BOOSTING PRODUCTIVITY GROWTH BY CREATING EQUAL WORKPLACE OPPORTUNITIES FOR ALL

TRENDS IN OCCUPATIONAL SEGREGATION BETWEEN WOMEN AND MEN IN NEW ZEALAND

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ABOUT THIS RESEARCH PROGRAMME

Workplace diversity significantly impacts productivity and economic growth. Better talent allocation could boost productivity and increase long-term output growth per person. In NZ, labour is highly segregated, with women and ethnic minorities concentrated in lower-paid industries, driving gender and ethnic pay gaps that affect financial, health, and wellbeing outcomes. This programme analyses how workplace diversity affects productivity and equity. Using various data sources, we will estimate NZ’s productivity gains from diversity, assess workplace policies and leadership, and evaluate public policies. A key focus is Māori and Pacific businesses, exploring recruitment, pay transparency, and workplace culture. Māori and Pacific-led research will provide insights into workplace barriers, enablers, and values

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Trends in Occupational Segregation Between Women and Men in New Zealand

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1 Introduction

The changing role of women in the economy is a central feature of societal change in developed countries over the past decades. For example, in the United States female labour-force participation rose from 43.3 % in 1970 to 56.2 % in 2020 (US Bureau of Labor Statistics, 2023). Similar increases are evident across many high-income countries (Ortiz-Ospina, Tzvetkova, and Roser, 2018), including New Zealand (NZ) where female labour-force participation increased from 54.8 % in 1987 to 66.7 % in 2025 (Stats NZ, 2025). In educational attainment, women now outperform men in most OECD countries (OECD, 2024). In NZ, 44.8 % of women aged 25 to 64 years have a bachelor's degree or higher, compared with 34.2 % of men (OECD, 2024). Occupational segregation, however, remains persistent in developed countries (Lind and Colquhoun, 2021; Salardi, 2016; Blau, Brummund, and Liu, 2013) and has increased in parts of the developing world (Borrowman and Klasen, 2020). This matters for several reasons. At the individual level, it can limit women's economic opportunities. At the macroeconomic level, occupational segregation could imply a misallocation of talent that impedes economic growth (Hsieh, Hurst, Jones, and Klenow, 2019).

In this paper, we document long-run trends in occupational segregation between women and men in New Zealand using ten Census waves covering 1976 to 2023. We find that segregation diminished substantially over the last 50 years. Previous research from the US also found significant decreases in occupational segregation during the 1970s and 1980s, followed by a much slower pace of integration in the 1990s and 2000s (Blau, Brummund, and Liu, 2013). In contrast, we observe a more consistent decline in segregation up until 2001, with only a modest slowdown thereafter. Furthermore, the 2023 Census shows the largest drop in occupational segregation over the entire period analysed. When we decompose the change in occupational segregation, we find that more than three-quarters of the decline can be attributed to changes in the gender composition within occupations, rather than changes in the occupation mix itself. Our analysis also examines individual occupations and occupation groups, revealing that while advances in integration are observed across many areas, significant gender segregation remains in several occupations. Because wage gaps persist both within and between occupations, these compositional shifts reinforce the case for pay-equity policies[1] that target valuation and pay structures directly, not only occupational access.

We contribute to the literature on occupational segregation by gender (see Reskin (1993) and Blau and Kahn (2000) for reviews, and Lind and Colquhoun (2021), Salardi (2016), and Blau, Brummund, and Liu (2013) for recent studies). Previous research from New Zealand has analysed occupational segregation over shorter time periods using Census years where the occupational classification system remained unchanged, including Gwartney-Gibbs (1988) for 1971–1981, Mourik, Poot, and Siegers (1989) for 1971–1986, and Stats NZ (2015a) for 1991–2013. We extend this literature by developing a gender-specific crosswalk to harmonise occupations across classification changes. This is achieved with the help of dual-coded census data, where individuals are assigned both old and new occupation codes within the same census year. This enables us to analyse changes in occupational segregation over a significantly longer period,

[1] Pay-equity policies are defined here as policies aimed at ensuring equal remuneration for work of equal value across occupations by addressing systemic undervaluation in pay-setting.

spanning almost 50 years from 1976 to 2023.

Additional New Zealand research indicates that occupation and industry explain only a small to modest share of the gender wage gap, with most of the gap remaining unexplained (Iusitini, Meehan, and Pacheco, 2024; Pacheco, Li, and Cochrane, 2019). These studies also highlight an important limitation: because decompositions using the Household Labour Force Survey rely on survey samples, they are limited to broad ANZSCO major groups. This means that men and women who work in different roles are grouped together - for example, doctors, engineers, nurses, and teachers all fall within the broad "Professionals" category. This categorisation may masks important variation in pay and job characteristics. As a result, formal decompositions generally cannot capture the finer-grained patterns of occupational segregation and valuation evidence at the detailed occupation level.

Descriptive evidence helps fill this gap. Iusitini, Meehan, and Pacheco (2024) show that women remain concentrated in lower-paid major occupational groups, such as Community and Personal Service Workers and Sales Workers, and they are under-represented among higher-paid groups such as Managers and Technicians and Trades Workers. While women are over-represented among Professionals, this reflects a concentration in comparatively lower-paid fields such as education, rather than in the highest-paid professional roles. These patterns illustrate how broad occupational categories can obscure substantial variation within them.

Analysis using linked employer-employee data also provides evidence about how sorting contributes to wage gaps. Sin, Stillman, and Fabling (2022) find that sorting by occupation, industry and firm characteristics explains about one-fifth of the gender wage gap, with the majority remaining unexplained after adjusting for detailed worker and job characteristics.

Overall, the evidence suggests that occupational segregation at a broad level explains only a modest share of the gender wage gap. However, finer-grained differences are likely to be more substantial at detailed occupational levels. This analysis contributes by providing the first harmonised, long-run measure of occupational segregation at a detailed occupational level spanning nearly five decades, offering a clearer understanding of how gender integration has evolved - and where it has stalled. Beyond documenting change, this evidence also provides insight into structural barriers that continue to shape women's labour market outcomes. Historical patterns of segregation are closely linked to the undervaluation of work in female-dominated occupations, where roles requiring comparable skill, effort and responsibility are often paid less than equivalent male-dominated jobs. By revealing where gender segregation remains concentrated, the analysis helps identify areas where such occupational devaluation—and its broader effects on pay equity - may persist.

The remainder of the paper is organised as follows. Section 2 describes the data and methods used in the analysis. In Section 3, we present the results of our analysis of long-term trends in occupational segregation in New Zealand, followed by a decomposition analysis and a discussion of changes in key occupations. Section 4 provides discussion and possible policy implications and Section 5 concludes.

2 Data and methods

2.1 Data

We use New Zealand Census data from 1976 to 2023. Traditionally, the New Zealand Census of Population and Dwellings has been held every five years. However, the 2011 census was postponed to 2013 due to the Canterbury earthquake, which disrupted preparations and data collection. The subsequent census years were 2018 and 2023. Our analysis includes all available census years from 1976 to 2023, although the 2023 data are limited to individuals linked to the Integrated Data Infrastructure (IDI), as the stand-alone individual-level census file has not yet been made available to researchers. The IDI is a large research database managed by Stats NZ that contains linked administrative data from various government agencies and non-governmental organisations, as well as census and survey data (Stats NZ, 2020).

To enable consistent measurement of occupations over time, we construct crosswalks between different occupational classification systems used in the censuses detailed below. The crosswalk draws primarily on dual-coded census data, where individuals' occupations are listed under different classification schemes. Additionally, we use individual-level data from the New Zealand Longitudinal Census, which links people across census waves from 1981 to 2013 (Didham, Dobson, and Nissen, 2014), and the 2013 and 2018 censuses that are linked to the IDI.

After building these crosswalks, we apply them to the full Census population of individuals who provide an occupation and are between 18 and 64 years old, including both full-time and part-time workers, and both employees and self-employed people. To ensure data quality, we exclude all observations where occupation was imputed. In the 2018 and 2023 censuses, occupation was imputed for some individuals using a nearest neighbour donor method (Stats NZ, 2024c). These imputed cases are excluded from our analysis.

2.2 Occupational classification crosswalks

Occupational classifications in the New Zealand Census have changed multiple times since 1976. The early censuses used the New Zealand Standard Classification of Occupations 1968 (NZSCO68), which was later replaced by NZSCO90, NZSCO95, and NZSCO99, and eventually by the Australian and New Zealand Standard Classification of Occupations (ANZSCO). ANZSCO remains in use today, though it has undergone several updates over time.

