The Canadian Video Game Industry 2019

ENTERTAINMENT SOFTWARE ASSOCIATION OF CANADA

Nordicity

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EXECUTIVE SUMMARY

Entertainment Software Association of Canada (ESAC) is committed to supporting Canada's video game industry through awareness programming, policy development, and stakeholder engagement. Every two years, ESAC engages Nordicity, a leading research and analysis firm, to conduct an economic impact assessment of Canada's video game industry. To do so, Nordicity independently collects, analyzes, and reports on data collected directly from the video game industry in Canada.

The research herein was prepared by Nordicity; and constitutes Nordicity's independent interpretation of industry data collected in 2019.

Size and Structure

In 2019, 692 active video game companies were identified in Canada, a 16% increase since 2017. Much of this growth occurred in Ontario and the Rest of Canada's regions (i.e., Atlantic Canada and the Prairies) which increased the national total by 129 active companies. More than half (55%) of companies in the industry employ fewer than five people.

In 2019, video game companies in Canada generated an estimated **$3.6 billion in revenue** from all sources, demonstrating a growth of 15% since 2017. More than three-quarters (76%) of this revenue is from export markets outside of Canada .

Employment Impact

Canada's video game industry supports an estimated 48,000 Full-Time Equivalents (FTEs) of employment. This figure includes 27,700 FTEs *directly* employed by video game companies, which is 28% more than the industry employed in 2017 .

While an increase in employment was seen across all regions in Canada, Quebec and Ontario grew slightly more than other regions. Quebec added 3,100 direct FTEs since 2017 (31% increase), while Ontario's direct employment grew to 5,000 FTEs (32%) in the same period.

Although they constitute only 5% of video game companies operating in Canada, video game companies that employ more than 100 people account for 79% of all FTEs directly employed by the industry.

EXECUTIVE SUMMARY

Workforce

The video game industry also has a relatively young workforce, with an **average worker age of 31 years**. With an average age of 28 years, Quebec has the youngest workforce, whereas British Columbia has the oldest (with an average of 36 years).

In 2019, women make up roughly 19% of the direct workforce in the industry, slightly higher than in 2017 when women constituted 16% of the Canadian video game workforce.

Since 2017, Canada's video game industry workforce saw growth in the number of junior and intermediate employees. This shift in workforce demographics translated into a slight decrease of **average FTE salary** from $77,300 in 2017 to **$75,900 in 2019**.

Economic Impact

The video game industry in Canada spent an estimated $3.2 billion in 2019, an increase of 24% in the last two years. As with previous years, almost two-thirds (66%) of this total relates to spending on labour, accounting for approximately $2.1 billion in direct labour income. The indirect and induced employment generated $975 million in further labour income.

In terms of **GDP, the industry contributed a total of $4.5 billion to Canada's economy in 2019,** representing a 20% growth in GDP contribution since 2017. Of that $4.5 billion, the industry directly contributed an estimated $2.6 billion, and a further $1.9 billion through indirect and induced impacts. By comparison , the Canadian economy grew by 5% over the same period.[1]

METHODOLOGICAL NOTE

The data presented in this study is drawn principally from an online survey of Canadian-based video game companies conducted by Nordicity between April and June 2019. Information from other sources is cited accordingly.

Regarding references to dates, any reference to data from 2019 is from the ESAC 2019 Industry Survey and could refer to data related to the 2018 fiscal year or the current state of business in 2019. Similarly, any reference to data from 2017 refers to data reported in the Canada's Video Game Industry In 2017 report, published in 2017. Data from the 2017 report may refer to data related to the 2016 fiscal year or the current state of business in 2017.

Additional detail on the methodologies used in the creation of this report can be found in Appendix A: Methodology.

GLOSSARY OF TERMS

Video game company: A company directly involved in the development, publishing, and/or sale of video game products; and/or the provision of services directly related to the development, publishing or sale of video game products. In the context of this report, "video game company" is used interchangeably with "video game firm" and "video game studio."

Company sizes: Companies are divided into five categories: Micro (less than 4 employees), Small (5 to 25 employees), Medium (26 to 59 employees), Large (60 to 99 employees), and Very Large (more than 100 employees).

n-values: The number of respondents to a survey question, which is often used in the data analysis related to that question.

Direct GDP: The economic activity generated directly by the video game industry.

Indirect GDP: The increased economic activity generated by business sectors broadly associated with the video game industry in Canada—i.e., sectors that are supplying goods and services to companies in the industry.

Induced GDP: The increase in economic activity attributable to re-spending of labour income within an economy by workers at the direct and indirect levels. In other words, people employed at the direct and indirect level take home salaries and re-inject that income into the economy through their day-to-day spending.

Direct employment: Those people employed by a video game company.

Spin-off employment: Employment resulting from economic activity generated by business sectors that supply the video game industry in Canada and from the re-spending of labour income within an economy by workers at the direct and indirect levels. In other words, employment related to the indirect and induced economic impact of the video game industry.

FTE: Full-time equivalent is a measure of employment that can mean, for example, that three part-timers each working a third of a year make up one FTE.

Labour income: Salaries and benefits paid to employees of video game companies.

Rest of Canada: A term used to designate Atlantic Canada and the Prairies throughout this report. Datasets were not great enough to allow for a breakout of statistics for the provinces in these regions.

1. INTRODUCTION

Entertainment Software Association of Canada (ESAC) is committed to supporting Canada's video game industry through awareness programming, policy development, and stakeholder engagement. Every two years, ESAC engages Nordicity, a leading research and analysis firm, to conduct an economic impact assessment of Canada's video game industry. To do so, Nordicity independently collects, analyzes, and reports on data collected directly from the video game industry in Canada. Details regarding Nordicity's methodology can be found in Appendix A.

The research herein was prepared by Nordicity; and constitutes Nordicity's independent interpretation of industry data collected in 2019.

Former economic impact assessment's of the Canadian video game industry provided by Nordicity:

2017 ECONOMIC IMPACT REPORT

2015 ECONOMIC IMPACT REPORT

2013 ECONOMIC IMPACT REPORT

2. SIZE AND STRUCTURE

The global video games industry continues to grow at a rapid pace. In 2019, the global industry generated over US$152 billion in revenue,[2] a 27% increase from 2017.[3] The Canadian video game industry has followed a similar trajectory over the same period. In 2019, the industry generated an estimated US$2.7 billion in revenue,[4] having grown by 15% since 2017. This growth is likely supported by the emergence of new companies in the Canadian ecosystem, as well as growth at an individual company level.

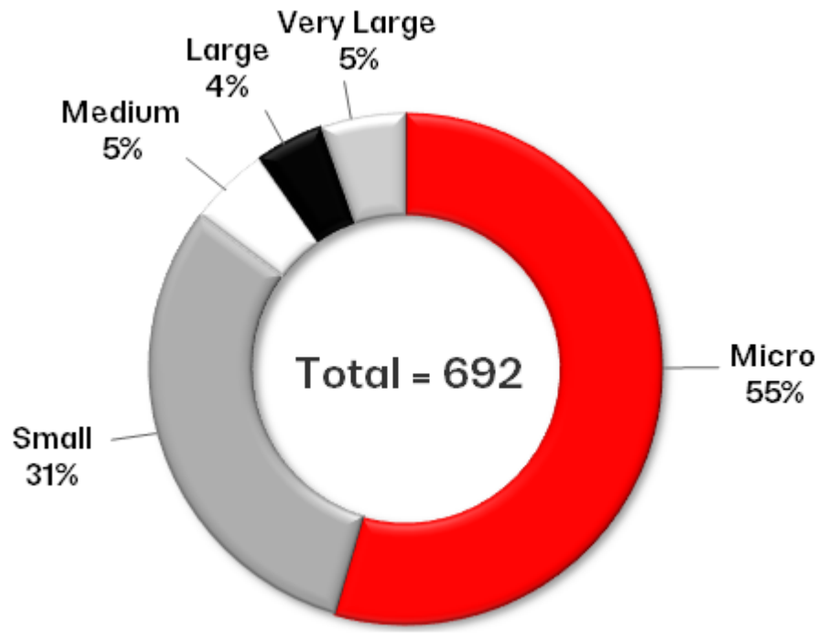
The following section provides an overview of the size and regional distribution of the industry, and a detailed look at the employment impact of the industry.

2.1 Number of Companies

Using secondary research similar to the methodology used in 2015 and 2017, ESAC and Nordicity identified **692 active video game companies in Canada.** The total number of companies has increased by 16% since 2017.

The chart and table below show a breakdown of the universe by size category (as measured by employment). The industry is primarily composed of Small and Micro-sized companies, which together comprise almost 90% of all video game companies operating in Canada in 2019. However, it should be noted that the Very Large category includes a small number of outlier companies that generate a significant share of total employment and expenditures in the industry.

Figure 1: Number of Video Game Companies by Size



n=692
Source: estimates based on ESAC 2019 Industry Survey and Nordicity secondary research

The table below shows the change in the number of companies in each size category from 2017 to 2019. Most of the growth in the number of companies took place in the Micro (less than 4 employees) category, which increased in number by 65% from 2017 to 2019. Most of those are likely new companies entering the industry. There was also a notable increase in the number of companies in the Very Large category (more than 100 employees) from 26 to 37 over the same two-year period. This change may not be due to new companies entering the industry but rather due to companies categorized as Large (60 to 99 employees) in 2017 having grown and moving into the Very Large category. This phenomenon may also help to explain the decrease in the number of companies in the Small, Medium and Large categories, which may be the result of companies growing and moving into different (larger) company categories. Although it could also be caused by company closures and the acquisition of smaller companies by larger companies.

TABLE 1: NUMBER OF VIDEO GAME COMPANIES IN CANADA, BY COMPANY SIZE

FIRM SIZE	2017	2019	CHANGE
Micro (less than 4 employees)	228	377	+65%
Small (5 to 25 employees)	241	213	-12%
Medium (26 to 59 employees)	62	35	-44%
Large (60 to 99 employees)	39	30	-23%
Very Large (more than 100 employees)	26	37	+42%
Total	**596**	**692**	**+16%**

n=692
Source: estimates based on ESAC 2019 Industry Survey and Nordicity secondary research

Due to the growth at either end of the range (Micro and Very Large), the categories in the middle – Small, Medium and Large – also make up smaller portions of the industry in 2019 than 2017, as shown in Figure 1 above.

2.2 Geography of Canada's Video Game Industry

Most (82%) of Canada's video game companies are located in Quebec, Ontario and British Columbia.

