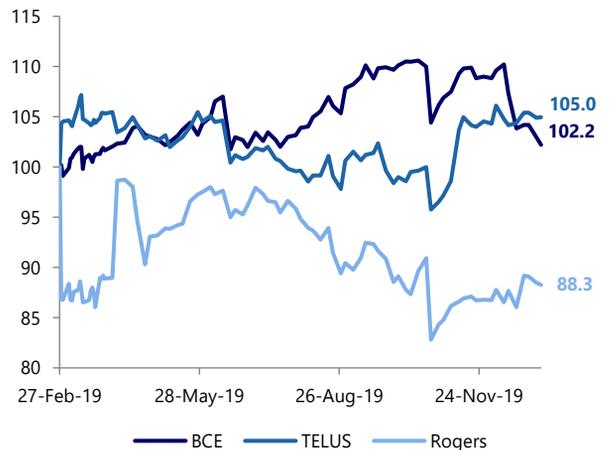
Top 5 Competitors | Revenue & EBITDA (\$B)



Source(s): Company Filings

EXHIBIT III

Relative Performance | Top 3 Competitors



Source(s): Company Filings

Wireless Segment Assessment

In the Wireless segments, we believe that BCE, Rogers, and TELUS possess strong economic moats that insulate them from competitive upstarts. The incumbents enjoy a cost advantage through economies of scale by spreading significant overhead, marketing, and fixed costs over a vast number of subscribers. Due to size and well-funded networks, it's challenging for new competitors to enter and steal any significant market share. New competitors such as Shaw's Freedom Mobile are putting some pressure on industry pricing, due to their highly discounted pricing. However, Freedom Mobile is at a substantial disadvantage given its lack of network coverage and performance. This has resulted in limited market share for Shaw, despite significantly lower pricing.

Amongst the three competitors, we can assess their relative strengths. For Wireless, price and mobile offerings have become increasingly similar over the past few years, making it harder to differentiate one from the other. This was further affected by the recent change in industry dynamics sparked by Rogers. In June 2019, Rogers began offering unlimited data plans which impacted the other two major competitors. The three firms now all offer the same entry-level unlimited plan: unlimited voice, text, and data (up to 10GB before throttling) for \$75. Currently at the peak of offering similarity, firms appear to be price takers on the entry plan for unlimited.

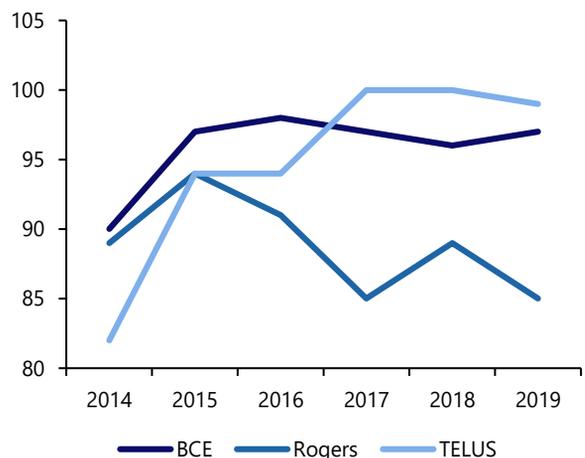
With pricing and offerings being virtually identical, the next factor consumers consider is network performance. While Rogers has historically boasted the fastest network performance, BCE and TELUS have outperformed Rogers significantly in the recent years (EXHIBIT IV). Although performance should indicate where consumers are heading in theory, it's a weak signal for subscriber switches. The most logical explanation is that speeds are fast enough from any major carrier for consumers to sidestep the search costs and go with the carrier that will provide a more convenient service. While providers may be able to gain the upper hand on speeds from time to time, this will not profitably provide a competitive advantage.

There is very little that a firm may do to strengthen their already well-funded networks. Additionally, carriers experience another constraint in the finite frequency spectrum. Wireless works by allocating a small frequency range to a customer that is used to transmit data. The frequency range available to each incumbent is limited and is increased only through occasional airwave auctions.

To conclude, the TMT team believes that none of the three incumbents hold an advantage over the other. With nearly identical pricing, offerings, and subsidies, no firm has a developed, sustainable advantage that will result in higher subscriber or ARPU growth.

EXHIBIT IV

National Network Performance (PCMag Score)



Source: Earnings Call, Company Filings, CapIQ, PCMag.com

Wireline Segment Assessment

Overview of Trends

As the more "legacy" segment, Wireline is facing multiple headwinds due to regulation and substitution. TV popularity is declining due to cord-cutting, with consumers turning to a myriad of on-demand streaming services available. Landline phone usage is declining, especially for individual consumers, as cell phones and social media have become the standard in voice communication. The CRTC, who oversees the telecom industry in Canada, has labeled broadband internet services as an essential service, which furthers the strain on an incumbent's ability to make competitive decisions. Given these secular trends, the TMT team believes that a company's ability to provide better internet offerings will be the driver of differentiation in this segment.