To enable consistent measurement of occupational segregation over time, we construct gender-specific crosswalks that align occupations across these classification systems. This is made possible by census years in which multiple classification systems were used. Specifically, the 1996 census classifies occupations using NZSCO68, NZSCO90, and NZSCO95, while the 2006 census includes both NZSCO99 and ANZSCO classifications. Further changes in classification systems are addressed using concordance tables, combined with longitudinal census data and the IDI. Appendix A provides further details on the construction of the crosswalks and the upcoding of the census data. Maré (2019) construct a crosswalk between occupational classifications using a similar approach in their study of occupational drift in New Zealand. However, their crosswalk is not gender-specific. Blau, Brummund, and Liu (2013) develop a gender-specific crosswalk for US census data, and show that it more accurately captures trends in segregation that are

masked when using an aggregate crosswalk based on total employment.

The following example illustrates the importance of a gender-specific crosswalk. In the 2006 census, there are 912 people working as *Health Inspectors* according to the NZSCO99 classification. In the ANZSCO classification, 58 % of *Health Inspectors* are considered *Health Promotion Officers*, 36 % *Environmental Health Officers*, and 6 % *Water Inspectors*. However, looking at women and men separately reveals that 70 % of the women work as *Health Promotion Officer*, compared to only 34 % of the men. Using a general crosswalk could therefore lead to an underestimation of occupational segregation.

2.3 Duncan segregation index

The Duncan Segregation Index (O. D. Duncan and B. Duncan, 1955) is a widely used measure of occupational segregation (see, for example, Lind and Colquhoun, 2021; Salardi, 2016; Blau, Brummund, and Liu, 2013). It is computed as:

$$D_t = \frac{1}{2} \sum_i \left| \frac{m_{it}}{M_t} - \frac{f_{it}}{F_t} \right| \tag{1}$$

where m_{it} (f_{it}) is the number of men (women) in occupation i at time t, and $M_t = \sum_i m_{it}$ ($F_t = \sum_i f_{it}$) is the total male (female) employment. The index ranges from 0 (perfect integration) to 1 (complete segregation) and can be interpreted as the proportion of men (or women) who would need to change occupations for the gender distributions within occupations to be identical.

2.4 Decomposition analysis

To analyse the sources of change in occupational segregation over time, we follow the decomposition approach introduced by Fuchs (1975) and subsequently applied by Blau, Brummund, and Liu (2013). This method separates the total change in the Duncan segregation index into two additive components: 1. a gender composition effect, capturing changes in the gender balance within occupations, and 2. an occupation-mix effect, capturing structural change in the composition of employment across occupations.

Define total employment in occupation i at time t as $e_{it} = m_{it} + f_{it}$, the female share as $p_{it} = f_{it}/e_{it}$, and the male share as $q_{it} = m_{it}/e_{it} = 1 - p_{it}$. Using this notation, the Duncan index can be be written equivalently as

$$D_t = \frac{1}{2} \sum_i \left| \frac{q_{it}\, e_{it}}{\sum_j q_{jt}\, e_{jt}} - \frac{p_{it}\, e_{it}}{\sum_j p_{jt}\, e_{jt}} \right|. \tag{2}$$

For the change in segregation between $t-1$ and t, the gender composition and occupation-mix

effects are defined as

$$\text{Gender composition effect} = \left[\frac{1}{2}\sum_i \left|\frac{q_{it}\, e_{i,t-1}}{\sum_j q_{jt}\, e_{j,t-1}} - \frac{p_{it}\, e_{i,t-1}}{\sum_j p_{jt}\, e_{j,t-1}}\right|\right] - D_{t-1}, \tag{3}$$

$$\text{Occupation-mix effect} = D_t - \left[\frac{1}{2}\sum_i \left|\frac{q_{it}\, e_{i,t-1}}{\sum_j q_{jt}\, e_{j,t-1}} - \frac{p_{it}\, e_{i,t-1}}{\sum_j p_{jt}\, e_{j,t-1}}\right|\right]. \tag{4}$$

By construction, the total change in segregation can be written as

$$D_t - D_{t-1} = \text{Gender composition effect} + \text{Occupation-mix effect}.$$

This decomposition allows us to identify whether declining segregation is primarily due to women and men entering a wider range of occupations or due to structural shifts in employment (for example, growth in services and professional work relative to manufacturing and manual occupations).

3 Results

3.1 Duncan segregation index over time

Occupational segregation by gender in NZ has declined steadily since the mid-1970s, indicating a gradual convergence in the types of jobs held by men and women (Figure 1). The Duncan index fell from 0.672 in 1976 to 0.517 by 2018, representing a reduction of roughly one-quarter in the degree of segregation. The most substantial decrease occurred between the late 1970s and early 2000s, with progress slowing through to 2018.

The 2023 estimate of 0.464 suggests further desegregation but should be interpreted cautiously because it is derived from the version of the 2023 Census linked to the IDI rather than the full standalone census, like the other years. The linkage rate is approximately 97.9%, and while there is no clear evidence of systematic bias by gender or occupation (Stats NZ, 2024d), a small share of records remain unlinked. Given that the Duncan index depends on the relative distribution of men and women across occupations, any bias is likely to be minor; however, the potential impact cannot yet be fully assessed. Results for 2023 should therefore be regarded as indicative, pending release of the full standalone census dataset. Another consideration is the variation in census response rates across years. The 2023 Census response rate was 87.6 percent, up from 85.8 percent in 2018, but lower than the response rates of 93.2 percent in 2013 and 95.1 percent in 2006 (Stats NZ, 2024a). The implications of these differences for the Duncan index are uncertain, as the extent and pattern of non-response by gender and occupation are not fully understood.

The 2023 Census also marked the first time that separate questions were asked about sex at birth and gender identity, whereas earlier censuses asked a single, binary question ("Are you male or female?" or "What sex are you?") that required respondents to tick only one box, either 'male' or 'female', with no option to reflect other sex or gender identities. In this analysis, we use the 'sex at birth' variable from the 2023 Census, as this is the closest conceptual match to

earlier censuses and helps maintain consistency over time, and non-responses are omitted.[2]

Figure 1 also presents raw, unadjusted segregation results - that is, calculated directly from each census without applying a crosswalk to harmonise occupational classifications over time. These raw series give similar results to the harmonised results, although they suggest a slightly larger overall decline in segregation. This occurs because the earlier NZSOC68 classification yields somewhat higher segregation values than the NZSCO90/99 system used from 1991 onward. Hence, while crosswalk harmonisation improves consistency over time, it does not materially alter the long-run pattern of gradual but sustained desegregation.

Although occupational segregation has declined over time, it remains a prominent feature of NZ's labour market and continues to shape gender pay outcomes. Because gendered sorting across jobs, industries, and workplaces contributes directly to gender pay differences, the persistence of segregation remains highly relevant for pay-equity policy. While the present analysis focuses on occupational patterns using Census data, related evidence from Sin, Stillman, and Fabling (2022) - based on linked employer–employee data (LEED) - examines sorting across industries and firms and finds that such sorting accounts for roughly one-fifth of NZ's gender wage gap. Differences in measured productivity explain very little of the gap, and most of the remainder is unexplained, possibly reflecting discrimination or/and the undervaluation of female-dominated work. Together, these findings suggest that although the reduction in segregation has likely helped to moderate overall pay disparities, substantial segregation remains, with many traditionally female-dominated occupations remaining so, as examined in Section 3.3 below.

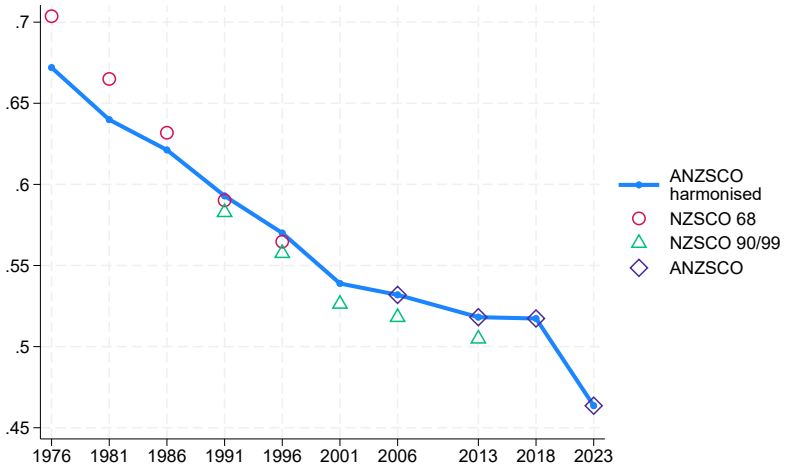

Figure 1: Duncan segregation index over time

3.2 Decomposition

A decomposition of the overall decline in segregation from 1976 to 2023 shows that changes in the occupational mix accounted for -0.046 (22%) of the total decrease, while changes in the

[2]Only a small proportion of people - around 1.2% - identified as gender diverse in the 2023 Census (Stats NZ, 2024b), suggesting that the direct impact on the overall segregation index is likely minimal. However, this conceptual and definitional shift represents an important methodological change, and its effect on long-term comparability cannot yet be fully determined.

gender composition within occupations contributed -0.160 (78%). The time-series decomposition indicates that declines in segregation were largest between 1976 and 1996, driven primarily by women entering previously male-dominated occupations. The occupation-mix component was consistently smaller but generally negative, reflecting modest structural change such as the contraction of manufacturing and clerical work and the growth of service and professional employment. From the early 2000s onwards, both effects diminished in magnitude, signalling a slower phase of incremental desegregation.

