



Australian
National
University



REFLECTIONS ON THE EVOLUTION OF
THE MINIMUM WAGE IN AUSTRALIA:
OPTIONS FOR THE FUTURE

J ROB BRAY

HC Coombs
Policy Forum

Crawford School of
Public Policy

ANU College of
Asia & the Pacific

May 2013

REFLECTIONS ON THE EVOLUTION OF THE MINIMUM WAGE IN AUSTRALIA: OPTIONS FOR THE FUTURE

J Rob Bray

Research School of Economics
College of Business and Economics
The Australian National University

2013

EXECUTIVE SUMMARY

This paper is concerned with the future of the minimum wage in Australia. While the minimum wage, from the time of the 1907 Harvester decision, has been a core element of the Australian wages system, its nature and role has varied. Established as a ‘family’ wage it has moved to be a wage for a single person, with the role of family support being taken up by government and by changing patterns of workforce participation. Despite the minimum wage remaining relatively stable in real terms over recent decades, this transition has seen rising living standards for low waged families. This has occurred without strongly exacerbating inequality and without the potential adverse consequences of a growing minimum wage outstripping the productivity of many low paid workers. Notwithstanding the central role of government policies and programs in this, there is little to suggest that this is the consequence of a deliberate and coherent policy strategy implemented by different governments over time.

It is however a transition which is coming to an end.

After an introduction in Chapter 1, Chapter 2 looks at the history of the federal minimum wage in Australia. While the paper notes that for much of the period State minimum wages, and award minimums, may have played much more direct roles, the focus on the federal minimum wage reflects both the current role of the wage and the influence it has had over time. Over this period the well-being of workers on the minimum wage has also been impacted on by other changes, including in relation to working hours and superannuation. In weekly terms the minimum wage has increased by almost 120 per cent since the Harvester decision, but taking account of these other factors suggests a real hourly increase of some 220 per cent. The minimum wage has though declined relative to other earnings. In part a consequence of the family wage structure of the Harvester decision and its underlying male breadwinner model, it was not until 1975 that the minimum wage was extended to women.

The current role of the minimum wage is discussed in Chapter 3. In the absence of direct data on the payment of the minimum wage the paper draws estimates from a range of different surveys. These suggest that between 4 and 10 per cent of adults are currently paid at or around the minimum wage. Minimum wage employment is higher among small firms and in occupations such as food preparation, process workers, sales, hospitality and in agriculture and related occupations. Part-time workers are more likely to be employed on the minimum wage as are those employed on a casual basis. Although there is contradictory data, on balance it appears women are more likely to be employed on the minimum wage than men. Minimum wage employment is more frequent amongst younger workers, but picks up again for older age groups. It is also much more common amongst those with low levels of education.

In stark contrast to the original conception of the Harvester minimum wage as a family wage, the archetype of a single breadwinner supporting a partner and children while working on the minimum wage has virtually disappeared. Indeed it is estimated that just 1.1 per cent of couple families with dependent children currently fit the Harvester model. Rather the income of minimum wage employees tends to supplement that of higher earners in households. Amongst couples receipt of the minimum wage is most frequently by one member of a couple, working either full or part-time for the minimum wage, while their partner works full-time at a higher earnings rate. In many other households the minimum wage employee is an adult child still living at home. A consequence of this is that while minimum wage workers are more likely to be in lower income households, they are represented in households across the income distribution. While 30 per cent of minimum wage workers are in the ‘poorest’ 20 per cent of working households, almost a quarter are in the ‘richest’ 40 per cent. Using relative income measures minimum wage employees were only marginally more likely to be in a household ‘in poverty’ than other employees, with this result holding also for

measures of financial stress and 'consistent poverty'. Where these measures identified disadvantage, this was associated with either a lack of employment, or part-time employment. A consequence of this is that today the minimum wage is a relatively inefficient and ineffective means of boosting the incomes of low income households.

Internationally Australia has a high minimum wage, and along with France, which also has a high minimum wage and New Zealand, it has a relatively high incidence of minimum wage employment. In contrast the UK and Netherlands, while also having a relative high minimum wage, have a much lower rate of minimum wage employment. Canada and the United States have comparatively lower minimum wages and rates of incidence somewhat between these other two groupings.

Chapter 4 looks at more recent trends in the minimum wage, relative to other earnings and its interaction with the tax and transfer system. Compared to other earnings, the value of the minimum wage in Australia has declined over recent decades. This reflects higher rates of growth in these earnings rather than a fall in the minimum wage. The most significant trends however are those arising from the interaction of wages with the tax and transfer systems. Between January 1986 and January 2012 the paper estimates that, while the real value of minimum wage increased by just 1.3 per cent, the disposable income of a single person earning this wage increased by \$53 per week mainly due to lower taxation. For a couple with a single wage earner on the minimum wage with two young children, as a consequence of policies directed at providing support to low income families with children, disposable incomes are estimated to have increased by \$410 per week – a 70 per cent increase.

There are many theories about the economic role of the minimum wage. These and the evidence from empirical research about the impact of changes in minimum wages are discussed in Chapter 5. The paper argues that, while these theories are most frequently portrayed as conflicting – and the results of analysis interpreted as proving or refuting a generalised case about the impact of minimum wage policies – much of this debate is misplaced. Rather it needs to be recognised that the labour market is complex, has many distortions and that labour supply is not homogeneous. A consequence of this is that the impact of minimum wage changes, especially at the margin, is very sensitive to specific circumstances and may be quite different depending upon these. In the longer run however, sustained increases in real wages require higher productivity.

The final chapter addresses future policy options. It recognises that Australia has adopted national policies of boosting participation and productivity and it places the question of the minimum wage in this context. Three options are considered. The first is maintaining the minimum wage at around its current real value, as has been done over recent decades. While minimising pressure on employment this comes at the cost of greater wages inequality and potential poor outcomes for single people depending on this income. The second is to allow the minimum wage to increase in line with overall productivity growth and other wages. This strategy, unless accompanied by increased productivity of minimum wage employees is likely to have adverse employment outcomes – with this being borne by those with the lowest skills. The third is to hold the minimum wage steady, as with the first option, but with the government intervening in a targeted way to boost the incomes of the low paid through policies such as an earned income tax credit.

In identifying these options the paper emphasises that while this relatively benign transition in the role of the minimum wage is coming to an end, what is required is not a short term fix, but rather a clear strategy. Future policy requires the development of a clear articulation of the role of the minimum wage, and the building of appropriate institutional supports for this.

CONTENTS

EXECUTIVE SUMMARY	i
TABLES	vi
FIGURES	vii
ABBREVIATIONS	viii
1 INTRODUCTION	1
2 HISTORY OF THE AUSTRALIAN MINIMUM WAGE	3
2.1 Harvester Judgement	3
2.2 The minimum wage until 1953	4
2.3 Post indexation and the introduction of the minimum wage 1953-78	6
2.4 Divergence 1978-1995	6
2.5 Restoration of a Minimum Wage, 1997 to date	8
2.6 Accounting for hours and superannuation.....	10
2.7 Measuring prices	11
2.8 The coverage of the minimum wage.....	13
2.9 Women and the minimum wage	14
3 CURRENT ROLE OF THE MINIMUM WAGE	17
3.1 Minimum wage employment	18
3.1.1 Estimates derived from household surveys.....	21
3.2 Which jobs pay the minimum wage	24
3.3 Characteristics of minimum wage workers.....	26
3.3.1 Age.....	26
3.3.2 Gender	27
3.3.3 Education.....	28
3.3.4 Family composition.....	29
3.3.5 The minimum wage and household income	31
3.3.6 Minimum wages well-being and poverty.....	35
3.4 Near minimum wage employment.....	40
3.5 International comparisons	43
3.5.1 International comparisons of the scope of the minimum wage.....	43
3.5.2 Minimum wage and part-time employment.....	47
3.5.3 International Context – Summary	48
3.6 Workforce participation.....	49
3.7 The role of the Australian minimum wage - summary.....	50

4	TRENDS IN THE MINIMUM WAGE OVER THE PAST 25 YEARS	51
4.1	Relative and absolute value of the minimum wage in Australia	51
4.1.1	Potential employment effects.....	54
4.2	Impact of taxes and transfers	55
4.2.1	Impact of taxes and transfers	55
4.2.2	Impact of taxes and transfers 1986 to 2012, Single persons	58
4.2.3	Impact of taxes and transfers 1986 to 2012, Families with children	59
4.2.4	Policy rationale for support for families	60
4.3	Interpreting these changes.....	61
5	ECONOMICS OF THE MINIMUM WAGE	63
5.1	The theory.....	63
5.1.1	Model of a classical competitive labour market.....	64
5.1.2	Demand side	65
5.1.3	Supply of labour – reservation wages – and income effects	66
5.1.4	An efficiency wage	67
5.1.5	Monopsony	68
5.1.6	Bargaining and associated institutional models	69
5.1.7	Minimum wage, education and training	69
5.1.8	Minimum wages and transfers.....	70
5.1.9	Wage compression	71
5.1.10	The minimum wage and productivity.....	72
5.1.11	Who funds the minimum wage	72
5.1.12	Competing theories or theories for different circumstances.....	73
5.2	Research findings.....	74
5.2.1	Disemployment effects – Card and Krueger vs Neumark and Wascher.....	74
5.2.2	Australian research	75
5.2.3	Other US research	78
5.2.4	The UK minimum wage.....	80
5.2.5	New Zealand	83
5.2.6	Employment effects in other countries.....	84
5.2.7	The role of bargaining and other models	86
5.2.8	Low paid jobs as a stepping stone	87
5.2.9	Minimum wages and in work benefits	88
5.2.10	In work benefits in Australia	91
5.3	The theory and evidence.....	93
6	AUSTRALIAN FUTURES	95
6.1	Evolving role of the minimum wage	95
6.2	Pathways for the future of the minimum wage.....	96
6.2.1	Should there be a minimum wage at all	97

6.3	National priority objectives	97
6.3.1	A participation agenda	97
6.3.2	The goals of the participation agenda and the minimum wage	99
6.4	Aspects of the choice of pathway	99
6.4.1	Does training provide a productivity path to a higher minimum wage.....	99
6.4.2	Other possible pathways to a higher minimum wage	100
6.4.3	The minimum wage household income and inequality	101
6.4.4	The role of employment	102
6.5	Making decisions	103
6.5.1	Weighing up the pathways	103
6.5.2	How do we proceed?	105
	APPENDIX A: EVOLUTION OF THE MINIMUM WAGE.....	106
	The Basic Wage between 1907 and 1922	110
	APPENDIX B: JUNIOR MINIMUM WAGE WORKERS	115
	APPENDIX C: ILLUSTRATIVE RATES OF LOW PAY	118
	REFERENCES.....	119

TABLES

Table 1	Composition of employees paid at or below the minimum wage, by gender, EEH, May 2010.....	20
Table 2	Adult Minimum wage employment by workplace size, HILDA 2011	21
Table 3	Estimated number of adults in receipt of the minimum wage, SIH, HILDA and EEH.....	22
Table 4	Incidence and Composition of employees (excluding part-time managers and those on junior rates) paid at or below the minimum wage, by Occupation, EEH 2010	25
Table 5	Minimum wage employees by gender, comparative estimates SIH, HILDA and EEH	27
Table 6	Family composition of adult minimum wage workers, HILDA 2011	30
Table 7	Couples with at least one member employed incidence and type of minimum wage employment, HILDA 2011	31
Table 8	Distribution of minimum wage earners by income quintile, HILDA 2011	32
Table 9	Distribution of adult minimum wage earners by income quintile, households with earned income, HILDA 2011	33
Table 10	Couples, Distribution of adult minimum wage employment by income quintile, households with earned income, HILDA 2011	34
Table 11	Income from minimum wage employment by income quintile, households with earned income, HILDA 2011	35
Table 12	At risk of poverty and financial stress, HILDA 2011	37
Table 13	Household incidence and distribution of at risk of poverty by minimum wage earning, HILDA 2011	38
Table 14	Proportion of employees cumulatively paid at multiples of the minimum wage, EEH 2010	42
Table 15	Proportion of workforce in receipt of minimum wage, international comparison, around 2010.....	47
Table 16	Possible impact of employment of alternative rates of growth in the minimum wage, HILDA 2011	55
Table 17	Proportion of minimum wage workers receiving transfer payments by family status, HILDA 2011	56
Table 18	The minimum wage November 1907 to July 2012.....	106
Table 19	Derivation of minimum wage series 1907 to 1921	111
Table 20	Comparison of estimates of the Basic Wage 1907-1922	114
Table 21	Persons aged 15-20 years by employment, minimum wage and family status, HILDA 2011	116
Table 22	Employed persons under the age of 21 years by employment and minimum wage status and household income quintile, HILDA 2011.....	117

FIGURES

Figure 1.	Estimated real value in \$2012 of the basic/minimum wage 1907-2012	4
Figure 2.	Effective value of minimum wage for a constant labour input 1907-2012	11
Figure 3.	The minimum wage relative to 'average' employee earnings, selected years 1914 to 2010.....	14
Figure 4.	Composition of employees paid at or below the minimum wage, EEH May 2010.....	19
Figure 5.	Adult minimum wage employees by age, HILDA 2011	26
Figure 6.	Broad industry sector, proportion of adult employees on minimum wage by gender, HILDA 2011	28
Figure 7.	Persons by age and highest level of educational attainment, proportion of employed persons in receipt of the minimum wage, HILDA 2011	29
Figure 8.	Satisfaction with financial situation and with life, minimum wage and other wage and salary earners, HILDA 2011	39
Figure 9.	Distribution of earnings as percentage multiples of the minimum wage, lower end of the earnings distribution, EEH 2010.....	41
Figure 10.	International comparison of Minimum Wage rates, 2010	43
Figure 11.	International comparison – minimum wage and part-time employment	48
Figure 12.	Couple families with dependent children, parental employment status 1983 and 2011.49	
Figure 13.	The minimum wage and weekly earnings of full-time adult non-managerial employees, 1975 to 2010.....	51
Figure 14.	Relative value of the FMW to points of the earnings distribution of full-time adult non-managerial employees 1975-2010	52
Figure 15.	Relativity of minimum wage to 10 th percentile of earnings by gender, EEBTUM, 1976 to 2011	54
Figure 16.	Disposable income of households earning the FMW, January 2012	57
Figure 17.	Amount of benefits retained by hours of work at the minimum wage, January 2012	58
Figure 18.	Real net disposable income single person on minimum wage 1986 to 2012	59
Figure 19.	Real disposable income of a single FMW breadwinner couple family with two children aged 3 and 8 years, 1986 to 2012.....	60
Figure 20.	The competitive labour market.....	64
Figure 21.	Relative value of disposable income from minimum wage and unemployment benefits (Newstart), 1970 to 2011	71

ABBREVIATIONS

ABS	Australian Bureau of Statistics
AFPC	Australian Fair Pay Commission (predecessor to FWA)
AIRC	Australian Industrial Relations Commission
C14	Lowest classification in Metal Industries Award
CAR	Commonwealth Arbitration Reports
CBCS	Commonwealth Bureau of Census and Statistics – former name of ABS
CCCA	Commonwealth Court of Conciliation and Arbitration
CPI	Consumer Price Index
CURF	Confidentialised Unit Record File – the way in which detailed data are made available (after confidentialisation) from selected ABS surveys
EEBTUM	ABS Survey of Employee Earnings Benefits and Trade Union Membership (Household Survey)
EEH	ABS Survey of Employee Earnings and Hours (Employer based survey)
EITC	Earned Income Tax Credit
EMTR	Effective Marginal Tax Rates (This is the combined effect of income tax and income support income testing on offsetting the gain from additional income from earnings and other private income.)
FMW	Federal Minimum Wage (this may refer to either the US or the Australian minimum wage depending on context)
FTB	Family Tax Benefit
FWA	Fair Work Australia – currently responsible for setting the FMW
HILDA	Household Income and Labour Dynamics Australia Survey (Longitudinal household survey)
ILO	International Labour Organisation
IWB	In Work Benefits
LPC	UK Low Pay Commission
NMW	National Minimum Wage – UK minimum Wage
NWC	National Wage Case
OECD	Organisation for Economic Cooperation and Development
PPP	Purchasing Power Parity (These are used to convert national currency values into comparable values based upon purchasing capacity.)
SIH	ABS Survey of Income and Housing (Household Survey)
Smic	Salaire minimum interprofessionnel de croissance – French Minimum Wage

1 INTRODUCTION

The natural and proper measure of wages is such a sum as is a fair and immediate recompense for the labour for which they are paid, having regard to its characteristic and duration; but it can never be taken at a less sum than such as is sufficient to maintain the labourer and his family in a state of health and reasonable comfort.

Sir Samuel Griffith, The Elementary Property Bill 1890 (Cited in Mendelsohn 1979 p145)

This paper is concerned with the current and future role of the minimum wage in Australia. Looking backwards it shows that the minimum wage, despite some increases in recent years, is at levels similar to those which it reached in the late 1970s and early 1980s. Its role over this period has however changed. It has shifted from being a wage set to meet the needs of a family to that of a wage for a single person. The role of family support has been taken up by both the increasing incidence of dual income households, and through increases in government support for families. This latter has meant that, even the reducing share of single income families which are reliant upon the minimum wage, have experienced strong increases in their disposable incomes¹.

The substantive question this paper is concerned with is the implications of this for the minimum wage into the future. Notwithstanding considerable debate around the impact of changes to minimum wages on employment, long term sustained growth in the real value of the minimum wage without productivity growth by workers in receipt of the minimum wage is likely to have detrimental impacts on employment. For many marginal workers the demands of such productivity growth may be unrealistic or otherwise need to be offset. At the same time policy objectives of social inclusion and long term economic sustainability and growth have focused on a 'high participation' agenda for Australia. Reconciling this may require a further change in the role of the minimum wage. It may also require the introduction of measures such as an earned income tax credit to ensure that those who do work can achieve an adequate standard of living relative to the rest of the community, without putting inappropriate demands on the ability of the market to generate adequate employment opportunities.

In looking at this subject, especially from a historical perspective, it is to be noted that the nature of the 'minimum wage' in Australia has varied considerably over time and there has rarely been a single comprehensive minimum wage across the population. This will be explored further in Chapter 2 and reflects many factors including the separate Commonwealth and State industrial relations jurisdictions and changes in the industrial relations system, as well as the specific circumstances that gave rise to the original federal minimum wage decision. In addition to the adult minimum wage, the Australian wages system has had a tradition of the payment of junior rates, usually to people aged under 21 years. This paper is primarily concerned with the adult minimum wage. Appendix B presents some findings with regard to junior rates.

¹ The characterisation of the Australian minimum wage, and the significance of the Harvester decision and the range of economic and social structures it embodied, and the evolution this over time, has been considered by a number of authors. These include Watson et al (2003) and their concept of 'Harvester Man', and Castles (1985) and his characterisation of the "wage earners welfare state". This latter suggests that Australia developed a specific form of a 'welfare state' focused on achieving high levels of well-being by generating well paid employment with low unemployment. This was underpinned by a set of specific institutional arrangements namely: the use of tariffs as a means of protecting industry and ensuring high wages; the role of the arbitration system as a means of ensuring the distribution of the rents generated through this mechanism; and the regulation of labour supply through migration policy.

In Australian industrial relations parlance confusion also exists around the use of the term 'minimum wage'. This has arisen because the system comprised a series of industry and job classification based minimum wages – the minimum wage that could be paid by an employer who was covered by the award to an employee of that classification in a particular industry, rather than a floor under all wages. Frequently documentation will refer to these as 'minimum award rates'.

Indeed it was only in 1997 that the Federal Minimum Wage was established as a formal floor to the award wages system and in 2006 that this role was effectively expanded to encompass non-federal award employees with subsequent changes leading to close to universal coverage.

This though does not mean that the minimum wage did not play an important role in underpinning the wage system prior to this. Indeed for much of the period of its existence it has played a dual role, both as a minimum floor wage and as the fundamental building block from which other award wages were derived. This was as a result of these wages being formally constructed in terms of the minimum wage plus additional amounts reflecting skills and other factors. In this structure increases in the minimum wage have generally directly flowed on to a much wider group of employees.

Again this aspect of the minimum wage is not the focus of this analysis².

The balance of the paper is structured as follows:

- Chapter 2 looks at the development of the Australian minimum wage over the 20th century
- Chapter 3 is primarily concerned with the current role of the minimum wage. It considers the types of jobs which are paid at this rate, and the relationship between income from the minimum wage and household income. It also reviews the nature and level of minimum wages in a number of countries and compares these with Australia's
- Chapter 4 is concerned in more detail with the changes in the minimum wage over the past 25 years and the relationship between the minimum wage and the tax transfer system
- Chapter 5 considers the economics of the minimum wage. The first part is theoretical and examines the various approaches to understanding the economic role and consequences of a minimum wage. The second part provides an extensive overview of some of the more recent Australian and international research in this field
- Chapter 6 drawing on the previous chapters, and some of the central policy priorities enunciated by Australian governments, identifies some of the challenges for minimum wage policy over the next 25 years, and strategies which may be used to address these.

² While this paper is not concerned with this formal mechanism some of the market driven spillover effects of minimum wage setting are considered.

2 HISTORY OF THE AUSTRALIAN MINIMUM WAGE

Along with contemporary developments in New Zealand the minimum wages established by Wages Boards under the Victorian Factories and Shops Act 1896, were amongst the first independently established minimum wages in Australia and the world. (Webb 1912, Pember Reeves 1969, Leonard 2000). These Boards, comprised of equal numbers of employers and employees with an independent chair, had the power to determine minimum wages (and piece rates) within industries. While the scope of these Boards was limited (Price 2009) and focused in particular on industries with ‘sweated labour’, at the time, their impact on earnings was seen as significant. As an example of this the Victorian Government Statist (1904) reported: “*For instance, the average weekly wages of all employés (including boys) in the bread-making trade was £1 12s. 6d. in 1896, prior to the Wages Board being in operation, and £2 2s. 10d. in 1902 when its determination was in full force*”. (p 91)

Although the States’ industrial relations systems played a more significant role than the Federal system for much of the 20th century³, for the purposes of this analysis, which is concerned with the broad picture of the development of the minimum wage and its contemporary role, the focus is on the federal jurisdiction. For similar reasons it does not address the different rates of the federal minimum wage struck for different locations.⁴ The question of the minimum wage for women is discussed in Section 2.9.⁵

2.1 Harvester Judgement

The foundation of the Australian Federal Minimum Wage was the 1907 Harvester decision (2 CAR 1). This case concerned an application by HV McKay, proprietor of the Sunshine Harvester Works, for an exemption from the imposition of a tariff on the manufacture of agricultural harvesting machines⁶. The case arose because a condition of the Excise Tariff Act 1906 was that an exemption could only be granted if ‘fair and reasonable’ wages were to be paid to employees. Trade Unions opposed the application as they considered that the rates paid did not reach this standard. The case was, as a consequence, directed at the question of what a ‘fair and reasonable’ wage was for the employees of this company.

The case was heard by Justice Higgins, President of the Commonwealth Court of Conciliation and Arbitration. While concerned with the wages paid to all employees, his central focus was initially on the question of identifying a wage for an unskilled worker. He approached the question of what constituted a fair and reasonable wage by considering a wage which was appropriate to “*the normal needs of the average employee regarded as a human being living in a civilised community*”. He

³ Indeed even in 1968 it was estimated that 40.1 per cent of employees were affected by Commonwealth Awards, 46.3 per cent by State Awards with the remaining 12.7 per cent outside of the award system (CBCS 1970 p 136).

⁴ For example, in February 1923, the value of the minimum wage ranged from the equivalent of \$8.25 in Sydney to \$7.35 in Brisbane, reflecting changes in the cost of living in different locations. (CBCS 1970 p 335.)

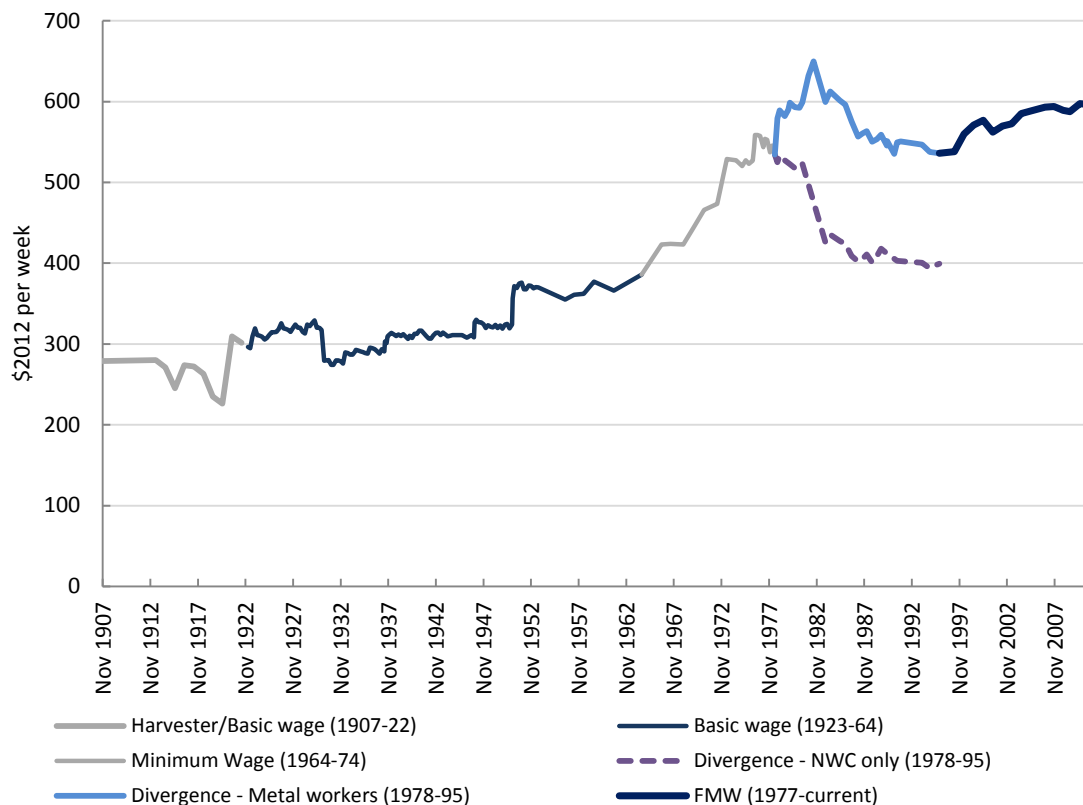
⁵ A further issue, not discussed in this paper is the treatment of wages for Indigenous Australians. While this was not so much an issue with general industry wages, up until the 1970s, two specific factors often meant that these wages were lower than other Australians. The first, up until 1967, was the extent to which Indigenous Australians could be treated as wards of the state which frequently resulted in state employment at sub-award rates (this also extended to NT where wages were regulated through ordinance). The second was the exclusion of Aboriginal employees from many pastoral awards leaving their rates of pay being set by employers as they wished.

⁶ The Sunshine Harvester Works was one of a substantial number of companies making application under the Act. It was selected by Higgins as the focus as it was amongst the largest of the companies making application and had a wide range of employees. This latter enabled the question of wages for different occupations to also be considered in the case.

further articulated this as being a wage sufficient for “*himself and his family*” and as “*a wage sufficient to insure the workman food, shelter, clothing, frugal comfort, provision for evil days, &c*”. In making his judgement Higgins drew upon a range of evidence which was presented in hearings – including by “*working men’s wives and others*” – on what might be the “*necessary average weekly expenditure for a labourer’s home of about five persons*”. (ibid pp5-6). He concluded that the minimum wage should be set at 7 shillings a day for an unskilled labourer⁷ – on the basis of a 8 hour day six days a week – a weekly ‘living’ wage of £2 2s – approximately \$279 per week in \$2012 terms.

Although this decision was subsequently overturned by the High Court, as being constitutionally invalid (Frazer 2002), the rate of 7 shillings a day was rapidly adopted as a minimum wage in other decisions of the Australian Court of Conciliation and Arbitration (Higgins 1915). The historical development of the minimum wage from this beginning is illustrated in Figure 1 and discussed in Sections 2.2 to 2.5. While, as shown in the chart, the minimum wage had various identities over time, with the exception of the period between 1978 and 1995, it can be considered as a single series.

Figure 1. Estimated real value in \$2012 of the basic/minimum wage 1907-2012



Source: See Appendix A

2.2 The minimum wage until 1953

From 1913 the Court began a process of updating the living wage, which became generally known as the ‘basic wage’, for changes in prices⁸. This, initially an ad hoc process, was formalised in 1921 with the introduction of indexation, an arrangement which remained in place until September 1953. Some other changes were also made to the underlying rate over the period. These included: a

⁷ This occupational grouping included furnacemen’s labourers, lorry drivers and carters.

⁸ When introduced indexation was based on the change in prices in specific locations. In 1923 the Statistician was providing individual price indexes for 200 towns (CBCS 1929 pp 40-42).

loading of 3 shillings a week between 1922 and 1934⁹; a reduction of 10 per cent in the rate between February 1931 and 1934 as a response to the depression¹⁰; and the reintroduction of prosperity loadings of 3 shillings a week in 1937.

As shown in Figure 1, in real \$2012 terms, the Basic Wage in November 1952 was around \$372, compared with \$296 in February 1923, and \$279 at the time of the Harvester decision¹¹.

Over this period there were also a number of reviews of the basic wage:

- The 1920 Royal Commission on the Basic Wage: The terms of reference for the Commission asked it to assess “*the actual cost of living at the present time, according to reasonable standards of comfort, including all matters comprised in the ordinary expenditure of a household, for a man with a wife and three children under fourteen years of age*” (Piddington 1920 p 4). The finding (with dissent) was that the cost varied from £5 6s. 2d. to £5. 17s. These levels were however considered to be impractically high (see FWA 2011 pp 85-86) and the uprated Harvester Basic Wage was retained with a 3 shilling loading which brought its current value to £4 5s.¹², and much more formalised indexation arrangements. To enable this indexation a new ABS price index was introduced. The terms of this decision also introduced a second principle into the setting of the minimum wage – that of the capacity of industry to pay¹³.
- Basic Wage Inquiry 1934: This resulted in the ‘Restoration Basic Wage’ (CBCS 1939 p 77) which introduced a new Basic Wage of £3 5s – in effect reversing the 10 per cent cut implemented in 1931 but stripping off the earlier 3s. loading, as well as again ushering in a new price index.
- Basic Wage Inquiry 1937: This viewed the 1934 decision as reflecting a ‘needs based’ basic wage, and added geographic and industry based loadings (CBCS 1939 p 78) – later known as prosperity loadings.
- Basic Wage Inquiry 1940: While this Inquiry rejected an increase in the value of the Basic Wage, the judgement by the Chief Judge of the Court of Conciliation and Arbitration: “*I regard the present basic wage as adequate for a family unit of three persons, but think it offers only a meagre existence for a family unit of four. When that unit gets beyond four, hardship is often experienced.*” (cited in Plowman 1995 p 264)¹⁴ was one of the pressures which led to the introduction of child endowment, at a rate of 5s. a week for the second or above child in a family, in 1941.
- Basic Wage inquiries in 1946, and again in 1949-50: The first of these involved the granting of an interim increase of 7s. while the second resulted in the setting of the Basic Wage, in November 1950, at £8 2s. comprising a £6 17s. needs component, a now uniform 5s. prosperity loading and £1 additional loading. (CBCS 1955 Chpt III)

⁹ This loading was introduced as protection against the time lag in making indexation adjustments. (Hancock 2004 p 420)

¹⁰ Gregory, Ho and McDermott (1988) report that notwithstanding the formal cutting of the basic wage by 10 per cent, this was neither reflected in the average wages paid to factory workers nor in the average award wages paid across industries.