Table 2: Number of video game companies in Canada categorized by region

REGION	2013	2015	2017	2019
Quebec	97	139	198	218
Ontario	96	108	162	235
British Columbia	67	128	139	116
Rest of Canada	69	97	68	124
Atlantic Canada	--	--	--	38
Prairies	--	--	--	86
Total	329	472	596	692

n=692
Source: estimates based on ESAC 2013, 2015, 2017 and 2019 Industry Survey and Nordicity secondary research

Although all regions except for British Columbia showed an increase in the number of companies, the growth was concentrated in Ontario and the Rest of Canada which together added 129 companies to the Canadian industry.[5]

TABLE 3: CHANGE IN NUMBER OF VIDEO GAME COMPANIES SINCE 2017 IN EACH REGION

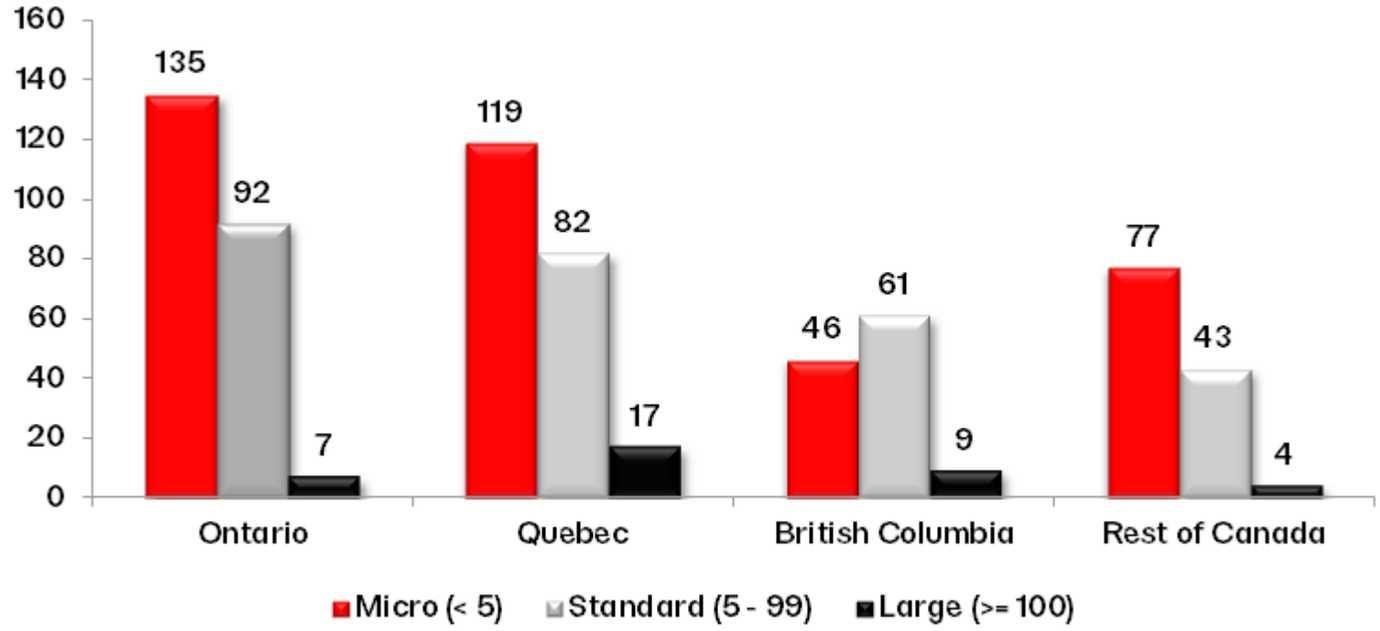
REGION	MICRO	STANDARD	LARGE	TOTAL #
Ontario	88%	-3%	66%	234
Quebec	63%	-31%	7%	218
British Columbia	-5%	-34%	184%	116
Rest of Canada	121%	27%	26%	124
Total	65%	-19%	40%	692

Source: estimates based on ESAC 2017 and 2019 Industry Survey and Nordicity secondary research

Some of the decline in the number of companies in British Columbia may come from companies closing. For example, Capcom[6] and Namco Bandai[7] both closed in 2018.

The figure below shows the breakdown of companies in each region by size of company. British Columbia appears to be unique in that it has a greater number of Standard companies than Micro ones, which may reflect the relative maturity of the smaller companies in that province.

FIGURE 2: NUMBER OF VIDEO GAME COMPANIES IN CANADA BY SIZE



Source: estimates based on ESAC 2019 Industry Survey and Nordicity secondary research

Ontario on the other hand has the greatest number of video game companies of any region in Canada currently, in addition to having more Standard-sized companies than Quebec, which is the largest contributor to this industry.

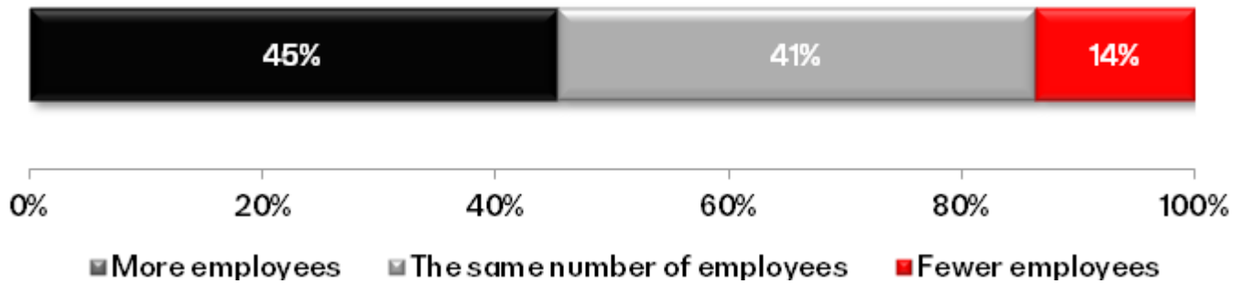
2.3 Employment

Another measure of the size and health of an industry is by the number of people it employs (direct employment), which is best measured by the number of full-time equivalents (FTEs) it employs. The spin-off employment stimulated by an industry is also a key measure of its economic impact in a given jurisdiction. The following section describes employment in the industry, the spin-off employment it generates, and provides information about average salaries at video game companies across Canada. The section also provides a description of some industry workforce demographics.

2.3.1 Direct Employment

According to the results of the 2019 Industry Survey, video game companies in Canada employ 27,700 FTEs, which is 28% more than the direct employment in 2017. This growth can likely be attributed to both an increase in number of companies in the industry overall (described in Section 2.1) as well as individual companies growing and employing more people. Indeed, 45% of companies indicated that they have more employees now than they did in 2017 (as shown in the figure below).

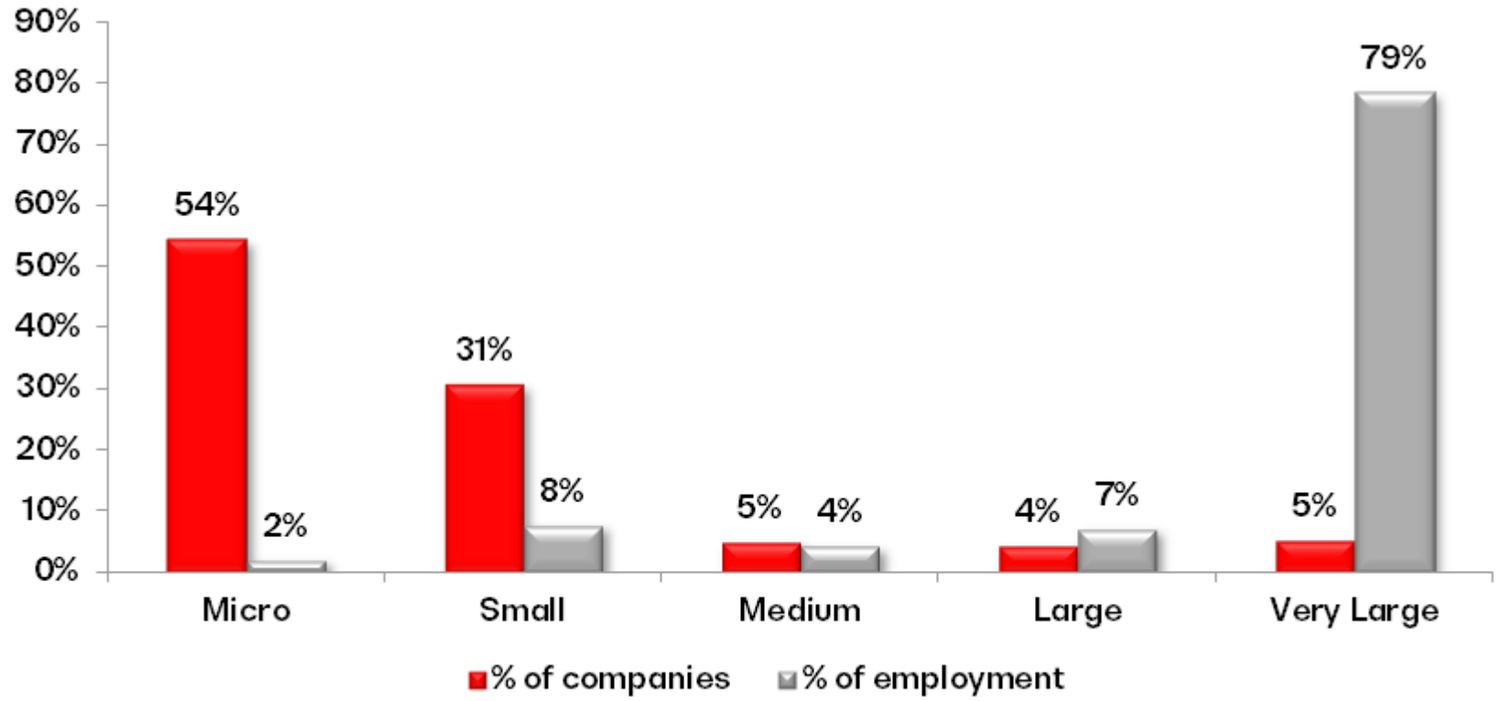
Figure 3: Change in number of employees reported by video game companies in Canada



n=139
Source: estimates based on ESAC 2019 Industry Survey

When examined by company size, the figure below illustrates how the majority of direct employment generated by the industry can be attributed to a small number of Very Large companies. Indeed, although they constitute only 5% of companies operating in Canada, they employ 79% of all FTEs in the industry.

