The Canadian English-Language Book Publishing Industry Profile

Final Report

July 2018

Acknowledgements

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ACP thanks staff at the **Department of Canadian Heritage (Book Publishing Policy and Programs)**, **Livres Canada Books**, **BookNet Canada**, and **eBOUND Canada** for their generous cooperation over the course of this project. We would also like to thank all those who participated in the online survey as part of this study.

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Executive Summary

Nordicity was engaged by the Association of Canadian Publishers (ACP) to conduct an economic impact and industry profile study of the Canadian English-language publishing industry. The purpose of this study is to establish baseline indicators of the size, structure and economic impact of the industry. The results of this study rely primarily on three data sources:

- A **universe list**, identifying all in-scope publishers across Canada, including their province, size (by employment), and sources of public funding;
- An **online survey**, to collect information from companies that was not available from administrative sources; and
- **Administrative data sources**, providing information that publishers are required to submit as part of their eligibility for public funding.

In addition, Nordicity facilitated a validation roundtable with ACP Board members to present and discuss the preliminary findings. The objective of this session was two-fold: First, to test the findings against the common understanding of the industry among active publishers; and second, to establish a set of indicators that are likely to be relevant for measuring and tracking the industry in the future.

Size and Structure of the Canadian English-language Publishing Industry

Secondary research identified approximately 245 active English-language Canadian-owned publishers operating in Canada. Most of those companies (about 78%) employ fewer than 10 employees and most are located in the region of Ontario and Quebec. In addition, this region has the highest concentration of larger companies that employ 25 or more employees and accounts for roughly 70% of the direct employment generated by the industry.

Industry Output

Canadian English-language publishers published approximately 6,420 new titles and editions in 2016. Of those, 78% were by Canadian authors and 17% by first-time Canadian authors. In 2016, almost all new titles (96%) were being published in print (including those published in print only and those published in print and digital formats). And 59% of new titles in the same year were being published in both print and digital formats. Scholarly titles were the most likely to be published in digital format, followed by Trade titles, although a higher proportion of Trade titles (vs. other market categories) were published in digital format only.

Labour Profile

The Canadian English-language publishing industry has a predominantly female workforce, with 70% of the total industry workforce (as measured in FTEs) being composed of female workers. The overall average salary per FTE in the industry was $48,500 in 2016, slightly below the national average of $49,900 for the same year. However, when the national average salary was adjusted to align with the gender distribution in the publishing industry, the average salary in the industry outpaced the adjusted average salary for the Canadian workforce overall ($45,900).

Average salaries in the industry vary by region and are the highest in the region of Ontario and Quebec at $50,000. Salaries tend to be higher in larger companies which results in higher average salaries in regions where there is a higher concentration of larger companies (such as the region of Ontario and Quebec).

The Canadian English-language publishing industry boasts a highly experienced workforce; 44% of the workforce in 2016 had 11 or more years of experience in the industry. More experienced workers are more likely to occupy full-time or freelance positions, whereas less experienced workers are more likely to occupy part-time, contract or internship positions.

Revenue Profile and Market Analysis

In 2016, the Canadian English-language publishing industry earned a total of $404 million in revenue. Most (64%) of that revenue came from the sale of published titles. However, the second most significant source of revenue for the industry was book retailing (i.e. retail sales of other publishers' titles), which accounted for 12% of revenue in 2016.

Canadian-authored works accounted for 86% of sales revenue in 2016. Just over two thirds (67%) of sales revenue in 2016 came from Trade books and over one quarter (28%) came from sales of Educational titles.

More than half (57%) of total industry sales revenue in 2016 came from domestic market sales, although the industry does rely on export revenue for a significant portion of its total revenue (43% in 2016). The overwhelming majority (83%) of export sales revenue in 2016 originated from the United States. Export revenue is also largely driven by print sales (83%). However, digital format sales accounted for a slightly greater proportion of total export sales revenue in 2016 than in the domestic revenue mix (7% of export sales revenue compared to 5% of domestic revenue). In addition, revenue from the sale of rights accounted for roughly 10% of all export revenue. The sale of rights largely originated from non-English-speaking markets.

The Economic Impact of the Canadian English-language Publishing Industry

In total the Canadian English-language publishing industry supports the employment of 5,940 FTEs (including direct, indirect and induced employment). As a result, the industry generated a total of roughly $280.3 million in labour income in Canada (including direct, indirect and induced impacts). Workers employed directly by the Canadian English-language publishing industry collectively earned a total of $129.7 million in labour income.

The industry generated a total GDP impact of over $454.9 million (including direct, indirect and induced impact), and directly contributed $150.2 million to the Canadian GDP (see table below).

	Atlantic Canada	British Columbia	Ontario and Quebec	Prairies and Territories	Total
Direct impact	4.0M	27.9M	107.8M	10.6M	**150.2M**
Indirect impact	6.6M	30.0M	143.3M	15.6M	**195.5M**
Induced impact	3.0M	18.4M	79.6M	8.2M	**109.2M**
Total	**13.6M**	**76.3M**	**330.7M**	**34.3M**	**454.9M**

Sources: Nordicity analysis, Canada Book Fund, Industry Canada, The 2018 Canadian Book Publishing Industry Profile Survey

Ongoing Industry Measurement and Tracking

In May 2018, the consulting team presented preliminary findings from the study at a roundtable with members of ACP's Board. Broadly speaking, participants resolved that most of the data presented in this report provides important insight into the structure, activity and health of the Canadian English-language book publishing industry. In particular, the group indicated that all indicators serve a specific purpose depending on the context and the audience (e.g. government relations), even if they are not all critical in every context.

The group also expressed that a more in-depth analysis of gender diversity in the industry (across job functions, seniority, and mode of employment) would be beneficial as well as examining other workforce diversity indicators.

1. Introduction

Nordicity was engaged by the Association of Canadian Publishers (ACP) to conduct an economic impact and industry profile study of the Canadian English-language publishing industry. The purpose of this study is to establish baseline indicators of the size, structure and economic impact of the industry. There are other sources of statistics related to the publishing industry in Canada, however this study is the first of its kind to look specifically at the English-language, Canadian-owned segment of the industry. As such, the objectives for this study are to:

- Measure the economic impact of the industry on the Canadian economy;
- Establish a benchmark for the health and structure of the industry; and
- Establish a framework for ongoing tracking and measurement for the industry.

1.1 Methodology

This section provides an overview of the data sources and methodology used in this study. Appendix A presents a more detailed account of how the study results were calculated using these sources.

Four significant sources of data were used to conduct this study:

- A **universe list**, identifying all in-scope publishers across Canada, including their province, size (by employment), and sources of public funding;
- An **online survey**, to collect information from companies that was not available from administrative sources;
- **Administrative data sources**, providing information that publishers are required to submit as part of their eligibility for public funding; and,
- **Industry validation**, obtained by conducting a validation session including a cross-section of independent publishers in Canada.

While developing the methodology for this study, Nordicity was asked to develop our data collection and analysis plan to incorporate, to the extent possible, the many existing sources of information already collected from the book publishing industry in Canada. This approach has several notable strengths and limitations that should be addressed before we turn to a detailed description of each of the sources listed above.

- **Survey fatigue:** Many of the largest Canadian publishers receive financial support from Canada Book Fund (CBF) and Livres Canada Books (LCB). Each agency has detailed reporting requirements of funding recipients. ACP was cognizant that asking publishers to resubmit detailed information would have an adverse effect on response rates.
- **Sample size:** Because administrative data captures most of the largest publishers in Canada, data from these sources offer excellent coverage of the industry.
- **Fiscal years:** Administrative sources collect data to assess publishers' eligibility for funding, as opposed to our intention of estimating the aggregate activity of the industry in a given time period. As such, CBF and LCB allow applicants to submit data within a range of fiscal year-ends. In developing a survey of the industry, Nordicity used the same specifications as CBF and LCB in asking for data from the 2017-18 reference year (which must not end before October 31, 2015, and must not end after December 31, 2016). **Overall, the data presented in this report provides estimates of the economic and publishing activity of the industry roughly corresponding to 2016.**

1.1.1 Universe list and definitions

In order to estimate figures for the industry as a whole, Nordicity conducted desk research to determine the number and size (by employment) of all **active English-language Canadian publishers** based on databases obtained from, or published by, CBF, LCB, BookNet, eBOUND and ACP.

The criteria used to determine whether publishers qualify as active, English-language, and Canadian-owned are defined as follows:

- **Active publishers** have published at least two titles in the last year;
- **English-language publishers** have published at least four (4) English titles; and,
- **Canadian publishers** are at least 75% Canadian-owned.

1.1.2 Online survey

Nordicity administered an **online survey** to publishers across Canada. The survey was distributed to ACP members, members of ACP's regional affiliate associations, and CBF and LCB's contact databases. The survey was in the field for approximately 6 weeks in January and February of 2018. In total the survey yielded **98 valid responses** after cleaning the data and removing duplicate responses, which represents a **40% response rate** among the **245 active English-language Canadian publishers** identified through desk research.

1.1.3 Administrative data sources

As mentioned above, in addition to the survey, this study draws from four administrative data sources:

- **Canada Book Fund (CBF)** data was used as the main source of detailed financial and publishing activity information covering most of the largest publishers in Canada. Where Nordicity identified gaps in the CBF data, the online survey was designed to collect supplementary information that could be mapped to CBF data to provide more detail.
    - In the 2017-18 reference year, 243 Canadian publishers received publishing support from CBF, of which 120 are part of the English-language group.
    - As part of the application process, these companies provide detailed employment and financial data to CBF.
    - Due to reporting timelines, publishing activity estimates are based on CBF's publishing report for reference year 2016-17.
- **Livres Canada Books (LCB)** data was used to determine the volume of export sales that publishers generate in each international market.
    - In the 2017-18 reference year (corresponding to CBF reference years), 154 publishers received support from LCB. This set of publishers largely overlaps with companies that received CBF support.
    - LCB collects export sales volumes of physical and digital publications by export market (country).
- **BookNet** data was used to validate Nordicity's broader estimates about sales of Trade print books in the Canadian market.

- BookNet maintains a database of ISBNs in Canada ("BiblioShare") and Point of Sale (POS) sales data ("SalesData") covering unit and dollar sales of print books in the Canadian market.
- This data is largely limited to Trade data, with minimal coverage of Scholarly or Educational works.
- Some retailers selling into the Canadian market do not report their sales to BookNet. BookNet estimates that their SalesData figures cover approximately 85% of physical Trade sales in Canada.

- **eBOUND** data was used to validate Nordicity's broader estimates about sales of digital formats in the Canadian market.
  - Like BookNet, eBOUND also uses the BiblioShare database to associate ISBNs with publishers.
  - eBOUND records sales of digital works (eBooks) that are sold through online channels by Canadian publishers.

1.1.4 Industry validation

Once Nordicity had prepared preliminary results of the analysis, these findings were presented to selected ACP board members to a) ensure that the results are consistent with the perspectives of publishers that are active in the industry, and b) to establish a set of indicators that are likely to be relevant toward understanding the industry in the future.

