

reports

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Preface

This is a Quarto book.

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1 Planned Analysis

```
library(censuspumf)
library(tidyverse)
```

Warning: package 'ggplot2' was built under R version 4.3.3

```
-- Attaching core tidyverse packages ----- tidyverse 2.0.0 --
v dplyr      1.1.4      v readr      2.1.4
v forcats    1.0.0      v stringr    1.5.1
v ggplot2    3.5.0      v tibble     3.2.1
v lubridate  1.9.3      v tidyr      1.3.0
v purrr      1.0.2
-- Conflicts ----- tidyverse_conflicts() --
x dplyr::filter() masks stats::filter()
x dplyr::lag()     masks stats::lag()
i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become
```

```
library(gt)
```

Warning: package 'gt' was built under R version 4.3.3

```
d0 <- censuspumf::records |>
  censuspumf::encode_labels()

d <- d0 |>
  mutate(
    is_working_age_lgl = as.integer(AGEGRP) |> between(7, 16),
    is_youth_lgl = as.integer(AGEGRP) |> between(7, 9),
    is_youth_fct = factor(is_youth_lgl * -1 + 2, labels = c("Youth (18-29)", "Not Youth (30-)",
    lf_status = LFACT |> str_extract("Employed|Unemployed|Not in the labour force") |> fct_r
    lf_status_neet = case_when(
      lf_status %in% c("Unemployed", "Not in the labour force") & ATTSCH == "Did not attend s
```

```

    TRUE ~ as.character(lf_status)
  ) |>
  fct_relevel("Employed", "Unemployed", "Not in the labour force", "Not in Employment, Edu
)

```

1.1 Youth Representation in the Canadian Population

- In this analysis, Youth are defined as individuals aged 18 to 29. We care about this group because they are old enough that most of them have a relationship to the labour market, but young enough that they are still in the process of forming their careers and lives.
- Youth, as defined, comprise roughly 15% of the Canadian population and 24% of the working-age population.

```

t_rep_pop <- d |>
  filter(!is.na(AGEGRP)) |>
  group_by(AGEGRP, is_youth_lgl, is_working_age_lgl) |>
  summarize(n = sum(WEIGHT), .groups = "drop") |>
  mutate(
    rep_pop = n / sum(n), cumulative_pop = cumsum(rep_pop * is_youth_lgl),
    rep_working_age = (n * is_working_age_lgl) / sum(n * is_working_age_lgl),
    cumulative_working_age = cumsum(rep_working_age * is_youth_lgl)
  )

t_rep_pop |>
  gt() |>
  fmt_percent(columns = c(rep_pop:cumulative_working_age), decimals = 0)

```

AGEGRP	is_youth_lgl	is_working_age_lgl	n	rep_pop	cumulative_pop	rep_work
0 to 4 years	FALSE	FALSE	1817305.3	5%	0%	
5 to 6 years	FALSE	FALSE	810764.1	2%	0%	
7 to 9 years	FALSE	FALSE	1240983.0	3%	0%	
10 to 11 years	FALSE	FALSE	848919.1	2%	0%	
12 to 14 years	FALSE	FALSE	1277171.4	4%	0%	
15 to 17 years	FALSE	FALSE	1195913.2	3%	0%	
18 to 19 years	TRUE	TRUE	773961.0	2%	2%	
20 to 24 years	TRUE	TRUE	2166090.1	6%	8%	
25 to 29 years	TRUE	TRUE	2398480.2	7%	15%	
30 to 34 years	FALSE	TRUE	2495961.1	7%	15%	

35 to 39 years	FALSE	TRUE	2503889.7	7%	15%
40 to 44 years	FALSE	TRUE	2379916.9	7%	15%
45 to 49 years	FALSE	TRUE	2269550.1	6%	15%
50 to 54 years	FALSE	TRUE	2338141.9	6%	15%
55 to 59 years	FALSE	TRUE	2625887.2	7%	15%
60 to 64 years	FALSE	TRUE	2525859.1	7%	15%
65 to 69 years	FALSE	FALSE	2160082.5	6%	15%
70 to 74 years	FALSE	FALSE	1786901.5	5%	15%
75 to 79 years	FALSE	FALSE	1203562.3	3%	15%
80 to 84 years	FALSE	FALSE	741917.0	2%	15%
85 years and over	FALSE	FALSE	613097.2	2%	15%

1.2 Youth Distribution Across Provinces

The distribution of youth across provinces is very similar to the distribution of the general population.

```
t_prov_youth <- d |>
  filter(!is.na(PR), is_youth_lgl) |>
  group_by(PR) |>
  summarize(n = sum(WEIGHT), .groups = "drop") |>
  mutate(`Youth 18-29 (%)` = n / sum(n)) |>
  rename(`Youth 18-29 (n)` = n)

t_prov_all <- d |>
  filter(!is.na(PR)) |>
  group_by(PR) |>
  summarize(n = sum(WEIGHT), .groups = "drop") |>
  mutate(`All Ages (%)` = n / sum(n)) |>
  rename(`All Ages (n)` = n)

t_prov_youth |>
  left_join(t_prov_all, by = "PR") |>
  gt(rowname_col = "PR") |>
  fmt_number(columns = c(2, 4), decimals = 0) |>
  fmt_percent(columns = c(3, 5), decimals = 0)
```

Youth 18-29 (n)	Youth 18-29 (%)	All Ages (n)	All Ages (%)
-----------------	-----------------	--------------	--------------

