

Analysis of Temporary Foreign Worker Program (TFWP) LMIA Trends

1. Introduction

Over the decades, the Temporary Foreign Worker Program (TFWP) has been shaped by economic fluctuations, political priorities, and unexpected events like the COVID-19 pandemic. Industries such as agriculture, healthcare, and hospitality have increasingly relied on temporary foreign workers to address labor shortages, while simplified LMIA processing during the pandemic influenced application trends.

This study employs a multi-tool analytical approach to dissect LMIA datasets from 2017 to 2023 (yearly and quarterly). **SAP Analytics Cloud (SAC)** and **Microsoft Excel** will handle foundational tasks: Excel will clean and preprocess data (e.g., removing duplicates, addressing missing values), while SAC merges datasets, generates interactive dashboards, and applies predictive models to forecast trends. Complementing these, **Domo**, a cloud-based analytics platform, will automate complex workflows via ETL (Extract, Transform, Load) pipelines, build AI-enhanced dashboards, and enable real-time comparisons of temporal, occupational, and geographic patterns.

By integrating these tools, the analysis will explore four dimensions and project LMIA approval trends through 2027:

Temporal trends: Yearly/quarterly shifts in LMIA approvals, correlated with policy changes (e.g., pandemic-era simplifications) and economic cycles.

Occupational demand: Dominant sectors and emerging roles requiring foreign labor, with insights into employer reliance on TFWs.

Geographic disparities: Provincial and urban/rural divides in LMIA distribution, highlighting regional labor market imbalances.

Employer behavior: Industries and businesses with the highest LMIA utilization, assessing compliance and sector-specific dependencies.

By leveraging SAC's predictive analytics and Domo's AI-driven forecasting capabilities, the study will extend historical trends to model future scenarios, anticipating how labor demands, policy changes, and economic shifts could influence LMIA approvals by 2027. These projections will provide policymakers, employers, and labor advocates with actionable insights to refine TFWP governance, address regional disparities, and align the program with Canada's long-term labor market needs and evolving socio-economic priorities.

2. Dataset Description

The dataset for this project comes from the Open Canada government website and includes information on employers who received a Positive Labour Market Impact Assessment (LMIA) under the Temporary Foreign Worker Program (TFWP). A positive LMIA indicates that hiring a temporary foreign worker (TFW) is expected to have a positive or neutral impact on the Canadian labor market. The dataset does not track work permits issued or the actual entry of TFWs into Canada.

The dataset consists of eight tables. Seven tables are categorized by time, covering data from Q4 2017 to Q4 2023, each containing six columns and ranging from 10,000

to 20,000 rows. These tables provide detailed information on LMIA approvals over time. (Figure 1)

The eighth table is categorized by province, containing eight columns and 16 rows, offering a regional breakdown of LMIA approvals (Figure 2). Due to privacy considerations, the dataset excludes personal employer names and certain business names. Additionally, from Q1 2018 to Q3 2023, LMIAs supporting Permanent Residence (PR) were not included, but starting from Q4 2023, they are now part of the published lists. This dataset allows for an in-depth analysis of labor market trends, employer demand, and the role of temporary foreign workers across different industries and regions in Canada.

