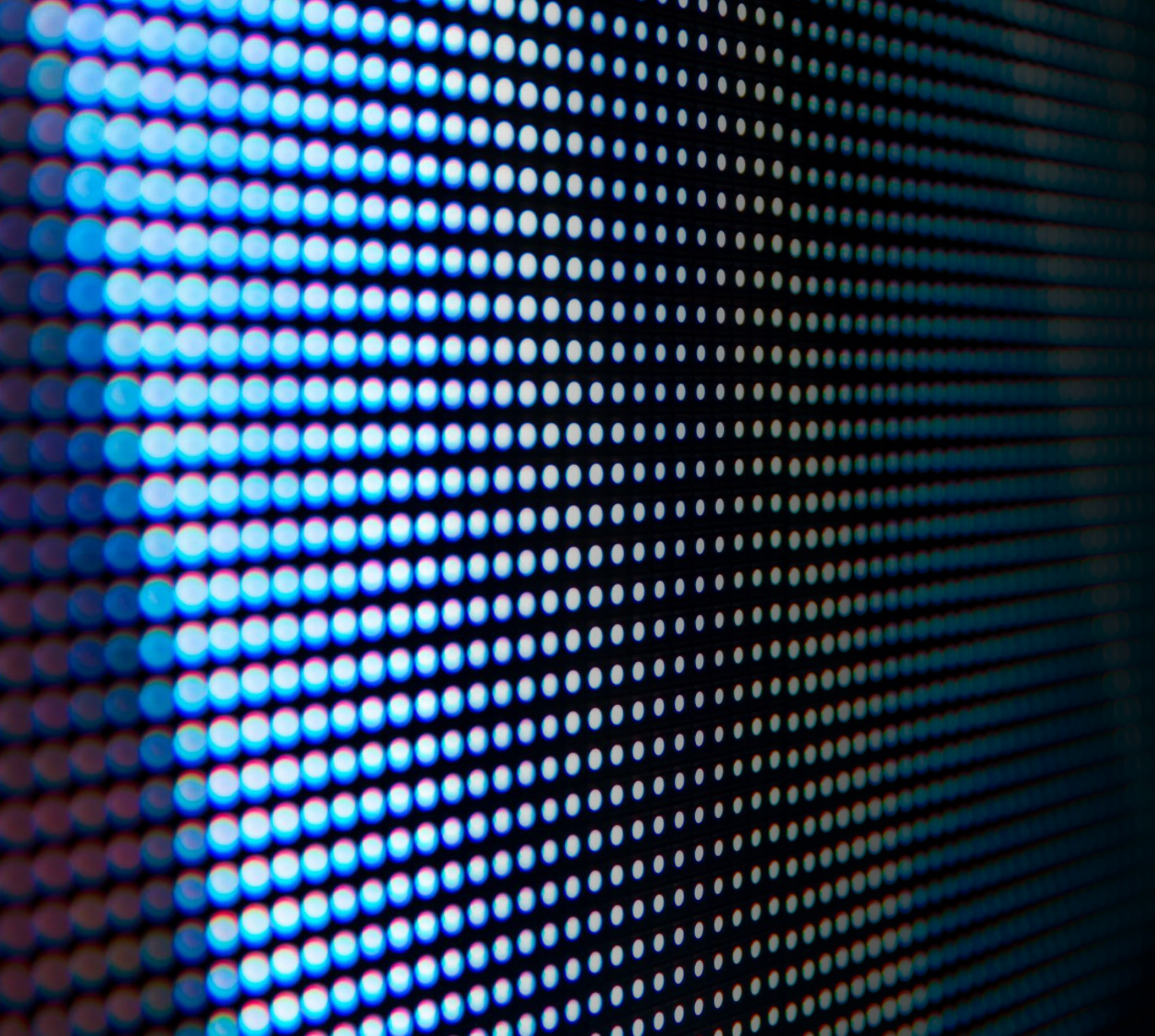


ENTERTAINMENT SOFTWARE ASSOCIATION OF CANADA

THE CANADIAN VIDEO GAME INDUSTRY 2021

October 2021

Nordicity

Table of Content

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 2021.

Size and Structure

In 2021, 937 active video game companies were identified in Canada, a 35% increase since 2019. Much of this growth occurred in Ontario and Quebec which increased the national total by 137 active companies. More than half (54%) of companies in the industry employ fewer than five people.

In 2021, video game companies in Canada generated an estimated $4.3 billion in revenue from all sources, demonstrating a growth of 20% since 2019. A significant share (84%) of this revenue is from export markets outside of Canada.

Executive Summary

Employment Impact

Canada's video game industry supports an estimated 55,300 Full-Time Equivalents (FTEs) of employment. This figure includes 32,300 FTEs directly employed by video game companies, which is 17% more than the industry directly employed in 2019 .

While an increase in employment was seen across all regions in Canada, Ontario and British Columbia grew slightly more than other regions. Ontario added 2,100 direct FTEs since 2019 (43% increase), while British Columbia's direct employment grew to 8,700 FTEs (+19%) in the same period.

Although they constitute only 6% of video game companies operating in Canada, video game companies that employ more than 100 people account for 76% of all FTEs directly employed by the industry.

Workforce

Since 2019, Canada's video game industry saw growth in the number of junior and intermediate employees which account for 27% and 48% of the workforce, respectively.

This shift in workforce demographics was accompanied by a slight increase of average FTE salary from $75,900 in 2019 to $78,600 in 2021 (+4%).

In 2021, women make up roughly 23% of the direct workforce in the industry, slightly higher than in 2019 when women constituted 19% of the Canadian video game workforce.

81% of companies that employ more than 100 people, have adopted one or several Equity, diversity and inclusion programs to attract, retain and train a gender-balanced and diverse workforce.

Executive Summary

Economic Impact

The video game industry in Canada spent an estimated $3.7 billion in 2021, an increase of 17% in the last two years. As with previous years, more than two-thirds (68%) of this total relates to spending on labour, accounting for approximately $2.5 billion in direct labour income. The indirect and induced employment generated $1.1 billion in further labour income.

In terms of GDP, the industry contributed a total of $5.5 billion to Canada's economy in 2021, representing a 23% growth in GDP contribution since 2019. Of that $5.5 billion, the industry directly contributed an estimated $3.2 billion, and a further $1.2 billion through indirect and induced impacts.

Facing COVID-19

Considering the expansion of remote working forced by the pandemic, 59% of video game companies in Canada have experienced a decline of productivity, with a more significant impact on larger companies.

Only one out of ten Large companies intends to return to a fixed-office mode: the hybrid mode between office time and remote working will become the new standard in a post-COVID world.

With fewer employees returning to the office some video game companies are considering changing their workspace: 25% of video game companies intend to reduce or reorganize their office space, primarily to facilitate collaboration and workshops.

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, as well as a Glossary of Terms.

The research herein was prepared by Nordicity; and constitutes Nordicity's independent interpretation of industry data collected in 2021.

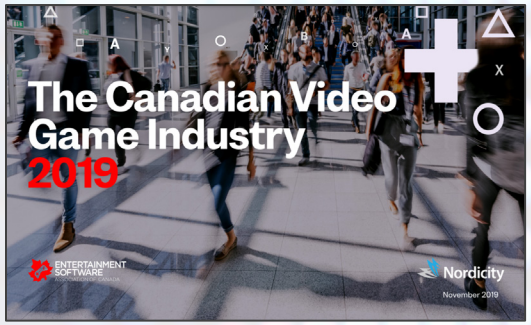
Methodological Note

The data presented in this study is drawn principally from an online survey of Canadian-based video game companies conducted by Nordicity between May and July 2021. Information from other sources is cited accordingly.

Regarding references to dates, any reference to data from 2021 is from the ESAC 2021 Industry Survey and could refer to data related to the 2020 fiscal year or the current state of business in 2021. Similarly, any reference to data from 2019 refers to data reported in the *Canada's Video Game Industry In 2019* report, published in 2019. Data from the 2019 report may refer to data related to the 2018 fiscal year or the state of business in 2019.

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

Former economic impact assessments of the Canadian video game industry provided by Nordicity:



2019 Economic Impact Report

2017 Economic Impact Report

2015 Economic Impact Report

2. Size and Structure

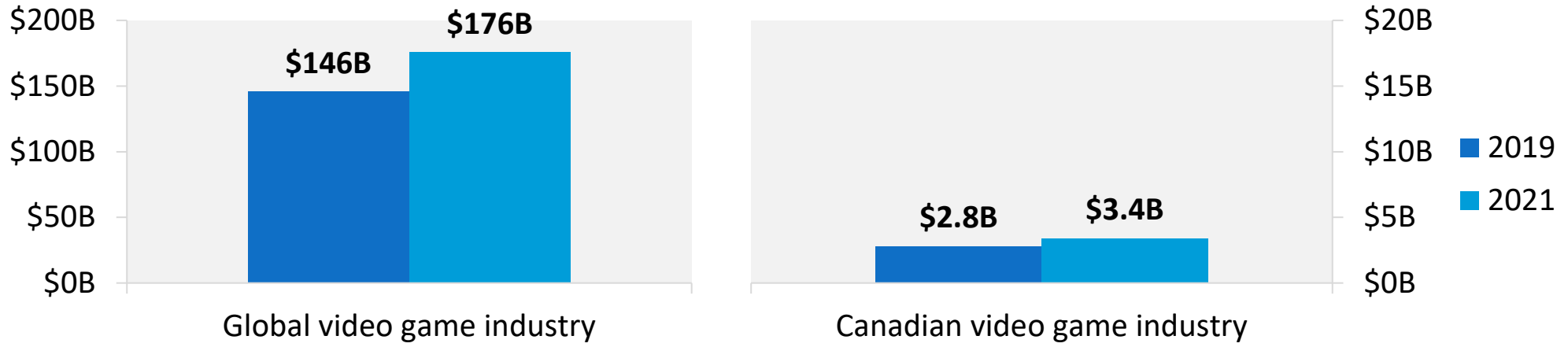
The global video games industry continues to grow at a rapid pace.

In 2021, the global industry will generate over US$176 billion in revenue, a 21% increase from 2019.

The Canadian video game industry has followed a similar trajectory over the same period. In 2021, the industry generated an estimated US$3.4 billion in revenue, having grown by 20% since 2019. 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.

Figure 1: Global and Canadian video game industry revenues (USD)



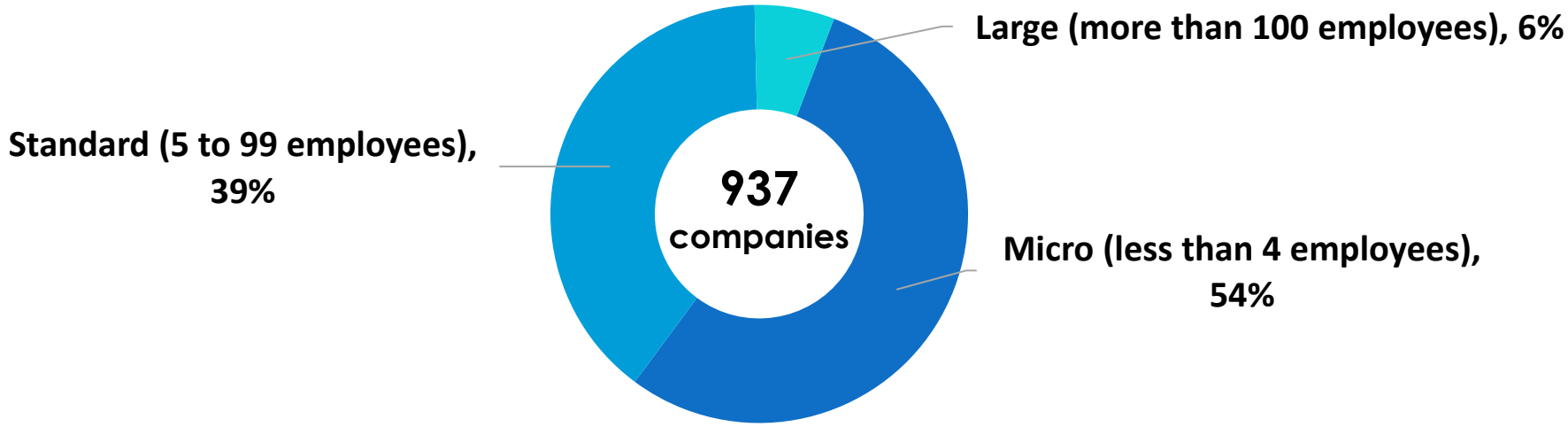
Source: Global:NewZoo Global Games Market Report April 2021 | Canada: estimates based on ESAC 2019 and 2021 Industry Surveys

2.1 Number of Companies

Using secondary research methodology as previously used in 2015, 2017 and 2019, ESAC and Nordicity identified 937 active video game companies in Canada. The total number of video game companies operating in Canada has increased by 35% since 2019.

