

## Sources for Table 1:

### Column (1) Total employed labour force:

1987-2024 Series HLFA.SLA3HZ from Infoshare table HLF002AA last updated 07 May 2025 10:45am.

1986: March quarter from HLFS (series HLFQ.SLA3HZ from Infoshare table HLF001AA).

1956-1985: Total employment from Chapple (1994), March quarters, chain linked to the 1986 figure.

1947 to 1955: Total Labour Force less Register Unemployment from the table "Labour Force, Unemployment, and Industrial Stoppages" (NZOYB 1980, p.918 and NZOYB 1976, p.980) chain linked to the following series.

1939-1946: Census total employment with intermediate years interpolated linearly, chain linked to the following series. The 1936 and 1945 Censuses' data points are from NZOYB 1947-49, p.961, table Occupational Status (which include part-time workers), plus Māori from p.963 (Māori were omitted from the Census until 1951). The 1951 Census total employment is from NZOYB 2000, p.318.

### Column (2) employed wage and salary workers:

2024: extrapolated from 2023 using the trend of series HLFA.SLA3HA (Total both sexes - paid employees).

2009-2023: Series HLFA.SLA3HZ (Total Both Sexes - Total all employment status) from Infoshare table HLF02AA last updated 07 May 2025 10:45am, multiplied by the ratio of wage and salary earners to total employed in LEED table 1.5 (downloaded May 2025 from <https://explore.data.stats.govt.nz/>). Note that SNZ made a significant change to the survey in June 2016 to recognise growing mismeasurement of self-employed, which appears to have started around 2009. This created a break in June 2016 (a sudden increase in the ratio of self-employed to wage and salary earners), which has been adjusted for by estimating employee numbers and self-employed numbers by maintaining the same ratio to total employed as shown in LEED annual data for main jobs from 2009 onwards.

1987-2008: annual to March, series HLFA.SLA3HA from Infoshare table HLF002AA.

1986: March quarter from HLFS (series HLFQ.SLA3HA - Total Both Sexes - Paid employee, Infoshare table HLF001AA).

1939-1985: Constructed from the census-year figures assembled in the table 'Labour force: 100 years full-time labour force 1896-1996', in *New Zealand Official Yearbook 2000* p.318, combined with the series for total employment in Chapple (1994), and the ratio of wage and salary earners to total employed. The ratio of wage and salary earners to total employment is from Census (NZOYB 2000, p.318), with linear interpolation of the ratios between census years, multiplied by total employment to form a wage and salary employment series which is chain linked to the following HLFS series at 1986. The scaling up is necessary because the Census data are for 'full time' employees (more than 20 hours/week) and so is total employment. The 1936 and 1945 Censuses' data points have been replaced by corresponding Census figures from NZOYB 1947-49, p.961, table Occupational Status (which include part-time workers), plus Māori from p.963 where all occupations except farming and fishing are assumed to be wage and salary jobs (Māori were omitted from the Census until 1951).

Column (3) self-employed as residual: Column (1) minus column (2). Updated version of Bertram and Rosenberg (2024) Table 5 column (1).

Column (4) is column (3) as a percentage of column (1).

Column (5) total employed labour force, census count:

2023 from Statistics NZ Data Explorer table "Rainbow/LGBTIQ+ indicator, hours worked in employment per week, status in employment, and age for the employed census usually resident population count aged 15 years and over, (RC, TALB, Health), 2023 Census".

2006-2018 from Statistics NZ Data Explorer table "Hours worked in employment per week and status in employment by age group and sex, for the employed census usually resident population count aged 15 years and over, 2006, 2013, and 2018 Censuses (RC, TA, DHB)".

2001 from Statistics NZ Data Explorer table "Hours worked in employment per week and status in employment by age group and sex, for the employed census usually resident population count aged 15 years and over, 2001, 2006, and 2013 Censuses (RC, TA)"; also 2001 census volume "Work" Table 15.  
1996 census volume "Employment and unemployment" Table 13.  
1991 census, volume "New Zealanders at Work" Table 14.  
1986 census Series C Report 4 Table 5 p.101.  
1981 census Vol.4 "Labour Force" Table 6 p.92.  
1976 census Vol.4 "Labour Force" Table 4 pp.58-80.  
1971 census Vol.4 "Industries and Occupations" Table 5 p.67.  
1966 census volume "Industries and occupations" Table 6 pp.40-48.  
1961 census Vol.4 "Industries and Occupations", Table 6 p.45.  
1956 census volume "Industries and Occupations" Table 5 pp.65-77.  
1951 census "Industries and Occupations" Table 6 pp.65-76.  
1945 census volume on labour force, Table 9 pp.72-74.  
1936 census Vol.X "Industries and occupations", Table 5 p.35 total (excluding dependents, retired, pensioners).  
Intercensal years filled by linear interpolation.

