

# Tuition Subsidies and Tertiary Participation:

Evidence from a System with Deferred Costs

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- Access to the data used in this study was provided by Stats NZ under conditions designed to give effect to the security and confidentiality provisions of the **Data and Statistics Act 2022**.
- The results presented in this study are the **work of the authors**, not Stats NZ or individual data suppliers.
- **These results are not official statistics.** They have been created for research purposes from the Integrated Data Infrastructure (IDI), which is carefully managed by Stats NZ.
- For more information about the IDI please visit <https://www.stats.govt.nz/integrated-data/>.

# Motivation

Fees-Free was introduced in **2018**. It made the **first year of tertiary study free** for eligible students.

The policy had **four main goals**: to make study more affordable, increase access, reduce student debt, and improve equity (Ministry of Education, 2024).

- The original plan was to extend Fees-Free to later years, but this **never happened**. From 2025, the policy was replaced by a **final-year** model.
- The policy was **expensive**: around **NZD 300–350 million per year**, covering roughly 40,000–65,000 learners annually.
- There is still **no national causal estimate** using linked administrative microdata. This study **addresses that gap**.

This paper provides **a national quasi-experimental evaluation** of  
Fees-Free  
using the **Integrated Data Infrastructure (IDI)** from Stats NZ.

1. Did Fees-Free **increase tertiary participation**?
2. Did it shift programme choice **from sub-degrees to Bachelor's degrees**?
3. Did it **improve retention and completion**?
4. Did it **reduce socioeconomic gaps** in access?

## Previous Evidence: New Zealand

There is **no experimental or causal evaluation** of Fees-Free yet — only descriptive and partial evidence.

- The clearest effect was a **reduction in student debt**: borrowing for fees fell by about **19%** in 2018 (Education Counts; Ministry of Education, 2024).
- **Descriptive statistics** did not show an increase in enrolments after the policy, nor a clear change in the **profile of students** (TEC, 2019; Ministry of Education, 2024).
- Local evidence suggests the main barriers to participation are **school achievement, preparation, living costs, and location** — not only tuition fees (Meehan et al., 2017; Earle, 2018; Nikula & Morris Matthews, 2018).

**In sum:** Fees-Free reduced debt, and a **causal evaluation is still pending**.

## Previous Evidence: International

International evidence suggests that free tuition often has **limited effects** on participation.

- Evidence from **Chile** and **Estonia** finds **little impact** on participation or equity after free-tuition policies were introduced (Bucarey, 2018; Masso & Sille, 2023).
- A meta-analysis of **443 estimates** finds the average effect on enrolment is **close to zero** after correcting for publication bias (Havránek et al., 2024).
- This may be because free-tuition policies are often introduced in systems where **loans or student aid already reduce financial barriers**.
- Effects are **larger** when grants or “promise” programmes reduce costs that students must **pay upfront** (Dynarski, 2003; Bartik et al., 2021).

**Overall:** free tuition seems to work best when tuition is the **real barrier** to enrolment.

# What Theory Predicts: Upfront vs. Deferred Costs

## Simple model

$$U^E = R - L - C^{\text{upfront}} - \delta C^{\text{deferred}} \geq 0$$

$R$  = returns,  $L$  = opportunity cost,  $\delta \in (0, 1]$  = weight on deferred repayments.

$C^{\text{upfront}} > 0$   
liquidity constraint

→ **large**  
participation effect

$C^{\text{deferred}}$  only  
deferred repayment

→ **small**  
participation effect

## The NZ context:

- Since 2006: **interest-free, income-contingent student loans**.
- Loans cover **full tuition**, paid directly to providers.
- Most students pay **nothing upfront** —  $C^{\text{upfront}} \approx 0$  already.

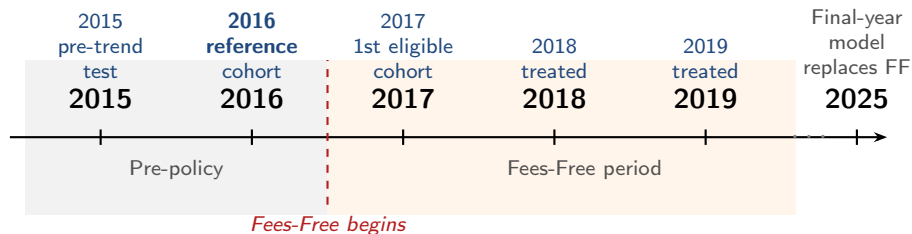
## The puzzle

Fees-Free mainly turned a **deferred cost** into no cost — not a change in students' **immediate financial position**.

**Key prediction:** lower debt, limited access effect.

## Stats NZ Integrated Data Infrastructure (IDI):

- MoE school records linked to MoE tertiary education records at the **individual level**.
- Five consecutive school-leaver cohorts, **2015–2019** ( $N = 251,329$ ), restricted to standard school exit with NCEA Level 2 or equivalent.