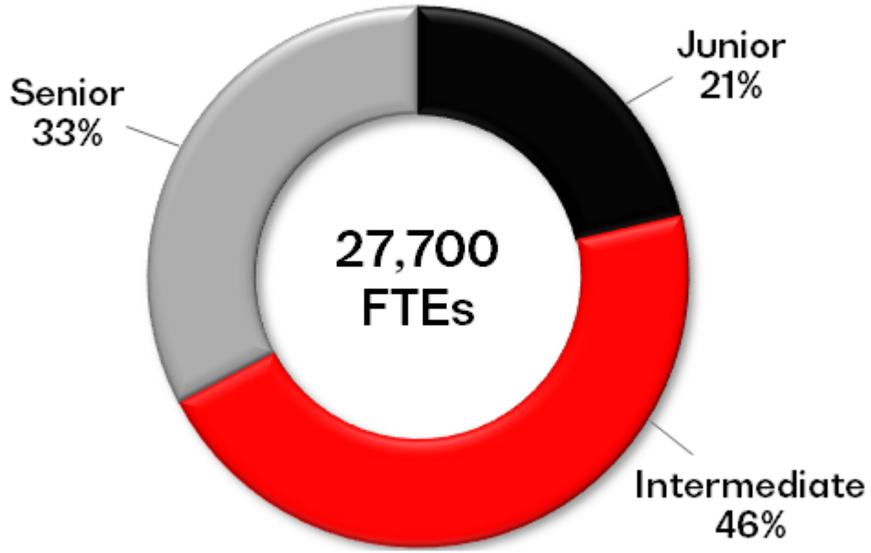
FIGURE 4: SHARE OF EMPLOYMENT VS SHARE OF NUMBER OF VIDEO GAME COMPANIES IN CANADA, BY SIZE



n=138
Source: estimates based on ESAC 2019 Industry Survey

The following charts provide an analysis of the video game industry's workforce by level of seniority in 2019 compared to 2017. Over the last two years, Canada's video game industry has shifted from a somewhat top-heave workforce to a more balanced one. While senior-level employees made up more than half (54%) of the workforce in 2017, they only account for one third of the workforce in 2019. Concurrently, there has been a growth in the proportion of the workforce employed at the intermediate and junior levels, which now respectively make up 46% and 21% of the workforce. These figures do not necessarily indicate a decrease in the number of senior employees in the industry. Rather, it shows that the industry appears to be employing a greater number of more junior employees than previously, changing the overall composition of the workforce.

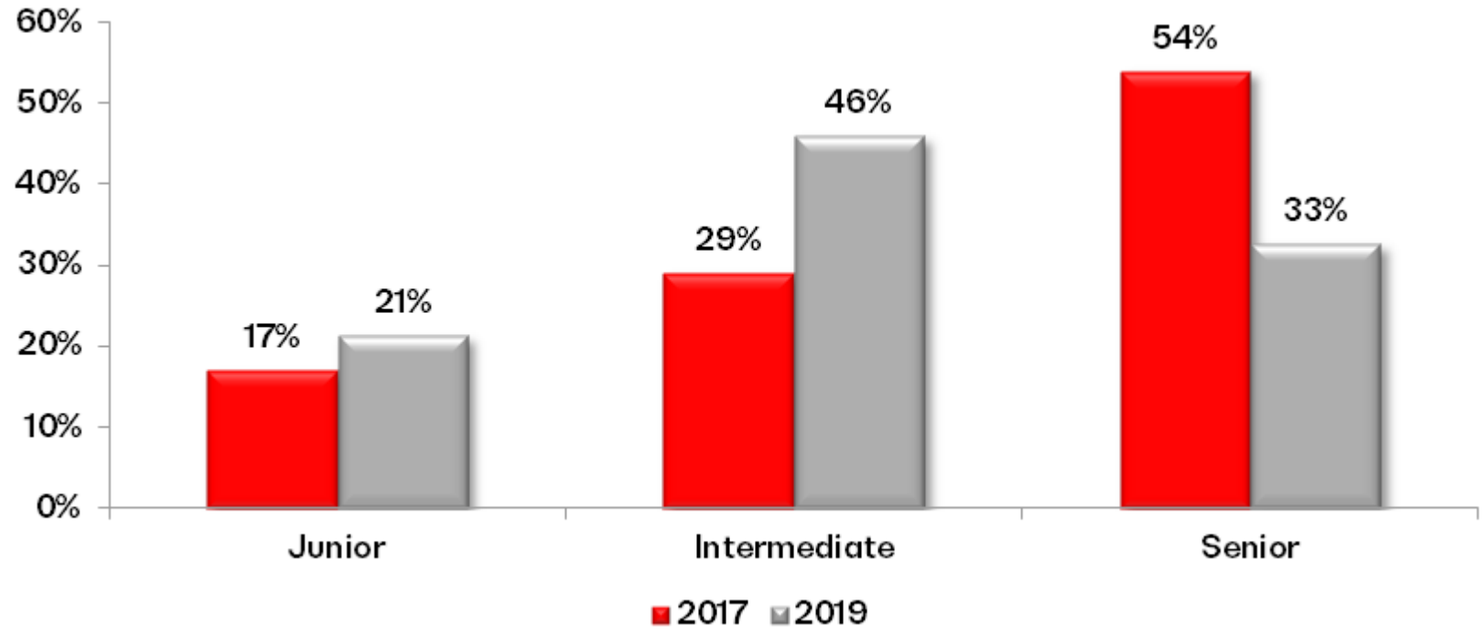
FIGURE 5: SHARE OF EMPLOYEES OF VIDEO GAME COMPANIES IN CANADA BY SENIORITY



n=138
Source: estimates based on ESAC 2019 Industry Survey

This phenomenon is likely linked to growth at the individual company level, with a number of Large companies moving into the Very Large category over the past two years, as discussed in Section 1.1. As companies grow, they tend to hire greater numbers of intermediate and junior-level employees.

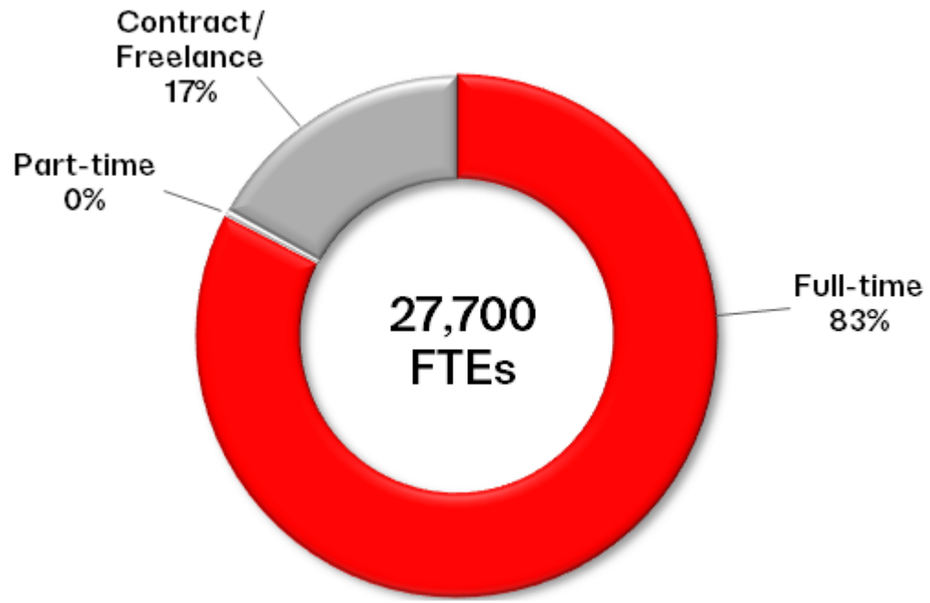
FIGURE 6: SHARE OF EMPLOYEES AT VIDEO GAME COMPANIES IN CANADA BY SENIORITY



n=138
Source: estimates based on ESAC 2017 and 2019 Industry Survey

The next two charts illustrate the composition of the video game workforce by mode of employment (e.g., part-time, full-time, or contract/freelance). The workforce is still primarily made up of individuals employed on a full-time basis (83%), although the proportion of full-time employees is lower than it was in 2017 (95%). The proportion of contract/freelance[8] workers has grown from 3% in 2017 to almost 17% in 2019, which may be due to companies hiring to fill immediate project needs.

FIGURE 7: SHARE OF EMPLOYEES AT VIDEO GAME COMPANIES IN CANADA BY MODE OF EMPLOYMENT

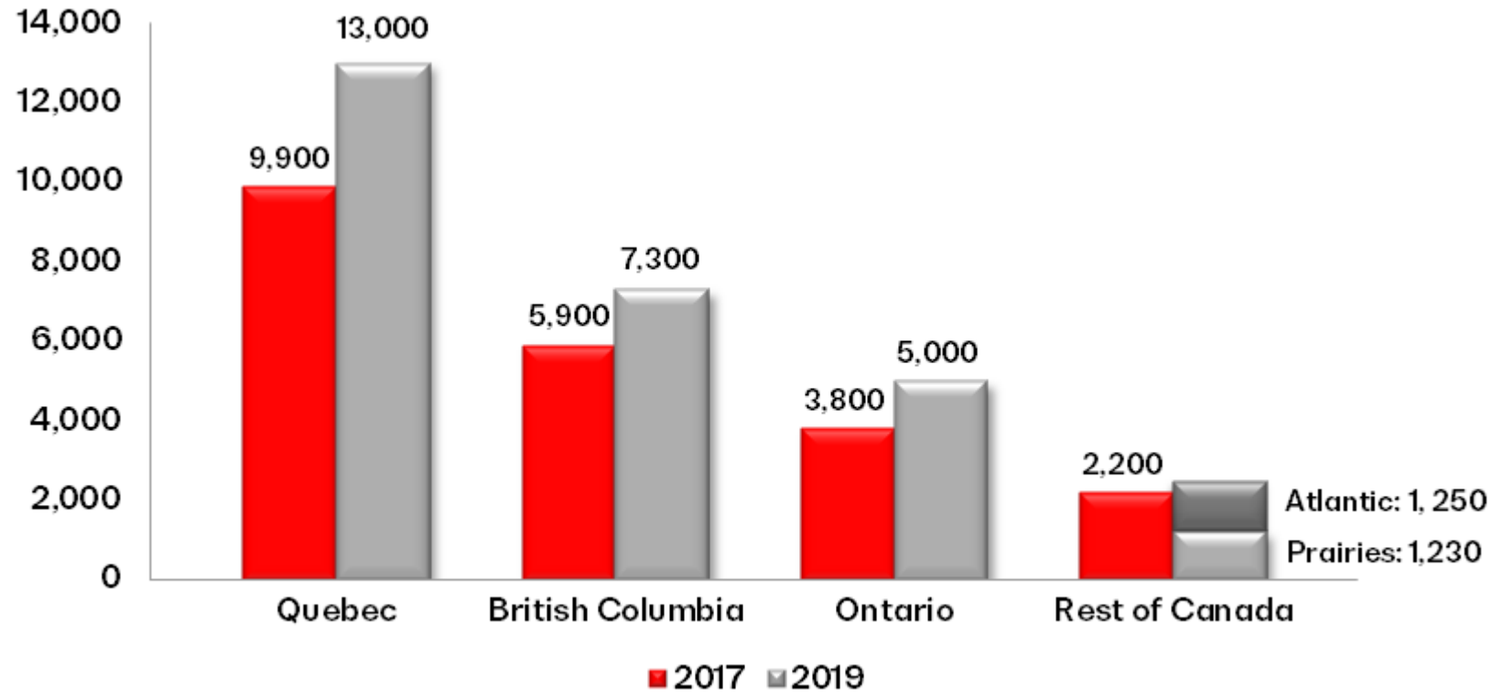


n=138
Source: estimates based on ESAC 2019 Industry Survey

[8]This figure includes temporary, contract and freelance workers, as it did in 2017.

