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CJC Policy Portal

Lost in the App Store: The State of the Canadian Game App Economy

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ABSTRACT

This commentary discusses the political economy of apps. The authors found that Canadian-made game apps are notably absent in the Canadian App Store. This should be both worrying and surprising, as Canada has a relatively sizable game industry. While policy conversations on digital transformation focus on emerging technology, the authors point toward the power and politics of digital platforms as one of the key issues preventing growth in the Canadian digital economy.

Keywords *Cultural industries policy; Ownership (concentration/competition); Apps; Platforms; Games*

RÉSUMÉ

Ce commentaire discute de l'économie politique des applications. Les auteurs ont observé que les applis de jeu fabriqués au Canada sont absents de l'App Store canadien. Cette situation devrait surprendre et inquiéter, puisque le Canada a une industrie du jeu relativement grande. Les conversations sur les politiques relatives à la transformation numérique portent en grande partie sur les technologies émergentes, mais les auteurs tiennent à souligner que le pouvoir et les politiques relatifs aux plateformes numériques sont parmi les raisons clés pour lesquelles l'économie numérique au Canada ne croît pas autant qu'elle le pourrait.

Mots clés *Politiques sur les industries culturelles; Propriété (concentration/concurrence); Applications; Plateformes; Jeux*

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Today, virtually all modes of cultural production are subject to the process of "platformization": a series of changes in market structures, governance frameworks, and infrastructures set by U.S.-based platform companies such as Google and Apple (Nieborg & Poell, 2018). Not only are platforms at the core of these institutional shifts, they afforded new industrial practices, such as live-streaming and podcasting. Equally important, these reconfigurations impact, and are impacted by, shifts in cultural consumption, labour, and citizenship (van Dijck, Poell, & De Waal, 2018). In the 2018 National Digital and Data Consultations (NDDC), the Government of Canada (2018) acknowledged the impact of this digital transformation, which we argue is very much a platform-driven process. The consultations highlight 1) trust and privacy, 2) the future of work, and 3) innovation and competitiveness in the digital economy. This article focuses on the latter two issues and points to some glaring omissions, particularly the politics and power shifts associated with the process of platformization. To illustrate the contours of platform power, we focus on app stores, the virtual marketplaces owned and operated by Google and Apple. App stores, Morris and Murray (2018) propose in the introduction to their recent anthology, have become powerful "infrastructural intermediaries" (p. 15), which provide access to mundane but increasingly vital software expected to constitute a U.S.$95-billion global market in 2020.

Within the global app economy, games have carved out a special position since they represent the most economically viable app genre. Since its inception, the digital game industry has always been "platform native," that is, dependent on the technology, terms, and business models of platform operators such as Sony and Nintendo. This explains why the game industry has been at the forefront in the emerging field of platform studies (Montfort & Bogost, 2009). Therefore, to get a sense of the impact of platformization and economic trends affecting the wider cultural industries, the game industry often functions as the proverbial canary in the coal mine. In this article, we argue that the current state of the Canadian game app economy should worry all industry stakeholders, including policymakers, industry organizations, and game developers. As part of our ongoing research on the political economy of apps, we performed an economic X-ray of the Canadian version of Apple's iOS (Apple) App Store and found that Canadian-made and -owned game apps are notably absent. This should be surprising, as Canada has a relatively sizable games industry that exists in large part due to large industrial investments and tax credit programs from provincial and federal governments. Before offering some more depth to our claims and suggesting policy interventions, let us first offer some context on the Canadian game industry and app economy.

A multitude of apps

Developing and publishing games can be incredibly lucrative. Blockbuster titles, such as *Clash of Clans, Red Dead Redemption 2*, and *League of Legends,* generate profits in the hundreds of millions of dollars. Growth figures for the wider game industry are constantly revised upwards. This growth is largely the result of accessible tools and a proliferation of game platforms, particularly mobile phones, which resulted in a much broader addressable global audience (Nieborg, 2016).

In theory, an individual Canadian game developer has the ability to develop and distribute a game app that can be downloaded and played by billions around the world.

