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FROM A MANDATE FOR CHANGE TO A PLAN TO GOVERN

Making the Connection Between Smart Telecoms Policy and the Innovation Agenda

Paul Beaudry and Sean Speer

INTRODUCTION

Successive federal governments have talked about the importance of innovation. But innovation has been an elusive concept for policy-makers and for Canadians. What does it mean? How do we measure it? And how can government support it? These questions have proven difficult to answer and the result is that Ottawa often seems to be throwing good public money after bad in the hopes of spurring innovation and new technologies.

The new government has put innovation near the top of its policy agenda. The former Department of Industry has been rebranded the Department of Innovation, Science and Economic Development. The minister has been tasked with developing an "innovation agenda" with new spending and tax measures to support new technological innovation (Trudeau). And, of course, the prime minister has talked about his desire for Canada to be known for its "resourcefulness" rather than its "[natural] resources" (Trudeau 2016). It is fair to predict that innovation will be a popular theme over the next four years.

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The practical question is, what constitutes an effective pro-innovation policy agenda? Past experience suggests that more direct and indirect subsidies to specific industries or types of investment will do little more than distort the market and leave taxpayers with a hefty bill. Consider, for instance, the current debate about whether the government ought to provide direct financing to Bombardier, which has already benefited from more than $1 billion in state-directed subsidies over the past several decades (Milke 2014). State interventions in the market do not tend to produce the expected results and instead usually lead to more subsidies, more intervention, and more taxpayer risk.

Rather, a pro-innovation agenda should be composed of broad-based, neutral policies that do not favour one industry over another or a company over its competitors. It should focus on setting the conditions for market-based decisions about how and where to direct private capital, scale-up new ideas, and ultimately bring them to the marketplace. Real innovation must occur organically through risk-taking, trial and error, and ingenuity. It cannot be directed or willed by bureaucrats or politicians.

So what can the new government do to establish better conditions for innovation in Canada? One area the minister of industry ought to focus on is telecommunications policy. There is an opportunity to reset Canada's telecommunications policy after several years of government meddling and micromanagement to support private investment in high-quality broadband infrastructure critical to digital adoption and technological innovation. This means, in practical terms, shifting telecommunications policy from heavy-handed regulation to harnessing real competition to allow for the deployment of better networks, new technologies and services, and ultimately lower prices for consumers. A smart, new telecommunications policy that views the industry as a dynamic enabler rather than a public utility ought to be a key part of the government's innovation agenda.

The Macdonald-Laurier Institute's mission is to help to inform sound public policy at the federal level. Our goal in this essay series is to help the new government best achieve its top policy objectives.

This 11th essay in the series will help Canadians better understand the current state of Canadian telecommunications policy and how it can better support entrepreneurship and innovation. The purpose is to help inform policy thinking as the new government develops its innovation agenda.

We will then offer what we think the Canadian and international evidence establishes as the best policy options to reset telecommunications policy to promote the development of a dynamic, efficient industry based on market fundamentals rather than government diktats. The ultimate goal is to set the conditions for the "dynamic innovation" that the prime minister envisioned in his speech to the World Economic Forum in January (Trudeau 2016).

To this end, this essay recommends that (1) the government recognize that telecommunications policy and its innovation agenda are inextricably linked, (2) adopt a telecommunications policy agenda that sees the industry as a dynamic market rather than a public utility to be government-managed like the delivery of water or electricity, and (3) liberalize the sector's foreign ownership restrictions for all firms irrespective of market share.

TELECOMMUNICATIONS POLICY AND THE PUBLIC UTILITIES MINDSET

Telecommunications policy is a matter of federal jurisdiction. The government's policy and regulatory framework has undergone an evolution over the years as it attempted to keep pace with the sector's significant technological and industrial change. Consider that until 1993 the telecommunications sector was governed by the principles of public utility regulation set out in the 1906 *Railway Act*. Much has changed in the ensuing 110 years.

Telecommunications policy was modified in the 1970s, with the creation of the Canadian Radio-television and Telecommunications Commission (CRTC) as a unified regulator of the telecommunications and broadcasting industries. It was also changed by the enactment of the 1993 *Telecommunications Act* (the first full legislative arrangement for telecommunications) and the 1994 *Radiocommunication Act*. But as a 2005 consultation document produced by the Department of Industry notes, "some of its [the policy and regulatory framework's] basic principles have survived since 1906" (Telecommunications Policy Review Panel).

The explosive changes in the industry and its growing importance as a key foundation for economic and social progress have caused the government to attempt to harness and direct the sector to achieve different policy ends. The exercise of this regulatory power has often been arbitrary and intrusive especially relative to other less-regulated sectors. The vestiges of a public utility mindset can be seen in the minuteness of the CRTC's micromanagement and the public comments of its commissioners. Consider that the CRTC chair often talks as if the profit motive is antithetical to consumer interests (Blais 2016). These ill-founded sentiments reflect a prevailing view that somehow the telecommunications industry is different than others and needs to be subjected to a greater degree of regulation.