The fact that more than three-quarters of the decline in segregation comes from changes within occupations rather than shifts between them implies that women and men now work together in a wider range of jobs, but that the occupational structure itself has remained relatively stable. This has important implications for gender pay equity. If segregation is falling mainly because more women are entering existing occupations - rather than because the structure of employment is changing - then the value attached to female-dominated work and pay-setting within occupations become the key determinants of remaining pay gaps. In this context, the analysis by Sin, Stillman, and Fabling (2022) is complementary: using linked employer–employee data, they show that sorting across firms and industries explains only about one-fifth of New Zealand's gender wage gap, while most of the remainder arises within occupations and workplaces, consistent with the role of gendered pay structures and undervaluation of care, clerical, and community work.

This structural evolution aligns with Maré (2019), which documents significant occupational drift in NZ from 1976 to 2018. Employment has shifted away from routine and manual jobs toward service and professional roles, with particularly strong growth in high- and low-wage service occupations. While this drift was not gender-specific, it has gendered consequences: many expanding service roles remain female-dominated and relatively low-paid. Thus, the occupation-mix effect in the decomposition captures not only declining employment in traditional male blue-collar industries but also the emergence of new, lower-paid sectors where women are concentrated. The combination of these forces helps explain why the occupation-mix component remains modestly negative: structural change reduced overall segregation, but has not eliminated underlying disparities in occupational value.

These patterns are similar to the US experience documented in Blau, Brummund, and Liu (2013), which found that occupational segregation declined substantially from 1970 to 2009 but as a diminishing pace, with roughly 70-80% of the decrease attributable to within-occupation changes in gender composition rather than shifts in occupational mix. Similar trends are evident in other high-income countries. In Australia, a recent report finds that only one in five workers is employed in a gender-balanced occupation and that nearly 70% of jobs remain strongly gender-typed (Jobs and Skills Australia, 2025). Although it uses a different metric - the Gender Segregation Intensity Scale rather than the Duncan/Fuchs index - it highlights the same enduring divide, with men concentrated in trades, technical, and managerial work and women in caring, clerical, and service occupations. This is also consistent with earlier research for Australia which showed that the index of dissimilarity fell only modestly from about 0.57 in 1989 to 0.52 in 2019 (Lind and Colquhoun, 2021). In NZ, Stats NZ (2015b) similarly documents a gradual shift of women into professional and managerial roles but continued clustering in edu-

cation, health and clerical occupations, consistent with the slowing decline in the Duncan index from the early 2000s. In Brazil, segregation also declined between the late 1980s and mid-2000s, mainly through within-occupation integration (Salardi, 2016).

Evidence from a World Bank report further underscores that occupational segregation is reinforced by institutional and cultural factors, such as gendered occupational norms and employer practices, and that progress slows without targeted interventions (Bardasi, Elder, and Otobe, 2019). In contrast, Borrowman and Klasen (2020) show that in many developing economies, occupational segregation remains high or has increased since 1980, with rising education, trade openness and female labour-force participation sometimes deepening rather than reducing gender sorting.

Taken together, these findings suggest that NZ's trajectory - a marked early decline followed by slower, incremental progress - fits the pattern observed across advanced economies, where desegregation has been driven largely by women entering male-dominated fields but has stalled as structural and cultural barriers persist.

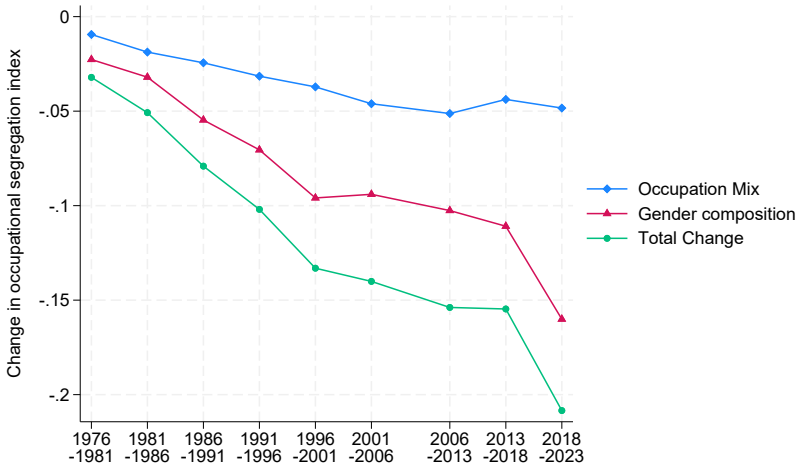

Figure 2: Decomposition of change in occupational segregation

3.3 Female share in selected occupations

To complement the aggregate measures of occupational segregation, Figures 3-12 show the evolution of the female share of employment across selected occupational groups. Whereas the segregation indices summarise overall trends, these figures provide a more detailed view of where gender integration has occurred and where segregation persists. Each circle represents an occupation or occupational group, with its vertical position indicating the female share of employment and its size corresponding to the occupation's share of total employment. Changes in circle size over time reflect growth or decline in an occupation's relative importance within the workforce. Together, the movement and size of the circles illustrate how both gender composition and structural change have contributed to the evolving pattern of occupational segregation, linking the visual evidence directly to the within-occupation and occupation-mix dynamics captured in the decomposition of changes in the Duncan index.

Figure 3 shows the eight major-group level occupations, the highest hierarchical level in the

ANZSCO classification.[3] The female share of employment has risen in almost all these occupational groups, reflecting women's growing labour-force participation. The largest increases have occurred among Professionals and Managers, consistent with a shift toward a more highly-skilled, service-oriented workforce. Female representation has also grown in Community and Personal Service, Sales, and Clerical and Administrative occupations, as well as - though from a lower base - in Technical and Trades, and Labourers. The only major group to record a decline is Machinery Operators and Drivers, where some historically female manufacturing roles, such as textile and assembly work, have contracted over time.

These trends illustrate broad shifts in the occupational structure alongside gradual gender convergence. Women have moved increasingly into professional and managerial roles, while their presence has also broadened modestly in lower-skill occupations. The expansion of the Professionals and Managers groups in overall employment has amplified the effect of rising female participation in those categories, linking directly to the "occupation-mix" component of the decomposition. At the same time, the persistence of strong gender imbalances within certain groups highlights the value of examining more disaggregated trends, since aggregate figures can mask divergent movements within larger occupational groupings. However, the broad patterns mirror developments in other advanced economies, including Australia and the United States, where most of the reduction in segregation has occurred through women entering a wider range of jobs rather than men moving into female-dominated roles (Blau, Brummund, and Liu, 2013; Jobs and Skills Australia, 2025).

At greater levels of occupational disaggregation, the same broad pattern holds. Figures 4–5 display the female employment share for the largest sub-major and unit-group levels. Only the 10 largest occupational groups are shown as the full ANZSCO classification contains 43 sub-major and 364 unit groups, which is too many to present clearly in a single graph. A similar pattern emerges to that observed for the major groups: female shares have increased in most of the largest occupations shown, reflecting rising female labour force participation. For the largest sub-major groups, the biggest increase in the female share was in Business Administration Managers, which was also growing in terms of its employment share. At the unit-group level, a similar trend is seen in Sales Representatives. Some occupations were already strongly female-dominated, and have remained so (e.g. Registered Nurses) or even become more so over time (e.g. School Teachers). Indeed, the figures focusing on the largest occupations that were highly gender-skewed in 1976 (more than 80 % female or male employment, Figures 6 and 7) show gradual convergence in some male-dominated roles (e.g. Chief Executives and Managing Directors) but little reciprocal movement of men into female-dominated jobs. This pattern is further confirmed when looking at the most detailed level of occupation groups, in terms of both the largest (Figure 8) and most gender-skewed (Figure 9 occupations.

These results suggest that reducing occupational segregation - both through women entering male-dominated roles and through greater gender balance within traditionally female occupations - is an important pathway to narrowing gender pay gaps, but it is not sufficient on its own. Empirical evidence indicates that occupations dominated by women tend to be valued and paid less, and that pay levels can shift as the gender composition of an occupation changes -

[3] ANZSCO has five hierarchical levels: major group, sub-major group, minor group, unit group and occupation.

sometimes upward when men enter, and downward when women do (England, 1992; Levanon, England, and Allison, 2009; Levanon and Grusky, 2016). As Sin, Stillman, and Fabling (2022) show, sorting by industry and firm explains only about one-fifth of New Zealand's gender wage gap, with most of the remaining difference reflecting unexplained, including potentially discriminatory, factors. This implies that continued progress toward gender integration can help reduce pay disparities, but further reductions require addressing within-occupation inequalities and the systematic undervaluation of female dominated work.