The chart below shows a breakdown of the universe by size category (as measured by employment). The industry is primarily composed of Micro-sized (less than 4 employees) and Standard sized (5 to 99 employees) companies, which together comprise almost 95% of all video game companies operating in Canada in 2021. However, it should be noted that the Large category includes a small number of very large (outlier) companies that generate a significant share of total employment and economic activity in the industry.

Figure 2: Number of video game companies by size



n=937 | Source: estimates based on ESAC 2021 Industry Survey and Nordicity secondary research

The table below shows the change in the number of companies in each size category from 2019 to 2021. Most of the growth in the number of companies took place in the Micro (less than 4 employees) category, which increased in number by 35% from 2019 to 2021 (or 132 companies). Most of those are likely new companies entering the industry.

There was also a notable increase in the number of companies in the Standard (5 to 99 employees) and Large categories (more than 100 employees) 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 smaller companies (i.e., Micro or Standard) in 2019 having grown and moving into the larger categories.

Table 1: Number of video game companies in Canada, by company size

FIRM SIZE	2019	2021	CHANGE
Micro (less than 4 employees)	377	509	+35%
Standard (5 to 99 employees)	278	370	+34%
Large (more than 100 employees)	37	58	+29%
Total	**692**	**937**	**+35%**

n=937 | Source: estimates based on ESAC 2021 Industry Survey and Nordicity secondary research

2.2 Geography of Canada's Video Game Industry

Most (80%) of Canada's video game companies are located in Quebec, Ontario and British Columbia.

Although all regions showed an increase in the number of companies, the growth was concentrated in Ontario and Quebec which together added 137 companies to the Canadian industry. British Columbia and the rest of Canada (Atlantic, Manitoba and Saskatchewan) also experienced a notable growth with 45 and 41 companies added, respectively.

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

REGION	2017	2019	2021
Alberta	25	66	88
British Columbia	139	116	161
Quebec	198	218	291
Ontario	162	235	298
Atlantic	28	38	59
Prairies (Manitoba and Saskatchewan)	21	20	40
Total	**573**	**692**	**937**

n=937 | Source: estimates based on ESAC 2021 Industry Survey and Nordicity secondary research

Table 3 shows the relative growth of the universe by company size in each region.

While the Atlantic region and the Prairies have experienced a three digit percent increase in the number of micro companies, one must keep in mind that the initial universe was much smaller than in other provinces. As such, a 139% increase in Micro companies in the Atlantic region represents 18 additional companies while a 24% increase in the same category in Quebec represents 29 additional companies.

The growth in the number of Large companies is likely Standard-sized companies growing rather than new companies forming.

Table 3: Change in number of video game companies since 2019 in each region

REGION	MICRO	STANDARD	LARGE	TOTAL
Alberta	+29%	+46%	0%	+32%
British Columbia	+35%	+31%	+111%	+39%
Quebec	+24%	+48%	+24%	+33%
Ontario	+33%	+18%	+43%	+27%
Atlantic	+139%	+9%	+33%	+55%
Prairies (Manitoba and Saskatchewan)	+108%	+86%	+0%	+100%
Total	**+35%**	**+34%**	**+29%**	**+35%**

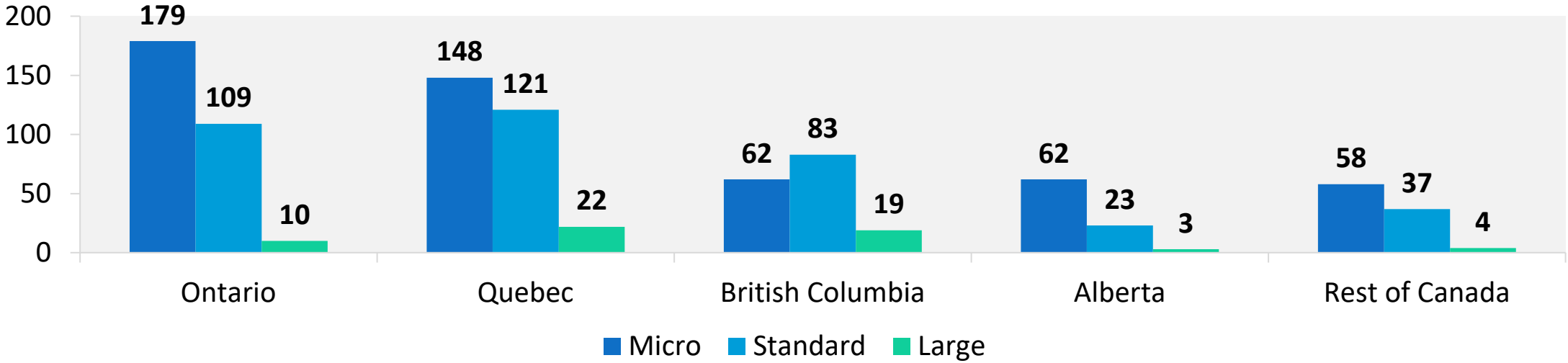
n=937 | Source: estimates based on ESAC 2021 Industry Survey and Nordicity secondary research

The figure below shows the breakdown of companies in each region by size of company.

For the second time in the history of this report, 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.

Ontario on the other hand remains the region with the greatest number of video game companies of any region in Canada currently, followed closely by Quebec, which is the largest contributor to this industry in terms of employment.

Figure 3: Number of video game companies in Canada, by size and region



n=937 | Source: estimates based on ESAC 2021 Industry Survey and Nordicity secondary research

2.3 Employment

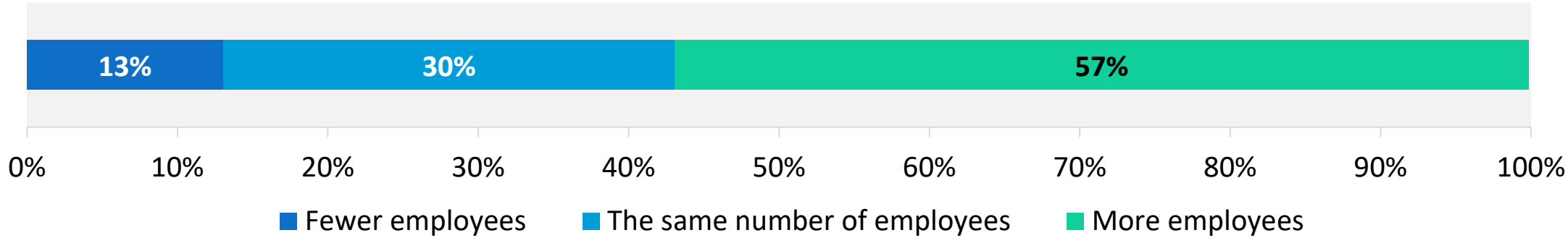
Another measure of the size and health of an industry is by the number of people it employs (direct employment), which is best measured by the number of full-time equivalents (FTEs) it employs. The spin-off employment stimulated by an industry is also a key measure of its economic impact in a given jurisdiction.

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 2021 Industry Survey, video game companies in Canada directly employ 32,300 FTEs, which is 17% more than the direct employment in 2019. Indeed, 57% of companies indicated that they have more employees now than they did in 2017 (as shown in the figure below).

Figure 4: Change in number of employees reported by video game companies in Canada

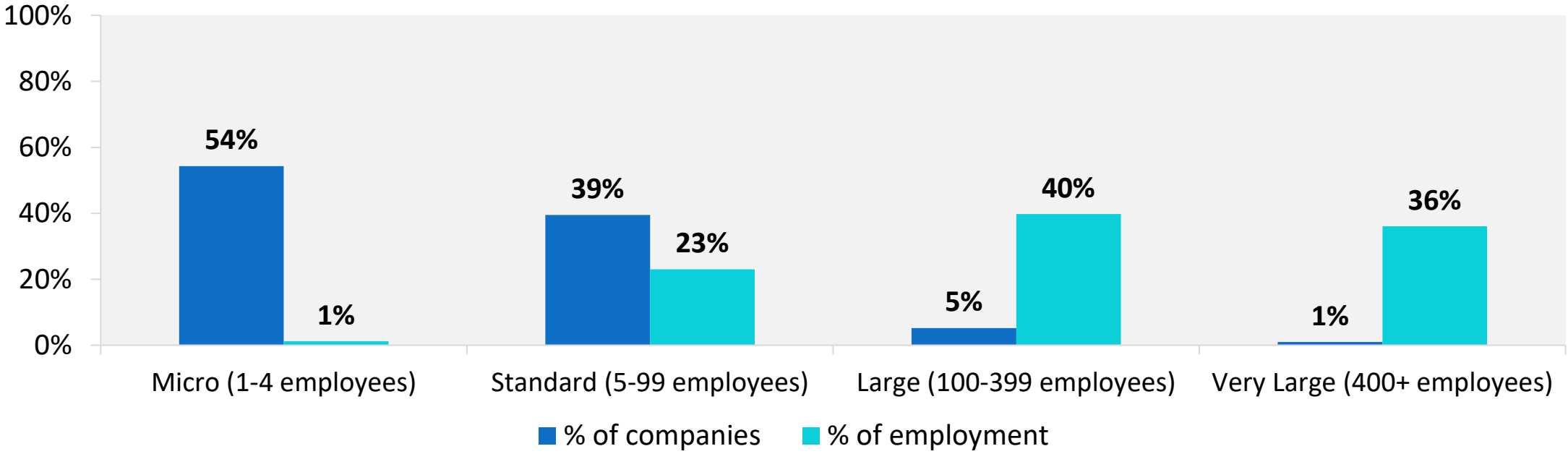


n=154 | Source: estimates based on ESAC 2021 Industry Survey

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 Large and Very Large companies. As such, in Figure 4, employment at Very Large companies (400 employees or more) is reported separately to highlight how a very small number of companies account for over a third of the industry.

Indeed, although they constitute only 6% of companies operating in Canada, they employ 76% of all FTEs in the industry.

Figure 5: Share of employment versus share of number of video game companies in Canada, by size



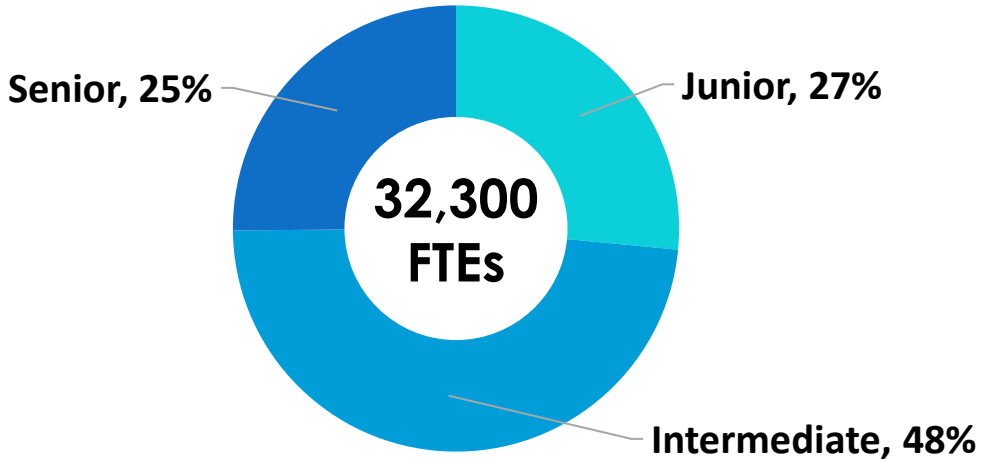
n=159 | Source: estimates based on ESAC 2021 Industry Survey

The following charts provide an analysis of the video game industry's workforce by level of seniority in 2021 compared to 2019.