From a regional perspective, the vast majority of the industry's employment is still concentrated in Quebec, British Columbia and Ontario. As depicted below, all regions have seen an increase in employment. However, Quebec and Ontario saw a slightly higher rate of growth than other regions: Quebec added 3,100 FTEs since 2017 (31% increase), and Ontario's direct employment grew to 5,000 FTEs (32%) in the same period.

FIGURE 8: DIRECT EMPLOYMENT AT VIDEO GAME COMPANIES IN CANADA BY REGION



n=138
Source: estimates based on ESAC 2015, 2017 and 2019 Industry Survey

As described earlier in this section, the increase in overall employment can be attributed to a higher number of companies in 2019 as well as individual company growth in the last two years.

2.3.2 Spin-off Employment

The video game industry in Canada also generates significant indirect and induced impacts (i.e., spin-off impacts) in the economy, in addition to direct impacts. The **total employment impact** (direct + spin-off) of the Canadian video game industry grew by 18% over the past two years, reaching an estimated **48,000 FTEs.**

The table below shows the direct employment, indirect employment (i.e., in industries that supply Canada's video game industry), and induced employment (i.e., those jobs that are created by the spending of video game industry workers) generated by the Canadian video game industry.

TABLE 4: EMPLOYMENT IMPACTS OF THE VIDEO GAMES INDUSTRY IN CANADA

	EMPLOYMENT 2017 (FTES)	% INCREASE 2017-19	EMPLOYMENT 2019 (FTES)
Video game industry	21,700	28%	27,700
Indirect impact	8,800	11%	9,800
Induced impact	10,200	4%	10,600
Total impact	40,600	18%	48,000

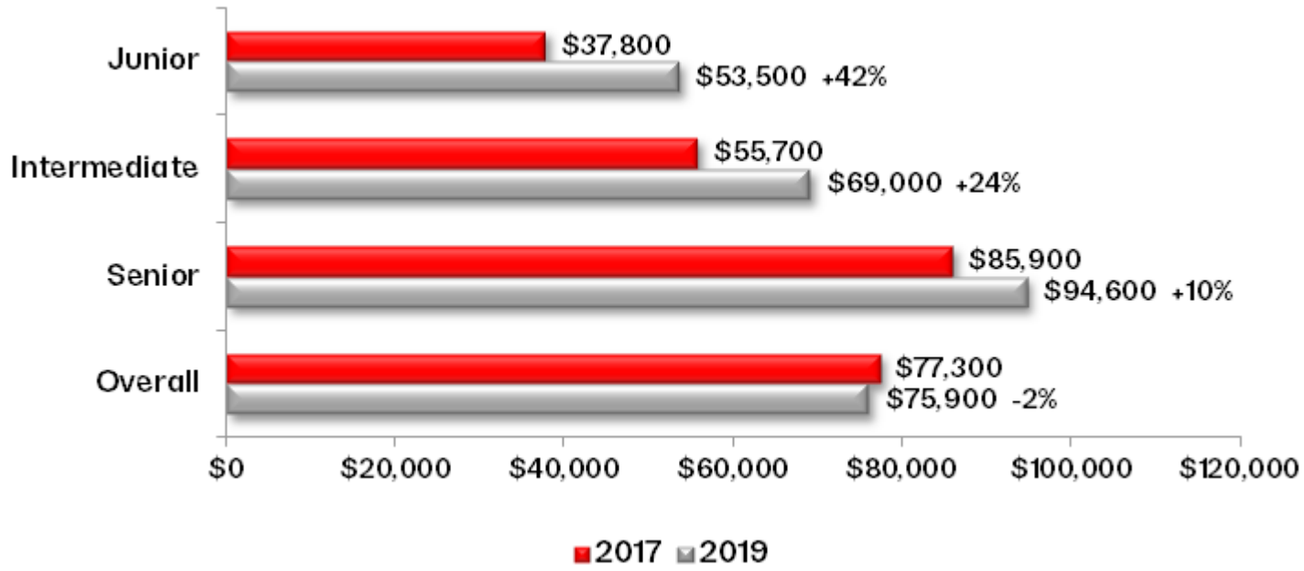
Source: estimates based on ESAC 2017 and 2019 Industry Survey, and Statistics Canada input-output tables

Indirect and induced employment impacts make up **20,400 FTEs** of that total employment impact figure, showing a growth of only 7%. The growth in indirect and induced impacts appear more modest than the growth in direct employment, due to a change in available data. This change is described in detail in Appendix in section A.3.

2.3.3 Average Industry Salaries

According to the results from the ESAC 2019 Industry Survey, the overall **average salary for a full-time employee** in the industry is approximately **$75,900** in 2019. This overall average is 2% lower than in 2017. The very slight decrease in the total average salary is likely due to an increase in the proportion of junior and intermediate employees in the workforce, as discussed in section 1.3.1. In fact, when examined by seniority level, the average salary in each seniority category has actually grown since 2017 (see figure below). This evidence corroborates the theory that the slight decrease in the overall average salary is the result of a change in the composition of the workforce towards a higher proportion of individuals at lower salary levels.

FIGURE 9: AVERAGE SALARY AT VIDEO GAME COMPANIES IN CANADA BY SENIORITY, COMPARED WITH 2017



n=136
Source: estimates based on ESAC 2017 and 2019 Industry Survey

Salaries earned by employees of video game companies also vary by size of company and the region in which the company is located. As shown in the table below, the overall average is approximately the same as the average at Very Large companies, which aligns with the fact that these companies employ the majority of employees in the industry.

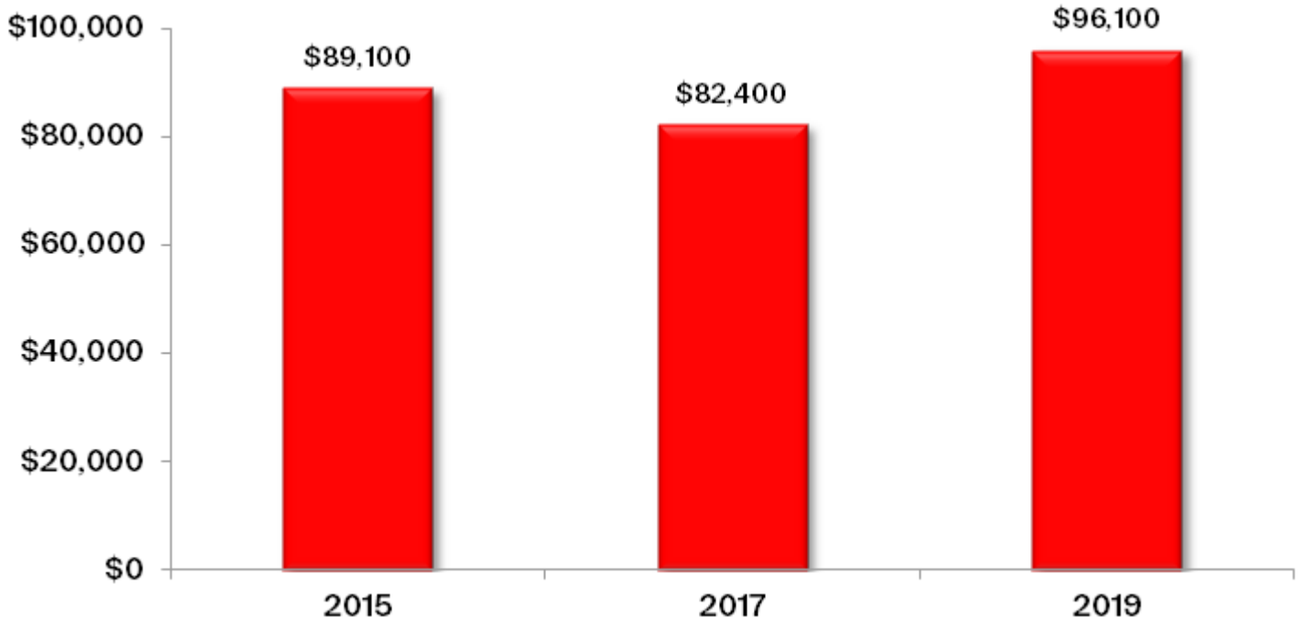
TABLE 5: AVERAGE SALARY AT VIDEO GAME COMPANIES IN CANADA

COMPANY SIZE	AVERAGE SALARY
Micro (less than 4 employees)	$45,400
Small (5 to 25 employees)	$70,400
Medium (26 to 59 employees	$68,500
Large (60 to 99 employees)	$74,900
Very Large (more than 100 employees)	$76,500
Overall	$75,900

n=136
Source: estimates based on ESAC 2019 Industry Survey

In addition to salaries, companies pay non-wage compensation such as bonuses and benefits to their employees. Combined, the wage and non-wage compensation make up the effective cost-per-FTE paid by companies to their employees. The effective cost-per-FTE for Canadian video game companies was $96,100 on average in 2019. This figure has grown by 17% from the 2017 average but is closer to the level it was in 2015. This type of fluctuation is likely the result of changes in the amount and number of bonuses distributed, which largely depends on the number of projects completed in a given year and the success of titles released in that year. The increased cost-per-FTE in 2019 could also be partly the result of an increase in the cost of other non-wage benefits.

