



Earning, learning, or concerning?
Youth labour market outcomes and youth incomes
before and after the recession

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Abstract

The global economic downturn has had major negative repercussions on labour markets worldwide, particularly for youth. While the labour market outcomes of youth during the recession have been established, the immediate and short-term earnings effects of the recession are less understood. This paper assesses both the labour market outcomes and earnings of youth during the recession, in order to gain a complete picture of the changing labour market and its income effects. Data from the Household Labour Force Survey (HLFS) and the New Zealand Income Survey (NZIS) are used to provide a description of labour market outcomes, wages and salaries, hourly earnings, and the distribution of wages and salaries for youth compared with those aged 25–64 years in New Zealand. Data from 2002–12 are presented, with a focus on outcomes following the period of decline in gross domestic product in 2008–09.

Introduction

Since the global financial crisis in 2008, there has been increasing awareness and debate about the difficulties faced by young people (15–24-year-olds) to compete and succeed in the labour market. Economic conditions had negative repercussions for youth labour markets in many parts of the world. In 2013, 73 million young workers were estimated to be unemployed, representing 12.6 percent of all young people (International Labour Organization (ILO), 2013). The ILO *Global Wage Report 2012/13* shows that the weakening of the economy was reflected in decreasing average wages (ILO, 2013a). The global picture of deteriorating youth employment – and as a consequence, worsening wage and salary prospects for young people – is also evident in the New Zealand labour market.

In New Zealand, 56,000 young people were unemployed in the March 2013 quarter. According to the ILO, the weakening of the global economic recovery in 2012/13 reinforced the need for young people to be less selective about the type of job they are prepared to accept. For instance, young people are more strongly represented in part-time work since the global financial crisis (ILO, 2013). In New Zealand, more young people are both employed part time and are not in education since the economic downturn in 2008/09.

At the 101st International Labour Conference (ILC) in 2012, the ILO adopted a resolution calling for immediate, targeted, and renewed action to prevent the “grim legacy of a lost generation” (ILC, 2012). The ILC recognises that “this unprecedented situation can result in a long-lasting ‘scarring’ effect on young people, particularly from disadvantaged backgrounds” and underlines that “persistent youth unemployment and underemployment carry very high social and economic costs and threaten the fabric of our societies” (ILC, 2012). As a consequence, the resolution stresses the need to develop and disseminate more and better knowledge particularly on “youth labour market trends, including wages (...) and school-to-work transition” (ILC, 2012).

While the labour market outcomes of youth during the recession have been established,¹ and the concern over the long-term consequences of unemployment for youth is reason to tackle the situation, the immediate and short-term earnings effects of the recession are less understood. The purpose of this paper is to assess both the labour market outcomes and earnings of youth during the recession, in order to gain a more complete picture of the changing labour market and its income effects.

This paper provides a description of labour market outcomes, wages and salaries, hourly earnings, and the distribution of wages and salaries for youth compared with those aged 25–64 years² in New Zealand. Data from 2002–12 are presented, with a focus on outcomes following

¹ See *The Youth Labour Market in New Zealand – A comparison to the pre-recession situation* (Fromm & Flynn, 2012).

² For this analysis, the sample is restricted to those aged 15–64 years. Those over 65 years were excluded to control for the influence New Zealand Superannuation may have on labour supply decisions, and to enable some increased comparability of youth with the rest of the working-age population.

the period of decline in gross domestic product in 2008–09.³ The analysis of data from the Household Labour Force Survey (HLFS) and the New Zealand Income Survey (NZIS) contributes to enhanced understanding of how the range of labour market outcomes and incomes affected youth.

The effect of economic shocks on youth

The relationship between economic growth and the level and distribution of wages and salaries is at the centre of macroeconomic analysis. The distribution of income is the result of complex economic, social, and political processes, which may either lead to a decline or an increase in national income. The changing level of national income has implications for:

- **functional income distribution** – the distribution of national income between labour and capital, often referred to as labour share (ie wages and salaries) and capital share (ie profit)⁴
- **personal income distribution** – the distribution of wages and salaries among wage and salary earners.

This paper focuses on the effect of declining economic activity on the personal income distribution. Young people's labour market outcomes, and associated incomes, are disproportionately affected by fluctuations in aggregate demand. The likelihood of unemployment for youth is higher than for the 25–64-year-olds due to labour supply and labour demand effects. The extent to which wages and salaries and hours worked are affected by changes in economic activity will depend on the elasticities of labour supply and demand, the relative (actual and perceived) productivities of older and younger workers, and therefore the substitutability of different types of workers.

Opportunities or difficulties for young people in the labour market are impacted by the business cycle, and structural and institutional features of the economy. Policy changes, such as the introduction of the new entrants minimum wage in 2008, the starting-out wage in May 2013 which replaced this, and welfare reform changes at the beginning of 2012 may also impact on the youth labour market.

Labour supply effects

On the labour supply side, young people are more likely than 25–64-year-olds to leave their jobs voluntarily due to various reasons, including job shopping and higher flexibility due to different family commitments. Young people continue to do so during a recession (although to a lesser extent), which means they are disproportionately affected by a limited number of new job opportunities (O'Higgins, 2001).

In addition, youth labour supply decisions are affected by employment, education, or training opportunities. Some young people are not in employment, education, or training (NEET). NEET includes youth who undertake other activities that are beneficial to their well-being and youth who are in a transition period. Youth who are NEET have diverse experiences, characteristics, difficulties, needs, or make distinct choices (Yates & Payne, 2006). They may choose not to work because they may be looking after children, travelling, or volunteering. Others have limited

³ Gross domestic product (GDP) declined for six consecutive quarters from March 2008 to June 2009, and for two consecutive quarters from September to December 2010.

⁴ The ILO Global Wage Report shows that '[b]etween 1999 and 2011 average labour productivity in developed economies increased more than twice as much as average wages.' (ILO, 2013a). This resulted in a change in the distribution of national income, 'with the workers' share decreasing while capital income shares increase in a majority of countries.' (ILO, 2013a). The decrease in workers' share may be due to a variety of factors such as technological progress, trade globalisation, the expansion of financial markets, and decreasing union density, or weakening bargaining power of workers. Workers' shares have been declining in New Zealand since 2007. The functional income distribution shifted towards labour from 2002 to 2006 meaning real wages and salaries grew faster than labour productivity during this period. However, since 2007, there has been no change in real hourly earnings growth as the functional income distribution shifted towards capital.

control over not being in the labour force due to reasons such as a lack of jobs, disability, long-term sickness, poor qualifications, substance abuse, or criminal offences (Furlong, 2007).

Labour demand effects

The level of wages and salaries is often used to explain why a higher proportion of young people are unemployed. The higher the relative wages and salaries of young people in relation to the wages and salaries of those aged 25–64 years, the higher the incentive to employ older rather than younger workers. O'Higgins suggests that this might not be true in many cases. He argues that "[if] young people and adults are complementary in the workplace, reflecting different skills requirements, the wages of young people with respect to adults should have no influence" (O'Higgins, 2001). In addition, youth labour demand can be affected by the lower 'price' employers have to pay either to employ a young person or to make them redundant.⁵

Lower levels of experience may mean there is a degree of risk associated with hiring younger workers. Risk-adverse employers may therefore be less willing to offer higher wages and salaries to youth, or less willing to employ youth workers. For those who are employed, youth are likely to be paid less than their productivity would warrant (Tipper, 2012).

⁵ Making young people redundant involves a smaller loss to the company as they tend to have fewer skills than older workers and may have enjoyed less training paid for by the company. In many countries young people have less employment protection than their older colleagues (O'Higgins, 2001).

Data and methodology

The above discussion highlighted that to fully understand the effects of economic shocks on youth labour markets, their wages and salaries need to be considered as well.⁶ This section discusses the Household Labour Force Survey (HLFS) and New Zealand Income Survey (NZIS) data which will be used to show how labour market outcomes and earnings have changed since the recession.

The Household Labour Force Survey and the New Zealand Income Survey

The NZIS, an annual supplement to the June quarter of the HLFS, includes information on incomes, hours worked, and demographic data that are appropriate to assess the patterns in youth incomes and labour market behaviour. Data on usual and actual wages and salaries and hourly wage rates are available. Aside from the Linked Employer-Employee Dataset (LEED) and Household Economic Survey (HES), the NZIS is the only data source that can assess the distribution of income in New Zealand by age. It is the only data source for which the distribution of hourly wage rates by age can be analysed.