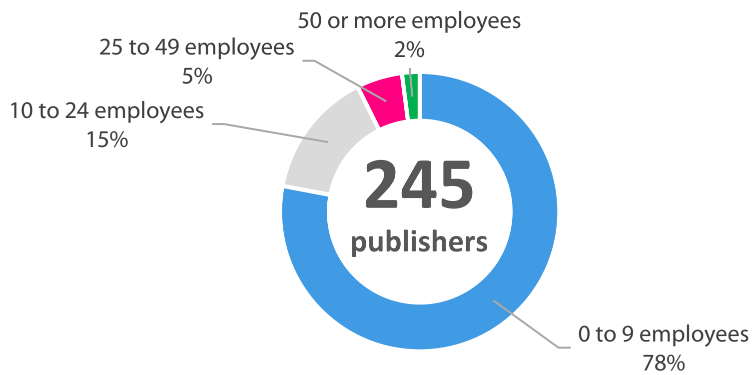
2. Size and Structure of the Industry

The following section describes the size and structure of the Canadian English-language publishing industry.

2.1 Number of Companies

One measure for the size of an industry is the number of active companies operating within it. Using secondary research, Nordicity identified a total of **245 active English-language Canadian-owned publishers** operating in Canada. The following chart breaks down these publishers by size (measured by employment).

Figure 1: Active English-language Canadian publishers, by size (employment)

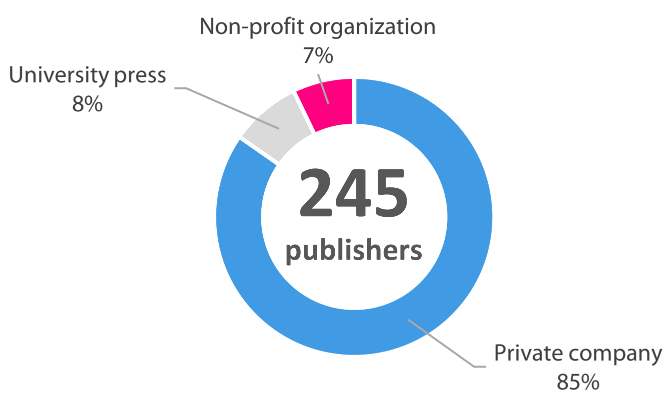


Source: Nordicity analysis, The 2018 Canadian Book Publishing Industry Profile Survey

As the preceding chart shows, the industry is largely composed of small and medium-sized companies. Indeed, **78% of companies in the English-language publishing industry are in the smallest employment bracket (0 to 9 employees)** and 93% have fewer than 25 employees.

In addition to a variety of company sizes, the industry is composed of different types of organizational structure. The following chart breaks down these publishers by type. The vast majority of English-language publishers in Canada are structured as private companies.

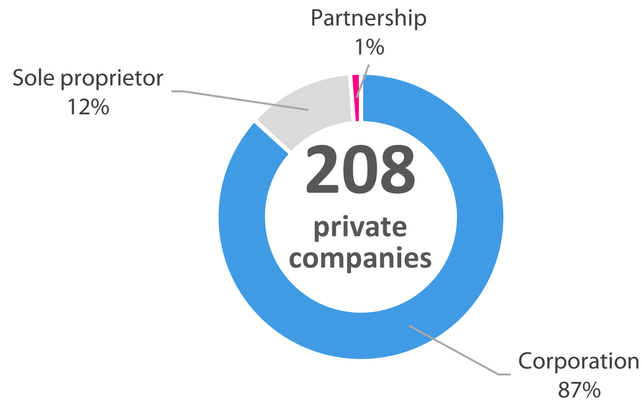
Figure 2: Active English-language Canadian publishers, by type



Source: Nordicity desk research

Of the private companies shown above (85% of 245 total publishers), the majority are structured as corporations (87%), followed by sole proprietorship (12%).

Figure 3: Corporate structure of private companies



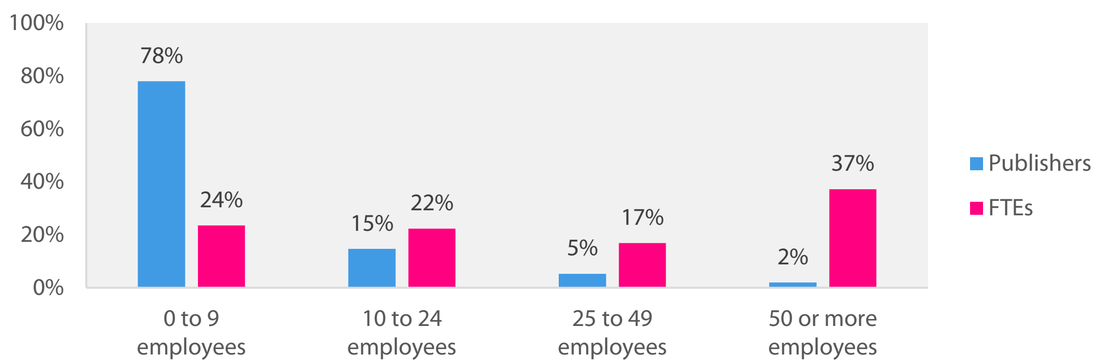
Source: Nordicity analysis, The 2018 Canadian Book Publishing Industry Profile Survey

2.2 Employment

Another measure of the size of the industry is the number of people it employs. Nordicity estimates that **active Canadian English-language publishers *directly* employed roughly 2,670 full-time equivalents (FTEs) in 2016**.

The following chart breaks out direct industry employment by company size, illustrating that the largest proportion (37%) of the industry's employment can be attributed to only a small number of larger companies. On the other hand, smaller publishers, which make up most of the companies in the industry, only employ about one quarter (24%) of the industry's total workforce.

Figure 4: Distribution of companies and employment, by company size

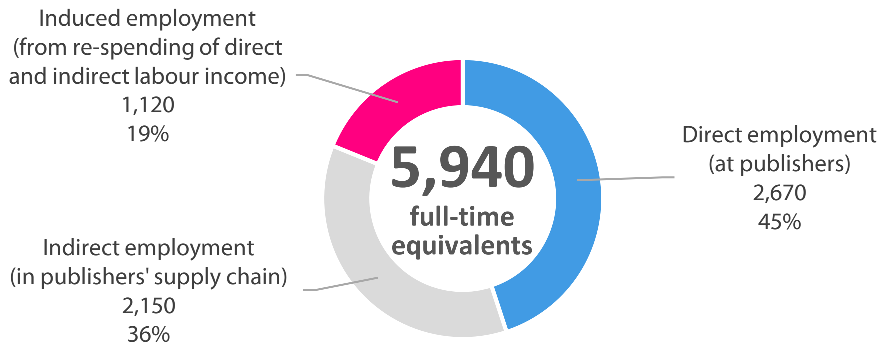


Sources: Nordicity analysis, Canada Book Fund, The 2018 Canadian Book Publishing Industry Profile Survey

In addition to direct employment, Canadian English-language publishers also generated significant spin-off employment in the Canadian economy in 2016. Indeed, the industry supported an additional 2,150 FTEs through spending directed at their suppliers (*indirect* employment). Furthermore, the re-spending of employment income earned by employees of publishers and their suppliers supported the *induced* employment of an additional 1,120 FTEs. Altogether, Nordicity estimates that **the**

Canadian English-language publishing industry supported the employment of 5,940 FTEs including direct, indirect and induced employment in 2016**, as illustrated in the following chart.

Figure 5: Employment impact of the English-language Canadian publishing industry

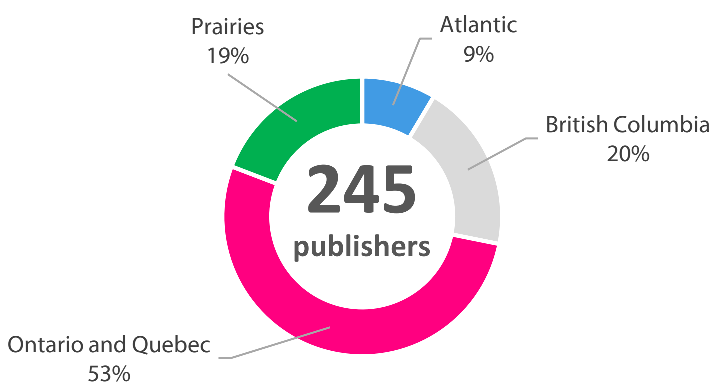


Sources: Nordicity analysis, Canada Book Fund, The 2018 Canadian Book Publishing Industry Profile Survey

2.3 Geography

Looking at the industry through a geographical lens, the following chart shows that just over half of all Canadian English-language publishers are located in Ontario and Quebec.

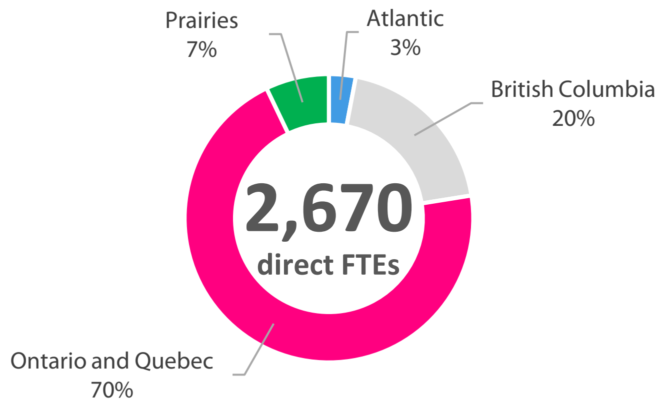
Figure 6: Geographical distribution of active, English-language Canadian publishers



Source: Nordicity desk research

As a result, employment in the industry is very much concentrated in Ontario and Quebec, which accounted for about 70% of the industry's direct employment impact in 2016 (see Figure 7).

Figure 7: Direct employment impact (FTEs), by region



Sources: Nordicity analysis, Canada Book Fund, The 2018 Canadian Book Publishing Industry Profile Survey

Key Takeaways: Size and Structure of the Industry

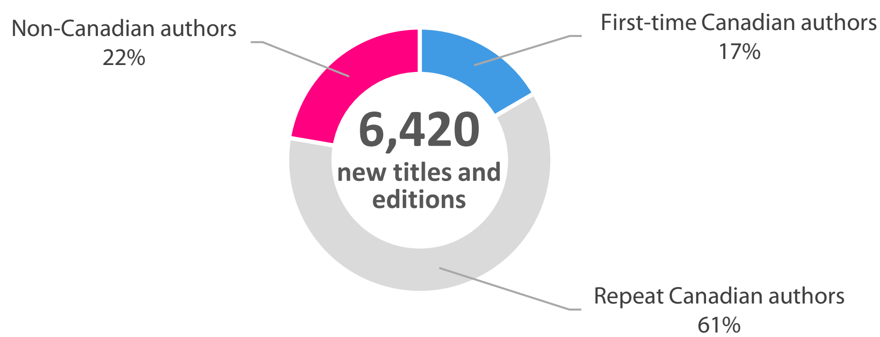
- Research indicates that there are approximately 245 active English-language Canadian-owned publishers operating in Canada.
- The industry is primarily made up of small companies; 78% of publishers employ fewer than 10 employees.
- Canadian English-language publishers *directly* support employment for roughly 2,670 FTEs.
- The industry further supported spin-off employment of 3,270 FTEs in the Canadian economy, consisting of indirect employment of 2,150 FTEs (in publishers' supply chains) and induced employment of 1,120 FTEs (supported by the re-spending of income earned by direct and indirect employees).
- The industry is primarily concentrated in Ontario and Quebec, both in terms of the number of companies (53%) and direct industry employment (70%).

