



PUBLIC INTEREST ADVOCACY CENTRE

LE CENTRE POUR LA DÉFENSE DE L'INTÉRÊT PUBLIC

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The “AWS-3” Spectrum Auction – What is the Best Deal for Consumers?

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Overview: The Recently Announced “AWS-3” Spectrum Auction

The Public Interest Advocacy Centre (PIAC) provides this backgrounder to provide some insight into what benefit consumers might expect from the Government of Canada’s most recently announced¹ “AWS-3” spectrum auction, given some media commentary that portrays the announcements as bad for consumers, including the premise that it will cost taxpayers, and that the proposed rules represent an “uneven playing field”.

Spectrum refers to the airwaves used by wireless providers to provide cellular service. “AWS-3” connotes a certain range of radiofrequency spectrum – much like the terms “cellular”, “PCS” and 700 MHz (also known as “MBS”) also connote specific frequency ranges for commercial use. AWS-3 is part of a broader swath of 2 GHz range spectrum called “Advanced Wireless Spectrum”, the first chunk of which was auctioned off in 2008.

We note firstly that the actual auction rules will be subject to public consultation, and that not even a draft of them has been released. There are some indications, however, of the likely structure of the auction from the Government of Canada’s [press release](#) and [backgrounder](#).

The general idea from these documents is that there will be a “set-aside” of 30 MHz (60% of the total 50 MHz to be auctioned) of the spectrum reserved exclusively for “new entrants”, who will be defined as “wireless carriers with less than 10 percent national and 20 percent provincial/territorial wireless subscriber market share.” In addition, however, “new entrants” must actually be operating in the territories in which they wish to bid in the auction: no operations, no eligibility to bid.

This likely framework has been met with general criticism that a set-aside is not appropriate; that a fourth national carrier (which is what the policy appears to be designed to bring about) is not viable; and that the auction will “cost taxpayers”².

¹ “Harper Government to Release More Valuable Spectrum to Strengthen Competition in Canada's Wireless Industry”, Government of Canada Press Release (July 7, 2014), online: <http://news.gc.ca/web/article-en.do?nid=865609>.

² “Ottawa sets new wireless auction, seeks stronger rivals for Big Three”. *The Globe and Mail* (July 7, 2014):

PIAC's analysis below of the announcements regarding AWS-3 so far will touch upon the first two points of criticism, but concentrates on the claim that the auction will cost taxpayers money. In our view, the cost, if any, of the reduction in auction revenues will be more than offset by the savings to wireless consumers.

Wireless Auction Revenues

It is difficult in advance to estimate the amount that might be raised by the AWS-3 auction, in particular as the actual proposed auction rules have not yet been published for consultation, let alone finalized. We do however have some indications of a range of amounts from the two previous spectrum auctions.

The first AWS auction, in 2008, raised \$4.25 billion. This auction involved more spectrum than is on offer in the planned auction. However, the AWS-3 spectrum is compatible with the AWS spectrum acquired in 2008 and U.S. carriers are gearing up to use the two in conjunction to support advanced wireless data transfer (and therefore handset and chipset manufacturers will be creating devices /smartphones and tower and network equipment to support this ecosystem). Therefore the AWS-3 spectrum auction will likely be about as desirable as the original AWS spectrum – perhaps even more so given the boom in wireless data use, and the relatively limited amounts of spectrum held by smaller wireless service providers compared to the incumbents.

The more recent 700 MHz spectrum auction raised \$5.27 billion. This was an unexpectedly large amount, however, the 700 MHz spectrum was much sought after for its propagation characteristics (it penetrates obstacles such as walls better, and travels greater distances). In addition, none of the non-regional, non-cable-company affiliated (the “pure play”) wireless “new entrant” providers were able to bid due to a lack of financial backing and other reasons. Thus the auction potentially could have garnered even more, had there been more players involved.

Finally, the same AWS spectrum (with an additional 15 MHz of “unpaired” spectrum (and therefore less valuable spectrum)) is being auctioned in November 2014 by the U.S. Federal Communications Commission. The FCC expects revenues of up to \$10 billion (U.S.D).³ The U.S. auction will be bid on by the four major U.S. carriers as well as regional providers, meaning that the spectrum in the U.S. is in perhaps greater demand than in Canada, due to the number of players. This means the U.S. estimate is not a correct proxy for the Canadian auction value.