This impulse was most evident by the end of the Harper government's term in office. As we will outline in this paper, the government layered intervention upon intervention to manipulate the market with the goal of producing more competition. Yet that was not its position at the outset. In fact, the government's first major articulation of telecommunications policy was a challenge to the long-standing public utilities conception of the industry. A 2006 directive to the CRTC was a clear expression of a market-oriented policy vision. The directive required the CRTC to:

- rely on market forces to the maximum extent feasible as the means of achieving the telecommunications policy objectives; and
- when relying on regulation, use measures that are efficient and proportionate to their purpose and that interfere with the operation of competitive market forces to the minimum extent necessary to meet the policy objectives (Government of Canada 2006).

It was a strong signal that the new government intended to differentiate from past interventionist tendencies and was characterized as a "back-off" message to the CRTC and its regulatory impulse (Schick 2006). As Maxime Bernier (2009), the then-minister of industry, said: "it is not the role of government to decide how this increasingly complex market should evolve. It is up to you – producers and consumers." The public utilities mindset was finally being challenged.

TELECOMMUNICATIONS POLICY AND DIFFERENT VISIONS OF COMPETITION

Yet it did not last. Telecommunications policy swung back towards greater regulation and state intervention less than a year after the CRTC directive was issued. It was the expression of the government's fourth-player policy in the wireless sector that would dominate telecommunications policy for the next several years and lead to an ongoing series of market interventions.

It is worth addressing the conceptual arguments about market competition and the role of government before detailing the fourth-player policy and analysing its underlying premise and the limitations of state-directed competition.[1]

The government's initial policy directive was rooted in a vision of dynamic competition. A dynamic concept of competition shows that competitive discipline is not necessarily conditional on the presence of a multitude of players in the market. It can also be produced by the anticipation of new technologies and services in the market (Quigley 2004). A dynamic vision assumes that the risk of competitive pressures in the form of faster, better, and cheaper technology is often enough to keep companies from being lulled into complacency or monopolistic or oligopostic practices.

The telecommunications industry is a prime example of this type of dynamic competition in practice. Consider, for instance, that over the past two decades traditional phone lines have been largely replaced by wireless communications and the Internet. Consider also the extent to which telecommunications equipment has evolved from the old flip phones to smart phones that can convey voice, text, and data worldwide. Who wouldn't argue that much has changed from the time of Zack Morris's infamous "brick phone" in *Saved by the Bell* to the latest smartphone technology?

A dynamic vision of competition thus does not consider high market concentration to have *a priori* harmful effects in an industry. The economic literature does not find much evidence of a consistent relationship between market competition and innovation (Cohen and Levin 1989, quoted in Sidak and Teese 2009, 588). The reality is that competitive pressures resulting from high market shares and consolidation may actually spur rival firms to increase their capital spending to keep up with the dominant players. The main takeaway is that under a dynamic model of competition policy-makers ought to be less focused on the number of market participants and more concerned with creating the conditions for firms to invest and innovate. The public utilities mindset is wrongly applied to telecommunications.

The government's fourth-player policy is an example of this mindset in practice. It sought to use government interventions – in the form of policy and regulatory actions – to stimulate artificial competition in the marketplace and produce a fourth wireless competitor in the name of increasing consumer choice and in turn reducing prices. The policy was underpinned by the presumption of a static model of competition.

A static vision assumes that "perfect competition" is achieved when there are so many competitors in a market that none can be said to dominate it or exert control over pricing. Such a vision necessitates government intervention in order to prevent monopolists or oligopolists from charging prices above what ought to be a competitive price in a scenario of perfect competition or what is sometimes described as a state of equilibrium.

But so-called perfect competition is difficult to measure and even more challenging to find. It also assumes that government has sufficient information and market knowledge to know the optimal number of market players and is able to deftly tip the scales to produce such an outcome. This type of thinking not only overlooks public choice theory's essential insight that government is prone to political calculations over smart policy, it also ignores countless examples of "government failure" (Lammam et al. 2013). The risk, then, is that the pursuit of perfect competition becomes a basis for more and more government tinkering as it pursues arbitrary and often elusive goals in a clumsy and not infrequently political manner.

THE FOURTH WIRELESS PLAYER POLICY: HOW NOT TO ENCOURAGE COMPETITION

The Harper government articulated its fourth-player policy in 2007 when it announced the details of the Advanced Wireless Service (AWS) wireless spectrum auction set for several months later. The goals of the auction's design were to encourage new firms to enter the market to compete against the so-called "big three" players (Bell, Rogers, and Telus).

The policy assumed that Canada had a competition problem and that an insufficient number of market players was to blame for what it perceived as high consumer prices. As the government's press release said at the time: "Recent studies comparing international pricing of wireless services show Canadian consumers and businesses pay more for many of these services than people in other countries. These services are key to strengthening the competitiveness of Canadian business" (Innovation, Science and Economic Development Canada 2013).

