

# Pay Equity and Worker Outcomes: Evidence from New Zealand's Social Worker Settlement

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# Disclaimer

- ▶ 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 author, 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/>.
- ▶ The results are based in part on tax data supplied by Inland Revenue to Stats NZ under the Tax Administration Act 1994 for statistical purposes. Any discussion of data limitations or weaknesses is in the context of using the IDI for statistical purposes, and is not related to the data's ability to support Inland Revenue's core operational requirements.
- ▶ This paper sits within a wider research programme, "Boosting productivity growth through creating equal workplace opportunities for all", funded by a Ministry of Business, Innovation and Employment Endeavour Grant.

# What is pay equity?

- ▶ **Pay equity settlements** aim to address the historically lower pay of work performed in female-dominated occupations relative to comparable work
- ▶ Related but distinct concepts:
  - ▶ **Equal pay:** are women and men paid the same for the same or substantially similar work?
  - ▶ **Pay equity:** is work performed mainly by women paid less than work of comparable value?
- ▶ Grounded in international human-rights principles:
  - ▶ **Universal Declaration of Human Rights:** the right to “equal pay for equal work”
  - ▶ **Convention on the Elimination of all forms of Discrimination Against Women:** “equal treatment in respect of work of equal value”
- ▶ Pay equity settlements in NZ translate this principle into wage-setting policy

# New Zealand's pay equity framework

- ▶ **1972:** Equal Pay Act prohibited gender-based discrimination in remuneration.
- ▶ **2014 Terranova court case** on aged care work: established that the Equal Pay Act could address the undervaluation of female-dominated work, not only unequal pay for the same job
- ▶ **2020:** Equal Pay Amendment Act
  - ▶ statutory process for employees and unions to raise pay equity claims
  - ▶ claims are resolved through a bargaining-based process with employers
- ▶ **2018:** Oranga Tamariki social worker settlement for state-employed social workers
- ▶ **2022–2023:** NGO social worker settlement
  - ▶ social workers in NGOs and iwi organisations
  - ▶ took effect from 1 July 2023
- ▶ **Related mechanisms elsewhere**
  - ▶ Australia: Fair Work Commission equal remuneration / work-value cases
  - ▶ UK: equal pay / equal-value claims through Employment Tribunals

# Literature

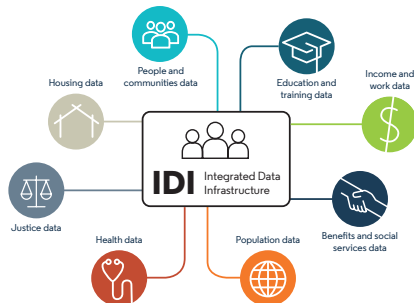
- ▶ Large literature on gender wage gaps, occupational segregation, and pay in female-dominated occupations.
- ▶ Related literature links labour-market outcomes to health, economic security, and individual wellbeing.
- ▶ But there is little empirical evidence on the **realised effects** of implemented pay equity settlements.
- ▶ Closest evidence: survey evaluation of the original NGO social worker settlement (Research New Zealand, [n.d.](#))
  - ▶ improvements in perceived fair pay and disposable income
  - ▶ increases in motivation, self-esteem, and mental wellbeing

## This project

- ▶ **Research question:** What happens to workers when a major pay equity settlement is implemented?
- ▶ Using linked administrative and Census data to estimate effects on labour-market, health, justice, and education outcomes
- ▶ The settlement directly changed remuneration:
  - ▶ new **pay bands** for covered social workers
  - ▶ central government funding for implementation
- ▶ But pay equity may matter beyond earnings:
  - ▶ economic security and benefit reliance
  - ▶ employment attachment and workforce stability
  - ▶ mental health, stress, and broader wellbeing
- ▶ The key empirical question is whether a pay equity settlement produces **measurable changes in workers' lives**

# Integrated Data Infrastructure (IDI)

- ▶ population-wide research database managed by Stats NZ
- ▶ linked micro-data from government agencies, NGOs, surveys
  - ▶ **Census 2018 and 2023:** occupation and demographics
  - ▶ **Inland Revenue:** employment, earnings, benefits, and sector of employment
  - ▶ **Health data:** hospitalisations, injury claims, and mental health indicators
  - ▶ **Ministry of Education:** tertiary enrolment and social work programmes



# Empirical strategy

- ▶ Doubly robust **Difference-in-differences (DiD)** estimator (Sant'Anna and Zhao, [2020](#))
  - ▶ compare changes for NGO social workers before and after the settlement
  - ▶ relative to changes for non-social workers
  - ▶ uses outcome regression and inverse probability weighting to adjust for age, sex, ethnicity, region, and deprivation
- ▶ Main results
  - ▶ pre-period: July 2021–June 2022
  - ▶ post-period: July 2023–June 2024
- ▶ Employment effects
  - ▶ transition outcomes measured one year after Census reference point
  - ▶ pre: March 2018 to March 2019
  - ▶ post: March 2023 to March 2024