¹¹ It is to be noted that the actual rates cited in specific decisions do not necessarily match the rates used in Appendix 1 and elsewhere in this paper. In general this results from the table being based on an average across capital cities, with decisions relating to a single specific location.

¹² FWA(2011) notes this “*was done through a confusing series of decisions and conferences*” (p192).

¹³ In the Harvester decision the issue of capacity to pay was briefly considered, but Higgins noted that this was neither the focus of the Customs Tariff Act, nor was it a substantive issue in the case. Rather he indicated: “*There is far more ground for the view that, under this section, the fair, and reasonable remuneration has to be paid before profits are ascertained-that it stands on the same level as the cost of the raw material of the manufacture.*” (2 CAR 1 p5) In addition it was not seen as a substantive issue as McKay had indicated that he could afford to pay higher rates.

¹⁴ The adoption of a family unit of four as the new reference point appears to have occurred in 1934 (“Best citizens suffer – Basic Wage Method” The Argus 1940 p 5)

- Basic Wage and Standard Hours Inquiry 1952-53. This decided not to grant an increase in the basic wage and abolished indexation, but rejected an employer submission for an increase in standard hours.

The period between 1926 and 1941 was also notable for a series of reductions in working hours. These comprised changes in the number of hours worked per week and in the number of weeks worked per year. The changes in weekly working hours initially involved a reduction in the standard hours of work to 44 per week, and subsequently, as a result of the Standard Hours Inquiry of 1947, the introduction of the 40 hour week in January 1948. Annual leave of 1 week per year was initially introduced in some Federal Awards in 1936 and became standard in 1941. It was then extended to two weeks from 1945.

2.3 Post indexation and the introduction of the minimum wage 1953-78

After the cessation of indexation the Basic wage was initially adjusted, between 1953 and 1966, at intervals of one to three years, by a series of decisions of the Commonwealth Conciliation and Arbitration Commission. In 1966 as a consequence of the 'Basic Wage, Margins and Total Wage Case', the basic wage was replaced by a 'minimum wage' for adult males. This established a wage floor for employees under federal awards which was set at \$3.75 per week above the former rate of the basic wage (ABS 1974)¹⁵. This continued to be adjusted through Commission decisions, roughly on an annual basis, until 1975 when quarterly indexation was reintroduced.

In the National Wage Case of 1974 the Commission decided to extend the minimum wage to adult females through a phased process with parity to be achieved by 30 June 1975. (See section 2.9 for further details on the treatment of women under the basic and minimum wage.)

In 1975 the Commission again established a linkage between wage adjustments and the CPI. These adjustments however did not involve automatic indexation. Rather there were a mix of decisions, some granting full indexation, some partial indexation and others plateau adjustments at a flat rate across awards. (Dabscheck & Niland 1984)

This period saw the Basic/Minimum wage increase in nominal terms from \$23.10 in November 1952 to \$115.50 in June 1978 – a real increase, in \$2012 terms, from \$372 to \$534 per week – an increase of 43.6 per cent.

There were also further increases in annual leave over this period. Three weeks annual leave became standard in the early 1960s, and four weeks by 1974.

2.4 Divergence 1978-1995

From 1978 to 1987 it is more difficult to track the movement in the 'minimum wage'. This was a consequence of the decision of the Commonwealth Conciliation and Arbitration Commission to abandon plateau indexation and the emergence of decentralised wage bargaining.

¹⁵ A differentiation between this decision and the usual decisions with regard to the Basic Wage was that this increase did not flow on through the wages system. Rather there continued to effectively be a Basic Wage – but this was a notional concept – with the Minimum Wage forming the wage floor. Plowman (1991) describes this as the end of the 'foundational' basic wage. This decision is also discussed in Hawke (1969) who described it as an attempt by the Commission to "with the lowest possible cost impact to do something for those people who because of their lower bargaining power had not been able through over-award payments to make up for the inadequacy of the basic wage to provide a reasonable standard of living."

In 1978 the Commission considered an application by employers that the concept of a minimum wage should be abolished '*because it had no basis or concept behind it*' (Plowman 1995 p 280). While the Commission ultimately decided to retain the concept it declared that in future the minimum wage "*would be subject to the same adjustment as award wages generally*" (ibid) rather than there being any specific focus on the adequacy of the minimum wage itself.

The second factor was that of some decentralisation of wage fixation, initially in the form of flow-ons from the work value case brought by waterside workers. The focus here is on decisions relating to the Metal Industries Award and the minimum rates of pay this contained.

The role of the Metal Industry Award in this period was important for three reasons. The first because of the extent to which decisions taken under this award tended to establish a community benchmark. Secondly because it covered a substantial component of manufacturing industry where the minimum wage represented the wage of a process worker. The third is the role of this award in the later restoration of a formal minimum wage.

As a consequence over the period it is possible to contemplate two versions of the Minimum Wage. The first a 'National Wage Case only' minimum wage which simply reflects the impact of the National Wage Case decisions over the period. The second is one which includes the gains which were incorporated into the Metal Industry Award. Over the period the first of these became less and less relevant in terms of its role in establishing the rates of pay of low paid workers, and the second more so.

As discussed in Section 2.5 this convergence towards the Metal Industry based minimum wage ultimately resulted in it forming the basis for the current Federal Minimum Wage. In contrast the 'National Wage Case only' version of the minimum wage had become so irrelevant that in their submission to the 1997 Safety Net Review one of the major employer organisations wrote in terms of "*reviving the minimum wage*" and placing its value as being "*about \$260 a week*". (The Australian Chamber of Commerce and Industry cited in AIRC Dec 335/97 1997.)

Over the period there were a number of substantial increases in the Metal Industry Award including: a supplementary payment in September 1978, a Work Value decision in November 1979; major increases awarded in 1981 (which involved at the trades level an increase of \$25 per week and \$14 per week) as well as the introduction of a 38 hour week. There were also a series of increases in 1990 and 1991 associated with Award restructuring. These increases, along with those from National Wage Cases, resulted in the nominal value of the 'metal industry' minimum wage rising from \$115.50 in June 1978 to \$349.40 in September 1995. However, in real terms, the value at the end of this period was a scant half a per cent above the \$534 (\$2012) it was at the beginning. As seen in Figure 1 this change in value comprised a steep increase to December 1981 followed by an equally marked decline. Taking account of National Wage Case and Safety Net Award decisions over the same period, the notional reference Minimum Wage increased in nominal terms from \$115.50 to \$260.30 – in real terms a fall from \$534 to \$399 (\$2012).

Little data exists to identify the relative reliance on these two series of the minimum wage, although the evidence from the ABS Employee Earnings, Benefits and Trade Union Membership (EEBTUM) survey, as discussed later, suggests that large numbers of low paid workers, in particular women, did not immediately benefit from types of gains achieved in the Metal Industry Award, although an increasing proportion did in later years. The final impetus to convergence was the August 1989 National Wage Case which endorsed the minimum rates for a metal and building industry tradesperson to "*reflect the final effect of the structural efficiency adjustment determined by this decision.*" (AIRC Dec 530/89 1989 p12)

A simple focus however on the rate of the minimum wage over this period does not though tell the full story of the changes in well-being of low paid workers. Between September 1983 and July 1995 under a series of seven 'Prices and Incomes Accords' between the ACTU and the federal Labor Government there were a series of negotiated trade-offs of wage increases in favour of social wage benefits. These included: personal income tax cuts; child care subsidies; increased family payments; health care through Medicare; and the development of employer funded superannuation.

While most of these policies involved government expenditure (or reduced revenue as a result of tax cuts) as a trade-off for wage restraint, this was not the case with superannuation. The first stage of this was implemented in the 1986 National Wage Case which, in lieu of granting a wage increase for productivity gains, agreed a proposal for an employer contribution to superannuation of an amount equal to 3 per cent of wages for those workers employed under awards¹⁶. Following the rejection by the Commission of a bid to increase this in 1991 the Government introduced the Superannuation Guarantee. This resulted in, not just the extension of the 3 per cent contribution to most employees,¹⁷ but also a staged increase in the rate of contribution to 9 per cent of earnings with this level being reached in 2002-03¹⁸. Bateman and Piggot (cited in Treasury 2001) reported that between 1987 and 1991 superannuation coverage grew from around 40 per cent of employees to 79 per cent, and in the private sector from 32 per cent to 68 per cent. The ATO (2011) reported that, by 1999, the coverage had increased to 91 per cent of employees.

As a deliberate wage trade-off the design of the Australian superannuation system and its interaction with the publicly funded, flat rate, Age Pension is currently structured so that these superannuation savings largely complement, rather than substitute for, entitlement to the Age Pension¹⁹.

2.5 Restoration of a Minimum Wage, 1997 to date

The April 1997 Safety Net Review conducted by the Australian Industrial Relations Commission (AIRC) saw the introduction of a new Federal Minimum Wage. The decision stated

"We have decided to determine a minimum wage (to be called "the federal minimum wage") for full-time adult employees of \$359.40 per week ... The federal minimum wage of \$359.40 per week is established as the wage below which no full-time adult employee working under a federal award is to be paid." (AIRC Dec 335/97 1997)²⁰

With regard to the grounds on which they set this rate the Commission stated: *"we have decided not to link the level of the federal minimum wage with any defined benchmark of needs. We think that the most appropriate course to follow now is to equate the federal minimum wage with the minimum classification rate in most federal awards; that is, the rate of the C14 classification in the Metal*

¹⁶ These contributions were paid into individual accounts, most frequently in 'Industry' Superannuation Funds (these are independent mutual type funds overseen by employer and union representatives) as part of a defined contribution retirement income system.

¹⁷ Exemptions apply for those employees aged under 18 years and over 69 years, and those with an income below \$450 per month.

¹⁸ As at 1 July 2013 the rate of the Superannuation Guarantee is increasing to 9.25 per cent as part of a phased increase in the rate to 12 per cent. This goal is to be reached in 2019. (ATO 2013)

¹⁹ The Australian Treasury estimates that the net earnings replacement rate of retirement income comprising of superannuation savings and the Age Pension for a single male who works for 37 years would be almost 110 per cent for a person earning half average weekly earnings; around 90 per cent for one earning three-quarters; and around 75 per cent for a person on average weekly earnings (Henry 2009 p 110).

²⁰ The decision also made provision for an hourly rate for part-time employees, with this being set at 1/38th of the weekly rate, and for the proportionate payment of a the minimum wage to junior employees.

Industry Award.”(ibid) At the time of the decision the C14 rate was \$349.40, which with the \$10 per week awarded in the decision, generated the rate of \$359.40.

This rate was subsequently increased in eight Annual Safety Net Reviews up to June 2005. In 2006 responsibility for the setting of the minimum wage was transferred to the Australian Fair Pay Commission (AFPC) which provided increases in 2006, 2007 and 2008, but decided against any increase in 2009. In 2010 the role of setting the minimum wage moved to Fair Work Australia (FWA) which awarded increases in 2010, 2011 and 2012. In its June 2010 decision it also decided that minimum standard casual loadings²¹ should be increased, in a series of steps of one percentage point each year, from the default 20 per cent to 25 per cent. (FWA C2010/1 para 403)

Both the AFPC and FWA have had specific legislative criteria for setting the minimum wage. In the case of the AFPC this was stated in terms of: “*The objective of the AFPC in performing its wage-setting function is to promote the economic prosperity of the people of Australia having regard to the following: (a) the capacity for the unemployed and low paid to obtain and remain in employment; (b) employment and competitiveness across the economy; (c) providing a safety net for the low paid*”.(Workplace Relations Act 1996) The legislation for FWA specifies that in setting the minimum wage FWA is required to consider: “(a) *the performance and competitiveness of the national economy, including productivity, business competitiveness and viability, inflation and employment growth; (b) promoting social inclusion through increased workforce participation; and (c) relative living standards and the needs of the low paid*” (Fair Work Act 2009 Section 284)

The shifting industrial relations framework also saw the role of the Federal Minimum Wage move from being a minimum wage for employees on Federal Awards, as noted in the AIRC decision above, to a broader coverage to encompass all ‘constitutional corporations’ under the Work Choices legislation of 2005 and then expanded coverage to sole traders, partnerships, other unincorporated entities, except those in Western Australia, progressively to 2010.

In the 14 years since its re-introduction the nominal rate of the Federal Minimum Wage has increased to \$606.40 (as at 1 July 2012) – a real increase (including the initial \$10 increase awarded with the introduction of the wage) of just over \$70 and real growth of 13.1 per cent.²²

The flow-on of changes to the minimum wage

While the emphasis here in discussion has been on the rate of the ‘minimum wage’, in large part most of the decisions discussed have had implications for the wage rates paid for a much wider group of employees, and in fact affect the wider group ‘minimum wages’ as established through Awards and Collective and Individual Agreements. As discussed previously within most agreements there are a series of minimum rates of pay for each occupational level or grouping. The decisions on the setting of the ‘minimum wage’ have in general also contained decisions relating to the setting of these minimum rates.

²¹ The casual loading is a payment made to employees who are employed without an entitlement to paid leave. While there is some contention as to what the loading actually compensates for, in general terms it is seen as encompassing the non-payment of recreation, sickness and family leave, as well as non-accrual of long-service leave and termination entitlements. While termed ‘casual’ in many cases such employees are employed on an on-going, and often full-time, basis. Existing loadings tend to be in the range from 15 to 30 per cent.

²² The FMW applies to adult employees. Provision is made in decisions for separate rates for junior employees, for apprentices and for some groups of persons with a disability. (Employees with disability who are unable to perform the range of duties to the competence level required because of the effects of disability on their productive capacity). As at 1 July 2011 the hourly junior rates of the minimum wage were: under 16 years of age \$5.87; 16 years of age \$7.55; 17 years of age \$9.22; 18 years of age \$10.90; 19 years of age \$13.17; and 20 years of age \$15.59. These compare with the adult rate of \$15.96. The minimum rate for apprentices varies from \$10.22, in the first year of an apprenticeship to \$17.65 in the fourth year – a rate the FMW. (Fair Work Ombudsman 2012) Whether or not young people are paid at junior or adult rates varies between individual awards and agreements and from workplace to workplace. It was estimated in 2004 that of employees aged 15-20 years: 18.4 per cent were apprentices or trainees being paid at rates appropriate to these positions; 43.2 per cent were paid junior rates; and 38.4 per cent were paid adult rates. (Australian Government 2006 p 157)

Hence in the 1977 decision of the AIRC, the \$10 increase referred to above not only applied to the newly established Federal Minimum Wage, but also to all minimum and paid rates awards. In the first two decisions of the AFPC they made what they called ‘differential decisions’ awarding different increases to different groups of employees. In 2006 this involved an increase in the minimum wage and all wages up to \$700 per week, of \$27.36, and a lesser increase of \$22.04 to pay scales above this rate. By contrast the 2008 decision was a flat \$21.66 across all pay scales. A similar flat increase – this time of \$26 per week was made by Fair Work Australia in their 2009-10 Annual Wage Review, although in their 2010-11 Review they decided to award a 3.4 per cent increase to all modern award²³ minimum wages – with this rate of increase applying also to the federal minimum wage. A proportional increase was also awarded in the 2011-12 determination, in this case 2.9 per cent.

Given the varying ways in which changes in the minimum wage may be applied to others, the nature of wage setting decisions is most probably best characterised as the minimum wage and other wage rates being ‘co-determined’ rather than the change to the minimum wage ‘flowing-on’ to other employees.

2.6 Accounting for hours and superannuation

Since the Harvester decision the weekly value of the minimum wage has grown in real terms by 117.3 per cent. This comparison does however not take full account of changes in employment arrangements and working conditions experienced by minimum wage workers over time. These, as discussed, include reductions in hours of work (both weekly and through the increases in paid leave) and the value of payments made on behalf of employees under the superannuation guarantee. If these changes are included the effective real value of the minimum wage has increased much more substantially. In terms of remuneration (including superannuation) per hour worked the real value has increased by 224.2 per cent – an annualised growth of 1.1 per cent.

Figure 2 illustrates this. It shows an index (Nov. 1907 = 100) of real value of the minimum wage (as a weekly wage), and the index of this wage adjusted for effective hours worked, taking account of changes in the working week and leave, and the value of superannuation. A third line plots the value of the latter as a percentage of the former.

For the purposes of this and subsequent analysis of the minimum wage²⁴ over time the ‘metal workers’ series has been used as the indicative value of the minimum wage between 1978 and 1997. While this may initially overstate the value of the wages paid to people on the minimum wage, as is seen later in Figure 14 by 1983 the ‘NWC only’ minimum wage had fallen to just some 60 to 65 per cent of the value of the 10th percentile of the earnings distribution, suggesting it had by that time become largely irrelevant as a floor of the wages system.

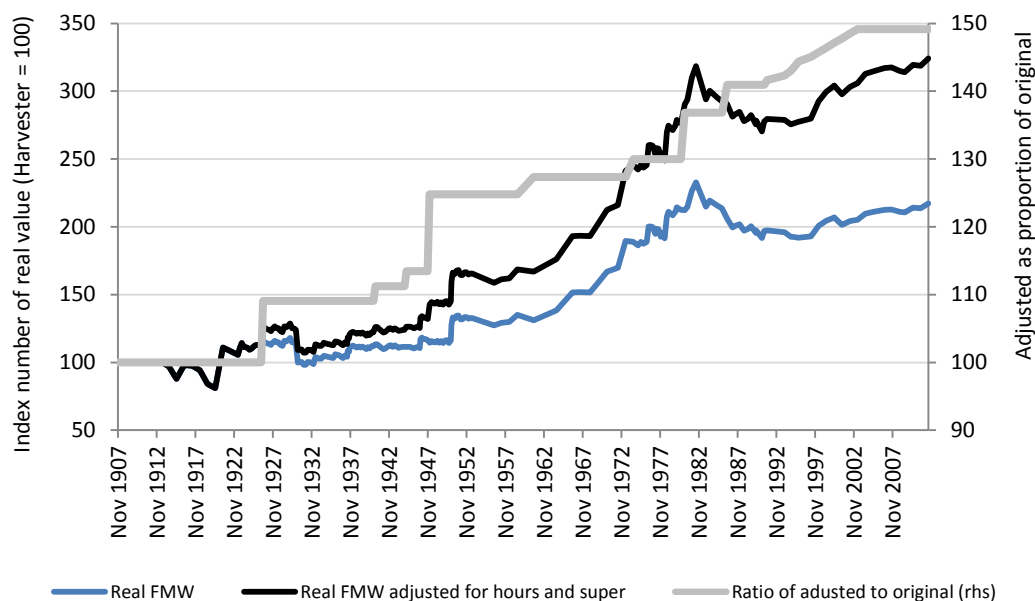
As shown, since the Harvester decision, changes in conditions – related to hours worked and superannuation, have increased the effective hourly benefit from the minimum wage by almost 50 per cent over the change in the weekly rate of pay. These changes were most marked in the 1920s to 1940s as a consequence of the reduction in weekly working hours and the introduction of annual leave, in the 1960s and 1970s with increases in annual leave, and then again from the 1980s to early 2000s, initially with the introduction of the 38 hour week, and then superannuation. In addition to these changes many other improvements in working arrangements and conditions have also

²³ Modern Awards were introduced in 2010 and replaced a large number of federal and state industrial awards. They identify industry or occupational based minimum employment standards and earnings. They do not apply to an employer with an enterprise award or to employees with earnings over \$120,000 per annum, however the rates of pay in the awards over-ride lesser entitlements which may be in contracts or other agreements.

²⁴ The language of the minimum wage and the Federal Minimum Wage is used interchangeably to refer to this series over time.

occurred. These include long service leave, sick pay, and family leave, and other support for employment such as child care subsidies.

Figure 2. Effective value of minimum wage for a constant labour input 1907-2012



Source: Derived from Figure 1 and author's calculations

Conversely, from an employer perspective, most of these additional benefits have increased the effective cost of labour. In most cases these increases would have been proportionate across all employees, and hence have not impacted directly on the relative cost of employing minimum wage employees.

2.7 Measuring prices

In deriving the above estimates a linked price index has been used. This draws upon early retail price indexes – the 'A Series' retail price index – a measure which was largely restricted to groceries, dairy products, meat and house rents for the period up to 1914; the 'C Series' price index which covered a much wider set of items, adding clothing, energy and urban transport amongst other items to the 'A Series', and which was maintained up until the late 1940s; and, since 1948-49, the ABS Consumer Price Index²⁵. This latter in turn is comprised of 15 linked series. In most cases the differences between these series largely relate to revisions of weighting patterns to allow for changes in the composition of consumption. In other cases, however, they have involved considerable methodological changes.

The validity of the estimates of the change in the 'real' value of the minimum wage, cited above, is dependent upon the quality of this index. That is how accurately and meaningfully do these measures identify changes in the cost of living. This is a particularly challenging assumption over the extended time period under consideration and the variety of different indexes which have been

²⁵ For the period up to June 1949 the long run annual Price Index as published by ABS in the 1988 Australian Year Book (ABS 1988 pp 678-680) has been used. This publication has a more detailed explanation of the derivation of this index. This series which was published as annual averages, has been interpolated to a quarterly index using the annual Price Index for the June estimate. The two series have been combined using the 1948-49 average price level in each index.

combined. If the rate of price increases has been under-estimated then the increase in the real value of the minimum wage has been over-estimated. On the other hand if price change is over-estimated then the increase in the minimum wage has been underestimated. It is very difficult to be conclusive about this question.

Typically price indexes can be subject to many different biases which can result in over, or under estimating the level of price change. Even today with regard to current price indexes there is little information available to judge the impact of these, or even the direction in which the biases may operate. Historically there is even less.

The main types of bias that can affect price indexes include: product substitution bias – where consumption patterns change but this is not accounted for within the price index; new product bias – where the index does not adequately reflect the entry of new products; outlet bias – where prices vary between stores (and types of stores) and there are changes in the places where people purchase various products – without these being taken into account in the prices used in the index; and quality change in products. In this latter case the bias can occur when improvements in the quality of products are neglected with this leading to an over-estimate of the rate of change in prices – since the improved product has higher value than the one it replaced. Conversely approaches that adjust for quality change in a mechanical way, without regard to the extent the improvement actually provides additional utility to consumers, can lead to an underestimate of effective costs.²⁶

In addition, to the extent the CPI seeks to measure price changes across the community as a whole, it can be dominated by the impact of higher income and higher consumption households and may not give an appropriate measure of changes for sub-groups within the community. Although this may not affect the use of the CPI in some contexts, it may for particular purposes such as this study where the interest is in how price changes impact on the cost of living for low income households, rather than households overall.

The potential for some of these biases, especially substitution and new product bias, is likely to be large in the case of earlier indexes. The basket of goods used in these was very limited, and while a wider range of items were included in the ‘C Series’, this latter used a largely unchanged weighting pattern over the full period for which the index operated.

As noted above, even today, we know little about how the Australian CPI may be distorted by these types of bias. Only two estimates of aspects of bias have been produced by the ABS. The first concerns the impact of changing consumption patterns on the CPI. In this ABS report, between June 2000 and 2005, that the estimated change in prices of 17.6 per cent may have been upwardly biased by 1.2 percentage points due to product substitution (ABS 2010 p 56). The second concerns the extent to which the CPI represents the change in prices experienced by subsets of households. Some insight into this can be gained from the ‘Analytical living cost indexes for selected Australian household types’ that ABS publishes. These show that between June 1998 and June 2012, while the CPI had increased by 49.1 per cent, the costs of employee households had increased by 53.0 per cent and for non-Age Pension income support recipients²⁷ by 56.1 per cent (ABS 2012). Over the extended period of this analysis even these levels of bias can have a substantial effect. In these two cases the biases have operated in opposite directions – with the substitution bias overestimating price change, and the ‘plutocratic weighting’ of the CPI underestimating the potential impact on

²⁶ This issue has been discussed in more detail in Bray 2010.

²⁷ ABS published, up to 2012, specific indexes for four household types: Employee households; Age Pensioner households; Other government transfer recipient households; and self-funded retirees (ABS 2012 Cat No 6463.0). As of September 2012, a new set of Selected Living Cost Indices have been produced (ABS 2012 Cat No 6467.0).

lower income households. This may or may not be the case with other biases on which no data are available.²⁸

Further to these issues, it can be argued that understanding changes in living standards over such long periods may require more than simply taking account of price change. Societal expectations and technology have moved dramatically over the past century – and what comprises ‘the normal needs of the average employee regarded as a human being living in a civilised community’ are substantially different today than they were in the past and cannot be simply measured in terms of changes in prices.

2.8 The coverage of the minimum wage

The dual role of the minimum wage in the Australian wages system has been noted above. The first, as described, is setting a binding floor for wages – that is a wage rate below which people are not paid. The second, more particular to the Australian wages system, has been as a base component of the wages paid to a much wider set of employees. Traditionally this was seen in the structure of wage rates comprising the basic wage and various margins, for example, for skill, and loadings, with these latter being awarded for matters such as work conditions and profitability. A consequence of this is that increases in the minimum wage rate have tended to flow on to other groups of, in particular, lower paid employees.²⁹ Taking this into account the concept of coverage has two interpretations: those actually paid the minimum wage; and those whose wages may be affected by changes in the minimum wage. This paper is primarily concerned with the first of these.

Unfortunately very limited data are available on either the current or historical size of the minimum wage workforce. In Section 3 some contemporary estimates are provided. For the longer time period the most effective means of gauging coverage is to consider the value of the minimum wage relative to the average earnings of employees. Changes in the relativity of these can be interpreted as potentially providing an estimate of the proportion of those who are in receipt of the minimum wage, or paid rates relatively close to the minimum. Although such changes can also be driven by increases in the value of wages of those with very high incomes, this can partially be controlled for by using earnings measures that exclude higher earners.

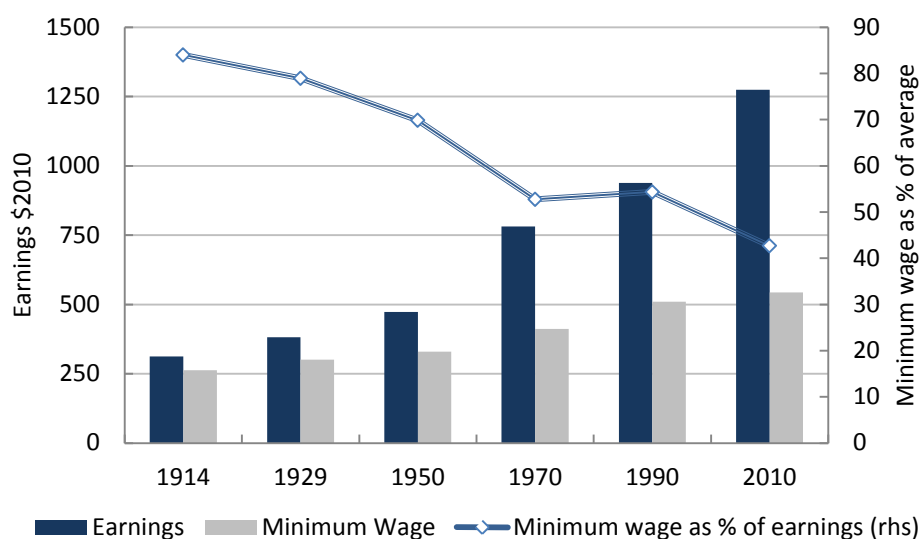
This type of approach is illustrated in Figure 3 which plots the real value of the minimum wage and the average earnings of full-time adult male non-managerial employees³⁰. As shown, the relative value of the minimum wage to these measures of average earnings has dramatically decreased over the past century. While in 1914 the value of the minimum wage was around 80 per cent of such average earnings, this fell to 70 per cent in 1950, to 53 per cent in 1970, and then 43 per cent in 2010. It is not entirely clear whether the stabilisation in the minimum wage as a ratio of earnings between 1970 and 1990 is an artefact of the use of the ‘metal workers’ minimum wage, or is associated with the fall in real earnings which was recorded between the mid-1970s and early 1990s.

²⁸ While recognising the potential existence of bias in Australian price indexes, as discussed here these are likely to operate in both directions, that is some will have biased the series upwards and others downwards. It would appear unlikely however that the CPI is subject to the type of bias identified by the Boskin Commission in the US which reported an upward bias of 1.1 percentage points per year. (Boskin 1996)

²⁹ Under the current Annual Wages Review the scope of consideration is somewhat wider including all employees covered by the national workplace relations system and applies not just to employees covered by the national minimum wage, but also those under modern awards and various transition arrangements.

³⁰ Strictly speaking the series uses a number of different estimates as detailed in the table footnotes.

Figure 3. The minimum wage relative to 'average' employee earnings, selected years 1914 to 2010



Source: Minimum wage – as per Figure 1, Earnings: 1914 & 1929: Derived from Weekly Wage Rates Adult Males 'All Groups' adjusted by average ratio of this series to Average Weekly Earnings per Male Employee for 1948-53, as per following series: (ABS Cat No 6101.0 1957 p 40); 1950: Average Weekly Earnings per Employed Male Unit using 1950/51 annual figure (ABS 1968 Cat No 6101.0 p 305). 1970, 1990: Average Weekly Earnings Private Sector Full-time Employees, Adult Male, Non Managerial (Foster 1996 Table 4.19); 2010: Employee Earnings and Hours, May 2010 Average Weekly Cash Earnings Male Full-time Non Managerial Adult Employees (ABS 2011 Cat No 6306.0).

Although not conclusive, this is highly suggestive of a consistent decline, over time, in the proportion of employees who are paid at, or near, the minimum wage.

2.9 Women and the minimum wage

The Harvester decision only established wage rates for men. As the Australian wages system developed, the adoption of the concept of the minimum wage in the decision as a 'family wage', rather than with reference to the needs of an individual to support themselves, or alternatively the value of work undertaken, resulted in a quandary as to whom such a wage should be paid to. That is, should all employees qualify for receipt of a wage appropriate for the needs of a family, or would it be more appropriate to pay some on the basis of their individual needs, especially when they were not involved in supporting a family.

This was not an immediate issue in the Harvester decision but ultimately, reflecting family structures of the time, when this issue was considered decisions on the application of the Basic Wage were primarily based on gender. While in taking this decision it was recognised that not all men were married with a family to support, a significant proportion were, and that "marriage [is seen] as the usual fate of adult men". A further rationale for this blanket approach was that "the employer need not concern himself with his employee's domestic affairs". (Higgins 1915 p 7)³¹

³¹ One exception to the payment of the family wage to all males was in Commonwealth Government employment. Here separate rates were struck for married and unmarried men, with the latter being below the Harvester rate. In part this structure was a reflection of how this employment was seen as an ongoing career, and that there were a series of annual salary increments which raised wages from a lower to an upper rate within occupational classifications. Powers J as deputy President of the Court explained it in his 1916 decision as "the principle is clearly not applicable to employers and employees generally outside the Public Service where the same living wage is payable ... in such a case a lower living wage for a single man would prevent him preparing for marriage - or it would be a punishment for not marrying - and it would encourage employers to employ unmarried men in preference to married men ... in the Public Service it is different - all employees go on

In this context setting a different minimum wage for women was not seen as being discriminatory, but rather as applying the same principle – that of adequacy, and using a broad brush categorical approach. *“The principle of the living wage has been applied to women, but with a difference, as women are not usually legally responsible for the maintenance of a family. A woman's minimum is based on the average cost of her own living to one who supports herself by her own exertions”*³² (ibid p20).

In contrast to the setting of a standardised minimum wage for men across all Federal Awards, the minimum for women operated at the individual award level and hence was defined at both an industry and occupational level. At the same time however some women were paid at the ‘male rate’. This was largely done to minimise the risk that male employment could be undercut by women working at a lower rate. This led to a complex set of arrangements where if some women undertook work which was traditionally undertaken by men, such as in traditional male trades, they were paid the male wage. This was also the case in some decisions on occupations such as fruit-picking which were undertaken by both men and women. On the other hand in those occupations seen as being primarily undertaken by women, the lower female minimum wage was paid to women³³.