3. Industry Output

The following section provides an overview of the current activity in the Canadian English-language publishing industry. It described the number and types of titles being published by the industry, what authors are being published, and the most common publishing formats.

Overall, Nordicity estimates that active Canadian English-language publishers published **6,420 new titles and editions** in 2016, of which **78% were by Canadian authors.** As the chart below also illustrates, **17% of new works were by first-time Canadian authors**.

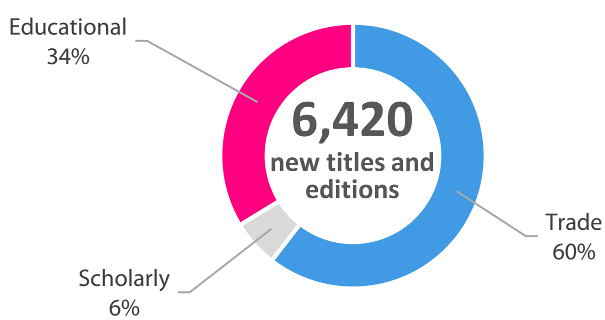
Figure 8: New works, by author type



Sources: Nordicity analysis, Canada Book Fund, The 2018 Canadian Book Publishing Industry Profile Survey

The following chart shows new works broken down by market category[1]. The bulk (60%) of new titles or editions were in the Trade category, followed by Educational works which made up just over a third (34%) of all new titles published in 2016.

Figure 9: New works, by market category



Sources: Nordicity analysis, Canada Book Fund, The 2018 Canadian Book Publishing Industry Profile Survey

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[1] **Market category** is sometimes referred to as *trade category*. In effect, it is one level of categorization higher than what we would typically think of as genre. **Trade** refers to works that are marketed to general consumer audiences including fiction and non-fiction (including adults and children). **Scholarly** works are typically published by professional/university presses and are marketed to a specialized audience. **Educational** works consist of textbooks and course materials for educational institutions.

When examined by author citizenship (shown in the table below), it appears that works by non-Canadian authors published by Canadian publishers were slightly more likely to be Educational titles than Trade titles, whereas works by Canadian authors published by Canadian companies were far more likely to be Trade titles.

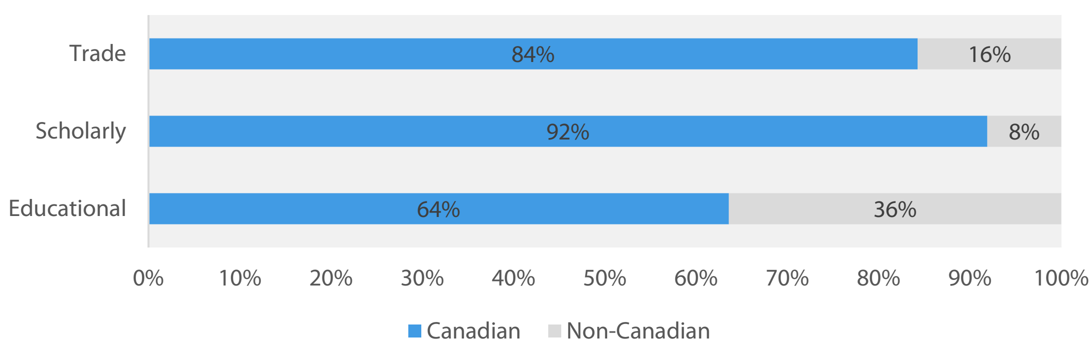
Table 1: New works, by author citizenship and market category

Author citizenship	Market category	New works	Total new works
Canadian	Trade	3,270	4,990
	Scholarly	340	
	Educational	1,380	
Non-Canadian	Trade	610	1,430
	Scholarly	30	
	Educational	790	
Total	**Trade**	**3,890**	**6,420**
	Scholarly	**370**	
	Educational	**2,170**	

Sources: Nordicity analysis, Canada Book Fund, The 2018 Canadian Book Publishing Industry Profile Survey

Looking at it from another angle, the table below illustrates that Scholarly works were the most likely to be of Canadian authorship, whereas slightly less than two-thirds of Educational works (64%) were by Canadian authors.

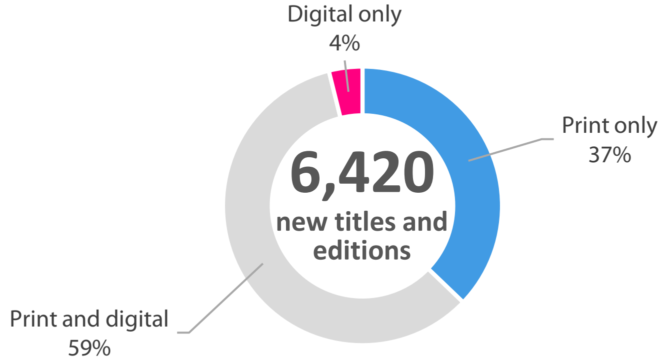
Figure 10: Percentage of new works by Canadian and Non-Canadian authors, by market category



Sources: Nordicity analysis, Canada Book Fund, The 2018 Canadian Book Publishing Industry Profile Survey

Looking at the formats of works published in 2016, the following chart shows that **almost all (96%) new works were produced in print, although a large proportion (59%) were produced in both print *and* digital formats.** And while most works were produced in digital format as well, **only 4% of new works were published in digital format only**. Just over a third of new works (37%) were published in print only.

Figure 11: New works, by format



Sources: Nordicity analysis, Canada Book Fund, The 2018 Canadian Book Publishing Industry Profile Survey

Looking at new titles broken down by format and market category, the following table shows that the majority (84%) of titles published in digital format only were Trade titles and almost none of the titles produced in print only were Scholarly works (less than 1% of all print only titles).

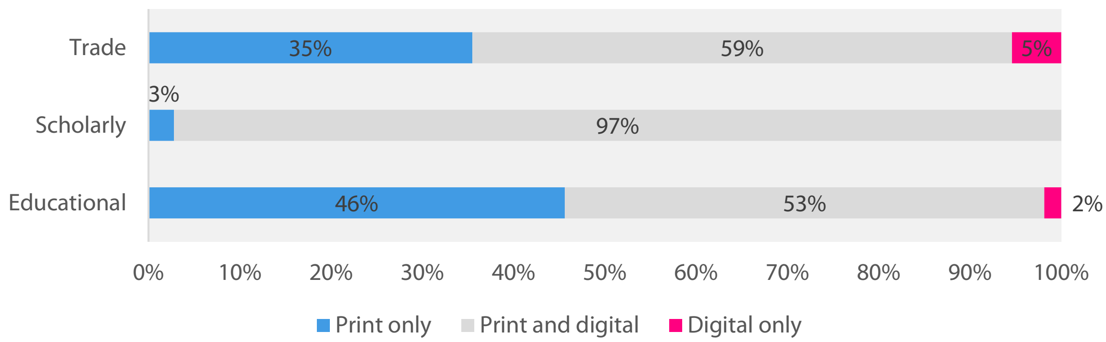
Table 2: New works, by format and market category

Format(s)	Market category	New works	Total new works
Print only	Trade	1,380	2,390
	Scholarly	10	
	Educational	990	
Print and digital	Trade	2,300	3,790
	Scholarly	350	
	Educational	1,140	
Digital only	Trade	210	250
	Scholarly	0	
	Educational	40	
Total	**Trade**	**3,890**	**6,420**
	Scholarly	**370**	
	Educational	**2,170**	

Sources: Nordicity analysis, Canada Book Fund, The 2018 Canadian Book Publishing Industry Profile Survey

Looking at the results from a different angle, the following chart indicates that Educational works are the more likely to be produced in print only, with 46% of new works in that category published only in print. On the other hand, nearly all Scholarly titles (97%) were produced for both formats, with only 3% of works produced for print only and none produced only in digital format. Among Trade titles, the majority (59%) were published in both digital and print format. These results indicate that Trade markets are best suited to digital formats, although not enough for digital formats to take precedence over print.

Figure 12: Percentage of new works in each format, by market category



Sources: Nordicity analysis, Canada Book Fund, The 2018 Canadian Book Publishing Industry Profile Survey

Key Takeaways: Industry Output

- Canadian English-language publishers published 6,420 new titles and editions in 2016.
- 78% of new titles published in 2016 were by Canadian authors; 17% were by first-time Canadian authors.
- 96% of new titles were published in print (including those published in print only and those published in print *and* digital formats).
- Most (59%) titles were printed in both print *and* digital format.
- Scholarly titles were most likely to be published in digital format (in combination with print), with trade titles being the second most likely.
- Trade titles were most likely to be published in digital format only.

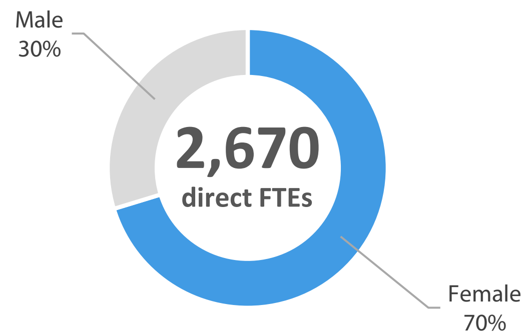
4. Labour Profile

As indicated in section 2.2, Canada's English-language publishing industry boasted a labour force of roughly 2,670 full-time equivalents (FTEs) in 2016. The following section presents a profile of the labour force that drives Canada's English-language publishing industry, looking at gender diversity in the workforce, average salaries, and the distribution of the workforce across job categories.