The HLFS sample has approximately 15,000 private households, sampled randomly from rural and urban areas throughout New Zealand. As a supplement to the HLFS, the same sample population is used to create the NZIS dataset.

Labour market outcome data is sourced from the HLFS. Data on employment, unemployment, education status, and full-time and part-time status for youth and those aged 25–64 years are used to describe labour market outcomes.⁷ A person is counted as unemployed if they are without a paid job, available for and actively seeking work. Part-time workers are those who usually work fewer than 30 hours per week.

Usual and actual gross wage and salary data is available, both derived from ordinary time worked and overtime, as is other income data.⁸ Sampling errors are around 2–3 percent for mean (average) wages and salaries and mean and median income from all sources collected. Income data was converted to net (disposable) income using the tax bands and rates and Accident Compensation Corporation (ACC) levies that applied for each year. Real income measures were derived by deflating the relevant income variable with the consumer price index (CPI). A description of the process for adjusting for income tax, ACC, and inflation is presented in appendix A.

This paper uses usual income and usual hours worked data (rather than actual) to assess movements in incomes over time. Usual income and usual hours worked data tend to be less volatile. Income data are unadjusted and relate to the reference week in the June quarter. All income and hourly earnings data discussed in this paper are expressed in real terms (in 2012 New Zealand dollars) unless otherwise stated and are calculated as medians. All wage and salary data are expressed as weekly figures. Finally, all assessed variables relate to individuals and not households. Table 1 explains the main income variables, as measured in the NZIS, used in this study.

⁶ The International Conference of Labour Statisticians (ICLS) adopted international standards on income measures in the 'Resolution concerning the measurement of employment-related income (adopted by the 16th ICLS, 1998) and the 'Resolution concerning an integrated system of wages statistics (adopted at the 12th ICLS, 1973).

⁷ The HLFS also provides labour market information for those 65 years and over. However this information is not used in this paper.

⁸ Data are collected on: a) sources of latest, actual, gross government transfers received, in total and from each agency (Ministry of Social Development, Inland Revenue, and Accident Compensation Corporation); b) total latest, actual, gross private superannuation received and 'all other private transfers including pensions, annuities' received; c) total annual gross income received from self-employment; and d) investment income.

Table 1**Income measures**

Variable	What it measures	Rationale and limitation
Total usual weekly income from all sources	Weekly personal income from all sources collected for those aged 15 years and over. The sum of income from paid employment, ACC or private workplace insurer, transfer income, private superannuation, annuity income and investment income.	Low sampling error at total income level, only 2 percent for mean and median incomes in 2012.
Usual weekly earnings	Usual weekly wage and salary income from all wage and salary jobs for those aged 15 years and over.	Low sampling error for mean wages and salaries (3 percent) in 2012.
Usual income from government transfers	Income from benefits, Working for Families tax credits, paid parental leave, student allowances, ACC payments, New Zealand Superannuation, and veteran's and war pensions.	Low sampling error of 2 percent in 2012 for mean government transfers.
Usual hourly earnings	Usual hourly earnings from wages and salaries for those aged 15 years and over.	Emphasis is placed on calculating median wages, as extremely high or low incomes tend to have less influence on medians than average (mean) figures.

Methodology

This paper presents a descriptive analysis of movements in labour market outcome and income variables. Data from 2002–12 are examined to assess the trends in labour market outcomes and wage and salary data before and after the global financial crisis. Standard regression models were used to determine whether the change in wages and salaries or hours worked for youth was significant compared with those aged 25–64. Appendix B contains details of the regressions.

Findings

A labour market snapshot

Figures 1 and 2 show the key labour market outcomes for youth and those aged 25–64 in the June 2012 quarter. They also show the median hourly wage for the employed and the proportion of low-income earners of the total respective working-age population.

Figure 1

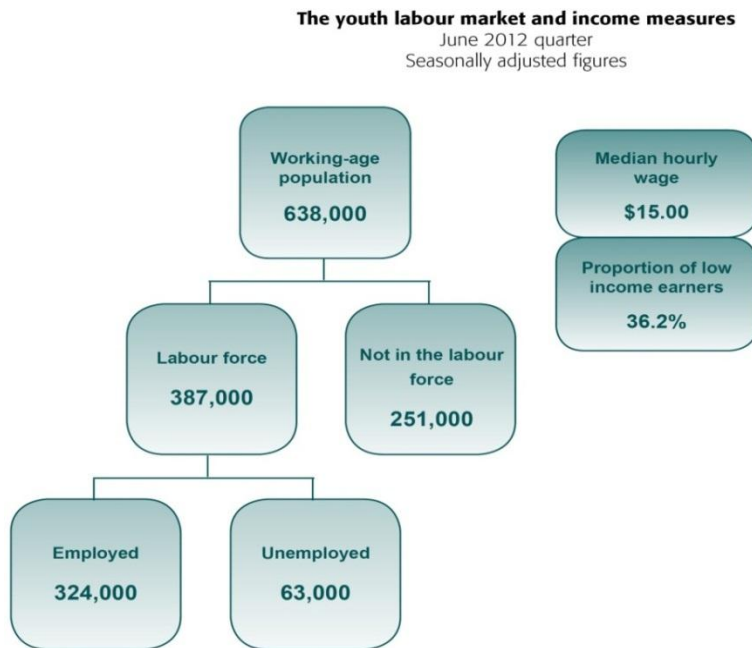


Figure 2

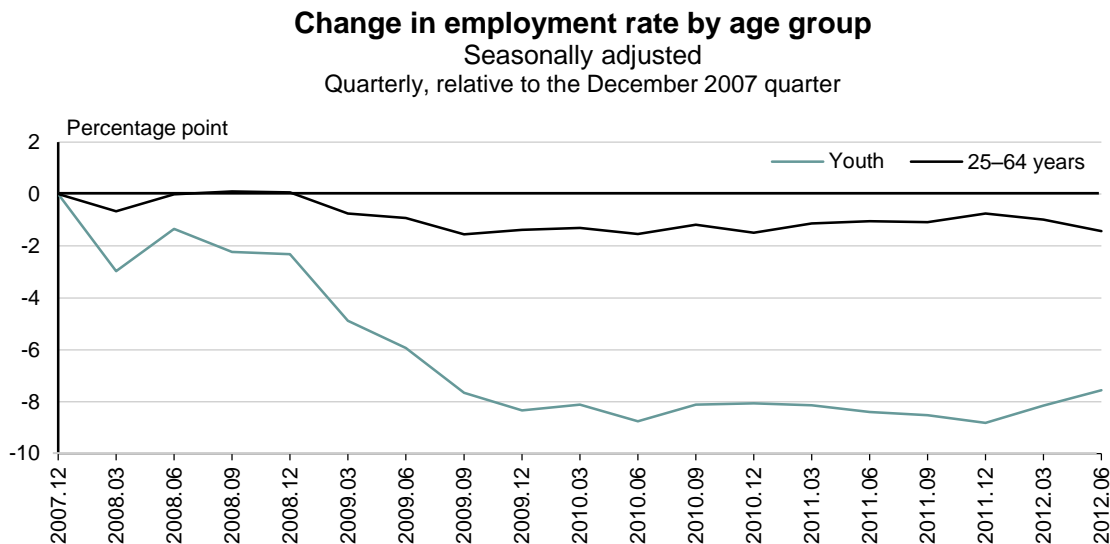


The youth labour force in New Zealand before and after 2008

The graphs in this section illustrate changes in the youth labour force (those employed and unemployed) from the December 2007 quarter to the June 2012 quarter.⁹ The data is seasonally adjusted. Figures 3 and 4 show that the recession had different impacts on youth and those aged 25–64. Changes in the employment rate and the unemployment rate relative to the December 2007 quarter show that the employment rate decreased strongly for youth while it decreased only slightly for those aged 25–64. The unemployment rate increased for both age groups. However, the magnitude of changes in the employment rate and the unemployment rate was very different: youth were hit harder.