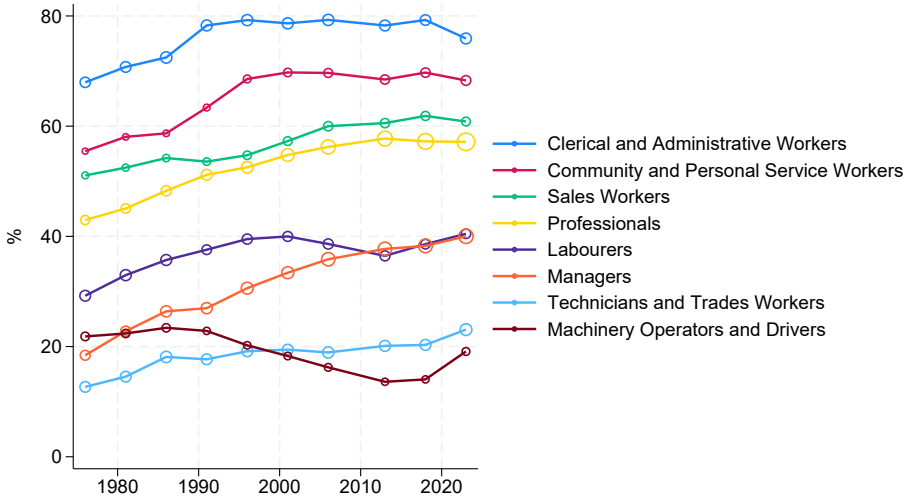

Figure 3: Female share over time in major groups

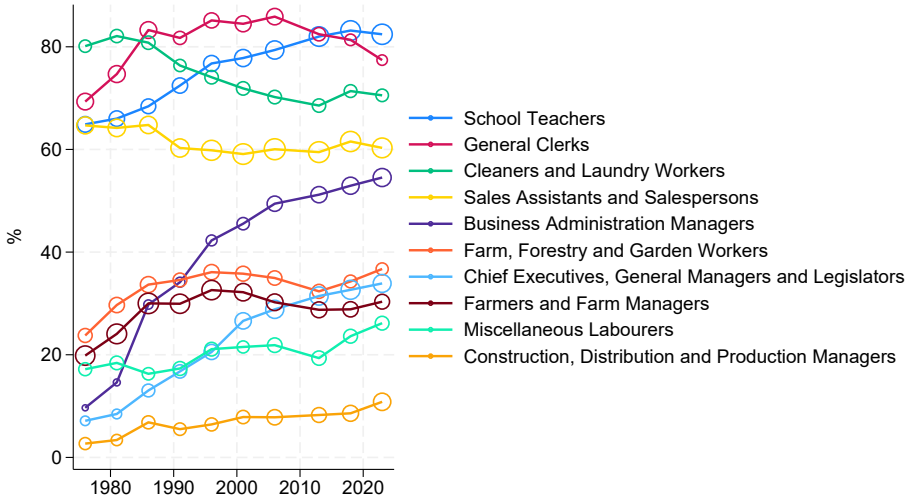

Figure 4: Female share over time in largest sub-major groups

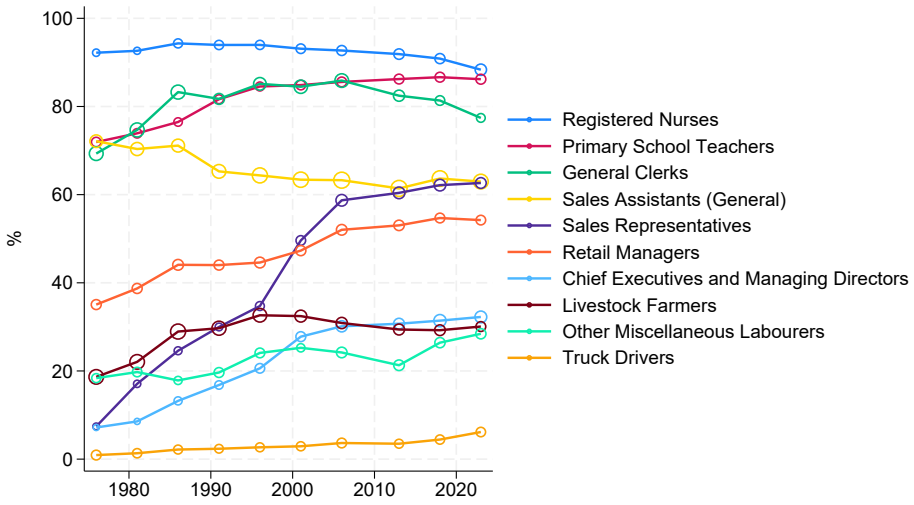

Figure 5: Female share over time in largest unit groups

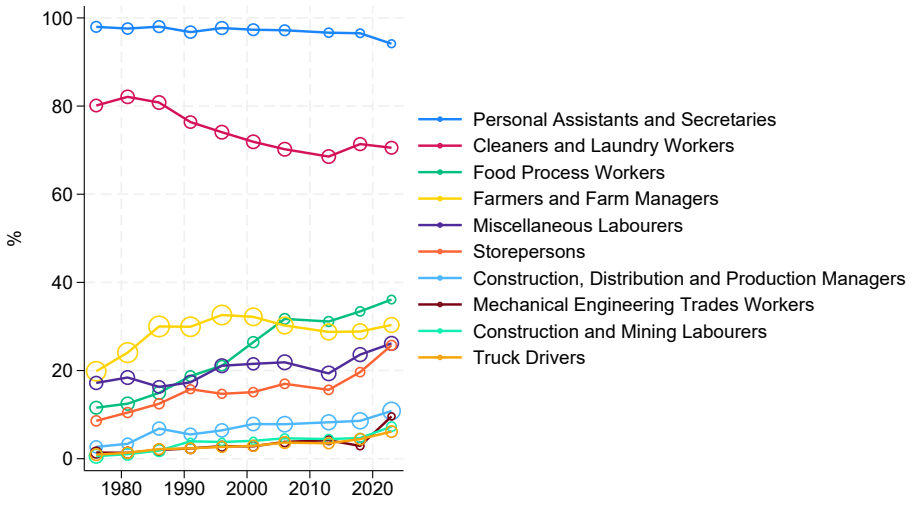

Figure 6: Female share over time in largest sub-major groups with high gender-skew in 1976

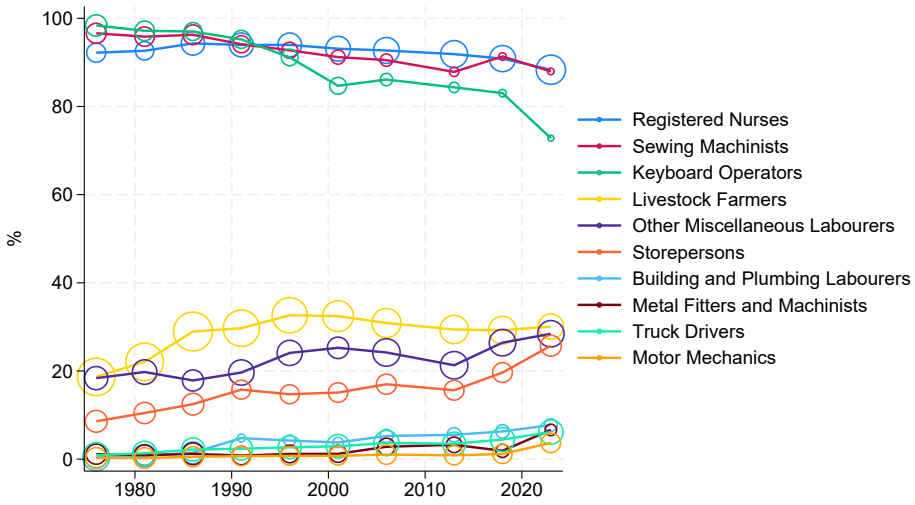

Figure 7: Female share over time in largest unit groups with high gender-skew in 1976