Province/Territory	Program Stream	Employer	Address	Occupation	Incorporate Status	Approved LMIAs	Approved Positions
Newfoundland and Labrador	High Wage	78075 Newfoundland & Labrador	78075 Newfoundland & Labrador	0212-Architecture and science mar	Unknown	1	1
Newfoundland and Labrador	High Wage	AB Complex Inc.	Gander, NL A1V 1X3	0124-Advertising, marketing and p	Unknown	1	1
Newfoundland and Labrador	High Wage	AB Complex Inc.	Gander, NL A1V 1X3	1311-Accounting technicians and b	Unknown	1	1
Newfoundland and Labrador	High Wage	Central Health	Grand Falls-Windsor, NL A	3111-Specialist physicians	Unknown	3	3
Newfoundland and Labrador	High Wage	Dory's Way Inc	Whitbourne, NL A0B 3K0	1241-Administrative assistants	Unknown	1	1
Newfoundland and Labrador	High Wage	New Fun Land Limited	Gander, NL A1V 1W7	4214-Early childhood educators an	Unknown	1	2
Newfoundland and Labrador	High Wage	Western Regional Health	Corner Brook, NL A2H 6J7	3111-Specialist physicians	Unknown	2	2
Newfoundland and Labrador	Low Wage	13744582 Canada Inc.	Mount Pearl, NL A1N 5B2	7514-Delivery and courier service	Unknown	1	1
Newfoundland and Labrador	Low Wage	3T's Limited	Woody Point, NL A0K 1P0	9463-Fish and seafood plant worke	Unknown	1	3
Newfoundland and Labrador	Low Wage	76361 NL Inc.	Deer Lake, NL A8A 1E6	6311-Food service supervisors	Unknown	1	1
Newfoundland and Labrador	Low Wage	A & H PIZZA INC.	Paradise, NL A1L 1G2	6711-Food counter attendants, kit	Unknown	1	1
Newfoundland and Labrador	Low Wage	Awsome Enterprises Ltd	Mount Pearl, NL A1N 3J5	6322-Cooks	Unknown	1	2
Newfoundland and Labrador	Low Wage	B & F ENTERPRISES LTD.	BAIE VERTE, NL A0K 1B0	6322-Cooks	Unknown	1	1
Newfoundland and Labrador	Low Wage	Beauty Nails Ltd.	Mount Pearl, NL A1N 5H5	6562-Estheticians, electrologists an	Unknown	1	2
Newfoundland and Labrador	Low Wage	BIH Enterprises Inc.	St. John's, NL A1B 3R4	6322-Cooks	Unknown	1	1
Newfoundland and Labrador	Low Wage	CBS FOODS LTD	CONCEPTION BAY, NL A1W 6711	6711-Food counter attendants, kit	Unknown	1	1
Newfoundland and Labrador	Low Wage	CG Aberdeen Holdings Inc.	St. John's, NL A1A 5G9	6711-Food counter attendants, kit	Unknown	1	1
Newfoundland and Labrador	Low Wage	Chadwick Limited	Corner Brook, NL A2H 4B5	6711-Food counter attendants, kit	Unknown	1	1
Newfoundland and Labrador	Low Wage	Dory's Way Inc	Whitbourne, NL A0B 3K0	6322-Cooks	Unknown	1	2
Newfoundland and Labrador	Low Wage	Fogo Island Co-operative Soci	Seldom, Fogo Island, NL AC9463	6311-Food service supervisors	Unknown	1	20
Newfoundland and Labrador	Low Wage	Fogo Island Co-operative Soci	Seldom, Fogo Island, NL AC9618	6311-Food service supervisors	Unknown	1	20
Newfoundland and Labrador	Low Wage	Gary's Convenience Limited	Glovertown, NL A0G 2L0	6711-Food counter attendants, kit	Unknown	1	2
Newfoundland and Labrador	Low Wage	Golden Shell Fisheries (2014)	Hickman's Harbour, NL A0G9463	6311-Food service supervisors	Unknown	1	46
Newfoundland and Labrador	Low Wage	Goose Bay Airport Restaurant	Happy Valley Goose Bay, NL A322	6322-Cooks	Unknown	1	1
Newfoundland and Labrador	Low Wage	L.C. Pizza House Inc.	PARADISE, NL A1L 1S6	6311-Food service supervisors	Unknown	1	1
Newfoundland and Labrador	Low Wage	K&P Cafe Ltd	Carbonear, NL A1Y 1R1	6322-Cooks	Unknown	1	1