Between the December 2007 and December 2009 quarters, the youth employment rate fell from 58.3 percent to 50.0 percent (down 8.3 percentage points). In contrast, the employment rate for those aged 25–64 decreased from 80.0 percent to 78.6 (down 1.4 percentage points). In the June 2012 quarter, the employment rate for youth was 50.8 percent and 78.5 percent for those aged 25–64.

Figure 3

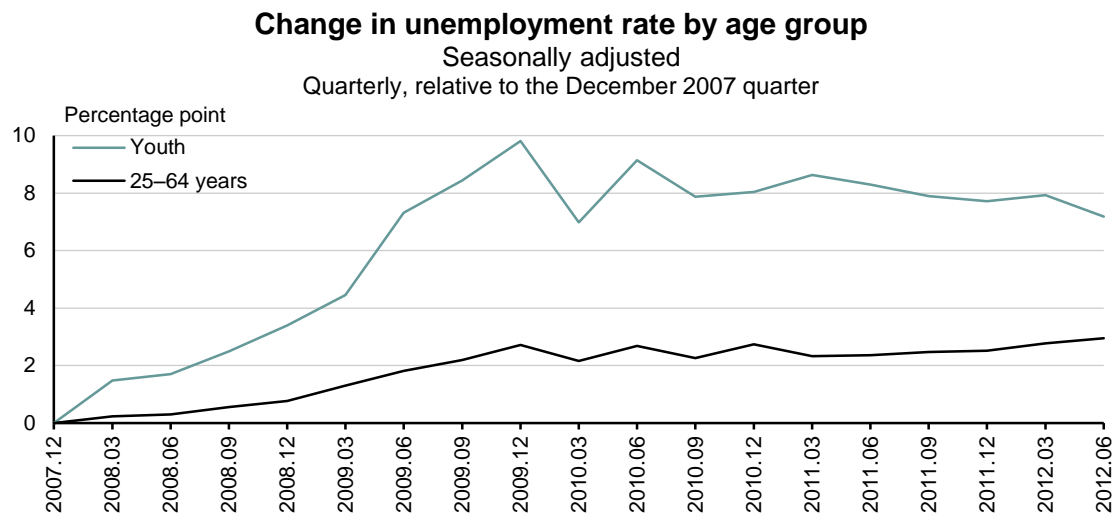


Source: Statistics New Zealand

The youth employment rate experienced a fast and drastic fall from the December 2008 quarter before stabilising around a year later. However, it stabilised at a level around 8 percentage points lower than before the recession. Since the December 2011 quarter the employment rate for young people has shown signs of improvement. In contrast, the employment rate for those aged 25–64 decreased only a little during the period after the recession.

The unemployment rate for youth increased at a faster pace as shown by figure 4: the youth unemployment rate rose from 9.1 percent in the December 2007 quarter before peaking at 19.0 percent in the December 2009 quarter (up 9.9 percentage points). In contrast, the unemployment rate for those aged 25–64 increased from 2.5 percent to 5.3 percent (up 2.8 percentage points) over the same period. The unemployment rate in the June 2012 quarter for youth was 16.3 percent and 5.5 percent for those aged 25–64, nearly three times higher for young people than for older people.

⁹ A similar version of these graphs was published in Fromm and Flynn (2012).

Figure 4

Source: Statistics New Zealand

The unemployment rates for both youth and 25–64-year-olds have yet to recover to pre-recession levels. Although the gap between their unemployment rates remains wide, it has closed over the past quarters. The unemployment rates for both age groups started to become relatively stable around the June 2010 quarter. While the unemployment rate for youth remains around 8 percentage points higher than before the recession, the unemployment rate of 25–64-year-olds continues to be more than 2 percentage points higher than before the recession.

Who are the young unemployed people?

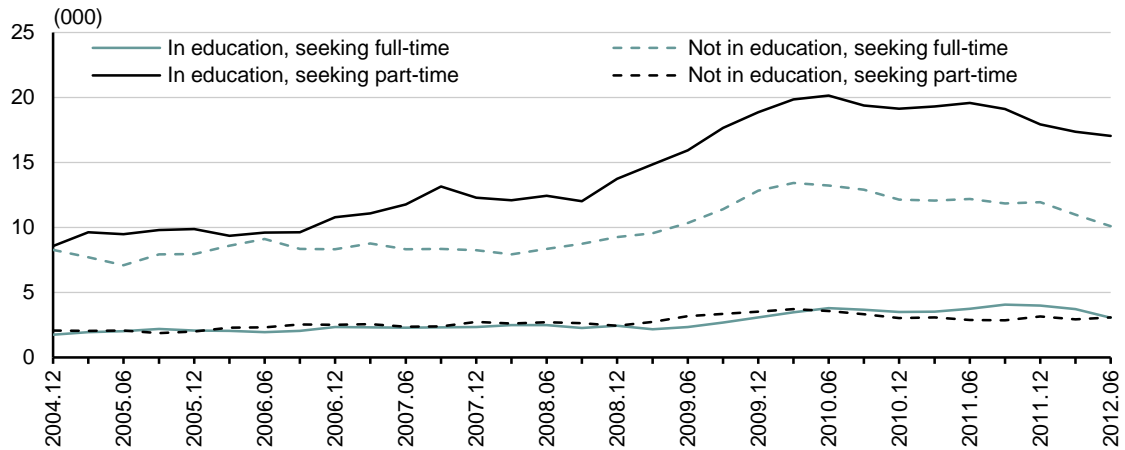
Focusing solely on the youth unemployment rate can be misleading when analysing the youth labour market because a high proportion of young unemployed people are in education or training. A young person who is actively seeking part-time work and is available to work while at school or studying, might be less at risk of poor future labour market outcomes than a young person seeking full-time employment and is no longer in education or training. This section provides information on whether young unemployed people are in education or not, and whether they are looking for part-time or full-time work.

Commonly the youth unemployment rate is higher for 15–19-year-olds than for those aged 20–24. Similarly, the youth unemployment rate is slightly higher for men than for women. To get a better understanding of youth who might experience future difficulties in the labour market, figures 5 and 6 show the number of unemployed youth by age group and education status, and if they are seeking part-time or full-time employment. The data is unadjusted.

As expected, when looking at unemployed 15–19-year-olds, those looking for part-time employment are more likely to be in education while those looking for full-time employment are more likely not to be in education (figure 5). Both the number of 15–19-year-olds seeking full-time or part-time employment increased at the beginning of 2008. Between the December 2007 and 2011 years, the largest increases in unemployment for 15–19-year-olds were among those in education seeking part-time employment (up 5,600), and those not in education seeking full-time employment (up 3,700). The number of young unemployed who are not in education and seeking full-time employment has been decreasing slowly since the March 2010 year.

Figure 5

Unemployed, 15–19 years, seeking part-time/full-time employment
Unadjusted annual averages

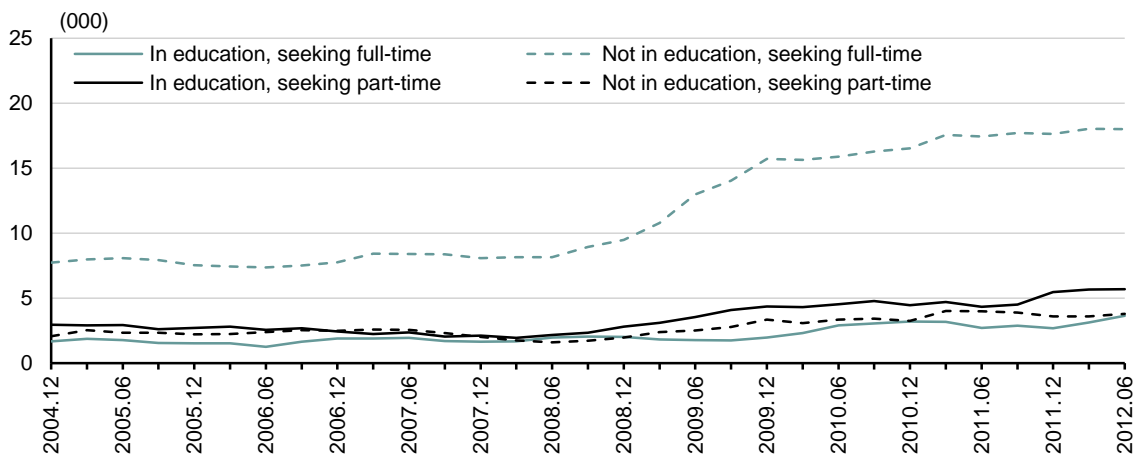


Source: Statistics New Zealand

More unemployed 20–24-year-olds who are not in education seek full-time employment rather than part-time employment (figure 6). Both the number of unemployed 20–24-year-olds and 15–19-year-olds seeking full-time or part-time employment increased at the beginning of 2008.