4.1 Gender Diversity

As the following chart demonstrates, the industry workforce is largely made up of women. Indeed**, 70% of the total industry workforce (as measured in FTEs) in 2016 was composed of female workers.**

Figure 13: English-language Canadian publishing workforce, by gender

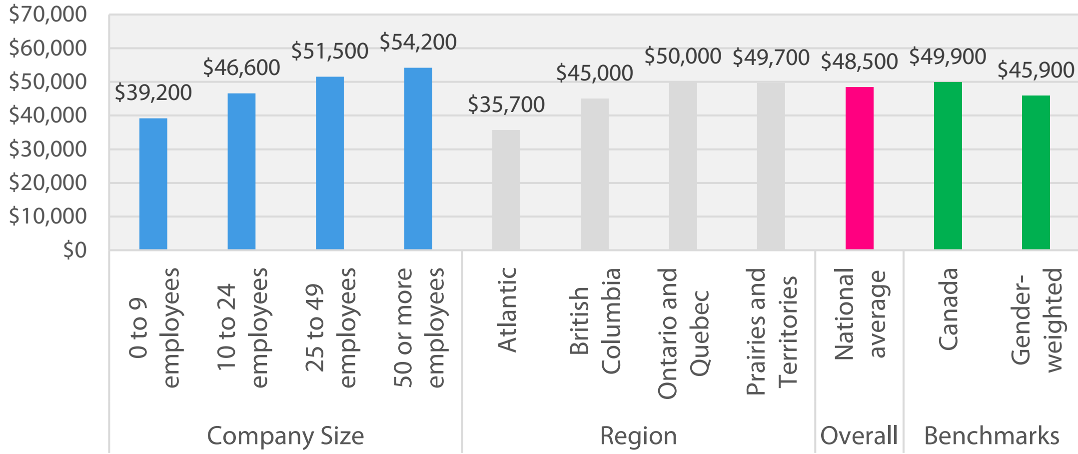


Sources: Nordicity analysis, Canada Book Fund, The 2018 Canadian Book Publishing Industry Profile Survey

4.2 Average Salary

The average annual salary per direct FTE in the English-language Canadian publishing industry in 2016 was $48,500. The following chart breaks out average salaries of full-time equivalents, by company size and by region. Overall, larger companies tend to have higher average salaries. The differences observed between regions recall the concentration of larger companies in each province (as illustrated in Table 1). Given that salaries tend to be higher at larger companies, this would exert an upward influence on regional average salaries in areas where there is a higher concentration of larger companies (which employ a higher proportion of the regional workforce).

Figure 14: Average annual salary per FTE, by company size and region



Sources: Nordicity analysis, Canada Book Fund, The 2018 Canadian Book Publishing Industry Profile Survey

To put these findings in context, the annual national average employment income per FTE in Canada in 2016 was $49,900[2], across all industries. As such, the average salary in the publishing industry in 2016 was slightly below the national average for the same year.

Since 70% of the workforce in the Canadian English-language publishing industry is female, it makes sense to take an additional step to make a like-for-like comparison against the national average, adjusting the average for a population that is 30% male and 70% female. Using additional information from Statistics Canada, Nordicity estimates that the national average salary per FTE in 2016 would be approximately $45,900, after adjusting the calculation for a 70:30 gender ratio.[3] As such, while the average earnings per FTE in the publishing industry ($48,500) was slightly lower than the unadjusted national average ($49,900), when compared to a benchmark that mirrors the gender distribution observed in the publishing industry workforce the average salary per FTE in the publishing industry modestly exceeds the benchmark ($45,900). This could indicate that women in the publishing industry have slightly higher average salaries than in other industries.

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[2] Statistics Canada. Table 14-10-0223-01 Employment and average weekly earnings (including overtime) for all employees by province and territory, monthly, seasonally adjusted

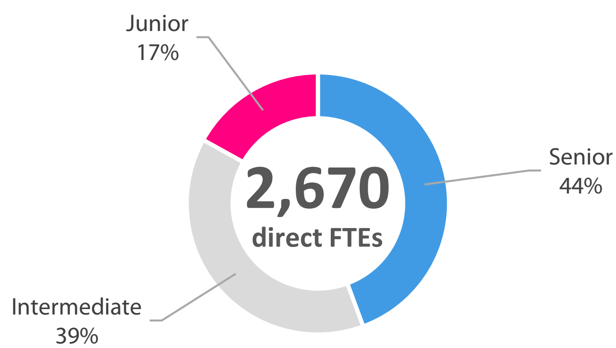
[3] Statistics Canada. Table 11-10-0240-01 Distribution of employment income of individuals by sex and work activity, Canada, provinces and selected census metropolitan areas

Methodological note: In order to compute the gender adjusted benchmark referenced above, Nordicity calculated the percentage difference between the overall average income of individuals in Canada, and a weighted average in which male and female incomes were weighted 30% and 70% respectively (as observed in the publishing industry workforce). This percentage difference was then applied to the average income per FTE calculated from Statistics Canada Table 14-10-0223-01 (which is not broken out by gender).

4.3 Experience and Job Function

Looking at the structure of the industry workforce from a seniority perspective, the following chart illustrates that the Canadian English-language publishing industry boasts a highly experienced workforce. Nearly half (44%) of the workforce was composed of senior workers (with 11 or more years of experience in the industry) in 2016 and over a third (39%) of the workforce was made up of those at the intermediate level.[4] Concurrently, the industry has a very small junior workforce, representing only 17% of the total workforce in 2016. These figures likely result from the fact that the industry is largely made up of very small companies (employing fewer than 10 employees). Those companies are more likely to have a small, more experienced workforce, with very few (if any) more junior employees.

Figure 15: Direct employment by seniority

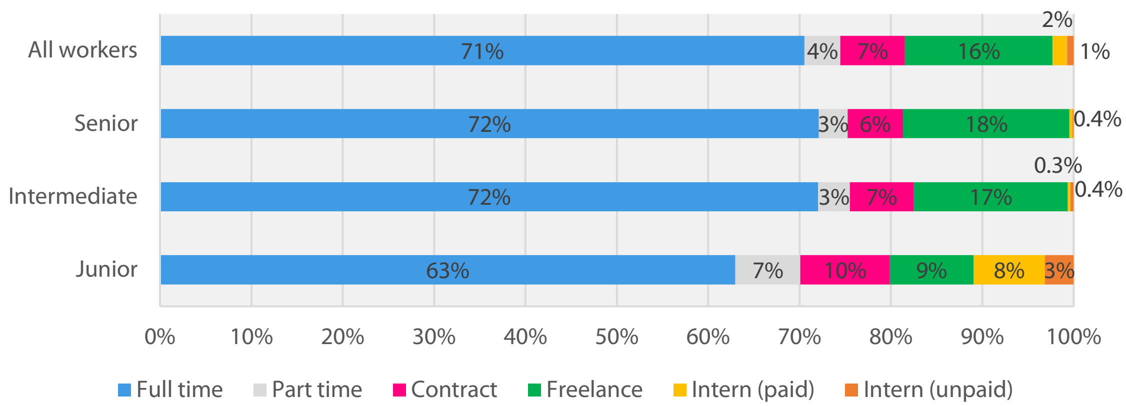


Sources: Nordicity analysis, Canada Book Fund, The 2018 Canadian Book Publishing Industry Profile Survey

The following chart further breaks out the workforce looking at employees by *mode of employment* and by seniority. This visualization shows that the greatest concentration of senior workers in 2016 (with 11 or more years in the industry) was in full-time positions (72% of senior workers) and freelance (18%) roles. Conversely, junior workers were more likely to be employed in part-time, contract and intern roles than more experienced workers in the same year. Again, the results align with an industry structure that is composed of smaller organizations that have fewer, more experienced employees.

[4] For the purposes of this study, the three levels of seniority were defined as follows: **Junior** – less than 3 years of experience; **Intermediate** – between 3 and 10 years of experience; and, **Senior** – 11 or more years of experience in the industry.

Figure 16: Percentage of total direct FTEs at each level of seniority, by mode of employment



Source: The 2018 Canadian Book Publishing Industry Profile Survey

Looking at the labour force from a different angle, the following table breaks out employees by *job function* and seniority. Senior-level workers (with more than 11 years of industry experience) hold nearly all executive positions and tend to be concentrated in editorial positions. On the other hand, Rights (rights managers and related jobs) and Technology/IT/Software Development job functions together accounted for only 6% of the senior-level workforce in 2016. Sales, Marketing and Publicity accounted for the highest proportion of junior and intermediate-level jobs.

Table 3: Percentage of total direct FTEs, by job function and seniority

Job Function	Seniority			Total
	Senior	Intermediate	Junior	
Executive (CEO, Exec VP, Exec Asst.)	9%	0%	0%	**10%**
Editorial (Publisher, Editor, Editorial Asst.)	14%	7%	3%	**25%**
Sales, Marketing and Publicity	8%	14%	6%	**28%**
Design and Production	6%	6%	3%	**16%**
Rights	1%	1%	0%	**2%**
Support Services (Operations, Finance)	5%	8%	3%	**16%**
Technology/IT/Software Development[5]	1%	2%	1%	**4%**
All Job Functions	**44%**	**39%**	**17%**	**100%**

Source: The 2018 Canadian Book Publishing Industry Profile Survey

[5] Note that the Technology/Digital category describes only a specialized portion of the workforce (IT support and software development) and does not fully capture the increasingly 'digital' skill set demanded of all job functions. Stakeholders at the industry validation session noted that the shift to digital formats has increased the demands on existing job functions to support digital products.

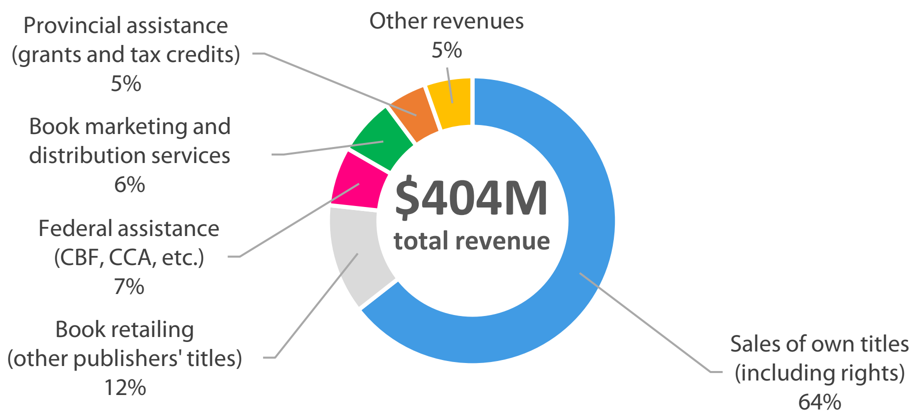
Key Takeaways: Labour Profile

- 70% of the total industry workforce (as measured in FTEs) is composed of female workers.
- The average annual salary per FTE in the Canadian English-language publishing industry was $48,500.
- Average salaries tend to be higher in larger companies and in regions where there is a higher concentration of larger companies.
- The Canadian English-language publishing industry boasts a highly experienced workforce. 44% of the workforce in 2016 had 11 or more years of experience in the industry.
- More experienced workers are more likely to occupy full-time or freelance positions.

5. Revenue Profile and Market Analysis

The following section discusses where Canadian English-language publishers earn their revenue. Nordicity estimates that **the Canadian English-language publishing industry earned a total of $404 million in revenue in 2016.**[6] The following chart shows the breakdown of revenue in the Canadian English-language publishing industry. Sales of published titles accounted for almost two thirds of the industry's revenue in 2016. However, the second most significant source of revenue in the industry came from book retailing, which refers to retail sales of other publishers' titles.[7] Note that this breakdown represents the combined revenues of all Canadian English-language publishers, including the contribution of larger, and often more diversified, companies.