As noted, with the 60% set-aside and few qualified “new entrants”, the next AWS auction in Canada would, with those rules, likely indeed bring in less than it “could” if all of the spectrum was open to all bidders. Even, however, if we discount the 60% of the spectrum to zero (which is an unrealistically low

“Spectrum is a valuable national resource and shouldn't be given to selected companies at a bargain. It's a cost to taxpayers,” said Mark Langton, a spokesman for BCE. (BCE owns 15 per cent of The Globe and Mail.) “Bell has always asked for a level playing field in Canadian wireless. We welcome competition, but all competitors new or old should follow the same rules.”

³ See https://apps.fcc.gov/edocs_public/attachmatch/DA-14-669A1.pdf

assumption⁴), then at worst the auction should raise 40% of the average auction “value” suggested above. That range appears to be from about \$4 billion on the low end to \$5 billion on the high side.

Therefore, it is not unreasonable to estimate that the range of the next Canadian AWS auction proceeds (taking into account a zero recovery from the set-aside) may be between a low of \$1.6 billion to a high of \$2.4 billion. Assuming a “no set-aside” auction would have raised between \$4 billion and \$5.8 billion, the overall “taxpayer loss” would be between \$2.4 billion and \$3.4 billion.

Isn't that a lot? Aren't the critics right? It is a lot, but wait just a minute. There are several reasons why the proposed auction structure may still be a great deal for Canadian wireless users.

Auction Money is Free Money

First, realize that spectrum auction revenue is “free money” to the government. It is not accounted for in budgets. It is not tax revenue. It does not appear on the Government's fiscal balance sheet at all until it is received. Therefore, any “loss” in not taking in as much as expected is notional only.

Rather, spectrum auctions in Canada are stated to pursue other goals than merely revenue generation for the Consolidated Revenue Fund. Indeed, auction rules, documents and policy statements from the government consistently emphasize the other goals.⁵ In the 2007 *Spectrum Policy Framework for Canada*, the SPFC objective was to “maximize the economic and social benefits that Canadians derive from the use of the radio frequency spectrum”. More recent spectrum policy goals have been consistently focused on promoting competition (more choice and better pricing) for the benefit of users, more innovation, and more access for all Canadians.

⁴ There will in all likelihood be a minimum opening bid price set by Industry Canada, even if only one bidder is available. Furthermore, the experience from the AWS auction supports the assertion that the set-aside spectrum will nevertheless attract bids.

⁵ Canada's current spectrum policy objective is “To maximize the economic and social benefits that Canadians derive from the use of the radio frequency spectrum resource”, and one of the “enabling guidelines” for this objective states that “spectrum should be made available for a range of services that are in the public interest.” (*Spectrum Policy Framework*, (June 2007) Enabling Guideline (b).)

The overarching spectrum policy objective was given expression in Industry Canada's policy and technical framework for the recent 700 MHz auction and for the upcoming 2500 MHz auction, where the stated objectives are:

- (i) sustained competition in the wireless telecommunications services market so that consumers and businesses benefit from competitive pricing and choice in service offerings;
- (ii) robust investment and innovation by wireless telecommunications carriers so that Canadians benefit from world-class networks and the latest technologies; and,
- (iii) availability of these benefits to Canadians across the country, including those in rural areas, in a timely fashion. (*Policy and Technical Framework - Mobile Broadband Services (MBS) — 700 MHz Band and Broadband Radio Service (BRS) — 2500 MHz Band*, SMSE-002-12, (March 2012).

These objectives were expressed all with the intent that the 700 MHz and 2500 MHz spectrum “be deployed by telecommunications service providers in a timely manner for the benefit of Canadians.” (*Ibid.*)

Thus, it is the ultimate use of the spectrum, and by who and how, not its auctioning, that should be the primary consideration in determining whether the proposals, on balance, will be good for Canadians. Even then, the “social benefits” as well as economic benefits must be considered.

Wireless Price Savings from a Fourth Carrier More than Offset the Reduced Auction Takings

The effect of a fourth national wireless carrier that could emerge from a set-aside in the next AWS auction must be considered in determining if the proposed auction framework is a good deal for consumers. In our view, it is.