Columns (6), (7) and (8) census counts of self employed excluding unpaid family workers: sources as for Column (5).

Column (9) is column (8) as a percentage of column (5).

Columns (10) and (11) census counts of self employed including unpaid family workers: sources as for Column (5).

Column (12) is column (11) as a percentage of column (5).

Column (13): census count of full-time self-employed:

1986-1996 *New Zealand Official Yearbook 2000* p.318. (Note that from 1936 to 1981 this source shows the total census count from Column (6) without adjustment).

2001-2023 sources as for column (5).

Column (14) is column (13) as a percentage of column (8).

Sources for Table 2:

1936-2001 same sources as for Table 1 columns (5), (6), (7), (8), (10) and (11). Census years in bold, linear interpolations italicised.

2002-2023 Statistics New Zealand Linked Employer-Employee Database (LEED) Table 1.6.

### Sources for Table 3:

Column (1) 'Other personal Income' in the Old National Accounts is series ONAA.SAC from Infoshare table ONA001AA last updated 28 August 1998 06:16pm.

Column (2) is the total of 'Other persons income', 'Farm income (unincorporated)' and 'Compensation of working proprietors' from Table 7, Household income and outlay account, from Grindell (1981) p.19.

Column (3) is the sum of series SNBA.S1BC (farm) and SNBA.S1BD (non-farm) household entrepreneurial income from Infoshare table SNB028AA last updated 16 November 1999 02:00pm.

Column (4) is series SNEA.S2NB4000S500C1, 'Households, Income & Outlay account, total entrepreneurial income, national private control', from Infoshare table SNE205AA last updated 16 January 2025 10:45am.

Column (5) Net Mixed Income:

1987-2023 calculated as column (110 minus column (6).

1972-1986 chainlinked back from 1987 using the trend of column (3).

1960-1972 chainlinked back from 1972 using the trend of column (2).

1939-1959 chainlinked back from 1960 using the trend of column (1).

Column (6) Non-corporate consumption of fixed capital:

1977-2022 data supplied by Statistics New Zealand on request.

1939-1976 estimated as a share of economy-wide consumption of fixed capital based on the ratio of entrepreneurial income to total domestic operating surplus, using data from the Old National Accounts (Infoshare table ONA001AA) and the A-series SNA accounts (Infoshare table SNA004AA); details available from the authors.

Column (7) is series SNEA.S1NB0300MS100C0 from Infoshare table SNE182AA last updated 15 November 2024 10:45am.

Column (8) is series SNEA.S2NB0300S200C0 from Infoshare table SNE200AA at 16 January 2025 10:45am.

Column (9) non-corporate GMI:

1999-2023 is the sum of series SNEA.S2NB0300S121C0 (GMI noncorporate business enterprises) from Infoshare table SNE 196AA last updated 15 November 2024 10:45am, and series SNEA.S2NB0300S200C0 from Infoshare table SNE200AA (GMI financial business enterprises) last updated 16 January 2025 10:45am.

1998 interpolated using the trend of column (4).

1987-1997 is the sum of 'operating surplus before interest received' (= net GMI) and 'consumption of fixed capital before net capital transfers received', from Statistics New Zealand (1997) *Institutional Sector Accounts, Experimental Series 1987-1997* p.17 Table 1b and Statistics New Zealand (1999) *Institutional Sector Accounts experimental series 1987-1998* p.27 Table 1b.

1950-1986 is constructed from column (11) assuming that the corporate share of GMI increased linearly from zero in 1950 to reach 24% by 1986.

Column (10) corporate GMI:

1999-2023 is series SNEA.S2NB0300S111C9 from Infoshare table SNE195AA last updated 15 November 2024 10:45am.

1998 interpolated using the trend of column (4).