Newfoundland and Labrador	59,502	1%	502,098	1%
Prince Edward Island	21,450	0%	150,482	0%
Nova Scotia	137,986	3%	955,820	3%
New Brunswick	96,491	2%	759,158	2%
Quebec	1,141,846	21%	8,308,479	23%
Ontario	2,169,233	41%	14,031,754	39%
Manitoba	205,087	4%	1,307,187	4%
Saskatchewan	155,646	3%	1,103,275	3%
Alberta	611,346	11%	4,177,717	11%
British Columbia	723,060	14%	4,915,941	14%
Northern Canada	16,885	0%	116,566	0%

1.3 Youth Demographics

- Compared to other Canadians of working age, higher proportions of youth are:
 - Indigenous (6.1% vs 4.4%)
 - Non-immigrants (75.2% vs 69.1%)

```
t_demos <- d |>
  pivot_longer(
    cols = c(IMMSTAT, Gender, ABOID),
    names_to = "var", values_to = "value"
  ) |>
  filter(!is.na(AGEGRP), is_working_age_lgl, !is.na(value)) |>
  group_by(is_youth_fct, var, value) |>
  summarize(n = sum(WEIGHT), .groups = "drop_last") |>
  mutate(
    p = n / sum(n)
  ) |>
  select(-n) |>
  pivot_wider(names_from = is_youth_fct, values_from = p)

t_demos |>
  left_join(
    censuspumf::var_labels
  ) |>
  group_by(lab) |>
  select(-var) |>
  gt(groupname_col = "lab", rowname_col = "value") |>
  fmt_percent(columns = c(2, 3), decimals = 0)
```

Joining with `by = join_by(var)`

	Youth (18-29)	Not Youth (30-64)
Indigenous: Indigenous identity - Detailed		
First Nations (North American Indian)	4%	2%
Métis	2%	2%
Inuk (Inuit)	0%	0%
Multiple Indigenous responses	0%	0%
Indigenous responses not included elsewhere	0%	0%
Non-Indigenous identity	94%	96%
Gender of person (binary)		
Woman+	49%	51%
Man+	51%	49%
Immigration: Immigrant status		
Non-immigrants	75%	69%
Immigrants	16%	29%
Non-permanent residents	9%	2%

1.4 Youth Education and Labour Force Status

Compared to the working-age population aged 30 or older, youth are: - More likely to be unemployed (12% vs 7%) - More likely to be attending school (41% vs 5%), especially at the university level (22% vs 2%) - Less likely to be “NEET” (15% vs 25%)

```
t_lfs <- d |>
  filter(is_working_age_lgl) |>
  pivot_longer(
    cols = c(ATTSCH, HDGREE, lf_status, lf_status_neet),
    names_to = "var", values_to = "value"
  ) |>
  filter(!is.na(value)) |>
  group_by(is_youth_fct, var, value) |>
  summarize(n = sum(WEIGHT), .groups = "drop_last") |>
  mutate(
    p = n / sum(n)
  ) |>
  select(-n) |>
  pivot_wider(names_from = is_youth_fct, values_from = p) |>
```



```

left_join(
  censuspumf::var_labels |>
  filter(var != "ATTSCH") |>
  bind_rows(
    tibble(
      var = c("lf_status", "lf_status_neet", "ATTSCH"),
      lab = c("Labour Force Status", "Labour Force Status (NEET)", "Education: Ongoing Schooling")
    )
  ) |>
  ungroup() |>
  group_by(lab)

```

Joining with `by = join_by(var)`

```

t_lfs |>
  select(-var) |>
  gt(groupname_col = "lab", rowname_col = "value") |>
  fmt_percent(columns = c(2, 3), decimals = 0)

```

Education: Ongoing Schooling

Did not attend school
 Elementary or secondary school
 College, CEGEP, trade school or other non-university institution
 University
 Multiple responses

Education: Highest certificate, diploma or degree

No certificate, diploma or degree
 High (secondary) school diploma or equivalency certificate
 Non-apprenticeship trades certificate or diploma
 Apprenticeship certificate
 Program of 3 months to less than 1 year (College, CEGEP and other non-university certificates or diplomas)
 Program of 1 to 2 years (College, CEGEP and other non-university certificates or diplomas)
 Program of more than 2 years (College, CEGEP and other non-university certificates or diplomas)
 University certificate or diploma below bachelor level
 Bachelor's degree
 University certificate or diploma above bachelor level
 Degree in medicine, dentistry, veterinary medicine or optometry

Master's degree
Earned doctorate
Labour Force Status
Employed
Unemployed
Not in the labour force
Labour Force Status (NEET)
Employed
Unemployed
Not in the labour force
Not in Employment, Education, or Training (NEET)

1.4.1 Key Finding: The Canadian Labour Force is Growing More Educated

We observe a smaller proportion of youth who have attained a university degree (24%) compared to non-youth of working age (31%), but the much higher proportion of working-age youth in university suggests that this gap will invert in the future. If, as it seems, the Canadian labour force is growing more educated over time, the high-skill job market will become more competitive for labour market entrants, especially those without a university degree.

1.4.2 Key Finding: The NEET Youth Population is Too Large to Ignore

Of the working-age youth who are not employed, most are in school. A quarter of the 30+ working-age population is NEET, as compared to 15% of working-age youth. In absolute terms, however, the number of NEET youth is still substantial (809,115).

```
d |>
  filter(is_youth_lgl, !is.na(lf_status_neet)) |>
  group_by(lf_status_neet) |>
  summarize(
    n = sum(WEIGHT)
  ) |>
  gt() |>
  fmt_number(columns = "n", decimals = 0)
```

lf_status_neet	n
Employed	3,518,601
Unemployed	325,216

Not in the labour force	682,119
Not in Employment, Education, or Training (NEET)	809,115