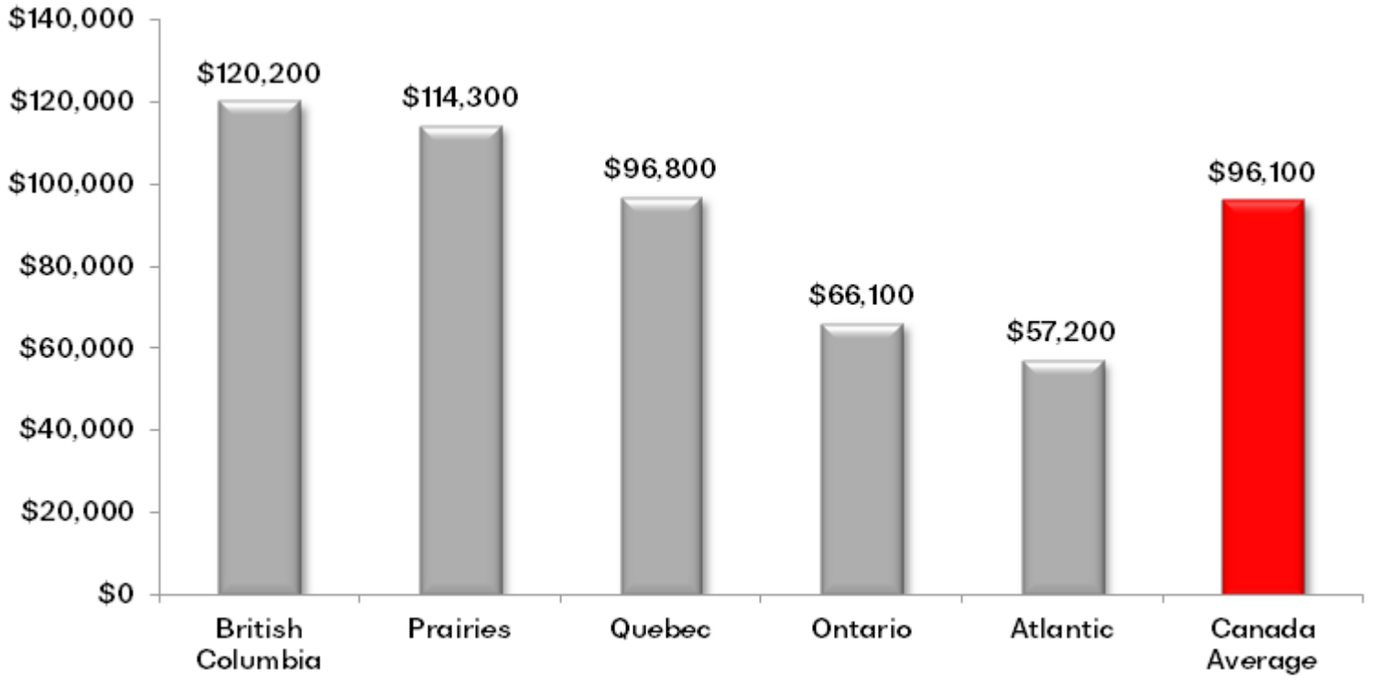
FIGURE 10: EFFECTIVE COST-PER-FTE PAID BY VIDEO GAME COMPANIES IN CANADA



n=136
Source: estimates based on ESAC 2015, 2017 and 2019 Industry Survey

The cost-per-FTE varies significantly across Canada. The cost is highest in British Columbia (25% more than overall average), and the lowest in the Atlantic region (40% lower than the overall average).

FIGURE 11: EFFECTIVE COST-PER-FTE AT CANADA'S VIDEO GAME COMPANIES BY REGION



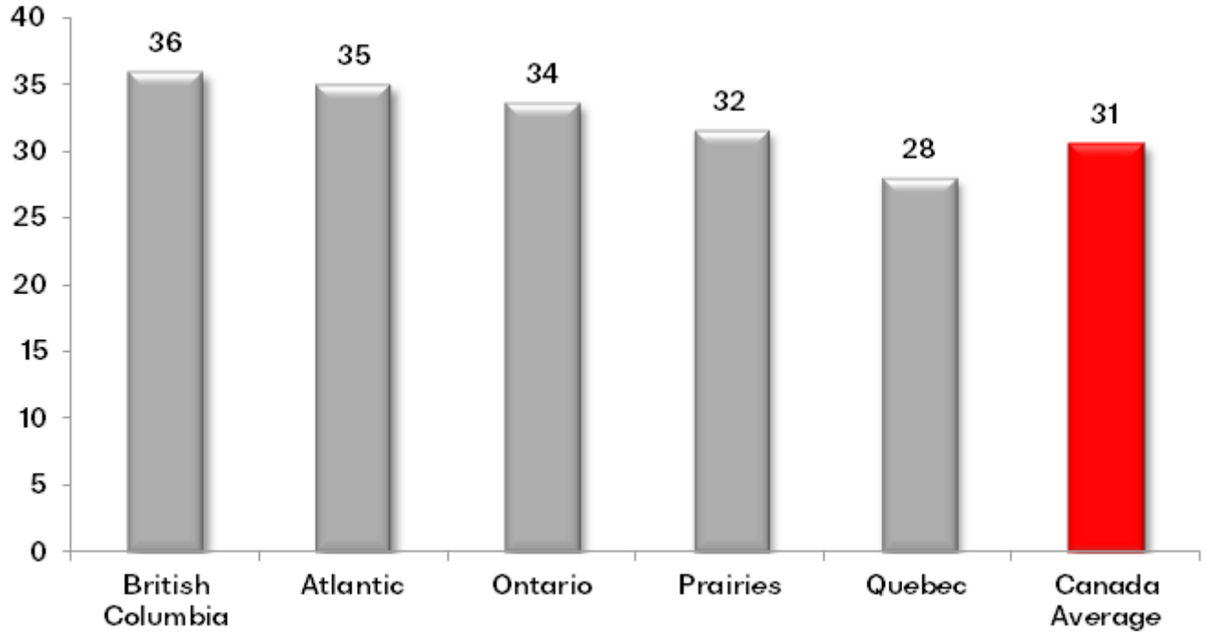
n=139
Source: estimates based on ESAC 2019 Industry Survey

2.3.4 Workforce Demographics

This sub-section provides a high-level age and gender demographic profile of Canada's video game industry workforce.

The average age of Canada's video game industry workforce is 31 years old. Quebec has the youngest workforce (with an average age of 28 years) and British Columbia has the oldest (average of 36 years).

FIGURE 12: AVERAGE AGE OF WORKFORCE AT VIDEO GAME COMPANIES IN CANADA, BY REGION

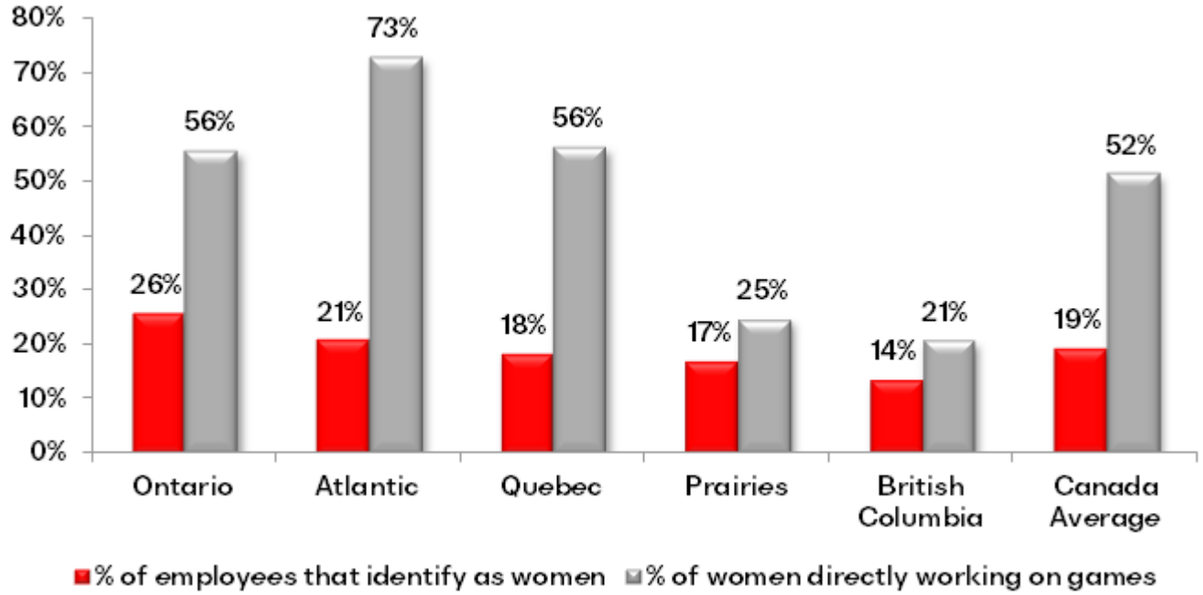


n=126
Source: estimates based on ESAC 2019 Industry Survey

Women in games

In addition, the workforce is largely male, with women constituting 19% of the total workforce, slightly higher than in 2017 when women constituted 16% of the Canadian video game workforce. On a regional basis, British Columbia has the lowest proportion of women (14%) as a part of the workforce and Ontario has the highest (26%), as seen in the figure below.

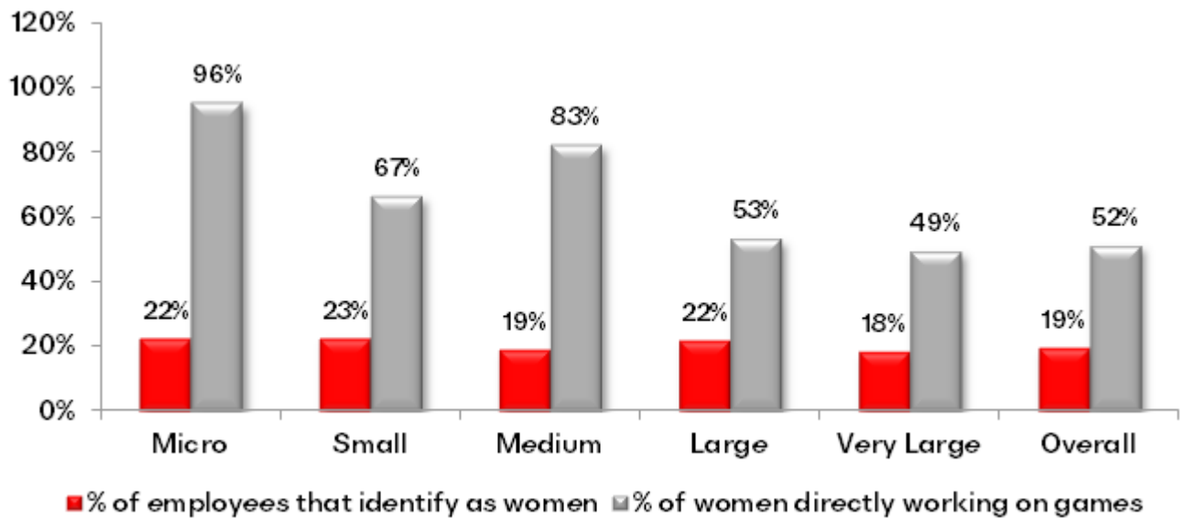
FIGURE 13: SHARE OF EMPLOYMENT OF WOMEN AT VIDEO GAME COMPANIES IN CANADA



n=126
Source: estimates based on ESAC 2019 Industry Survey

On the other hand, the proportion of women in the workforce does not vary widely across different company sizes, as seen in the figure below. What does appear to vary is the percentage of those women that work directly on games.[9]