First, a fourth national player in the wireless market, with sufficient spectrum to launch a competitive LTE (mobile broadband) service in major Canadian markets across the country, and the necessary ability to access roaming and towers at fair rates in a timely manner, could bring serious pricing discipline to the “big three” of Bell, TELUS and Rogers.

Already, the presence of new entrants WIND, Mobilicity and Public Mobile from the first AWS auction brought lower-priced plans to the Canadian market since about 2010. The following charts prepared for the CRTC illustrate this discounting by entrants. In the words of the Library of Parliament “The new entrants increased competition, resulting in lower prices and improved contract terms for most consumers.”⁶

2013 Figures

2013 Canadian Mobile Wireless Service Rates Incumbents versus New Entrants

Baskets	Vancouver	Toronto	Montreal	Average
Level 1 Basket (150 min/month)				
Incumbents	\$ 30.38	\$ 32.05	\$ 30.65	\$ 31.03
New Entrants	\$ 22.09	\$ 23.72	\$ 29.58	\$ 25.13
<i>Percentage Differential</i>	-27%	-26%	-4%	-19%
Level 2 Basket (450 min and 300 text per month)				
Incumbents	\$ 44.41	\$ 44.41	\$ 44.68	\$ 44.50
New Entrants	\$ 38.10	\$ 37.07	\$ 40.18	\$ 38.45
<i>Percentage Differential</i>	-14%	-17%	-10%	-14%
Level 3 Basket (1200 min, 300 text and 1GB data per month)				
Incumbents	\$ 95.03	\$ 94.36	\$ 94.63	\$ 94.67
New Entrants	\$ 53.30	\$ 50.53	\$ 69.95	\$ 57.93
<i>Percentage Differential</i>	-44%	-46%	-26%	-39%

Simple unweighted averages used in all cases.

Wall Communications Inc. 2013

⁶ “The 700 MHz Spectrum Auction”, Dillan Theckedath, Terrence J. Thomas, Industry, Infrastructure and Resources Division, April 5, 2012).

2011 Figures

Table 5.5.9 Canadian wireless monthly service rates - incumbents v. new entrants (2011)

Baskets	Vancouver	Toronto	Montreal	Average
Level 1 Basket (low-volume use, 150 minutes per month)				
Incumbents	34.53	34.38	34.80	34.57
New entrants	24.43	22.95	28.08	25.15
<i>Percentage Differential</i>	-29%	-33%	-19%	-27%
Level 2 Basket (average use, 450 minutes and 200 text per month)				
Incumbents	51.82	51.48	50.87	51.39
New entrants	35.55	38.37	44.68	39.53
<i>Percentage Differential</i>	-31%	-25%	-12%	-23%
Level 3 Basket (high-volume use, 1,200 minutes, 200 text and 1GB data per month)				
Incumbents	98.82	98.82	99.22	98.95
New entrants	55.20	56.80	75.45	62.48
<i>Percentage Differential</i>	-44%	-43%	-24%	-37%

• Averages calculated on a market share and population weighted basis.
 Source: Price comparison study conducted for the CRTC in 2012 by Wall Communications Inc.; see Appendix 4 for a summary of the assumptions and methodologies used.

Further, the mere presence of the new entrants prompted a reaction by the big three – who introduced flanker plans and reduced pricing in most areas and for most plans, as can be seen by comparing 2011 and 2013 figures.

This effect would likely be increased by facilitating the introduction of data-heavy smartphone and tablet plans by new entrants acquiring more AWS spectrum for which devices are already available.

There is also research to back up this likelihood. This year the Competition Bureau of Canada filed in a CRTC proceeding a report from Brattle Group that considered the possible entry into Canada of a fourth wireless provider.⁷ That report concluded that:

We generally predict substantial benefits accruing from the successful entry of a new nationwide wireless carrier. Nationwide, we predict that prices fall by about 2% and consumer surplus increases by \$1 billion annually, representing approximately 5% of current industry revenues.