1987-1997 calculated by subtracting from column (4) the noncorporate entrepreneurial withdrawals from Statistics New Zealand (1997) *Institutional sector accounts experimental series 1987-1996*, p.17 Table 1b and *Institutional Sector Accounts experimental series 1987-1998* p.27 .

Column (11) Gross Mixed Income:

1999-2023 the sum of series SNEA.S1NB0300MS100C0 (non-financial business all control) from Infoshare table SNE182AA last updated 15 November 2024 10:45am, and SNEA.S2NB0300S200C0 (non-corporate financial auxiliaries) from Infoshare table SNE200AA last updated 16 January 2025 10:45am.  
1998 interpolated using the trend of column (4).  
1987-1997 calculated as the sum of columns (9) and (10).  
1972-1986 chainlinked back from 1987 using the trend of column (3).  
19939-1971 is the sum of columns (5) and (6).

#### Sources for Table 4:

Column (13) reproduces the total Gross Mixed Income series from column (11) of Table 3. The remaining columns of this table allocate this total across industries using industry shares of total self-employed income derived from the following sources:

2007-2022 file 'Mixinc\_industry\_matrix\_2022' supplied by Statistics NZ December 2023, scaled to match the total in column (13).

1977-2006 Figures for Entrepreneurial income of corporates [a gross measure under the StatsNZ methodology] plus net mixed income of noncorporates, from file 'ProdIndustry\_for\_Bill\_1977-2013' supplied by Statistics New Zealand, plus CFK of noncorporates from files 'Noncorporate CFK by industry' and 'Non-corporate financial auxiliaries' supplied by Statistics New Zealand. The supplied data for industries KK and LL has been adjusted on the basis of the ratio between these two at 2007.

1950-1976 data on the industry distribution of self-employed income were assembled from *New Zealand Official Yearbook [NZOYB]* and *Incomes and Income Tax Statistics* as follows:

1950: 1953 NZOYB, Chapter 34 average assessable and returnable incomes for the income year 1949-50.

1951: 1954 NZOYB, Chapter 35 average assessable and returnable incomes for the income year 1950-51

1952: 1955 NZOYB, Chapter 35 average assessable and returnable incomes for the income year 1951-52.

1953: 1956 NZOYB, Chapter 35 average assessable and returnable incomes for the income year 1952-53.

1954: 1957 NZOYB, Chapter 35 average assessable and returnable incomes for the income year 1953-54.

1955: 1958 NZOYB, Chapter 35 average assessable and returnable incomes for the income year 1954-55.

1956: 1959 NZOYB, Chapter 35 average assessable and returnable incomes for the income year 1955-56.

1957: 1960 NZOYB, Chapter 35 average assessable and returnable incomes for the income year 1956-57.

1958: 1961 NZOYB, Chapter 31 table of Incomes of individuals who were classified as mainly deriving income from self-employment in 1957-58 analysed by industrial affiliation.

1959: 1962 NZOYB, Chapter 31 Incomes of individuals who were classified as mainly deriving income from self-employment in 1958-59 analysed by industrial affiliation.

1960: 1964 NZOYB, Chapter 28 Incomes of individuals who were classified as mainly deriving income from self-employment in 1959-60 analysed by industrial affiliation. [Note that the same table appears in the 1963 NZOYB]

1961: 1966 NZOYB, Chapter 28 Incomes of individuals who were classified as mainly deriving income from self-employment in 1960-61 analysed by industrial affiliation.

1962: Provisional total income estimates for the Self-Employed, 1961-62 estimates, from 1966 NZOYB, Chapter 28.

1963: 1967 NZOYB, Chapter 28 Incomes of individuals who were classified as mainly deriving income from self-employment in 1962-63 analysed by industrial affiliation.

1964: 1968 NZOYB, Chapter 28 Incomes of individuals who were classified as mainly deriving income from self-employment in 1963-64 analysed by industrial affiliation.

1965: 1969 NZOYB, Chapter 28 Incomes of individuals who were classified as mainly deriving income from self-employment in 1964-65 analysed by industrial affiliation.

1966: 1970 NZOYB, Chapter 28 Incomes of individuals who were classified as mainly deriving income from self-employment in 1965-66 analysed by industrial affiliation.