The government thus announced it would set aside spectrum for regional players and new market entrants in the auction, thus preventing the three incumbents from bidding for it. The assumption was that a preferential arrangement was needed to ensure that the incumbents did not gobble up all of the available spectrum in order to keep possible competitors out of the market. The set-aside spectrum would have some restrictions to prohibit "flipping" so that new firms would need to deploy the spectrum to enter the market and compete with the "big three."

The auction yielded the results that the government was looking for – at least in the short-term. Three "pure-play" (referring to only wireless service) new entrants – Public Mobile, Mobilicity, and Wind Mobile – and three regional new entrants – Shaw Communications, Eastlink, and Vidéotron – took advantage of the set-aside rules to acquire spectrum, as well as two existing regional wireless providers, MTS and Sasktel. The set-aside spectrum sold at a discount of about 30 percent compared to the spectrum open to bidding by all parties. A study by CIBC World Markets determined that this amounted to a $617-million subsidy for new entrants (Bek and Lee 2008).

The magnitude of the initial subsidy was a harbinger of the future. The government soon followed with other policies to support the new entrants such as mandating access to the incumbents' network infrastructure for roaming and tower sharing (Masse and Beaudry 2014b). It also used its political signals and regulatory power to discourage incumbents from acquiring the new entrants and their spectrum when the "flipping" prohibitions expired. The initial intervention created pressure to carry out more interventions in order to subsidize new entrants and keep them in the market.

The 700 MHz spectrum auction in 2014 is a good example of this tendency towards more and more intervention. By the time the government was set to announce the auction rules the inherent problems with the earlier one were already starting to surface. Notably, the "pure-play" new entrants were concentrated in a small number of markets, limited to the wireless market and not offering "bundled" services including television, Internet, and wireless like the incumbents, and making little in the way of network investments. There was a growing sense that they were still in existence due to top-down government intervention rather than bottom-up market forces.

Yet the government was determined to keep them propped up. The auction was thus ironically designed to further help the new entrants in the name of free enterprise and competition. The government liberalized the foreign investment rules to give wireless companies (only those who were not also covered by the *Broadcasting Act*) with less than 10 percent market share asymmetrical access to foreign capital, more generous terms for roaming and tower-sharing on incumbent networks, and caps on the number of spectrum blocks that incumbent firms could acquire, which effectively served as a set aside for the newer players (Innovation, Science and Economic Development Canada 2012). These steps were described as "going for broke" and "the most radical move we've ever seen in federal telecom policy" by one observer who noted that the government was putting all of its eggs in the perfect competition basket (Levy 2014).

The subsequent auction proceeded much like the previous one (see table 1 for results). Although the government hoped that the partial liberalization of foreign investment rules, combined with the preferential auction rules, would attract a well-capitalized foreign player, none ended up participating in the auction. The incumbents acquired the largest share of available spectrum but the new entrants (primarily regional players Vidéotron and Eastlink) were able to acquire some key blocks due to the preferential access. Both Wind Mobile and Mobilicity were already too strapped for cash to bid in the auction, the latter being under creditor protection (CBC News 2014). Public Mobile was a non-starter, as it had been acquired by Telus in 2013.

Table 1: 2014 700 MHz auction results

Bidder	Number of Licences Won	Final Price
TELUS	30	$1.1B
Bell	31	$565.7M
Rogers	22	$3.3B
Vidéotron	7	$233.3M
Bragg (Eastlink)	4	$20.2M
MTS	1	$8.7M
SaskTel	1	$7.5M
Feenix	1	$.28M

Source: Government of Canada 2014.

A subsequent auction in 2015 saw Wind Mobile return to the process on similar terms as the 2014 auction and acquire valuable spectrum assets in Ontario, British Columbia, and Alberta (see table 2). Large regional players also participated. But the vast majority of licences went to incumbents. This was the last major policy intervention prior to the recent election.

Table 2: 2015 AWS-3 results

Bidder	Number of Licences Won	Final Price
TELUS	15	$1.5B
Bell	31	$499.9M
Vidéotron	4	$31.8M
Bragg (Eastlink)	4	$10.0M
Wind Mobile	3	$56.4M

Source: Innovation, Science and Economic Development Canada 2015.

The new government inherits a flawed policy agenda that made wrong assumptions about the state of competition in the telecommunications sector. The previous government's tone (such as the use of public resources to advertise against the incumbent companies; see Payton 2013) and policy and regulatory directives signalled a shift from the 2006 policy direction to the CRTC back towards the public utilities model of the previous decades.

CURRENT STATE OF THE TELECOMMUNICATIONS MARKET

So what was all the fuss about? Was it justified? And where do we stand now? This essay aims to provide a basic overview of the evolution of Canada's telecommunications policy, but also to set out recommendations on how to leverage telecommunications policy as part of a pro-innovation agenda. A comprehensive comparison of Canada's market composition and telecommunication investment and penetration is beyond the scope of the paper. Future policy analysis by the Macdonald-Laurier Institute intends to delve deeper into comparisons with other jurisdictions such as the United States, the United Kingdom, and parts of continental Europe. But there is value in situating the current state of play before judging the best path forward.