Figure 17: Sources of revenue



Sources: Nordicity analysis, Canada Book Fund, The 2018 Canadian Book Publishing Industry Profile Survey

Taking a closer look at sales revenue (i.e., "Sales of own titles" in the preceding chart), the following chart illustrates that **Canadian-authored works accounted for 86% of sales revenue** in the industry, which aligns with the fact that Canadian-authored titles also made up the bulk (78%) of new titles published by Canadian English-language publishers (as reported in Section 3).

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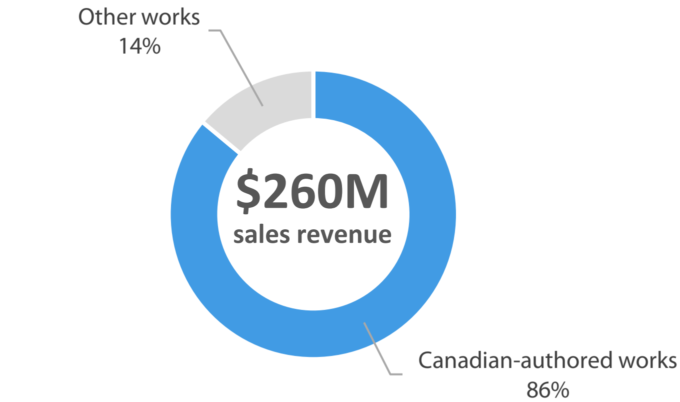
[6] Total revenue includes all net revenue (sales are reported net of returns) – in particular, this includes grants, tax credits, and revenues earned through activities that are not publishing-related.

[7] The activity captured under "Book retailing (other publishers' titles)" could include activity related to the Canadian publishers providing agency services (i.e. they represent foreign publishers in the Canadian market). However, it could also include other retail activity. More detailed data regarding what specific activities are included in that revenue category was not available.

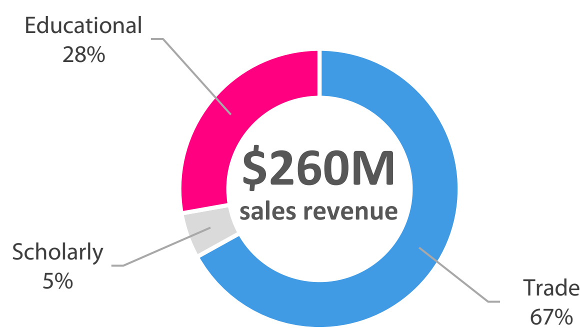
Figure 18: Sales revenue from Canadian-authored works



Sources: Nordicity analysis, Canada Book Fund, The 2018 Canadian Book Publishing Industry Profile Survey

Like Canadian authorship, the market categories contributing the most to publisher sales revenue largely parallel the distribution observed in the publication of new titles in the industry (see Section 3). Indeed, just over two thirds (67%) of revenue in 2016 came from Trade books, and only a relatively small amount (5%) came from Scholarly titles.

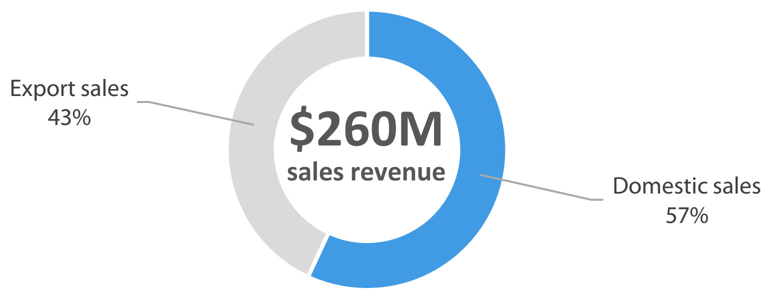
Figure 19: Sales revenue from each market category of book



Sources: Nordicity analysis, Canada Book Fund, The 2018 Canadian Book Publishing Industry Profile Survey

Looking at sales by geographic market, the following chart shows that **more than half (57%) of industry sales revenue in 2016 originated from the domestic market.**

Figure 20: Sales revenue by geographical origin



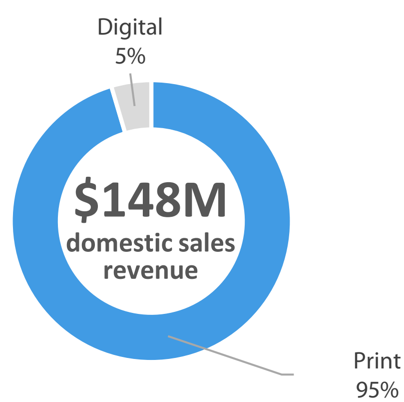
Sources: Nordicity analysis, Canada Book Fund, The 2018 Canadian Book Publishing Industry Profile Survey

The following subsections provide a closer look at domestic and export sales separately.

5.1 Domestic Revenue

Aligning with the distribution of production across digital and print formats (discussed in Section 3), domestic sales revenue in 2016 was dominated by print sales, as shown in the chart below. Digital sales only accounted for 5% of total sales revenue for the industry. Considering that 59% of new works in 2016 were published in both digital and physical formats, and 4% were published in digital format only, there is a considerable mismatch between the level of production of new digital works and the revenue earned from sales of digital products. This discrepancy can likely be explained by the lower price point for digital format works but could also indicate lower unit sales for digital works as well. Stakeholders that participated in the industry validation session noted that publishing in digital formats (in addition to print) is necessary to ensure a publication's competitiveness in the marketplace; however, there is insufficient incremental return to cover the cost of developing works for an entirely separate format.

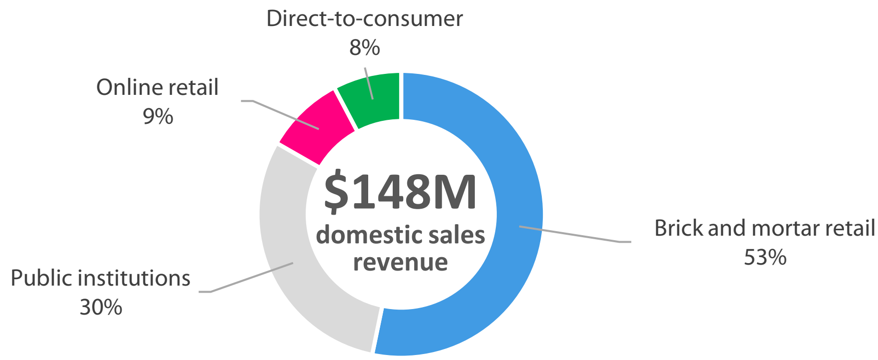
Figure 21: Domestic sales revenue by format



Sources: Nordicity analysis, Canada Book Fund, The 2018 Canadian Book Publishing Industry Profile Survey

Looking at sales revenue by sales channel, the following chart illustrates that brick and mortar retailers (including all bookstores and physical retailers) accounted for 53% of the industry's domestic sales revenue in 2016 and public institutions (i.e., public libraries and other public institutions) accounted for 30% of total sales (by dollar value) in the same year. Direct-to-consumer sales by publishers represented 8% of total sales. These results indicate that in the domestic market, brick and mortar retail remains the most important sales channel for the industry, despite the prevalence of e-retail.

Figure 22: Domestic sales revenue by sales channel

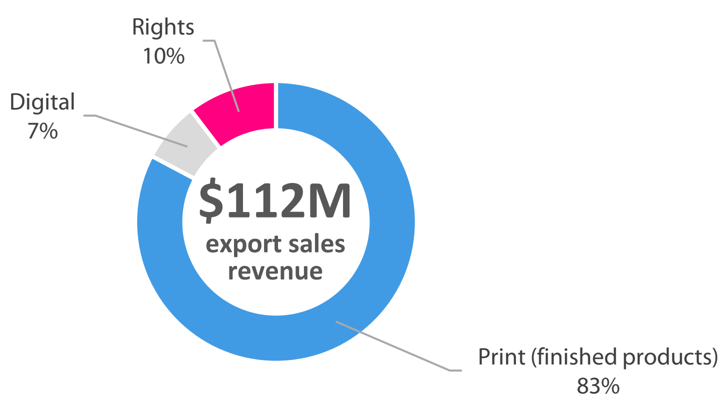


Sources: Nordicity analysis, Canada Book Fund, The 2018 Canadian Book Publishing Industry Profile Survey

5.2 Export Revenue

As was the case with domestic sales revenue**, export revenue is also largely driven by print sales (83%).** However, digital format sales accounted for a slightly greater proportion of total export sales revenue in 2016 than in the domestic revenue mix (7% of export sales revenue compared to 5% of domestic revenue). In addition, revenue from the sale of rights accounted for roughly 10% of all export revenue.

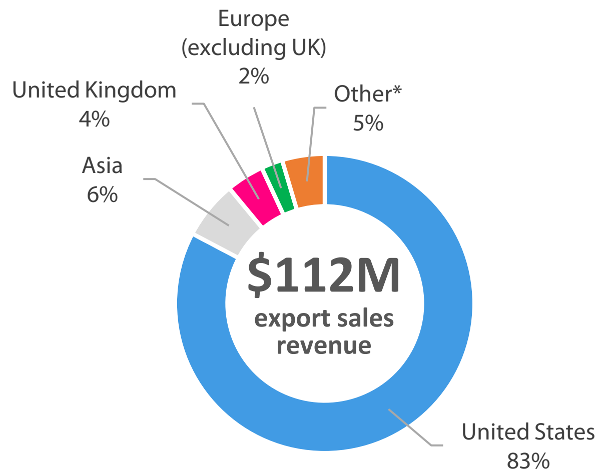
Figure 23: Export sales revenue by format



Sources: Nordicity analysis, Canada Book Fund, Livres Canada Books, The 2018 Canadian Book Publishing Industry Profile Survey

Looking at export sales by geographical market, the following chart demonstrates that **the vast majority (83%) of export sales revenue in 2016 originated in the United States.**

Figure 24: Export sales revenue by geographical market



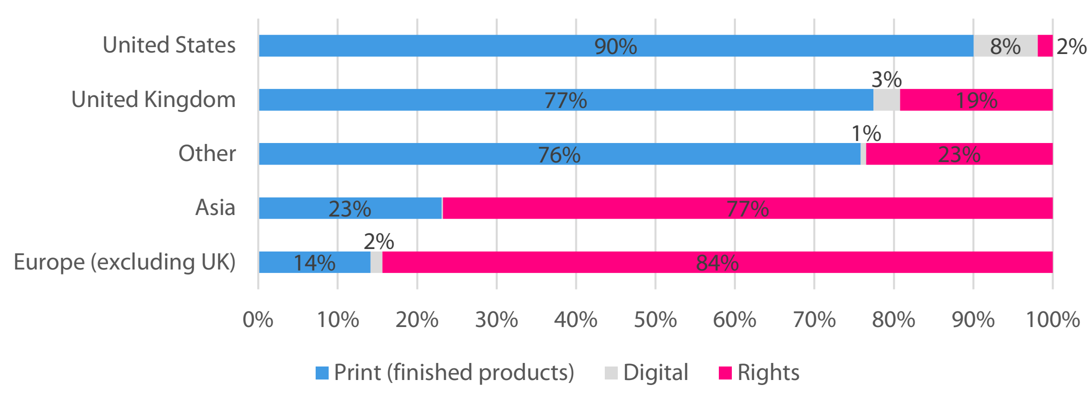
* **Other** includes: Latin America, the Caribbean, South America, Africa, Australia, and New Zealand.