Over the last two years, Canada's video game industry has shifted from a somewhat top-heavy workforce to a more balanced one.

This phenomenon is likely linked to growth at the individual company level, with a number of more mature Standard companies moving into the 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 of video game companies in Canada, by seniority



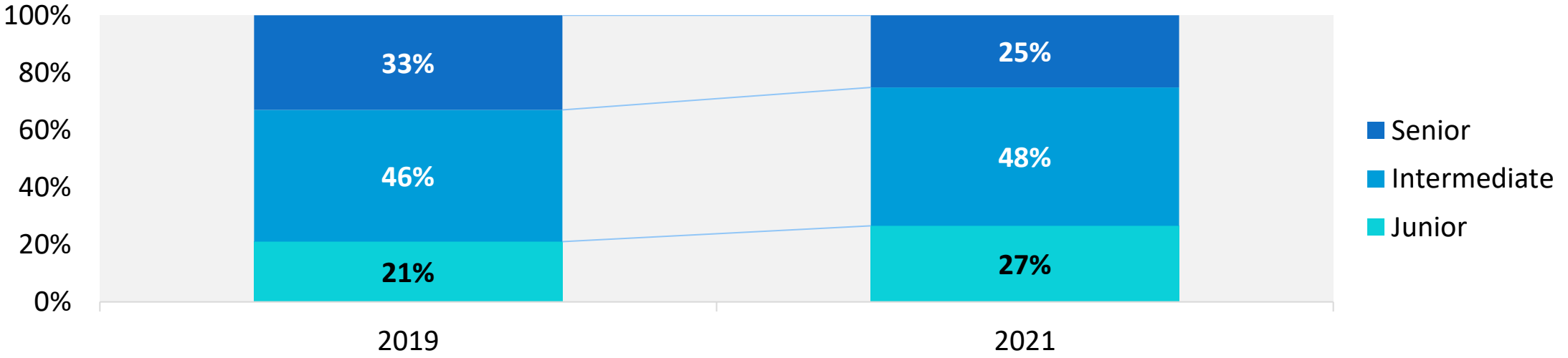
n=159 | Source: estimates based on ESAC 2021 Industry Survey

While senior-level employees made up more than a third (33%) of the workforce in 2019, they only account for one fourth of the workforce in 2021.

Concurrently, there has been a growth in the proportion of the workforce employed at the intermediate and junior levels, which now respectively make up 48% and 27% 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 it had previously, changing the overall composition of the workforce. The higher share of intermediate employees also illustrates the growing industry: more junior higher gained more experiences and some of them got promoted.

Figure 7: Share of employees of video game companies in Canada, by seniority, 2019 vs. 2021

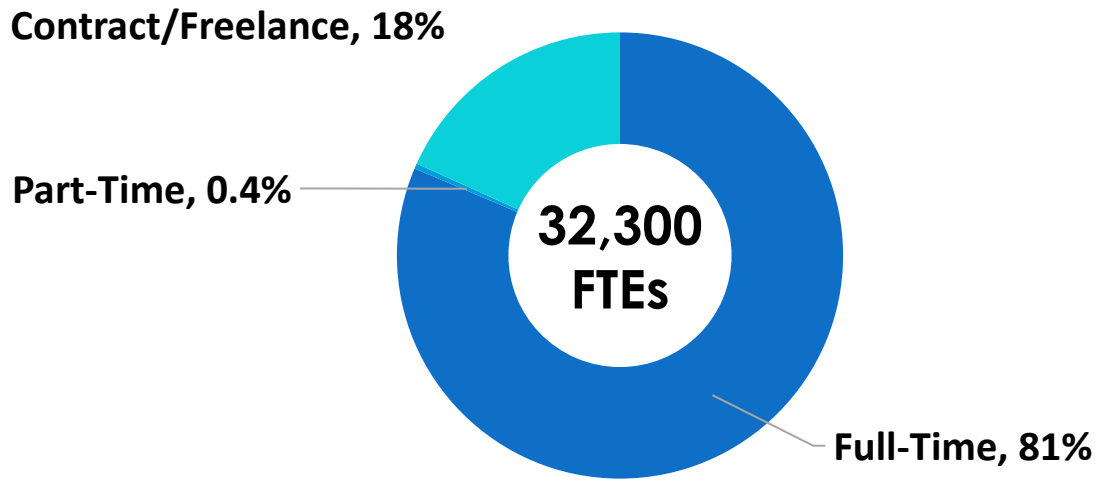


n=159 | Source: estimates based on ESAC 2019 and 2021 Industry Surveys

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 distribution of modes of employment has remained rather stable over the past two years. The workforce is still primarily made up of individuals employed on a full-time basis (81%), although the proportion of full-time employees is slightly lower than it was in 2019 (83%). The proportion of contract/freelance workers has grown from 16% in 2017 to 18% in 2021, which may be due to companies hiring to fill immediate project needs.

Figure 8: Share of employees at video game companies in Canada by mode of employment



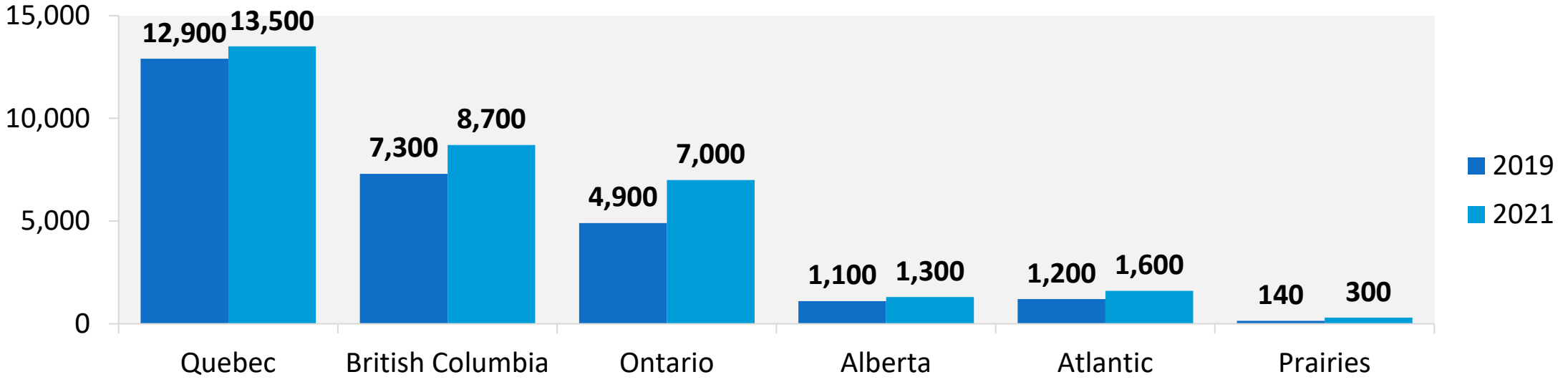
n=159 | Source: estimates based on ESAC 2021 Industry Survey

From a regional perspective, most of the industry's employment is concentrated in Quebec, British Columbia and Ontario.

As depicted below, all regions have seen an increase in employment. However, British Columbia and Ontario saw a slightly higher rate of growth than other regions: Ontario added 2,100 FTEs since 2019 (43% increase), and British Columbia's direct employment grew to 8,700 FTEs (+19%) in the same period.

As described earlier in this section, the increase in overall employment can be attributed to a higher number of companies in 2021 as well as individual company growth in the last two years.

Figure 9: Direct employment at video game companies in Canada, by region



n=159 | Source: estimates based on ESAC 2019 and 2021 Industry Surveys

2.3.2 Spin-off employment

In addition to direct impacts, the video game industry in Canada also generates significant indirect and induced impacts (i.e., spin-off impacts) in the economy. The total employment impact (direct + spin-off) of the Canadian video game industry grew by 15% over the past two years, reaching an estimated 55,300 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 game industry in Canada

	EMPLOYMENT 2019	EMPLOYMENT 2021	2019-2021 INCREASE
Video game industry	27,700	32,300	+17%
Indirect impact	9,800	11,600	+19%
Induced impact	10,600	11,400	+8%
Total impact	**48,000**	**55,300**	**+15%**

Indirect and induced employment impacts make up 23,000 FTEs of that total employment impact figure, showing a growth of only 13%. The growth in induced impact appears more modest than the growth in direct and indirect employment impacts, due to a change in available data. This change is described in detail in Appendix in section A.3.

n=159 | Source: estimates based on ESAC 2019 and 2021 Industry Surveys

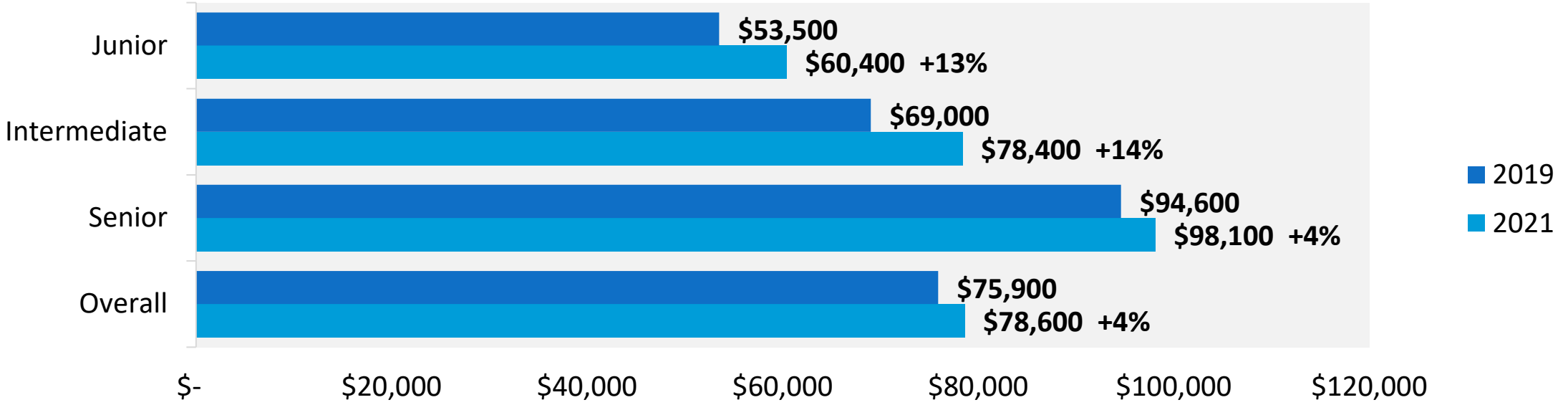
2.3.3 Average industry salaries

According to the results from the *ESAC 2021 Industry Survey*, the overall average salary for a full-time employee in the industry is approximately $78,600 in 2021. This overall average is 4% higher than in 2019.

When examined by seniority level, the average salary in each seniority category has grown since 2019 (see figure below). The change in the composition of the workforce towards a higher proportion of individuals at lower salary levels explains why the overall average salary grew by 4% despite the salary for Junior and Intermediate workers both showing a double-digit increase.

The biggest jump in salary (Intermediate, +14%) is likely a reflection of a very competitive labour market for mid-career talent.

Figure 10: Average salary at video game companies in Canada, by seniority, compared with 2019



n=156 | Source: estimates based on ESAC 2019 and 2021 Industry Surveys

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 even higher than the average at Large companies. Average salary at Standard-sizes companies is approximately the same as the average for Large companies: this observation suggests that once a video game company grows, they must compete for talent with the larger companies. This competition eventually jacks up the labour expenditure.