In 1934 the Conciliation and Arbitration Court re-examined this approach and considered the alternative of the establishment of a female minimum wage. It rejected this option, concluding: *“The court does not think it necessary or desirable, at any rate at the present time, to declare any wage as a basic wage for female employees. Generally speaking they carry no family responsibilities. The minimum wage should, of course, never be too low for the reasonable needs of an employee, but those needs may vary in different industries.”* (Cited in CBCS 1948 p83) The ABS summarised the situation as *“The previous practice of the Court was therefore continued whereby each Judge granted such proportion of the male rate as he deemed suited ...Generally speaking, this proportion was in the vicinity of 54 per cent of the male rate”* (loc cit)

This position substantively³⁴ held until the Conciliation and Arbitration Act was amended in 1949 to allow the Court to determine a *“basic wage for adult females”* being *“a wage which is just and reasonable for an adult female, without regard to any circumstances pertaining to the work upon which, or the industry in which, she is employed”*. (CBCS 1953 p86) As a consequence the 1949-50 Basic Wage Inquiry established *“a new basic weekly wage for adult females at 75 per cent, of the corresponding male rate operative from the beginning of the first pay period commencing in December, 1950.”* (loc cit) The determination of the 75 per cent rate was essentially arbitrary and pragmatic. Foster J noted in the decision *“I do not claim that the ... 75 per cent is scientifically, statistically or intellectually verifiable. It is a round figure; the 75 per cent has the justification of an existing and past fixation as well as Government decision by Statutory Regulation”* (68 CAR 698

to the maximum whether single or married by automatic increases so that it can only affect, generally speaking, the salary of a young man between the age of 21 to 25, and if he wants to marry he can at once get the £150 as a married officer.” (10 CAR 314 p394)

³² Again even in identifying a minimum wage for women the issue of the relative needs for income to maintain an adequate standard of living for those living under different circumstances, with different needs, raised issues. In a continuation of this quote Higgins notes the differences in the needs of a woman who lived independently, as opposed to one who dwelt at home with her parents. While this might have been grounds for a different level of wage this argument was subordinated to the question of how the market would respond. Here he concludes *“A woman or girl with a comfortable home cannot be left to underbid in wages other women or girls who are less fortunate”* (Higgins 1915 p20).

³³ It is difficult to identify the extent to which this principle was effectively implemented although, for clearly identifiable female dominated occupations, it most certainly did. This in itself raises a further question of the extent to which it also led to gender segmentation of employment by occupation, a feature which has continued to persist in the Australian labour market.

³⁴ While not affecting the basic wage per se, a range of court and other decisions during the war period resulted in increases in the relative earnings of women. This included court decisions in the clothing and rubber industries which awarded women 75 per cent of male rates (CBCS 1950 p 87), the role of the ‘Women’s’ Employment Board’ which was empowered to set women’s’ rates at between 60 per cent and 100 per cent of the male rate – with a reported average of 90 per cent being adopted (ibid p84), and Ministerial powers which resulted in wages being set not *“less than 75 per cent of the corresponding minimum male rate”* in ‘vital industries’ (ibid p83).

p819) he previously had noted that if the lower figure of 54 per cent was adopted that to “award such a rate would not be to settle the dispute but to aggravate it” (ibid p817)³⁵

The underlying concept of the family component of the male basic wage continued into the 1970s, notwithstanding strengthening campaigns for the introduction of equal pay. In 1950 FJ McKenna acting Secretary of the Prime Minister’s Department, in response to correspondence about equal pay, replied that the pay was conceptually equal but: “*In the Commonwealth Public Service, as in outside industry, the salaries for adult males comprise a basic wage plus a margin for skill. The basic wage is intended to cover the needs of a family unit. Females are paid the same margin for skills as an adult male performing the same work but receive a total remuneration lower than the male because of the difference in needs.*” (McKenna 1950)

While the 1972³⁶ equal pay decision of the Commonwealth Conciliation and Arbitration Commission recognised the principle of ‘equal pay for work of equal value’, this was applied to all awards, with the exception of the minimum wage. Although an extension to the minimum wage had been proposed by unions the Commission concluded: “*all we can say is that ever since the minimum wage has been the subject of debate it has been presented by the unions and considered by the Commission as including a family component. The material used by the unions in their various claims over the years for special increases to the minimum wage has principally been directed to family problems and the oral evidence, both expert and of employees themselves, has been similarly directed. ...Because of the essential characteristic of the male minimum wage we decline to apply it to females and we dismiss that part of the unions' claims.*” (147 CAR 172 p176)

It was not until 1974 that the Commission decided on a common rate of the minimum wage for men and women with this being implemented in three steps³⁷ reaching parity in June 1975 (ABS 1976). In this decision the Commission moved substantially away from the concept of a family wage declaring that they were “*an industrial arbitration tribunal not a social welfare agency*” and that “*the care of family needs is principally a task for governments*” (cited in Nieuwenhuysen 1974).

³⁵ Chief Judge of the Commonwealth Court of Conciliation and Arbitration WR Kelly dissented from the decision on the establishment of the female minimum wage rate. “*I have concluded that the present basic wage for males provides at least for some family group) the basic wage for women cannot, as a matter of social justice, even allowing for the additional expenditure necessarily incurred by a woman who has to go to work, above that of one who remains at home, occupied by her domestic duties, be assessed at very much more than half of that basic wage (the adult male's) which is fixed as an amount adequate for the fulfilment of the needs of a family group*” (68 CAR 698 p785). These two positions highlight the perennial tension in wage setting decisions – whether the decisions have intrinsic merit, or simply reflect a judicial solution to a dispute.

³⁶ The previous 1969 equal pay case had granted equal pay to women doing the same jobs as men – the principle of ‘equal pay for equal work’.

³⁷ It was initially increased to 85 per cent of the male rate, increasing to 90 per cent by September 1974 and then to 100 per cent by end June 1975.

3 CURRENT ROLE OF THE MINIMUM WAGE

The previous section has noted the limited amount of information about the number of people in the workforce who are in receipt of the minimum wage. Although there are several sources of information on the earnings of Australians each of these have some limitations for exploring this question. Broadly two types of data are available. The first being from surveys of employers, the second are household surveys.

There is only one regular Australian employer based survey which provides information on the individual earnings of employees. This is the ABS Survey of Employee Earnings and Hours (EEH). This survey is currently conducted every two years and is a mail out survey to some 9,000 public and private sector employers who report on the earnings, and other related information, of a sample of their employees. It excludes enterprises engaged in agriculture, forestry and fishing, and employment by private households. To the extent the survey responses are usually prepared by employers on the basis of their payroll records, it is considered that the reported level of earnings it produces are accurate, as are the details on the number of hours for which people are paid.³⁸ Limitations of the survey on the other hand include the restricted scope of the industries it covers and the likelihood it omits informal 'cash in hand' employment. In addition the survey does not contain information on the hours worked by 'managerial employees'. For this reason this group is excluded from analysis. The survey also provides very little information on the characteristics of employees.

In contrast there are many different household surveys which contain data on individual reported earnings. These include the ABS Employee Earnings, Benefits and Trade Union Membership (EEBTUM); the ABS Survey of Income and Housing (SIH); the ABS Survey of Employment Arrangements, Retirement and Superannuation (SEARS); and the Household Income and Labour Dynamics Australia (HILDA) Survey. While these surveys do not have the problem of scope which potentially limits the EEH, the quality of data on earnings and of hours of employment is likely to be less reliable. This is because it is self-reported by individuals on a recall basis, frequently without reference to actual records³⁹. In addition, these surveys do not usually collect sufficient information to identify whether or not a person is being paid a casual loading, nor the rate at which such a loading is paid.

A number of Australian studies have attempted to derive estimates of minimum wage employment from these surveys. In a major study for the then Australian Fair Pay Commission (AFPC) McGuinness, Freebairn and Mavromaras (2007) estimated, using the HILDA Survey, that in 2004 around 7.2 per cent of adult employees are paid at around or below the minimum wage rate. They also derived an estimate of 4.1 to 4.9 per cent from the EEH⁴⁰. Earlier work for the AFPC by Healy and Richardson (2006) used the 2004 HILDA Survey and estimated that 9.5 per cent of adult employees were paid around the minimum wage rate with a further 9.1 per cent within an additional \$2 an hour of the rate, with similar results, 10.3 per cent and 9.0 per cent being derived from the SIH for 2003-04. Dockery, Seymour and Ong (2010) again using HILDA data, but this time from 2006, estimated that 11.2 per cent of employees aged 21-64 years were paid an hourly wage rate "no more than 10 per cent above the minimum rate set by the Commission". Nelms, Nicholson and Wheatley (2011) using data for 2007 estimated from the HILDA survey, that there were 6.8 per cent of adult

³⁸ At the same time however hours paid for may not reflect hours worked since some employees may work additional unpaid periods. This would appear to be part of the rationale for non-collection of data on hours of work for managerial employees.

³⁹ The surveys also vary in whether or not they collect information on actual most recent, or 'usual', pay and hours of work.

⁴⁰ In this study the authors classified all persons earning less than 110 per cent of the minimum wage as minimum wage employees.

employees paid at rates up to the minimum wage and a further 11.0 per cent paid no more than 20 per cent above the minimum wage. From the SEARS survey they estimated these proportions at 9.2 per cent and 10.7 per cent, and from the SIH at 7.4 per cent and 10.5 per cent.

3.1 Minimum wage employment

For the purposes of examining the level and nature of minimum wage employment in Australia the initial focus in this paper is on data from the 2010 EEH Survey. In subsequent analysis data from HILDA is used to analyse the household characteristics of such employees, and to look at the incidence of minimum wage employment amongst those aged under 21 years. While, as noted above, the scope of the EEH data is somewhat limited, it is used here because it is based on payroll records and hence is less susceptible, in comparison to household based surveys, to reporting error. In addition, in comparison to the ABS household surveys, it contains an indicator for those paid at casual rates. This permits more accurate estimation of the coverage of the minimum wage by allowing for an estimate of the value of the casual loading.

In the following analysis a full-time employee is classified as being paid the minimum wage if they are paid, other than at junior rates, and their ordinary time earnings are within five per cent of the minimum wage, and part-time employees if their hourly rate is within this range. Where a person is reported as being a casual employee a 20 per cent loading has been applied to the minimum wage rate. The EEH survey covers an estimated 8,968,054 employees excluding managers, persons paid at junior rates, self-employed workers and, as noted above, those employed in agriculture, forestry and fishing, and employment by private households.

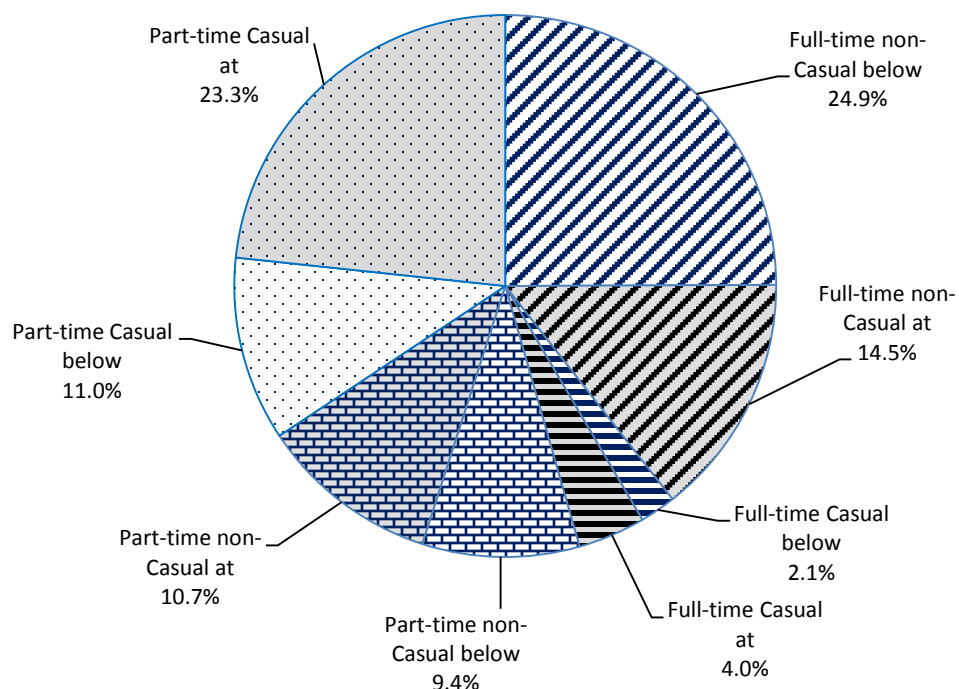
Using this approach an estimated 2.2 per cent of employees, excluding those paid junior rates, and managers, are paid at the minimum wage and a further 2.0 per cent are paid at rates below this, a total of 334,532 employees or 4.1 per cent of the workforce⁴¹. Figure 4 shows the composition of these employees by full and part-time employment status and whether they are paid at casual rates. Just over half, 54.4 per cent are part-time employees and 40.4 per cent are paid at casual rates. While 13.6 per cent of full-time minimum wage workers are employed as casuals 63.0 per cent of part-time ones are.

The finding of a group of employees receiving rates of pay below the minimum wage is consistent with other research. While some of these may be employees who are being paid training or disability rates,⁴² this does not seem to provide a full explanation for all such employment. A detailed analysis of the phenomena of below minimum wage employment has recently been undertaken by Nelms, Nicholson and Wheatley (2011). After a review of a series of different Australian datasets they concluded that this group of employees largely shared common characteristics with those earning just above the FMW, but were more likely to be working part-time, in small business or reporting having worked more than 60 hours per week. While there was insufficient evidence to suggest that this was simply a matter of poor data, the need to be aware of such issues was seen as important. Otherwise the research suggests: *“Employees being specifically excluded from the FMW, employees working long hours, and employees with salary sacrifice arrangements all appear to be partial explanations”* (ibid p44).

⁴¹ If the margin is increased to include those earning up to 110 per cent of the FMW, as is frequently done in other studies, and as is done later in this paper using HILDA, the proportions earning at or below the FMW increases from 4.1 per cent to 6.0 per cent.

⁴² Under the Supported Wage System employers can seek a special wage for those with low productivity. This is limited to those who are on, or eligible for, the Disability Support Pension.

Figure 4. Composition of employees paid at or below the minimum wage, EEH May 2010



Notes:

at = being paid +/- 5 per cent of the FMW with an adjustment of 20% for employees paid a casual loading.
 below = being paid less than 95 per cent of the FMW with an adjustment of 20% for employees paid a casual loading

Source: Derived from the ABS 2010 Employee Earnings and Hours, Expanded CURF

In the balance of discussion in this section, unless otherwise noted, the terms ‘minimum wage worker’ and ‘paid around the minimum wage’ will be used to encompass all those paid under 105 per cent of the minimum wage.

In the EEH survey a higher proportion of men (4.3 per cent) than women (3.9 per cent) are employed on wage rates around the minimum wage⁴³. Male minimum wage employees are more likely to be employed full-time and on a non-casual basis than women. Overall employment around the minimum wage is more likely amongst part-time employees (6.4 per cent) than those in full-time employment (2.9 per cent) and 9.0 per cent of casual employees are paid around the minimum wage compared with 3.0 per cent of non-casual employees.

Minimum wage employment is much more prevalent in small businesses. In the EEH while just 2.6 per cent of employees in businesses with 20 or more employees are paid around the minimum wage, this increases to 9.1 per cent in those with under 20 employees.

⁴³ This differential almost entirely disappears if the higher margin of 10 per cent is used as the cut off. At this point the respective male and female rates of minimum wage employment are 5.97 per cent and 5.95 per cent. Section 3.3.2 considers gender and the incidence of the minimum wage in more detail.

Table 1 Composition of employees paid at or below the minimum wage, by gender, EEH, May 2010

	Number			Proportion		
	Male	Female	Persons	Male	Female	Persons
	-persons-			-%-		
Full-time non-Casual below	48,918	34,338	83,256	1.2	0.8	1.0
Full-time non-Casual at	29,985	18,601	48,586	0.8	0.5	0.6
Full-time non-Casual above	2,905,818	1,948,034	4,853,852	73.2	47.4	60.1
Full-time Casual below	4,806	2,621	7,427	0.1	0.1	0.1
Full-time Casual at	9,088	4,192	13,280	0.2	0.1	0.2
Full-time Casual above	152,329	70,577	222,906	3.8	1.7	2.8
Part-time non-Casual below	14,269	17,356	31,625	0.4	0.4	0.4
Part-time non-Casual at	14,649	21,118	35,767	0.4	0.5	0.4
Part-time non-Casual above	308,693	1,220,248	1,528,941	7.8	29.7	18.9
Part-time Casual below	19,917	16,732	36,649	0.5	0.4	0.5
Part-time Casual at	30,567	47,375	77,942	0.8	1.2	1.0
Part-time Casual above	428,347	709,509	1,137,856	10.8	17.3	14.1
Total (excl Junior and Managers)	3,967,386	4,110,701	8,078,087	100.0	100.0	100.0
Subtotals						
Full-time at or below	92,797	59,752	152,549	2.3	1.5	1.9
Part-time at or below	79,402	102,581	181,983	2.0	2.5	2.3
Casual at or below	64,378	70,920	135,298	1.6	1.7	1.7
Non-casual at or below	107,821	91,413	199,234	2.7	2.2	2.5
All at or below	172,199	162,333	334,532	4.3	3.9	4.1
Managers (a)	270,371	116,136	386,507			
Junior rate (b)	253,826	249,634	503,460			
Total (c)	4,491,583	4,476,471	8,968,054			

at = being paid up to 105 per cent of the FMW (\$543.78 pw, \$14.31ph) with an adjustment of 20% for employees paid a casual loading.

below = being paid less than 50 per cent of the FMW with an adjustment of 20% for employees paid a casual loading

- (a) Managerial staff are excluded because data on their hours of work are not collected in the survey.
- (b) Those paid at junior rates are excluded as the survey does not collect the age of these employees and hence it is not possible to derive appropriate age specific levels of the minimum wage for this group.
- (c) While the ABS caution that the EEH is not well designed to generate estimates of employees, the 4,491,583 male employees compare with an estimate of 5,107,500 male employees in sectors other than Agriculture in the May 2010 Labour Force Survey, while the 4,476,471 females compares with the Labour Force Survey estimate of 4,567,600. There is no clear explanation for this discrepancy.

Source: Derived from the ABS 2010 Employee Earnings and Hours, Expanded CURF

More detailed information on firm size is available in the HILDA survey as shown in Table 2. While these data are not directly comparable with the estimates from the EEH as they estimate that 9.1 per cent of all adult employees are paid the minimum wage, they show an even more marked pattern by firm size.

Table 2 Adult Minimum wage employment by workplace size, HILDA 2011

Employees in workplace	Employment		Distribution of FMW(a)	Distribution of other(a)	Prop'n on FMW	
	FMW	Other				Total
	- Persons -			- % -		
2 to 4	95,312	489,342	584,654	12.2	6.3	16.3
5 to 9	169,643	786,484	956,127	21.7	10.1	17.7
10 to 19	123,105	923,933	1,047,038	15.8	11.9	11.8
20 to 49	121,175	1,431,488	1,552,663	15.5	18.4	7.8
50 to 99	73,766	1,056,275	1,130,041	9.5	13.6	6.5
100 to 199	65,799	867,547	933,346	8.4	11.2	7.0
200 to 499	26,814	812,616	839,430	3.4	10.5	3.2
500 or more	44,690	1,260,258	1,304,948	5.7	16.2	3.4
Total (b)	780,075	7,760,809	8,540,884	100.0	100.0	9.1

(a) Excludes those for whom workplace size is not known

(b) Total includes persons reporting they were a sole employee and records where data on workplace size was not reported.

Source: HILDA – derived from Wave 11 'In Confidence' release

In very small workplaces, that is those with 2 to 4 staff, 16.3 per cent of employees are in receipt of the minimum wage, with this rising to 17.7 per cent for those with 5 to 9 staff in the workplace and declining to 11.8 per cent for those with 10 to 19 staff. While workplaces with 2 to 19 staff employ 30.3 per cent of all employees, they account for 49.7 per cent of minimum wage employees. Less detailed data is available on actual firm size, as opposed to workplace size. Excluding people working in a workplace by themselves and who are not part of a multi-workplace firm, 19.4 per cent of people working for a firm with fewer than 20 employees are estimated to be minimum wage workers, with this declining to 9.8 per cent for firms with 20 to 99 employees, 5.7 per cent for those with 100 to 499, and 5.2 per cent for those with 500 or more. Those working for firms with less than 20 employees account for 39.8 per cent of those minimum wage employees for whom a firm size is known

The EEH also includes information on the wage setting arrangements under which people are employed. This shows that minimum wage employment is most frequent where people work under 'Award Only' employment arrangements where 11.5 per cent of employees work at these rates, and where people work under 'Unregistered Individual Agreements', 4.2 per cent. At 1.8 per cent it is relatively rare in where people are employed under 'Registered Collective Agreements'.

Data from HILDA, which as noted above estimates a much higher incidence of minimum wage employment (9.1 per cent of employees) provides some details by the nature of the employer. Using this source indicates a substantially above average rate of minimum wage employment, 12.3 per cent, in the not for profit sector and a lesser, but still above average rate of 10.7 per cent in the private for profit sector. Below average rates of minimum wage employment (6.4 per cent) were reported by people employed in Government business enterprises and the rate was 3.8 per cent in other Government organisations.

3.1.1 Estimates derived from household surveys

The ABS Survey of Income and Housing and the HILDA survey are both frequently used for the analysis of income and earnings, and both are used here. The estimated proportion of employees

working for the minimum wage as derived from each of these surveys is shown in Table 3, along with estimates derived from the EEH.

Table 3 Estimated number of adults in receipt of the minimum wage, SIH, HILDA and EEH

Full-time (FT)/ Part-time (PT) status and wage rate	SIH 2009/10		HILDA 2011		EEH 2010	
	Excluding Loading	Including loading for all PT (a)	Up to 105% of FMW	Up to 110% of FMW	Up to 105% of FMW	Up to 110% of FMW
Number of Adult employees						
FT less than FMW(b)	53,245	53,245	29,758	29,758	90,683	90,683
PT less than FMW	46,975	60,733	72,260	72,260	68,274	68,274
Total less than FMW	100,220	113,978	102,018	102,018	158,957	158,957
FT FMW (c)	286,621	286,621	294,220	366,776	61,866	119,318
PT FMW	352,858	780,219	383,837	518,006	113,709	202,935
Total at FMW	639,479	1,066,840	678,057	884,782	175,575	322,253
Total paid at or below	739,699	1,180,818	780,075	986,800	334,532	481,210
FT paid above	2,010,925	1,569,806	5,866,307	5,793,751	2,666,797	2,577,571
PT paid above	5,988,419	5,988,419	1,894,502	1,760,333	5,076,758	5,019,306
Total (d)	8,739,043	8,739,043	8,540,884	8,540,884	8,078,087	8,078,087
Proportion of adult employees (- % -)						
FT less than FMW(b)	0.6	0.6	0.3	0.3	1.1	1.1
PT less than FMW	0.5	0.7	0.8	0.8	0.8	0.8
Total less than FMW	1.1	1.3	1.2	1.2	2.0	2.0
FT FMW (c)	3.3	3.3	3.4	4.3	0.8	1.5
PT FMW	4.0	8.9	4.5	6.1	1.4	2.5
Total at FMW	7.3	12.2	7.9	10.4	2.2	4.0
Total paid at or below	8.5	13.5	9.1	11.6	4.1	6.0
FT paid above	23.0	18.0	68.7	67.8	33.0	31.9
PT paid above	68.5	68.5	22.2	20.6	62.8	62.1
Total (d)	100.0	100.0	100.0	100.0	100.0	100.0

(a) Includes a 20 per cent casual loading on the FMW for all part-time employees

(b) For the SIH and HILDA employees earning less than 50 per cent of the FMW has been used, for the EEH employees earning less than 95 per cent of the FMW has been used. This differential approach to the margin takes account of the less accurate reporting of hours and earnings in household surveys.

(c) For the SIH employees earning up to 110 per cent of the FMW, for HILDA and the EEH, persons earning up to 105 and 110 per cent of the FMW to address potential errors in reporting.

(d) SIH and HILDA Adult (aged over 21) wage and salary earners excluding those with zero reported income, and for HILDA those employed in their own incorporated businesses, for EEH all persons excluding those paid junior rates and managers, excludes employees in Agriculture, self-employed and household employees.

Source: EEH - Derived from the ABS 2010 Employee Earnings and Hours, Expanded CURF; SIH - Derived from ABS 2009-10 Survey of Income and Housing, HILDA - derived from Wave 11 In confidence release

In the table two estimates are given for each of the surveys. For the EEH and for HILDA⁴⁴ these relate to different margins for the cut-off used to define who is classified as working at the minimum wage. (Whether to include those reporting earnings 5 per cent above the minimum wage as minimum wage employees, or to use a greater margin of 10 per cent.) In the case of the SIH both estimates use a 10 per cent margin, but differ in the treatment of the 20 per cent casual loading. The reason for this is that in the available data from this survey, in contrast to the EEH and HILDA, there is no indicator of whether or not a person is employed on a casual basis. As such it is not clear where provision needs to be made for the casual loading. The table shows the sensitivity of the estimates to assumptions around this. Where the loading is included for all part-time employees⁴⁵ the number estimated to be paid at the FMW more than doubles.

Given the sensitivity of the SIH to the assumption made in this respect, while the HILDA survey is less suited to some aspects of household analysis⁴⁶ of the role of the minimum wage, it has been used in the following analysis. It has also been decided to use the range of up to 105 per cent of the minimum wage to define minimum wage employees, rather than the 110 per cent which has been used in some studies. The reason for this is that the higher margin draws in a considerable number of jobs which, while 'low paid', are more highly classified and recognise additional skills or responsibilities. This can be seen in Appendix 3 which contains some extracts from awards and enterprise agreements⁴⁷.

In this analysis a further advantage of HILDA is that it permits some analysis of the role of the minimum wage for people aged under 21 years, something which is not possible with the EEH and is even more problematic with the SIH because of the role of part-time employment for this age group. This is presented in Attachment B. While this analysis does provide some insight caution needs to be exercised because of the role of specific agreements giving access to rates of pay at particular ages. In summary the analysis shows that 30.5 per cent of these young employees are paid at, or below, their estimated, age specific, minimum wage. When added to adult minimum wage employees, the total number of minimum wage workers increases to almost 1.1 million with these young minimum wage workers accounting for 28.9 per cent of all persons employed at the minimum wage. The total rate of minimum wage employment increases to 11.5 per cent. Over 90 per cent of these young minimum wage workers live at home with their parents. This group comprises students living with

⁴⁴ This paper uses unit record data from the Household, Income and Labour Dynamics in Australia (HILDA) Survey. The HILDA Project was initiated and is funded by the Australian Government Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) and is managed by the Melbourne Institute of Applied Economic and Social Research (Melbourne Institute). The findings and views reported in this paper, however, are those of the author and should not be attributed to either FaHCSIA or the Melbourne Institute.

⁴⁵ As seen earlier in the detailed data from the EEH, some 37.4 per cent of minimum wage employees are employed on a casual basis. This group comprises 68.5 of part-time minimum wage employees and 13.5 per cent of those who work full-time. In effect the assumption assumes that all of the part-time, but none of the full-time, employees are employed on a casual basis.

⁴⁶ Whereas the SIH provides contemporary estimates of household disposable income and current earnings, HILDA generates current earnings at the time of the survey (typically the last quarter of the calendar year), but only has previous financial year estimates of household disposable income.

⁴⁷ One reason for using a higher tolerance is the potential problem of 'heaping' in survey responses. This typically involves people reporting income in terms of the nearest \$100, or hours worked per week on multiples of five hours, or multiples of 8 hours. Analysis of the HILDA data indicates the presence of this phenomenon. The question considered here is whether this type of mis-reporting introduces any bias into estimates of minimum wage employment. This testing has been restricted to those working under 38 hours per week and reporting incomes under \$699 per week. Statistical testing at a 95 per cent confidence level does not suggest any bias in estimates of the incidence of minimum wage employment in terms of reported hours of work, for those reporting in multiples of 8 and 10 hours relative to those reporting other values. While there is not a significant difference in terms of multiples of \$25 or other values (except for multiples of \$100), those reporting incomes in multiples of \$100 per week had a statistically significant higher likelihood of being identified as being on the minimum wage (45.2 per cent) than those reporting continuous values (34.2 per cent). Those reporting earnings in multiples of \$25 have a lower, 28.0 per cent, probability of being identified as being minimum wage workers. Although this suggests there is some mis-estimation of the incidence of minimum wage employment as a consequence of heaping, it can be suggested that it is unlikely to seriously bias the overall population results.

their parents and working part-time, and a smaller group of other, non-dependent, children who may or may not be studying. Most of this latter group, 69.5 per cent, work full-time.

Returning to the adult population the estimated number of employed persons paid wages at or below the minimum wage generated by HILDA is 133.2 per cent larger than the population identified in the EEH, while the proportion of employed persons identified as being on the minimum wage of 9.1 per cent is more than double the estimate of 4.1 per cent in the EEH. When the higher level of tolerance (that is up to 110 per cent of the minimum wage) is applied to both surveys HILDA generates an estimated rate of minimum wage employment of 11.6 per cent, some 105 per cent higher than the 6.0 per cent derived from the EEH. While the higher HILDA estimate may in part be a consequence of the wider population included in HILDA especially industry sectors such as agriculture, and potentially the inclusion of informal employment, such explanations do not appear to account for the whole of the difference. A substantial probability is that a further contribution is made through reporting errors, either about the wages received, or for part-time employees, about the hours they work.⁴⁸

While this lack of consistency in estimates of the number of minimum wage employees is unfortunate, there are few other options available than to utilise these disparate sources, and to treat all estimates with caution. Section 3.4 considers the distribution of 'near minimum wage' employment in more detail.

One distinct difference in the results from these two sources is that while the EEH reports that a higher proportion of males (4.3 per cent) relative to women (3.9 per cent) are employed at or below the minimum wage, this position is reversed in the HILDA data which indicates that 7.0 per cent of men and 11.6 per cent of women are employed on these rates.

3.2 Which jobs pay the minimum wage

By industry there is a strong concentration of minimum wage employment in the 'accommodation and food services sector' where, using data from the EEH, 11.8 per cent of employees are paid around the minimum wage. Other concentrations include: 'administrative and support services', 8.2 per cent; 'other services', 7.6 per cent; and 'construction', 7.2 per cent. There were also higher than average rates in: 'retail trade', 5.9 per cent; 'rental hiring and real estate', 5.3 per cent; and 'manufacturing', 5.1 per cent.

The occupational classifications in which employees were most frequently paid the minimum wage, see Table 4, are: 'farm, forestry and garden workers' where 20.6 per cent are identified as being minimum wage employees; 'food preparation assistants', 17.5 per cent; 'factory process workers', 15.5 per cent; 'food trades workers', 13.0 per cent; 'hospitality workers', 10.4 per cent; and 'construction trades workers', 10.0 per cent. The occupations accounting the largest proportion of such workers are: 'factory process workers' with 12.0 per cent of all minimum wage employees in this occupation; 'sales assistants and salespersons', 8.2 per cent; 'hospitality workers', 7.3 per cent; 'food preparation assistants', 5.6 per cent; and 'cleaners and laundry workers', 5.3 per cent.

Some of these occupational groups can be broken down into more detailed occupations. Amongst the 'construction trades', 11.2 per cent of 'bricklayers' are minimum wage employees as are 10.6 per cent of 'glaziers'. These results would suggest that while the occupational classifications refer to 'trades workers' they include a substantial number of non-trades employees. A similar range of

⁴⁸ In making these estimates the wage rate is calculated on an hourly basis for part-time employees and hence is affected by both reported earnings and hours. For full-time workers the comparison is based on earnings alone, without reference to the number of hours people have reported working.