FIGURE 14: SHARE OF EMPLOYMENT OF WOMEN AT VIDEO GAME COMPANIES IN CANADA



n=126
Source: estimates based on ESAC 2019 Industry Survey

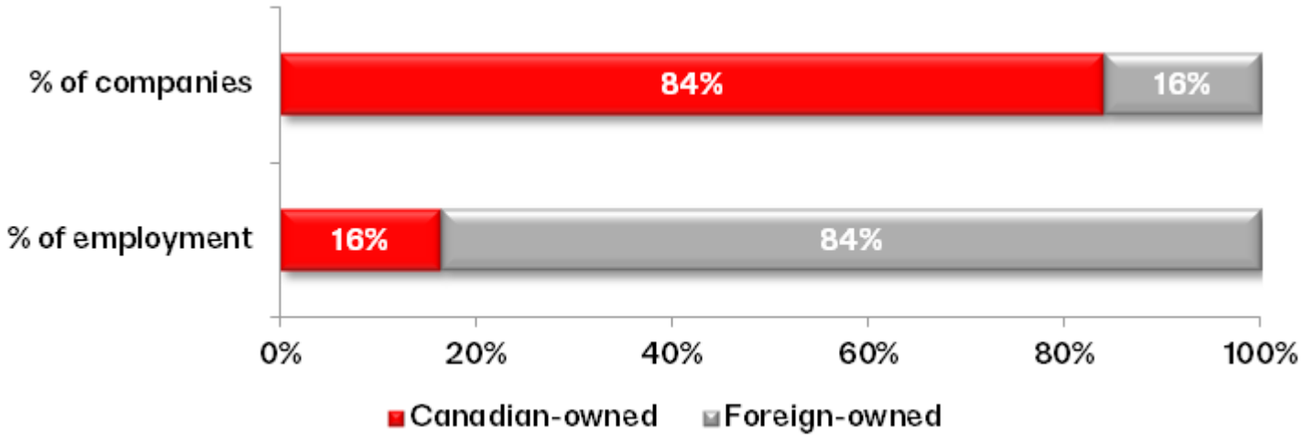
Women working in Micro-sized companies are most likely (96%) to be working directly on games, while those working in Very Large companies are least likely to be working directly on games. Although only around half of women work directly on games at Large (53%) and Very Large (49%) companies, there are likely a wider range of roles at these companies and more job specialization for all employees than in smaller companies. In other words, an employee working at a Micro-sized company is more likely to be working directly on game

It is also important to note that Micro-sized, Small, and Medium firms account for a very small portion of the overall industry employment in Canada's video game industry (see Figure 4). As such, while Large and Very Large may employ a smaller percentage of women as part of their game-specific workforce, these companies represent a large share of all women employed in the Canadian video game industry. As a result, they also employ most of the women in Canada working directly on games.

2.4 Company Ownership

The vast majority (84%) of video game companies in Canada are Canadian-owned, showing no notable change from 2017 when 83% of companies were Canadian-owned.

Figure 15: Video game company ownership by share of number of companies and employment



n=138
Source: estimates based on ESAC 2019 Industry Survey

However, the share of employment at foreign-owned versus Canadian-owned companies has changed very slightly since 2017. In 2017 86% of the workforce was employed by foreign-owned companies and 14% at Canadian-owned companies. In 2019, 84% are employed at foreign-owned companies and 16% at Canadian-owned companies. This slight shift could be due to growth at the individual company level among Canadian-owned companies (see sections 1.1 and 1.3.1 for a discussion of company growth).

3. ECONOMIC IMPACT

The following section outlines the additional impacts that the video game industry has on the Canadian economy, including impacts on labour income and gross domestic product (GDP).

3.1 Revenue and Expenditure Characteristics

The following sub-section briefly examines where Canadian video game companies are earning their revenue and what their biggest expenses are.

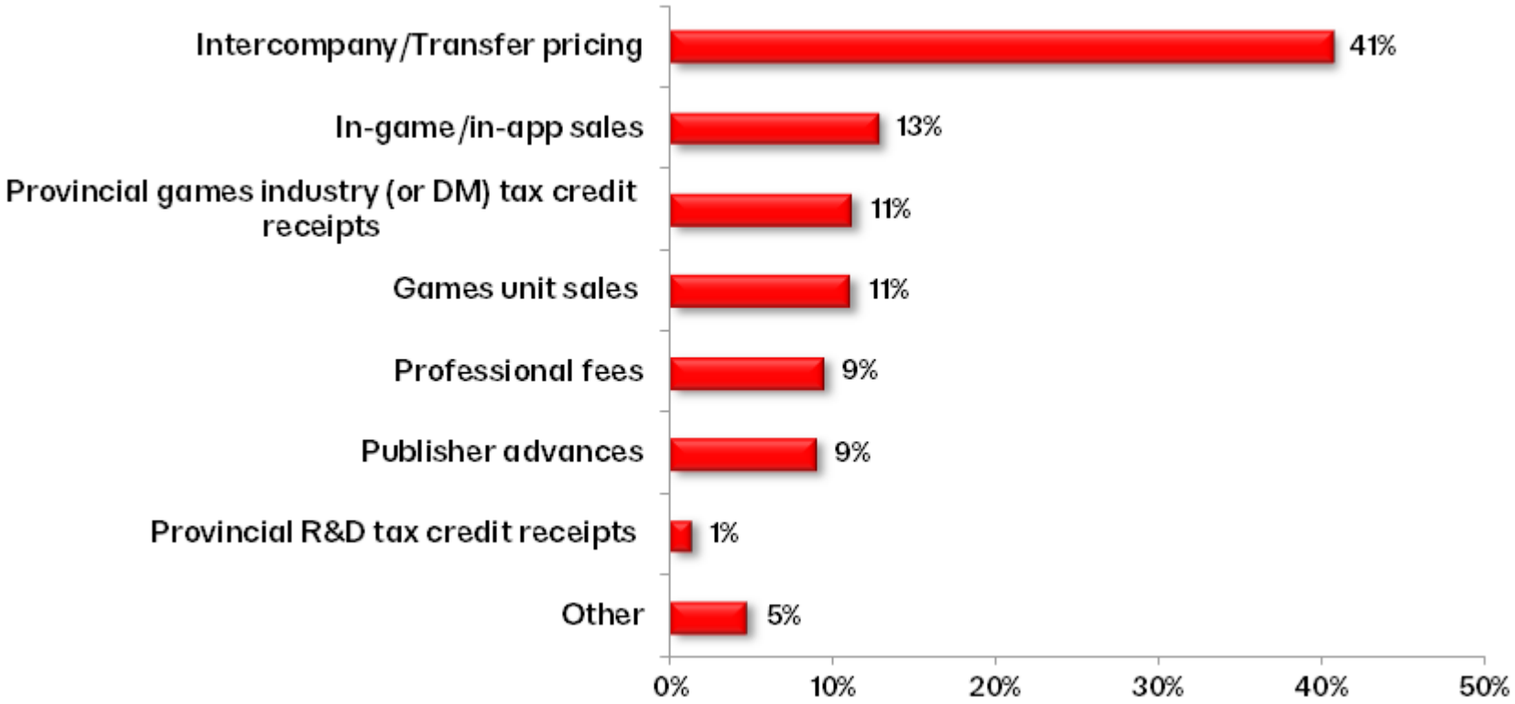
3.1.1 Revenue

Total revenue earned by Canada's video game companies in 2019 is estimated to be **$3.6 billion**, a growth of 15% since 2017.

The chart below shows the primary sources of revenue for companies in this industry. Roughly 41% of the industry's total revenue was derived from intercompany/transfer pricing. Given that most of the industry's revenue is generated by larger companies with international headquarters, a significant portion of revenue comes from intercompany transfers, particularly during development cycles.

In-game/in-app sales made up 13% of the total while provincial games industry tax credits and game unit sales each contributed 11% to total revenue. The relatively low proportion of revenue from game unit sales could also be linked to where Canadian companies are in their product cycles. It is possible that Canadian companies have been in a heavy development cycle with only a small number of title releases in the past year.

FIGURE 16: BREAKDOWN OF REVENUE EARNED BY CANADA'S VIDEO GAME COMPANIES (% OF TOTAL REVENUE)

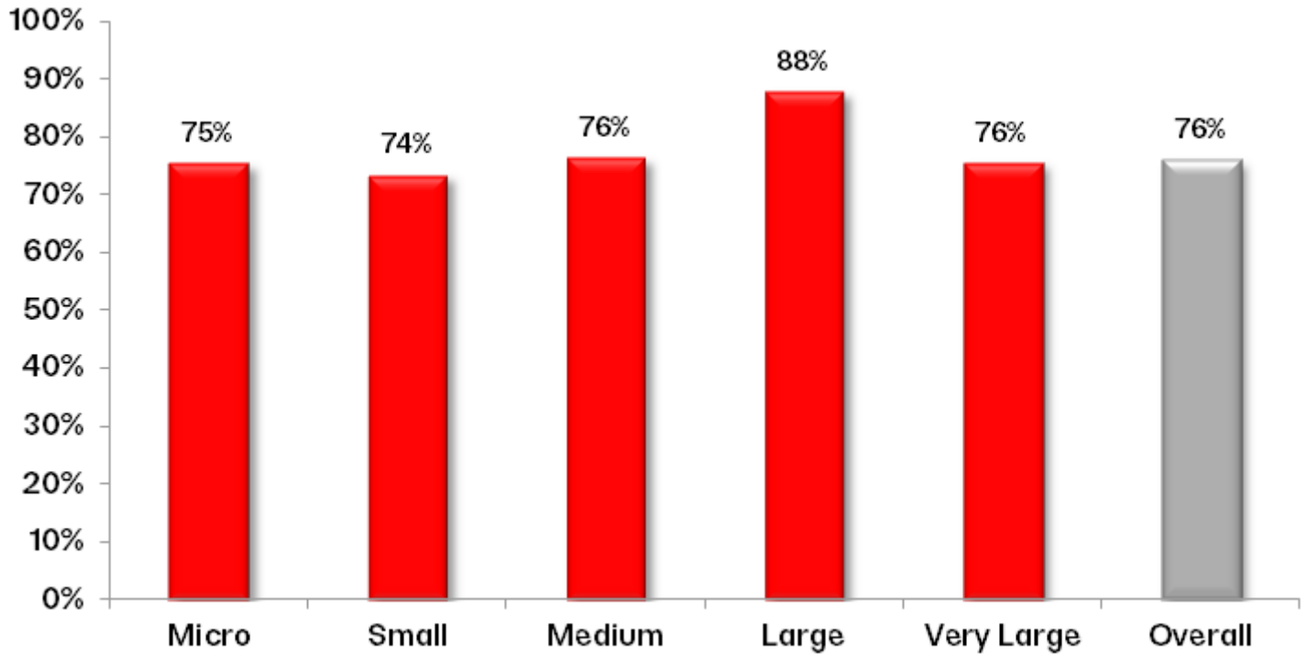


Note: The revenue categories included under "Other" are Subscriptions, Merchandising & peripherals, Technology and/or process licensing and sales, Other grants, bursaries and direct public funding, Provincial/Territorial support programs, Royalties from previous work , National support programs , Federal tax credits receipts, In-game/in-app advertising, and Other revenue. Each of these revenue categories respectively represented 1% or less of the industry's total revenue.

n=128
Source: estimates based on ESAC 2019 Industry Survey

The video game industry in Canada is largely export-driven with over three-quarters (76%) of its revenue being generated from exports. This figure has remained largely unchanged in the past two years. Exports are the principal source of revenue for all sizes of companies, as seen in the figure below, although they constitute a slightly higher portion of revenues for Large companies.