Figure 1

Province/Territory	2017	2018	2019	2020	2021	2022	2023
Newfoundland and Labrador	1,217	477	495	927	694	1,453	1,668
Prince Edward Island	1,056	1,012	1,179	1,724	1,504	2,291	1,711
Nova Scotia	2,703	3,394	2,823	3,259	4,161	5,593	5,437
New Brunswick	1,800	1,361	1,974	2,886	3,015	7,138	5,015
Quebec	17,616	21,257	33,590	32,956	35,899	66,794	62,206
Ontario	39,114	40,907	41,426	41,496	45,196	62,020	74,625
Manitoba	1,324	1,459	1,952	1,773	1,858	3,880	4,676
Saskatchewan	1,090	1,098	1,466	1,164	1,218	2,447	3,124
Alberta	9,579	9,024	12,940	8,118	9,112	23,450	27,507
British Columbia	22,441	28,739	32,284	30,861	30,520	47,404	53,295
Yukon	119	107	139	40	126	157	136
Northwest Territories	46	21	56	29	30	132	124
Nunavut	41	132	133	46	63	88	122
Canada	98,146	108,988	130,457	125,279	133,196	222,847	239,646

Notes:

1. The source for all information in this release is Employment and Social Development Canada's (ESDC) LMIA System.

2. Each LMIA application

3. The LMIA System tracks TFW positions only, not TFWs who are issued a work permit or who enter Canada. Not all positions approved result in a work permit or a TFW entering Canada. For information on the number of work permits issued, please refer to the Immigration, Refugees and Citizenship Canada (IRCC) website.

4. The numbers appearing in this release may differ slightly from those reported in previous releases of LMIA statistics due to data updates that occur over time.

5. As of the publication of 2023 annual data (published in April 2024), all LMIAs in support of Permanent Residence (PR) Only are included in TFWP statistics, unless indicated otherwise. All annual data in this report includes PR Only LMIAs. Due to privacy considerations, the dataset excludes personal employer names and certain business names.

Figure 2

3. Research Questions

2.1. General Trends

How has the number of positive LMIAs changed over time (year-to-year & quarter-to-quarter)?

Are there correlations with economic or policy changes? (e.g., COVID-19)?

2.2 Job Demand Trends

Which occupations/ have the highest number of LMIA approvals?
How change over time?

2.3 Employer & Business Analysis

Which companies or industries apply for LMIAs the most?

2.4 Geographic Trends

Which provinces/cities have the most LMIA approvals?
Are there regional differences in the types of jobs requiring foreign workers?

2.5 Advanced Analysis: predict the trend by 2027

4.Data Analytics Tool

Tools:

To analyze LMIA trends from 2017 to 2023, we will use a combination of internal tools (which are covered in class) and an external tool (Chosen for this project). These tools will help with data cleaning, merging, visualization, and trend analysis.

Internal Tools

Microsoft Excel

As the foundational tool for data preparation, Excel will:

- Clean and preprocess raw LMIA data (e.g., removing duplicates, resolving missing values).
- Generate summary statistics to identify initial patterns in occupational demand and employer behavior.

SAP Analytics Cloud (SAC)

SAC's advanced analytics capabilities will extend Excel's outputs by:

- Merging quarterly and yearly datasets through built-in join functions to unify temporal analysis.
- Creating interactive dashboards to visualize time-series trends (e.g., COVID-19 impacts on LMIA volumes) and sector-specific labor demands.
- Applying predictive models to forecast occupational or regional LMIA trends up to 2027.

External Tool

Domo

Domo complements SAC by automating complex workflows and enhancing geographic analysis:

- Streamlining dataset integration via ETL (Extract, Transform, Load) pipelines, ensuring scalability for large LMIA volumes.
- Building AI-driven dashboards to dynamically explore regional disparities (e.g., province/city approval rates) and employer clustering.
- Automating report generation for quarterly policy impact comparisons (e.g., pre/post-pandemic LMIA processing rules).

Tool Comparison Framework

To optimize tool selection for future TFWP analyses, we will evaluate:

Data Integration Efficiency: Contrast SAC's join functions with Domo's ETL pipelines in merging multi-year datasets.

Visualization Flexibility: Compare SAC's predictive dashboards against Domo's AI-powered real-time visualizations.

Automation & Scalability: Assess Domo's automated reporting versus SAC's manual adjustments for long-term trend monitoring.