Figure 6

Unemployed, 20–24 years, seeking part-time/full-time employment
Unadjusted annual averages



Source: Statistics New Zealand

Who are the young employed people?

Young people who are working either part time or full time may combine employment with education. This section provides information on whether young employed people are in education or not, and whether they are working part time or full time.

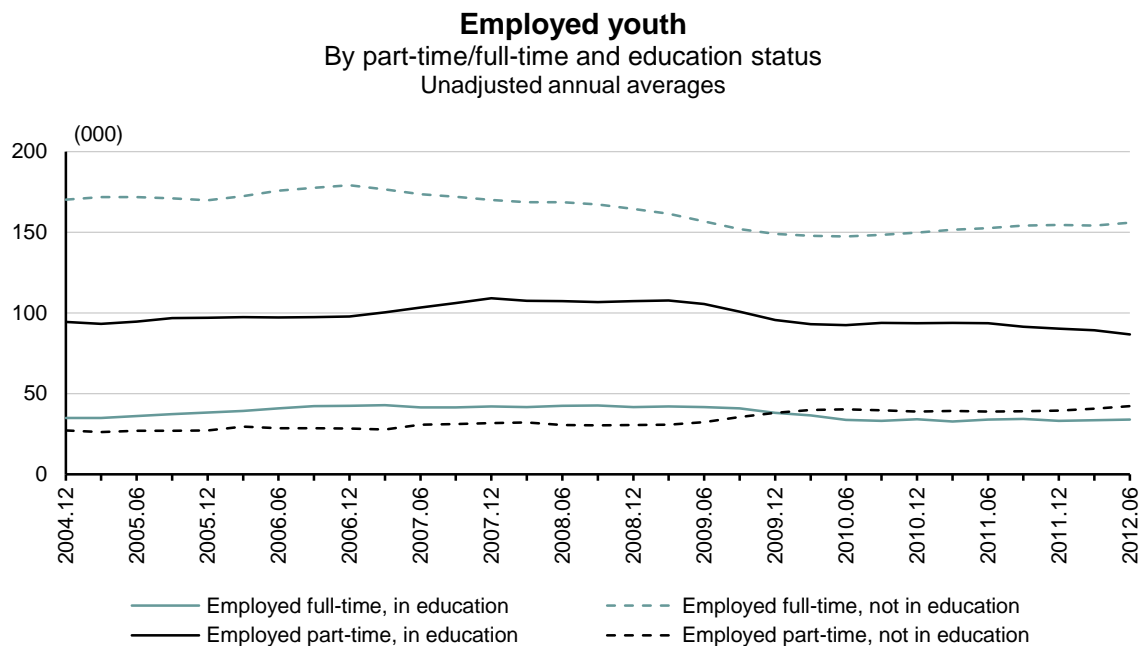
As shown earlier in figure 3, the youth employment rate experienced a sharp fall from the December 2008 quarter before stabilising a year later. It was also shown that only half of the

young working-age population was employed in the June 2012 quarter compared with four-fifths of the older population. This is not surprising as a high proportion of young people are not in the labour force and solely participating in education.¹⁰ Assessing if the young employed work in part-time or full-time employment while participating in education or not can be useful to better understand the low youth employment rate.

Figure 7 shows that the number of young people employed full time and not in education and the number of young people employed part time and in education experienced a strong decrease, while the number of young people who worked full time and were studying decreased slightly. Corresponding to labour market demand effects on youth during a recession, we expect the number of young employed people to drop faster and more severely than the number of employed 25–64-year-olds. As mentioned earlier it may be cheaper and easier to make young workers (both full-time and part-time employees) redundant compared with older workers. Employers might also reduce recruiting which affects young workers disproportionately.

Figure 7 shows that the number of youth employed full time and not in education has been slightly increasing since the June 2010 year. In contrast, the number of young people who are still at school or studying and working part time continued to decrease. Most interestingly, figure 7 highlights the increase in young people who are employed part time and not in education since the March 2009 year. The number of young people employed part time and not in education increased from 31,800 before the recession to 42,200 after the recession, up 10,400 from the December 2007 year to the June 2012 year. This can be an indication of an under-utilised youth labour potential.

Figure 7



Source: Statistics New Zealand

¹⁰ In the June 2012 quarter, 49.6 percent of 15–19-year-olds were solely in education compared with 14.5 percent of 20–24-year-olds. The difference might be explained by the fact that 15–19-year-olds are still at school. Compared with the December 2007 quarter, the proportion of young people engaged solely in education increased by 3.7 percentage points from 27.8 to 31.5 percent in the June 2012 quarter. This rise is due to a strong increase in the proportion of 15–19-year-olds who are not in the labour force and are in education.

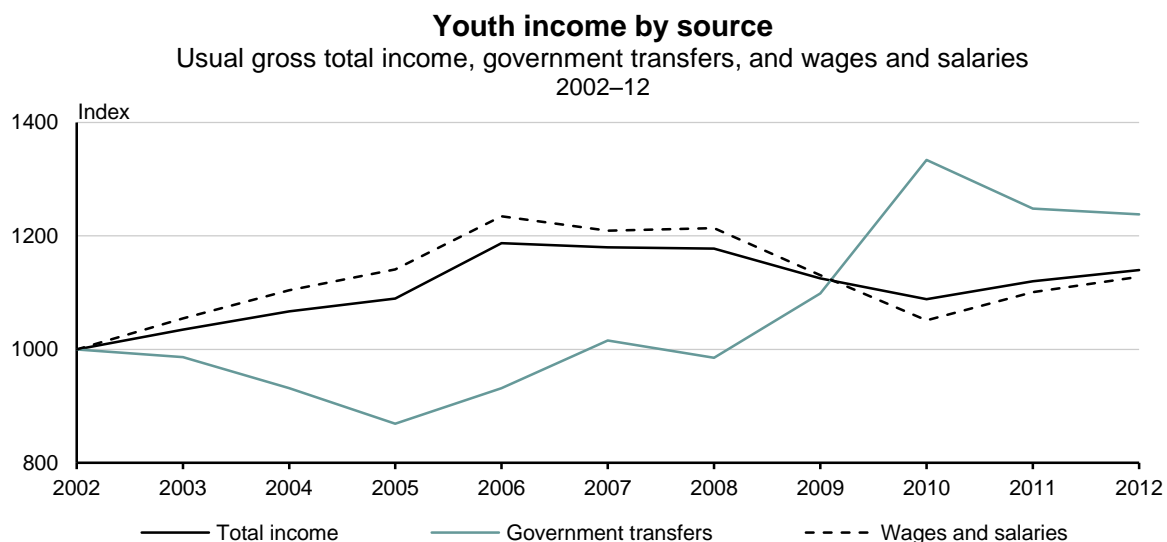
The 2008–09 recession in New Zealand did not change the usually higher proportion of unemployed and the smaller proportion of employed in the 15–24 age group compared with those aged 25–64. Young people also continued to be more likely to seek part-time employment while at school or studying, and to seek full-time employment when they are not in education. What the recession did change is the extent of unemployment among young people. The recession also had an impact on the number of young people in part-time employment who are not studying.

Youth labour market earnings

From where do young people derive their income?

The changes in the extent of youth employment and unemployment are reflected in the changing sources of young people's income. As shown in the previous section the youth employment rate and youth unemployment rate experienced a drastic decrease and increase, respectively, in the December 2008 quarter. As expected, when looking at youth income by source (figure 8), the amount of income derived from wages and salaries decreased while the amount of income from government transfers¹¹ increased between the years 2008 and 2010.

Figure 8



From 2008–10, the proportion of youth income sourced from government transfers increased from 12.0 percent to 17.5 percent, while the proportion for those aged 25–64 increased from 5.4 to 5.9 percent. In 2010, 1 in every 6 young people¹² received government transfers compared with 1 in every 16 people aged 25–64. The strong growth in government transfers for youth meant that the decline in total income was less pronounced than the decline in wages and salaries. Since 2010, government transfers for youth have stabilised on a high level compared with pre-recession years. Government transfers accounted for 15.5 percent of gross total income for youth in June 2012, and 6.2 percent for those aged 25–64 years. This can be explained, to some extent, by proportionally higher unemployment rates for youth than for older people and the higher take up of student allowances by youth.