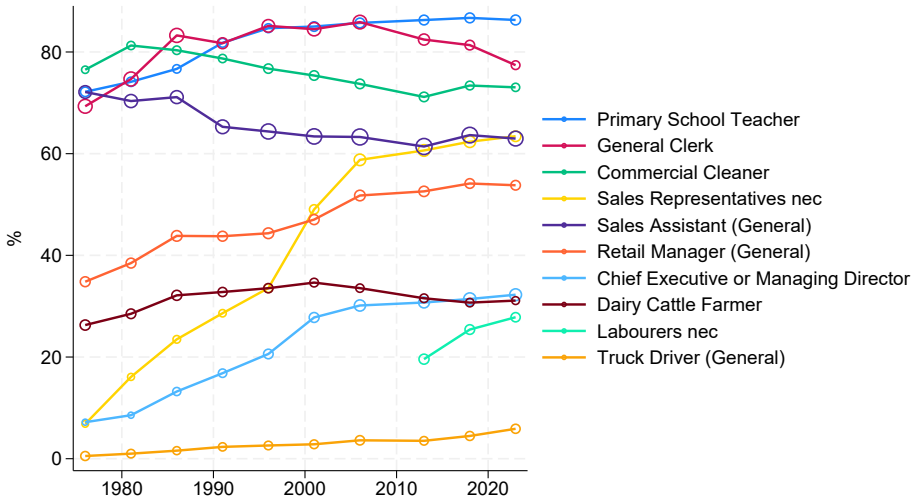

Figure 8: Female share over time in largest occupations

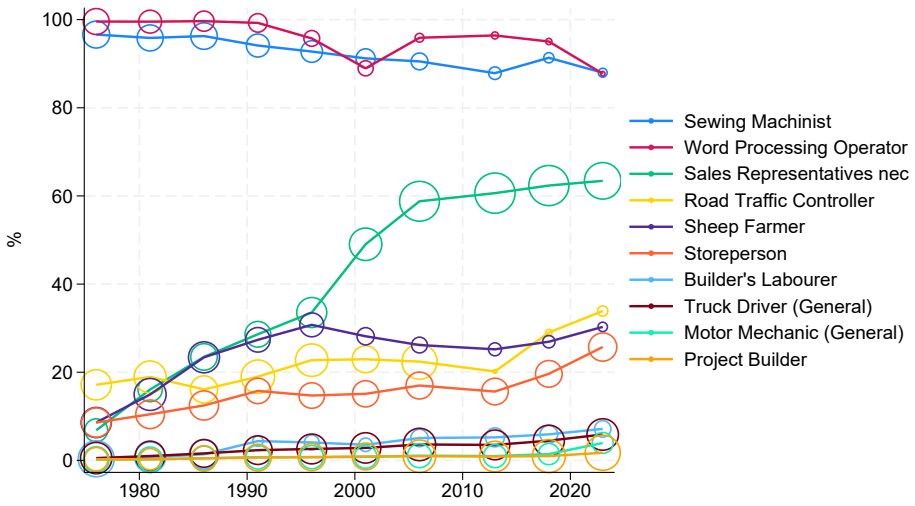

Figure 9: Female share over time in largest occupations with high gender-skew in 1976

3.4 Female employment in education, health, and legal, social and welfare Professions

We examine education, health, and legal, social and welfare services in more detail because they are among the largest professional employers of women and include many largely publicly-funded occupations. Their size and concentration in publicly-funded sectors make them central to discussions of pay equity and the valuation of work, as they combine high skill requirements with persistent gender concentration in teaching, care, and community service roles. They also illustrate the broader pattern observed across the labour market: women have increasingly entered professional and higher-paid roles, while there has been much less movement of men into traditionally female-dominated occupations. Focusing on these sectors therefore helps to show how gender integration has unfolded within highly skilled but socially differentiated professions, many of which remain at the centre of pay-equity debates.

3.4.1 Education professions

In the education sector (Figure 10), patterns of female representation vary across teaching levels. Early childhood education (ECE) remains by far the most female-dominated occupation in the sector, with almost all teachers being women. The female share has declined slightly over time, even as employment in ECE has expanded strongly, but women continue to make up the overwhelming majority of the workforce. Primary school teaching was already heavily female-dominated in 1976 and has become even more so, while secondary teaching has also experienced a steady rise in the female share. The largest proportional gains have occurred among university lecturers, who began with a relatively low female share in the 1970s but have seen the most pronounced increase over time. Overall, the higher the level of education, the lower the initial share of women, but the greater the increase in female representation has been. This pattern reflects the broader labour-market trend in which women have entered more male-dominated, higher-skill roles, while men have not entered female-dominated occupations to anywhere near the same extent.

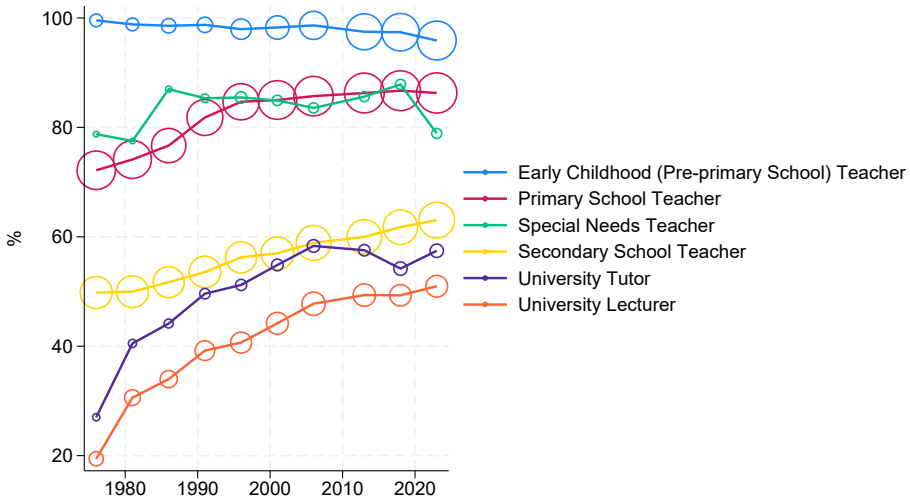

Figure 10: Female share over time in selected education professions

3.4.2 Health professions

The health sector (Figure 11) shows a similar but more complex pattern. Nurses and Nurse Managers remain overwhelmingly female, although the female share has declined slightly as more men have entered nursing. A comparable trend is visible among physiotherapists, where male participation has grown modestly. In contrast, occupations that were male-dominated in 1976 - such as General Practitioners, Dentists, Psychiatrists, Anaesthetists, and Retail Pharmacists - have experienced the largest increases in female representation.

These changes indicate that women have entered the higher-paid medical professions in growing numbers, while men have not moved substantially into traditionally female-dominated areas such as nursing and allied health care. This asymmetry is consistent with the overall observed pattern of desegregation: progress has been driven mainly by women's entry into professional, higher-status roles.

Within the health sector, however, pay and representation gaps remain substantial between medical and care occupations. From a pay-equity perspective, this reflects both horizontal segregation—between professional and caring roles—and vertical segregation within medicine itself, where men remain overrepresented in the most senior and highly paid specialties. Recent evidence shows that female doctors in New Zealand are disproportionately concentrated in general practice and lower-paid specialties, while men dominate hospital and surgical fields (Sin, Bruce-Brand, and Chambers, 2021; Medical Council of New Zealand, 2024). Even within the same specialty, and after controlling for age and hours worked, female specialists employed in the public health system earn around 11% less per hour than comparable men (Sin, Bruce-Brand, and Chambers, 2021). Although women now comprise roughly half of practising doctors, they remain under-represented in senior clinical and leadership positions, and pay inequities persist even within standardised pay frameworks. These findings highlight that greater female participation alone has not eliminated entrenched gender disparities in valuation, progression, and remuneration within the health professions.

3.4.3 Legal, social, and welfare professions

In the legal, social, and welfare professions (Figure 12), the female share has increased across all selected occupations. Among Social Workers and Welfare Workers, the most strongly female-dominated roles, the share of women has risen further over time. Similar trends are evident among Counsellors and Clinical Psychologists, whose female share began at around 40% in 1976 but has since increased substantially.

Within the legal profession, the changes have been particularly striking. The female share of Solicitors has surpassed 50%, while Barristers are close to gender-balanced and Judges are approaching parity.[4] However, gender disparities remain in the distribution of cases and seniority within the profession. According to the New Zealand Bar Association, women now make up around half of all lawyers holding practising certificates but remain under-represented as barristers and as lead counsel in higher courts (New Zealand Bar Association, 2024). Women constitute only about 38% of barristers, and their representation declines further at more se-

[4]Data for Judges are available only from 1986, as the number of female judges prior to that year was too small to be released under confidentiality rules.

nior levels - comprising just one-third of King's Counsel and a minority of counsel appearing before the Court of Appeal and Supreme Court. This persistence of vertical segregation - where women's advancement and visibility decline with seniority - parallels patterns observed in other professions, where numerical integration has not yet translated into full equality of opportunity or status.

3.5 Summary

Together, these trends highlight that social and caring professions continue to be female dominated, alongside significant female entry into higher-status and higher-paying professional roles in education, health, and law. They illustrate both the progress made toward gender integration and the persistence of a structural divide: few men have entered lower-paid caring and service occupations, while women's growing presence in professional fields has been the primary driver of change.