Table 4 Incidence and Composition of employees (excluding part-time managers and those on junior rates) paid at or below the minimum wage, by Occupation, EEH 2010

Occupation (a)	Number receiving FMW (b)	% of employees on FMW	% of FMW employees
Chief Executives, General Managers and Legislators	319	0.5	0.1
Farmers and Farm Managers	0	0.0	0.0
Specialist Managers	1,250	0.3	0.4
Hospitality, Retail and Service Managers	2,245	1.4	0.7
Arts and Media Professionals	1,226	3.9	0.4
Business, Human Resource and Marketing	2,697	0.6	0.8
Design, Engineering, Science and Transport	1,358	0.7	0.4
Education Professionals	876	0.2	0.3
Health Professionals	1,411	0.4	0.4
ICT Professionals	1,256	1.0	0.4
Legal, Social and Welfare Professionals	5,099	4.7	1.5
Engineering, ICT and Science Technicians	807	0.4	0.2
Automotive and Engineering Trades Workers	6,458	2.9	1.9
Construction Trades Workers	9,416	10.0	2.8
Electrotechnology and Telecommunications Trades	9,972	8.3	3.0
Food Trades Workers	13,011	13.0	3.9
Skilled Animal and Horticultural Workers	3,253	5.1	1.0
Other Technicians and Trades Workers	8,082	8.0	2.4
Health and Welfare Support Workers	1,794	1.1	0.5
Carers and Aides	15,564	3.8	4.7
Hospitality Workers	24,409	10.4	7.3
Protective Service Workers	1,050	0.8	0.3
Sports and Personal Service Workers	6,850	6.0	2.0
Office Managers and Program Administrators	4,162	1.4	1.2
Personal Assistants and Secretaries	2,238	2.3	0.7
General Clerical Workers	13,608	4.5	4.1
Inquiry Clerks and Receptionists	12,319	4.2	3.7
Numerical Clerks	4,158	1.5	1.2
Clerical and Office Support Workers	3,109	4.5	0.9
Other Clerical and Administrative Workers	3,784	1.8	1.1
Sales Representatives and Agents	5,863	4.0	1.8
Sales Assistants and Salespersons	27,479	7.7	8.2
Sales Support Workers	15,417	7.0	4.6
Machine and Stationary Plant Operators	4,826	2.7	1.4
Mobile Plant Operators	2,617	3.0	0.8
Road and Rail Drivers	9,347	4.6	2.8
Storepersons	3,142	3.1	0.9
Cleaners and Laundry Workers	17,627	7.7	5.3
Construction and Mining Labourers	3,692	3.9	1.1
Factory Process Workers	40,094	15.5	12.0
Farm, Forestry and Garden Workers	10,949	20.6	3.3
Food Preparation Assistants	18,712	17.5	5.6
Other Labourers	12,986	6.3	3.9
All Occupations	334,532	4.1	100.0

(a) Occupation sub-major groups (2 digit ANZSCO 1st edition)

(b) Persons being paid at or under the FMW (plus 5%) adjusted for casual employment

Source: Derived from the ABS 2010 Employee Earnings and Hours, Expanded CURF

outcomes can be seen for the 3.8 per cent of 'carers and aides' who are paid the minimum wage. Within this broad classification 11.3 per cent of those employed as a 'carer or aide' in the child care industry are identified as being on the minimum wage. In contrast, for those classified as

‘educational aides’ or ‘personal aides’ the incidence is just 1.9 per cent and 1.4 per cent respectively. Surprisingly, given the reputation of the sector, only 3.2 per cent of ‘call or contact centre information clerks’ are reported as earning at or below the minimum wage.

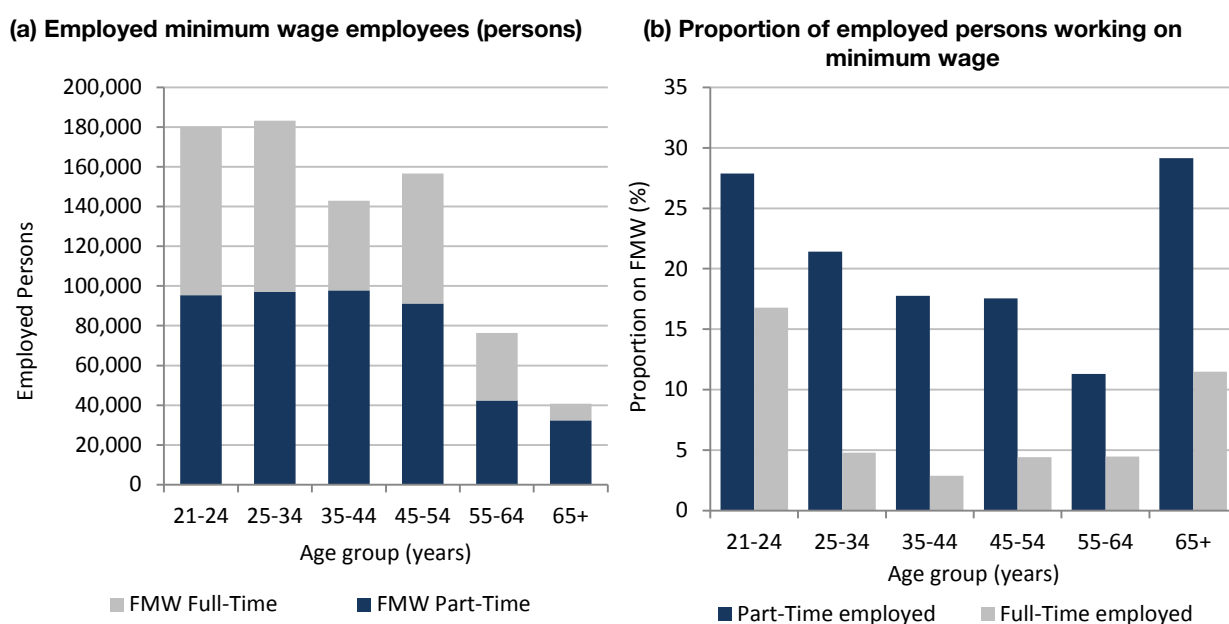
3.3 Characteristics of minimum wage workers

As the data from the EEH is derived from employers’ payrolls this survey does not provide much information on the characteristics of minimum wage workers. Rather this information needs to be drawn from household surveys. As discussed previously the main source which will be used is Wave 11 of the HILDA survey which provides information on employment characteristics at end 2011, and minimum wage employment is defined as employment at or below 105 per cent of the minimum wage, taking into account a casual loading of 20 per cent for those employed on a casual basis. Unless otherwise indicated, the data relates to minimum wage workers aged 21 years and over.

3.3.1 Age

Minimum wage employment is distributed across the age spectrum. Indeed, as shown in Figure 5, broadly similar numbers of people are employed in the age group from 21 to 24 years, and in the 10 year groupings up to and including age 54 years.

Figure 5. Adult minimum wage employees by age, HILDA 2011



Source: HILDA – derived from Wave 11 ‘In Confidence’ release

The rate of minimum wage employment shows a U shaped distribution, being highest amongst the young and amongst older workers. For those aged 21 to 24 years 27.9 per cent of part-time and 16.8 per cent of full-time jobs were paid at the minimum wage. The lowest rate of minimum wage employment for full-time employees was 2.9 per cent for those aged 35-44 years, and the lowest rate of part-time employees was in the 55-64 year age group at 11.3 per cent. While the rate of minimum wage employment was high for the 65 year and over age group, as can be seen in the first panel, this group only accounts for a small proportion of minimum wage employment – 7.1 per cent of the part-time employment and 2.6 per cent of the full-time employment

3.3.2 Gender

The differences in the estimated levels of minimum wage employment by gender derived from the different data sources have been noted earlier. Table 5 examines this further using the same categories as used in Table 3.

Table 5 Minimum wage employees by gender, comparative estimates SIH, HILDA and EEH

	Male			Female			Prop'n
	FMW - Persons -	Total	Prop'n FMW - % -	FMW - Persons-	Total	Prop'n FMW - % -	FMW female - % -
SIH 2009/10							
Excluding Loading	313,442	4,670,146	6.7	426,257	4,068,897	10.5	57.6
Including Loading	416,940	4,670,146	8.9	763,878	4,068,897	18.8	64.7
HILDA 2011							
Up to 105% of FMW	314,686	4,520,593	7.0	465,389	4,020,291	11.6	59.7
Up to 110% of FMW	397,123	4,520,593	8.8	589,677	4,020,291	14.7	59.8
EEH 2010							
Up to 105% of FMW	172,199	3,967,386	4.3	162,333	4,110,701	3.9	48.5
Up to 110% of FMW	230,913	3,967,386	5.8	240,258	4,110,701	5.8	51.0

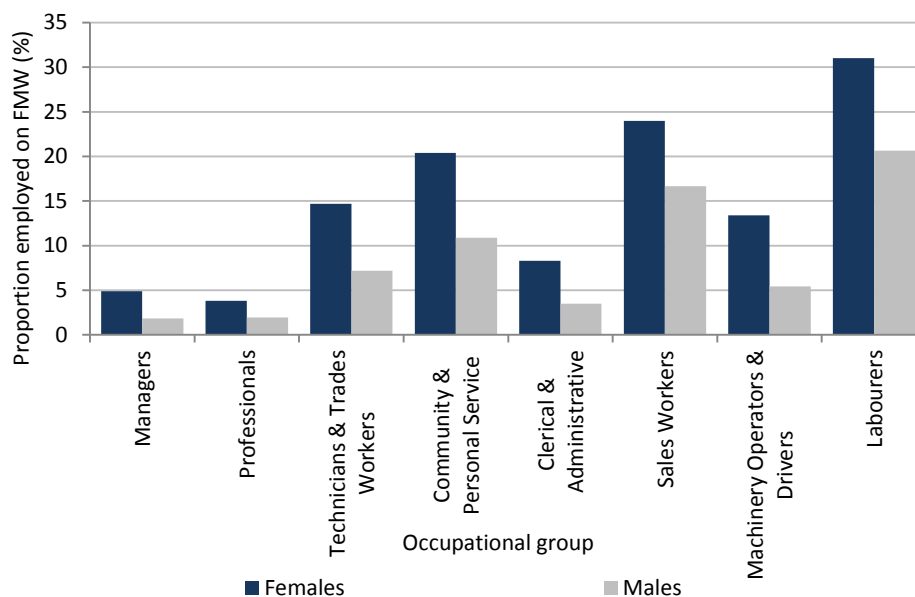
Notes: As per Table 3 on p22

This table clearly shows the higher rate of minimum wage employment recorded in household based surveys, in particular for women. While both the SIH and the EEH show a higher proportion of women being identified as minimum wage workers, when the 'wider' measure is used this is not the case with HILDA.

The estimated share of minimum wage employment undertaken by women also varies across age groups. Using HILDA data women account for 41.6 per cent of minimum wage employees aged 21-24 years. This share increases to reach a peak of 79.6 per cent for those aged 45-49 year. In this age group 12.3 per cent of employed women are identified as earning the minimum wage, compared with just 3.2 per cent of the men. After this peak the share of minimum wage work undertaken by women declines until equal numbers of men and women are recorded as working for the minimum wage in the 65 year and over group.

By major occupational groups, while the broad pattern of the relative incidence of the minimum wage is similar for men and women in that there were higher rates of minimum wage employment by people employed as labourers, sales workers and as community and personal service workers, there were also some differences. This can be seen Figure 6, and can be considered by looking at the ratio of incidence. Whereas employed women across all occupations were 1.7 times more likely to be minimum wage employees than men, this rose to 2.7 times for those employed as a manager. Women employed as machinery operators and drivers were 2.5 times more likely than males in this grouping to be paid the minimum wage, with a similar rate, 2.4 times, for clerical and administrative staff. The lowest ratio was in sales workers – where 24.0 per cent of women were working for the minimum wage compared with 16.7 per cent of men – giving a ratio of 1.4.

Figure 6. Broad industry sector, proportion of adult employees on minimum wage by gender, HILDA 2011



Source: HILDA – derived from Wave 11 ‘In Confidence’ release

Male minimum wage employees were more likely to be employed in agriculture (5.3 per cent of male minimum wage workers compared with 2.4 per cent of women), manufacturing (11.6 per cent compared to 3.2 per cent), construction (8.2 per cent compared with 0.9 per cent) and transport and storage (5.9 per cent compared to 1.5 per cent). In contrast while 21.5 per cent of women on the minimum wage were employed in health care and social assistance, only 6.2 per cent of male minimum wage workers were. This was also the case in retail trade (17.8 per cent compared with 12.0 per cent), education and training (9.0 per cent compared with 4.6 per cent) and to a much lesser degree accommodation and food services (15.8 per cent compared with 12.8 per cent).

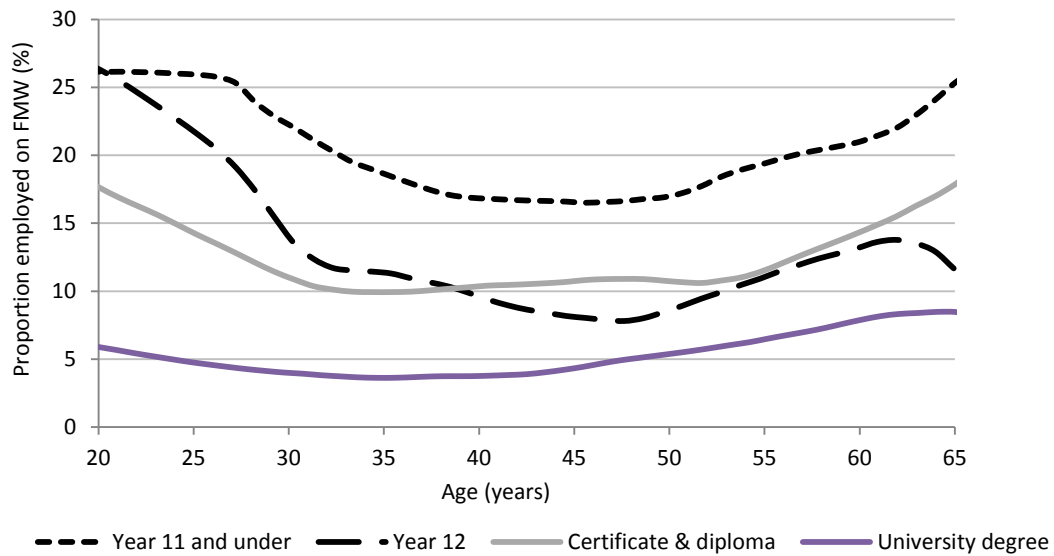
3.3.3 Education

There is a strong relationship between levels of educational attainment and minimum wage employment. Across all adult employees aged 25 years and over⁴⁹ 14.0 per cent of those with Year 11 or lower as their highest level of education received the minimum wage. This fell to 8.7 per cent for those with Year 12 as their highest level of education and to 4.5 per cent for those with a degree. The rate for those with a certificate or diploma was 8.0 per cent.

These rates show marked differences by age, see Figure 7. For most education levels the U shaped relationship with age is again present although it is much shallower. For example for people with Year 11 or lower as their highest level of education, it only falls from a peak of around 27 per cent to a low of 17 per cent. For those with a university degree it is at or below 5 per cent for most age groups before rising to some 8 per cent around age 60 years – potentially reflecting some low wage post retirement employment.

⁴⁹ The population has been restricted to those aged 25 years and over to minimise the distorting effect of including current students.

Figure 7. Persons by age and highest level of educational attainment, proportion of employed persons in receipt of the minimum wage, HILDA 2011



Note: Series smoothed by a local polynomial using a bandwidth of 5 years.

Source: HILDA – derived from Wave 11 ‘In Confidence’ release

The pattern for those with Year 12 as their highest level of education is the most distinctive. This is likely to reflect a number of disparate factors. The initial high levels of minimum wage employment may reflect people who are still in education, as well as those in the process of establishing themselves in the workforce. The lesser increase with age in the second part of the distribution may be a result of a cohort effect and the differences in levels of educational achievement across the age distribution. That is people in these older cohorts were less likely to have obtained tertiary education, but still progressed in careers without this.

3.3.4 Family composition

Most (51.8 per cent) adult minimum wage workers identified in HILDA are members of couples, although as illustrated in Table 6, the highest rates of incidence of receipt are amongst: adult dependent students, 22.2 per cent of whom receive pay rates around the minimum wage; other adult children living at home with their parents, 19.3 per cent of whom are minimum wage employees; and employed lone parents, 13.3 per cent of whom are paid at or below the minimum wage.

Table 6 Family composition of adult minimum wage workers, HILDA 2011

	Position in household:					Total	
	Member of a couple		Lone parent	Dependent student aged 21 years and over	Other child aged 21 years and over		Other person aged 21 years and over (a)
	With dependents	No dependents					
- persons -							
FT less than FMW(b)	4,654	7,191	3,520	0	5,757	8,636	29,758
PT less than FMW	8,229	7,924	6,095	2,833	24,632	22,547	72,260
FT FMW	71,786	72,002	18,612	0	87,426	44,394	294,220
PT FMW	116,683	115,935	35,497	28,062	34,536	53,124	383,837
<i>Total Paid at or below</i>	201,352	203,052	63,724	30,895	152,351	128,701	780,075
PT Paid above	735,312	518,176	154,905	108,478	108,508	269,123	1,894,502
FT Paid above	2,173,136	1,813,477	259,931	0	526,497	1,093,266	5,866,307
Total (c)	3,109,800	2,534,705	478,560	139,373	787,356	1,491,090	8,540,884
- % -							
Proportion of employed at or below the FMW	6.5	8.0	13.3	22.2	19.3	8.6	9.1
Distribution of minimum wage employees	25.8	26.0	8.2	4.0	19.5	16.5	100.0

(a) Includes single person households

(b) Paid less than 50% FMW

(c) Adult (aged over 21) wage and salary earners excluding those with zero reported income and employed in their own incorporated businesses

Source: HILDA – derived from Wave 11 ‘In Confidence’ release

The circumstances of minimum wage earner couples are presented in Table 7. In this there are 371,190 households where at least one member of the couple is on the minimum wage. However, only a little more than a quarter of these, 27.6 per cent, is reliant upon minimum wage employment only. Furthermore in around half of these cases the couple comprises one member working part-time on the minimum wage and the other is not employed.

Across all of these couples with at least one person in receipt of the minimum wage the most common situation is one member of the couple working full-time at a wage above the minimum wage, while their partner works part-time in a minimum wage job (32.5 per cent). This is followed by both partners working full-time, one on the minimum wage and one at a higher rate (17.2 per cent). Only 10.0 per cent of couples with at least one person employed at the minimum wage have a single full-time breadwinner, and these couples represent just 0.9 per cent of all couple households with employment. Of these there are only around 19,600 couple families with dependent children aged under 15 years with a single full-time minimum wage breadwinner – the archetypical ‘Harvester’ family. These account for just 1.1 per cent of couple families with dependent children under 15 years. As was previously seen in Table 6 there is an equal number (18,600) of lone parent households with dependent children with a full-time minimum wage worker.

Table 7 Couples with at least one member employed incidence and type of minimum wage employment, HILDA 2011

Employment status of Person 1: Person 2 (a) (FT: Full-time, PT: Part-time, FMW: Earning at or below the FMW, Above: Earns more than FMW) (b)	Family type of couple (b)				Total	Composition of couples with at least one minimum wage employee
	With dependent child under 15	With dependent student	With non-dependent children	Couple only		
	- persons -					- % -
FT FMW : FT FMW	0	0	0	1,703	1,703	0.5
FT FMW : PT FMW	2,455	979	0	3,260	6,694	1.8
PT FMW : PT FMW	0	1,905	0	368	2,273	0.6
FT FMW : FT above	18,572	8,354	6,153	30,676	63,755	17.2
FT FMW : PT above	3,165	1,244	1,238	5,426	11,073	3.0
PT FMW : FT above	52,533	21,019	8,546	38,378	120,476	32.5
PT FMW : PT above	3,878	0	881	20,336	25,095	6.8
FT FMW : Other employed(c)	8,564	5,831	2,460	5,930	22,785	6.1
PT FMW : Other employed	11,989	6,304	1,648	5,778	25,719	6.9
FT FMW : Not employed	19,600	4,319	1,054	12,087	37,060	10.0
PT FMW : Not employed	16,006	1,169	12,234	25,148	54,557	14.7
Total with at least one FMW	136,762	51,124	34,214	149,090	371,190	100.0
Other with employed person	1,620,033	410,784	274,007	1,257,487	3,562,311	
	- % -					
Proportion with at least one FMW	8.4	12.4	12.5	11.9	10.4	
Distribution of those with at least one FMW	36.8	13.8	9.2	40.2	100.0	

(a) Person 1/Person 2 simply describes the two members of the couple in terms of the combination of income types. They have been designated as being Person 1 or Person 2 on the basis of being the first member of the couple to be coded in the following sequence: Full-time employment on the minimum wage, part-time employed paid the minimum wage, full-time paid above the minimum wage, part-time paid above the minimum wage, other employed and not employed. Because a small number of households include more than one couple and only the lowest two ranked under this hierarchy are used for the classification of earner type. This may tend to overestimate the degree of minimum wage employment.

(b) In this table persons on the minimum wage include persons aged under 21 years who are a member of a couple. The minimum wage status for these people is based on the age specific minimum wage applicable to them. However as some awards and agreements provide for the full-adult wage to be paid at earlier ages this approach may underestimate the number of people on the appropriate minimum wage.

(c) Hierarchical coding, couples with a dependent child under 15, couples with no dependent child under 15 but with at least one dependent student, couples with neither a dependent child under 15, or a dependent student, but with other children living at home; and those with no children living at home.

(d) Individuals identified in HILDA as being employed, but in receipt of junior wages, business income etc.

Source: Derived from HILDA Wave 11 'In Confidence' data set.

Given these results a broad picture emerges of minimum wage employment being largely a secondary income for couple households and little evidence of the existence of the model upon which the family based minimum wage was established.

3.3.5 The minimum wage and household income

Since the primary interest in the minimum wage is on its role in providing adequate income to low income households, this has been a focus of research in Australia (Richardson 1998, Healey and Richardson 2006, McGuinness, Freebairn and Mavromaras 2007) and overseas (Gramlich 1976, Card and Krueger 1995 – chapter 9 and Neumark and Wascher 2010 – chapter 5.) Underlying this is the question of the role of the minimum wage as an 'anti-poverty' strategy. A common finding from these studies is that minimum wage employees are widely spread across households of differing income

levels, although different authors draw different conclusions about the relevance of this to the case for a minimum wage. This section provides an analysis of the household distribution of adult minimum wage workers in the 2011 HILDA survey.

Table 8 Distribution of minimum wage earners by income quintile, HILDA 2011

Minimum wage status (b)	Equivalised annual household disposable income - all Households (a)					Total
	1 Bottom	2	3	4	5 Top	
- % -						
Distribution of adult employees						
FT FMW	18.3	24.0	25.7	21.1	11.0	100.0
PT FMW	23.2	27.5	22.2	16.1	11.1	100.0
All FMW	21.1	26.0	23.6	18.1	11.1	100.0
Employed persons	6.2	15.1	21.4	27.2	30.1	100.0
Distribution of all employees (including youth)						
FT FMW(b)	17.4	26.0	25.0	20.2	11.4	100.0
PT FMW	21.2	25.9	21.8	16.6	14.5	100.0
All FMW	19.7	25.9	23.0	18.0	13.3	100.0
Employed persons	7.0	15.7	21.6	26.8	28.9	100.0

(a) Previous financial year household disposable (after tax) income, equivalised using revised OECD scale (1.0 for first adult, 0.5 for subsequent adults and 0.3 for children aged under 15 years).

(b) FMW indicates persons working at or below 105 per cent of the minimum wage.

Source: Derived from HILDA wave 11 'In Confidence' data set.

Table 8 shows the relative distribution of full and part-time employed minimum wage workers, and those paid more than the minimum wage, across all households ranked into quintiles (20 per cent groupings) of equivalised⁵⁰ household disposable income over the 2010-11 financial year⁵¹. This shows that only 18.3 per cent of full-time adult minimum wage earners live in the poorest 20 per cent of the Australian population, with the largest concentration being in the third quintile (25.7 per cent) and second quintile (24.0 per cent). Some 11.0 per cent of adult full-time minimum wage workers are in the highest quintile. Part-time adult minimum wage earners are more heavily concentrated in the lower two quintiles, 23.2 per cent and 27.5 per cent respectively, with again more than 10 per cent in the highest.

Notwithstanding the pattern of distribution of minimum wage employment across the income distribution, when this is compared with the distribution of all employment it is clear that the relative level of minimum wage employment is disproportionately weighted towards lower income households.

If young people are also included in the analysis a broadly similar situation is seen, with the main difference being an increase in the proportion of part-time minimum wage employment in households in the fourth and fifth deciles. (As noted attachment A provides some more details on the experience of young people on the minimum wage.)

⁵⁰ Disposable income is total household income, including transfer payments, less taxes. Equivalisation involves dividing this net household income by a factor which takes account of the number and characteristics of people living in the household to gain an estimate of the relative level of income, taking into account needs.

⁵¹ Previous financial year income is used as household disposable income, that is taking full account of taxes and transfers, is only available on this basis in HILDA.

Clearly, on the basis of these results, it appears any attempt to improve the outcomes for those households with the lowest incomes through the minimum wage is likely to be relatively inefficient and not particularly effective.

This approach to analysis has been criticised for confounding households with earnings, with those reliant upon transfers. (That is since the lowest income households are dominated by those without employment it is to be expected that an increase in the income of those in employment would have little effect.) Table 9 hence simply looks at those households with some income from employment and excludes those wholly reliant upon transfers, with the quintiles being reset for this different population. Even here just 28.6 per cent of full-time adult minimum wage earners are in the poorest 20 per cent of these working households⁵², along with a slightly higher proportion, 32.1 per cent, of part-time minimum wage workers. (Because this analysis involves comparing current individual earnings with previous financial year household income there is a small residual group which cannot be classified since the household they live in did not have any wage and salary income in the previous year.)

Table 9 Distribution of adult minimum wage earners by income quintile, households with earned income, HILDA 2011

Minimum wage status (b)	Households with any earned income, equivalised disposable income quintile (a)					No previous year earnings (c)	Total
	1 Bottom	2	3	4	5 Top		
- % -							
Households with earned income from adult employment							
FT FMW	28.6	22.2	21.7	17.6	9.0	0.9	100.0
PT FMW	32.1	24.1	18.6	13.2	9.1	2.9	100.0
All FMW	30.7	23.3	19.9	15.0	9.1	2.1	100.0
Employed persons	11.6	17.2	20.7	23.9	25.9	0.8	100.0
Households with earned income from at least one full-time employee							
FT FMW	36.1	25.1	17.6	12.3	7.9	0.9	100.0
PT FMW	11.8	10.9	7.4	8.7	4.5	56.8	100.0
All FMW	21.9	16.8	11.6	10.2	5.9	33.5	100.0
Employed persons	11.8	14.7	17.6	19.8	21.6	14.4	100.0

(a) Previous financial year household disposable (after tax) income, equivalised using revised OECD scale (1.0 for first adult, 0.5 for subsequent adults and 0.3 for children aged under 15 years).

(b) FMW indicates persons working at or below 105 per cent of the minimum wage.

(c) Income quintiles are only constructed for those households with a full-time employee and some income from earnings in the previous year.

Source: Derived from HILDA Wave 11 'In Confidence' data set.

The second panel of Table 9 restricts the classified households to those with a full-time employee. Here the proportion of full-time minimum wage earners in the bottom quintile increases to 36.1 per cent. Again while the proportion decreases with the increasing income of each quintile, it can be seen that both full and part-time minimum wage employment persists into the higher income brackets even when households are restricted to those with at least one full-time earner. The high concentration of part-time minimum wage employment in the category which had no full-time employment income in the previous year highlights the extent to which part-time minimum wage employment is concentrated in households with no full-time employment.

⁵² The split into quintiles in these tables is based upon person weighted households rather than households per se. For presentational purposes the term households has been used.

Table 10 Couples, Distribution of adult minimum wage employment by income quintile, households with earned income, HILDA 2011

Minimum wage status (b)	Couple households with any earned income, equivalised disposable income quintile(a)					No previous year earnings(c)	Total
	1 Bottom	2	3	4	5 Top		
	- % -						
At least one FMW	32.0	28.8	16.8	13.8	5.8	2.8	100.0
No FMW	15.6	18.1	19.9	20.8	21.4	4.1	100.0

(a) Households with a couple only. Previous financial year household disposable (after tax) income, equivalised using revised OECD scale (1.0 for first adult, 0.5 for subsequent adults and 0.3 for children aged under 15 years).

(b) FMW indicates persons working at or below 105 per cent of the minimum wage.

(c) Income quintiles are only constructed for those households with some income from earnings in the previous year.

Source: Derived from HILDA Wave 11 'In Confidence' data set.

Table 10 considers couples, rather than individuals, and addresses the distribution of those couple households where at least one person was receiving the minimum wage either in full or part-time employment relative to all couple households with some earned income. Here it can be seen that almost a third, 32.0 per cent, of households with at least one person working on the minimum wage were in the bottom quintile of all working couple households. Although this is a disproportionate representation, the majority of these minimum wage receiving couples were in the second, third and fourth quintiles of working couples ranked by household income. Almost one in five of the couples with at least one member being a minimum wage employee are in the top two quintiles of these households by income.

Table 11 focuses on the distribution of income from minimum wage employment, rather than the distribution of people who are employed on the minimum wage. It shows the proportion of current household wage and salary income which is derived from the minimum wage, and the distribution of minimum wage income across households. The first panel considers income from adult minimum wage earners only, while the second includes those aged under 21 years. In both panels the quintiles of households are limited to those with some earnings from wage and salaries in the previous year. Households in the lowest quintile receive 29.9 per cent of their total income from adult minimum wage workers – and it represents some 12.9 per cent of these households' income from the wages and salaries of adult workers. In contrast, for example, some 15.2 per cent of income from minimum wage employment flows to households in the fourth decile. This represents just 1.8 per cent of these households' income. This pattern does not change appreciably when the scope of income is extended to include the earnings of those aged under 21 years, as illustrated in the final panel of the table.

Table 11 Income from minimum wage employment by income quintile, households with earned income, HILDA 2011

	All households with wage and salary income, Equivalised disposable income quintile(a)					No previous year earnings(b)	Total
	1 Bottom	2	3	4	5 Top		
- % -							
Distribution of earnings of adult minimum wage employees							
Min wage income as share of household earned income	12.9	5.4	3.6	1.8	0.7	0.7	3.0
Distribution of minimum wage income	29.9	23.1	21.9	15.2	8.4	1.5	100.0
Distribution of earnings of all minimum wage employees							
Min wage income as share of household earned income	14.3	6.3	4.5	2.2	1.0	4.4	3.6
Distribution of minimum wage income	28.7	22.7	22.2	15.1	10.1	1.2	100.0

(a) Previous financial year household disposable (after tax) income, equivalised using revised OECD scale (1.0 for first adult, 0.5 for subsequent adults and 0.3 for children aged under 15 years).

(b) Income quintiles are only constructed for those households with some income from earnings in the previous year.

Source: Derived from HILDA Wave 11 'In Confidence' data set.

