What public interest should be furthered by information and communication infrastructures (ICTs)? I do believe that government should be able to step into the private market and impose certain regulations when there is reasonable evidence that ancillary social value is not being adequately considered by businesses. Bates defines ancillary social value as when the use of a good by one individual creates value for others, above and beyond that created for the individual. (1988, p. 82) Bates uses the example of price advertising to illustrate how using prices as the basis for purchasing decisions creates value not only for the individual consumer but for society at large because it makes the marketplace more efficient. (1988, p. 83) But this example assumes that the determination of prices on the market has been made in a rational and therefore unproblematic manner. What happens when there is mass confusion over how prices for a commodity or service should be set? The case of usage-based billing (UBB) in Canada exemplifies this situation. This paper will show how the current telecommunications infrastructure in Canada is unable to provide adequately for the public interest for a number of reasons, not the least of which is a lack of consistency.

What would have to change to make Canadian telecommunications infrastructure compatible with the public interest? There seem to be strong arguments both for (Editors, 2011) and against (Geist, 2011) UBB. But even with a problematic final decision, in a market system, if the decision has at least been made based on well-established principles, there is value in the consistency of the overall framework. But with UBB in Canada, even if the decision that is ultimately made ends up being the correct one, the deeper, fundamental problem of an inconsistent framework for market activity will still remain. Decisions are essentially being

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made here on an ad hoc basis and this is clearly harmful to the long-term vitality of the Canadian economy. The uncertainty associated with business and regulatory decisions creates an atmosphere of fear and doubt in the market that will likely deter many companies from doing business in Canada. One of the most common complaints about the status quo is that it is essentially a duopoly between Rogers and Bell. One of the classic methods behind counteracting a duopoly is to introduce foreign competition into the country. This increased competition might serve the public interest in that prices will no doubt be lowered. But why would any rational foreign company want to gamble its time and money in the uncertain realm of Canadian telecom? The first change that should be made to make telecommunications compatible with the public interest, then, should simply be to arrive at a coherent set of principles – ideally through public consultation – and stick to them.

One of the most prominent arguments against UBB is that bandwidth is not a utility (Nowak, 2011) because it cannot be depleted like electricity or gas and, therefore, users should not be charged based on data usage. But while bandwidth is not permanently depletable, it is at least temporarily so in that during times of peak usage, certain users can be prevented from using the service. Bandwidth, then, can be seen as a rivalrous good in times of peak usage. Following this logic, if we see bandwidth as a rivalrous commodity that can generate rifts in equality if left unregulated, then it seems reasonable to incentivize the heaviest users of the Internet to only consume such high amounts of bandwidth when they absolutely need to. From this perspective, UBB can be seen as actually preserving ancillary social value. For example, most people nowadays use torrents for Internet downloading. By

downloading an album using a torrent, the user, known as the leecher, will presumably become a seeder once that download has finished and thus create value for future downloaders. But when there are too many leechers, the download becomes very slow or stagnant. With UBB, users will presumably be more selective about their downloading because they don't want to exceed the limit. This should theoretically result in less frivolous downloading and, ultimately, a more egalitarian consumption of bandwidth.

On the other hand, Winseck warns, "constraints that may be insignificant for millions of individuals separately may have large-scale sociological consequences, as thousands of users are deprived of the potential to become creators of media culture..." (2002a, p. 807) It is very important, then, that bandwidth regulation is not so stringent that it discourages people from engaging in creative activity online. But the question still remains: what is the value of bandwidth? Presumably, if the value of bandwidth were agreed upon by the various stakeholders, the question of how to properly price it would be answered. Economic marginalism directs us to consider the marginal cost; that is, the cost of producing one more unit of the good. ("Marginal cost", n.d.) The marginal cost of bandwidth usage is likely very low because once the infrastructure has been put in place, it should not cost Bell much to merely transmit more data over the wires. This appears to support the view that UBB is wrong – if it doesn't cost Bell anything to transmit more data, why should users have to pay based on usage? A flat rate charge will be enough for Bell to recoup its costs, which are mostly fixed. But Marx directs us to determine the value of a commodity in a different way – to look at the social relations involved in its production. (Harvey, 1982, p. 15) For Marx, value is based on the

socially necessary labour time that it takes to produce a particular commodity on average. This perspective invites us to look at the workers themselves – who creates bandwidth, and how long does it take them to produce it? The telecom employees who run the cables and dig the ditches would have to be considered here. But bandwidth is not like one of the traditional. physical commodities that Marx had in mind when he was writing *Capital*, e.g. shoes. (ibid.) Bandwidth is more of an intangible commodity that does not have to be reproduced by labourers on such a regular basis. This would necessitate looking at the labour that went into the production of the original infrastructure, e.g. the radio masts and transmitter stations. The difficulties associated with studying labour that is not conducted on a regular basis, then, might make a Marxist analysis of telecom somewhat impractical. But a positive development for all stakeholders involved in UBB would be to at least agree on a framework for studying the problem of how to properly value bandwidth as a commodity. The public interest cannot be served until that agreement is made. Without this foundational understanding, stakeholders will merely keep disagreeing with one another over the nature of bandwidth itself without making any real progress toward consensus.