¹¹ For instance unemployment benefits, working for families tax credits, and student allowances.

¹² This includes young people who are in education receiving student allowances.

How did weekly earnings change for youth?

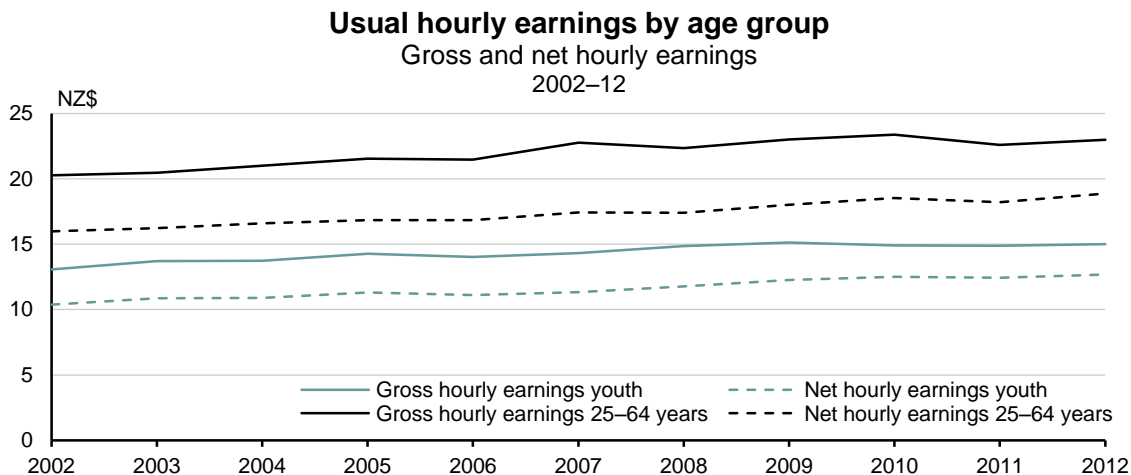
Wages and salaries constitute the largest proportion of total income from all sources, for both youth and 25–64-year-olds. Youth income derived from wages and salaries has increased since 2010 but has not recovered to pre-recession levels. In 2002–12, net wages and salaries grew on average 2.0 percent for youth and 1.1 percent a year for those aged 25–64. In 2010 net wages and salaries declined for youth (down by 7.1 percent) but increased for those aged 25–64 years (up by 3.5 percent). Regression analysis shows that the relative change in net wages and salaries for youth compared with 25–64-year-olds was significant in 2010.

Net wages and salaries grew at a similar rate to gross wages and salaries. Some differences occurred from 2009 after a series of changes to income tax bands and rates (see appendix A). The smaller gap between net and gross earnings for youth compared with the 25–64-year-olds illustrates the progressivity of the tax system. Since 25–64-year-olds tend to receive higher wages and salaries than youth, older people are paying proportionally more taxes. Consequently, they are more likely to be more strongly affected by income tax changes.

How did hourly earnings change during the recession?

Changes in the amount of wages and salaries earned by a person can be due to either changes in hourly earnings (the wage rate) or changes in hours worked. Analysing changes in hourly earnings and the number of hours worked by a person contribute to better understanding of the changes in weekly wages and salaries.

Figure 9 shows that from 2007 to 2012, the net hourly earnings of young people grew faster than the hourly earnings of the 25–64-year-olds (up 2.3 percent and 1.6 percent, respectively). The increase in net hourly earnings for youth compared with 25–64-year-olds was statistically significant at the 95 percent confidence level in 2008.¹³

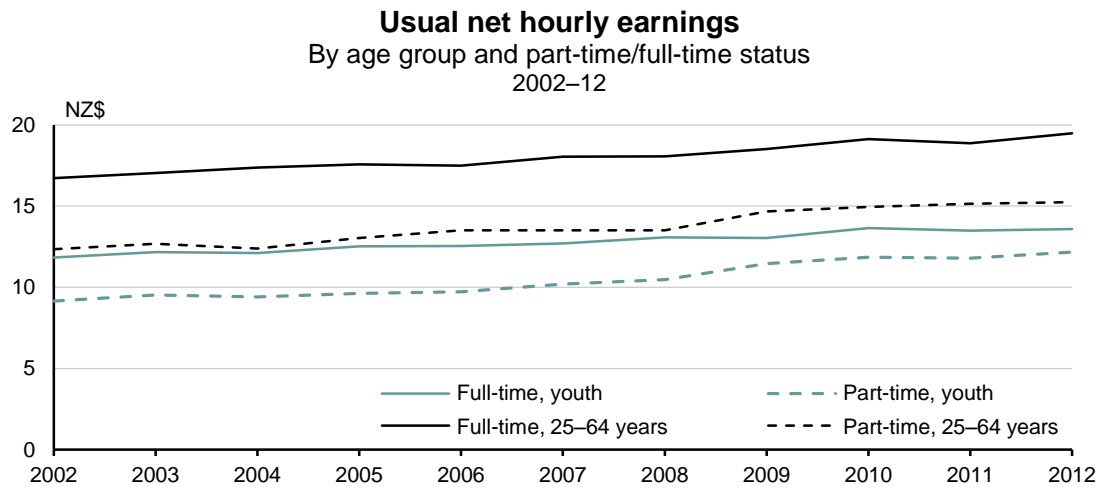
Figure 9

Source: Statistics New Zealand

The moderate growth in hourly earnings during the recession for both youth and those aged 25–64 years was mainly for part-time workers, while full-time workers received only minimal increases. Interestingly, youth in full-time and part-time employment received on average, similar hourly earnings during 2002–12. In contrast, hourly earnings for 25–64-year-olds working full-time were comparatively higher than those of people employed part time (figure 10).

¹³ Changes in hourly earnings can be affected by the minimum wage. Median gross nominal hourly earnings for youth grew 4.1 percent per year from 2002 to 2012, slower than the youth minimum wage which increased at an average of 5.4 percent per year during this time. This means more youth are earning hourly rates closer to the youth minimum wage.

Figure 10

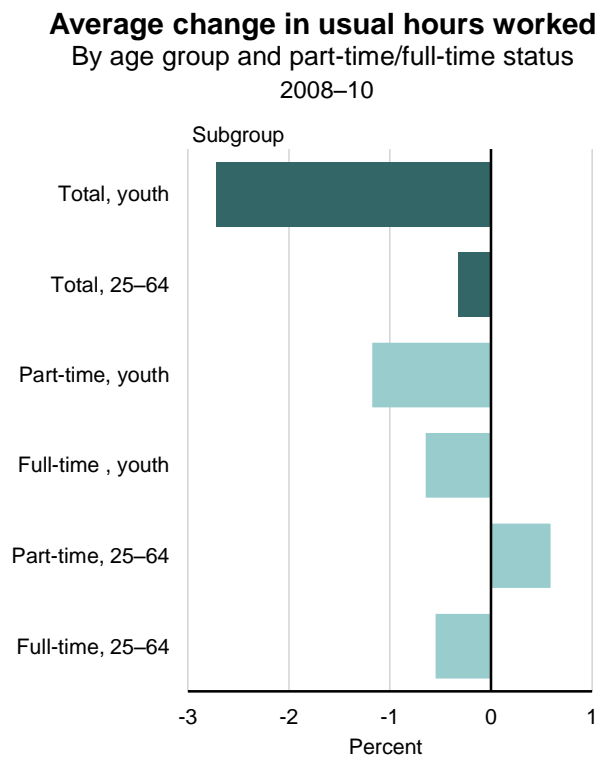


Source: Statistics New Zealand

How did average hours worked change for young people?

Figure 11 shows that usual average hours worked declined for youth from 2008 to 2010, which confirms the sharp decline in youth employment for this period. This decrease was mainly due to falls in hours worked by young part-time workers. Hours worked for young full-time workers also declined, but to a lesser extent. The change in total hours worked from 2008 to 2010 for youth relative to 25–64-year-olds is statistically significant.