In the review of young people receiving minimum wages presented in Appendix B, it is found that the distribution of these across households ranked by income varies between those working part-time and those working full-time. Young people working part-time and in receipt of the minimum wage are relatively evenly distributed across all quintiles of households with some income from earnings. Full-time junior employment on the minimum wage, in contrast, is more heavily weighted towards the bottom of the distribution with 30 per cent being in the lowest quintile, nevertheless some 12 per cent of this group are in each of the top two quintiles. This reinforces the picture seen above, that those people who earn incomes at or around the minimum wage, while at times over-represented in those households with the lowest incomes, are not primarily concentrated in such households. Rather they are distributed across a substantial part of the overall income distribution. To the extent there is some concentration in lower income households, for adult minimum wage employees, it is most marked amongst part-time workers. This indicates that the association between minimum wage employment and household income is as much a matter of their hours of work as of the rate of payment.

3.3.6 Minimum wages well-being and poverty

A frequent form of measuring well-being is through the use of income poverty lines. Most frequently these are 'relative' income poverty lines which define poverty in ways such as having an income below half of the median income of all households (after adjustment for household size and composition). As such these lines do not identify whether or not a household is having adverse outcomes, but rather a belief that having such a level of income is likely to make it difficult for the household to achieve an adequate standard of living relative to the community standard set by other households. Reflecting this, such measures of 'poverty' have, for example, been called 'at risk of poverty' measures by the EU. This language is adopted here.

An alternative approach to measuring material well-being is to identify whether or not a household or a person is experiencing financial stress or material deprivation. That is, rather than assuming, as do the poverty lines, that the level of income is inadequate to allow them to undertake particular activities, information on this is collected directly. A third approach combines both these methodologies to generate a measure of what is frequently termed 'consistent poverty', that is where a person not only has a low income relative to others, but also experiences some form of deprivation.

All three approaches are used here. Specifically the measures that have been utilised are:

- At risk of poverty. Two measures are used. The first is having (equivalised disposable) income less than 50 per cent of median (equivalised disposable) income of the community as a whole. The second uses a line set at 60 per cent of the median.
- Multiple financial stress and hardship. In the HILDA survey data are collected on four items which can be considered as representing hardship: having to sell or pawn something; being unable to heat one's home; having gone without meals; and having to ask for help from a welfare or community organisation. A further three items are collected on aspects more aligned with financial and cashflow problems: not being able to pay electricity, gas or telephone bills on time; asking for financial help from family or friends; and not being able to pay a mortgage or rent payment on time. The measure of multiple hardship used in the table is based on whether or not a person reports two or more of the hardship items. The measure of multiple stress is whether they report two or more of the seven items – that is either financial problems or hardship.
- Consistent poverty. This is based upon being both 'at risk of poverty' and having some experience of financial stress. Four measures are shown – these are a combination of the two different 'at risk of poverty' measures and whether a person has one or more, or two or more of the financial stressors or hardship outcomes.

In using these measures it has been necessary to assess being at risk of poverty and the incidence of deprivation on the basis of the person's experience in the 2010-11 financial year, while their employment and minimum wage status is based on when they were interviewed in late 2011. This, along with possible misreporting of income and the treatment of business and investment losses, does mean that there is some 'noise' in the estimates. This can be a problem in trying to define the absolute level of outcomes, but when the measures are used as relative measures between groups this does not introduce substantial bias.

Table 12 provides the incidence of each of these measures for the population aged 15 years and over. In deriving this status people are classified as being at risk of poverty on the basis of whether or not the household they live in is classified as being at risk of poverty (since this measure is based upon the equivalised income of the household and to take account of income pooling) while deprivation and stress is based on individual experience.

Table 12 At risk of poverty and financial stress, HILDA 2011

Individual employment status	At risk of poverty		Deprivation/Stress		Consistent poverty			
	50% median	60% median	Multiple Financial stress	Multiple Hardship	1+ financial stress		2+ financial stress	
					50% median	60% median	50% median	60% median
- % -								
Junior								
PT FMW	7.4	16.6	3.4	0.6	2.3	3.4	1.5	1.5
FT FMW	7.6	14.0	3.8	0.0	2.3	3.3	0.0	1.1
PT above	7.7	10.9	3.0	0.0	1.5	2.7	0.6	1.4
FT above	4.3	12.1	2.5	0.3	0.5	1.4	0.0	0.9
Adult								
PT FMW	15.1	22.7	11.5	1.4	7.3	10.4	5.8	7.9
FT FMW	9.0	17.3	9.7	1.5	2.8	7.6	0.4	4.7
PT above	13.7	20.6	11.3	1.6	6.3	9.6	4.6	7.0
FT above	7.5	16.4	11.7	1.9	2.4	7.7	0.5	5.2
Own business	9.6	14.5	4.9	0.7	3.3	4.9	2.2	3.1
Not employed	27.5	39.1	7.5	2.4	7.9	11.3	4.9	7.2
Population 15 years and over	13.1	19.4	5.6	1.1	3.9	5.7	2.4	3.7

Note: At risk of poverty derived at household level, stress and deprivation at the individual level, data reported on basis of individuals and individual employment/earning status

Source: Derived from HILDA Wave 11 'In Confidence' data set.

Amongst adult employees it is clear that the risk of being 'at risk of poverty' is associated with part-time employment. While 9.0 per cent of full-time minimum wage workers are living in households 'at risk of poverty' at the 50 per cent of median income level, this is only 1.5 percentage points higher than those full-time wage and salary earners who earn above the minimum wage and less than one third of the rate of those not in the workforce. However the rate for part-time minimum wage employees is considerably higher – at 15.1 per cent, this is though not inconsistent with the 13.7 per cent for those part-time workers employed at higher hourly rates of pay.

In contrast there is little difference in the at risk level for full and part-time junior minimum wage earners. They also have an at risk rate a little below that of those on part-time earnings. However their at risk of poverty rate is one and three-quarters that of full-time junior employees earning above the minimum wage. This latter difference tends to diminish if the higher 60 per cent threshold is used to measure risk.

The two multiple deprivation measures do not identify any major consistent difference between those adults on the minimum wage and those earning at higher rates. (The higher rate of financial stress amongst wage and salary earners relative to the non-employed reflects the very low rates of financial stress reported by the aged who make up a significant share of those without jobs.)

Using the consistent poverty measure again shows, amongst adults, a strong part-time work effect, that is those persons working part-time were in households with much higher incidence of consistent poverty, but no substantial minimum wage effect.

The absence of a marked minimum wage effect in the above data could be a reflection of the extent to which minimum wage employees are frequently in households with more highly remunerated persons.

Table 13 seeks to minimise this impact by considering the incidence of being at risk of poverty by the extent to which a household is dependent upon the minimum wage. In contrast to the early data these results are reported on a household rather than person basis⁵³. Households have been classified on a hierarchical basis commencing with those whose only earnings are those of a junior part-time employee who is in receipt of the minimum wage. This group has a very high at risk of poverty rate – 49.1 per cent at the 50 per cent median benchmark and 55.2 per cent at the 60 per cent benchmark. They are though a very small group – representing less than one per cent of all households at risk of poverty. The second group are households who are again only reliant upon part-time minimum wage earnings – but where this may be from a single adult or a combination of adults and juniors. Here the at risk of poverty rate, while remaining high, falls considerably to 30.3 per cent and 43.2 per cent respectively at the two benchmarks. These households also form a more considerable block of those households at risk of poverty – just under 4 per cent.

Table 13 Household incidence and distribution of at risk of poverty by minimum wage earning, HILDA 2011

Household income source (Hierarchical coding)	Incidence		Distribution of households at risk of poverty		All households
	50% median	60% median	50% median	60% median	
			-%-		
Only junior PT FMW	49.1	55.2	0.8	0.6	0.3
Only PT FMW	30.3	43.2	3.4	3.4	1.9
Only FMW	16.7	29.7	1.9	2.4	1.9
Any adult FMW	2.0	6.6	0.2	0.5	1.7
Any FMW	3.8	9.1	1.1	1.8	4.7
Any employ (excl business)	4.1	7.0	12.5	15.0	51.5
Any employ other	5.3	9.4	1.9	2.4	6.1
No employment	41.5	55.6	78.2	74.0	31.9
All households	16.9	23.9	100.0	100.0	100.0

Note: Data reported at the household level. The rate of individual poverty is lower.

Source: Derived from HILDA Wave 11 'In Confidence' data set.

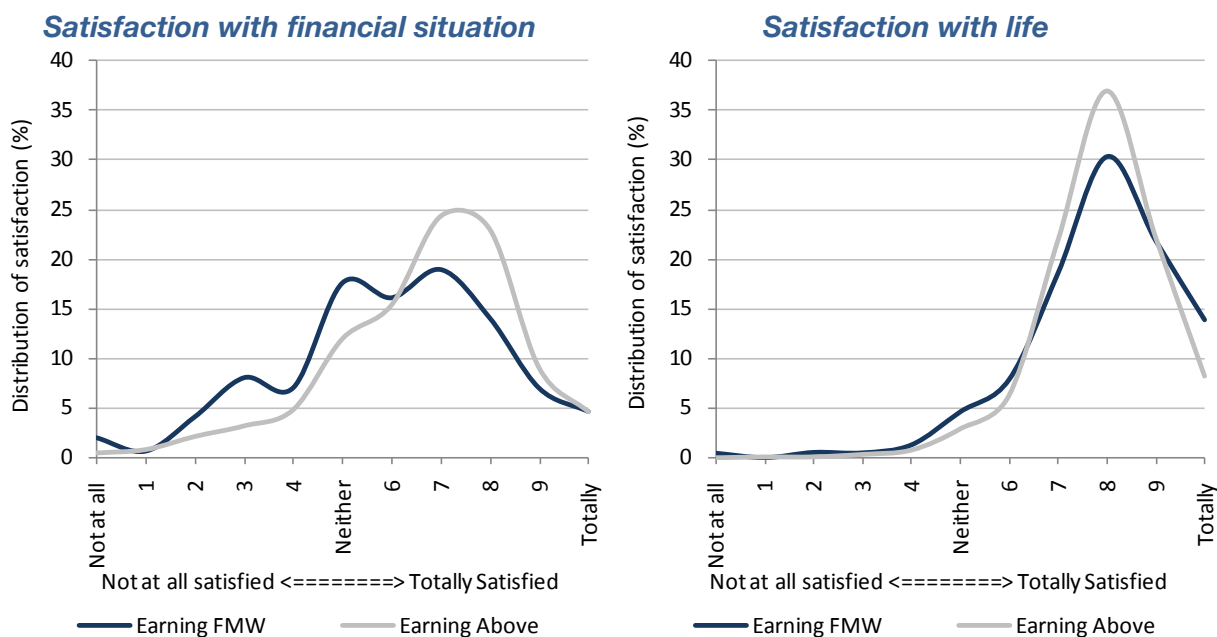
The third group of households are those households who have at least one full-time employed person on the minimum wage, and are wholly reliant upon the minimum wage for their earned income. Here there is some more marked divergence in the results depending upon whether the 50 per cent or 60 per cent benchmark is used. Relative to all households and using the 50 per cent of median income line, the incidence of at risk of poverty for these minimum wage reliant households of 16.7 per cent is a rate consistent with the average of all households. The rate of incidence increases by almost 80 per cent to 29.7 per cent using the somewhat higher benchmark, suggesting a considerable segment of this group sits between these two points. The next two groups represent households with some minimum wage and some non-minimum wage employment. These represent almost 60 per cent of all households with some minimum wage income and taken together they have an incidence of being at risk of poverty of 3.3 per cent using the 50 per cent of median line and 8.4 per cent using the higher line. When using the 50 per cent benchmark this rate is below that for households with earnings only from sources other than the minimum wage of 4.2 per cent. This though is reversed if the higher 60 per cent at risk of poverty measure is adopted. In the table this

⁵³ The reporting of this on a household rather than a person basis tends to generate a higher rate of incidence of the risk of poverty, as there is a U shaped relationship between household size and being at risk of being in poverty and the household level results are disproportionately weighted by the adverse outcomes for single person households.

latter group is split into those with some income from business and self-employment. This is done as it is possible that income is less well recorded for these households.

Taken together this data suggests that adult full-time minimum wage earners do not carry any disproportionate burden of poverty or financial stress and hardship. Where people or households on the minimum wage are more frequently at risk of poverty is when this employment is part-time or where it is a young person seeking to live independently on incomes at or around the minimum wage.

Figure 8. Satisfaction with financial situation and with life, minimum wage and other wage and salary earners, HILDA 2011



Note: Distributions have been smoothed
 Source: Derived from HILDA Wave 11 'In Confidence' data set.

A further approach to measuring well-being is to consider how people perceive their own level of well-being. Figure 8 shows two measures; firstly satisfaction with an individual’s financial situation and secondly their satisfaction with life. Under the first measure those wage and salary earners on the minimum wage are somewhat less satisfied than higher earners. When asked about their level of satisfaction with their financial situation, 21.9 per cent of minimum wage earners reported being dissatisfied to some degree, 17.5 per cent were neutral and 60.5 per cent were positive. This compares with 11.4 per cent, 12.0 per cent and 76.6 per cent for those on higher rates of earnings. Part-time minimum wage employees were more likely to nominate that they were not satisfied (23.5 per cent compared with 19.7 per cent of full-time minimum wage earners).

The second measure is a broader one of overall life satisfaction. Very clearly responses to this will take into account much more than the impact of income. Only 2.7 per cent of minimum wage earners and 1.4 per cent of other wage and salary earners indicated that they were dissatisfied. A further 4.6 per cent and 2.9 per cent respectively said they were neither satisfied nor dissatisfied. At the very top of the distribution 13.9 per cent of minimum wage employees reported that they were ‘Totally satisfied’, well above the 8.2 per cent of those earning higher rates of pay.

3.4 Near minimum wage employment

To the extent the minimum wage directly operates as a binding floor on wages, and impacts on the actual operation of the labour market, it would be expected that there would be a group of persons whose wages would equal the minimum wage, and few paid at rates below the minimum wage. As previously discussed this latter is not the case. Similarly there is little evidence in the data of the minimum wage itself being the actual rate of pay for many employees.

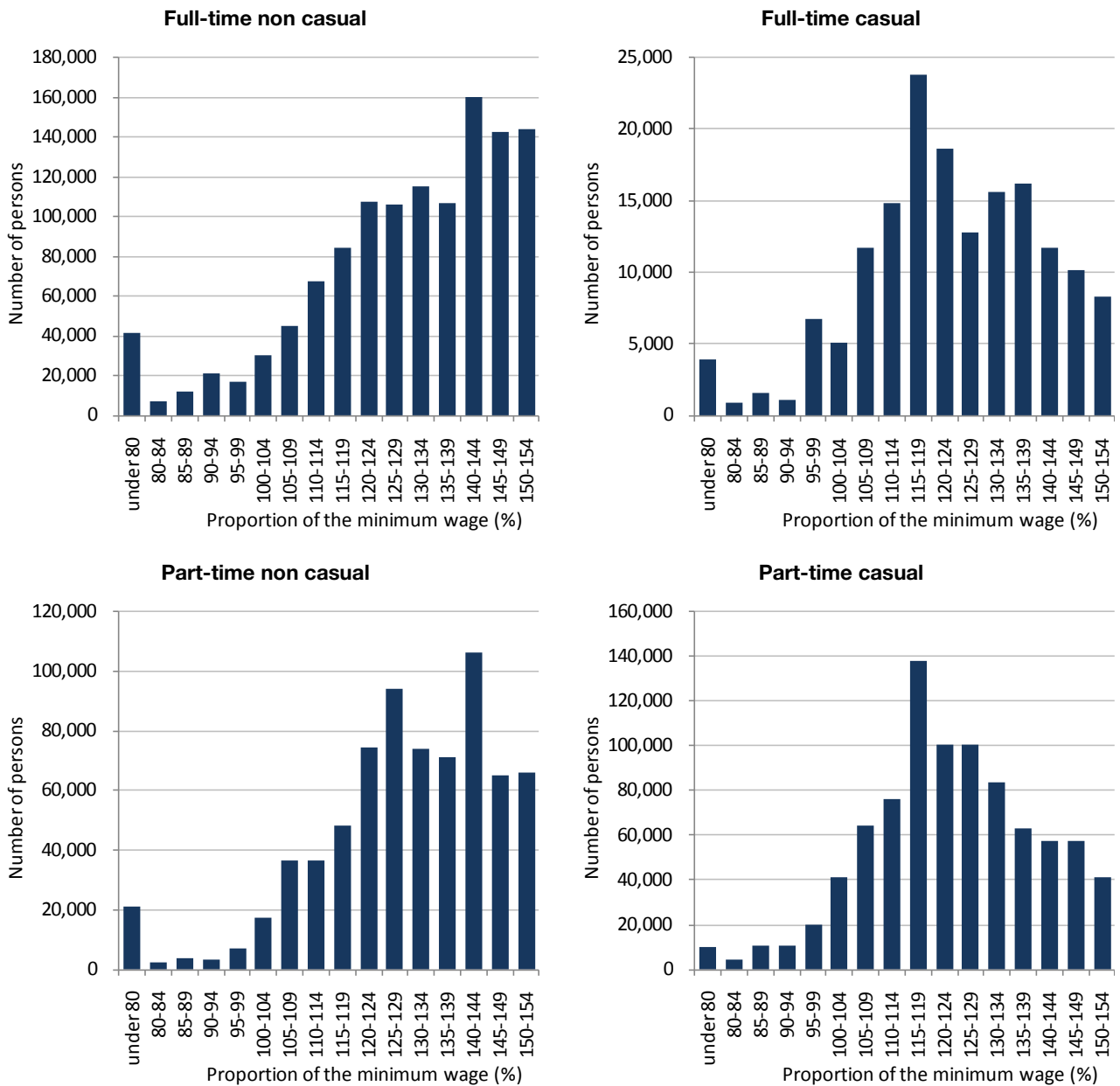
Figure 9 plots the distribution of earnings, at the lower end of the earnings distribution, in 5 percentage point multiples of the minimum wage, using data from the 2010 EEH survey⁵⁴. At best it suggests that there is a very weak floor effect. For full-time non-casual employees approximately 0.6 per cent of employees are paid at between 99.5 per cent and 104.5 per cent of the minimum wage. This though, as seen in the chart, appears to be at most a slight step, being above the proportions of persons employed in the preceding classifications. In the case of part-time non-casual employees, while again there is the suggestion of a step, with 1.1 per cent of employees being in this category, this is much more marked in the 104.5-109.5 per cent of the minimum wage category, which had 2.3 per cent of these employees, with the same proportion in the subsequent category.

Turning to casual employees, it needs to be recalled that a uniform 20 per cent casual loading has been used for analysis – with the actual loadings varying from 15 per cent to 30 per cent. A consequence of this is that where people are being paid a higher casual loading they will be classified in the chart as earning above the minimum wage, and where a lower loading is paid they will be classified as being paid under the minimum wage. The data indicates that amongst part-time casual employees 3.3 per cent are within the 99.5 per cent and 104.5 per cent range with again a marked indication of a step in the distribution. However a larger proportion, 5.1 per cent, is in the 104.5-109.5 per cent range. In contrast, amongst full-time casual employees the step appears to be in the 94.5 to 99.5 per cent group with 2.8 per cent of this group of employees falling into this category, whereas a lesser 2.1 per cent is in the 99.5-104.5 category, and a larger 4.8 per cent in the 104.5-109.5 range.

The lack of any marked concentration of employment at the minimum wage may in part be a consequence of the structure of classifications within modern awards. In many of these all classifications are paid at rates above the minimum wage, whereas in others the minimum wage is only paid during a ‘training period’ – varying from 3 months to a year. However given that many of the awards that make this type of provision have a base ongoing rate about 3 per cent or so above the minimum wage, it could have been expected that these will fall within the 105 per cent of the minimum wage boundary as has been used elsewhere in this paper. Appendix C provides some more details on the structure of some illustrative awards and agreements.

⁵⁴ The results from analysis of income data from household surveys was even more indeterminate as would be expected due to the potential for reporting error, and is not reported here.

Figure 9. Distribution of earnings as percentage multiples of the minimum wage, lower end of the earnings distribution, EEH 2010.



Note: Categories rounded to nearest 0.5, that is 100-104 is from 99.51 per cent to 104.49 per cent

Source: Source: Derived from the ABS 2010 Employee Earnings and Hours, Expanded CURF

Earlier analysis has looked at the effect of using, from the EEH survey, estimates of the scope of the minimum wage using definitions of up to 105 per cent and up to 110 per cent. Figure 9 takes this further to examine the impact of higher multiples. Using a boundary of 150 per cent encompasses some 34.5 per cent of non-managerial employees. Moving from the 105 to a 120 per cent boundary more than triples the scope from 4.1 per cent to 12.5 per cent.

Table 14 Proportion of employees cumulatively paid at multiples of the minimum wage, EEH 2010

Up to per cent of FMW	Full-time		Part-time		Total
	Non-casual	Casual	Non-casual	Casual	
	- % -				
80	0.8	1.6	1.3	0.8	1.0
85	1.0	2.0	1.5	1.2	1.2
90	1.2	2.6	1.8	2.1	1.5
95	1.7	3.0	2.0	2.9	2.0
100	2.0	6.0	2.6	4.8	2.7
105	2.6	8.5	4.2	9.1	4.1
110	3.6	13.3	6.0	14.0	6.0
115	5.0	20.4	8.5	20.8	8.6
120	6.7	29.3	12.2	32.3	12.5
125	8.7	36.7	16.6	40.2	16.0
130	11.0	42.1	22.9	48.6	20.1
135	13.3	48.3	27.5	55.8	23.8
140	15.8	54.8	33.3	60.8	27.4
145	18.7	59.6	38.8	64.5	31.0
150	21.6	63.6	43.1	69.1	34.5

Source: Derived from the ABS 2010 Employee Earnings and Hours, Expanded CURF

These results, ie the incidence of sub-minimum wage earnings and the lack of any substantial concentration of employees being employed at the actual level of the minimum wage, then lead to a further question –whether the Federal Minimum Wage in Australia actually operates as a binding floor wage? This has two elements. The first is whether given the apparent substantial number of people being paid below the minimum wage it can be considered as binding. The second is whether it represents in any real sense a minimum floor – set above that which would have been derived from an equilibrium of labour supply and demand.

The first of these, as has been discussed, was considered in research by Nelms, Nicholson and Wheatley (2011) which attributed apparent sub-minimum wage employment to a range of specific employee circumstances – such as reported hours of work, salary sacrifice, training wages and potentially data problems. It was also considered by Healey (2010) who finds that below minimum wage employment was associated with being female, limited workforce experience, speaking a language other than English at home and having a moderate to severe disability. He concludes that this “leaves open the possibility that very low wages are caused by illegal non-compliance with the FMW” (p20). At the same time he however finds “Union membership does not significantly reduce the probability of wages below the FMW” (p17). This latter would suggest the explanation of non-compliance is less robust as it would seem unusual that unions would be unaware of, or have taken no action, with regard to the underpayment of their members, especially given the considerable margin by which the apparent under minimum wage rates are paid.⁵⁵

The second, that is the floor effect, has been considered by Harding and Harding (2004a) who conclude that the firm based data they use provides “strong evidence that ... either the minimum wage or efficiency wage is the binding wage floor ... strong evidence against the assumption that

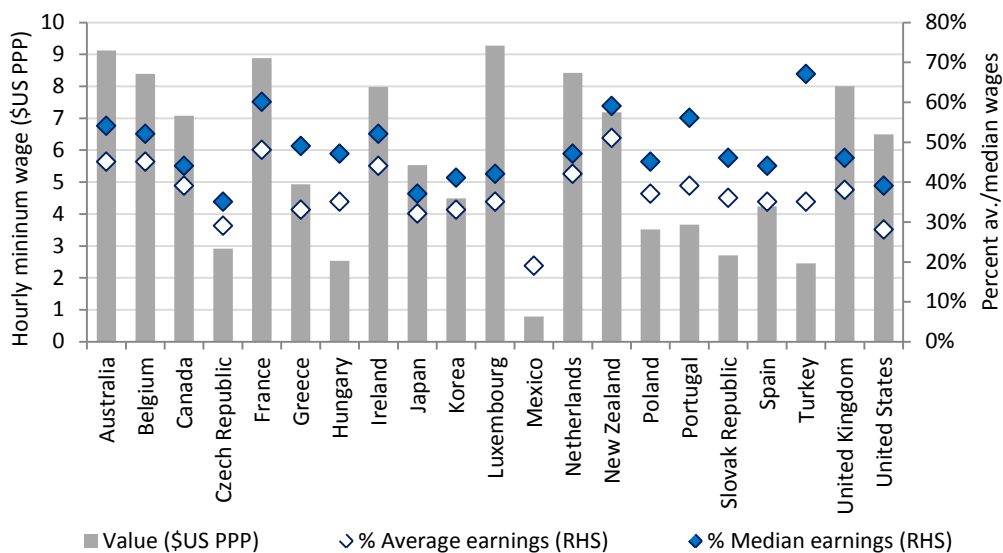
⁵⁵ The Fair Work Ombudsman is responsible for ensuring compliance. In their 2011-12 Annual Report they indicated that they completed 28,412 compliance investigations across the range of aspects of wages and conditions for which they are responsible, and had recovered \$33.6 million in underpayments for just under 17,000 individuals. Information is not provided on the proportion of this which relates to the underpayment of the minimum wage. (Fair Work Ombudsman 2012)

employment and wages are determined via the intersection of labour demand and supply as in a neo-classical model.”(p8) The concepts these authors cite are discussed in more detail later – but essentially the finding is that the minimum wage acts as a substantive floor to the wages system, and is largely complied with, or it is a wage above what would be generated by the simple demand and supply of labour, but is paid by employers as an inducement for employees to apply themselves to the job, rather than just turn up.

3.5 International comparisons

While most OECD countries have a national statutory minimum wage, not all do. For example, Austria, Denmark, Finland, Germany, Italy, Norway and Sweden all rely upon industry based collectively agreed minimum rates of pay. The coverage of such agreements varies by country. In 2008-09 it was estimated that the coverage ranged from some 62 per cent of the whole economy in Germany, and 74 per cent in Norway, to 99 per cent of employees in Austria. (Eldring and Alsos 2012 p10)

Figure 10. International comparison of Minimum Wage rates, 2010



Source OECD 2012

Relative to average earnings Australia has the third highest minimum wage, below New Zealand and France, and equal with Belgium. When taken as a proportion of median earnings, Australia has the 5th highest, trailing Turkey⁵⁶, France, New Zealand and Portugal.

3.5.1 International comparisons of the scope of the minimum wage

As with Australia only limited data are available for many countries on the relative coverage of the minimum wage. From national sources it is though possible to derive a series of estimates. These, as well as some background on the characteristics of these nations’ minimum wage systems are detailed below for the United Kingdom, New Zealand, France, Ireland, the United States, Canada and the Netherlands:

⁵⁶ The high ratio of the minimum to median wage in Turkey, but relatively low ratio of the minimum wage to average earnings reflects the distribution of earnings in that country which has a large number of low paid workers and a small group of more highly paid workers. As such the minimum wage worker is less differentiated from the median employee, but average incomes are driven by the small group with high incomes.

- The UK had a history of wage determination through collective bargaining and the operation of Trades Boards and Wages Councils for most of the 20th century. In 1999 the Low Pay Commission was established to advise the government on the rate of a National Minimum Wage which operates as a floor rate to the wages system. In the UK (Low Pay Commission 2011, pp 30-33) it was estimated that, in 2010, around 2.5 per cent of adult employees were paid the National Minimum Wage (NMW) and a further 0.9 per cent paid below. This latter included apprentices, persons paid piece rates and those who have accommodation and other costs provided. By industry the proportion on the NMW was estimated to be as high as 20.3 per cent in hospitality and 23.5 per cent in cleaning. Rates of receipt varied by firm size. Only 2.6 per cent of jobs in large companies were paid at the minimum wage with this rising to 8.3 per cent in 'micro' firms. Women are more likely to be employed in minimum wage jobs. Using estimates which included a proposed increase to the rate the Commission reported that 2.6 per cent of employed adult males would be on the minimum wage as opposed to 4.3 per cent of women. (ibid p129)
- New Zealand introduced a minimum wage in 1894 through arbitration boards and the Industrial Conciliation and Arbitration Act. This largely took the form of a basic wage for those covered by awards. In 1945 a more general minimum wage was established under the Minimum Wage Act, with the current minimum wage being based on the 1983 Minimum Wage Act. This provides for a statutory minimum wage set by the Governor-General on advice by the Executive Council. Other than special provisions for young new entrants, certain trainees and some people with disabilities, a single minimum wage applies to all persons over the age of 15 years. In 2012 the wage was \$NZ13.50 an hour for a 40 hour week. There is a legislative requirement for it to be reviewed annually. These annual reviews involve the initial preparation of an 'Officials Report' compiled by the Department of Labour which then leads to Cabinet consideration and recommendation to the Executive Council. Estimates of the scope of the minimum wage vary. While the New Zealand Department of Labour (2012) suggests there are 64,000 recipients other estimates are as high as 200,000 (Clark 2012). These convert to rates of incidence of minimum wage employment from 4 to 12 per cent of the workforce.
- The history of a statutory minimum wage in France goes back to 1950 with the introduction of the Salaire minimum interprofessionnel garantie (Smig) which was based on a cost of a basket of goods for a single person living in the Paris region. Since then it has evolved considerably – with the current incarnation the Salaire minimum interprofessionnel de croissance (Smic). In January 2011 it was estimated that 10.6 per cent of employees (in the private sector, excluding agriculture and domestic employment and excluding apprentices and those in temporary employment) were paid at or near the minimum wage⁵⁷. This rate ranged from around 30 per cent of employees in companies with one or two staff, to 4.4 per cent of those with more working in companies which have more than 500 employees. (DARES 2011). Employment on Smic was much more common amongst those employed on a part-time basis (25.2 per cent) than those employed full-time (7.3 per cent). In the fast food sector an estimated 61 per cent of employees were paid Smic, more generally across industry sectors the extent of dependence upon Smic varied from 35.1 per cent for accommodation and restaurant services, to two per cent or less in extractive industries, electricity and gas production and distribution, and information and communications.
- Ireland introduced a statutory minimum wage in 2000. Prior to this minimum wages existed in a series of industries under the aegis of Wages Councils or Joint Labour Committees. As part of the response to the GFC the minimum wage was cut by €1 an hour by the then government in

⁵⁷ The data used in this section are actual estimates of the population who would benefit from an increase in the value of the Smic – it thus also includes a small number of people who were paid above the actual rate of Smic of €8.86 in 2010 and €9.00 which was the new level as of January 2011.

February 2011 but this was reversed only a few months later in April 2011 with a change in Government. The current rate is €8.65 per hour, with a lower rate being paid to those under 18 years of age, in the first two years of employment and for trainees. As with other countries limited data is available on the contemporary use of the minimum wage. A recent estimate is that some 47,000 workers, or 3.1 per cent of the workforce, were in receipt of the minimum wage (Calleary 2010). Analysis in 2002 suggested a rate of 4.5 per cent (Nolan, Williams and Blackwell 2003).

- The US has a series of Federal and State minimum wages⁵⁸ and a range of exemptions for some groups of employees⁵⁹. The history of the Federal minimum wage goes back to 1938 and the Fair Labor Standards Act. The rate is legislated. States have had the capacity to set state specific rates above the Federal minimum. The Federal rate, as set in July 2009, was \$US7.25 per hour, with this still in place in early 2013.⁶⁰ Most data on the receipt of the minimum wage is restricted to those employees who are paid hourly rates. Amongst these employees, who account for 58.8 per cent of wage and salary earners, 6 per cent of those aged 16 years and over were paid at or below the Federal Minimum Wage in 2010. This proportion included 24.9 per cent of those aged under 19 years and 13.6 per cent of part-time employees. Amongst those aged 25 years and over, 3.8 per cent of those paid hourly rates were paid at or below the Federal Minimum Wage. By occupation there was a strong concentration in the 'food preparation and serving' occupations where 25.7 per cent of employees are paid at or below the minimum wage, and 12.0 per cent in 'personal care and service' occupations. At 7.3 per cent women are more likely to be paid at or below the minimum wage compared with 4.5 per cent of men. By race, 6.9 per cent of Black or African American workers on hourly rates received the minimum compared with 5.9 per cent of Whites. (US Bureau of Labor Statistics 2011)⁶¹.