Sources: Nordicity analysis, Canada Book Fund, Livres Canada Books, The 2018 Canadian Book Publishing Industry Profile Survey

Looking at export sales by format in different geographical markets, the following chart shows that print accounted for the majority of sales revenue in the major English-language markets (the United States and the UK). On the other hand, the sale of rights accounted for a larger portion of sales revenue in markets with a larger portion of non-English consumers, likely due to the practice of selling rights for specific languages.

The US market showed the largest proportion of digital sales compared to others, including the domestic market. Indeed, digital sales accounted for 8% of export revenue from the US and only 5% of domestic sales revenue (as shown in section 5.1).

Figure 25: Export sales revenue, format mix by geographical market



Sources: Nordicity analysis, Canada Book Fund, Livres Canada Books, The 2018 Canadian Book Publishing Industry Profile Survey

Key Takeaways: Revenue Profile and Market Analysis

- The Canadian English-language publishing industry earned a total of $404 million in revenue in 2016.
- Most (64%) of the industry's revenue in 2016 came from the sale of published titles. However, the second most significant source of revenue in the industry came from book retailing, which refers to retail sales of other publishers' titles (accounting for 12% of revenue in 2016).
- Canadian-authored works accounted for 86% of sales revenue in 2016.
- Just over two thirds (67%) of revenue in 2016 came from Trade books and almost one quarter (28%) came from sales of Educational titles.
- More than half (57%) of total industry revenue in 2016 came from domestic market sales, although the industry does rely on export revenue for a significant portion of its total revenue (43% in 2016).
- The overwhelming majority (83%) of export sales revenue in 2016 originated from the United States.
- Print sales accounted for the majority of revenue in both the domestic and export markets.
- Digital sales accounted for a slightly larger proportion of export than in the domestic market.
- The sale of rights largely originated from non-English-speaking markets.

6. Economic Impact of Canada's English-language Book Publishing Industry

The following section outlines the additional economic impacts that the Canadian English-language publishing industry has on the Canadian economy.[8] All economic impacts presented in this section are stated using direct, indirect, and induced impact classifications. These classifications for economic activity are explained in terms of the book publishing industry in the following table.

Table 4: Description of direct, indirect, and induced impacts for the book publishing industry

Impact	Description
Direct impact	▪ Wages and profit in the book publishing industry
Indirect impact	▪ Wages and profit resulting from spending by the book publishing industry in supplier industries (e.g. printing)
Induced impact	▪ Spending of labour wages earned by workers in direct and indirect impacts

6.1 Expenditure Profile

Canadian English-language publishers spent a total of $386 million in 2016. In order to assess the economic impact of the publishing industry, Nordicity used survey data, CBF application data, and Industry Canada's Small Business Profiles to construct a detailed expenditure breakdown that is representative of companies in the Canadian publishing industry. The following table shows the average allocation of expenditures across different spending categories for the industry in aggregate[9]. The industry spends roughly one third of its expenses on salaries and wages and over one quarter of its expenses are from printing and publishing fees from third party services.

Based on average expenditure and revenue figures, Nordicity estimates that the average profit margin for companies in the Canadian English-language publishing industry is roughly 4.4%.

Table 5: Expenditure profile for the Canadian publishing industry

Expenditure category	Line item	Expenditure profile
Salaries and wages	Employee wages and benefits	28%
	Freelancer/contract worker wages and benefits	5%
Operating expenses	Third-party manufacturing/printing services	28%
	Copyright fees and royalties	11%
	In-house manufacturing	7%
	Marketing	3%
	Legal and accounting	2%
	Rent	1%
	Distribution and wholesaling (third-party services)	1%

[8] Nordicity uses its proprietary MyEIA (My Economic Impact Assessment) model to estimate the economic impacts.

[9] Note that *expenditures* used to model the economic impact of the industry differ from the categorization of *expenses* typically reported in financial statements. This expenditure profile disaggregates the full cost of labour (i.e., salaries, wages and benefits) from the cost of goods sold (COGS) as an input to the economic model.

Expenditure category	Line item	Expenditure profile
	Depreciation	1%
	Other expenses (utilities, insurance, interest, etc.)	12%
Total		**100%**

Sources: Nordicity analysis, Canada Book Fund, Industry Canada, The 2018 Canadian Book Publishing Industry Profile Survey

6.2 Labour Income and Employment Impact

A significant part of the economic impact of an industry is in the employment it supports in a given economy. As discussed in Section 2.2, the Canadian English-language publishing industry supported a total of 5,940 FTEs in 2016 and directly employed roughly 2,670 FTEs. The table below provides a breakdown of the direct, indirect and induced employment impact of the industry, by region. As the table indicates, much of the employment impact generated by the industry is concentrated in Ontario and Quebec where the vast majority of publishers are located, including the largest concentration of larger companies (as discussed in section 2.1).

Table 6: Employment impact (FTEs) of the English-language Canadian publishing industry[10]

	Atlantic Canada	British Columbia	Ontario and Quebec	Prairies and Territories	Total
Direct impact	80	520	1,880	190	**2,670**
Indirect impact	70	330	1,580	170	**2,150**
Induced impact	30	190	820	80	**1,120**
Total	**180**	**1,040**	**4,280**	**440**	**5,940**

Sources: Nordicity analysis, Canada Book Fund, Industry Canada, The 2018 Canadian Book Publishing Industry Profile Survey

Following from the employment impact, the majority of the economic benefit generated by an industry arises through the labour income (i.e., salaries and benefits) earned by industry employees and associated with indirect and induced impact employment. **In 2016, workers employed in the Canadian English-language publishing industry collectively earned a total of $129.7 million in labour income, as shown in the table below.** In addition, the indirect and induced employment generated by the industry collectively generated over $150.6 million in labour income for Canadian residents in the same year. **Overall, the industry generated a total of roughly $280.3 million in labour income in Canada.**

Given that the region of Ontario and Quebec accounts for the largest proportion of the industry's employment and that average salaries tend to be higher in the region, it follows that the biggest contribution to the industry's labour income impact also comes from that region. Indeed, as shown in the table below the region of Ontario and Quebec accounts for almost three quarter of the total labour income impact generated by the industry.

[10] Total employment impact includes the following components: direct employment (workers directly employed by English-language Canadian publishers); indirect employment (workers in book publishers' supply chains); and induced employment (employment supported by re-spending of labour income earned by direct and indirect employees). Indirect and induced employment is limited to that which occurs within Canada, although such workers may not be located in the same geographical regions as publishers whose activity supports these jobs.

For example, a publisher in Alberta may obtain paper products from a supplier in British Columbia; however, all indirect and induced jobs 'supported' in that way by the Alberta publisher would be reported alongside the Alberta company in the 'Prairies' category above.

Table 7: Labour income impact ($) of the English-language Canadian publishing industry

	Atlantic Canada	British Columbia	Ontario and Quebec	Prairies and Territories	Total
Direct impact	3.0M	23.4M	94.0M	9.3M	**129.7M**
Indirect impact	3.3M	15.2M	72.7M	7.9M	**99.1M**
Induced impact	1.4M	8.7M	37.5M	3.9M	**51.5M**
Total	**7.8M**	**47.3M**	**204.2M**	**21.1M**	**280.3M**

Sources: Nordicity analysis, Canada Book Fund, Industry Canada, The 2018 Canadian Book Publishing Industry Profile Survey

6.3 GDP Impact

GDP refers to the total value added generated by a company or industry in the development and production of a good or service. GDP can be estimated by summing the labour income of workers in Canada, plus an allocation of the operating surplus (i.e., operating profits earned directly from the development of published works).

Nordicity estimates that the Canadian English-language publishing industry **directly contributed a total of $150.2 million to the Canadian GDP in 2016**. In addition, the industry generated roughly $195.5 million in indirect-impact GDP and $109.2 million in induced-impact GDP in the same year. Combined, **the Canadian-owned English-language publishing industry generated a total GDP impact of over $454.9 million** (including direct, indirect and induced impact).

As shown in the following table, the region of Ontario and Quebec accounted for the largest proportion of the economic impact, which aligns with the concentration of companies in that region. The region also hosts the greatest number of larger companies that would also likely have the highest spending.

Table 8: GDP impact ($) of the English-language Canadian publishing industry

	Atlantic Canada	British Columbia	Ontario and Quebec	Prairies and Territories	Total
Direct impact	4.0M	27.9M	107.8M	10.6M	**150.2M**
Indirect impact	6.6M	30.0M	143.3M	15.6M	**195.5M**
Induced impact	3.0M	18.4M	79.6M	8.2M	**109.2M**
Total	**13.6M**	**76.3M**	**330.7M**	**34.3M**	**454.9M**

Sources: Nordicity analysis, Canada Book Fund, Industry Canada, The 2018 Canadian Book Publishing Industry Profile Survey

Key Takeaways: Economic Impact of Canada's English-language Book Publishing Industry

- In total the Canadian English-language publishing industry supports the employment of 5,940 FTEs including direct, indirect and induced employment.
- Workers employed in the Canadian English-language publishing industry collectively earned a total of $129.7 million in labour income.
- The industry generated a total of roughly $280.3 million in labour income in Canada (including direct, indirect and induced impacts).
- The Canadian English-language publishing industry generated a total GDP impact of over $454.9 million (including direct, indirect and induced impact).

7. Industry Validation and Benchmarking Indicators

In May 2018, the consulting team presented preliminary findings from the study at a roundtable with members of ACP's Board. The purpose of that session was to test and validate the preliminary findings against the common understanding of members of the industry. The other objective of the session was to identify which indicators were a priority for ongoing tracking and monitoring of the industry.

The following table lists a set of indicators that were discussed during the validation roundtable. The first column outlines a set of indicators drawn from this report and the second column presents the corresponding benchmark data, as presented throughout this document. Broadly speaking, participants resolved that most of the data presented in this report provides important insight into the structure, activity and health of the Canadian English-language book publishing industry. In particular, the group indicated that all indicators serve a specific purpose depending on the context and the audience (e.g. government relations), even if they are not all critical in every context.