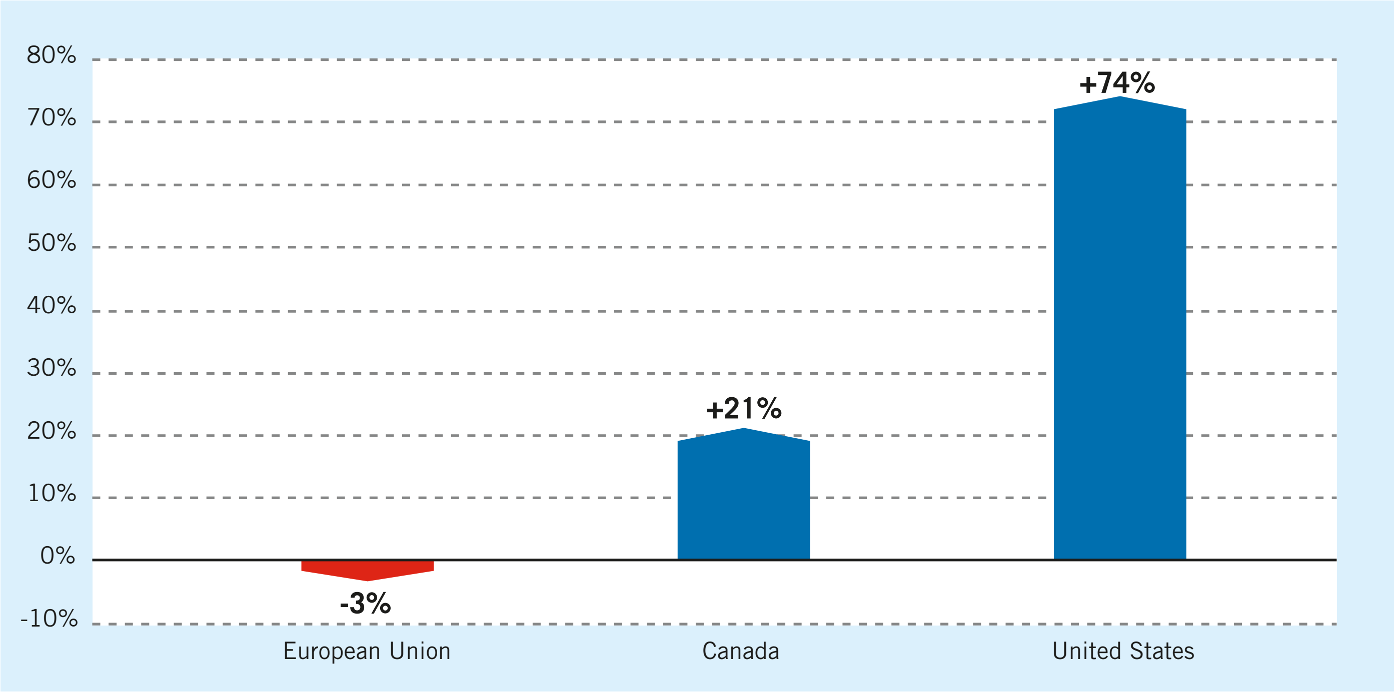
The reality is that the negative perception of the industry that justifies interventionist measures is, by and large, mistaken. Canadian consumers actually benefit from one of the most advanced telecommunications networks in the world, are among the biggest users, and generally pay prices that are about average with respect to other industrialized countries.

Canada's telecommunications industry is far from perfect. Its reputation for subpar customer service and public relations is often justified. The usage-based billing controversy in 2011 is a good example of its frequent inability to communicate its case to the public (CBC News 2011). Yet, despite these flaws, there is plenty of evidence that Canadians are being much better served than conventional wisdom would suggest.

The CRTC's (2015) annual *Communications Monitoring Report* is a treasure trove of useful data and statistics, which show that the Canadian wireless market is much healthier than some of its critics claim. Noteworthy findings include: 99 percent of Canadians have access to high-speed in general; 96 percent of Canadians can subscribe to download speeds of 5 Mbps; and two-thirds of Canadians now have smartphones, up from one-quarter in 2010. As for relative price, there is growing evidence that Canada's jurisdictional ranking depends on usage (Dobby 2015).

Access to high-quality network infrastructure has proven to be a competitive advantage for Canada. Total Canadian investment in wireless networks has consistently exceeded $2 billion per year for the past several years and has been among the highest in the OECD on a per-subscriber basis. Wireless infrastructure investments since 1987 total more than $55 billion (Lord 2015). Capital investment in networks between 2007 and 2013 was lower than in the United States but significantly more than in the European Union (see figure 1). The result is that Canada is now home to the second-most high-speed Long-term Evolution (or LTE) networks in the world.