As some states have minimum wages above the Federal rate the use of the Federal rate as a cut-off inappropriately underestimates the role of a minimum wage in these locations. To overcome this, if the analysis is limited only to those states that either have a minimum wage equal to or below the federal rate, or with no minimum wage at all, then the proportion of hourly paid employees in receipt of the minimum wage or less increases to 7.6 per cent. These states account for some 56.8 per cent of all people employed on hourly rates.

- The minimum wage in Canada is determined at the provincial level and hence varies by location. Rates are also age based. The adult rate ranged, in 2009, from \$Canadian \$8.00 to \$9.50 per hour. In 2009 it was estimated that some 5.8 of employees were employed on the minimum wage – with this rising to 10.3 per cent if a 10 per cent margin above the minimum was considered. Women (7.2 per cent) were more likely than men (4.3 per cent) to be paid the minimum wage, and minimum wage employment was highest amongst the young. Indeed teenagers, where 37.8 per cent were employed on the minimum wage, accounted for 60 per cent of all minimum wage workers. Young adults (20-24 years) accounted for a further 18 per cent, and had a rate of incidence of 10.3 per cent. In both these age groups this mainly involved

⁵⁸ As at 1 January 2012 the Federal minimum wage was \$7.25 an hour. Some 18 states and District of Columbia have higher minimum wages. These include a cluster around \$8.25, \$8.80 in Oregon and \$9.04 in Washington State. (US Department of Labor 2012)

⁵⁹ This includes a lower minimum wage for those persons whose earnings are supplemented by tips.

⁶⁰ In his State of the Union Address following his re-election in February 2013 President Obama proposed to Congress that the US minimum wage be raised to \$9 per hour, and to index the minimum wage to changes in the cost of living. (Obama 2013)

⁶¹ Because a number of states have higher minimum wages, and unlike some other estimates of coverage, the US minimum wage counts use the precise value of the federal minimum wage as a cut-off it is possible that these estimates may understate the extent of minimum wage employment. However, even if this is the case the proportion would appear to be under 10 per cent of full-time workers, as data on full-time wage and salary earners indicates that the 10th percentile of earnings for these employees was \$357 per week (\$379 per week for those aged over 25 years). These levels are substantially above the Federal minimum wage, and above any of the state minimums. (Bureau of Labor Statistics 2012)

students working part-time – with 85 per cent of teenagers and 44 per cent of those in the young adult group falling into this category⁶². Only 2.8 per cent of employees aged 25 years and over receive the minimum wage. The industry sectors with the highest rates of minimum wage employment were agriculture (14.3 per cent), accommodation and food (22.5 per cent) and retail trade (12.3 per cent). (Statistics Canada 2010)

- The Netherlands has had a national minimum wage since 1964, initially this was as an extension of collectively bargained minimum rates with a statutory minimum being legislated in 1969. The minimum wage in the Netherlands was €339.10 per week⁶³ in 2013, with this rate being paid to people aged 23 years and over. It tapers in from 30 per cent for those aged 15 years and even at age 21 is only 72.5 per cent of the full rate. (Salverda 2009). Salverda reports that in 2005 some 4.0 per cent of all employees aged 15-64 years were in receipt of the minimum wage – 4.9 per cent of women and 3.2 per cent of men. It was more common amongst part-time workers, 4.9 per cent compared with 2.2 per cent for full-time employees, and some 16.8 per cent of employees aged 15-19 years and 10.5 per cent of those aged 20-24 years received the minimum wage.

Table 15 summarises data on the incidence of minimum wage employment for the above countries. To the extent comparisons can be made, even on the basis of the EEH data, adult reliance upon the minimum wage in Australia would appear to be at the upper end of the distribution. Australia also has one of the highest incidences amongst youth of those countries for which data are available.

More broadly it might be suggested that there are three clusters of countries which emerge from the data when adult reliance on the minimum wage is considered. These are: high reliance countries – Australia, France and potentially New Zealand; relatively low reliance, the UK and Netherlands; with the US and Canada sitting between the two. The different patterns of incidence by age group, and the data sources, inclusions and exclusions however make such a classification tentative, rather than definitive.

This extent of use of minimum wages should though not be treated as analogous to low pay in general. Using a measure of low pay, whether a person earned less than two thirds of the national median hourly wage rate Schmitt (2012) reports that a quarter of all US workers work for low pay as do around 20 per cent of those in the UK, Canada, Ireland and Germany. In contrast only 14.4 per cent of Australians do so – a level comparable to Denmark and Japan. Countries with low levels of low pay using this measure include Finland, Norway and Italy all of which have rates around 8 per cent.

⁶² Statistics Canada caution that this may overstate the proportion on the minimum wage as they have taken no account in the preparation of the estimates of any age specific rates which might apply.

⁶³ In addition a holiday leave loading and reimbursement of compulsory health levy are also paid. At the minimum wage these are estimated at around 15 per cent.

Table 15 Proportion of workforce in receipt of minimum wage, international comparison, around 2010

	Junior			Adult			Total		
	Part-time	Full-Time	Total	Part-time	Full-Time	Total	Part-time	Full-Time	Total
	- % -								
Australia									
- EEH				6.4	2.9	4.1			
- HILDA	29.0	34.3	30.5	19.4	5.2	9.1	21.7	6.5	11.5
New Zealand									
- Official	23.4	5.9	12.8	4.8	1.3	1.9	10.3	1.8	3.6
- Alternative			61.6			8.5	28.8	7.6	12.1
Canada			20.7			2.8	18.5	2.9	5.8
France							25.2	7.3	10.6
Netherlands	14.3	10.3	12.8	3.1	1.3	2.4	4.9	2.2	4.0
United Kingdom			10.2			3.8	9.1	2.3	4.2
Ireland			49.0				15.0	2.0	4.5
United States - all			15.2			3.8	13.6	3.1	6.0
US – States at or below FMW									7.6

Source and notes

Australia EEH: ABS 2010 EEH, employer survey, excludes agriculture and domestic employment, up to 105 per cent of the minimum wage, excludes part-time managers and those paid junior rates

Australia HILDA: HILDA Wave 11 (2011 data) 'In confidence' dataset, up to 105 per cent of minimum wage, Junior up to, and including age 20

New Zealand (Official): Junior aged 16-24, Derived from NZ Department of Labour 2012 p17 and Statistics NZ 2011 Supplementary table 5

New Zealand (alternative estimate): Junior aged 16-19 years (Maloney and Pacheco 2011 p31)

Canada: 2009 data derived from household surveys, minimum wage used as cut-off. When increased to 110 per cent of minimum wage overall rate increases from 5.8 to 10.3 per cent, youth aged 15-24, (Statistics Canada 2010)

France: 2011 data derived from employer survey, excludes agriculture, domestic employment, apprentices and temporary employment. (DARES 2011)

Netherlands: 2005 data from household survey earnings at or below minimum wage, youth aged 15-24, (Salverda 2009)

United Kingdom: 2010 employer survey, with some modelling, minimum wage cut off is minimum wage plus 1.9 to 2.2 per cent depending on employment type as data uses a later value of the minimum wage, youth under 21 (Low Pay Commission 2011)

Ireland: 2002, Private sector employees, Junior aged under 18 years and all figures relate to the adult minimum wage (Nolan, Williams and Blackwell 2003)

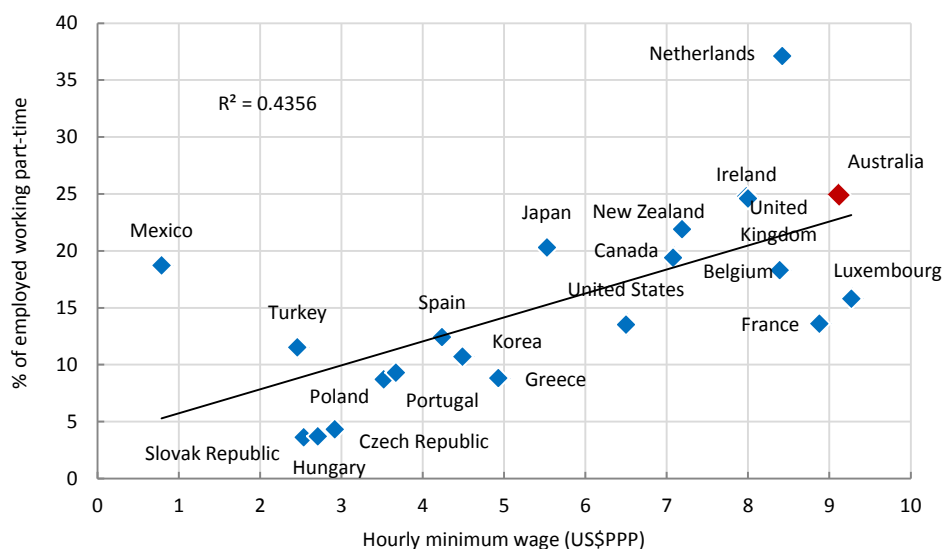
United States: 2010 data from household survey, employees paid hourly rates only earnings at or below the Federal Minimum Wage only, youth 16-24 years (US Bureau of Labor Statistics 2011)

3.5.2 Minimum wage and part-time employment

As seen in the above data the payment of minimum wage rates is, with exceptions such as Australian youth, more common amongst those employed on a part-time basis. This is most marked in the US and Canada where the ratio of full-time to part-time reliance on the minimum wage is 3.1 per cent to 13.6 per cent and 2.9 per cent to 18.5 per cent respectively. It is the least marked in the Netherlands.

A second feature of the relationship between part-time employment and the minimum wage is an association across countries between the level of the minimum wage and the proportion of people employed on a part-time basis. This is illustrated in Figure 11. As can be seen from the distribution of countries, and the simple trend line, there is a distinct positive relationship with higher minimum wage countries having higher rates of part-time employment.

Figure 11. International comparison – minimum wage and part-time employment



Source: Derived from OECD 2011a

While this relationship is less strong if the sample is simply restricted to the higher minimum wage countries (those over US\$5PPP per hour), it nevertheless is suggestive that some form of labour market relationship exists between the level of the minimum wage and part-time employment. A number of mechanisms may come into play. For example, higher minimum wages may allow some persons to achieve their desired income levels through part-time employment. Alternatively higher minimum wages may lead employers to use part-time workers as a supplement to their workforce during high demand or high productivity periods – such as peak shopping hours – rather than maintaining a full-time workforce over ‘slack’ times. A further possibility is that where there is a large part-time workforce there are institutional and other processes which result in the setting of a higher minimum wage.

3.5.3 International Context – Summary

From the above comparisons, while the Australian minimum wage is relatively high compared with other countries, this is somewhat less marked when the minimum wage is considered as a proportion of median wages. In all countries, as with Australia, younger workers, especially students, are more likely to be in receipt of the minimum wage, notwithstanding whether, as in some countries, there are separate minimum wage rates for junior employees. In some cases junior employees are the main recipients of the minimum wage. Although it is difficult to make comparisons of the proportion of employees in receipt of the minimum wage, it would appear that, amongst the countries reviewed, Australia, along with France and potentially New Zealand, may have one of the higher levels of incidence. Interestingly the US, despite its reputation as a country with a high level of minimum wage employment, along with Canada, falls in the middle group of countries, with lower apparent rates of incidence in the UK, Ireland and the Netherlands⁶⁴.

While the Australian EEH data suggests approximately equal rates of incidence of minimum pay amongst men and women, this is not the case with estimates derived from household surveys and

⁶⁴ This comparison does not however represent an analysis of the degree to which countries have a significant low income workforce, but rather simply reports on the role of the minimum wage. Hence while from the data it appears that Australia has a higher ‘minimum wage’ workforce than the US, it needs to be recalled that the minimum wage in Australia is higher. An alternative way of looking at the structure of earnings is to compare earnings at points in the income distribution. Doing this using purchasing power parities indicates that the earnings of a full-time adult employee in Australia at the 10th percentile of the earnings distribution is equal to 123.0 per cent of their US. This then drops to 109.2 per cent at the 25th percentile, 95.5 per cent at the median, 85.2 per cent at the 75th and 76.6 per cent at the 90th.

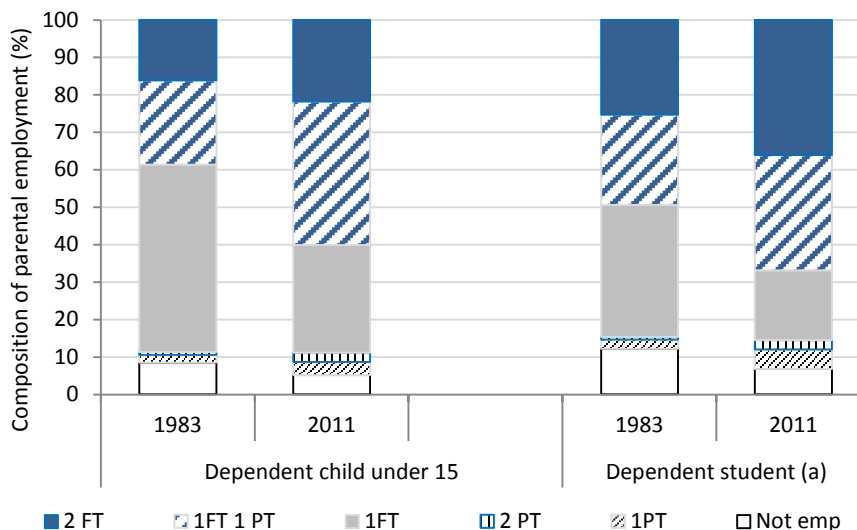
across all countries for which data has been obtained, there is a strong gender bias with women being much more likely than men to be receiving the minimum wage for their work. There is also a strong tendency for a much higher proportion of part-time employees to be paid the minimum wage. In most countries, including Australia, there is a high concentration of part-time work in the hospitality sector including, where identifiable the fast food sector.

A fuller understanding of the role of the minimum wage, and its impact on both the standard of living and on the cost of employment requires not just this type of comparison but also regard to post tax income and the gross cost of employing minimum wage employees. Less recent data are available on this. When the OECD reviewed minimum wages (OECD 2007) this indicated that the disposable income of a minimum wage earner relative to an average employee in Australia was 53 per cent compared with an average of 48 per cent across the OECD, and that Australian employer overheads for minimum wage workers were lower than the average, largely as a result of an absence of social security taxes.

3.6 Workforce participation

In considering the changing role of the minimum wage in supporting families, in particular given the earlier finding that minimum wage employment is frequently a complement to other employment, attention must also be given to changes in family workforce participation. These, as illustrated in Figure 12, have been profound – and clearly show that for couples with children the male breadwinner model has been eclipsed. In this paper this has particular implications for the role of the

Figure 12. Couple families with dependent children, parental employment status 1983 and 2011



(a) Families with dependent children over the age of 15 years only. In 1983 includes dependent students aged 15-20 years, in 2011 students aged 15-24 years.

Source: ABS 1983, ABS 2011

minimum wage. It also has wider ramifications. Whitehouse (2004), for example, noted that the participation of women in the Australian workforce had increased from 25 per cent in 1911 to 55.3 per cent in 2001. For married women it rose from 5.5 per cent to 57.3 per cent. She considered that notwithstanding this dramatic shift there had been little recognition of this in Industrial Relations. She concluded that the Australian arbitration system had only made limited progress in moving from “*the male breadwinner model of the family and its nineteenth century social values*” (ibid p410).

In 1983 exactly half (50.0 per cent) of all couples with a dependent child under the age of 15 years had a traditional single full-time breadwinner. This fell to 28.8 per cent in 2011. Over the same interval, the proportion of families with both partners being in the workforce increased from 39.4 per cent to 62.6 per cent. For families whose youngest dependent is a student, while data are less comparable due to changes in the age range used to define such students, a similar picture presents. In these families, there is a decline in the proportion of families with a single full-time breadwinner from 35.2 per cent in 1983 to just 18.6 per cent in 2011 and an increase in dual income families from 50.1 per cent to 69.4 per cent.

3.7 The role of the Australian minimum wage - summary

Estimates of the proportion of the Australian workforce employed on the minimum wage are also imprecise, but mainly fall in the range of 4 to 10 per cent of adult employees. Minimum wage employment is more common amongst the young and those in part-time employment. Although data series vary, it would appear to be more common amongst women. There is considerable variation in the incidence of minimum wage employment by occupation, industry structure and employment arrangement. Occupations with high levels of minimum wage employment include factory process workers, farm, forestry and garden workers, food preparation and trades and hospitality. Employment on the minimum wage is more frequent in small firms and for people reliant upon awards.

In many ways this experience parallels that of a number of other countries, although the Australian minimum wage is distinguished by being one of the highest in both absolute and relative terms, and Australia has a relatively high incidence of employment at or close to the minimum wage.

Although more likely to be in lower income households, minimum wage workers in Australia are also spread across a wide spectrum of middle and higher income households. An exception are part-time minimum wage workers who are quite heavily concentrated in lower income households, although this is likely to reflect hours of work rather than just the wage rate. Reflecting more general trends in the workforce participation of parents with dependent children, the 'Harvester' concept of a single breadwinner on the minimum wage supporting their partner and children has largely disappeared.

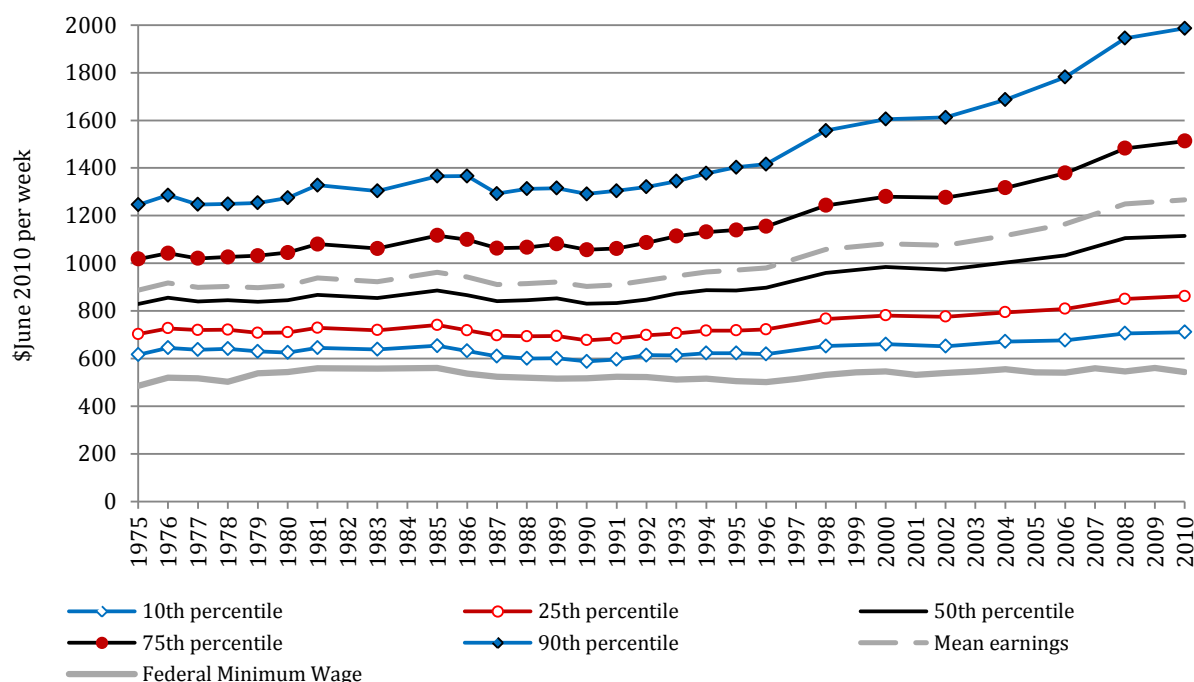
4 TRENDS IN THE MINIMUM WAGE OVER THE PAST 25 YEARS

This section is concerned with more recent trends in the minimum wage, initially in terms of its relativity with other earnings, and then with regard to its interactions with the tax and transfer system. The focus is mainly on changes in the past 25 years, with specific attention to the role of the minimum wage as a family wage over this period.

4.1 Relative and absolute value of the minimum wage in Australia

While this section is primarily concerned with changes over the past 25 years, initial considerations also look at changes over a slightly longer time scale – since 1975. This not just reflects the period for which comparable earnings and minimum wage series can be derived, but also take accounts of the period of possible divergence between the ‘metal workers’ minimum wage and the ‘NWC only’ minimum wage between 1978 and 1995.

Figure 13. The minimum wage and weekly earnings of full-time adult non-managerial employees, 1975 to 2010



Note: The ‘metal workers’ minimum wage has been used for the period between 1978 and 1995.

Data are for May each year

Source: Derived from ABS Survey of Employee Earnings and Hours, Cat No 6306.0, various annual publications, ABS CPI (2012), Minimum wage as per Appendix A

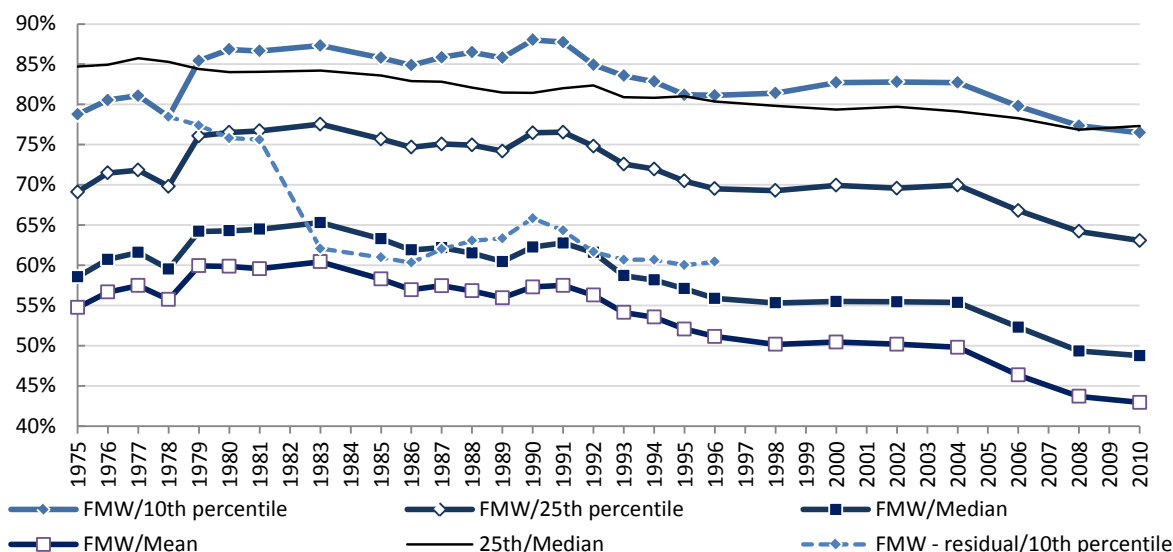
Between May 1975 and May 2010 the real value of the minimum wage, in June 2010 dollar terms, is estimated to have increased by \$58 – an increase of 12.0 per cent or annualised growth of 0.33 per cent. In contrast, median earnings of full-time adult non-managerial employees grew at an annualised rate of 0.85 per cent and average earnings of this group at a little over 1 per cent per

year. As illustrated in Figure 13, throughout this period the minimum wage remained well below the 10th percentile of the earnings of full-time adult non-managerial employees – and grew more slowly.

Observing the pattern of change over time shows there was little net real earnings growth between 1975 and the early 1990s, with the gains of the 1970s being lost in the second half of the 1980s. Since the mid-1990s, earnings at all points of the distribution have increased, with this effect being most marked at the upper end of the income distribution. Indeed while the real value of the minimum wage grew by 8.3 per cent between 1996 and 2010, earnings at the 10th percentile increased by 14.9 per cent; at the 25th by 19.4 per cent; median earnings grew by 24.1 per cent; those at the 75th percentile by 31.0 per cent; and at the 90th percentile by 40.2 per cent.

Some of the relativities in earnings implied in this data are shown in Figure 14. This plots the value of the minimum wage as a proportion of earnings at other points in the earnings distribution. In addition to showing the ‘metal workers’ series (relative to earnings at the 10th, 25th and 50th percentile and relative to average earnings), this also shows the ‘NWC only’ series relative to the 10th percentile of earnings. Looking at these two minimum wage series relative to the 10th percentile earnings shows that the relative value of the minimum wage to the 10th percentile of earnings of 76.5 per cent is currently a little below the level before the series bifurcated (78.5 per cent). Over this period the ‘metal workers’ series shows an initial step rise relative to the 10th percentile of earnings before plateauing until the early 1990s after which it declined. In contrast the ‘NWC only’ series shows an initial slow decline and then a very marked fall in the early 1980s after which it remained at around 60 per cent of earnings at the 10th percentile.

Figure 14. Relative value of the FMW to points of the earnings distribution of full-time adult non-managerial employees 1975-2010



Source: Derived from ABS Survey of Employee Earnings and Hours Cat No 6306.0, various annual publications, ABS CPI (2012), Minimum wage as per Appendix A

Assuming some relationship between the level of the minimum wage and earnings at the 10th percentile of the earnings distribution for non-managerial employees⁶⁵ would suggest that while the initial increase in the metal workers award did not flow on to all minimum wage workers, by the early

⁶⁵ As this data series currently suggests that only 4.1 per cent of these employees are on the minimum wage it is possible for trends in the 10th percentile of earnings to move independently of the coverage of the minimum wage. That is there could be decompression in earnings in the lowest decile of earners and hence the relativity is not informative of coverage. This though seems to be unlikely, as the minimum wage has also played a ‘foundational’ role of other low rates of pay and distributional data suggests that a considerable group are earning just a little above.

1980s, the 'NWC only' minimum wage had lost any substantial link with this point of the income distribution.

By the time the new Federal Minimum Wage was introduced in 1997 the relativity of minimum wage to the 10th percentile of earnings was virtually the same as it was in 1976 and 1977 at around 81 per cent. Since then it has slipped to 76.5 per cent.

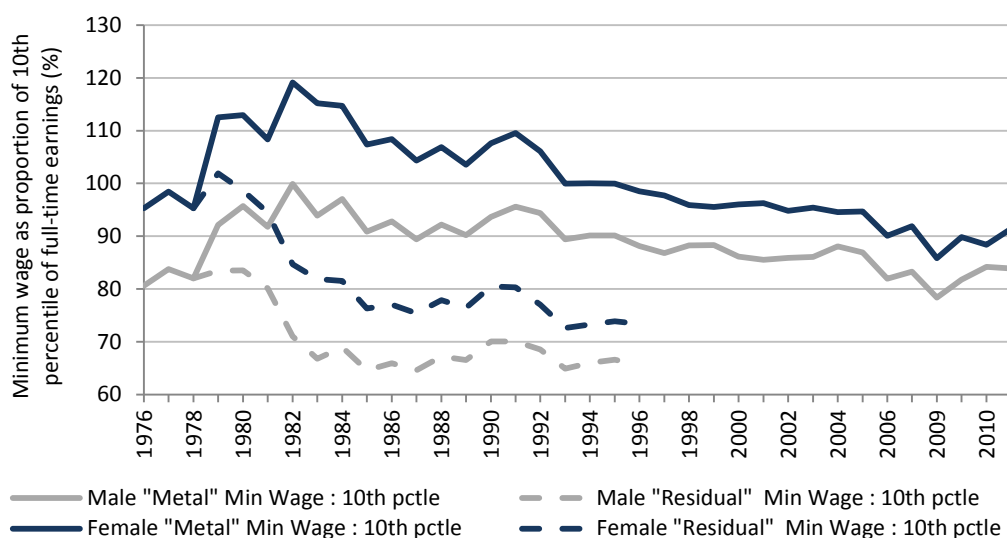
Relative to median earnings the minimum wage declined from being 58.6 per cent in 1975 to 48.8 per cent in 2010, and from being 54.8 per cent of average earnings to 43.0 per cent. That is, while average earnings of full-time adult non-managerial employees in 1975 were 1.8 times that of a minimum wage employee this increased to 2.3 times in 2010. Earnings at the 90th percentile increased from being 2.6 times the level of the minimum wage to 3.7 times.

An alternative source of data on wage rates is the ABS EEBTUM series. As this is a household survey it has a richer demographic component including information on gender⁶⁶. From this it is estimated that for males the ratio of the minimum wage to the 10th percentile of full-time earnings was 80.6 per cent in 1976 and 83.9 per cent in 2011. As a ratio of 20th percentile earnings it has fallen from 72.8 per cent to 70.3 per cent. For women both these ratios have fallen, at the 10th percentile of full-time earnings from 95.3 per cent to 91.4 per cent and at the 20th percentile from 86.7 per cent to 74.3 per cent. These results would suggest that a substantial element in the possible fall in the ratio of the minimum wage to 10th percentile earnings derived from the EEH is a gender effect – that is a lesser dependence upon the minimum wage by women over time.

This data, as illustrated in Figure 15, again allows for some consideration of the relative take-up of the 'metal workers' and 'NWC only' minimum wage over time. The first point to be noted is that very clearly for women over the period of the 1980s the metal industry minimum wage was above the wage paid to many low paid women. That is, this measure of the minimum wage was more than 100 per cent of female full-time earnings at the 10th percentile indicating that it was not being accessed by a considerable group of women. At the same time however when the FMW was reintroduced and set at the 'metal workers' rate, there was only a slight shift in the relationship between the minimum wage and the 10th percentile of women's' earnings which remained in the mid to high 90s. The absence of any 'shock' in this relationship at this time suggests that by this time the 'metal workers' minimum wage had become the norm for women. The data for males is a bit more ambiguous. While in 1999 the metal industry minimum wage was almost equal to 100 per cent of the 10th percentile of full-time earnings, in other periods it was around 90 per cent, not too different to the high 80s recorded after the reintroduction of the FMW.

⁶⁶ The EEBTUM series has not been used extensively here as micro-data from this survey is not released and the level of detail available in the publications is not sufficient to allow the minimum wage to be observed.

Figure 15. Relativity of minimum wage to 10th percentile of earnings by gender, EEBTUM, 1976 to 2011



Note: Data for August each year.

Source: 10th Percentile of full-time earnings derived from ABS Cat No 6310.0 various years

In conclusion this indicates that while the 'metal workers' minimum wage may overstate the effective minimum wage, especially in the early 1980s, it is a preferable measure to the residual estimate.

4.1.1 Potential employment effects

Between May 1986 and May 2010 the real value of the minimum wage grew by 1.3 per cent, compared with growth, over the same period, of 28.7 per cent in median full-time earnings for non-managerial employees and 34.4 per cent in the average earnings of this group.

Section 5 discusses the various theoretical models for understanding the impact of the minimum wage on labour demand, and the empirical evidence for these. However it is useful to consider at this point what classic labour market models would suggest about the implications of this lower relative growth in the minimum wage. This can be considered in terms of how many fewer people would currently be employed if the minimum wage had increased at a faster rate. Underlying this is an assumption that labour demand responds to changes in the price of labour, with this being expressed in terms of a demand elasticity.