Figure 11



Source: Statistics New Zealand

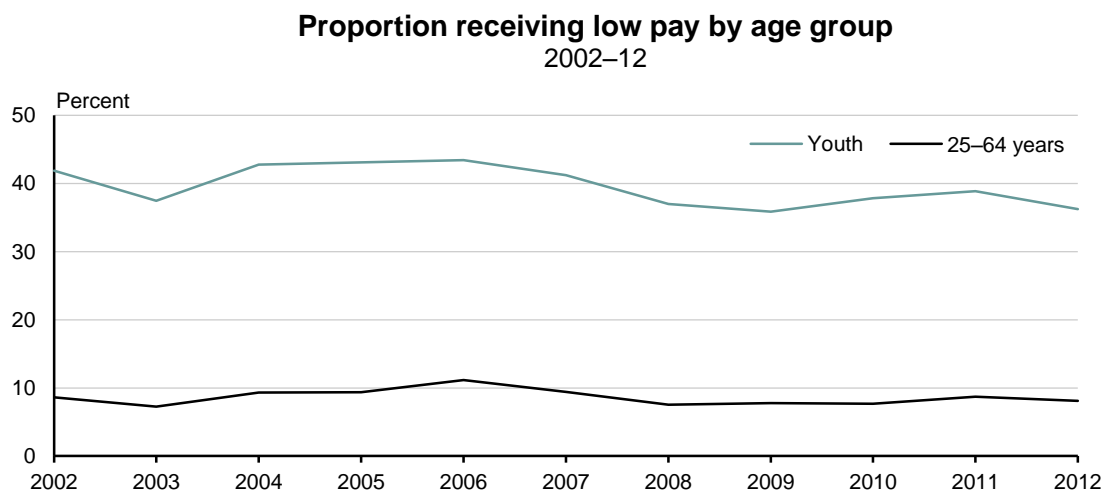
The decline in weekly wages and salaries received by young people was therefore due to decreasing hours worked rather than decreases in hourly earnings.

How many youth received low pay?

With a high proportion of young people working part time and earning lower wages and salaries than adults, a higher proportion of young people can be expected to be earning low pay. The low pay rate is an ILO indicator of 'adequate earnings and productive work'. It is defined as those people earning less than two-thirds of the median nominal gross hourly earnings of the total population.

On average, around 10 percent of adults earn a low pay compared with 40 percent of the youth population. During the recession, the proportion of youths receiving low pay rates declined from its peak in 2006. This was followed by an increase in the proportion of youth receiving a low pay rate from 2009 to 2011 (figure 12). By 2012, the proportion of those aged 25–64 years receiving a low pay rate also declined from its peak in 2006 but to a lesser extent than for youth.

Figure 12



Source: Statistics New Zealand

As youth employment decreases, the low pay rate may increase if there are fewer younger workers receiving low pay and all else is equal. Therefore, the proportion of youth receiving a low pay rate increases.¹⁴ An increase in the proportion of youth on low pay, along with faster growth of the minimum wage relative to nominal youth hourly earnings, might be an indication that more youth are receiving the minimum wage.

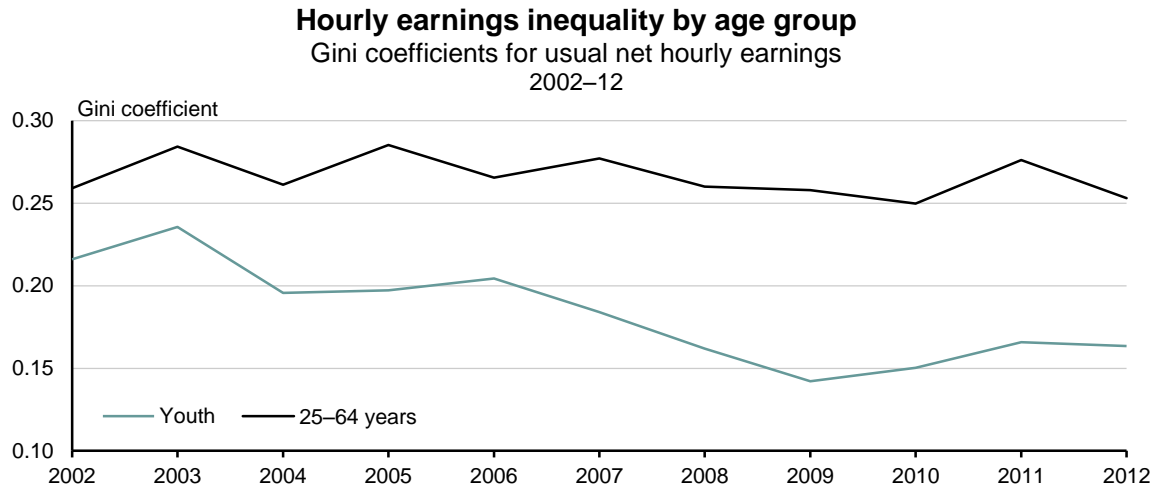
What were the effects of the recession on the distribution of earnings?

As shown, around 40 percent of all young people who are earning wages or salaries earn a low pay. Hourly earnings are similar for youth working either full time or part time. The relative homogeneity of youth in terms of equally low pay is supported by relatively equal hourly earnings. Figure 13 shows the relative overall equality of hourly earnings among young people. Gini coefficients on net hourly earnings data show that inequality in hourly earnings was declining

¹⁴ Compared with other countries, the change in the proportion of all employed people receiving the low pay rate occurred in New Zealand a year later than in Australia, and was a feature of labour markets not experienced in the United States or United Kingdom who have a constantly higher proportion of employees earning a low pay rate (ILO Global Wage Database, 2012).

sharply for youth from 2006 to 2009 but increased from 2009 to 2011, yet remained on a low level.¹⁵

Figure 13



Source: Statistics New Zealand

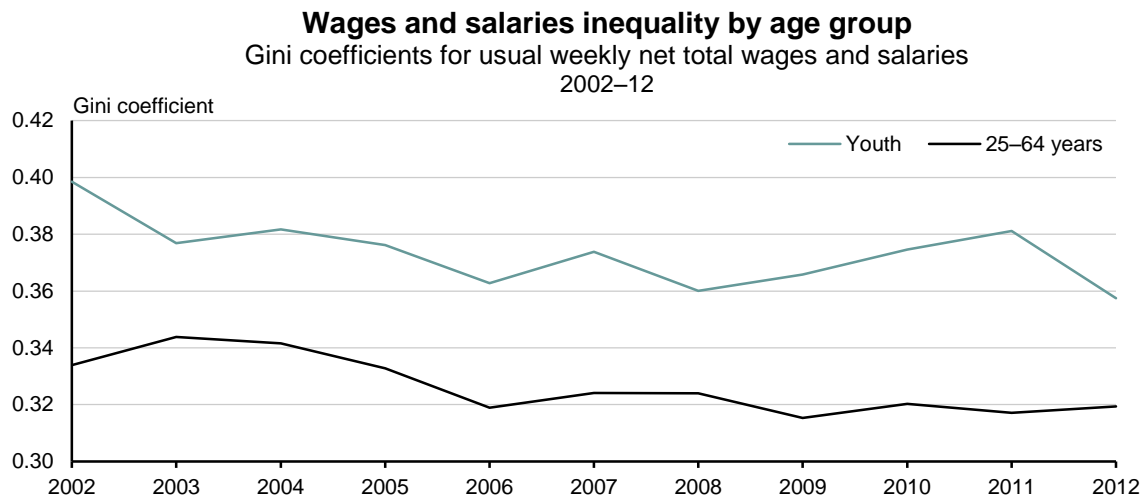
Looking only at hourly earnings does not fully reflect earnings inequality among young employed people. As shown, it is crucial to look at full-time work, part-time work, and hours worked to understand the level of weekly earnings. This also applies to understanding the equality or inequality of weekly earnings. If a high proportion of young people earn similar hourly wages and salaries, but some work full time and others work part time, then weekly earnings are higher or lower according to the hours worked.

The level of inequality in terms of wages and salaries among young people is comparatively higher than among older people (figure 14).¹⁶ This reflects the differences among youth and 25–64-year-olds in terms of hours worked. Older people are more likely to work full time compared with young people given the high proportion of young people in education. Young people who work part time and are also in education are the majority among young part-time workers. These people tend to work fewer hours while studying than older people who are solely engaged in part-time work.