Different Types of Internet Offerings

There are typically three types of Internet connections: DSL, Cable, and Fiber. DSL and Cable use electricity to transmit data through copper wires, while Fiber uses fiber optics (glass) to transmit data using light. Fiber internet can provide much faster (5x – 10x) symmetric (upload = download) speeds and is "future-proof," meaning that it can scale with other technology. Cable internet has been the standard up until the past few years when providers began investing heavily in fiber internet. Overall, high-quality offerings are comprised of fast networks, strong coverage, and an incumbent's promotional ability.

Current Positioning of Incumbents

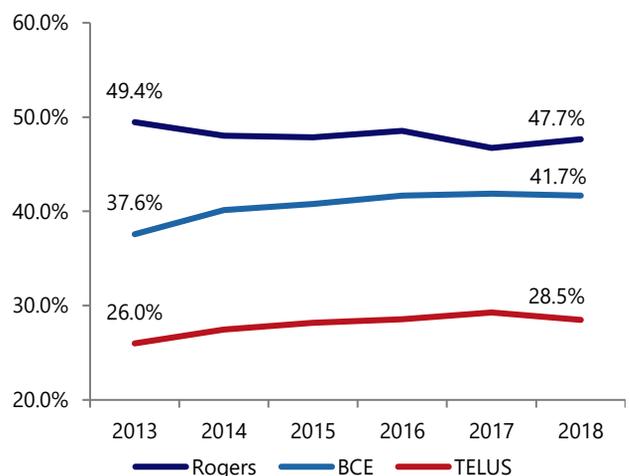
BCE has the most significant footprint in Wireline, which allows the company to enjoy economies of scale advantages that cannot be matched by local competitors such as Videotron and Cogeco. Rogers has historically held a cost advantage over BCE and TELUS with its fiber-coax network, which was both cheaper to operate and provided faster speeds to customers compared to a traditional copper network (EXHIBIT V). However, BCE's commitment to its Fiber-

To-The-Home (FTTH) buildout has resulted in Roger's cost advantage being diminished, with coverage nearing 5 million homes in Ontario and Quebec. TELUS has followed in suit, with a 70% coverage rate of its current customer base. TELUS is fighting a battle of its own as it competes more directly with Shaw, which has a much stronger presence in Western Canada. Given TELUS's smaller size, it has a smaller user base that makes it more challenging to realize scale advantages. The company will continue to have to invest in FTTH and reap lower margins for the foreseeable future. On the other hand, BCE has little overlapping FTTH coverage with Shaw. FTTH will also complement the rollout of 5G technology, as expectations for much faster symmetric internet speeds become the standard.

The TMT team believes that BCE is the best positioned in the Wireline segment. With its heavy focus on FTTH and its size advantage, BCE will continue to improve margins and provide higher-quality offerings to its customer base.

EXHIBIT V

Top 3 Incumbents' Wireline EBITDA Margins



Source(s): Capital IQ

Media Segment Assessment

Overview

Rogers and BCE both operate Media segments that account for 14.4% and 13.3% of their revenue, respectively. Both companies experienced stagnated growth of less than 1%, but BCE holds a much greater advantage when it comes to efficiency (EXHIBIT VI). This can be attributed to Rogers' highly concentrated Media holdings within sports and entertainment (EXHIBIT VII), while BCE holds more diversified assets that appeal to the general Canadian audience, such as CTV and CraveTV (EXHIBIT VII). The latter incumbent has realized significant margin advantages, which will most likely be sustained into the foreseeable future. BCE holds a 33% and 37% market share in Canadian TV and radio, while Rogers holds 9% and 18%. Both companies operate at EBITDA margins much lower than their more profitable Wireless and Wireline segments.

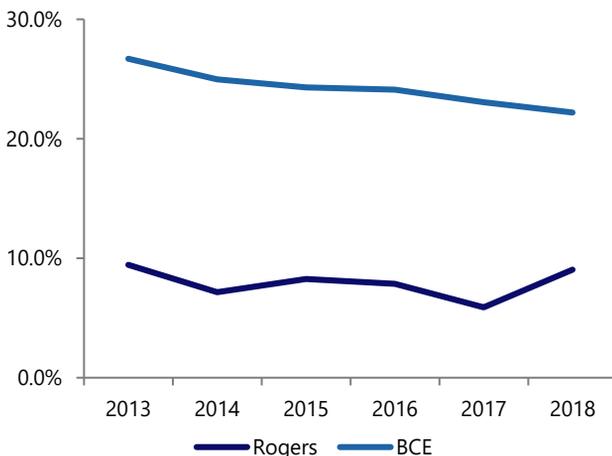
What does this mean?