Table 16 reports on modelling of the hypothetical impact of differential rates of growth in the minimum wage over the period 1986 to 2011. The first column reports the results if the minimum wage had increased at the same rate as median earnings. Assuming a relatively conservative labour demand elasticity of -0.2⁶⁷, this suggests there were an additional 62,025 jobs for low paid workers in 2011, compared with what would have been if the minimum wage had risen in line with median earnings. Most of these jobs (73.4 per cent) were for adults, some 39.4 per cent would be for full-time workers and 76.5 per cent relate to those currently on or below the minimum wage. Women

⁶⁷ Many estimates of labour demand elasticities exist. A major survey by Hamermesh (1993) identified a range of estimates from -0.15 to -0.75, and suggests an elasticity of -0.3 a reasonable figure. Leigh (2003) estimated an overall elasticity of -0.13 and a specific elasticity of -0.39 for young people in response to minimum wage changes in Western Australia, Lewis (2005) presents analysis which "suggests elasticities of employment for the minimum wage sector of -0.55 and -0.72 with respect to wages and real wages, respectively" (p 13) Harding and Harding (2004a) on the basis of the 2003 Safety Net adjustment estimates that the "elasticity of demand for minimum award wage workers with respect to minimum award wages of about -0.2" (p 49).

held 58.2 per cent of the positions. If the minimum wage had kept pace with average earnings it is estimated the job loss would be 84,469.

Table 16 Possible impact of employment of alternative rates of growth in the minimum wage, HILDA 2011

Job loss	If minimum wage increased since 1986 at:	
	Same rate as median earnings	Same rate as average earnings
	- persons -	
Youth	16,479	21,988
Adults	45,547	62,481
Total	62,025	84,469

Notes:

(a) An increase at the rate of median earnings indicates a minimum wage in 2011 of \$720 and at average earnings \$752⁶⁸.

(b) Model assumes a labour demand elasticity of -0.2

(c) In the model all persons on or below the minimum wage are assumed to be receiving the minimum wage. The labour demand estimate is based on assuming all of these, and all people above the current minimum wage but below the 'new' minimum wage, would receive the new minimum wage. There would be no flow-on to other employees.

Source: Derived from HILDA Wave 11 'In Confidence' release

If however labour demand is more sensitive to price a stronger effect will be felt. For example taking the demand elasticity to -0.3, would increase the potential losses to 93,000 if the minimum wage had increased at the same rate as median earnings and to 126,700 if the rate of growth had been the same as average earnings. If there was any flow-on from these increases to other employees so as to maintain their relative position in the earnings distribution then the impact of the loss would be magnified.

As however discussed in Chapter 5 this type of estimate makes some assumptions about the nature of the labour market and employer responses which are subject to debate.

4.2 Impact of taxes and transfers

The effective income of a minimum wage worker depends not just on the value of the minimum wage and the number of hours a person works, but also costs they may incur in working, and the effect of taxes and the transfer system.

Data on the cost of work are not readily available. These costs, which may include childcare, travelling costs, specialised clothing, etc, are also likely to vary considerably between individuals, and for many individuals, over time. For these reasons, despite the obvious importance of these costs to decisions about work, and the benefits derived, they are not considered here.

Identifying the impact of taxes and transfers is more tractable, and is considered below.

4.2.1 Impact of taxes and transfers

People in receipt of the minimum wage frequently interact with both the tax and transfer systems. Of specific interest in this paper are the changes in these interactions over time, and the current impact of taxes and transfers on families with children where the minimum wage is a source of income.

⁶⁸ These estimates are derived using the November 1985 'metal workers' value of the minimum wage of \$235.70; the increase in the median and average earnings of full-time non-managerial employees from the EEH for the period 1996 to 2010; and the increase in AWE for the period May 2010 to May 2011. (The use of AWE over this last period was necessary as data from the EEH is not available for 2011.)

The impact of transfers is important, not just because of the contribution these payments can make to household incomes, but also because a considerable proportion of people receive these payments in addition to earnings from employment at the minimum wage. Analysis of this is presented here in two parts. The first concerns the empirical data on the actual level of incidence, the second considers the 'system based' interaction using models of the tax and transfer system to identify the relationship with the minimum wage. As illustrated in Table 17 22.5 per cent of people who were adult minimum wage employees also received some income support payments. When account is taken of all transfer payments⁶⁹, including estimated support for families with children, this proportion rises to 43.3 per cent.

Table 17 Proportion of minimum wage workers receiving transfer payments by family status, HILDA 2011

Family circumstance of minimum wage employee	Proportion receiving		Minimum wage recipients
	Income support	Transfers	
	Individual receives income support/transfers		
	- % -		Persons
Member of a couple	12.1	49.2	404,404
Lone parent	60.3	77.2	63,724
Child (21 years and over) living at home	29.0	29.8	183,246
Other person	27.5	27.5	128,701
Total	22.5	43.3	780,075
	Either partner receives income support/ transfers		
Member of a couple	21.8	54.8	

Source: Derived from HILDA Wave 11 'In Confidence' data set.

The highest rate of receipt was by lone parents. Some 77.2 per cent of this group are estimated to be receiving some transfer payments in addition to their minimum wage earnings, with over 60 per cent reporting receipt of some income support. For members of couples the rate varies depending upon whether account is taken of individual receipt – or receipt by either member. In this latter case 21.8 per cent of minimum wage earners who are a member of a couple also received some income support payments, with this proportion increasing to 54.8 per cent when all transfers are taken into account. Reported receipt of income support is much more common amongst those minimum wage workers who are working part-time, with 32.3 per cent of these also receiving some income support, compared with 8.8 per cent of those working full-time.

The interactions between minimum wage employment and the tax and transfer system can result in people working on the minimum wage having quite disparate disposable incomes. For example, the disposable income of a single person, under the age of 60 years, who works full-time and earns the minimum wage was, in January 2012, \$537.72⁷⁰. This represented the gross wage of \$589.30, less \$42.74 income tax and \$8.84 Medicare levy. If, in contrast, this person was a sole breadwinner in a couple family with two dependent children and was renting privately, their total household disposable income would be \$995.88, that is 85.2 per cent higher than the single person. An even

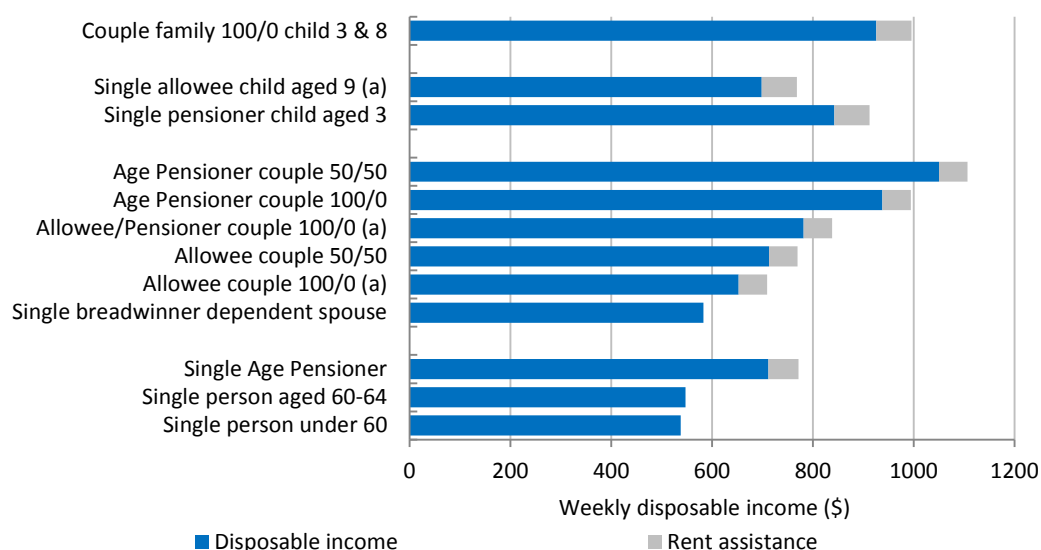
⁶⁹ Transfers include all income support payments as well as Family Tax Benefit Part A, Family Tax Benefit Part B, Maternity Payment, Mobility Allowance, Carer Allowance, Telephone Allowance, Maternity Immunisation Allowance, Seniors Concession Allowance and Double Orphan Pension. Data on current receipt of income support payments is available in HILDA and is used in the above table. The dataset does not however contain information on current receipt of FTB. To estimate current receipt of transfers, previous year receipt of FTB has been added to current receipt of any other transfer payment.

⁷⁰ In this analysis all estimates are based upon an assumption that the nominated levels of income are received consistently across the financial year.

higher net income, \$1,106.45 per week, would be received by an Age Pension couple if each worked half-time for the minimum wage.

These variations in disposable income from the same level of wages, illustrated in Figure 16, arise from the interactions of the tax and transfer system with the minimum wage.

Figure 16. Disposable income of households earning the FMW, January 2012



Notes: 100/0 & 50/50 refer to the split of earnings between partners in couple income units.

(a) In some cases this type of earning pattern may impact on the eligibility of people for receipt of a basic income support payment receipt.

Source: Generated using the "Policy Alternatives Model" (PAM) maintained by David Plunkett.

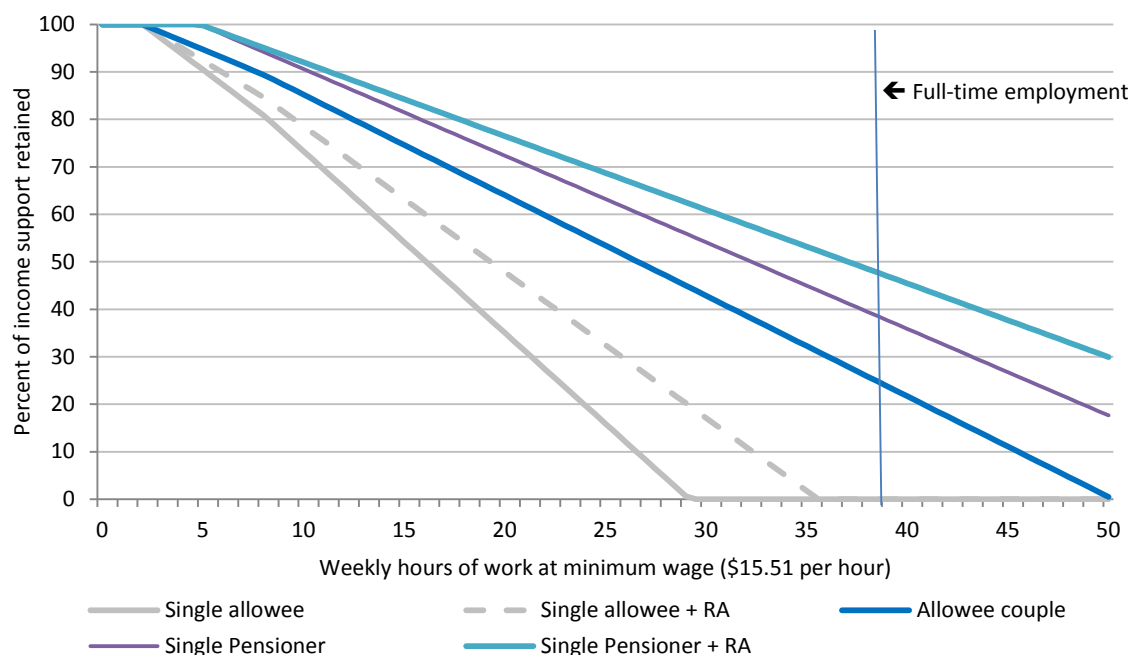
In the taxation system, in addition to the actual tax scales, the amount of tax a person pays depends upon a range of rebates and the tax treatment of couples. The rebates include: the Dependent Spouse Rebate – which results in the income of a single breadwinner with a dependent spouse some \$45 per week higher than that of a single person; the Mature Age Worker Tax Offset which reduces the level of tax paid by those aged 60 years and over; as well as the differing levels of the Low Income Tax Offset for those with children. Where the income is generated by two people working part-time there is the impact of two tax free thresholds.

Even more complex interactions arise in the transfer system. These include: the impact of residual eligibility for some base payments; support for families with children; and possible entitlement to rent assistance for those who are renting privately and pay above a minimum level of rent. Although full-time employment on the minimum wage usually precludes eligibility for transfer payments, this is not necessarily the case with some payments such as the Age Pension, and potentially in some cases, where income testing of the payment is applied across both members of a couple.

Figure 17 illustrates this in terms of the number of hours a person would need to work, at the hourly rate of the minimum wage, before their entitlement to income support is extinguished, and the proportion of their transfer payment that they retain up to this point.

While a single allowee – such as an unemployed person on Newstart – could only work 30 hours before extinguishing their eligibility for income support, a single Age Pensioner would still retain some 56 per cent of their payment at this level of work. Indeed at the hourly rate of the minimum wage they would have to work some 62 hours per week before their earnings reached a level to extinguish receipt of some pension.

Figure 17. Amount of benefits retained by hours of work at the minimum wage, January 2012



Source: Generated using the “Policy Alternatives Model” (PAM) maintained by David Plunkett

While, in some cases, the continued payment of some levels of support can be seen more in terms of being an unavoidable consequence of relatively high rates of payment, and of withdrawal rates designed to ensure that there is positive gain from additional employment⁷¹, other payments, especially to families with children have been deliberately designed to provide support as ‘in work benefits’ for those on low incomes.

4.2.2 Impact of taxes and transfers 1986 to 2012, Single persons

Between January 1986 and January 2012 the real value of the minimum wage, as at the beginning of January each year, and in December 2011 dollar values, increased by just 1.3 per cent – from \$581.63 to \$589.30 per week⁷². Within the period it fell from its initial level to as low as \$517.16 in January 1996 before increasing again to its current peak.

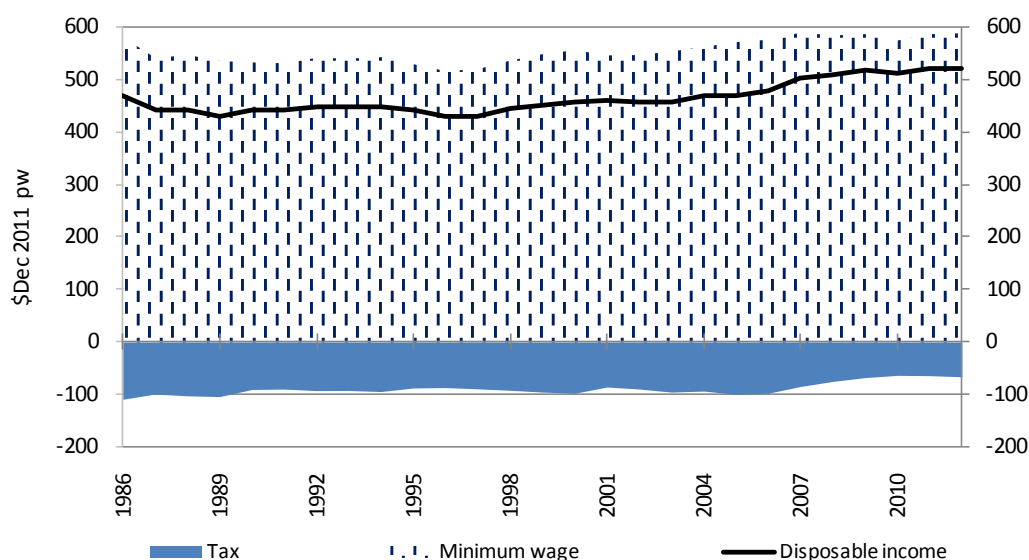
Notwithstanding the minimal, \$7.67 per week, real growth in the minimum wage over the period, the disposable income of a single person working for the minimum wage would have increased in real terms by \$53 per week. This has occurred, as illustrated in Figure 18, due to an almost halving of the income tax paid by such a person. (In this and the subsequent chart income, whether from earnings or transfers, is shown cumulatively above the x-axis, with tax (including the Medicare Levy) being shown as a negative below the axis, the solid line shows the net income of the household.) Whereas in 1986 such a worker would have paid an average income tax rate of 16.6 per cent, this had fallen to 8.8 per cent in 2012.⁷³

⁷¹ That is, the fact that some people continue to obtain some income support with these relatively high levels of private income should not be interpreted as there being a welfare need for this assistance, but rather it is consequence of policy decisions which have placed a priority on the initial level of adequacy and on trying to avoid high effective marginal tax rates (EMTRs).

⁷² The ‘metal workers’ series has been used for the period from September 1978 to April 1997.

⁷³ This period encompasses the introduction of the GST in 2000. As this tax impacted through increased prices which are controlled for in the use of real income this has no net impact on the results.

Figure 18. Real net disposable income single person on minimum wage 1986 to 2012



Data are as at 1 January each year. Minimum wage series is the 'C14' metal workers series.

Source: Derived from historical income support and taxation data.

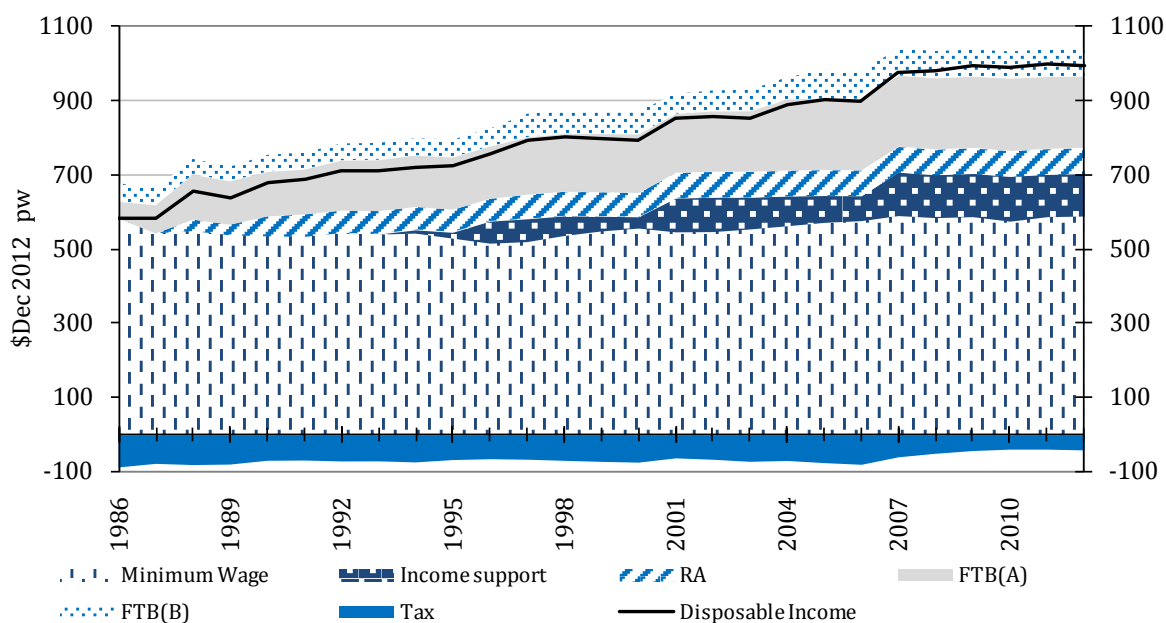
4.2.3 Impact of taxes and transfers 1986 to 2012, Families with children

The impact of changes in the tax and transfer systems has been even more marked for those households in receipt of support for children. Figure 19 illustrates this for an archetypical single breadwinner couple family with two young dependent children, renting privately and earning the minimum wage⁷⁴.

While again the real value of the minimum wage has only increased by 1.3 per cent over the period, the disposable income for this family type has grown by 70.1 per cent. In December 2011 dollar terms it has increased by \$410.55 from \$585.33 to \$995.88. Although these households have also benefitted from a fall in the income tax levied on their income, the major gains have occurred in the provision of support for their family. Total transfers have increased from \$94.55 per week to \$449.32 per week. This increase has been driven by three main areas of growth. The first are income tested per child benefits provided under FTB(A) and its predecessors; the second is the extension of rent assistance to low income working families in 1987 with the introduction of the Family Allowance Supplement; and third the introduction of direct support for a non (or minimal) working partner in a couple who is caring for young children. This support was initially provided by the Home Child Care Allowance which was then replaced with the introduction of Parenting Allowance in 1995, and subsequently Parenting Payment.

⁷⁴ Analysis of income data suggests that there are very few families in this situation. As has previously been seen, of those families with dependent children under the age of 15 years, only 52,336 have a full-time minimum wage earner and in most cases their partner is also employed. Indeed only 19,600 of these households have a single breadwinner on the minimum wage without a partner employed. These account for 1.1 per cent of all couple families with a dependent child under the age of 15 years for whom income data are available.

Figure 19. Real disposable income of a single FMW breadwinner couple family with two children aged 3 and 8 years, 1986 to 2012



Source: Data are as at 1 January each year. Minimum wage series is the 'C14' metal workers series, note the names of family support payments have changed over the period. Modelling assumes the household is paying private rent and is entitled to Rent Assistance.

Source: Data for the period to 2007 as published in AFTS Architecture of Australia's tax and transfer system – Figure 7.9 p238 (Henry 2008), updated using the "Policy Alternatives Model" (PAM) maintained by David Plunkett.

4.2.4 Policy rationale for support for families

While the original minimum wage was set in terms of a family of five, the question of support for children was a contested element of minimum wage policy (Whyte 1946). The initial introduction of child endowment in 1923 for lower paid Commonwealth public service employees arose directly from the recommendations of the 1920 Piddington Royal Commission on the Basic Wage. The introduction of child endowment (for the second and subsequent child) by the Commonwealth in 1941 was similarly stimulated by the Basic Wage Inquiry of 1940 which found that while the wage was adequate for a family of three, it was not necessarily sufficient for larger families.

Although this essential question of adequacy of low earnings for families has continued as the underlying driver of reforms in support for families, the policy rationale for these changes has had several more subtle emphases. The initial changes in the 1980s were largely concerned with ensuring that there were adequate incentives and rewards for families with children to seek employment rather than rely upon income support. As such they involved extending the support available to income support families to those in employment on low incomes. These policies were then shaped by the Hawke 'child poverty' commitment⁷⁵, and consequently by policies designed to better target assistance and to ensure that there were appropriate work incentives for both members of couples.

Notwithstanding this varying emphasis on particular strategies and policies the overall approach was summarised in the announcement of the 1994 'Working Nation' changes "*These measures mean that*

⁷⁵ In his 1987 election launch the Prime Minister Mr Bob Hawke announced, as an election pledge, "We set ourselves this first goal: by 1990 no Australian child will be living in poverty." (Hawke 1987) Later he has described this statement, which departed from his prepared speech that no child "will need to live in poverty" as one of his biggest mistakes. (The Age 2012). Nevertheless the statement heralded substantial increases in financial support to low income families with children.

unemployed couples will gain financially from working more, and therefore help reduce their dependence on the Social Security system. The measures will improve the incentive for unemployed couples to get a full-time job by supplementing the wage income from low income jobs.” (Keating 1994)

Similar themes were echoed four years later with the introduction of the ‘A New Tax System’ changes: *“These measures represent a major social reform that provides substantial extra income to help lower income families raise their children and improves work incentives. They ensure that unemployed families will not incur a sudden drop in Family Allowance (and hence income) when they leave the income support system, improving incentives for them to obtain a full-time job. At the same time, these measures, combined with the tax cuts, will ensure that low income working families will have much better incentives to improve their circumstances.”* (Costello 1998).

In contrast to these earlier changes which were strongly couched in terms of providing ‘incentives’, the 2005-06 ‘Welfare to work’ changes were explicit in their goal of increasing workforce participation⁷⁶. *“Welfare reform plays a role in increasing participation by ensuring that people who can work do so. This is an important part of a broader response to demographic change”* (Australian Government 2005 p 1). The changes introduced at that time were also explicit in supporting part-time as well as full-time participation for some groups. *“The outdated approach of people on welfare being expected to seek work only when they can work full-time will be replaced. Policy will focus on encouraging self-reliance and recognising the capacity of many recipients to work part-time.”* (ibid p 2) This latter was emphasised in the reduction in the taper rate for both Newstart and Parenting Payment Partnered.

In subsequent changes, while the specific focus on work incentives has remained central, an equal emphasis has also been placed on the impact of changes on family income, and lowering tax rates. In the 2007-08 budget, although the specific rationale for changes was: *“The tax cuts are aimed at improving work incentives for lower income and part-time workers. In combination with the changes in child care benefits, the tax cuts significantly improve work incentives for mothers”* (Australian Government 2007 p8); the outcomes of the previous tranches of policy were discussed in terms of *“The spending power of Australians has increased significantly since 1996-97 The increase in the wage level at which families become net taxpayers has been even more dramatic. For example, for a single income couple earning average full-time wages with two children ... the point at which they become net taxpayers will be \$50,813, a real increase of 41.5 per cent.”* (ibid p34)

4.3 Interpreting these changes

With regard to the minimum wage these changes have had two specific impacts. The first is a small increase in the incomes of single persons on the minimum wage, notwithstanding the lack of growth in the wage itself. As a result improved living standards have been achieved for this group without increasing the real value of the minimum wage. The second is much more significant and is the major shift in the role of the minimum wage for families with children. This latter has had two elements.

The first, reflecting changing patterns of workforce participation by women, is an effective expectation that partners in couples will be employed unless there are young children, or where a person is unable to work due to disability or age.

⁷⁶ Prior to these changes there was a considerable degree of, possibly deliberate, ambiguity in many of the pronouncements on these policies. To a large extent these reflected political sensitivities with regard to traditional single breadwinner families and as to whether participation of ‘mothers’ should be an explicit target. As such the language tended to be around ‘incentives’ and ‘choice’, rather than ‘expectation’ and ‘not eligible’. As also noted, a further approach to the government presentation of these policies has simply been in terms of increased household income.

Alternatively, this policy implies, in the absence of such employment, such couples are expected to accept lower incomes without compensation either through the wages or tax and transfer system. This was echoed in the report of the Australia's Future Tax System (AFTS) review which recommended that dependency should be much more narrowly defined in the tax system: "*The dependency offsets should be combined into a single offset to provide a tax concession where the taxpayer is supporting either a dependant who is unable to work due to disability or carer responsibility or where the taxpayer or dependant has reached Age Pension age.*" (Henry 2009 p86) This policy is being progressively implemented, most recently with the quarantining of the Dependent Spouse Rebate to partners born before 1 July 1952 and those who are a carer or have a disability. (Swan 2011)

The second is that support for children in low, and indeed many middle, income families has moved from the wages system to the transfer system. This again was explicitly considered in the Australia's Future Tax System review. The committee proposed, from both a social welfare perspective – in terms of ensuring "*children have access to a basic acceptable standard of living*", and on a horizontal equity basis (balancing the needs of those with and without children) that "*The rate of family payments should reflect the direct costs of children in low income families*". (Henry 2009 p555)

In aggregate these policies effectively mean that neither the support of a partner, nor of children, is seen today as functions of the minimum wage.

Implicit in this change has been a realignment of the income of families and singles reliant upon the minimum wage. That is, while in January 1986 the real disposable income of a couple with two young children on the minimum wage of \$585 was just 1.21 times that of the \$485 received by a single person with the same gross earnings, by 2012 the ratio between the \$996 of the couple and \$538 of the single had risen to 1.85. Although this is still below the ratio used in most common equivalence scales⁷⁷, it represents a much more 'balanced' outcome for these households given their relative needs.

This thus suggests that if the disposable income of the family – which has risen, as noted, by 70.1 per cent in real terms over this period represents an adequate, but low income, for such a family, then the level of the single minimum wage is approximately the same, or perhaps a little above, an equal standard of living for a single person.

⁷⁷ Equivalence scales are used as a means of adjusting the incomes of households of different compositions to take account of their different levels of need so as to allow a comparison of their relative levels of well-being. The most commonly used scale is the 'modified' OECD scale. This gives a weight of 1 to the first adult in the household, 0.5 to subsequent adults and 0.3 for children aged under 15 years. This scale would thus suggest that the couple requires an income 2.1 times that of the single person to be in an equivalent situation.

5 ECONOMICS OF THE MINIMUM WAGE

The economics of the minimum wage is an area of contention. As well as much theoretical debate there is considerable debate as to the empirical evidence, especially with regard to the impact of increases in the minimum wage on employment. This can be attributable to a number of reasons. Firstly many different economic mechanisms are involved. Secondly the nature of labour markets are complex, both because of their institutional frameworks, and because of heterogeneity in both the demand and the supply of labour – that is labour is not a simple commodity. Thirdly, in terms of the study of the impact of changes in the minimum wage, the magnitude of many minimum wage adjustments are small, and their impact may be spread over time. Finally the consideration of the economic impact of minimum wages is rarely detached even amongst economic and other researchers from social, moral and political interpretations.

This section looks at some of the theoretical models for understanding the minimum wage and some of the more recent research into the impact of changes in the minimum wage.

5.1 The theory

There are many theoretical explanations as to how minimum wages impact on labour markets. Some of the major ones are considered here. While, all too frequently, these are proposed and treated as competing theories, as will be discussed, an alternative approach is to recognise that each has some validity and the force, or relevance, of particular mechanisms is dependent upon the specifics of particular labour markets under different circumstances. The array of empirical findings gives some grounds for also considering this to be the case.

This section initially considers the classical model of the labour market under perfect competition, and then briefly overviews the range of complementary approaches where such a market does not exist, or is distorted through regulatory or bargaining processes. Essentially these alternatives encompass two models of wage fixation. The first is wage posting. In contrast to the competitive market, where individual employers are effectively price takers, based upon the level of labour they require⁷⁸, wage posting occurs in some non-competitive markets (for example where the market is dominated by a single firm – a monopsony, or where there is an asymmetry of information and individual workers do not know what the market value of their labour is, nor what other job options may be available) and involves employers offering employment at particular wage rates.

Where economic rents arise, that is excess returns, due to less than perfect markets, bargaining models reflect situations where employers and employees essentially bargain over how any surplus from productive activity is to be distributed. This can occur at the individual level – in essence a model of wage posting with negotiation, or in collective bargaining – typically between an employer and a union.

In addition labour is not a simple commodity. Individuals each have their own level of skills and ability. This is reflected in the labour market by a wide range of different prices for labour of different types, each essentially reflecting different submarkets with their own supply and demand, and productive capacity, and the ability of employers to substitute between these and for potential employees to operate in several markets. Furthermore individuals may choose how hard they wish to apply themselves, and for some, training may transform their productive capacity.

⁷⁸ While 'price takers' this does not imply that they are passive, rather they are collectively competing with each other for labour with this being reflected in the equilibrium wage which is derived from this aggregate demand.

Each transaction in labour markets can also be subject to frictions. These arise because of the time and cost for a worker to identify alternative employment opportunities and the cost for employers to find (and potentially train) replacement workers. These are taken into account in search and matching models.

Finally one can consider the effects of a wide range of institutional factors. These include regulatory processes, including statutory minimum wages, the decisions of arbitration and other tribunals – many of which have a quasi-judicial and conciliation function which leads to wages being struck at rates other than what would be generated by markets, strong unions which may lead to a monopoly on labour supply, or employers acting in concert such as cartels, as well as decision making in non-market sectors of the economy such as government employment.

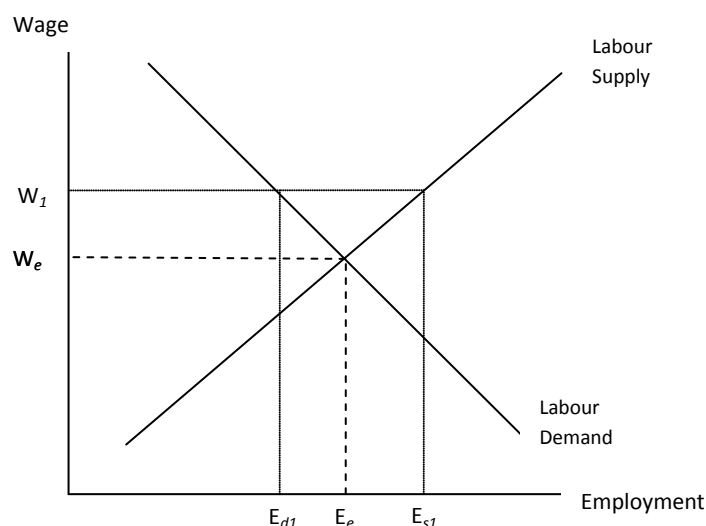
A further question related to the interaction of a number of these mechanisms is the role of low paid employment as a ‘stepping stone’ to better paid employment.⁷⁹

5.1.1 Model of a classical competitive labour market

In classical terms minimum wages can be considered in terms of the demand and supply for labour, both of which are considered to be elastic. That is if the price of labour increases the supply of labour will increase, but demand will fall.