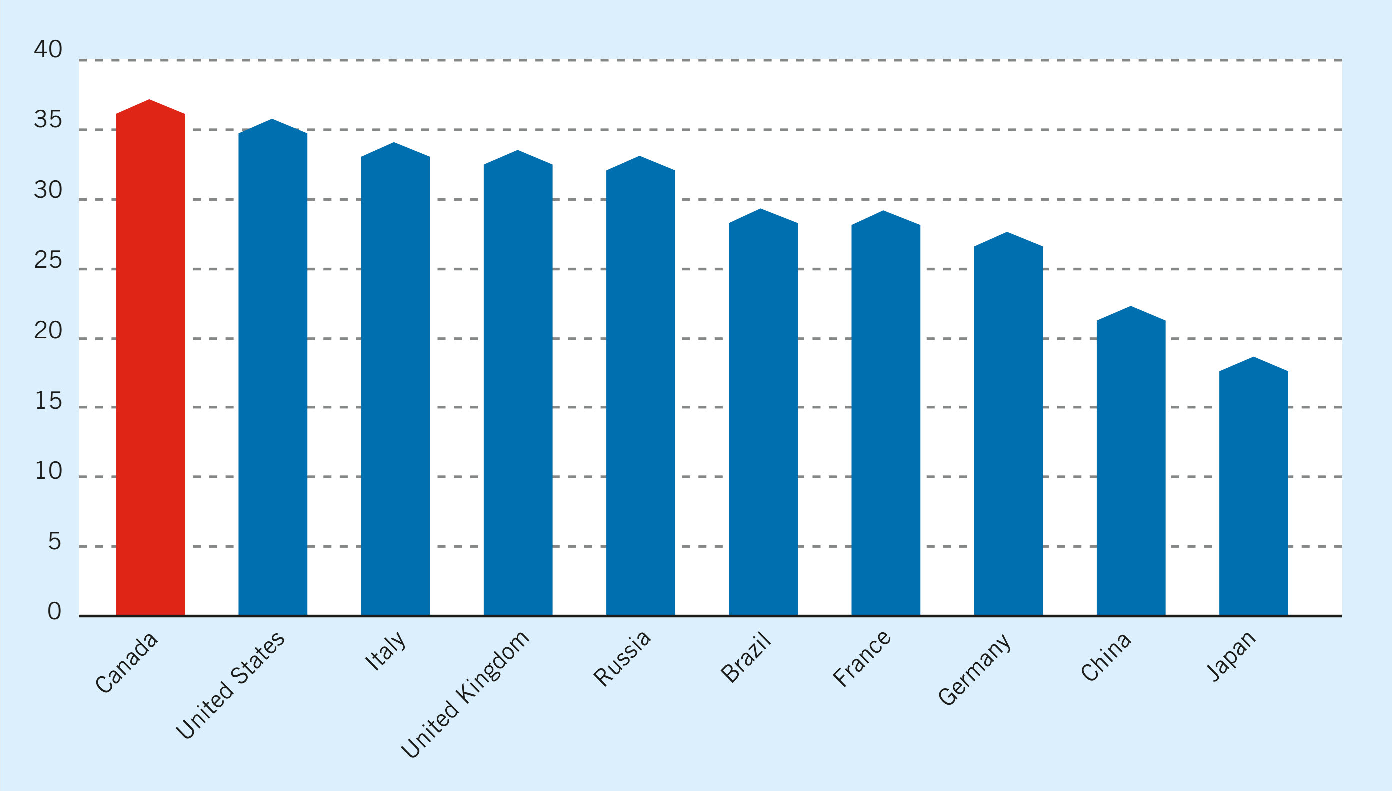
Figure 1: Capital spending in the wireless sector, 2007 to 2013



Sources: Masse and Beaudry 2015, 22, Figure 1-13; Goldman Sachs Global Investment Research, quoted in Erik Bohlin, Kevin W. Caves and Jeffrey A. Eisenach, *Mobile Wireless Performance in the EU & the US*, GSMA/Navigant Economics, May 2013, p. 17; CRTC, *Communications Monitoring Report 2010*, July 2010,Table 5.1.9: Capital expenditures, by type of TSP, p. 119; CRTC, *Communications Monitoring Report 2014*, October 2014, Table 5.0.4: Telecommunications investments made in plant and equipment, by type of provider of telecommunications service, p. 141.

And we need it. Canada is ranked first among comparable countries in average online usage per month in 2014 (see figure 2). Canadians are now among the heaviest users of wireless data in the world and usage is only expected to grow. The number of wireless subscribers continues to climb, Internet television consumption is rising, and the use of streaming services is up (CRTC 2015). Estimates show that mobile data usage may climb by as much as 700 percent between 2014 and 2019 (Lord 2015). Canadians are increasingly becoming world leaders in the new digital age.

Figure 2: PC online usage in 2014



Source: Masse and Beaudry 2015, 10, Figure 1-1; comScore, *Canada Digital Future in Focuse 2015*, March 27, 2015.