Although the Media segment is secondary to the incumbents' focus on Wireless and Wireline, the TMT team believes that BCE's significant cost advantages allow for the company to enjoy relatively higher margins, translating into more cash for dividend payouts or reinvestment. Rogers will continue to experience margin erosion challenges as new forms of sports entertainment such as e-sports gain market share. The spike in Rogers' EBITDA margin in 2018 is due to a drastic salary cut for the Toronto Blue Jays, which is not a sustainable method to grow margins. BCE also faces declining margins due to similar challenges in the TV entertainment space: as consumers continue to shift to digital and on-demand services, BCE will have to change the way it offers its services and invest more in promoting a better value proposition.

Overall, the TMT team believes there is little opportunity for either incumbent to grow within this space but believes that BCE's Media segment holds an edge given the greater margins realized.

EXHIBIT VI

Rogers and BCE Media EBITDA Margins



Source(s): Company Filings

EXHIBIT VII

Rogers and BCE Media Notable Holdings



Source(s): Capital IQ

Valuation Discussion

The Team considered the adjusted earnings multiples of Rogers, TELUS and Bell in its portfolio re-weighting process.

Each company's earnings were adjusted to better approximate its normalized, long-term earnings power. A full reconciliation is provided below. Major areas of uncertainty in these adjustment are the companies' large pension/benefit plan obligations and capex spending on spectrum licenses. Bell has historically carried the lightest spectrum burden due to its wireline-heavy segment mix and large relative size. Its multiple appears fair given the company's highly defensible market position.

Due to the significant disparity between the adjusted multiples of Rogers and TELUS, the Team has decided to trim its TELUS holding and allocate the proceeds into Bell in the amounts necessary to reach an overall weighting of 70% in Bell and 30% in TELUS.

EXHIBIT VIII

Big 3 Telco Multiple Comparison

BCE		T		RCI	
Period ended 09/30/2019		Period ended 09/30/2019		Period ended 09/30/2019	
MM CAD		MM CAD		MM CAD	
	Q3 2019		Q3 2019		Q3 2019
Operating revenues	\$ 5,984	Service	3,138	Revenue	3,754
Operating costs	(3,390)	Equipment	549	Operating costs	(2,042)
Operating profit	\$ 2,594	Operating Revenues	3,687	Depreciation and amortization	(627)
Severance, acquisition and other costs	(23)	Other operating income	10	Gain on disposition of PP&E	0
Depreciation	(861)	Total revenue	3,697	Restructuring, acquisition and other	(42)
Amortization	(230)	Goods and services purchased	(1,502)	Operating expenses	(2,711)
Finance costs		Employee benefits expense	(761)	Operating income	1,043
Interest expense	(282)	Depreciation	(489)	Finance costs	(215)
Interest on post-employment benefit obligatic	(16)	Amortization of intangible assets	(160)	Other income (expense)	(16)
Other income (expense)	61	Operating costs	(2,912)	Income before income tax expense	812
Income taxes	(321)	Operating income	785	Income tax expense	(219)
Net earnings	922	Financing costs	(201)	Net income for the period	593
(+) Severance, acquisition and other costs	23	EBT	584	(+) Depreciation & amortization	627
(+) Depreciation & amortization	1,091	Income taxes	(144)	(+) Other income (expense)	16
(+) Contributions to OPEB	(62)	Net income	440	(+) Loss (gain) on foreign exchange	20
(+) Payments under other OPEB plans	(17)	(+) Depreciation & amortization	649	(+) Change in fair value of derivatives	(19)
(+) Income tax expense	321	(+) RX costs	12	(+) Restructuring, acquisition and other	42
(-) Normalized income tax expense	(336)	(+) Long-term debt prepayment premium	28	(+) Income tax expense	219
(-) Capex, excl. spectrum	(1,013)	(+) Income tax expense	144	(-) Normalized income tax expense	(219)
(-) Capex, spectrum	0	(-) Normalized income tax expense	(158)	(-) Capex, excl. spectrum	(657)
(-) Cash dividends paid on preferred shares	(47)	(-) Contributions to pension plans	(11)	(-) Capex, spectrum	0
(-) Cash dividends paid by to NCI	(12)	(-) Other operating income	(10)	(-) Additions to program rights	(15)
Owner earnings, Quarterly	870	(-) Capex, excl. spectrum	(694)	Owner earnings, Quarterly	607
Owner earnings, Annualized	3,482	(-) Capex, spectrum	0	Owner earnings, Annualized	2,427
FDSO	916,805,638	Owner earnings, Quarterly	400	FDSO	515,872,265
Share Price	\$59.61	Owner earnings, Annualized	1,601	Share Price	\$64.45
Market Cap. (MM), diluted	54,651	FDSO	602,000,000	Market Cap. (MM), diluted	33,248
P/E	15.70 x	Share Price	\$50.43	P/E	13.70 x
		Market Cap. (MM), diluted	30,359		
		P/E	18.96 x		

Source(s): Company filings

References

1. Bloomberg
2. Canadian Radio-television and Telecommunications Commission
3. Capital IQ
4. CBC
5. Company Filings
6. Mobile Syrup
7. PC Magazine