Inequality in terms of wages and salaries increased noticeably among youth from 2008 to 2011, while remaining relatively static for those aged 25–64. This reflects the strong decrease in hours worked and a shift to part-time work for young workers in contrast to the significantly smaller decrease in hours worked for older workers.

¹⁵ An increase in the Gini coefficient reflects an increase in inequality, that is, a smaller proportion of the population receives the same proportion of the defined income variable.

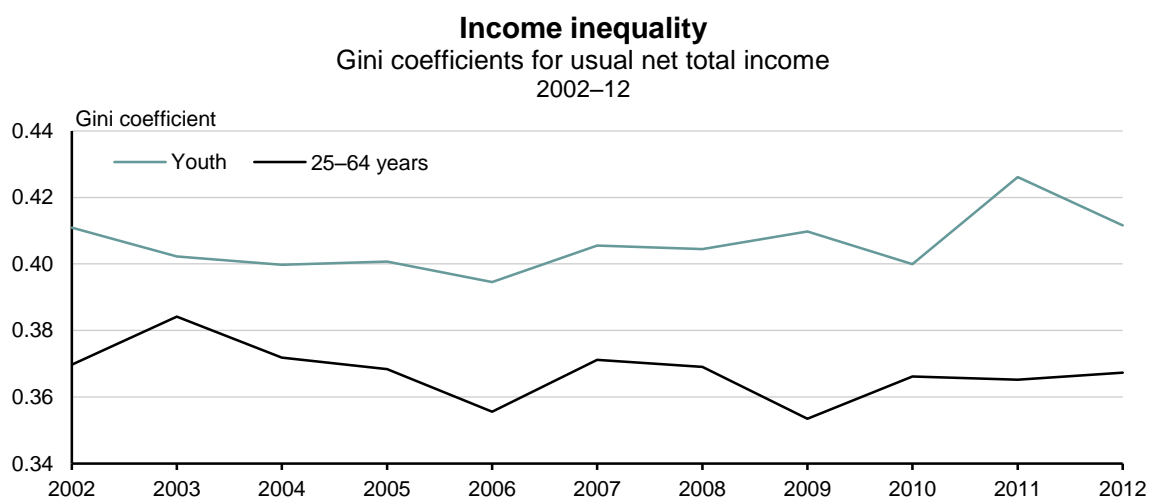
¹⁶ This increase in inequality only reflects the disparities among youth and among 25–64-year-olds in terms of incomes received from wages and salaries. It does not reflect the changes in inequality at the household level, which are likely to be different due to the economies of scale that can be achieved with larger household sizes.

Figure 14

Source: Statistics New Zealand

Finally, considering the employed who earn wages and salaries together with the unemployed whose main source of income might come from government transfers, allows us to assess overall income inequality.¹⁷ As shown, young people were disproportionately affected by unemployment. Government transfers helped them to stabilise their income while being unemployed during the recession. As the total youth population is more heterogeneous in terms of income compared with wage and salary earners, we expect to see higher levels of inequality.

Among young people, inequality of weekly income from all sources is higher than inequality of weekly earnings (see figure 15). This is because income inequality includes unemployed young people, and those who are not in the labour force and only in education. Both these groups have limited income compared with wage and salary earners. Inequality of weekly income from all sources is higher than inequality of weekly earnings for 25–64-year-olds.

Figure 15

Source: Statistics New Zealand

¹⁷ Those not in the labour force are included in figure 15 but are not the focus of analysis in this paper.

Conclusion

This paper has analysed labour market outcomes and incomes of youth in New Zealand during the recession of 2008–09, to gain a more complete picture of the changing labour market and its income effects. The analysis contributed to a better understanding of the youth labour market and earnings, as recommended in a resolution adopted by the International Labour Conference in 2012. The development of more and better knowledge is essential to prevent social and economic costs of high youth unemployment.

The analysis has shown the complexity and inter-relationship of young people's labour market status, their education status, and their search for or engagement in full-time or part-time work. The paper has also highlighted the linkages between young people's level of hourly earnings, hours worked, and weekly earnings.

It was made clear that it can be misleading to consider labour market status, earnings, or inequality data in isolation when analysing the youth labour market. The linkages between these outcomes are important for gaining a comprehensive understanding of the youth labour market.

Across both labour market outcome and income indicators, youth were disproportionately affected by the 2008–09 recession. Income inequality among young people is greater than that for 25–64-year-olds. This was expected, particularly given the sharp rise in youth unemployment during the recession. Inequality in hourly earnings, however, is lower for youth. As 40 percent of the youth population earn a low pay, a high proportion of young people earn similarly low wages and salaries. In sum, equality levels among young people in terms of hourly earnings are high, yet relate to a low median level of wages and salaries. They are equally poor. A decreasing number of hours worked by young people contributed to the decline in weekly wages and salaries. Unemployment increased most for those 15–19-year-olds in education and seeking part-time work and for those 20–24-year-olds who are not in education and seeking full-time work during the recession. Increased part-time work among young people while not studying could indicate an under-utilised youth labour potential.

The paper concludes that while a sizable proportion of young people are earning and learning, the prospects for many youth are concerning. Within the group of young people who are earning or learning, the low level of wages and salaries warrants attention, especially if earnings conditions deteriorate again for young people. While the income effects appear to be relatively short-lived, the effects of the recession on youth labour market outcomes persist. This gives reason for concern over the long-term scarring effects on future youth earnings, as youth unemployment has remained high and more youth are employed part time and not in education. Further work exploring the long-term scarring effects of the recession on youth would therefore be insightful.

Appendix A: Derivation of real net income measures

Total gross wages and salaries were converted to net figures as follows:

- Convert usual weekly data to annual
- Apply the following two-step process to gross wages and salary data for income tax, using the rates and bands that apply for that year:
 - Where incomes are greater than a low threshold, but less than a higher threshold, calculate the first portion of tax as $tax = \sum_{i=1}^n r_i (b_{max,i} - b_{max,i-1})$ where r_i denotes the tax rate and $b_{max,i}$ the upper threshold of tax band b_i . For those earning less than the first threshold, this tax portion is zero. For those earning more than the highest threshold, this formula is applied to all tax bands.
 - Tax is also paid on the difference between the gross wage and salary and the closest tax threshold. Tax for incomes greater than the nearest threshold, and for incomes over the highest threshold, is calculated as $r_i (inc - b_{max,i})$. For those earning less than the first threshold, this is the total tax paid.
- The following personal income tax bands and rates obtained from www.ird.govt.nz:

Income tax bands b_i (\$000s)							
Year	1	2	3	4	5	6	7
2002	0-38	38-60	60+				
2003	0-38	38-60	60+				
2004	0-38	38-60	60+				
2005	0-38	38-60	60+				
2006	0-38	38-60	60+				
2007	0-38	38-60	60+				
2008	0-38	38-60	60+				
2009	0-9.5	9.5-14	14-38	38-40	40-60	60-70	70+
2010	0-14	14-48	48-70	70+			
2011	0-14	14-48	48-70	70+			
2012	0-14	14-48	48-70	70+			

Income tax rate r_i applying to tax bands b_i							
Year	1	2	3	4	5	6	7
2002	0.195	0.33	0.39				
2003	0.195	0.33	0.39				
2004	0.195	0.33	0.39				
2005	0.195	0.33	0.39				
2006	0.195	0.33	0.39				
2007	0.195	0.33	0.39				
2008	0.195	0.33	0.39				
2009	0.1375	0.1675	0.21	0.27	0.33	0.36	0.39
2010	0.125	0.21	0.33	0.38			
2011	0.115	0.1925	0.315	0.355			
2012	0.105	0.175	0.3	0.33			

- ACC is calculated as gross salaries and wages multiplied by the ACC levy. If the calculated amount of ACC is greater than the maximum ACC levy payable, then the amount of ACC is set equal to the maximum payable. Rates were also obtained from www.ird.govt.nz

Year	ACC levy (%)	Maximum ACC payable (\$)
2002	0.012	1046.22
2003	0.012	1046.22
2004	0.012	1064.73
2005	0.012	1106.26
2006	0.012	1130.71
2007	0.013	1256.04
2008	0.013	1297.61
2009	0.014	1440.91
2010	0.017	1810.04
2011	0.0202	2222.36
2012	0.0204	2278.04

- Real incomes were then calculated by dividing individual net and gross labour income data by the Consumers Price Index.