Table 5: Average salary at video game companies in Canada, by company size

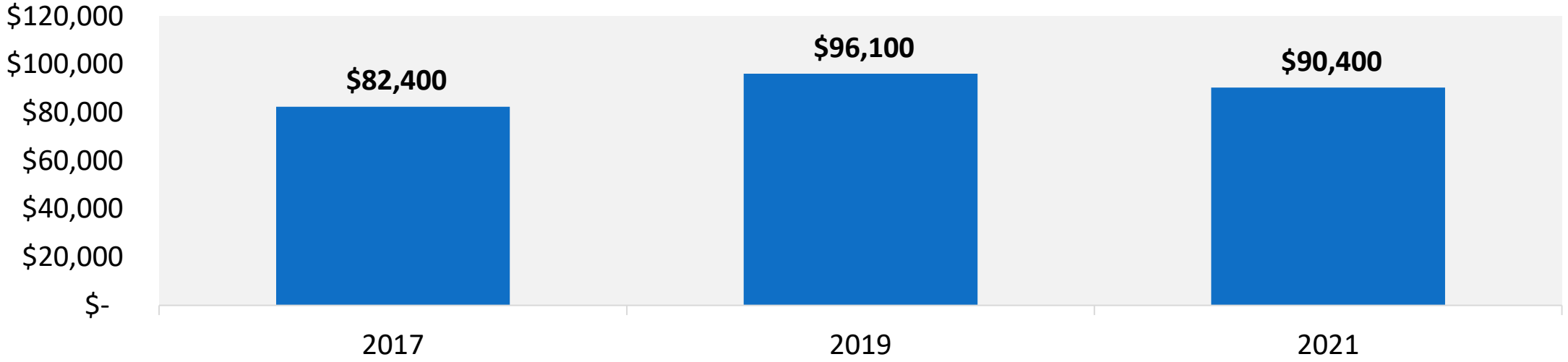
REGION	Average salary
Micro (less than 4 employees)	$51,100
Standard (5 to 99 employees)	$70,800
Large (more than 100 employees)	$73,800
Overall	**$78,600**

n=156 | Source: estimates based on ESAC 2021 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 declined by 6% from the 2019 average but remains higher than the level it reached in 2017. 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 decreased cost-per-FTE in 2021 could also be partly the result of a decrease in the cost of other non-wage benefits (e.g., performance bonuses).

Figure 11: Effective cost-per-FTE paid by video game companies in Canada

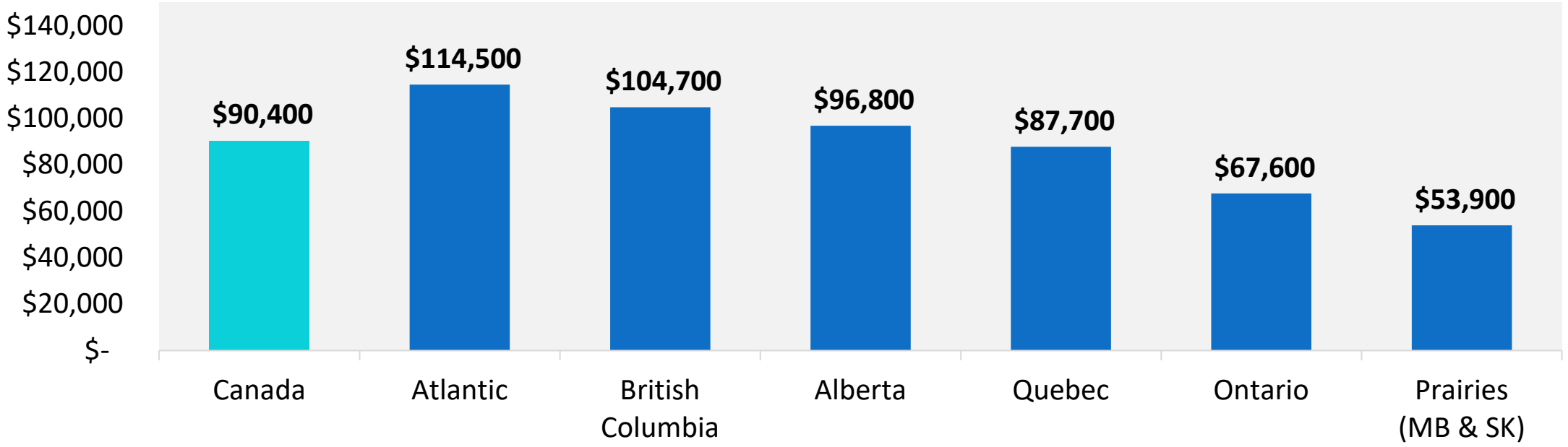


n=156 | Source: estimates based on ESAC 2017, 2019 and 2021 Industry Surveys

The cost-per-FTE varies significantly across Canada. The cost is highest in the Atlantic region (27% more than overall average), and the lowest in the Prairies (40% lower than the overall average).

Note that Atlantic Canada exhibited the lowest cost-per-FTE in 2019. Two options can explain this significant change. First of all, there is a lack of junior employees in the region: survey results indicate an increase in senior employees. Moreover, the sample for Atlantic Canada is smaller (due to the size of the regional universe). As such the data from Atlantic Canada is more prone to change from one report to the next.

Figure 12: Effective cost-per-FTE paid by video game companies in Canada, by region



n=156 | Source: estimates based on ESAC 2021 Industry Survey

2.4 Equity, Diversity and Inclusion

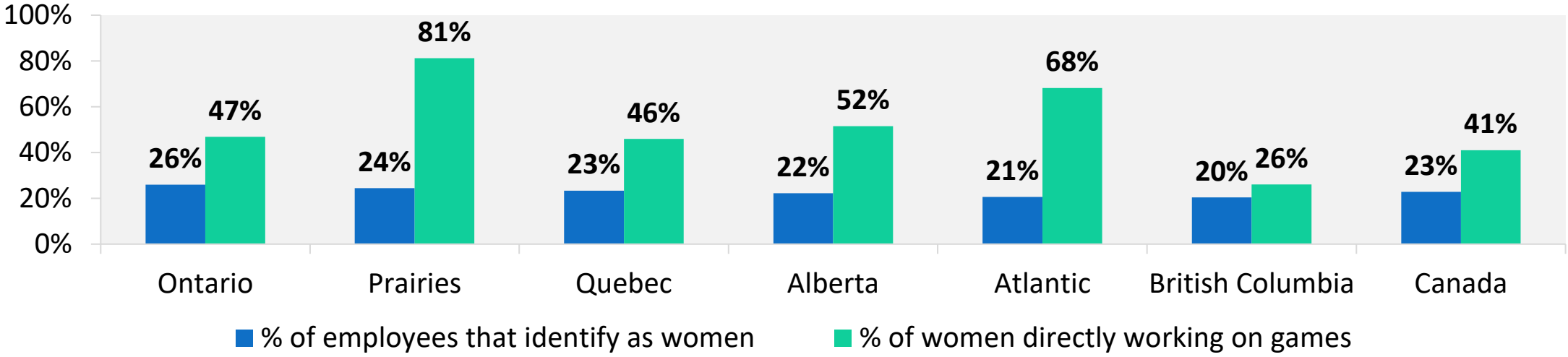
2.4.1 Women in Games

The workforce is largely composed of men, with women constituting only 23% of the total workforce. This figure is, however, higher than in 2019 when women constituted 19% of the Canadian video game workforce.

On a regional basis, British Columbia has the lowest proportion of women (20%) as a part of the workforce and Ontario has the highest (26%), as seen in the figure below.

Additionally, 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 (see Figure 13)

Figure 13: Share of employment of women at video game companies in Canada, by region

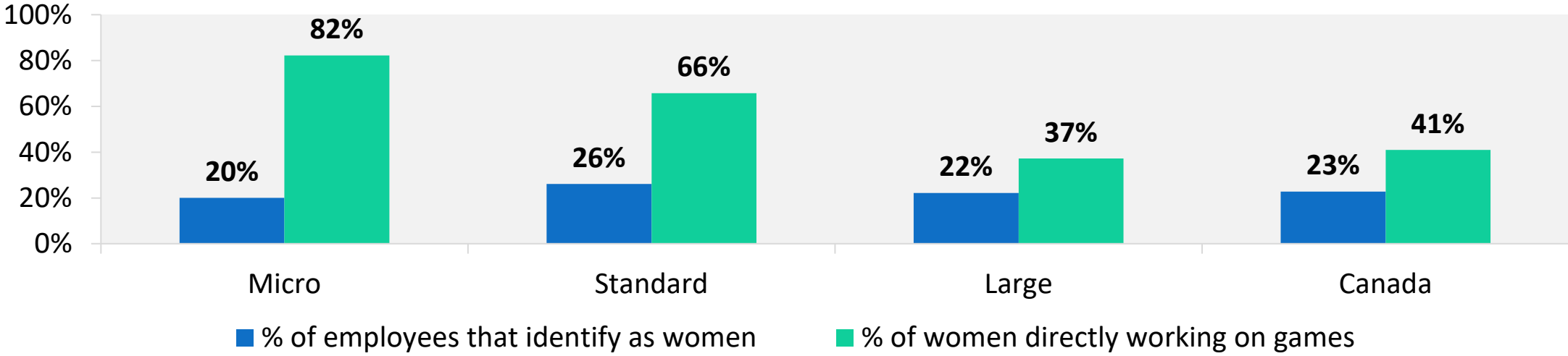


n=153 | Source: estimates based on ESAC 2021 Industry Survey

Women working in Micro-sized companies are most likely (82%) to be working directly on games, while those working in Large companies are least likely to be working directly on games. Although only around a third of women work directly on games at Large (37%) 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, any employee working at a Micro-sized company is more likely to be working directly on game development than an employee working at a larger firm, regardless of their gender identity.

It is also important to note that Micro-sized 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 companies 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.

Figure 14: Share of employment of women at video game companies in Canada, by company size



n=153 | Source: estimates based on ESAC 2021 Industry Survey

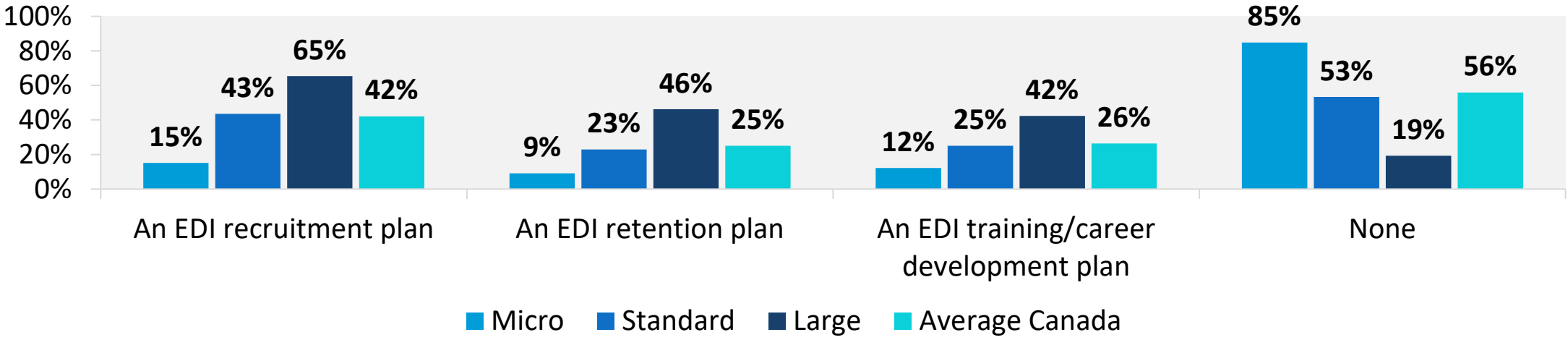
2.4.2 EDI plans

According to the *ESAC 2021 Industry Survey* most video game companies in Canada (56%) have not developed any program to support equity, diversity and inclusion (EDI) among their workforce.

This share varies greatly based on the size of the company. As companies grow, they tend to formalize strategies to attract, retain and support women, gender diverse, gender fluid and BIPOC talent. As such, 81% of large companies, where most of the industry is employed, have adopted at least one type of EDI program.