Because many of these occupations are large, publicly funded, and strongly female-dominated, they are central to New Zealand's pay-equity agenda. The persistence of gender clustering in these sectors means that even as overall segregation declines, historical systemic undervaluation likely continues to affect earnings.

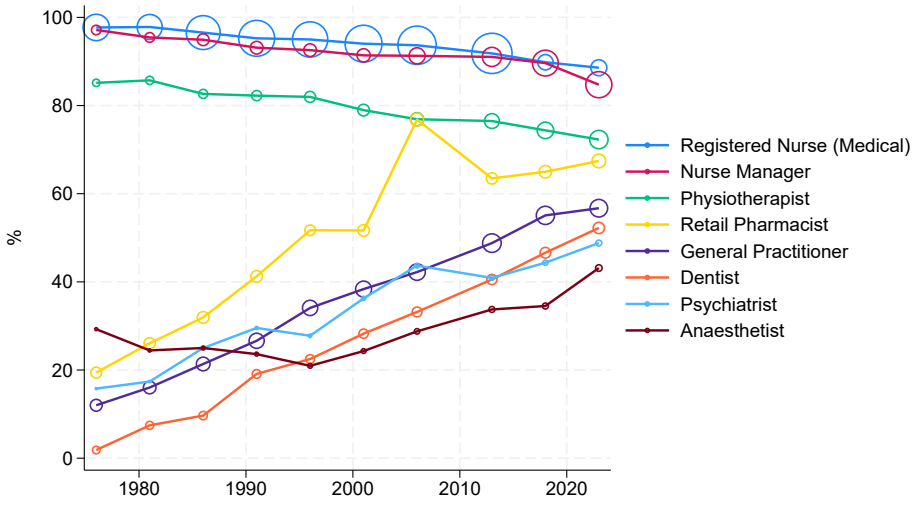

Figure 11: Female share over time in selected health professions

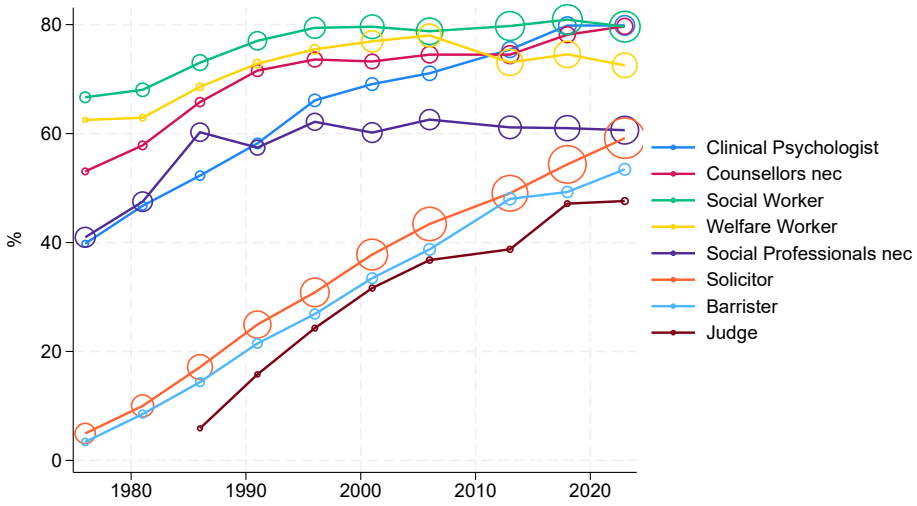

Figure 12: Female share over time in selected legal, social and welfare professions

3.6 Occupational contributions to the decline in segregation

To identify which occupations contributed most to the decline in occupational segregation, a hypothetical Duncan index was calculated for 2023. In this exercise, the share of men and women employed in each occupation was held fixed at its 1976 level, allowing employment in all other occupations to evolve as observed. The occupations for which this hypothetical 2023 index remained highest are those that contributed most to the overall reduction in segregation. Their contribution reflects both changes in gender composition within occupations and shifts in the relative size of those occupations within the labour market.

This occupation-level counterfactual analysis builds on the conceptual logic of the decomposition presented above, which distinguishes changes in segregation arising from shifts in gender composition within occupations from those due to changes in the overall occupational mix. Rather than decomposing the total change into these two components, the counterfactual exercise instead asks which specific occupations contributed most to the aggregate decline in segregation. By holding each occupation's gender share constant at its 1976 level and allowing all others to evolve as observed, the analysis identifies the occupations whose changing gender composition or relative employment size had the greatest influence on the overall reduction in segregation. In this sense, it complements the decomposition by linking the aggregate trends to the specific occupational changes that underpinned them.

Figure 13 shows the female share of employment over time for the ten occupations that contributed most to the decline in occupational segregation. In nine of these ten, the female share increased markedly, while Sales Assistants shifted from being heavily female-dominated to less so. This confirms that most of the reduction in the Duncan index reflects gender-mix changes within occupations, primarily through women entering traditionally male-dominated roles, rather than men moving into female-dominated ones.

Nevertheless, occupation-mix changes have also played a smaller but meaningful role. Some heavily male-dominated occupations have contracted in size, thereby reducing their influence on overall segregation even without large shifts in gender composition. The clearest example is Builder's Labourer, a male-dominated occupation that has shrunk substantially in employment share. Similar though less pronounced declines occurred among Sheep Farmers, reflecting structural shifts in the primary sector.

Taken together, these results show that NZ's decline in occupational segregation has been driven mainly by women entering a broader range of professional, managerial, and commercial occupations, complemented by the contraction of traditional male-dominated manual jobs. Because wage gaps persist both within and between occupations, these compositional shifts reinforce the case for pay-equity policies that target valuation and pay structures directly, not only occupational access.

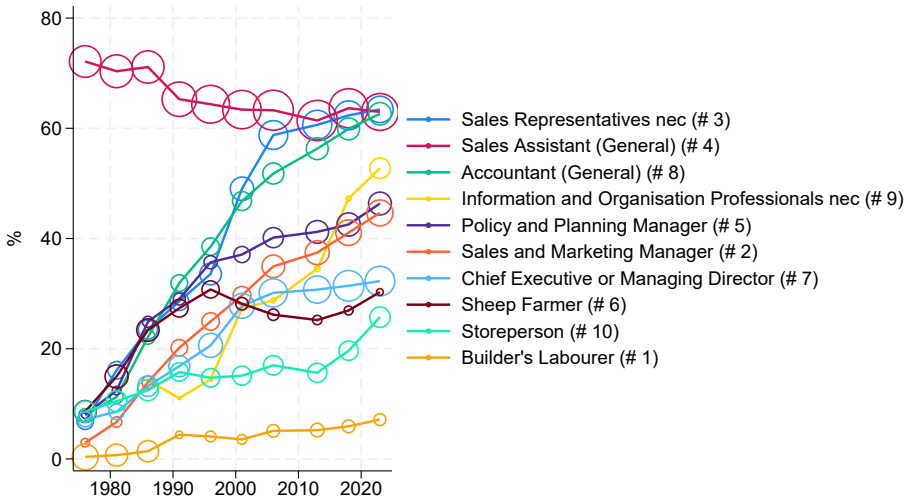

Figure 13: Female share in occupations that contributed most to the decline in segregation

3.7 Occupational segregation by age: Intercohort and intracohort patterns

We next examine how trends in occupational segregation differ across age groups in order to understand how and when the overall reduction in segregation has occurred, following the approach of Blau, Brummund, and Liu (2013). In particular, this analysis helps distinguish whether the observed changes reflect (1) younger generations entering the workforce with different occupational profiles than their predecessors, (2) shifts in the occupational distribution of workers already established in the labour market, or (3) a combination of both processes.

To do this, we calculate the Duncan index of occupational segregation separately for four ten-year age groups (25–34, 35–44, 45–55, and 56–64) for each Census year (Table 1). Although the broader analysis in this paper focuses on workers aged 18–64, we begin at age 25 to concentrate on people who have generally completed their formal education. This approach also makes it possible to trace the same cohorts over time to explore changes both between and within generations.

Looking first across age groups in 1976–1981, levels of occupational segregation were similar for all groups, with Duncan index values around 0.65–0.67. Over time, segregation declined for every age group, following the same broad pattern as the aggregate trend: a sharp fall through the 1980s and 1990s, followed by smaller decreases thereafter. By 2023, segregation had fallen to between 0.46 and 0.51 across age groups. The reductions were slightly larger among younger workers, and by 2023 the youngest age group (25–34) exhibited the lowest level of segregation. This age gradient suggests that the entry of younger, less-segregated cohorts has been a key driver of overall desegregation—consistent with the US evidence of Blau, Brummund, and Liu (2013). This pattern suggests that newer generations of workers entered the labour market with more balanced occupational distributions, likely reflecting broader access to education, shifting social norms, and stronger attachment of women to paid work.