As for consumer prices, the story is more complicated than many observers would have Canadians believe. There is no question that Canadians spend a considerable amount on these services. CRTC (2015) data show that average monthly household spending on communication services (mobile wireless services, home television, Internet, and home telephone) was $203 in 2014. This type of spending places Canada at the "higher end" internationally according to a 2015 study commissioned by the CRTC.[2] The relative cost differs among data usage and the composition of services (we place fifth among eight, for instance, in bundled services) (Masse and Beaudry 2015).

But this type of comparison typically fails to normalize for service quality and access to high-quality infrastructure. Here is where there is a real downside to Europe's race to the bottom with respect to pricing. Europe's tinkering in search of "perfect competition" has contributed to a decline in mobile revenues and underinvestment in network infrastructure (Renda 2016). Andrea Renda, a senior research fellow at the Centre for European Policy Studies, writes about the investment chill that stems from a policy agenda that treats wireless companies as public utilities. As he recently states:

> As a European academic having witnessed two decades of access-based regulation, I can testify that access policy has had a negative impact on investment in new networks: this issue, after a long debate, is now settled in Brussels: no one questions it anymore. Even the European Commission has recognized that the EU regulatory framework was not apt to incent a 'generalized roll-out of new networks in accordance with public-policy objectives.' What's more, the commission also acknowledged that access policy can reduce alternative operators' incentives to invest in their own facilities. This is deplorable, since there is wide consensus among economists and policy-makers that the only sustainable form of competition in the long run is infrastructure-based, not access-based competition. (Renda 2016)

The European example thus highlights the risk of telecommunications policy that places competition ahead of all other considerations. As one of us has written, "The European example shows that going too far in that direction can cause as much harm to the industry and to consumers as not going far enough" (Masse and Beaudry 2014a).

And where does the Canadian market currently stand? The recent acquisition of Wind Mobile by Shaw Communications means that Ontario, Alberta, and British Columbia, all of which lacked a solidly-established regional wireless player, will now have a well-capitalized fourth wireless player (Evans 2015). Shaw has deep pockets and intends to make significant investments in its newly-acquired wireless network. And unlike the pure play new entrants, Shaw will be able to bundle Wind's wireless services with cable, Internet, and wireline services, and presumably increase Wind's average revenue per wireless user.

The fourth-player impulse behind much of the government's telecommunications policy for the past several years should thus subside and the question is, what overarching objectives ought to drive policy henceforth? The CRTC has launched a review of basic telecommunication services, and public hearings are set to commence in April. This proceeding may constitute an opportunity for the regulator to reconsider its approach to regulating telecommunications services, and embrace a "lighter-touch" regulatory framework.

TELECOMMUNICATIONS POLICY AND THE INNOVATION AGENDA

There can be a tendency to see telecommunications policy as an end in itself. But the reality is that digital infrastructure is an enabler for economic activity and social interaction. It is increasingly the medium through which we work, shop, and stay in touch. One aspect of telecommunications policy that cannot be overlooked is the relationship between high-quality broadband and wireless services and the innovation agenda.

We know that the vast majority of Canadians – now as many as 96 percent – have access to relatively high Internet speeds (Blais 2016). This has been achieved with limited public subsidies, which is remarkable given Canada's vast geography and sparse population density. There will continue to be efforts focused on achieving full coverage through public investments and possibly spectrum licensing conditions, however, the goal of bringing high-quality broadband services to most Canadians has been achieved.

The most challenging policy question facing the government now is how to support Canadians in maximizing the economic and social benefits of broadband services, and how to rally their support for an innovation agenda. There are extraordinary developments occurring as a result of broadband connectivity. High-performing research networks are allowing big data to be shared around the world for the purposes of developing new technologies or cures to diseases. Entrepreneurs are using the Internet to launch new businesses without bricks and mortar or to reach out to prospective customers in different parts of the world. Canada is becoming a significant player in the development of new digital apps. The domestic industry generated $1.7 billion in revenue in 2014 and some estimates see it more than doubling by 2019 (ICTC 2014). The government's objective ought to be to sustain this momentum towards greater and more effective digital adoption.

Much has been written about the upside of greater digital adoption for Canada's small- and medium-sized businesses. The Harper government's Digital Economy Strategy incorporated several different programs to subsidize digital training, technological adoption, and cutting-edge research.[3] It is difficult to assess the efficacy of these efforts. But there is a growing recognition that the Innovation Agenda requires making greater use of digital technologies and that it requires high-quality infrastructure.

There is a considerable body of research that shows a lack of high-quality infrastructure can be a major barrier to increasing digital adoption.[4] Affordability is no longer a real obstacle for most Canadians.[5] It is all about good services, fast speeds, and access to the latest technologies.

Here is where government policy is so critical for creating the conditions for the type of investment to maintain Canada's network advantage. This is the best part: it is a pro-innovation agenda that basically requires the government to restrain from meddling in the market and instead set the conditions for telecommunications to be a dynamic enabler of innovation and entrepreneurship.