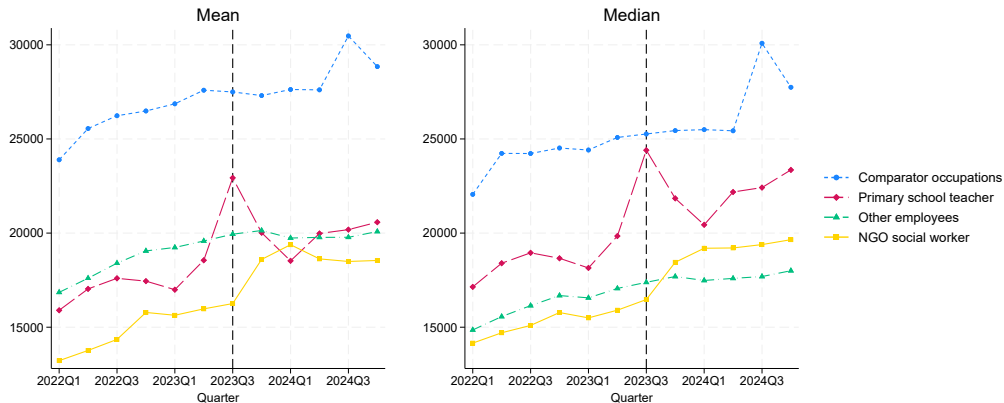
## Worker characteristics

|                      | Social workers | Other employees |
|----------------------|----------------|-----------------|
| Age                  | 45.3           | 42.3            |
| Female (%)           | 84.0           | 48.0            |
| Ethnicity (%)        |                |                 |
| European             | 61.5           | 68.6            |
| Māori                | 33.4           | 14.7            |
| Pacific peoples      | 14.5           | 7.1             |
| Asian                | 8.0            | 18.1            |
| Other                | 3.6            | 3.2             |
| NZ Deprivation Score | 1025.7         | 991.9           |
| N                    | 2,406          | 2,614,200       |

Notes: This table reports characteristics of NGO social workers and all non-social workers. Occupation is measured at the 2023 Census. Time-varying characteristics are measured in March 2023. NZDep2023 score is a continuous area-level deprivation score scaled to have mean 1000 and standard deviation 100. Higher values indicate higher area-level socioeconomic deprivation.

# Quarterly earnings

## Earnings



Notes: Mean earnings are shown on the left and median earnings on the right. The vertical line marks the third quarter of 2023, the quarter in which the settlement took effect.

## Effects of the pay equity settlement 2022 to 2024

|                                  | (1)              | (2)        | (3)             | (4)               | (5)     |
|----------------------------------|------------------|------------|-----------------|-------------------|---------|
|                                  | Baseline<br>mean | Difference | DiD<br>Estimate | Standard<br>Error | N       |
| <i>Labour market</i>             |                  |            |                 |                   |         |
| Earnings                         | 58804.9          | 13939.7    | 10133.0***      | (521.6)           | 3529866 |
| Earnings only no-zeros           | 60523.0          | 12980.4    | 9494.4***       | (495.0)           | 3280197 |
| Benefits                         | 983.3            | -533.1     | -420.1***       | (85.7)            | 3529866 |
| Earnings (year ending March)     | 57464.9          | 12879.0    | 7929.6***       | (512.3)           | 3529866 |
| Total income (year ending March) | 66113.6          | 13227.4    | 6070.5***       | (469.8)           | 3529866 |
| <i>Health outcomes</i>           |                  |            |                 |                   |         |
| Hospitalisation                  | 0.139            | 0.026      | 0.009           | (0.010)           | 3529866 |
| ACC Claim                        | 0.288            | 0.026      | -0.002          | (0.012)           | 3529866 |
| Anxiety and mood disorders       | 0.156            | -0.004     | -0.011*         | (0.006)           | 3529866 |
| Substance use disorders          | 0.006            | 0.000      | -0.000          | (0.002)           | 3529866 |

Notes: Columns 1 and 2 show the pre-treatment mean and the difference between pre and post-treatment period for social workers. Columns 3 to 5 show the DiD estimate, standard error, and number of observations.