Further insight into the mechanisms behind these changes can be obtained by following cohorts over time. For example, the group aged 25-34 in 1976 corresponds roughly to the 35-44 group in 1986. Similar intra-cohort declines are observed for other age groups, indicating

that occupational segregation tends to decrease as cohorts age. This implies that, in addition to between-cohort differences, within-cohort integration has also contributed to the overall decline—particularly in earlier decades.

Taken together, the evidence suggests that both intercohort and intracohort dynamics have played a role in reducing occupational segregation, but the entry of younger, less segregated cohorts has been the stronger driver. Generational replacement - where successive waves of new entrants have more integrated occupational profiles than older cohorts—accounts for much of the long-term decline, while within-cohort changes have reinforced this pattern over time. However, unless accompanied by broader reforms targeting pay equity, these demographic dynamics alone are not enough to close the gender pay gap.

Table 1: Trends in occupational segregation by age

	1976	1981	1986	1991	1996	2001	2006	2013	2018	2023
25-34	0.66	0.63	0.61	0.58	0.56	0.53	0.51	0.50	0.50	0.46
35-44	0.67	0.64	0.62	0.60	0.58	0.55	0.53	0.51	0.51	0.47
45-54	0.67	0.65	0.64	0.61	0.59	0.57	0.56	0.54	0.54	0.48
55-64	0.66	0.64	0.63	0.59	0.58	0.57	0.58	0.57	0.57	0.51

4 Discussion and policy implications

The long-term decline in occupational segregation documented in this paper represents a significant but incomplete shift toward greater gender integration in NZ's labour market. Over the past five decades, women have entered a wider range of occupations, including many that were once almost exclusively male. This diversification has been the primary driver of reduced segregation, while men's participation in traditionally female-dominated roles has changed little. Consequently, many occupations - particularly in the care, education, and community sectors - remain strongly female-dominated, highlighting the enduring structural and cultural divisions that underpin gendered patterns of work.

Valuation, pay equity, and the gender composition of work

The right to pay equity is a fundamental human right protected in multiple international human rights instruments. For example, the Convention on the Elimination of All Forms of Discrimination against Women affirms the principle of "equal pay for work of equal value" as a core obligation for State Parties.". The persistence of strongly female-dominated occupations, particularly in care, education, and community services, underscores the importance of pay equity as a complement to desegregation. In these sectors, the government plays a dominant role as either a direct employer or the primary funder of services, meaning that wages are often determined through publicly regulated pay systems that have historically undervalued "women's work".

NZ's pay equity framework traces its roots to the Equal Pay Act 1972 (New Zealand Government, 1972), which established the principle of equal pay for equal work. But its application to work of equal value was only clarified following the Court of Appeal's 2014 Terranova decision (Court of Appeal of New Zealand, 2014), which confirmed that systemic undervaluation of female-dominated work could constitute discrimination under the Equal Pay Act 1972.

That ruling led directly to the 2017 Care and Support Workers (Pay Equity) Settlement (New Zealand Government, 2017), the first large-scale implementation of bias-free, gender-inclusive job-evaluation methods to determine fair pay rates. The case also prompted legislative reform: the Equal Pay Amendment Act 2020 introduced a structured process for pay equity bargaining, enabling employees and employers to resolve claims collaboratively through comparison and negotiation rather than litigation (New Zealand Government, 2020).

Evaluations of the 2017 settlement show that it delivered meaningful pay increases and improved job satisfaction among care and support workers but did not fully address concerns over workloads, staffing levels, or recognition of experience. Qualitative research by Douglas and Ravenswood (2022) and survey data from Ravenswood and Douglas (2019) highlight that while the settlement raised wages by up to 50 % and enhanced perceptions of fairness, issues of wage compression, limited progression pathways, and persistent work intensity have constrained its longer-term impact. These findings illustrate that raising pay alone does not necessarily resolve deeper structural undervaluation or improve working conditions in female-dominated sectors.

In the years since, a series of settlements have extended the pay equity framework across the public and community sectors, applying objective job-evaluation methods to ensure that remuneration reflects the skills, effort, and responsibility required. Settlements covering nurses, midwives, social workers, care and support workers, and school administration staff have produced substantial nominal pay increases, in some cases lifting hourly wages by 15–50 % for tens of thousands of workers (NZ Treasury, 2017). However, evaluations also highlight several challenges: wage compression between entry-level and experienced staff, eroded relativities with adjacent occupations, and ongoing workload and staffing pressures that have limited perceived fairness and retention benefits (Douglas and Ravenswood, 2022; Ravenswood and Douglas, 2019).

In May 2025, Parliament passed significant amendments to the pay equity framework, reversing several key features of the 2020 legislation (New Zealand Government, 2025). These changes were passed under urgency, bypassing the usual consultation and select committee processes. The amendments cancelled 33 active pay equity claims, raised the threshold for initiating new claims, and restricted the use of comparator occupations (the reference roles used to establish whether work of equal value is underpaid). These changes made it more difficult both to bring new claims and to prove undervaluation where comparable male-dominated roles exist outside the immediate sector. Together with a renewed emphasis on fiscal restraint, these amendments have narrowed access to pay equity mechanisms and introduced new uncertainty for female-dominated sectors. While past settlements have delivered substantial nominal pay gains, their long-term effectiveness, as well as the ability to extend pay equity settlements to other areas, now depends on sustained political commitment and adequate funding to prevent a renewed cycle of structural undervaluation in women-dominated occupations.

Market failures and structural frictions in pay setting

Persistent gender pay inequities in female-dominated sectors can also be understood through the lens of labour market failures, where normal competitive mechanisms do not produce efficient or equitable outcomes. As outlined in the *Regulatory Impact Statement for the Pay Equity Bill* (Ministry of Business, Innovation and Employment, 2018), undervaluation of "women's work" arises not only from historical bias but also from structural distortions that prevent market

forces from fully recognising skill and contribution. These include employer monopsony power, information asymmetries, and barriers to mobility created by occupational specialisation and funding structures.

Monopsony power - the limited ability of workers to switch employers without incurring wage or employment losses - is particularly acute in publicly funded and geographically concentrated labour markets such as health care, education, and social services, where a single dominant employer (often the state) or a small number of providers sets wage benchmarks. These conditions suppress competition for labour and can hold wages below their productivity value even in the absence of explicit discrimination. For female-dominated occupations, monopsony power compounds the effects of undervaluation: limited competition among employers reinforces historically low pay levels, while occupational licensing, qualification requirements, and strong vocational identities restrict workers' ability to move across sectors or regions.

Information asymmetries and skill specificity further exacerbate these frictions. Individuals entering professions such as teaching, nursing, or social work may lack full information about long-term pay progression, workload expectations, or advancement opportunities. Once they have invested years in training and built occupation-specific experience, changing careers becomes costly. Their specialist skills are not easily transferable to other sectors, and alternative jobs may offer lower pay or require substantial retraining. This "occupational lock-in" weakens workers' bargaining power and undermines the argument that low pay in female-dominated occupations simply reflects voluntary choice.

These forms of market failure justify public policy intervention through pay-equity mechanisms, collective bargaining, and transparent pay-setting frameworks. As emphasised by Ministry of Business, Innovation and Employment (2018), such mechanisms serve as corrective tools to address systemic undervaluation and power imbalances in labour markets where competition does not function effectively. By establishing cross-employer comparability and gender-neutral job evaluation, pay-equity policies can raise wage floors in undervalued sectors and partially offset monopsonistic constraints. However, current fiscal restraint and recent restrictions on pay-equity settlements risk re-entrenching these market failures—particularly for the predominantly female workforce in care, community, and early education services. Ensuring that equity mechanisms retain sufficient autonomy, resourcing, and analytical capacity is therefore essential to prevent the re-emergence of structural wage suppression in these sectors.

Beyond fairness and equity considerations, these market failures also carry broader economic costs. The *Regulatory Impact Statement for the Pay Equity Bill* (Ministry of Business, Innovation and Employment, 2018) notes that occupational segregation and undervaluation of female-dominated work distort labour allocation and reduce productivity by discouraging investment in skills and limiting the effective use of talent across the economy. Persistent pay inequities in care, education, and service roles can suppress job quality, increase turnover, and weaken incentives for upskilling - all of which undermine the efficient functioning of labour markets. Addressing undervaluation through pay-equity mechanisms therefore has potential productivity benefits, by improving job stability, encouraging skill development, and reducing the economic inefficiencies associated with gendered wage disparities.