In practice, however, cultural production is, and always has been, a very high-risk proposition. If one follows the reasoning outlined in the National Digital and Data Consultations, one might be tempted to point to technological complexity as the main source of these risks. After all, the NDDC's discussion paper states that "Canadian firms are slow adopters of new technology" (Government of Canada, 2018, para. 6). Our experiences with Canadian game developers suggest otherwise. Game developers have been at the forefront of constant innovation for decades.

What Canadian game developers are currently faced with is of a different order that is missing from the government's discussion paper: an extremely uneven playing field. The paper acknowledges that Canadians "do not fully reap the rewards in the global marketplace" (para. 8), but stops short of calling out one of the main culprits, platform companies. Let us be blunt: Canadian content developers active in the platform economy face an economic deck that is heavily stacked against them. Particularly in the app economy, competition is fierce. Lowering the barriers to market entry may have opened the doors to innovative ideas, but it also means increased market competition. Every week, hundreds of new game apps are released in Google's Play Store and Apple's iOS App Store. Before we further discuss the role of platform power and politics in the digital economy, let us offer an exploratory case study that illustrates our critique.

Surveying the Canadian App Store

With over 21,000 workers directly employed in the game industry, Canada is in the global top five in terms of employment. According to the Entertainment Software Association of Canada, in 2017 there were 596 active game studios in the country, making a $3.7-billion GDP contribution (Entertainment Software Association of Canada, 2017). To investigate the competitiveness of Canadian app developers, we surveyed the Canadian instance of Apple's iOS App Store. We got access to a proprietary financial dataset that lists "direct" app revenue generated from 2015 to 2017. Direct revenue is any income generated through app sales (i.e., premium apps) and via in-app purchases (i.e., microtransactions, such as virtual currency or items).

Our dataset is limited to daily, title-level data for the top 100 apps. A second limitation is the exclusion of any indirect app-related revenue, such as income from advertising. Our observations therefore concern relative trends rather than absolute observations of the total Canadian game app economy. That said, we believe that these financial figures give a good sense of wider economic patterns, particularly considering that the top-performing apps—those apps present in our top-100 list—tend to be free of advertising. A third limitation of our study is the absence of any direct revenue generated by Canadian app developers outside of the Canadian iOS App Store. We received this information from a U.S.-based research firm, which collects financial data directly from payment providers, such as credit card companies and payment intermediaries. We coded our dataset to account for several aspects related to ownership, such as the location of the developer and the publisher. In our coding we used financial and government databases, company websites, social media, and news articles to cross-reference coded data. To give a sense of the amount of direct revenue, the top 100 game apps in the Canadian iOS App Store raked in U.S.$140, $156, and $166 million in the years 2015, 2016, and 2017.

Here we see a clear pattern of revenue growth. At the same time, we observe a very skewed pattern of direct revenue distribution: the top 100 apps generate 85 percent of all direct revenue. Are Canadian game companies in the top 100 and thus able to create and capture value in the Canadian app economy? The short answer is no.

The top grossers in the Canadian App Store are mostly incumbents. Game apps such as *Candy Crush Saga, Clash of Clans,* and *Game of War* have a remarkable staying power. Canadian apps accounted for 0.5 percent of the total direct revenue in 2017, a paltry U.S.$900,000, as compared with U.S.-developed and owned apps, which earned U.S.$59 million. Even if these figures primarily concern in-app revenue, the difference is stark. Between 2015 and 2017 we only found five apps developed in Canada that were generating significant direct revenue. In terms of the Canadian ability to capture value in the app store (i.e., by companies based in Canada, where their profits are taxed), we observe a similar trend. As shown in Table 1, whereas the United States and China captured 80 percent of direct app store revenue in 2017, Canada captured 0.1 percent. We found only two game apps that are both made and owned by Canadian companies: *Bud Farm: Grass Roots* and *Trailer Park Boys: Greasy Money.*

Table 1: Value capture based on iOS App Store revenue in top 100

	2015		2016		2017	
Country	Percent	Revenue*	Percent	Revenue	Percent	Revenue
United States	44	$62.3	52	$81.7	45	$73.9
China	4	$6.1	35	$54.3	34	$57
Japan	27	$37.3	3	$3.9	6	$9.9
South Korea	2	$3.2	2	$3.6	4	$6.2
Australia	0.2	$0.4	0.3	$0.6	2	$3.7
Russia	0	$0	0.5	$0.9	2	$3.7
United Kingdom	14	$20.5	0	$0	1	$2.4
Finland	0	$0	0.3	$0.6	0.2	$0.4
Canada	0.8	$1.2	0.3	$0.5	0.1	$0.3
Israel	0.2	$0.3	1	$1.8	0	$0

*All revenue figures are in U.S.$ millions.