What this means for those not in possession of a degree in economics is that Canadian cellphone users will see savings of \$1 billion a year, for as long as a viable fourth carrier can discipline incumbent wireless rates. That's \$1 billion each year going forward – which means that after only 2-3 years, on our estimate of the auction "taxpayer loss", cellphone users (which is most of the population) will break even and then begin to save money at the rate of \$1 billion a year. And as PIAC said last summer on this subject: "That's money in consumers' pockets, not the government's."⁸

There is also research on the 2008 AWS auction, and the more recent 700 MHz auction, suggesting that the different measures put in place in those auctions to limit the ability of the dominant players to push out smaller bidders actually worked to allow smaller players to access vital spectrum, inject competition

⁷ See Brattle Group, *Canadian Wireless Market Performance and the Potential Effect of an Additional Nationwide Carrier*, <https://services.crtc.gc.ca/pub/DocWebBroker/OpenDocument.aspx?DMID=2131727>

⁸ See PIAC *Rebuttal Backgrounder on Spectrum and Wireless Competition in Canada*. Online: http://www.piac.ca/files/spectrum_piac_myth_fact_final.pdf

into the market, while at the same time still pulling in significant auction revenues from the dominant players bidding on the remaining spectrum not reserved for competitors – all in the best interests of consumers.⁹ Notably, that conclusion was observed by the architect of the most recent spectrum auction.¹⁰

The “Level Playing Field”

A frequent canard used by the incumbents to try to block rules designed to allow more competitors into their space, and to mobilize public opposition against those rules, is the premise that such rules are unfair and that they represent an “uneven playing field”. This argument ignores the reality that the wireless industry “playing field”, if one were to visualize it, would have 90% of its surface area covered by just three players. Continuing with the imagery, the full picture would also reveal that the stadium itself was essentially owned by those players, and that access to the field was controlled by them. Thus, in the interests of trying to bring about more choice, lower prices, and better service for Canadians, we see nothing “unfair” about letting more players onto the field to level it out a little more.

⁹ Kyle Hyndman, and Christopher F. Parmeter, *Efficiency or Competition? A Structural Econometric Analysis of Canada's AWS Auction and the Set-Aside Provision* (June 27, 2014) at 29 (emphasis added):

Our results suggest that auction revenue may have increased by as much as \$1.28 billion under alternative scenarios, though a more likely scenario, in the absence of the set-aside, the likely outcome was a "status quo" with no new entry and similar market shares. In this case, our results suggest an efficiency loss on the order of \$400 { 500 million. As we have argued, while this is a non-negligible amount of money, to the extent that enhanced competition is sustainable, it is plausible that consumers could benefit by more than this amount. However, recent events have made clear that, in their current state, the most prominent new entrants' long term financial viability is in question.

¹⁰ Peter Cramton, *Lessons from the Canadian 700 MHz Auction* (April 2014) at 9 and 10 (emphasis added):

The Canadian restrictions did impact bidding, but in a way that was entirely consistent with the objective to foster competition for mobile services. The regional operators were able to win valuable spectrum, strengthening their competitive position. Overall they acquired 15% of the spectrum, the less desirable C1 block in the upper 700 MHz band. Regarding revenues, it is far from clear that the spectrum limits reduced revenues. The limits did enable the regional operators to win more and at lower prices, but at the same time the Big 3 paid more for the AB combination. Prices in Canada were highest for the most sought after spectrum, the lower band paired blocks. In the Canadian auction no bidder was excluded from bidding on any particular license.

Auction designs that encourage greater rivalry and competition during the auction among those with the greatest capacity to bid will tend to generate substantially more revenue than auction designs that allow for greater segmentation and differentiation to occur. Industry Canada's auction rules both stimulated competition during the auction and gave non-dominant carriers greater access to critical input resources they need to compete once the auction ended. Far from diminishing revenue, the Canadian auction design promoted competition among dominant incumbents to ensure bids accurately reflected the value of the licenses offered.

Conclusion

The question of what the best deal is for consumers in the next AWS auction is hard to state with absolute certainty without seeing the actual, detailed proposals. However, the argument that taxpayers will “lose” as a result of the proposed set-aside is based on a misleading and highly questionable premise. Rather, we believe that wireless customers’ savings on cellphone bills from the potential entry of a fourth national wireless carrier, and the resulting reaction by the entrenched big three service providers, could easily outweigh any one-time reduction in auction revenues. What’s more, the limited amount of non “set-aside” spectrum could in fact cause greater bidding on those amounts and offset any potential “loss” on the set-aside spectrum.

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