# Empirical Strategy

We estimate a **cohort event-study** model, with **2016 as the reference** cohort:

$$y_{ic} = \alpha + \sum_{k \neq 2016} \beta_k \mathbb{1}\{c = k\} + X'_{ic} \gamma + \varepsilon_{ic}.$$

The  $\beta_k$  trace cohort-specific differences from the last untreated cohort. The same model is also estimated **by subgroup** (SES, gender, ethnicity); those figures are in the **Appendix**.

The outcome  $y_{ic}$  is one of **four**:

- **Participation** — enrolled in year  $t + 1$  (base: 54.2%).
- **Composition** — Bachelor's vs sub-degree (base: 64.0%).
- **Retention** — still enrolled at  $t + 2$  (base: 81.0%).
- **Completion** — qualification within 6 years ( $\approx 76\%$ ).

# Participation: No Increase Once the Pre-Trend Is Removed

Fig. 2: Event study — participation (base = 2016).

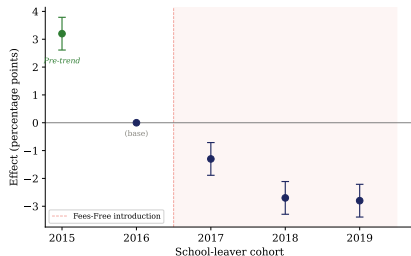
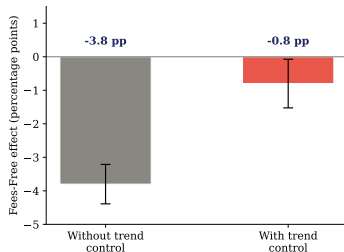


Fig. 3: Fees-Free effect with and without trend control.



Event-study validity needs **parallel cohort trends**.

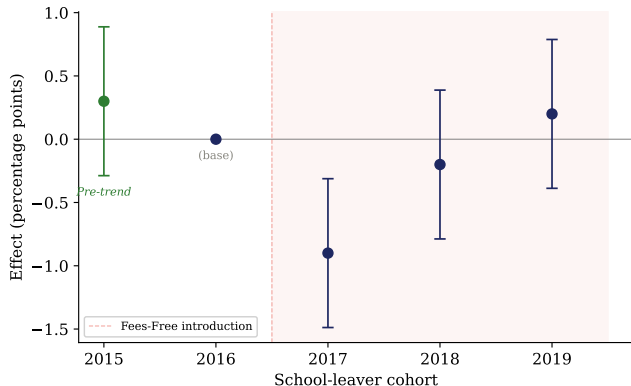
The **+3.2 pp** 2015 pre-trend shows this **fails here** — participation was **already declining**. So we add a **placebo test** and a **trend-adjusted** model (right).

| Model                 | Estimate       |
|-----------------------|----------------|
| No trend control      | −3.8 pp        |
| <b>Trend-adjusted</b> | <b>−0.8 pp</b> |
| Placebo 2015–16       | −3.2 pp        |

Trend adjustment cuts the effect by **80%** ( $-3.8 \rightarrow -0.8$  pp); **no positive effect**.

# Secondary Outcomes: Programme Composition

Fig. 4: Event study — Bachelor's vs sub-degree (base = 2016;  $N = 120,406$ ).

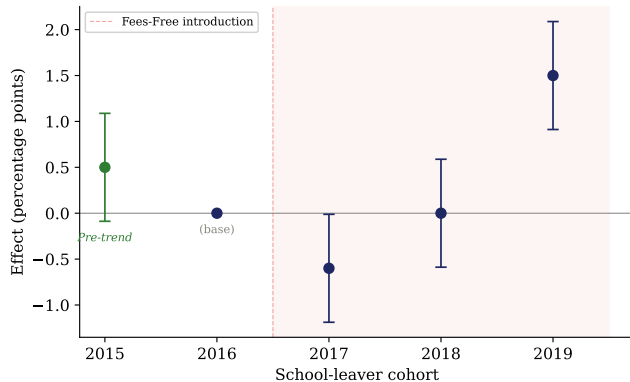


## Did students shift toward degrees?

- The estimates are **small and mixed** across cohorts.
- There is **no sustained shift** toward Bachelor's study.
- The pre-trend is small, so the event study is reliable here.

# Secondary Outcomes: Retention

Fig. 5: Event study — still enrolled at  $t + 2$  (base = 2016;  $N = 135,212$ ).