1967: 1971 NZOYB, Chapter 28 Incomes of individuals who were classified as mainly deriving income from self-employment in 1966-67 analysed by industrial affiliation.

1968: 1972 NZOYB, Chapter 28 Incomes of individuals who were classified as mainly deriving income from self-employment in 1967-68 analysed by industrial affiliation.

1969: 1973 NZOYB, Chapter 28 Incomes of individuals who were classified as mainly deriving income from self-employment in 1968-69 analysed by industrial affiliation.

1970: 1974 NZOYB, Chapter 28 Incomes of individuals who were classified as mainly deriving income from self-employment in 1969-70 analysed by industrial affiliation.

1971: 1975 NZOYB, Chapter 28 Incomes of individuals who were classified in 1970-71 as self-employed are analysed by industrial affiliation.

1972: *Incomes and Income Tax for the Income Year 1971-1972*, Department of Statistics, 1977, Table 9

1973: *Incomes and Income Tax for the Income Year 1975-76*, Department of Statistics, 1977, Table 9

1974 Source: *Incomes and Income Tax to 1977*, Department of Statistics, 1978, Table 9

1975 is provisional data only, which does not have the full industry breakdown, so some subsectors are estimated from their proportion in the previous year. Source: 1978 NZOYB, Chapter 28 table 'Source of Total Income for 1974-75'

1976 Change in both industry classification and definitions of types of income from this year, creating a break in some series, particularly FIRE, Trade restaurants hotels, and Other Services. Source: *Incomes and Income Tax to 1979*, Department of Statistics, 1980, Table 9.

1977: *Incomes and Income Tax to 1980*, Department of Statistics, 1980, Table 9.

Sources for Table 5:

1977-2022: Data supplied by Statistics New Zealand.

1950-1976: Authors' estimates of the non-corporate shares of economy-wide GFCF by industry and asset, added.

1949: Authors' estimate of opening historic-cost capital stock.

## Sources for Table 6:

- Column (1) adjusted gross surplus and mixed income (market sectors only from 1972):  
1972-2023 is series SNEA.SG03NAC01B02M4 (Market all sectors gross operating surplus and mixed income) from Infoshare table SNE088AA last updated 16 January 2025 10:45am, minus series SNEA.SG03NAC04B02LL2 (owner occupied property) from Infoshare table SNE089AA last updated 15 November 2024 10:45am.  
1962-1971 whole economy except owner-occupied property, calculated with some scaling adjustments from Infoshare tables SNA004AA and ONA001AA.  
1950-1960 series back-cast using Infoshare table ONA001AA.
- Column (2) compensation of employees (market sectors only from 1972):  
1972-2023 is series SNEA.SG03NAC01D10M4 (Compensation of labour, market sectors) from Infoshare table SNE088AA last updated 16 January 2025 10:45am.  
1950-1971 as for column (1)
- Column (3) is column (2) divided by the sum of columns (1) and (2).
- Column (4) is column (9) from Table 3.
- Column (5) is column (4) multiplied by column (3).
- Column (6) is the result from running the Barkai model from Bertram and Rosenberg (2003) on the detailed data behind the totals for non-corporate Gross Fixed Capital Formation in Table 5. (Non-corporate GFCF has been estimated by industry by asset on the basis of the non-corporate GMI share of total surplus and mixed income in each industry and each industry's average asset composition of GFCF.)
- Column (7) is the total of columns (5) and (6).
- Column (8) is column (4) minus column (7).
- Column (9) is March-year average values of series CPIQ.SE9A from Infoshare table CPI009AA last updated 16 October 2024 10:45am.
- Columns (10) to (13) are columns (4) to (8) converted to 2024 dollars using column (9).

**Table 7: Sources 1950 to 1983:**

For the following years ended March, Tables from New Zealand Official Yearbooks (NZOYB, Dept of Statistics) of "Assessable income of individuals - business incomes (farming, private traders, professional etc.) excluding 'investment income'" or "The incomes of self-employed individuals by the amount of total income" or similar in the Chapter on "Incomes and Income Tax"; or from publications "Incomes and Income Tax" (IIT), Table 3, Incomes of self-employed by amount of total income" or of "Incomes of Individuals" or similar.