However, these results do not suggest that smaller companies feel less concerned about equity, diversity and inclusion considerations but only that they did not develop formal plans due to a lack of resources or time, or simply because they do not need one at the moment (e.g., the staff is already diverse and gender-balanced, the team is too small for any plan to be relevant).

Figure 15: Share of video game companies in Canada that have implemented EDI plans



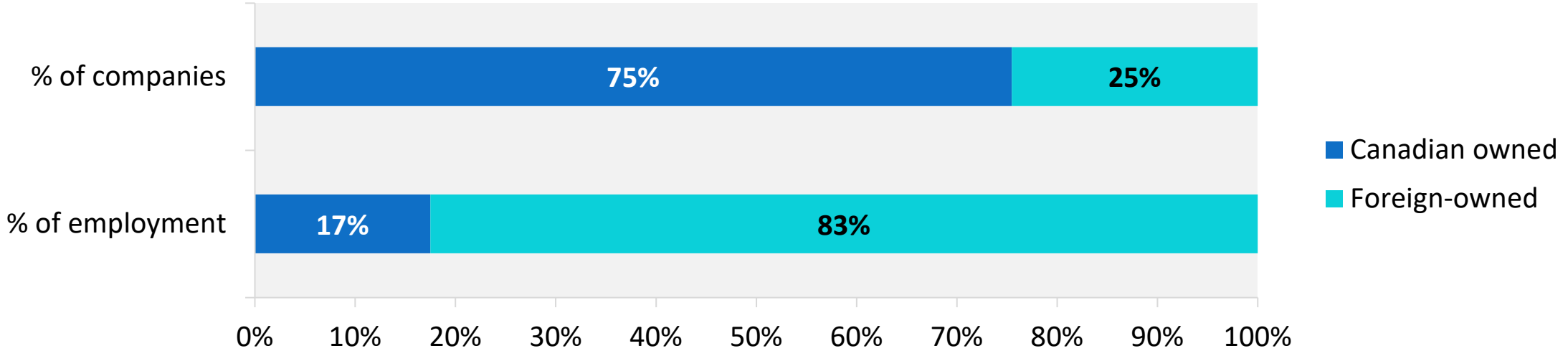
n=153 | Source: estimates based on ESAC 2021 Industry Survey

2.5 Company Ownership

Most (75%) video game companies in Canada are Canadian-owned, showing a notable change from 2019 when 84% of companies were Canadian-owned. This slight shift could be due to recent acquisitions and new Canadian studios established by foreign companies over the past two years.

However, the share of employment at foreign-owned versus Canadian-owned companies has changed very slightly since 2019. In 2019, 84% of the workforce was employed by foreign-owned companies and 16% at Canadian-owned companies. In 2021, 83% are employed at foreign-owned companies and 17% at Canadian-owned companies.

Figure 16: Video game company ownership by share of number of companies and employment



n=159 | Source: estimates based on ESAC 2021 Industry Survey

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.

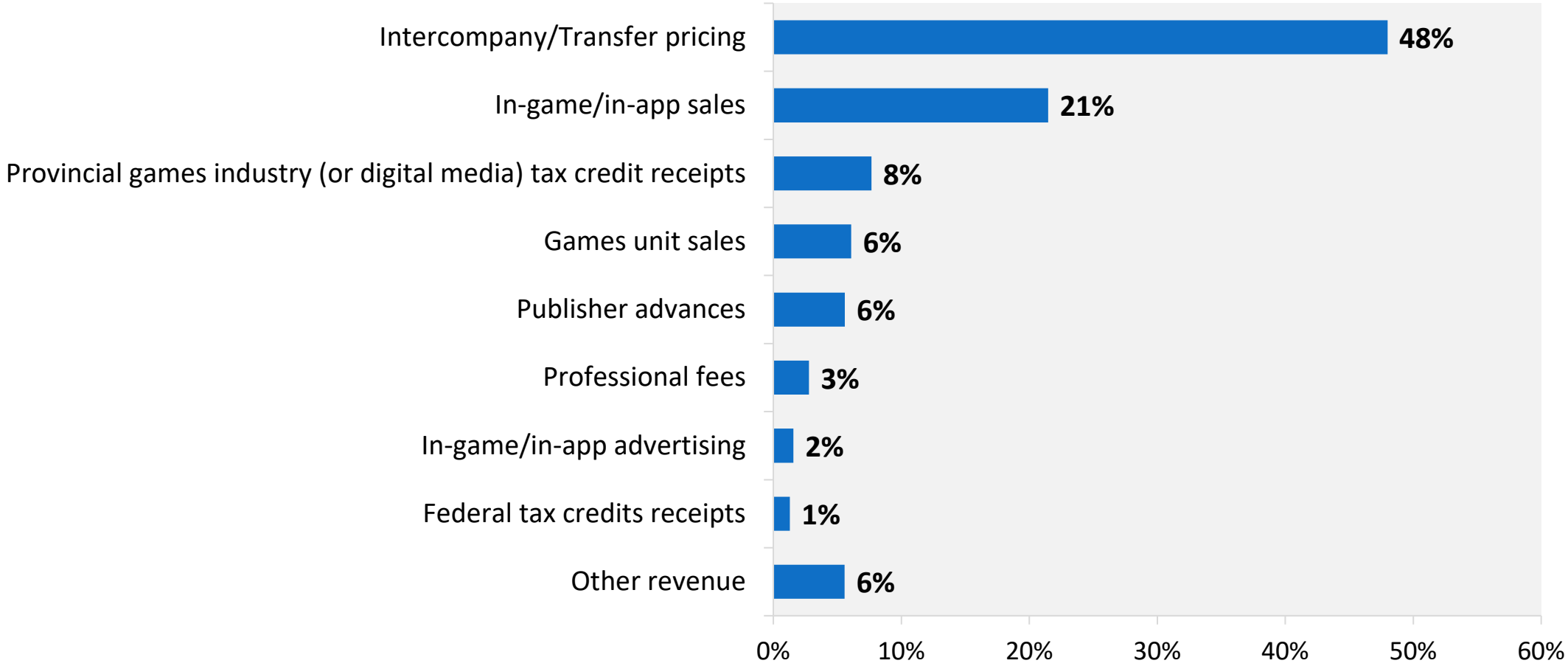
3.1.1 Revenue

Total revenue earned by Canada's video game companies in 2021 is estimated to be $4.3 billion, a growth of 20% since 2019.

Figure 16 (next page) shows the primary sources of revenue for companies in this industry. Roughly 48% 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 21% of the total revenue while provincial games industry tax credits contributed 8% to total revenue. The relatively low proportion of revenue from game unit sales (6%) 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 17: Breakdown of revenue earned by video game companies in Canada (% of total revenue)



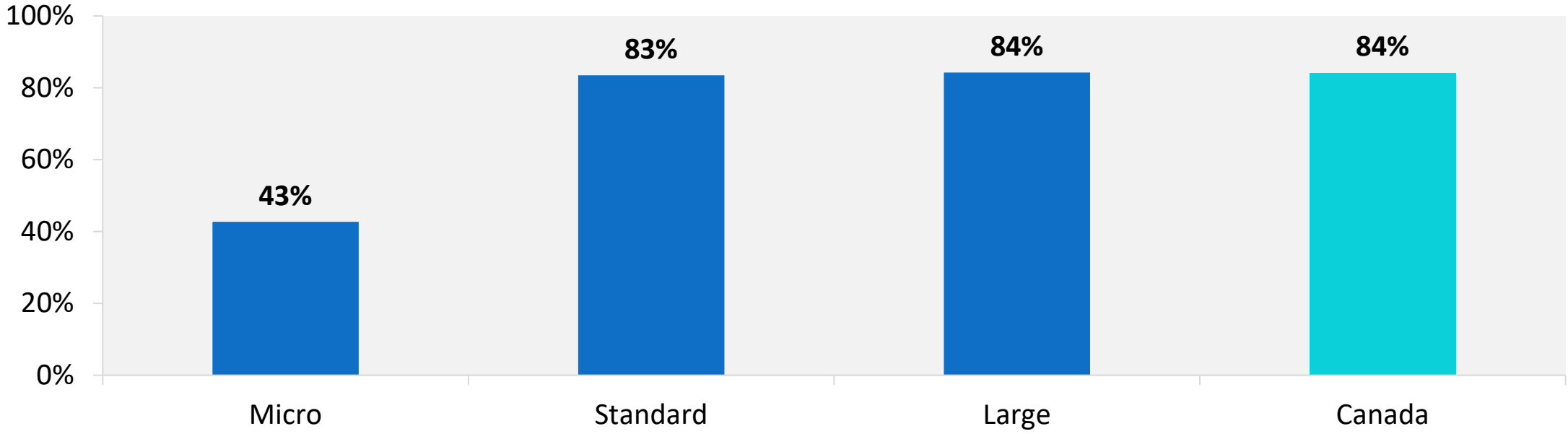
Other revenue includes Royalties from previous work, Merchandising & peripherals, Provincial R&D tax credit receipts, Technology and/or process licensing and sales, Subscriptions, National support programs, Provincial/Territorial support programs, Other grants, bursaries and direct public funding and all other revenue sources. Each of these revenue categories respectively represented 1% or less of the industry's total revenue.

n=139 | Source: estimates based on ESAC 2021 Industry Survey

The video game industry in Canada is largely export-driven with 84% of its revenue being generated from exports, a notable increase from 2019 (76%) likely caused by the growth in international demand being greater than the growth in domestic demand.

Exports are the principal source of revenue for Standard and Large companies, as seen in the figure below. Two years ago, exports accounted for 75% of revenue for Micro-sized companies: the decline in export revenue in 2021could be explained by the number of Micro-sized companies created over the past two years, which may not be mature enough to generate revenue from exports.

Figure 18: Export revenue as share of total revenue earned by video game companies in Canada, by size



n=154 | Source: estimates based on ESAC 2021 Industry Survey

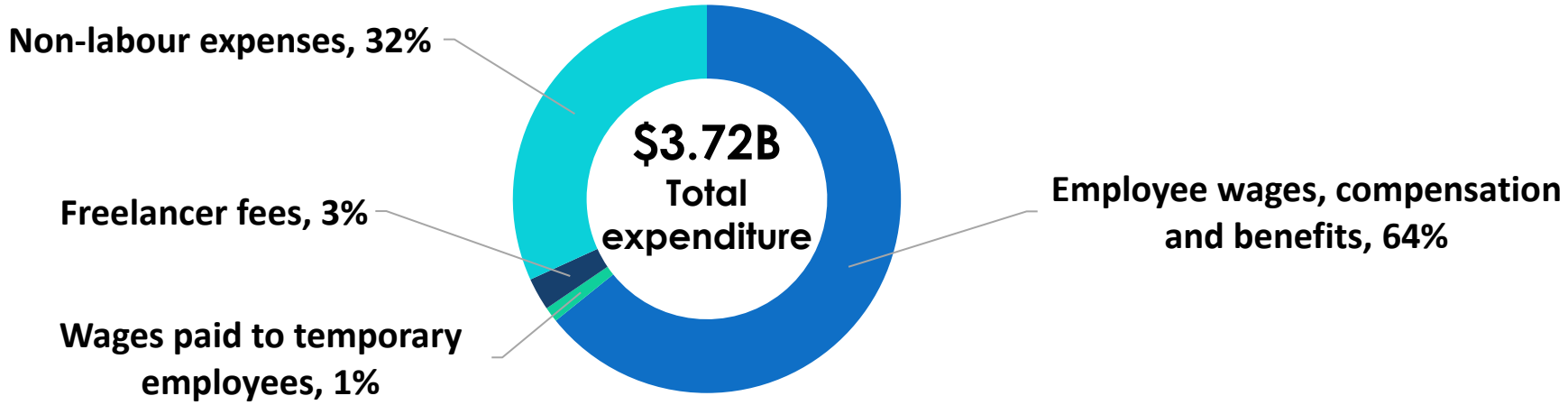
3.1.2 Expenditure

Given that the video game industry in Canada is composed of several integrated studios (that 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 $3.7 billion in 2021, an increase of 17% over reported expenditure in 2019. 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).