FIGURE 17: EXPORT REVENUE AS SHARE OF TOTAL EARNED BE CANADA'S VIDEO GAME COMPANIES



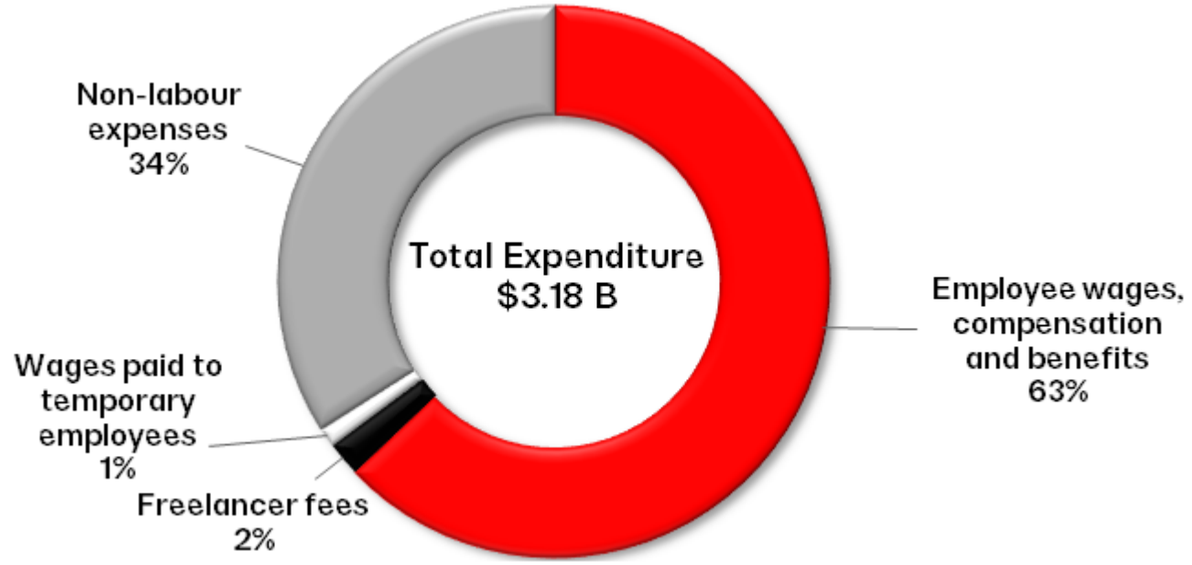
n=138
Source: estimates based on ESAC 2019 Industry Survey

3.1.2 Expenditure

Given that the video game industry in Canada is composed of several integrated studios (which cannot account for their revenue as a separate business unit), company expenditure is a more reliable indicator of the size of the video game industry in Canada. Canadian video game companies spent an estimated **$3.2 billion** in 2019, an increase of 24% over reported expenditure in 2017. The increase in the industry's total expenditure is likely due to the increase in the number of companies in the industry as well as the growth of individual companies (which would increase their labour expenditures).

Almost two-thirds (66%) of the total expenditure relates to labour which is approximately $2.1 billion. The proportion of labour expenditure is unchanged since 2017, but due to the growth in expenditure, the labour expenditure in 2019 is 25% higher than in 2017.

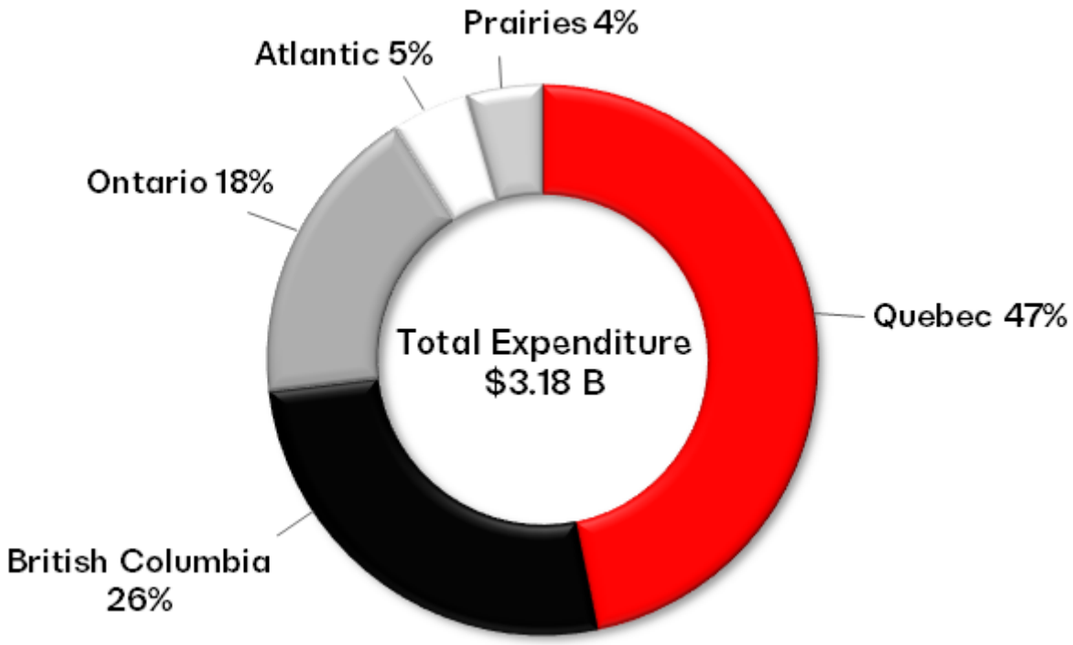
FIGURE 18: BREAKDOWN OF SPENDING BY CANADA'S VIDEO GAME COMPANIES



n=139
Source: estimates based on ESAC 2019 Industry Survey and Nordicity secondary research

From a regional perspective, the distribution of expenditures roughly follows that of the cost-per-FTE (see Figure 11 in Section 2.3.3), given that labour costs account for the majority of company expenditures in this industry. The following chart illustrates this regional distribution. Quebec accounts for the largest share of total industry expenditure (47%), followed by British Columbia (26%) and Ontario (18%).

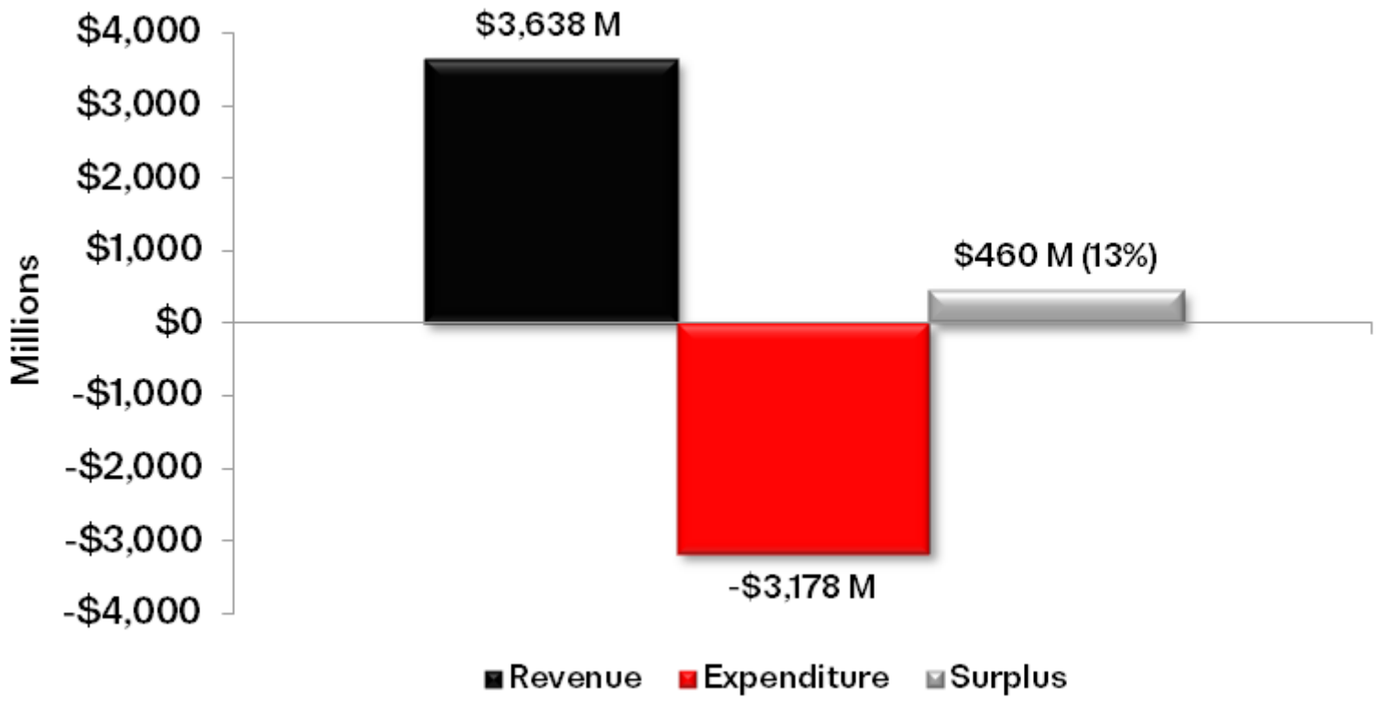
FIGURE 19: BREAKDOWN OF SPENDING BY CANADA'S VIDEO GAME COMPANIES BY REGION



n=139
Source: estimates based on ESAC 2019 Industry Survey and Nordicity secondary research

Operating surplus for the industry was estimated to be **$460 million** or a margin of **13%.**

FIGURE 20: REVENUE, EXPENDITURE AND SURPLUS OF CANADA'S VIDEO GAME INDUSTRY IN 2019



n=139
Source: estimates based on ESAC 2019 Industry Survey and Nordicity secondary research

3.2 Labour Income

A majority of the economic impact of the industry is derived from income earned by employees of video game companies and the labour income associated with indirect and induced employment generated by the industry.

Workers employed in the video game industry in Canada collectively earned an estimated **$2.1 billion** in 2019. In addition, the indirect and induced employment collectively generated a total of **$975 million** in labour income.