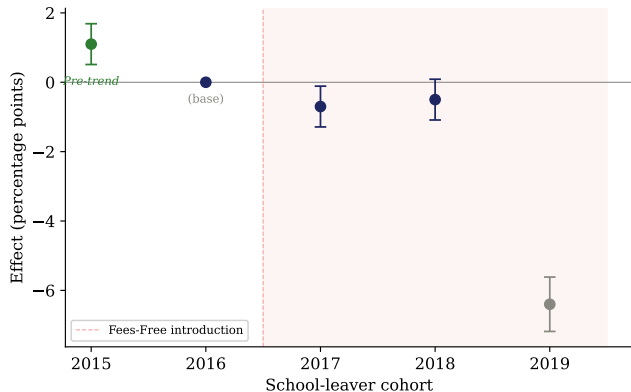


## Did students stay enrolled longer?

- No consistent effect on Year-2 retention.
- The **2019 uptick (+1.5 pp)** is most likely a **COVID-19** effect — that cohort enrolled in 2020.
- It **disappears** once the 2019 cohort is excluded (Appendix E).

# Secondary Outcomes: Completion

Fig. 6: Event study — qualification within 6 years (base = 2016;  $N = 135,212$ ).



## Did students complete more often?

- No effect for the 2017–2018 cohorts.
- The large **2019 drop** is **mechanical right-censoring** (5 years of follow-up, not 6) — not a policy effect.
- Excluding 2019 confirms this (Appendix E).

Across all three secondary outcomes: no consistent evidence of aggregate improvements.

# No Evidence that Fees-Free Narrowed Socioeconomic Gaps

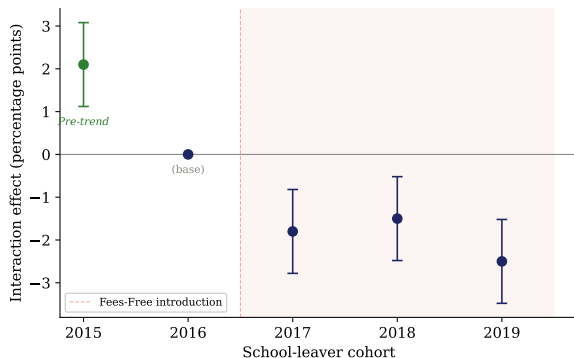


Fig. 7: Low-SES interaction — participation (base = 2016).

## Did low-SES students participate more?

For low-SES students (school decile 1–4), the baseline gap in 2016 was –4.2 pp relative to higher-SES peers.

| Cohort           | Interaction (pp) |
|------------------|------------------|
| 2015 (pre-trend) | +2.1             |
| 2017             | –1.8*            |
| 2018             | –1.5*            |
| 2019             | –2.5*            |

$p < 0.05$ . Interaction = difference relative to higher-SES in that cohort vs 2016.

The SES gap **did not narrow**, and may have widened.

# Limitations

## Identification

- Only **two pre-policy cohorts** — cannot test for nonlinear trends.
- Trend-adjusted model assumes a **linear secular decline**.

## SES measure

- **School decile** is an area-level proxy, not individual income.
- May attenuate heterogeneity estimates toward zero.

## Sample

- Restricted to academically eligible school leavers (NCEA Level 2+).
- Adult learners and early school leavers not captured.

## Outcomes

- 2019 completion is **right-censored** (5 years, not 6); **COVID-19** affects later cohorts.

*Evidence consistent with a limited effect — not a definitive null.*

# Conclusion

## Three takeaways

1. **Little evidence of increased participation** once pre-existing trends are accounted for, and no consistent effects on the secondary outcomes (programme choice, retention, and completion). There was also **no improvement for low-SES students** — a central goal of the policy.
2. **Context matters:** NZ already had interest-free loans, so Fees-Free mainly reduced **future debt**, not **immediate cash barriers**.
3. **Other barriers matter** — preparation, information, and living costs — but a fee subsidy like Fees-Free does not address them.

**Tuition subsidies are most effective when they target a binding constraint.**

# Thank you

Questions welcome

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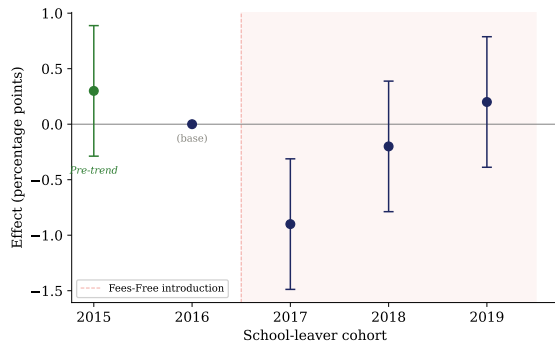
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## Appendix A: Full Robustness Table — All Outcomes