More than two-thirds (68%) of the total expenditure relates to labour which is approximately $2.5 billion. The proportion of labour expenditure is relatively unchanged since 2019 (66%), but due to the growth in expenditure, the labour expenditure in 2019 is 21% higher than in 2019.

Figure 19: Breakdown of spending by video game companies in Canada



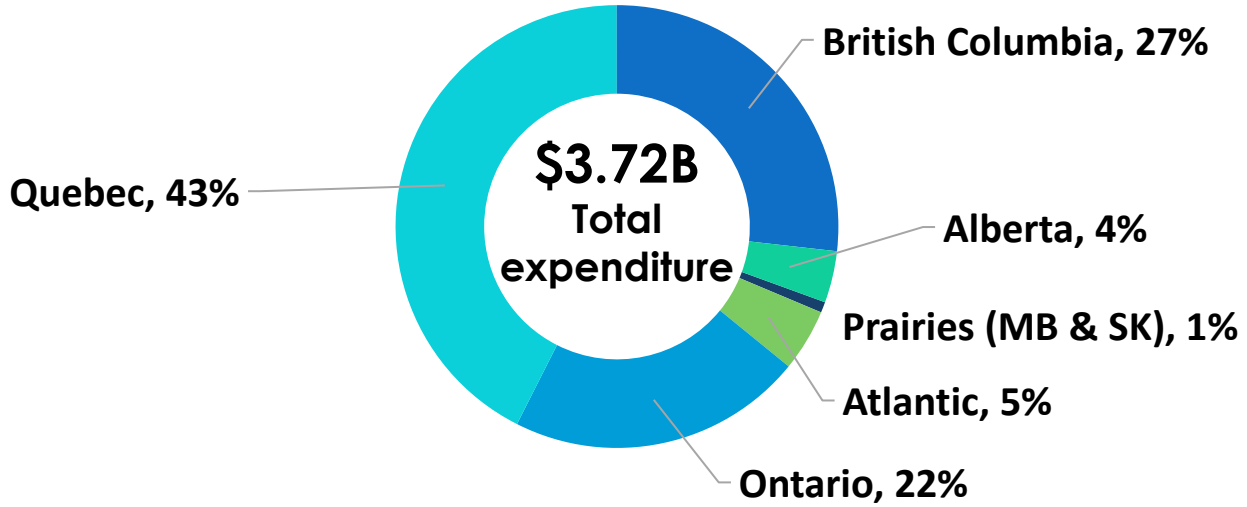
n=142 | Source: estimates based on ESAC 2021 Industry Survey

From a regional perspective, the distribution of expenditures roughly follows that of the cost-per-FTE (see Figure 11 in Section 1.3.3), given that labour costs account for the majority of company expenditures in this industry.

The following figure illustrates this regional distribution.

Quebec accounts for the largest share of total industry expenditure (43%), followed by British Columbia (27%) and Ontario (22%).

Figure 20: Regional breakdown of spending by video game companies in Canada



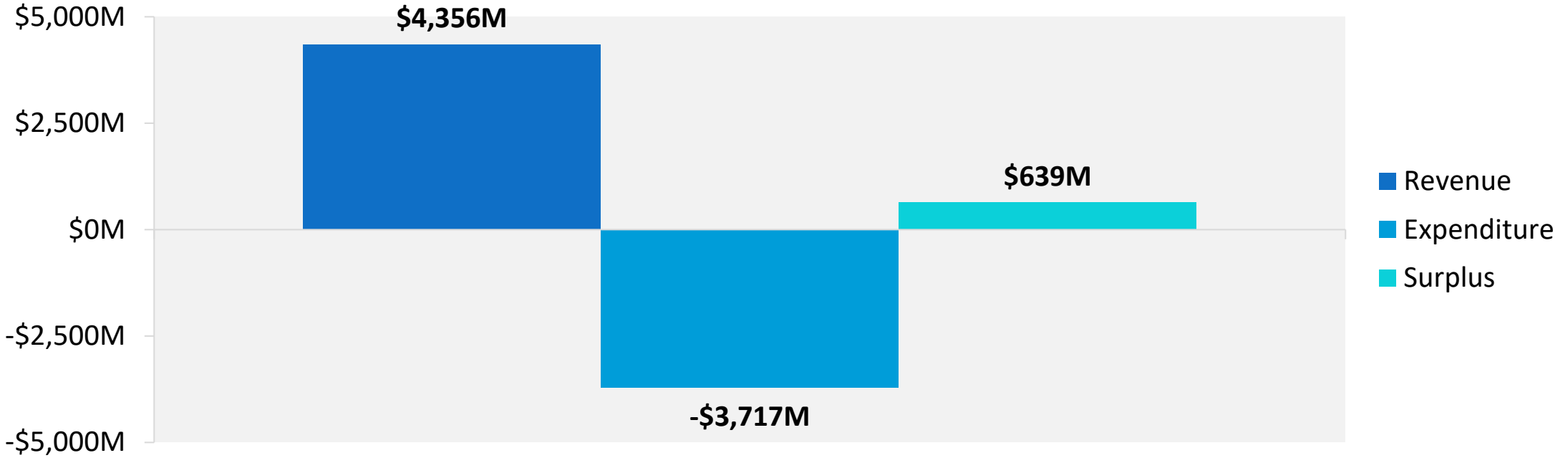
n=142 | Source: estimates based on ESAC 2021 Industry Survey

3.1.3 Operating surplus

Operating surplus for the industry was estimated to be $639 million, or a margin of 15%.

It is a 52% increase from the surplus of $460 million estimated for 2019, which represented a 13% margin.

Figure 21: Revenue, expenditure and surplus of Canada's video game industry in 2021

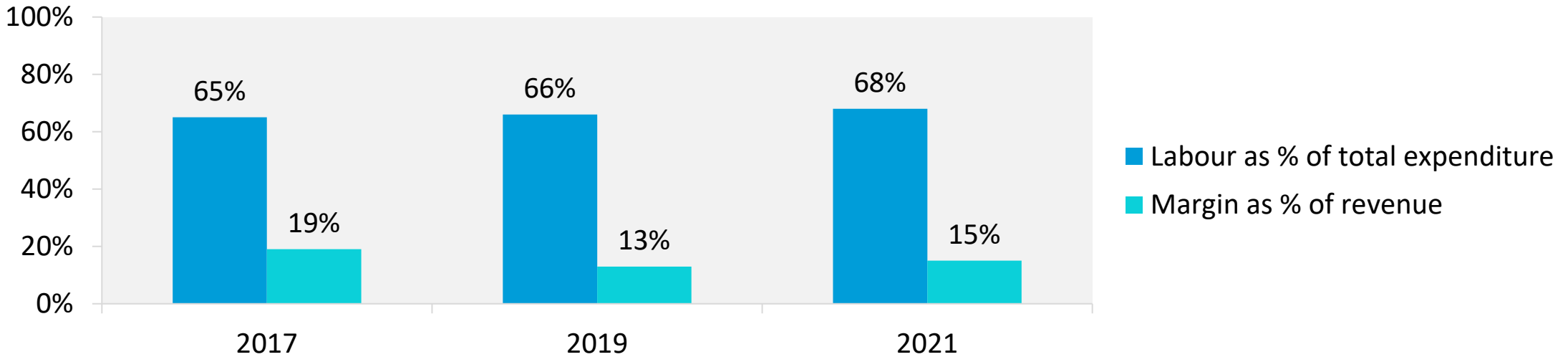


n=139 | Source: estimates based on ESAC 2021 Industry Survey

The figure below brings to light the parallel evolutions of the industry's margin (as examined in Figure 20) and the share of total expenditure spent on labour (as examined in Figure 18).

Since 2017, the share of total expenditure that relates to labour steadily increased from 65% to 68% in 2021. Coincidentally, the overall industry margin dropped from 19% to 15% in 2021. While various factors can have an impact on the margin (e.g., lower sales, increasing costs of non-labour expenditures), the fact that the video game industry is a labour-intensive industry suggests that any increase in labour expenditure likely has a significant impact on company margins.

Figure 22: Canada's video game industry margin and share total expenditure spent on labour



n=139 | Source: estimates based on ESAC 2017, 2019 and 2021 Industry Surveys

3.2 Labour Income

Most of the economic impact of the video game 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 $2.5 billion in 2021. In addition, the indirect and induced employment collectively generated a total of $1.1 billion in labour income.

The total labour income grew by 20% in the last two years. Similar to the growth in induced employment, the growth in 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.

Table 6: Labour income earned by video game industry in Canada

	LABOUR INCOME 2019	LABOUR INCOME 2021	2019-2021 INCREASE
Video game industry	$2,100M	$2,530M	+21%
Indirect impact	$470M	$570M	+23%
Induced impact	$500M	$570M	+12%
Total impact	**$3,070M**	**$3,670M**	**+20%**

n=142 | Source: estimates based on ESAC 2019 and 2021 Industry Surveys, Statistics Canada Input-Output Tables

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 $3.2 billion to GDP in Canada in 2021. The industry also generated $2.2 billion in indirect and induced impacts. The total GDP contribution is estimated to be $5.5 billion, which is 23% higher than in 2019.

Table 7: GDP contribution of Canada's video game industry

	GDP IMPACT 2019	GDP IMPACT 2021	2019-2021 INCREASE
Video game industry	$2,560M	$3,240M	+27%
Indirect impact	$830M	$1,020M	+22%
Induced impact	$1,080M	$1,240M	+15%
Total impact	**$4,470M**	**$5,500M**	**+23%**

n=142 | Source: estimates based on ESAC 2019 and 2021 Industry Surveys, Statistics Canada Input-Output Tables

4. Facing COVID-19

In this edition of ESAC's *Industry Survey,* respondent were invited to share their experience of the COVID-19 pandemic that has been shaking the world since late 2019.

While from a macro-economic perspective the global video game industry seems to have benefitted from the lockdowns and stay-at-home orders around the world, the pandemic proved to be a considerable challenge for some companies.

The migration towards remote working and the unexpected associated costs, the challenge of collaboration and communication, the inability to plan ahead and the increased mental burden have all been factors disrupting the operations of video game companies, in Canada and overseas.

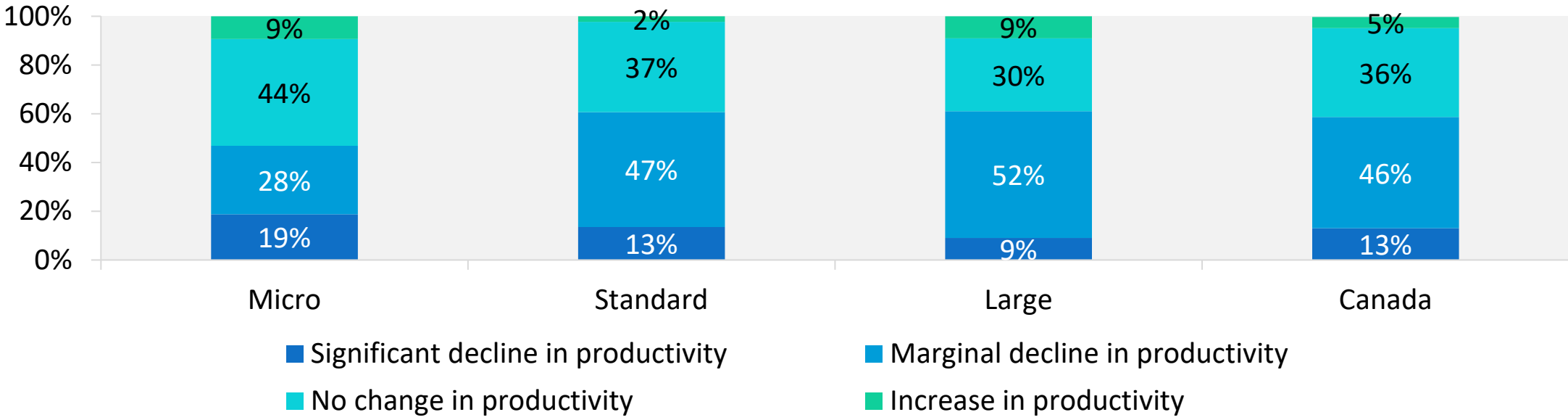
This section presents an overview of the impact of COVID-19 on productivity as well as the subsequent evolution of modes of work and office spaces of video game companies in Canada.