TABLE 6: LABOUR INCOME EARNED BY CANADA'S VIDEO GAMES INDUSTRY

	LABOUR INCOME 2017 ($M)	% INCREASE 2017-19	LABOUR INCOME 2019 ($M)
Video game industry	$1,681	25%	$2,097
Indirect impact	$403	16%	$468
Induced impact	$468	8%	$506
Total impact	$2,553	20%	$3,072

Source: estimates based on ESAC 2017 and 2019 Industry Survey, and Statistics Canada input-output tables

The total labour income grew by 20% in the last two years. Similar to the growth in indirect and induced employment, the growth in indirect and induced labour income appears more modest compared to the growth in direct impact, due to a change in available data as described in the Appendix in section A.3.

3.3 GDP Impacts

The main measure of direct economic impact in any industry is GDP, which refers to the total value generated by a company or industry in the development and production of a good or service. In other words, the money paid to or generated by individuals. As such, the GDP contribution of video game companies in Canada is estimated by summing the labour income of workers in Canada, plus an allocation of the operating surplus (which can be understood as income for the companies' owners).

In addition to the direct impact, economic activity also has what can be called "spin-off" impacts, which represent the ripple effects that an industry has on the broader economy. These impacts include indirect impacts (the employment and value added by suppliers from which video game companies purchase goods and services), and induced impacts (the re-spending of labour income by employees of video game companies and their suppliers).

Nordicity estimates that the video game industry **directly** contributed an estimated **$2.6 billion** to GDP in Canada in 2019. The industry also generated **$1.9 billion** in **indirect** and **induced** impacts. The **total GDP** contribution is estimated to be **$4.5 billion,** which is 20% higher than in 2017. In comparison the Canadian economy grew by 5% over the same period.[10]

The GDP impacts are summarized in the table below.

TABLE 7: GDP CONTRIBUTION OF CANADA'S VIDEO GAMES INDUSTRY

	GDP IMPACT 2017 ($M)	% INCREASE 2017-19	GDP IMPACT 2019 ($M)
Video game industry	$2,022	26%	$2,557
Indirect impact	$716	16%	$831
Induced impact	$992	9%	$1,078
Total impact	$3,730	20%	$4,467

Source: estimates based on ESAC 2017 and 2019 Industry Survey, and Statistics Canada input-output tables

APPENDIX A. METHODOLOGY

The following section outlines the additional impacts that the video game industry has on the Canadian economy, including impacts on labour income and gross domestic product (GDP).

A.1 Data Collection

The data presented in the above report was collected primarily through an online survey, although some secondary research was done to provide context to the findings.

Online Survey

For this study, much of the data presented was derived from the results of an online survey that Nordicity conducted between March and June 2019. Prior to deploying this iteration of the survey, Nordicity and ESAC developed and expanded the list of video game companies to which the survey was distributed to a new universe of 692 companies (up from a total of 596 companies in 2017). In this context, a "video game company" was defined as "a company directly involved in the development and/or sale of video game products; and/or the provision of services directly related to the development and sale of video game products." The survey was also distributed and promoted by the provincial industry associations through newsletters, direct outreach to video game companies and via social media channels. Upon closing the survey, Nordicity had received responses with some data from 182 video game companies.

Of those 182 responses, 138 firms were able to provide detailed financial data. As this financial data lies at the heart of this exercise (e.g., because it is the primary input into the economic impact analysis), Nordicity used these 138 responses to estimate the degree to which the sample collected reflects the universe of video game activity in Canada.

APPENDIX A. METHODOLOGY

A.2 Data Analysis

A survey will only ever capture a portion of the potential respondents. Having collected the online survey data, the first step was to estimate the degree to which the sample reflects the universe of video game activity in Canada. In effect, the survey sample needs to be "grossed-up" to the size of the universe. In this case, that meant extrapolated data from the 138 firms that supplied employment and financial data to the 692 companies in the final list of potential respondents. In the video game industry, firms range in size from a few employees to several hundred employees, with a very small number of outlier companies whose employment is in the thousands.

Nordicity split this gross-up exercise into three parts: one for companies under 5 employees ("Micro"), one for companies with between 5 and 99 employees ("Standard"), and one for companies with 100 or more employees ("Large"). To do so, Nordicity first classified the 692 companies into the three groups based on a review of their websites.[11] Averages were calculated for expenditure and revenue for each of the size categories from survey data.

For each region, the averages calculated above were multiplied with the number of companies in that size group, in that region, to arrive at a gross expenditure and revenue for each region. Labour and non-labour expenditure percentages from the survey were used to allocate the gross expenditure into categories. For non-labour expenditure, the 2017 survey data was used to develop an expenditure profile which was then applied to the gross expenditure less labour.

APPENDIX A. METHODOLOGY

The following is a list of other notable methodological considerations related to the analysis of survey data:

- Other industry data, such as the industry average salary was estimated using a weighted average. For example, firms were asked to provide average salary data for three levels of seniority (junior, intermediate, senior). First, average salary levels were developed for each type of employee at each size of firm (Micro, Standard and Large). These averages were then weighted by the relative employment in each type to arrive at a single average salary for each size group. These company size-based averages were then combined (and weighted by the relative employment of each size group) to arrive at a final average salary.

A.3 Economic Impact Analysis

The economic impact modelling drew upon data from the online survey, secondary sources and Statistics Canada's Input-Output (I-O) tables, to derive estimates of **direct, indirect** and **induced** impacts of the video game industry on the Canadian economy in terms of employment (i.e., full-time equivalents [FTEs]), labour income (i.e., wages, salaries and benefits) and gross domestic product (GDP).

The **direct impact** refers to the employment, labour income and GDP generated within the video game industry itself and is largely in the form of wages and salaries paid to the industry's workers. It also includes operating surplus (i.e., operating profits [return to shareholders] and sole proprietors' income) earned by companies and the value of depreciation of capital assets. To estimate the direct economic impact, we compiled data from the online survey on industry activity (i.e., operating revenue and expenditures, total wages and salaries, average salaries) and a representative breakdown of cost structures for the video game industry. These data were used to estimate labour income and employment. To estimate direct GDP, the ratio of operating surplus to labour income for Canada's software publishing industry (15.17%) was obtained from Statistics Canada's I-O tables and used to estimate the amount of operating surplus to add to the estimate of labour income in order to derive an estimate of GDP.

APPENDIX A. METHODOLOGY

The **indirect impact** refers to the increase in employment, labour income and GDP in the industries that supply inputs to the video game industry (e.g., utilities, real estate, telecommunications services). The conversion of data for industry activity into estimates of the indirect economic impact required an I-O model of the Canadian economy. Nordicity used Statistics Canada's I-O tables to construct a model that could be used to estimate the indirect economic impact. This model took into account the pattern of re-spending by the video game industry's supplier industries, and the degree to which these supplier industries' purchases leaked from the Canadian economy in the form of imported inputs. This I-O model was used to derive estimates of indirect employment, labour income, and GDP.

The **induced impact** refers to the increase in employment, labour income, and GDP that can be attributed to the re-spending of income by Canadian households that earned income at both the direct and indirect stages of the economic impact. Because Statistics Canada's I-O tables only permit one to estimate the indirect impacts of an industry, sector or economic shock, Nordicity developed and applied a custom induced impact economic multiplier to derive estimates for this analysis. This multiplier was based on Nordicity's estimates of the marginal propensity to consume (MPC) and marginal propensity to import (MPM) for Canada. The derivation of the MPC and MPM were based on data for household spending and international trade available from Statistics Canada.

In 2017, there was no access to the 2016 Census data and hence, Nordicity's modelling was based on data from the 2011 Census (the latest available data) for labour costs. That said, Nordicity did not perform a simple switch to the 2016 data because that would have shown drastic results (and a decrease in employment contribution in those categories). The approach used allowed Nordicity to transition gradually in our methodology from the outdated 2011 data to the more recent 2016 data by using the median salary levels between the two sets of data.

ENDNOTES

[1] Measured as change in expenditure-based GDP, per Statistics Canada Table 36-10-0104-01.

[2] Newzoo (2019); "The Global Games Market Will Generate $152.1 Billion in 2019 as the U.S. Overtakes China as the Biggest Market"; June 18, 2019; https://newzoo.com/insights/articles/the-global-games-market-will-generate-152-1-billion-in-2019-as-the-u-s-overtakes-china-as-the-biggest-market

[3] Newzoo (2018); " Newzoo's 2018 Report: Insights Into the $137.9 Billion Global Games Market"; June 20, 2018; https://newzoo.com/insights/articles/newzoos-2018-report-insights-into-the-137-9-billion-global-games-market/

[4] Calculated as 1 CAD = 0.76 USD as of July 30, 2019

[5] In previous years, Rest of Canada was not broken out into Atlantic Canada and Prairies regions due to the relatively smaller size of the industry in those regions and the small sample size of responses received from those regions. In 2019, however, with the addition of new companies and survey responses from those regions, this breakout was made possible.

[6] CBC (2018); "158 laid off as videogame developer Capcom shutters Burnaby office"; September 18, 2018; https://www.cbc.ca/news/canada/british-columbia/158-laid-off-as-videogame-developer-capcom-shutters-burnaby-office-1.4828997

[7] gamesindustry.biz (2018); "Bandai Namco Studios Vancouver shuts down"; November 16, 2018; https://www.gamesindustry.biz/articles/2018-11-16-bandai-namco-studios-vancouver-shuts-down

[8] This figure includes temporary, contract and freelance workers, as it did in 2017.

[9] The ESAC 2019 Industry Survey did not ask companies to indicate what percentage of their workforce worked directly on games. As such, a comparison between the proportion of women in the industry working directly on games and the proportion of the total industry workforce working directly on games is not possible.

[10] Measured as change in expenditure-based GDP, per: Statistics Canada Table 36-10-0104-01.

[11] If no employment data was available on a company's website, it was left as a standard firm.

About ESAC

ESAC is the national voice of the video game industry in Canada. We work for our members – **Activision Blizzard, Glu, EA, Gameloft, Ubisoft, Kabam, Other Ocean Interactive, Ludia, Microsoft, Nintendo, Sony Interactive Entertainment, Relic Entertainment, Solutions 2 Go, WB Games, Square Enix, Take 2 Interactive, Codename Entertainment** and **Certain Affinity** – to ensure legal, regulatory and public affairs environments are favourable to long-term business development. For more information, visit theESA.Ca.

About Nordicity

Nordicity is a leading international consulting firm providing private and public-sector clients with solutions for Economic Analysis, Strategy and Business, and Policy and Regulation across four priority sectors: arts, culture and heritage; digital and creative media; information and communication technologies (ICTs) and innovation; and, telecommunications and spectrum. With offices in Ottawa (HQ), Toronto, Vancouver and London, UK Nordicity is ideally placed to assist our clients to succeed in the rapidly evolving global markets.