THE NEW GOVERNMENT'S PLAN

The Liberal Party was largely silent on telecommunications policy throughout the election campaign and the new government has yet to set out its vision and how it fits in the broader pro-innovation agenda. Its spokespeople have set out different and sometimes competing ideas about the right policy direction for Canada. Its Industry critic was critical of the initial decision to earmark spectrum for new entrants in 2007 on the grounds that there was little evidence it would affect consumer prices (CBC News 2007). A subsequent critic called on the government to implement further set asides for new and smaller market players in 2012 (Nowak 2012). As a result, it is difficult to know the direction in which government policy is likely to follow.

What do we know? The minister's mandate letter states: "Increase high-speed broadband coverage and work to support competition, choice and availability of services, and foster a strong investment environment for telecommunications services to keep Canada at the leading edge of the digital economy."

This instruction would seem to suggest that the government understands the importance that investment plays in ensuring that Canada maintains its relative advantage with respect to broadband coverage and quality. It also rightly places a smart telecommunications policy at the heart of an agenda to promote digital adoption by individuals and businesses. The goal should be to leverage the market to bring high-quality broadband technologies and services to as many Canadians as possible irrespective of where they live.

More generally, we know that the government intends to place a major emphasis on innovation as a key part of its economic agenda. The prime minister's keynote Davos speech elucidated his vision of a "fourth industrial revolution" driven by technological progress. It was a positive vision that seems to rightly position government as an enabler of innovation rather than its source. As he puts it: "we need governments willing to invest in making that [education, infrastructure, and science and research] happen, while recognizing the dynamic innovation that happens in the private sector" (Trudeau 2016).

This line between the role of government and the private sector is one that the government would be wise to observe as it develops its innovation agenda. Some of the policy ideas delineated in the minister's mandate letter appear to run the risks of blurring this line in favour of a more active role in "strategic investments", "investments that support transition and diversification", and "specific strategies" for different sectors including traditional manufacturing, autos, and clean technologies. Speculation that the government is also considering financial support for Bombardier is another example of this type of direct government involvement in the market. Instead the government should heed the prime minister's caution about the role of the state in directing innovation.

RECOMMENDATIONS FOR A SMART, NEW TELECOMMUNICATIONS POLICY

The CRTC's hearings on basic telecommunications services are set to begin in April. One of the CRTC's areas of focus will be the digital economy. More specifically, the CRTC has asked Canadians for their views on the telecommunications services that they consider necessary to participate in the digital economy (Government of Canada 2016). In the spirit of contributing to the discussion on this vital public policy issue, we offer three key ideas to help the government inform its policy thinking.

The first is to recognize that telecommunications policy and its innovation agenda are inextricably linked. Broadband infrastructure is a major enabler of technological innovation and new ideas. Poor policy that disincentivizes investment in high-quality networks can therefore come to undermine the government's innovation goals. This is not an empty warning. Europe's telecommunications policy has contributed to underinvestment and poor service, in addition to hindering growth in other sectors of the economy.

This means that telecommunications policy must take a broader perspective than simply household prices. Affordability is important, but a policy that focuses on price over all other considerations – such as the quality and coverage of services – can have significant negative consequences. Europe is often viewed as a consumer's paradise but it has difficulty deploying new technologies because of the inadequacy of its networks (Sandle and Abboud 2012). Would Canadians rather have the newest iPhone or marginally lower prices? The point is that a race to the bottom on pricing is incompatible with the government's own innovation goals and it will therefore need to ensure that its telecommunications policy is developed concurrently with its innovation agenda.

Second, the government should see the telecommunications marketplace through a dynamic lens. Consumers are best served by policies that promote innovation rather than focusing on static objectives such as increasing the number of competitors. Interventionist policies aimed at helping smaller players gain market share can have harmful effects on competition, and ultimately on consumer welfare as it weakens incentives for businesses to innovate and invest. As noted by economist Dennis Weisman (2006), these policies will tend to attract product imitators rather than innovators: "policies that reward imitation [i.e., multiplying the number of parties offering identical or quasi-identical services] rather than innovation will attract those market entrants adept at imitation, predominantly arbitragers, while driving away genuine innovators" (23).

Notwithstanding the problems with its underlying premise, the fourth-player objective has been achieved. Now is an opportune time to shed the public utilities mindset reflected in government policy and statements from the CRTC, and move in a policy direction that sees the industry as a competitive marketplace where companies are making investment and pricing decisions based on competitive pressures and consumer demands. This means fewer mandates such a government-imposed, mandatory network sharing, a more restrained instinct to regulate market decisions, and a new, neutral policy with regards to restrictions on the acquisition of spectrum in future auctions and spectrum trading on secondary markets.

Third, the government should do away with the remaining foreign ownership restrictions on Canada's telecommunications carriers in order to further enhance competition in the wireless sector. We are the hardly the first to make such a recommendation. Several studies have found that Canada's foreign ownership restrictions are among the most limiting in the OECD and even the federal government's own expert panels have called for a lifting of foreign ownership (Competition Policy Review Panel 2008).