4.1 Productivity

In light of the evolution of the modes of work (i.e., expansion of remote working), 59% of video game companies in Canada have experienced a decline in productivity.

The pandemic has had a more significant impact on larger companies (Standard and Large) which likely encountered difficulties in implementing remote working and adapting their workflow. Micro companies were likely accustomed to remote working (see Figure 24) and so were seemingly better able to weather the impact of the pandemic (47% reported a decline in productivity).

Figure 23: Change in productivity in the context of the pandemic, by company size

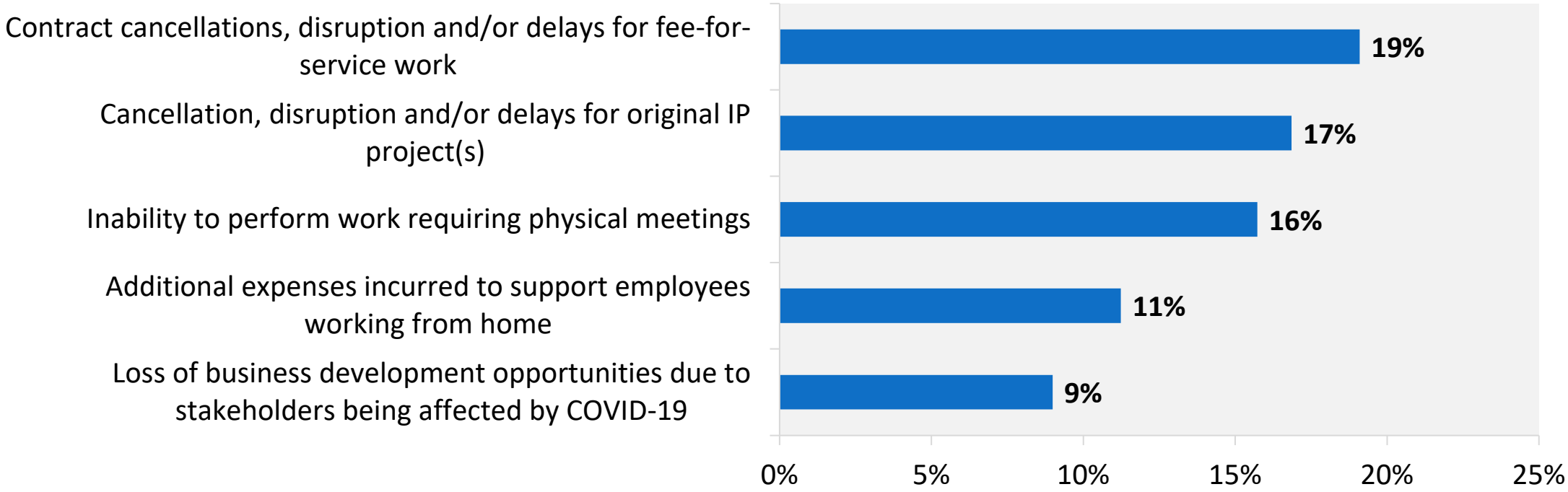


n=151 | Source: estimates based on ESAC 2021 Industry Survey

Companies that reported a decline in productivity indicated that contract cancellations for both fee-for-service work (19%) and original projects (17%) were the most important factors impeding their operations in the context of the COVID-19 crisis.

The inability to perform in-person work (e.g., performance capture) was also cited as a major constraint (16%).

Figure 24: Top 5 factors impacting the productivity of video game companies in Canada during COVID-19



n=89 | Source: estimates based on ESAC 2021 Industry Survey

4.2 Mode of Work

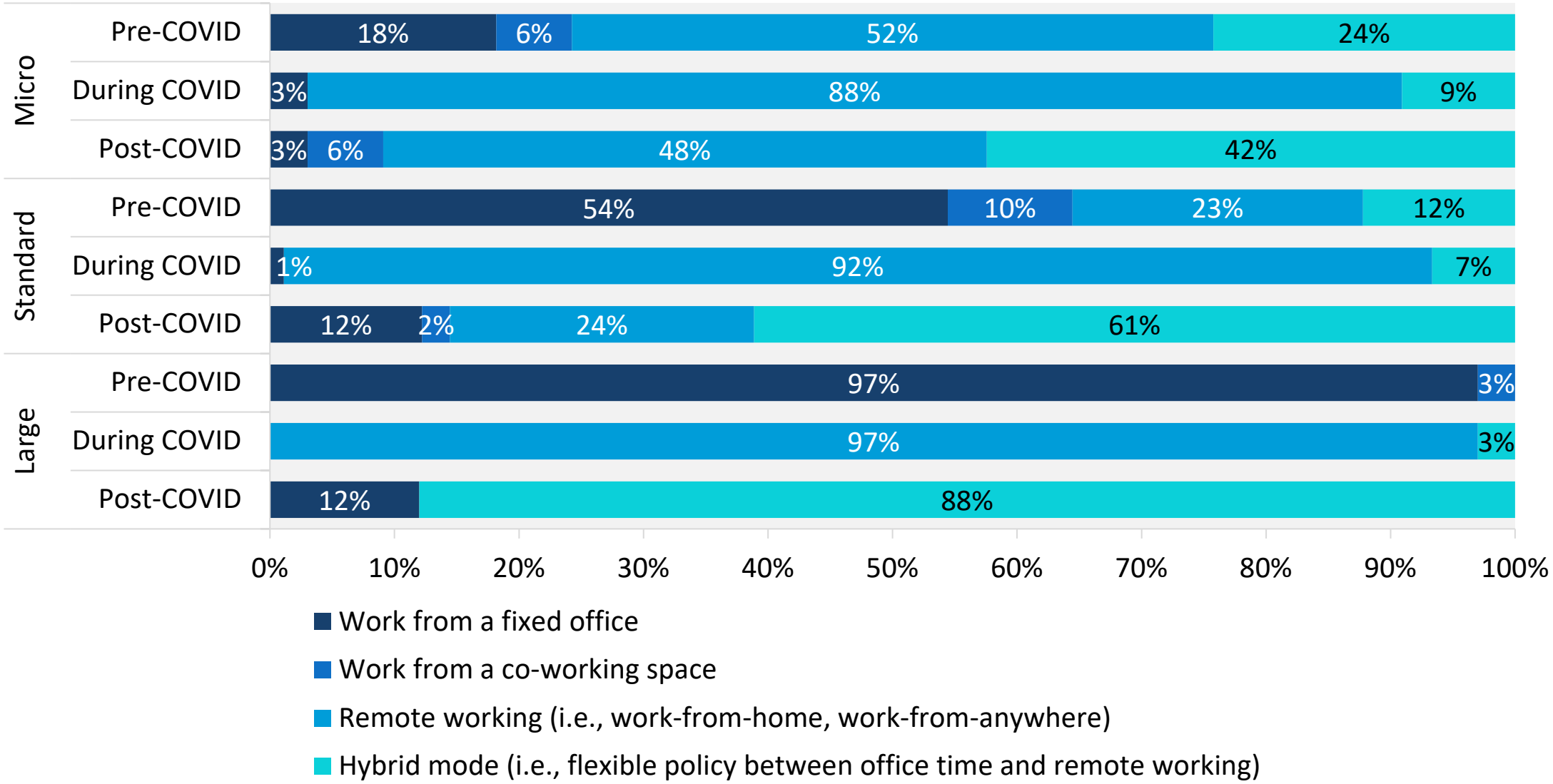
Figure 24 (next page) illustrates the dramatic evolution in the most common modes of work used by video game companies, accelerated by the pandemic.

The most striking example is the Large companies which virtually all worked from a fixed office before the pandemic and have all implemented remote working (or a hybrid model). Only one out of ten Large companies intends to go back to a fixed-office mode. A hybrid model between office time and remote working will become the new standard in a post-COVID world.

Survey data tells a similar story for Standard companies: 61% of companies expect to primarily use a hybrid model and 24% will maintain a completely remote model post-COVID.

Only 18% of Micro video game companies had a fixed office space pre-COVID. As such, many Micro companies were not hit as hard by the pandemic in terms of productivity (Figure 22). Nine out of ten Micro companies plan to maintain a remote or hybrid model post-COVID.

Figure 25: Most common mode of work among Canadian video game workforce, by company size



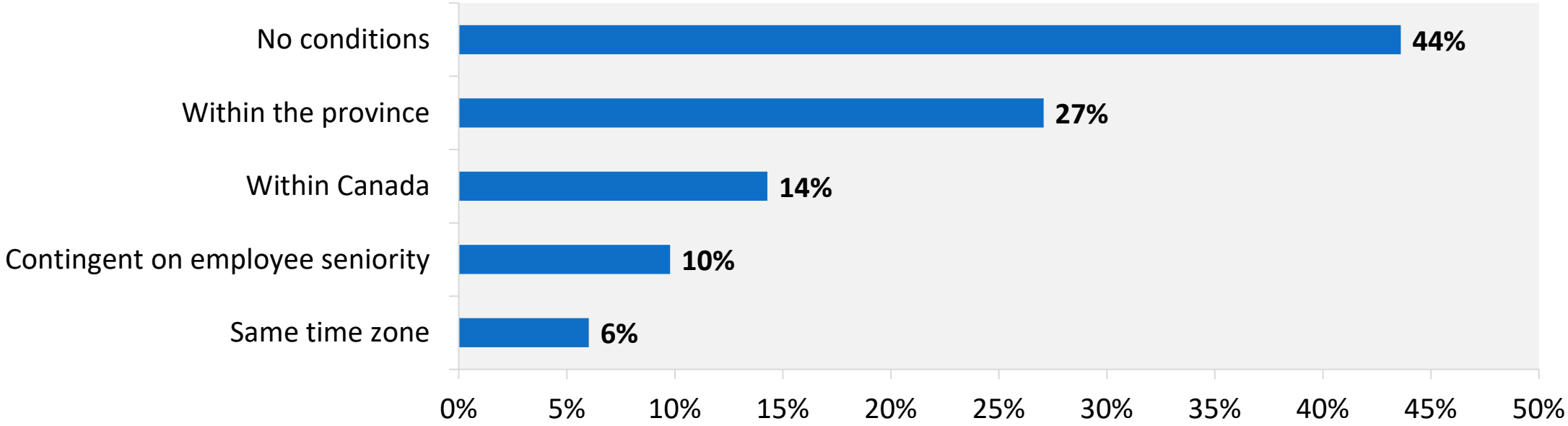
n=153 | Source: estimates based on ESAC 2021 Industry Survey

44% of companies that expect to favour a flexible or remote model post pandemic do not intend to put any geographical constraints on their hybrid approach.

Other limitations include working from within the province where the company is established (27%), within the country (14%) or in the same time zone (6%).

Foreign-owned companies also indicated that a possible condition could be to work from a jurisdiction where the worker could be reattached to a business unit of the group.