Note that income below a minimum (until 1954 £300, from 1955 to 1957 £375), was exempt from tax so income earners with incomes below that would not necessarily be counted. However for the years until 1957 the NZOYBs provided tables of estimated numbers below the minimum which are used to complete the bottom of the distribution as well as data allows.

Year	Source	Year in title of source
1950	NZOYB	1953
1951	NZIIT	to 1950-51
1952	NZIIT	to 1951-52
1953	NZIIT	to 1952-53
1954	NZOYB	1957
1955	NZOYB	1958
1956	NZOYB	1959
1957	NZOYB	1960
1958	NZOYB	1961
1959	NZIIT	to 1958-59
1960	NZOYB	1963
1961	NZOYB	1964
1962	NZOYB	1965
1963	NZOYB	1966
1964	NZOYB	1967
1965	NZOYB	1968
1966	NZOYB	1969

Year	Source	Year in title of source
1967	NZOYB	1970
1968	NZIIT	to 1969-70
1969	NZIIT	to 1970-71
1970	NZIIT	to 1971-72
1971	NZIIT	to 1972-73
1972	NZIIT	for the income year 1972
1973	NZIIT	to 1975-76
1974	NZIIT	to 1977
1975	NZOYB	1978
1976	NZIIT	to 1979
1977	NZOYB	1979
1978	NZIIT	to 1980
1979	NZIIT	to 1981
1980	NZIIT	1979-80
1981	NZIIT	1980-81 and 1981-82
1982	NZIIT	1980-81 and 1981-82
1983	NZIIT	1982-83

**Sources 1998 to 2023:**

Data on weekly income per person by decile of hourly income provided from the Household Labour Force Survey (HLFS) on special request by Statistics New Zealand.

**Source for both table 8:**

Data on hours worked and income per hour by decile of income per hour, provided from the Household Labour Force Survey (HLFS) on special request by Statistics New Zealand.

**Table 9 Source:**

Data on hours worked and income per hour, by decile of income per hour, provided from the Household Labour Force Survey (HLFS) on special request by Statistics New Zealand.

Minimum wage is at 31 March in year stated.

Number below Minimum Wage estimated by author by linear interpolation between deciles.

**Sources for Table 10a:**

Tables of the distribution of incomes of individuals classified by the principal source [i.e. industry] groups, and also the average assessable and returnable incomes (or similar title) from the Chapter "Incomes and Income Tax" in New Zealand Official Yearbooks (NZOYB, Department of Statistics) in the years shown, or Table 9 of Dept of Statistics publications "Income and Income Tax" (NZIIT) for the March years shown.

Note that income below an income minimum (for most of the period, until 1954 £300, from 1955, £375) was exempt from tax so income earners with incomes below that would not necessarily be counted. However for the years until 1957 the NZOYBs provided tables of estimated numbers below the minimum which are used to complete the bottom of the distribution as well as data allows.

Year	Source	Year in title of source	
1950	NZOYB	1953	
1951	NZOYB	1954	
1952	NZOYB	1955	
1953	NZOYB	1956	
1954	NZOYB	1957	
1955	NZOYB	1958	
1956	NZOYB	1959	
1957	NZOYB	1960	
1958	NZOYB	1961	
1959	NZOYB	1962	
1960	NZOYB	1964	
1961	NZOYB	1966	
1962	NZOYB	1965	P
1963	NZOYB	1967	

  

Year	Source	Year in title of source	
1964	NZOYB	1968	
1965	NZOYB	1969	
1966	NZOYB	1970	
1967	NZOYB	1971	
1968	NZOYB	1972	
1969	NZOYB	1973	
1970	NZOYB	1974	
1971	NZOYB	1975	
1972	NZIIT	for the income year 1971-72	
1973	NZIIT	to 1975-76	
1974	NZIIT	to 1977	
1975	NZOYB	1978	P*
1976	NZIIT	to 1979	
1977	NZOYB	1980	

P – Provisional estimates

\* - Some subsectors estimated by author by maintaining proportion to total sector as in previous year

**Source for Table 10b:**

LEED Table 1.5: Main earnings source, by industry (ANZSIC06)

**Table 11: Source:**

Gross Mixed Income provided on special request by Statistics New Zealand. It is below the standard of published statistics and should be treated with caution. Note that Financial and Insurance Services, and Rental, Hiring and Real Estate Services have some consistency problems and are not used in the analysis of this table.

Hours were provi