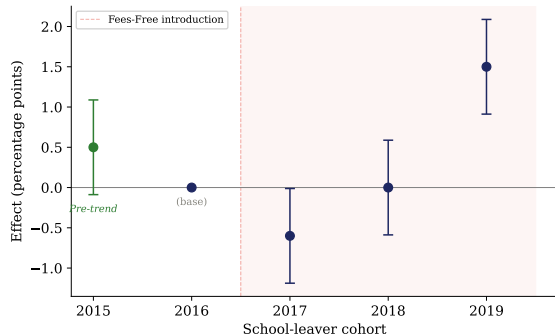
| Outcome       | Model             | FF Effect (pp) | Trend/yr (pp) | $p(\text{FF})$ | $N$     |
|---------------|-------------------|----------------|---------------|----------------|---------|
| Participation | No trend          | −3.8           | —             | < 0.001        | 251,329 |
|               | <b>Trend-adj</b>  | −0.8           | −1.2          | 0.030          | 251,329 |
|               | Placebo           | −3.2           | —             | < 0.001        | 99,950  |
| Composition   | Event study       | Mixed          | —             | —              | 120,406 |
|               | Placebo           | −0.3           | —             | 0.32           | —       |
| Retention     | Event study       | Small          | —             | —              | 135,212 |
|               | Placebo           | −0.5           | —             | 0.10           | —       |
| Completion    | 2017–2018         | −0.7, −0.5     | —             | > 0.05         | 135,212 |
|               | 2019 <sup>†</sup> | −6.4           | —             | < 0.001        | —       |

<sup>†</sup>Right-censored: 5 years of follow-up instead of 6. LPM with HC1 robust SEs.

## Appendix B: Event Study — Composition and Retention



**Fig. 4:** Event study: degree-level enrolment ( $N = 120,406$ ). No consistent aggregate effect.



**Fig. 5:** Event study: year-2 retention ( $N = 135,212$ ). 2019 improvement likely COVID-19.

## Appendix C: Heterogeneity — Degree Enrolment (Low SES)

### Low-SES degree enrolment gap:

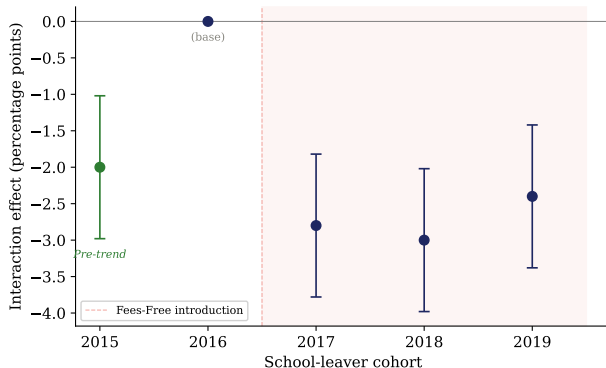


Fig. 8: Low-SES interaction — degree-level enrolment (base = 2016).

- Baseline gap:  $-8.4$  pp in 2016.
- Post-policy interaction coefficients are **negative** (below zero on the y-axis):  $-2.8$ ,  $-3.0$ ,  $-2.4$  pp. A negative coefficient means the gap **widened** relative to 2016.
- Pre-trend also negative ( $-2.0$  pp).
- Enrolled low-SES students were also **less likely to choose a degree**.

# Appendix D: Four Outcomes — Event Study Dashboard

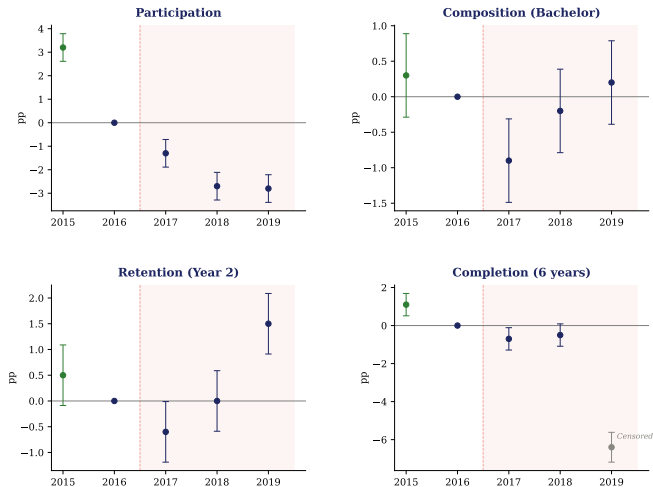


Fig. 9: Event study across all four outcomes. Cohort-specific coefficients with 95% CIs. 2016 = reference. N: Participation = 251,329;

## Appendix E: Sensitivity — Excluding 2019 Cohort

- Re-estimating all specifications after dropping the 2019 cohort confirms that coefficients for 2015–2018 are virtually unchanged for both completion and retention.
- The trend-adjusted Fees-Free effects become small and non-significant for both outcomes when 2019 is excluded.
- This confirms that the large negative completion coefficient for 2019 is mechanical (right-censoring), not a policy effect.
- The 2019 retention improvement disappears after exclusion, consistent with a COVID-19 explanation rather than a genuine policy effect.