Figure 26: Geographical conditions imposed on employees working remotely

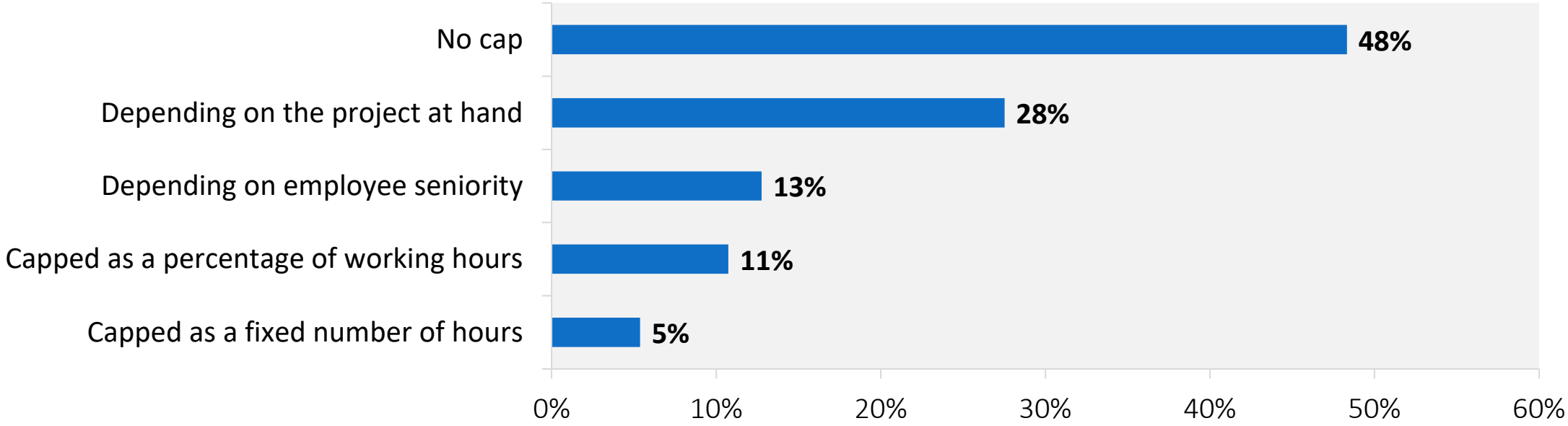


n=133 | Source: estimates based on ESAC 2021 Industry Survey

Similarly, 48% of companies that intend to implement a hybrid mode of work do not expect to set any hour cap (i.e., limitation in the number of hours an employee can work remotely).

Different approaches are examined by companies but caps set on a case-by-case basis (depending either on the project or employee seniority) seem to be preferred to a more fixed approach (a number of hours or a portion of the total working hours).

Figure 27: Caps imposed on employees working remotely



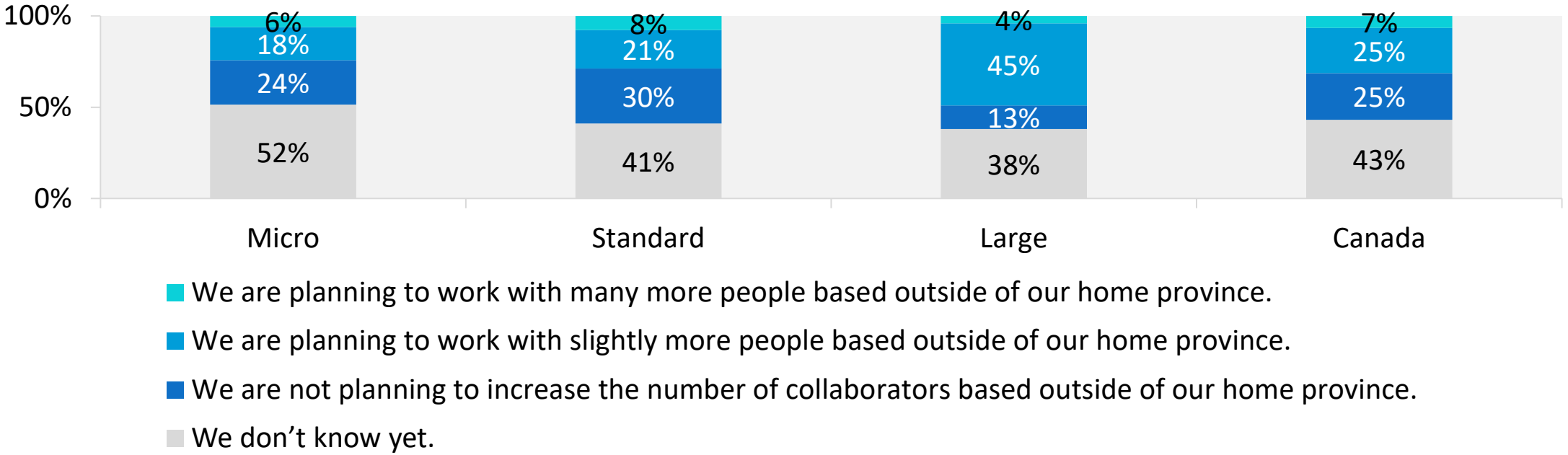
n=149 | Source: estimates based on ESAC 2021 Industry Survey

In the context of the expansion of remote working, some companies are considering increasing the number of collaborators based outside of the province where they are established. About a third (32%) are planning to work with slightly more or many more people based outside of their home province.

The share increases with the size of the companies: almost half (59%) of Large companies anticipate increasing their collaboration with talent based outside of the home province, against only 24% for Micro companies.

Note that as of May-July 2021, a significant portion of companies (44%) still did not know whether they would implement any changes.

Figure 28: Future collaborations with talent outside the home province of Canada's video games companies



n=153 | Source: estimates based on ESAC 2021 Industry Survey

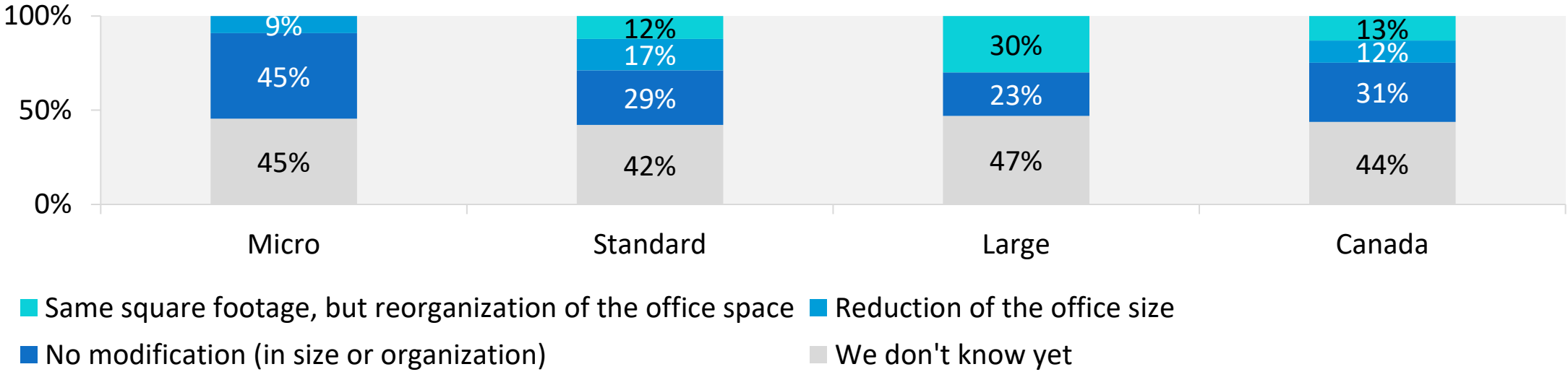
4.3 Working Space

With fewer employees returning to the office (or occasionally), some video game companies are considering changing their workspace.

Large companies that expect modifications do not envision a reduction in the size of the office space, but rather a reorganization of the space (30%) to better reflect the hybrid model that they plan to adopt. The same proportion of Standard companies (30%) will be implementing changes to their office space. However, 17% indicated that they want to reduce the floor space – likely to limit the cost of a facility used less frequently than prior to the pandemic.

Note that as of May-July 2021, a significant portion of companies (44%) still did not know whether they would implement any changes.

Figure 29: Expected modifications of office space, by company size

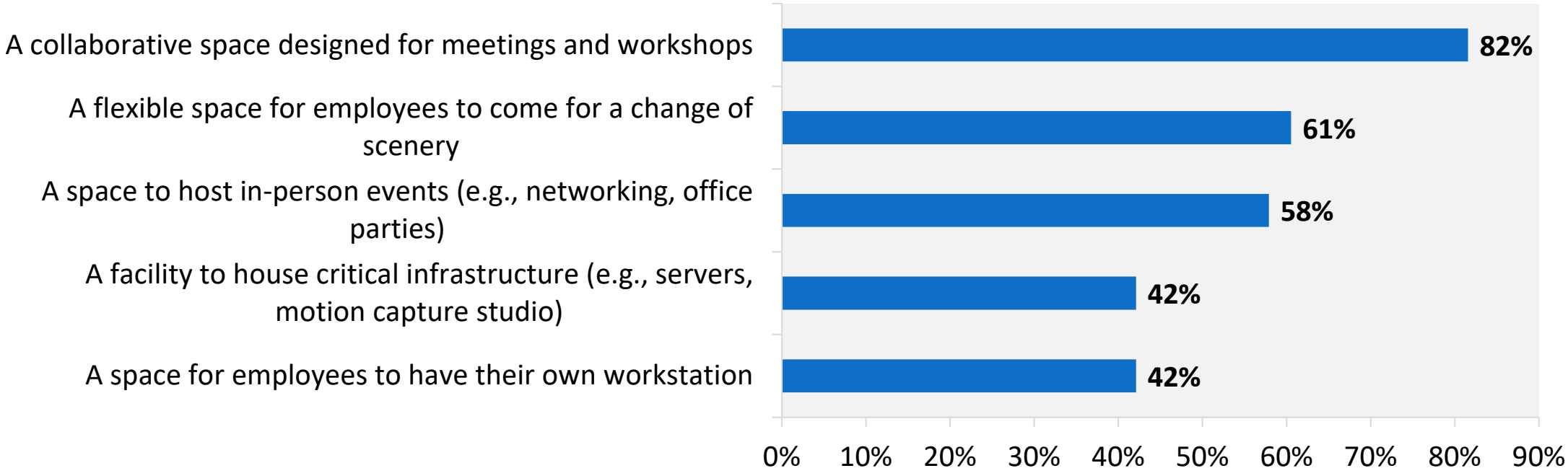


n=153 | Source: estimates based on ESAC 2021 Industry Survey

Companies that anticipate a reduction or modification of their office space intend to redesign their facility primarily to enable collaboration between employees (82%). For 61% of respondents, the new space will offer more flexibility, including providing employees with the opportunity to change their working environment and to get away from their home office.

Less than half of companies (42%) intend to go back to a model with fixed workstations, which reaffirms the evolution of the working models in the video game industry.

Figure 30: Purposes of the modified or reduced office space



n=38 | Source: estimates based on ESAC 2021 Industry Survey

ENTERTAINMENT SOFTWARE ASSOCIATION OF CANADA

Appendix

Nordicity

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 three categories: Micro (less than 4 employees), Standard (5 to 99 employees), Large (more than 100employees). On one instance, Very Large (more than 400 employees) are reported separately.

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, Manitoba and Saskatchewan throughout this report. Datasets were not great enough to allow for a breakout of statistics for the provinces in these regions.

Prairies: A term used to designate Manitoba and Saskatchewan throughout this report.

Methodology

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.

For this study, much of the data presented was derived from the results of an online survey that Nordicity conducted between May and July 2021. 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 937 companies (up from a total of 692 companies in 2019).

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 159 video game companies which 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 159 responses to estimate the degree to which the sample collected reflects the universe of video game activity in Canada.

Methodology

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 159 firms that supplied employment and financial data to the 937 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 937 companies into the three groups based on a review of their websites. 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 2021 survey data was used to develop an expenditure profile which was then applied to the gross expenditure less labour.

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.

Methodology

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 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.

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. Nordicity continued the transition with the 2019 and 2021 reports.

About ESAC

ESAC is the national voice of the video game industry in Canada. We work for our members – Activision Blizzard, Certain Affinity, Code Name Entertainment, Electronic Arts, Gameloft, Glu, Ludia, Microsoft Canada, NetEase Games, Netmarble, Nintendo, Other Ocean, Relic Entertainment, Solutions 2 Go, Sony Interactive Entertainment, Square Enix, Take 2 Interactive, Ubisoft Canada and WB Games Montreal – to ensure legal, regulatory and public affairs environment 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 London (UK), Ottawa, Toronto, and Vancouver Nordicity is ideally placed to assist our clients to succeed in the rapidly evolving global markets.

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