Bell's involvement in media convergence must also be considered here. Bell wields significant power not only in the online market but also in publishing, radio, telephony and television. (Skinner & Gasher, 2005, p. 54) Bell's television assets are particularly important to consider with regard to UBB because they give rise to concerns about one of the most troubling implications of concentration that Noam warns about: cross-subsidization. "Intra-firm cross-subsidies are likely within major Internet firms from segments with market power to

segments that are more competitive," he writes. (2009, p. 293) Bell of course has considerable power in the Internet service provision market. With the much-hyped arrival of Netflix, (Nowak, 2010) however, Bell's substantial power in the television market seems much more tenuous. Bell's traditional service in this domain is ExpressVu, in which one can order movies using a cable box. But it has also introduced Bell TV Online, which would directly compete with Netflix in streaming movies over the Internet. UBB, presumably, would make smaller ISPs such as TekSavvy less popular with users. A major component of TekSavvy's appeal is that it would allow users to stream Netflix movies without incurring high usage-based charges. This poses a clear competitive threat to both ExpressVu and Bell TV Online. But Bell's high degree of media concentration will allow it to sustain artificially low prices for these two services against Netflix's competition by practicing cross-subsidization. Bell can simply use its high ISP profits to support low prices for its ExpressVu and TV Online services. This is no doubt harmful to the public interest because the low prices would not be established based on genuine, direct competition in the television market. Instead, the prices would be artificially maintained by Bell's strength in an entirely different market.

So what kind of intervention is needed to counteract Bell's ability to practice cross-subsidization? Winseck says that in order to create truly democratic communications media, there must be "decentralization and distribution of power and resources to the edges of all networks." (2002a, p. 816) He would likely support the proposal, then, that Bell should be forced to clearly separate the accounting practices of its online and television services. With this clear separation in place, it would be easier then for a public organization like the CRTC to

audit Bell and ensure that cross-subsidization has not been going on. Private firms like Bell are great at merging numbers together into an indecipherable whole, but a decentralization of accounting practices will make it much harder to deny accusations of cross-subsidization.

Schiller defines cultural imperialism as "the sum of processes by which a society is... bribed into shaping social institutions to correspond to, or even promote, the values and structures of the dominating centre of the system." (Flew & McElhinney, 2002, p. 308) UBB sees Bell essentially imposing its business model upon other, much smaller companies. But with or without UBB, issues of cultural imperialism will exist in Canadian telecommunications because of the extreme degree of media convergence in the sector. Viewpoints critical of Bell or Rogers are challenging to find in media associated with the duopoly. One finds an article in support of UBB in Maclean's magazine, (Editors, 2011) for example, but that becomes less than surprising once one realizes that Maclean's is owned by Rogers. UBB can be seen as exacerbating the problem of cultural imperialism to the extent that it is provoking calls for more foreign competition, such as from scholar Andrew Coyne. (AgendaStevePaikin, 2011) Allowing companies that are primarily foreign-owned into the Canadian telecom industry might be in the public interest to the extent that it will result in the lowering of prices, but it could also harm the public interest over the long-term to the extent that it bulldozes over cultural considerations. Creating such a free-for-all of global capital should not be seen as the solution, as over the long-term it will overwhelm any ability for the CRTC to impose Canadian content (CanCon) regulations. This would certainly be seen as a positive development for many Canadians who are perfectly OK with simply watching American programming forever. But, no doubt, it would

also be seen as a loss by many Canadians who feel that CanCon is actually a noble initiative that should not be abandoned altogether for the sake of neoliberalism.

These calls for more foreign competition in Canadian telecom might result in more pressure from the WTO to open up the market. Winseck reminds us that in this kind of an atmosphere dominated by neoliberal ideology, "cultural policy could be rendered redundant altogether or, perversely, maintained only for the disenfranchised masses living on the margins of the global information society." (2002b, p. 404) Even this might be wishful thinking, however. The aboriginal communities of rural Canada might face an even harder time obtaining decent service under a completely open market. These foreign companies are only going to be interested in investing in major metropolitan areas because high bandwidths are what produce excess profits, especially with UBB legislation in place. And imposing rules and regulations on companies that are primarily foreign-owned is not an easy task in any country. Canada should be interested in strengthening the state of its cultural policy, not weakening it. Much effort has gone into freeing Canada from the colonial domination of the British and the French. Following the ideology of organizations like the WTO will only negate this effort by essentially leading to the recolonization of Canada by dominant powers from abroad. One possible point of intervention here would be for Canada to insist that its telecom decisions are in made collaboration with a UN-based organization such as the ITU rather than the WTO so that the rights of nations are given precedence over the rights of corporations in determining the future of the country's media industry.

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