Indicator	2016
Number of active English-language publishers	
Atlantic Canada	21
British Columbia	48
Ontario and Quebec	129
Prairies and Territories	47
Total (all of Canada)	245
Economic impact totals (incl. direct, indirect and induced employment)	
Employment impact	5,940
Labour income impact	$280M
GDP impact	$455M
Industry output	
New titles and editions	6,420
Canadian authors	
Percentage of new titles and editions by first-time Canadian authors	17%
Percentage of new titles and editions by Canadian authors (incl. first-time)	78%
Market category	
Percentage of new works in Trade market category	60%
Percentage of new works in Scholarly market category	6%
Percentage of new works in Educational market category	34%
Formats	
Print only	37%
Print and digital	59%
Digital only	4%
Labour profile	
Number of direct full-time equivalents	2,670
Females as percentage of workforce	70%
Average salary per FTE	$48,500
Seniority	
Senior (11 or more years of experience)	44%
Intermediate (3 to 10 years of experience)	39%

Indicator	2016
Junior (fewer than 3 years of experience)	17%
Revenue profile	
Total revenue	$404M
Sales revenue	$260M
Domestic sales revenue	$148M
Export sales revenue	$112M
Sources of revenue	
Sales of own titles	64%
Federal assistance (CBF, CCA, etc.)	7%
Provincial assistance (grants and tax credits)	5%
Domestic sales	
Formats	
Print	95%
Digital	5%
Sales channels	
Brick and mortar retail	53%
Online retail	9%
Public institutions	30%
Direct-to-consumer	8%
Export sales	
Formats	
Print (finished products)	83%
Digital	7%
Rights	10%
Geographical markets	
United states	83%
Asia	6%
United Kingdom	4%
Europe (excluding UK)	2%
Latin America and the Caribbean	2%
South America	2%
Africa, Australia and New Zealand	1%

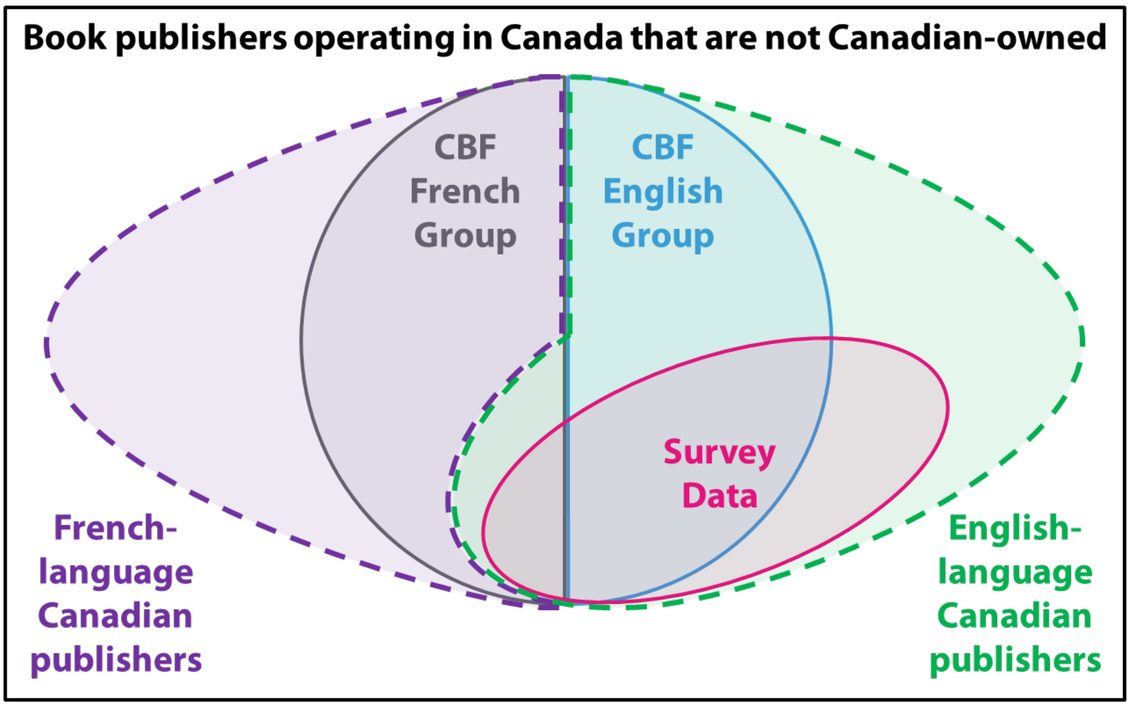
During the session, participants were also asked whether the list of indicators had any gaps; namely, whether there were pieces of information that they felt should be included or expanded in future studies. The group indicated that a more in-depth analysis of gender diversity in the industry would be beneficial. In other words, examining the gender distribution across modes of employment (e.g. part-time vs. full- time), seniority level, and job function (e.g. marketing, design) would provide important insights and context to the overall gender representation data. In addition, other workforce diversity indicators (e.g. ethnic origin) would also be something they would like to track over time as an important measure of the health and sustainability of the industry and as an important discussion point in government relations.

Appendix A. Methodology

This appendix details the analytical methodology used to estimate the total size of the English-language Canadian publishing industry. This section provides more information about how the data sources outlined in the introduction (Section 1.1.3 Methodology) contributed to an estimate of aggregate industry characteristics (particularly employment, revenue and expenditures).

The most important data sources for this work were the Canada Book Fund's Application Data and the Survey Data collected by Nordicity (cited as "The 2018 Canadian Book Publishing Industry Profile Survey"). The relationships between data sources and the companies comprising the book publishing industry in Canada are depicted in the following Venn-inspired diagram.

Table 9: Venn-inspired diagram illustrating the relationship between study definitions and the data sources used to assess the Canadian book publishing industry



The key points to draw from this diagram are as follows.

- The definition of **English-language Canadian publishers** used in this study corresponds to the **green area** in the diagram above. This set of publishers was established by obtaining lists of Canadian publishers from a variety of sources and validating these publishers against our definition of active English-language publishers through desk research. The list of companies yielded by that research is henceforth referred to as **the universe**.
- The CBF provides funding to a significant portion of the Canadian-owned book publishing industry, particularly the largest companies. In their data, CBF classifies companies as belonging to the English-language (**blue semi-circle**) or French-language (**grey semi-circle**) groups. While all publishers included in the CBF English-language group are compatible with the definition used in this study, there are some CBF French-language group publishers (by CBF's classification) that are also in scope for this study.
- Nordicity collected data directly from publishers (**fuchsia oval**) that met the definition used in this study. The survey sample included companies from both CBF's English and French groups, as well as some publishers that are not funded by CBF.

The following sections will use the preceding diagram to illustrate how data from each of these sources was used to develop the estimates presented in this report. There are three processes that will be described in the balance of this appendix:

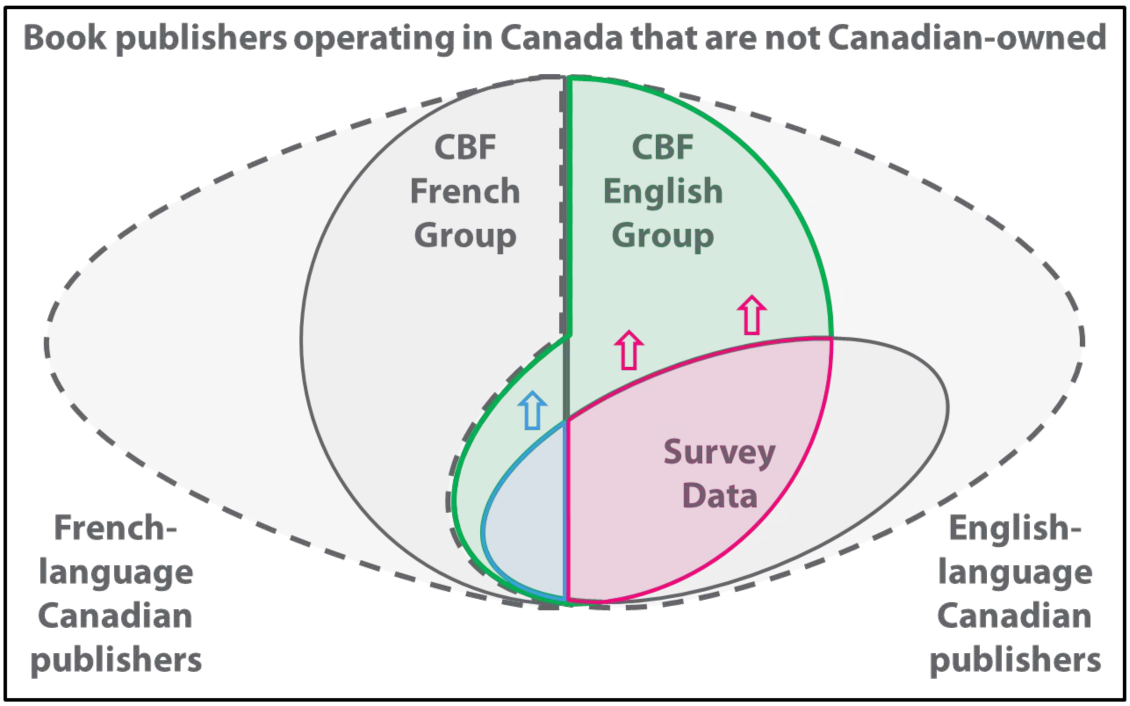
A.1 Estimating employment;

A.2 Estimating revenue and expenditures; and,

A.3 Calibrating the gross-up calculation.

A.1 Estimating Employment

The following diagram shows the first part of the process used to estimate employment in the universe. In this step, application data from CBF and the survey administered to publishers was consolidated to generate a single set of estimates representing the companies that are included in the coloured portion of this diagram.



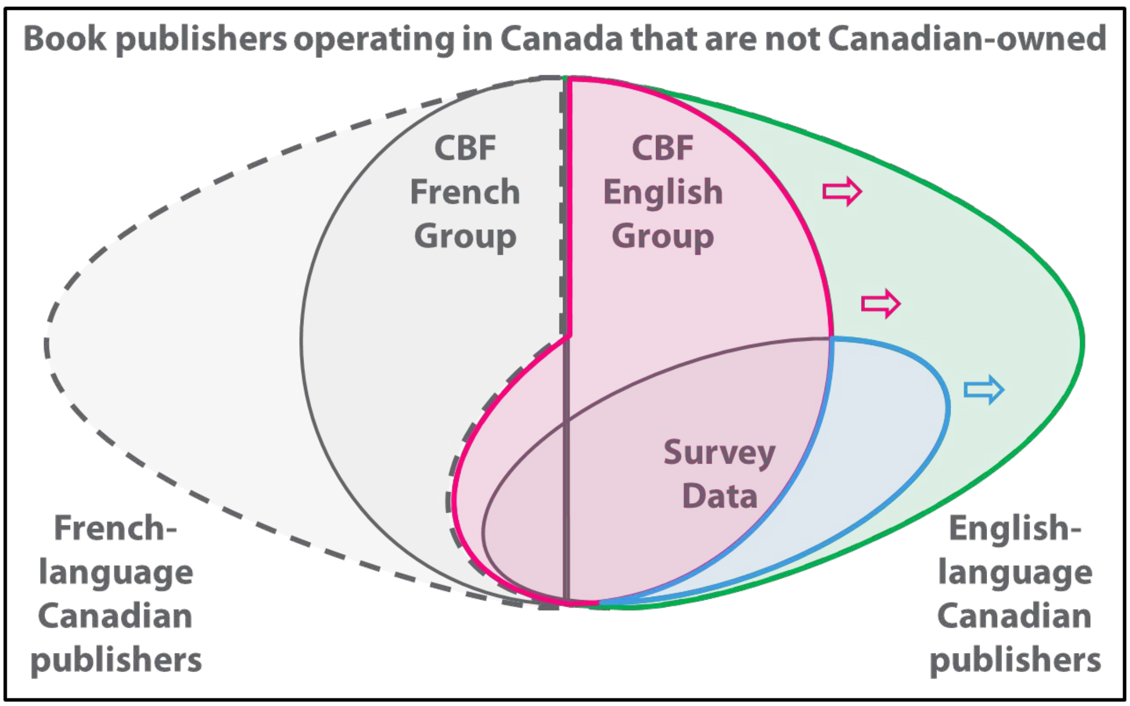
In this step, Nordicity supplemented CBF application data with information collected through the survey. While CBF collects detailed financial data as well as information about production of new works, data about employees is limited to a count of full-time and part-time employees, and total payroll. In order to perform the economic impact assessment, Nordicity required more granular data to estimate employment in terms of economic measures of employment (full-time equivalents [or FTEs] measure labour in terms of *person-years of employment*), specifically:

- The average salary of full-time employees; and,
- The average weekly hours worked and hourly wages of
  - Part-time workers
  - Contract workers
  - Freelance workers, and
  - Paid interns.