Policy suggestions

Our initial numbers illustrate that the current approach to support the game industry, via tax credits, eventually leads to the exportation of value, to precarious labour conditions for local workers, and ironically, to less future revenue collected in taxes. This is largely due to how easy it is to engage in labour arbitrage to cheaper labour markets with high-tech skilled work, for fixed capital costs in the game industry are minimal compared to other industrial sectors. The politics of value capture by foreign capital is made crystal clear by our initial analysis. The profits generated by local Canadian subsidiaries are paid out as dividends to the foreign-owned parent companies. To ensure economic sustainability and content diversity, policy interventions should therefore not solely rely on tax breaks. Currently, tax breaks in the game industry amount to nothing less than corporate welfare, mostly for U.S.-based companies.

The NDDC's discussion paper does not speak to any of these issues. Yes, the future of work is discussed, albeit in a very narrow way, as are trust and privacy. What we find is missing are issues pertaining to worker rights, which would serve as a countermeasure to exploitative, opportunistic practices by transnational media corporations. To be fair, a critical political economic stance is not to be expected from a discussion paper that primarily draws from U.S. think thanks and consultancy businesses, and mimics the ahistorical, neoliberal rhetoric of North American business school scholars.

Furthermore, the influence of U.S. capital is not so much about (supporting) production, but about distribution and marketing. Content quota, similar to deals made with Netflix in Europe, will not be of any help in the app store. It is not the availability of (Canadian) apps that is the issue, but their visibility. This leaves us with three potential policy instruments.

First, supporting local cultural intermediaries. Research on independent game production, one of the most promising breeding grounds for Canadian game content, points to the importance of informal, non-profit-oriented local networks of cultural organizations that support independent development in all its facets (Parker, Whitson, & Simon, 2018). Next to supporting development, active financial support for intermediaries free from U.S. control can assist with distribution- and marketing-related opportunities.

Second, on a related note, different forms of financial support (be they tax breaks or grants) should be as much tailored to supporting production as to circulation (i.e., distribution and marketing). You can make great (Canadian) games, but if nobody knows about them, what's the point? Right now, provincial government organizations such as Ontario Creates support game development through tax credits and funds similar to the Interactive Digital Media Fund, which has been central to the development of independent game production in Ontario (Joseph, 2013; Ontario Creates, 2019; Parker & Jenson, 2017). Yet no current programs exist that prioritize the funding and creation of distribution infrastructures and platforms that ensure a level of Canadian economic and technological sovereignty. Some measure of circulation support that prioritizes marketing and networking exists in Europe; noteworthy here is Finland's success via direct developer and academic support. Canadian government organizations such as Ontario Creates do support similar efforts in the form of "Global Market Development" and "Marketing Development." Yet more structural solutions are required to compete against global, transnational incumbents (Parker et al., 2018). Related to this, if there is one question in the NDDC discussion paper we want to see much more data on, it is "How do we best protect the intellectual property of entrepreneurs in an era of increasingly digital innovation and invention and support businesses as they develop new products and services for domestic and global markets?" This is a policy area that has not been explored in depth since the Science Council of Canada proposed the creation of the Trans-Canada Computer Communications Network in 1971 (Joseph, 2018).

Third, and the most ambitious suggestion, is to directly address platform power and politics. Apple's App Store is curated by anonymous Apple employees rather than via algorithms. This means that there is room for government agencies to push those

curators to be more sensitive to Canadian-made content and promote Canadian intellectual property within the app store. We believe that the political will for this is growing, as the question of visibility and discoverability is also at the core of the Canadian Radio-television and Telecommunications Commission's recent request for legislation that expands its regulatory powers in regards to innovation, the social and cultural importance of digital media, and the ability of Canadians to find and discover Canadian content (CRTC, 2019). Although we recognize that these interventions require significant political willpower and a clear long-term vision on the Canadian game industry, they are crucial to ensure that Canadian game apps not get lost in the app store.

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