A liberalization agenda would extend the previous government's partial relaxation of foreign ownership restrictions for smaller wireless players to all companies irrespective of market share. This would impose greater competitiveness pressures in a dynamic market and create opportunities for Canadian firms to become more integrated in a contiguous North American telecommunications market. As a 2011 C.D. Howe Institute report notes: "An integrated North American market, whether achieved through entrance or acquisition by US or other firms, or Canadian firms acquiring a US network, would benefit Canadian consumers through lower costs from network economies, lower capital costs, and accelerated innovation and technology adoption" (C.D. Howe Institute Competition Policy Council 2011).

As for the implications for the broadcasting sector, one of us has written about the need to lift the foreign ownership restrictions on both. Telecommunications and broadcasting have become so intertwined that it is difficult to make a clear distinction between them. It makes little sense to maintain foreign ownership limits on one and not the other (Masse and Beaudry 2014b).

The primary concern tends to be about Canadian content requirements and the fear that foreign players in the broadcasting space would not abide by our domestic rules. The reality is that foreign-owned broadcasters operating in Canada would need to comply with Canadian content requirements as a condition of their licences. Foreign ownership restrictions in the broadcasting sector are therefore not a *sine qua non* for a legislative and regulatory framework that addresses cultural concerns. This is especially true given the upside benefits that can accrue from opening up Canada's telecommunications sector as part of the government's pro-innovation agenda.

CONCLUSION

Federal telecommunications policy has treated the industry like a public utility for more than 100 years. The Harper government subscribed to this view and undertook a series of steps to twist, pull, and cajole the market to produce a fourth national wireless competitor. Notwithstanding the problems with its underlying premise, the fourth-player objective has been achieved. The government should now reorient its focus on defining the objectives that should guide telecommunications policy henceforth.

The new government has yet to signal much of a direction on telecommunications but is committed to a new innovation agenda as part of its economic plan. This essay has argued that two must go hand-in-hand. That is to say that telecommunications policy is inextricably linked to the innovation agenda and the government must consider how they will fit together.

There is an opportunity to reset Canada's telecommunications policy after several years of government meddling and micromanagement to support private investment in high-quality broadband infrastructure critical to digital adoption and technological innovation. In practical terms, this means shifting telecommunications policy from heavy-handed regulation to harnessing real competition to bring better networks, new technologies and services, and ultimately lower prices for consumers. A smart, new telecommunications policy that views the industry as a dynamic enabler rather than a public utility ought to be a key part of the government's innovation agenda.

ABOUT THE AUTHORS

PAUL BEAUDRY

Paul Beaudry is the Director of Development at the University of Calgary's School of Public Policy and a research associate at the Montreal Economic Institute. Prior to joining the School of Public Policy, he practised federal regulatory law for five years in the Ottawa office of Stikeman Elliott LLP. Paul is a former senior policy adviser to the federal Minister of Industry. He holds a law degree from the University of Montreal.

SEAN SPEER

Sean Speer is a Senior Fellow at the Macdonald-Laurier Institute. He previously served in different roles for the federal government including as senior economic advisor to the Prime Minister and director of policy to the Minister of Finance. He has been cited by *The Hill Times* as one of the most influential people in government and by *Embassy Magazine* as one of the top 80 people influencing Canadian foreign policy. He has written extensively about federal policy issues, including personal income taxes, government spending, social mobility, and economic competitiveness. His articles have appeared in every major national and regional newspaper in Canada (including the *Globe and Mail* and *National Post*) as well as prominent US-based publications (including *Forbes* and *The American*). Sean holds an M.A. in History from Carleton University and has studied economic history as a PhD candidate at Queen's University.

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ENDNOTES

1 This section draws heavily from past work by one of us and our co-author, Martin Masse. The original study is Martin Masse and Paul Beaudry, 2014, *The State of Competition in Canada's Telecommunications Industry – 2014.*

2 The 2015 Wall Communications Inc report states: "it is noteworthy that Canadian bundled service rates continue to compare very favourably to those in the U.S., where service pricing and provisioning practices are similar to those in Canada."

3 The Digital Economy Strategy can be found here: https://www.ic.gc.ca/eic/site/028.nsf/vwapj/DC150-2.0-EN.pdf/$FILE/DC150-2.0-EN.pdf.

4 See, for instance: McKinsey & Company, 2014, "Offline and Falling Behind: Barriers to Internet adoption"; and Paul Preston, 2013, "Digital Technology Adoption: An SME imperative for future Canadian prosperity."

5 It is important to note that there are parts of the country where affordability will likely always be a challenge. There is a role for government in ensuring high-quality services in some remote First Nations communities for instance.

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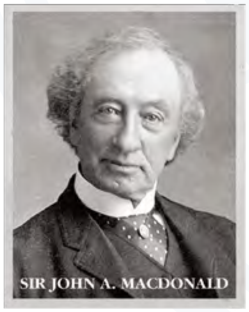

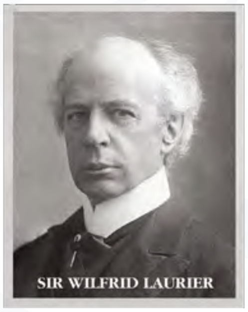

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