As such, Nordicity mapped the survey results about employees (including mode of employment, average hours, wages, and salary) from the portion of the survey sample that overlapped with the CBF English group (fuchsia) onto the rest of the CBF English group, and a similar operation on the French group. To do this, Nordicity calculated the ratio of full-time workers reported in the survey to the total number of full-time and part-time workers for similarly sized/located companies in the CBF data. Part-time workers were assumed to make up the difference between total full-time and part-time workers in the CBF data, and the calculated number of full-time employees.

Next, Nordicity calculated the average ratio of contract, freelance, and paid interns to total part-time and full-time employment for each size/location of company, as well as the average weekly hours and hourly wage for each type of employee. Assuming a full-time work week of 37.5 hours, Nordicity then calculated the total number of full-time equivalent employees and the overall average salary per FTE for the portion of companies illustrated in all coloured portions of the preceding diagram.

The following diagram shows the second step to estimate aggregate employment in the universe. In this step, Nordicity combined the non-CBF portion of the survey sample with CBF data to calculate average per-company estimates of employment representing companies in the fuchsia and blue areas of this diagram. These estimates were extrapolated to companies in the green area of this diagram, thereby effecting a 'gross-up' to aggregate values for the entire universe.

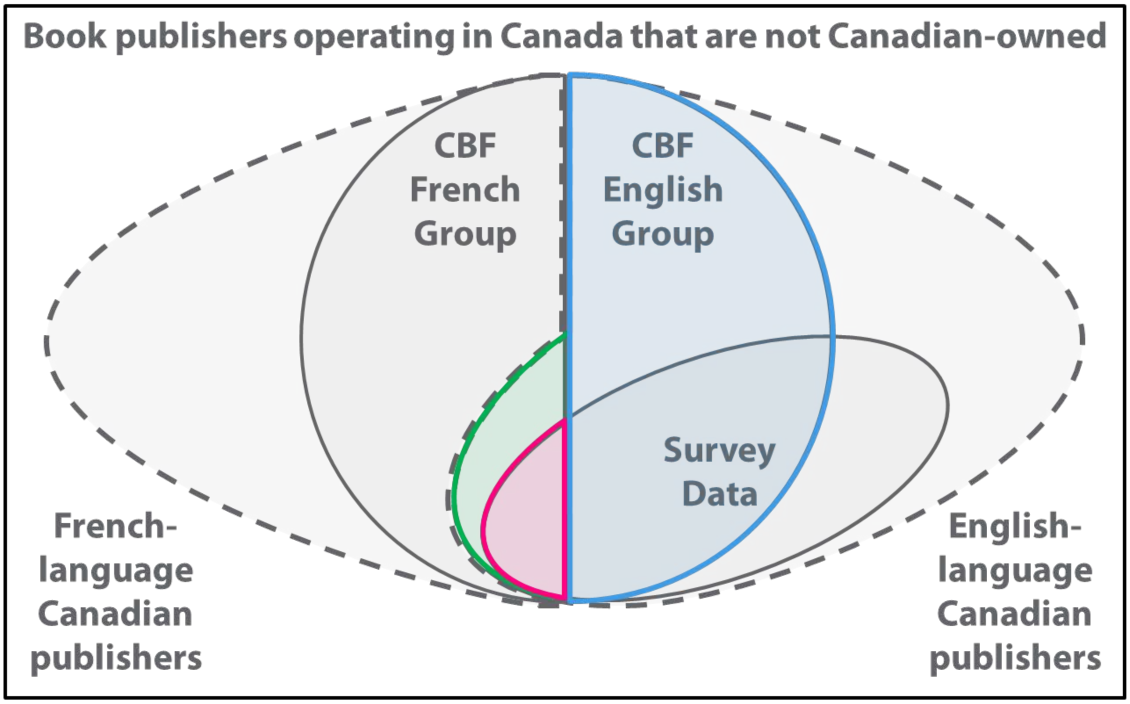


As with the first step contributing to employment estimates, all data was segmented by company size and region to ensure that estimates were representative of companies of a similar size, operating in a similar economic environment.

A.2 Estimating revenue and expenditures

The process to estimate aggregate revenue, payroll and expenditures is more straightforward than estimating employment, because more comprehensive data is directly reported in the data sets. This section outlines the methodology to estimate aggregate revenue of the industry, its sources of revenue and expenditures, and calibrates the preceding estimate of employment with total payroll, as calculated through the process outlined above.

The following diagram illustrates the first step to estimate total revenues in the English-language Canadian publishing industry. In the calculations used to estimate employment, we noted that average salary/wages and average weekly hours were carried through all calculations during the gross-up. The procedure to gross up financial information uses a similar process to carry through average profit margins, allocations of expenditures (including payroll), and sources of revenue that are representative of groups covered by different data sources. For the purpose of simplicity, the following description will assume all such associated details are implied in references to **revenue**.

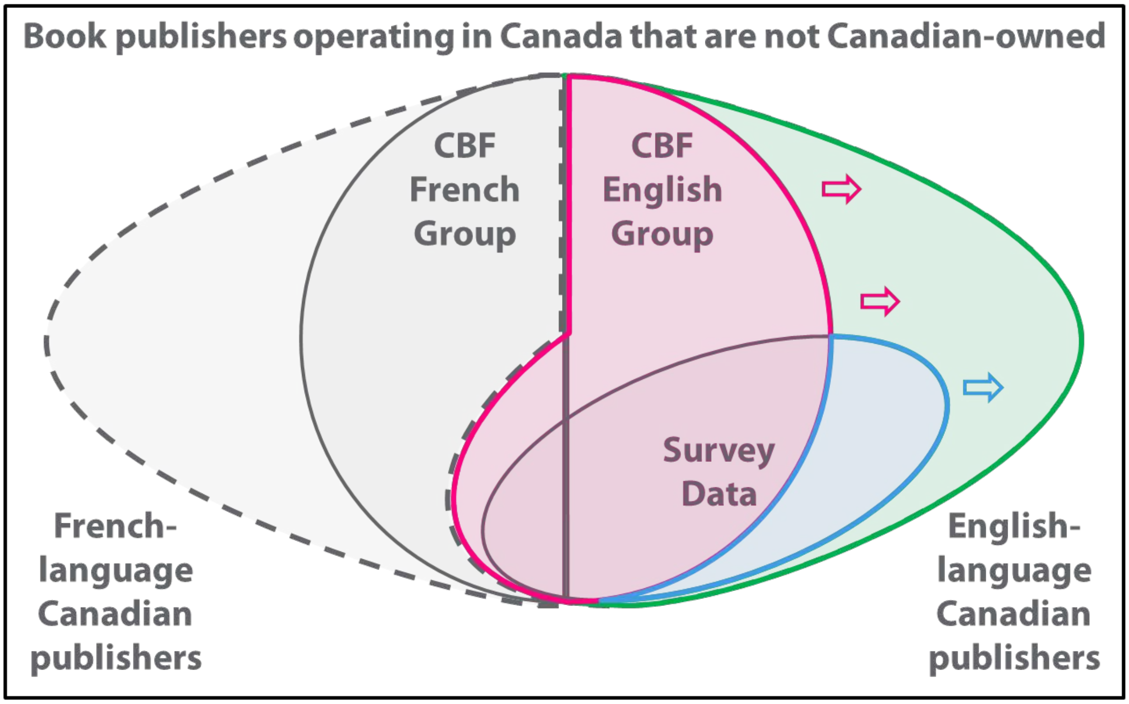


Because CBF application data provides complete financial information, Nordicity simply included aggregate totals for the entire CBF English group (**blue**). These amounts were not altered in any way, although the per-company averages observed in this group (based on company size and its region) contributed to estimates applied to other companies.

For CBF French-group companies (**fuchsia**), the survey data provided the total amount of revenue earned by each company. This portion of the sample also contributed actual amounts of revenue to the overall estimate of industry size.

For the portion of CBF French group companies that did not respond to the survey (**green**), Nordicity calculated per-company average revenues for CBF French group companies of a similar size in each region and applied these averages to companies based on corresponding size/region characteristics identified in the universe list.

The following diagram is identical to the second step underlying the employment estimates. As in that procedure, all prior values were combined with data from the non-CBF portion of the survey sample to generate per-company averages by company size and region. These averages were then used to perform a 'gross-up' representing the portion of the universe for which no data (other than company size and employment) were available.



As noted at the outset of this section, sources of revenue, profit margins, and expenditures were all carried through a parallel calculation. Accordingly, averages calculated in this way were weighted by revenue (to ensure that the profit margins of each company would contribute proportionately to an average that includes companies with revenues ranging from a few hundred thousand dollars to tens of millions).

A.3 Calibrating the gross-up calculation

The final step of this methodology addresses the mismatch that invariably occurs between the results calculated in section A.1 and section A.2. Specifically:

- Section A.1 yields a) the total number of FTEs in the industry and b) the average salary per FTE; and,
- Section A.2 yields the total payroll of the industry, which can be divided by the average salary per FTE (from the point above) to yield a total number of FTEs.

In order to reconcile these figures, Nordicity uses a median-weighted-mean to calculate each of the average per-company revenues throughout the process outlined in the preceding sections. The weighting assigned to median and mean averages is then set to a value at which both of the two calculations of total FTEs outlined above converge to the same number.

The regional employment results reported in this study use the method of calculating employment described in section A.1 because this calculation is identical to that performed in the economic model and ensures that employment is consistent with other economic and financial results. While the regional allocations of employment thus correspond to the total aggregate payroll calculated in each region, note that the average salary per FTE is informed by the calculations described in section A.2.