The patterns identified in the empirical analysis earlier in this paper - the gradual decline

in the Duncan index and the dominance of within-occupation change in the decomposition - can be understood as reflections of these same underlying market dynamics. Occupational segregation has diminished as women have entered a wider range of roles, but persistent gender imbalances remain in sectors characterised by limited competition, occupational lock-in, and systemic undervaluation. In this sense, occupational segregation and pay inequity are mutually reinforcing phenomena: the concentration of women in undervalued work both stems from and perpetuates distorted wage-setting mechanisms. These distortions generate not only fairness concerns but also efficiency losses, as the misallocation of skilled labour reduces productivity across the economy. Understanding occupational segregation through this dual lens of equity and efficiency underscores the importance of sustained pay-equity policy, active monitoring, and well-resourced institutional mechanisms to address the structural roots of gendered pay disparities.

Future drivers of change

The age-based analysis suggests that younger cohorts are entering the workforce with more gender-balanced occupational profiles, implying that cohort replacement will continue to reduce segregation gradually. Yet, the pace of change has slowed since the early 2000s, and further reductions are likely to be incremental unless the structure of employment itself evolves. While increasing diversity across all occupations remains desirable, the more pressing challenge lies in raising the value and visibility of work that is already predominantly undertaken by women, rather than expecting compositional change alone to deliver equity. Achieving genuine progress therefore requires addressing both fairness and efficiency—ensuring that undervalued work is recognised, rewarded, and supported as part of a productive and inclusive economy.

Policies that support career development, professional recognition, and sustainable pay progression within female-dominated sectors can help ensure that these roles remain attractive and fairly rewarded, regardless of gender composition. Maintaining and consistently applying gender-neutral job-evaluation frameworks, as established under NZ's Equal Pay Amendment Act 2020, is central to this goal. These frameworks, used in recent pay-equity settlements across health, education, and social services, provide a structured basis for assessing work value on the basis of skill, effort, responsibility, and conditions rather than existing pay relativities. Embedding these principles in pay systems and funding models helps ensure that the valuation of female-dominated work remains transparent, objective, and resilient to changing labour-market pressures.

At the same time, institutional mechanisms will be crucial for embedding and maintaining pay equity. These include multi-employer or sectoral bargaining arrangements, dedicated pay-equity implementation units, and transparent pay reporting to ensure that gender-neutral valuation endures beyond individual settlements. Sustained monitoring of occupational segregation - using harmonised classification data and established indices - will remain vital for assessing the impact of such measures and identifying emerging areas of gender concentration. Ultimately, ensuring that the value of female-dominated work keeps pace with its social and economic contribution will determine whether New Zealand can translate the achievements of past decades into lasting equity in both opportunity and reward.

5 Conclusion

Occupational segregation in NZ has declined steadily over the past five decades but remains a defining feature of the labour market. The Duncan index shows that segregation has fallen by roughly one-third since the 1970s, with the sharpest declines occurring between the late 1970s and early 2000s. The decomposition of changes in the Duncan index indicates that most of this reduction reflects changes in gender composition within occupations rather than shifts in the structure of employment. Women have entered an expanding range of professional and managerial roles, yet men's participation in traditionally female-dominated occupations has changed little.

At a more detailed level, the results reveal a persistent asymmetry in the desegregation process. Women's entry into higher-paid, male-dominated fields has been the main driver of change, while many large, female-dominated occupations - particularly in education, health, and social services - remain overwhelmingly female. These sectors form the backbone of public service provision but continue to experience structural undervaluation. The long-term decline in segregation has therefore improved access and opportunity without eliminating the economic penalty associated with female-dominated work.

The findings underscore that occupational integration and pay equity are related but distinct dimensions of gender equality. Integration reduces sorting effects that contribute to pay gaps, yet within-occupation inequalities persist, reinforced by institutional pay-setting practices, limited competition in publicly funded labour markets, and information and mobility frictions that constrain workers' bargaining power. These features reflect underlying market failures—including monopsony power and information asymmetries—that suppress wages and weaken incentives for skill development in female-dominated sectors. As noted in the Regulatory Impact Statement for the Pay Equity Bill, such inefficiencies reduce both fairness and productivity, as the undervaluation of women's work limits the effective use of talent across the economy.

Recent amendments to NZ's pay-equity framework risk further entrenching these structural distortions. Narrower access to comparators, higher thresholds for initiating claims, and the cancellation of ongoing cases have increased uncertainty for workers in female-dominated occupations and weakened institutional mechanisms for addressing undervaluation. Sustaining progress will require robust, independent, and well-resourced pay-equity processes supported by transparent job-evaluation frameworks, sector-level bargaining structures, and stable funding arrangements that protect against cyclical fiscal pressures.

Overall, New Zealand's experience points to substantial but incomplete transformation. Generational change and women's expanded access to professional work have reshaped the occupational landscape, yet the social and economic value of work remains deeply gendered. Achieving enduring gender pay equity will depend not only on continued desegregation but also on the systematic recognition, proper remuneration, and institutional protection of work in female-dominated sectors - work that is essential to the country's wellbeing and economic performance. Continued monitoring of occupational segregation and pay equity outcomes, using harmonised data and transparent indicators, will be vital to ensure that policy reforms deliver on their long-term promise of both equity and efficiency.

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A Appendix: Occupational Crosswalk Methodology

To enable consistent measurement of occupational segregation over time, we construct crosswalks that map occupational codes from older classification systems to a harmonised system. These crosswalks are primarily based on double-coded census data, where the same individuals are assigned occupational codes under both an older and a newer classification. For example, the 1996 census includes occupational codes for each individual according to both NZSCO68 and NZSCO95. These double-coded records are used to calculate factors or weights that represent the proportion of individuals in a given occupation under the old classification who are assigned to each occupation under the new classification. Because our focus is on gender segregation, these factors are constructed separately for men and women, yielding gender-specific crosswalks.

These weights form the basis of the crosswalk and allow us to *upcode* occupation data from censuses that use only the old classification. For instance, occupation codes from the 1976 census (which uses only NZSCO68) can be converted to NZSCO95 codes using the weights derived from the 1996 census double-coded data.

In some cases, additional steps are required. For example, certain occupational codes in older systems (such as NZSCO68) are not present in later censuses—possibly because these occupations had largely disappeared by the time of the double-coded reference census (e.g., lighthouse keepers). In such cases, we draw on official concordance tables that provide mappings between classification systems. To construct crosswalk weights where double-coded data are unavailable, we combine these concordance tables with observed transitions in the New Zealand Longitudinal Census and the Integrated Data Infrastructure (IDI). Specifically, we use these additional data to identify individuals observed at two points in time and assume that, in the absence of evidence to the contrary, they remained in the same occupation between censuses. We then restrict this analysis to individuals whose occupations in both periods are part of a matched group under the concordance table. This restriction helps to exclude clear occupation changes that would otherwise lead to misclassification. However, the assumption of no change within concordance-linked occupations may still be violated in some cases—i.e. individuals might change occupation within the concordance group. As such, while this approach enhances the quality of the mapping, it is not perfect, and we prioritise double-coded data wherever available.

Crosswalks:

The construction of the crosswalks is summarised below:

- **NZSCO68 to NZSCO95**
  - Based on double-coded 1996 census data.
  - Supplemented with concordance table in combination with the longitudinal census.
  - Where not available in linked data, the most frequent job in 1996 (based on concordance table) is used.
  - A small number of manual adjustments for cases not adequately handled by automated methods.

- **NZSCO90 to NZSCO95**
  - Constructed directly from double-coded data in the 1996 census.
- **NZSCO95 to NZSCO99**
  - Concordance table in combination with the longitudinal census.
- **NZSCO95 to ANZSCO v1.0**
  - Constructed from double-coded data in the 2006 census.
- **ANZSCO updates**
  - ANZSCO v1.0 to v1.1: Based on concordance tables longitudinal census linking 2006 and 2013 data.
  - ANZSCO v1.1 to v1.2: Based on concordance tables and linked data from the 2013 and 2018 censuses accessed through the IDI.

Upcoding

The individual Census files are then upcoded stepwise to newer classification systems.

- **Census 1976, 1981, 1986:**
  - Original classification: NZSCO68
  - Upcoded sequentially to: NZSCO95 → NZSCO99 → ANZSCO v1.0 → ANZSCO v1.1 → ANZSCO v1.2
- **Census 1991:**
  - Original classification: NZSCO90
  - Upcoded sequentially to: NZSCO95 → NZSCO99 → ANZSCO v1.0 → ANZSCO v1.1 → ANZSCO v1.2
- **Census 1996:**
  - Original classification: NZSCO95
  - Upcoded sequentially to: NZSCO99 → ANZSCO v1.0 → ANZSCO v1.1 → ANZSCO v1.2
- **Census 2001:**
  - Original classification: NZSCO99
  - Upcoded sequentially to: ANZSCO v1.0 → ANZSCO v1.1 → ANZSCO v1.2
- **Census 2006:**
  - Original classification: ANZSCO v1.0
  - Upcoded sequentially to: ANZSCO v1.1 → ANZSCO v1.2

- **Census 2013:**
  - Original classification: ANZSCO v1.1
  - Upcoded to: ANZSCO v1.2

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