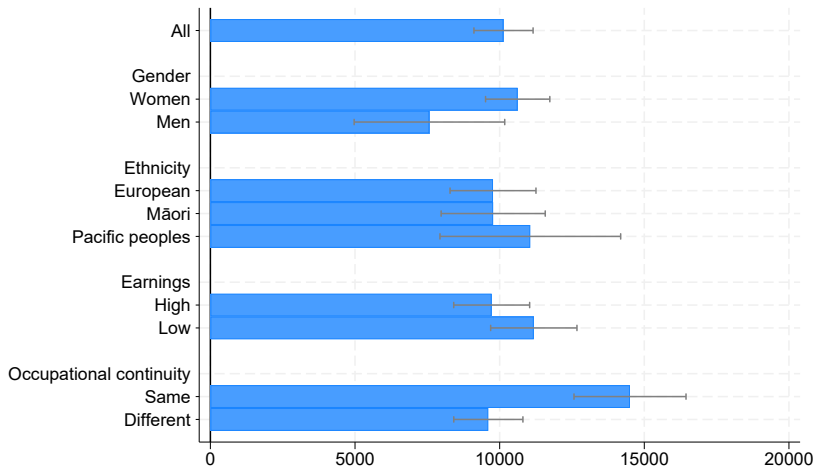
\*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

## Effects on employment and job stability

|                         | (1)              | (2)        | (3)             | (4)               | (5)     |
|-------------------------|------------------|------------|-----------------|-------------------|---------|
|                         | Baseline<br>mean | Difference | DiD<br>Estimate | Standard<br>Error | N       |
| Still employed          | 0.915            | 0.009      | 0.018**         | (0.008)           | 3644943 |
| Same employer           | 0.751            | 0.003      | 0.004           | (0.012)           | 3644943 |
| Different employer      | 0.163            | 0.007      | 0.014           | (0.011)           | 3644943 |
| No longer in employment | 0.085            | -0.008     | -0.018**        | (0.008)           | 3644943 |

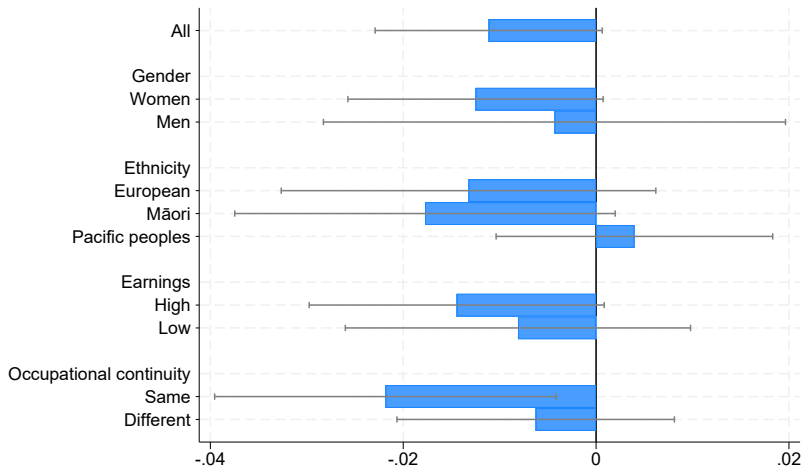
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## Effects on earnings by subgroup



Notes: Bars indicate difference-in-differences point estimates; capped lines indicate 95 % confidence intervals. Workers are classified as having low or high baseline earnings according to whether their baseline earnings are below or above the median for the analysis sample.

## Effects on anxiety and mood disorders by subgroup



Notes: Bars indicate difference-in-differences point estimates; capped lines indicate 95 % confidence intervals. Workers are classified as having low or high baseline earnings according to whether their baseline earnings are below or above the median for the analysis sample.

# Conclusion

- ▶ The settlement generated **large realised earnings gains**
  - ▶ annual earnings increased by about \$10,000 (+ 17 %)
  - ▶ total income also increased, but by less than earnings
  - ▶ increase in hourly wage (not shown)
- ▶ **Employment attachment improved**
  - ▶ NGO social workers were more likely to remain employed one year later
  - ▶ limited evidence of increased same-employer retention
- ▶ **Wellbeing effects are less clear**
  - ▶ some evidence of reduced anxiety and mood disorders
  - ▶ little evidence of effects on other health or justice outcomes (not shown)
- ▶ No evidence of immediate effects on tertiary enrolment or social work programme enrolment
- ▶ Remaining questions:
  - ▶ long-term wellbeing impacts
  - ▶ recruitment into social work
  - ▶ service quality and spillovers to other care occupations

***Thank you!***

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# References

- ▶ Research New Zealand (n.d.). *Impacts of a Pay Equity Settlement: Summary of Research Findings*. Tech. rep. Te Kawa Mataaho Public Service Commission. URL: <https://www.publicservice.govt.nz/assets/DirectoryFile/Impacts-of-a-pay-equity-settlement.pdf>.
- ▶ Sant'Anna, Pedro HC and Jun Zhao (2020). "Doubly robust difference-in-differences estimators". In: *Journal of Econometrics* 219.1, pp. 101–122.