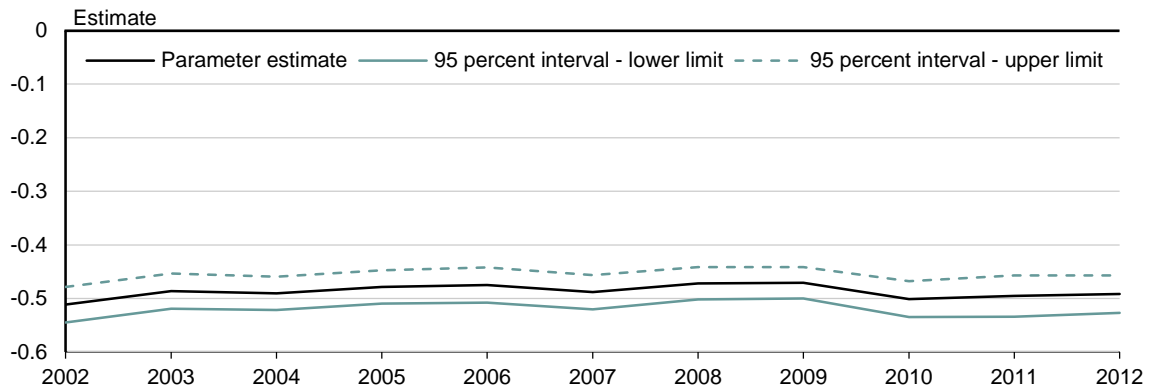
Appendix B: Regression estimates

Parameter estimates and 95 percent confidence intervals for the coefficient on the youth variable in relation to net wages and salaries, net hourly earnings, and hours are presented below. In the ordinary least squares, dependent variables were expressed in natural logarithms, and the data included employees only. Gender, full-time status, ethnicity, household type, and broad sector of employment (primary, goods-producing, or services) were included in the model as control variables. The clustering effect of observations being taken from the same primary sampling unit was specified as part of the regression models that were run.

A decrease in the parameter estimate (ie towards zero as the coefficients are negative) means that the difference in the earnings or hours variable between youth and 25–64-year-olds is less pronounced. If the parameter estimate in a given year lies outside of the confidence interval for the previous year, then the effect of being a youth employee is statistically significantly different from the previous year.

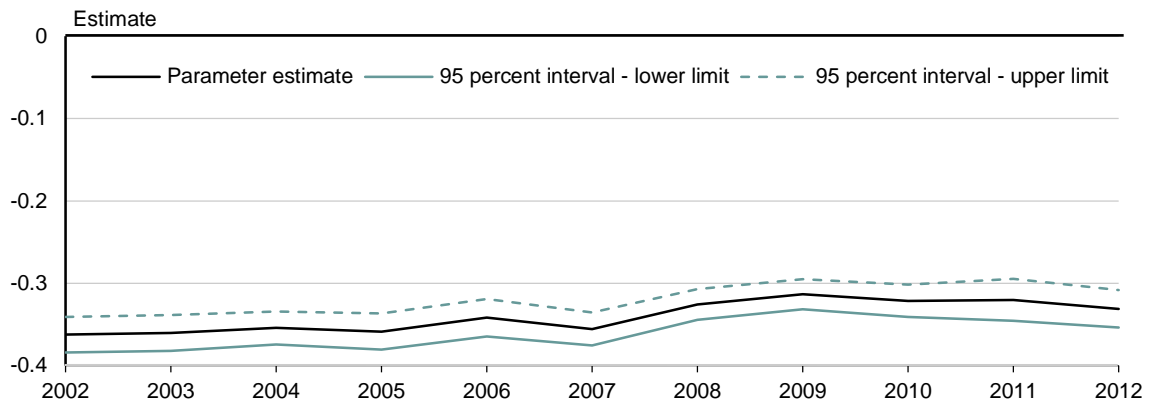
The regression parameter estimates might not be independent over time periods and further analysis is required to account for the longitudinal correlations per observation by specifying a single longitudinal model. However, even if the estimates of the regression coefficients are correlated, there is still an interesting trend in the youth coefficients for wages and salaries and hours worked in line with economic expectations supporting the need for further statistical validation in the future.

Youth coefficients for net wages and salaries
 2002–12



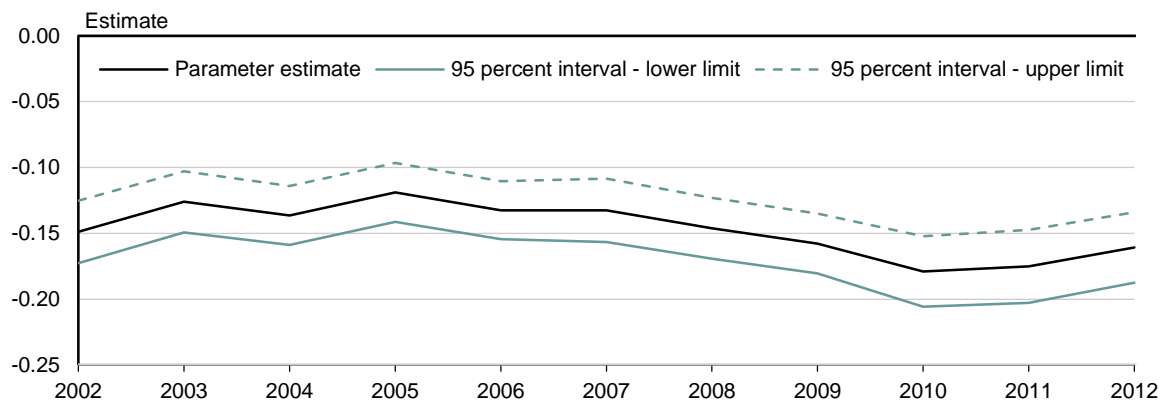
Source: Statistics New Zealand

Youth coefficients for net hourly earnings
 2002–12



Source: Statistics New Zealand

Youth coefficients for usual hours worked
 2002–12



Source: Statistics New Zealand

References

- Fromm, A, & Flynn, S (2012). *The youth labour market in New Zealand – A comparison to the pre-recession situation*. Paper presented at the 15th Labour, Employment and Work Conference, Wellington.
- Furlong, A (2007). The zone of precarity and discourses of vulnerability: NEET in the UK. *The Journal of Social Sciences and Humanities (Jinbun Gakuho)*, 381, 101-121.
- International Conference of Labour Statisticians (1998). *Resolution concerning the measurement of employment-related income, adopted at the Sixteenth International Conference of Labour Statisticians (October 1998)*, Geneva: International Labour Office.
- International Conference of Labour Statisticians (1973). *Resolution concerning an integrated system of wages statistics, adopted at the Sixteenth International Conference of Labour Statisticians (October 1973)*, Geneva: International Labour Office.
- International Labour Conference (2012). *The youth employment crisis: A call for action, Resolution and conclusion of the 101st session of the International Labour Conference, Geneva, 2012*, Geneva: International Labour Office, 1-14.
- International Labour Organization (2008). *Measurement of decent work based on guidance received at the Tripartite Meeting of Experts on the Measurement of Decent Work*, Geneva: International Labour Office.
- International Labour Office (2013). *Global employment trends for youth 2013: A generation at risk*, Geneva: International Labour Office, 1.
- International Labour Office (2013a). *Global wage report 2012/13: Wages and equitable growth*, Geneva: International Labour Office, xiv.
- Maloney, T (2004). *Isolating the scarring effects associated with the economic inactivity of youth in New Zealand: Evidence from the Christchurch Health and Development Study, Report to the Labour Market Policy Group, New Zealand Department of Labour*. Wellington: Department of Labour.
- O'Higgins, N (2001). *Youth unemployment and employment policy: A global perspective*. Geneva: International Labour Office, 41-42.
- Tipper, A (2012). *Labour productivity, real wages, and workforce age structure*. Paper presented at the 53rd New Zealand Association of Economists Conference, Palmerston North.
- Yates, S, & Payne, M (2006). Not so NEET? A critique of the use of 'NEET' in setting targets for interventions with young people. *Journal of Youth Studies*. 9 (3), 329–344.