In Figure 20 the labour market is in equilibrium at the point where wages are equal to W_e and employment is E_e . If however the minimum wage is set above this point – say W_1 , then the demand for labour will fall to E_{d1} , with unemployment equal to the gap between E_{d1} and E_{s1} – the level of labour that people are willing to supply at this higher price.

Figure 20. The competitive labour market



⁷⁹ Another theoretical argument which is sometimes postulated is that a higher minimum wage can be merited as it will boost consumption. This tends to be proposed in two ways, the first in terms of the absolute level of consumption within an economy, the second is that minimum wage workers, relative to others, are more likely to consume, rather than save any additional income. These are not considered here although it is noted that within the Australian context these arguments appear to have little force. Firstly the small wages share of minimum wage employees would suggest that there would be little aggregate impact. Secondly the distribution of minimum wage workers across households by income would weaken any presumed greater propensity to consume.

Underlying this model:

- the labour demand curve reflects the declining marginal value of additional labour (with fixed capital) and employment decisions which are dependent upon whether or not the cost of additional labour exceeds the contribution that this labour makes to the marginal revenue product⁸⁰; and
- the labour supply curve reflects trade-offs for individuals between work and leisure, with individuals being willing to supply additional labour at higher wages.

At the equilibrium point the market clears – that is all people who are seeking employment and have a reservation wage equal or below the market wage can obtain employment.

5.1.2 Demand side

The demand for labour in the classic model is elastic and negative, that is the amount of labour demanded by employers is dependent upon the price, and demand is decreasing in price. This reflects, as noted, the micro-economics of a firm's decision as to whether they employ additional labour.

The actual supply and demand for labour and the way firms use labour is however somewhat more complex. In the first instance labour is not homogeneous but rather comprises individuals with different skills, motivations and capacities. Secondly these differentiable types of labour can be used by companies, along with capital, for example machinery, in different combinations to make the same products. Hence the impact of an increase in a minimum wage may result in a decrease in demand for lower skilled workers, but an increase (of a lesser amount) in the demand for higher skilled workers. Alternatively it may result in the replacement of the low skilled labour with some form of technology – with a resultant further fall in employment.

Of course alternative employer responses to a higher minimum wage could be to simply pay the higher wages and increase the cost of products, or absorb the costs. In the first case – that of increasing product prices, a likely consequence, unless demand for the good is price inelastic, is a fall in demand for the product and hence declining employment. Typically, for example, an increase in the cost of fast food is likely to see the substitution of home production of meals. If, of course, the increase in prices is widespread the resultant inflation may result in the wiping out of the nominal value of the increase in wages. The alternative option for a firm, that of reducing profits may be feasible, in particular in some restricted situations where the firm is earning a return above the normal return on investment – as in some of the monopsony cases discussed below, or as a short-term response to a minimum wage increase while a company ponders longer term adjustments. However in general, and over the longer term, a sustained reduction in profitability is likely to lead to the capital moving to alternative investment opportunities (which are not adversely affected by the minimum wage change).

The nature of firms' labour demand decisions is of course much more complex than the theory presents. Very few, if any, companies would know the marginal revenue product of each employee and make instantaneous employment/disemployment decisions on this basis. Rather it is more probable that firms will have some overall concept of medium term profitability, current revenue trends and costs, and will take decisions over time on this type of information. They may anticipate a change in the price of labour prior to any actual change in the minimum wage, in taking decisions on whether to expand and take on additional employees, or replacing employees who leave. Alternatively, after a change in the price of labour such as from an increase in the minimum wage,

⁸⁰ This also needs to be understood in the context of a series of markets. The marginal revenue product is a function of prices and hence of the product market the company is in.

they may wait some time to assess the impact of this on profitability, or even test whether or not they can increase prices.

In larger companies decisions on employment may take place at the plant level, rather than at the employee level. The relationship between minimum wage levels and the adoption of technology as a substitute is also unlikely to be linear. Frijters (1998), for example, discusses the potential role of 'technological switching points' in the level of the minimum wage. Such switching points arise when the minimum wage increases to a level which generates a more significant rethink of the production process to adopt new techniques which may have a major impact on the levels of minimum wage employment.

In addition both employment and disemployment decisions can be costly to the firm. Firms frequently invest in building general and firm specific knowledge and skills in their workforce which they lose with any loss of staff – as well as often incurring specific redundancy and associated costs. Similarly not only does engaging new employees cost management time (and potentially involves direct costs associated with private recruitment), but also in the training of new workers and 'bringing them up to speed'. This can frequently cause firms to hoard labour, or defer recruitment, as well as potentially prefer to invest in upgrading the skills of current staff to make them more productive as a response to a minimum wage increase.

While each of these types of processes may obscure the operation of the more fundamental mechanisms, and the timing of responses, they do not change the fundamental forces at work.

5.1.3 Supply of labour – reservation wages – and income effects

In the classical model labour supply is increasing with price. That is if wages are higher people are willing to provide more labour. For some this will be a simple incremental trade-off between hours of work and hours of leisure (or home production) with the higher income from labour compensating for a reduction in the amount of leisure the person consumes. For others it will occur as the price of labour exceeds their reservation wage – that is the minimum amount they are willing to accept for employment. For some this reservation wage may reflect a trade-off between the income they receive from transfer payments, as well as the cost of work including the cost of childcare. This latter combination of factors can impact on some subgroups of the population, for example older persons and dependent partners in a way that may involve considerable shifts in the supply of labour as segments of the population enter, or withdraw from the workforce.

The responsiveness of labour supply to changes in wages – the elasticity of labour supply – is also not consistent across the population. Typically some groups such as married males are seen as having highly inelastic labour supply, that is, in Figure 20, their supply curve is closer to a vertical. In contrast the supply of labour by married women, lone parents and older persons is usually much more elastic (see Dandie and Mercante (2007) for a review of recent estimates).

While higher wages are usually seen as increasing labour supply, this is not always the case. In some cases a higher wage may reduce the supply of labour. This results from an income effect. If some people are satisfied with the level of income they receive, and their wage rate increases, they can obtain the same level of income with a reduction in their number of hours of work and hence reduce their labour supply⁸¹.

⁸¹ This is of course one interpretation which can be placed on phenomena seen in Figure 2. For much of the 20th century employees, including minimum wage employees, have been willing to trade off what would have otherwise been potentially a very substantial effective increase in earnings for a major reduction in working hours.

Within economic units such as families labour supply can also be sensitive to the wage rates received by others, and hence an increase in one person's wages may see another reduce their working hours.

5.1.4 An efficiency wage

The idea of an efficiency wage is a departure from the classic market approach. In contrast to the assumption that labour supply is a standard commodity, the efficiency wage is based on an assumption that an individual can and will change their work effort – and hence output – depending upon the wage they are paid. This was summarised by Stiglitz as *“The efficiency wage hypothesis says that the services a labourer renders are a function of the wage they receive. One well-paid worker may do what two poorly paid workers can do”*. (Stiglitz 1976)

Such a response may have both positive and negative impacts on employment. To the extent a large number of inefficient employees are currently employed it may be negative. That is employers will employ a smaller number on higher wages in order to get the same value of production. Alternatively, to the extent this higher level of productivity generates a higher marginal revenue product, employers may take decisions to expand their level of production and employment.

In the case of the minimum wage an efficiency wage argument suggests that a higher minimum wage will result in greater effort by employees thus boosting their productivity. At the same time there is some ambiguity as to whether or not the apparent productivity gains are wholly an individual response to the change in their own wage, or rather are a result of sorting – that is a higher minimum wage will induce employers to employ the most productive individuals. Indeed three different scenarios can be considered. The first is where an employer is indifferent as to whether to employ a larger number of less productive workers on a lower wage or a small number of more productive workers on a higher wage. A higher minimum wage will motivate the second choice. The second is where the job has a considerable capital component. Here it would be expected that the indifference of the first case does not exist and hence the employer would have already engaged in sorting to find the most efficient worker. The third is where there is scope for an individual to boost their own productivity, either because they are ‘motivated’ by the higher wage, or because they know at the higher wage they are more likely to face competition from other workers for the job.

In the history of the debate on the minimum wage all three of these approaches are cited. The first can be seen in Stiglitz (1976) and also in Webb's (1912) argument for the introduction of a minimum wage: *“if the conditions of employment are unregulated, it will frequently “pay” an employer ... not to select the best workman, but to give the preference to an incompetent or infirm man, a “boozer” or a person of bad character, provided that he can hire them at a sufficiently low wage”* (ibid p 978) In contrast, *“With a Legal Minimum Wage ... he is economically impelled to do his utmost to raise the level of efficiency of his workers, so as to get the best possible return for the fixed conditions”*. (loc cit).

The use of capital argument is seen in Marshall (1890) who notes that while it may make little difference, for example, in low technology manual labouring, to an employer *“whose wages bill for a certain piece of work is £100, whether that sum is divided between twenty efficient or thirty inefficient workers”* but where *“expensive fixed capital is used, it would be to the advantage of the employer to raise the time earnings for the more efficient workers”* (ibid p457)

The third is reflected in the frequently cited case of the introduction by Henry Ford of a ‘five dollar a day’ rate of pay for workers building the Model T. Although there are arguments as to the rationale for Ford's strategy, a review by Raff and Summers (1987) concluded that it was an efficiency wage and that: *“On balance it seems fair to conclude that Ford was able, by offering the five-dollar day, to*

reduce the turnover among his workers and to extract much more intensive, and generally productive, effort from them” (p S83)

This question of the potential costs of turnover leads to the role of labour market frictions and a broader and more recent theoretical developments on matching and on variations to the assumption of a perfect market. These are discussed under monopsony markets.

5.1.5 Monopsony

A special case of the labour market which has had increasing attention in the minimum wage literature in recent years is that of a monopsony – a single buyer of labour. For a monopsony employer profit maximisation can occur at an employment level and wage rate below the equilibrium which would occur in a competitive market. As a consequence a minimum wage, while still enabling the company to make a profit – consistent with what would happen in a competitive market, it can also lead to an increase in employment. While this theory was discussed by Stigler in 1946 as being “quite valid” he considered that it was “*not very relevant to the question of a national minimum wage*” (Stigler 1946 p 361), as it would only occur under a number of quite restrictive conditions.

Empirical findings of apparent positive employment effects in some minimum wage studies resulted in a re-emergence of this theory as a possible explanation of the observed outcomes. (Card and Krueger 1995, Bhaskar and To 1999)

A more sophisticated approach to the monopsony model is that of the dynamic monopsony, or imperfect search model. In this, rather than assuming that a perfect market operates, it is assumed that many workers will accept a wage offer as long as it is above their reservation wage because they lack knowledge of what the market equilibrium wage is. That is wages are ‘posted’ by individual employers rather than being determined by a market in the first instance. While some of the workers who accept this initial offer may move to other companies over time as they receive further job offers from companies paying closer to equilibrium wages, the businesses they initially worked for then recruits replacement workers – repeating their initial strategy. As such these businesses can be seen as effectively operating as monopsonies – in making the initial offers to those who have not received previous offers. Under these circumstances it is suggested that a “*minimum wage can improve welfare because all wages are set too low as a consequence of employer monopsony power and because dispersed wages induces inefficient labor turnover in the economy*” (Mortensen 1998 p 1). As noted by Zavodny (1998) such a situation can be typified in those sectors with large numbers of small employers. As seen earlier low wage employment is concentrated in many of these sectors.

These studies identify scope for a welfare improving intervention with gains in both employment and wages where such an inefficient market exists. A counterpoint to this however has been put by Danziger (2009) who notes that, if the market is already operating efficiently, the introduction of a minimum wage without full-compliance can in fact generate a situation where small firms start operating as monopsonists and reduce both wages and employment.

Of course if the minimum wage rises to the market equilibrium there are no future employment gains under this monopsony model as the gains from monopsony pricing of labour have been eliminated.

Research by Fakhfakh and FitzRoy (2005) examined the employment size wage effect which is evident in many countries – highlighted by the concentration of low pay and minimum pay employment in small firms. Their results were consistent with a dynamic monopsony model while also finding evidence of rent sharing.

5.1.6 Bargaining and associated institutional models

There are many approaches to institutional and bargaining models. Under a monopoly union approach it is considered that unions hold the ability to set wages, and firms then respond to this in terms of their labour demand curve. Since this is downwardly sloping it implies that higher wages set by the unions may result in labour supply exceeding demand – and the generation of unemployment. Within this model this result may be acceptable, either because the overall result for all workers – including the unemployed, is better than could be achieved under alternative wages, or because the interests of those who are employed are given greater weight than those who are not employed. (Often seen as an insider/outsider model because those already employed are more likely to be union members and hence benefit from the higher wages, while those outside are not.) Alternatively bilateral bargaining models see unions (or some other collectivity of employees) as bargaining with employers over the distribution of excess profits (that is profits over the normal return on capital.) Within these models there are further issues such as whether unions are simply responsive to maximising outcomes for all workers, or whether, as argued by the median voter model, they need to concentrate on the interests of a particular segment in order to ensure their re-election⁸².

In the case of minimum wage setting many different institutional mechanisms come into play, with the balance of these varying across countries. These include: collective bargaining; independent, but state sanctioned bodies which may operate within an Industrial Relations, or a social policy environment, with varying degrees of participation by employers, unions and the broader community; or by direct government dictate. Such institutional frameworks as well as being influenced by current political and other power balances in particular countries, can also be the product of deeply embedded institutional frameworks, or social values. (Alesina and Glaeser 2004, Chapter 5)

The structures which gave rise to the original Harvester decision, tariff protection conditional on a legal obligation to pay a living wage, clearly fall within this set of institutional arrangements.

5.1.7 Minimum wage, education and training

Several theoretical frameworks suggest a relationship between minimum wages, education and training. These models support arguments for both increased and decreased investment in skills and education as a result of the introduction of a minimum wage or an increase in its rate.

As minimum wages are usually earned by low or unskilled employees, a higher minimum wage can improve the relative return for unskilled workers relative to those with greater skills. That is, it can act to reduce the premium paid for skills. In turn this may reduce the willingness of individuals to invest in developing such skills as they are less valuable to them. One possible consequence of this is, for example, that a high minimum wage for young people may make them less likely to remain in education.

Potentially running counter to this is that a high minimum wage may result in employers being more selective as to whom they recruit for minimum wage positions, for example requiring a higher level of education and skills. In such circumstances a minimum wage may stimulate training – as higher skill levels become a prerequisite to being able to obtain employment – even at the entry level.

This though in turn has the consequence of leaving those without such skills as unemployed, and indeed unemployable, without such training.

⁸² Given the shape of the earnings distribution with a strong skew towards the bottom tail, this model would also suggest that, given the median member is likely to be on a lower rather than higher income, they will favour wage outcomes which are redistributive. On the other hand if individuals in the middle of the distribution believe that they may be able to move to positions at the top of the distribution, they may be willing to live with more dispersed wages in the short term in the hope of securing a higher paying job in the future.

The impetus for training may also come from the firm. Again in cases where there are market distortions, including significant frictions, a high minimum wage may result in an increase in training effort.

This subject has been given considerable attention by Acemoglu and Pischke. In a 1999 paper (Acemoglu and Pischke 1999) they identify the theoretical circumstances in which a firm may provide training to its employees. Using Becker's approach they note that in a perfect labour market an individual bears the cost of general training since there is no benefit for the employer since the individual gains the return on this through higher wages. Where however the market is not perfect, in particular where wages compression occurs, as is often the case around a minimum wage, this situation changes and to the extent training can generate higher productivity these gains can be taken by the employer and hence training may be offered. More recent work (Acemoglu and Pischke 2001) suggests an employer may, in the face of an increase in the minimum wage, find it more profitable to improve the skills of their minimum wage workers than to recruit alternative workers.

5.1.8 Minimum wages and transfers

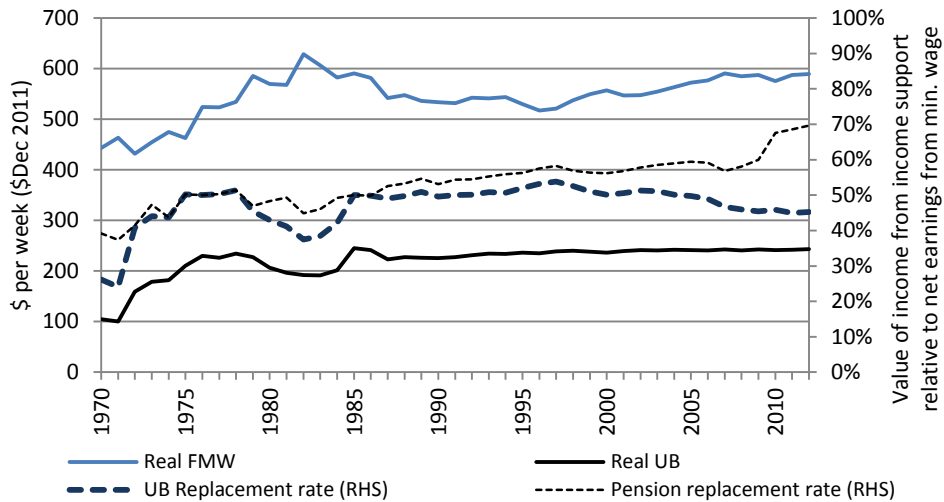
A key determinant of the reservation wage for many people is the level of income they might otherwise be entitled to from transfer payments. If the minimum wage is low relative to these transfers (and the additional costs that a person will experience in taking up employment) there may be little incentive for a person to take up employment at the minimum wage level. This is usually countered in the design of income support payments in three ways. The first is to set payment rates low enough to ensure a strong financial incentive for employment. The second is to design tapers (the rate at which the payment is withdrawn as a person receives private income) in such a way that a person is always better off with additional earnings. Thirdly many payments impose conditionality, such as work tests, which require recipients of assistance to actively seek employment and to accept reasonable job offers, and involve sanctions where these obligations are not met.

This relationship is frequently cited as a reason for keeping the rate of assistance provided under income support payments low. For example it was argued by the Australian Government interagency submission to the Senate Inquiry on the adequacy of the allowance payment system that "*an increase in the base rate of Newstart Allowance has the distinct disadvantage of reducing employment incentives, especially for those who can only obtain low paying employment*" (Australian Government 2012 p12)

To the extent however that government is a player in both the setting of minimum wages and the rate of income support, the determination of neither is really independent of the other. That is, to the extent the government can affect the rate of the minimum wage they cannot wholly argue that their hands are tied in making decisions on the rate of income support.

This in public debates can lead to some circularity. From the perspective of the minimum wage as a ceiling on the rates at which income support payments can be paid, it is argued that a high minimum wage is important to ensure adequate levels of income support can be paid. Alternatively some argue, such as Schmitt (2012) "*More generous social expenditures may reduce low pay by forcing employers to raise wages to compete with social benefits*" (p 3). Underlying this argument are assumptions about the capacity of employers to pay such higher wages.

Figure 21. Relative value of disposable income from minimum wage and unemployment benefits (Newstart), 1970 to 2011



Source: Minimum wage as detailed in Attachment A, income support data Australian Government 2013 Section 5.2

In January 2012 the weekly income of a single person on Newstart is \$243.40 (excluding Rent Assistance) compared with a net income of \$537.72 for the same person on the minimum wage – a replacement rate of 45.3 per cent. As illustrated in Figure 21, over the period since 1970 this rate has varied considerably. It rose from as low as 26.2 per cent in 1970, and after a dip in the mid-1970s, eventually gained a high of 53.9 per cent in 1997, from which it has since steadily declined. These variations were initially driven by real increases in the rate of income support payments⁸³, but over more recent periods have been more affected by changes in the minimum wage and its taxation treatment, as this form of income support has been held flat in real terms.

In contrast to this decline in the replacement rate of assistance to the unemployed, the replacement rate of the single pension for a pensioner of working age (typically a person on the Disability Support Pension or on Carer Payment) has risen over most of the period. Particularly noticeable in the chart is the rapid increase associated with the rise in the value of the pension (including bonus payments) over the past five years. Currently the single rate of pension represents a 69.6 per cent replacement rate for working full-time for the minimum wage, without taking account of the potential additional costs of work.

5.1.9 Wage compression

Wage compression is frequently associated with the operation of a minimum wage. It can occur where a statutory minimum wage is increased, but where other wages are determined by the market, or as an outcome of industrial bargaining. In this latter negotiations may involve trading-off the potential earnings of one group of employees for higher earnings for others. Frequently this involves a high wages floor – effectively a minimum wage – with lesser increments for other employees. This can arise both directly in the determination of rates, or through policies such as flat value wage increments across employees.

Where this occurs a higher minimum wage may be agreed by employers as it does not impinge on the average cost of employment across the workforce. Over time however such trade-offs can

⁸³ The pattern of change in the value of income support payments to the unemployed reflects a range of policy decisions in pursuit of different goals and priorities at different times. Initially in the early 1970s the objective was, on equity grounds, to bring the rate of this support into alignment with the rate of pensions, followed by the payment being frozen in the late 1970s, in response to a need for budget stringency and to improve incentives for work. This was followed by a series of ad hoc adjustments, and eventually indexation for changes in prices.

reduce the mobility of lower skilled workers, while increasing that of more highly skilled workers (Frandsen 2010), in particular where other employers may not have the same constraints on the wages they offer. On the other hand the higher minimum wage may introduce an incentive for employers to provide training to less skilled employees to boost their productivity. (Dustmann and Schönberg 2004, Arulampalam, Booth and Bryan 2004). In this case a lesser margin may be appropriate between their wage and that of others.

While potentially leading to this type of wage compression, an alternative set of interactions can result in the minimum wage leading to increases in other low wages. The mechanisms of this depend upon institutional frameworks:

- In Australia both the formulation of the basic wage as a foundational wage upon which other wage rates were constructed using a system of margins and loadings, and the co-determination of the minimum wage, and other wage rates in the current system, directly provide for this type of flow-on effect. While this has been somewhat mitigated at times through flat increases in the minimum wage rate, the compression from this is relatively low in contrast to what otherwise may have occurred.
- Alternatively even when other wages are determined through the market, this cannot occur in isolation from relativities with the minimum wage. Employers may find it necessary to pay wages above the minimum wage to attract more productive or skilled employees and, to the extent the minimum wage is increased, these wages may need to be increased to at least maintain a differential.

5.1.10 The minimum wage and productivity

Essentially any long term sustainable increase in the minimum wage can only occur with an increase in the productivity of this labour. In some cases, as discussed, theories provide scope for productivity enhancing behaviours as a response to an increase in the minimum wage. These include: greater application to work by those in receipt of the minimum wage; improved efficiency in the operation of markets – reducing the costs of labour turnover; eliminating monopsony practices; and training.

This raises a central question. In the long run, can these types of productivity enhancing responses provide sufficient returns to cover ongoing increases in the minimum wage? A subsidiary question is, if a higher minimum wage requires a more highly skilled minimum wage workforce, what is the fate of those who lack the ability or willingness to acquire these skills?

While not addressing this latter question, Freeman (1996) identifies a specific role for the minimum wage in focusing attention on the issue of productivity: *“But the long-term well-being of workers in the lower rung of the earnings distribution depends ultimately on increasing their productivity. If a minimum wage directs the attention toward the need to develop long-term policies that augment the productivity and skills of the low-paid, and of the firms for whom they work, it can provide an additional service as well as redistributing modest amounts to the low-paid.”* (p 648)

5.1.11 Who funds the minimum wage

Except in the case of an efficiency wage effect, imposing or increasing a minimum wage essentially involve transfers from one group to another. This is again highlighted in Freeman (ibid) *“Minimum wages do not increase the pay of workers by magic. Save in the case of monopsony, they do not raise national output, but rather take money from some citizens and pay it to others. Even in the monopsony case, moreover, there is redistribution from the firm to workers and consumers.”* (p 640)

A number of such transfers have been identified in the preceding discussions. Wage compression involves transfers from potentially higher paid workers to those working on the minimum wage. Passing through of any cost increase to consumers through prices involves the population as a whole funding the increase. A fall in company profitability leads to reduced distributions to the owners of these companies. Displacement of some minimum wage workers results in an effective transfer from these displaced workers to both the remaining minimum wage workers and potentially a smaller group of more skilled workers for whom there is increased demand. A higher minimum wage may draw additional, more highly skilled, people into the workforce. Employment of this group is then likely to be at the expense of those already in the workforce with lower skills.

These in turn have consequential impacts. Excessive wage compression can result in underinvestment in skills, potential pressures for wage increases which may wipe out the benefits of the higher minimum wage, or the movement of skilled labour to sectors with less constraint on wage setting. While such compression has been maintained in countries with strong institutions and a strong 'social contract', this can also carry a cost. Price pass throughs can result in shifts in consumption and hence a reduction in the demand for the products which have a large minimum wage employment component, or lead to generalised inflation which wipes out the gains of the higher minimum wage. Reduced profitability in one sector can result in capital and activity moving to other sectors, again with lesser reliance upon minimum wage employment.

The impacts on governments can be ambiguous. An increase in minimum wages may result in higher taxation payments, and through income testing, lower transfer payments. Conversely if it has a negative employment effect, it may increase demand for transfer payments and lower company profitability may reduce taxation revenue. As a direct employer and funder of services which employ labour, governments also face higher costs.

At times it is argued that an increase in the minimum wage can, through the increased spending of these workers, increase demand. For the reasons listed above this can only arise to the extent the minimum wage workers have a greater propensity to consume than the other groups who are effectively paying for the increase in the minimum wage. Further, as discussed in section 0 the distribution of minimum wage workers across households would suggest that the propensity to consume may not be all that different.

5.1.12 Competing theories or theories for different circumstances

Given the array of potential theoretical approaches to wage setting and the minimum wage, it is easy to dismiss these theories as being conflicting, or to cherry pick particular theories which tend to reinforce pre-conceptions or aspirations.

An alternative approach, as intimated in the introduction to the section, is to recognise that each of the theories is seeking to simplify one dimension of a very complex relationship where at any one time several forces will be at play. More so, different circumstances may result in quite different weights to each of these.

Cahuc (2006) notes, in regard to the merits of the perfect market and monopsony approaches and the effect of minimum wages on employment: *“rises in the minimum wage do not always exert influence in the same direction. Everything depends on conditions at the outset. If the minimum wage is low, bordering on basic welfare, an increase in it attracts new workers whom firms have an interest in hiring. But if the minimum wage is high at the onset, every increase incentivizes firms to trim from their payrolls those employees whose productivity has been overtaken by the new level of the minimum wage, without hiring an equivalent number of new, more productive workers. Hence the minimum wage can be either helpful or harmful to employment”* (pp45-46)

Similar approaches can be taken to the relationship between other theories. While a minimum wage increase may work as a productivity wage, stimulating the level of effort some individuals will bring to their employment, because people are different, it may not have the same impact on others who may well end up being displaced. Similarly, depending upon traditions and institutions, while firm or industry based bargaining may give rise to collectively agreed high levels of minimum wages, an alternative where workers have low bargaining power at the firm level is that they may instead use their collective voting power to seek to have these instituted at a political level – for example through a statutory minimum wage.

5.2 Research findings

Although the minimum wage has been the subject of considerable empirical analysis, over a long period, research findings can be best described as apparently contradictory and disputed⁸⁴. There are several reasons for this. The first is that changes in the minimum wage are often one of many different changes taking place in labour markets and economies and as a consequence it is often difficult to disentangle effects. Secondly, income and related labour market data are frequently noisy – as has been seen earlier in this paper there are considerable difficulties in even estimating the proportion of people on the minimum wage. Thirdly many changes in the minimum wage are relatively small and incremental, and may only impact on a small segment of the workforce while responses can be both anticipated and lagged. The consequence of this is that the response to any one change in the rate of the minimum wage is frequently relatively small. Further such a response is not necessarily simultaneous with the actual time the change in pay is made. This makes it difficult to identify effects in noisy data. At the same time cumulative and longer term change is more likely to be entangled with a range of other economic, including technological and international market, changes that are occurring and hence hard to isolate. Fourthly there are a multitude of potential focal points to be studied. For example, are changes in the minimum wage manifest in employment levels overall; in the employment levels of particular subgroups – such as the young and those with poor skills; or in terms of growth in employment of other groups of more productive workers; or do the changes impact on levels of training within firms; or changes in turnover rates? If, for example, prices are the channel through which the impact flows short-term studies of employment may pick up little effect. Fifthly, as seen in the discussion of the theories related to the minimum wage, the consequences of changes may be quite different in different situations. Attention to the context of specific findings is often subordinated by the desire to provide generalised conclusions.

Finally this research, and interpretation of it, addresses a subject which is firmly entrenched in social and political values concerning equity and fairness and the appropriateness of various outcomes and interventions. At the broader level this sees considerable cherry picking in terms of the theories and evidence which features in the public debate.

In looking at the literature this paper mainly is concerned with analysis conducted over recent decades.

5.2.1 Disemployment effects – Card and Krueger vs Neumark and Wascher

The divide in the findings of empirical data is perhaps most starkly seen in the work of Card and Krueger relative to that of Neumark and Wascher. Card and Krueger in their book “Myth and Measurement: The New Economics of the Minimum Wage” (1995) bring together much of the work they undertook in the 1980s and early 1990s on the impact of state minimum wage changes in the

⁸⁴ As well as disputation around the specific findings of published studies it has also been suggested (Doucouliagos and Stanley 2008) that the literature has been selectively published with a bias in favour of studies showing statistically significant and negative impacts on employment.

United States, in particular with regard to the fast food sector. This is accompanied by other analysis including a critical review of earlier minimum wage studies, analysis of the role of the minimum wage on the level and distribution of household income and on the evaluation of the effects of minimum wages on the value of companies. The results of this body of research, they claim, “*call into question the standard model*” (op cit p. 1) and that their book “*presents a new body of evidence showing that recent minimum wage increases have not had the negative effects predicted by the textbook model. Some of the new evidence points towards a positive effect of the minimum wage on employment; most shows no effect at all. Moreover, a reanalysis of previous minimum wage studies finds little support for the prediction that minimum wages reduce employment.*” (ibid).

This work has been very influential and has been one of the factors driving the new focus on aspects of the labour market such as the role of monopsonies and training effects.

Neumark and Wascher were active, and critical, in the debate around the work of Card and Krueger and have continued to undertake new studies of the impact of the minimum wage. Their book ‘Minimum Wages’ (Neumark and Wascher 2010) draws on this body of work including a reanalysis of the work of Card and Krueger and a wide review of other studies. In introducing their book they summarise their findings as: ‘*Based on the extensive research we have done, and our reading of the research done by others, we arrive at the following four main conclusions regarding the outcomes that are central to policy debate about minimum wages. First, minimum wages reduce employment opportunities for less-skilled workers, especially those who are most directly affected by the minimum wage. Second, although minimum wages compress the wage distribution, because of employment and hours declines among those whose wages are most affected by minimum wage increases, a higher minimum wage tends to reduce rather than to increase the earnings of the lowest-skilled individuals. Third, minimum wages do not, on net, reduce poverty or otherwise help low-income families, but primarily redistribute income among low-income families and may increase poverty. Fourth, minimum wages appear to have adverse longer-run effects on wages and earnings, in part because they hinder the acquisition of human capital.*’ (pp 6-7)

There is clearly little common ground in these two interpretations of the evidence.

5.2.2 Australian research

In recent years there has also been a resurgence in research on the minimum wage in Australia. Much of this has arisen due to the restoration of a formal minimum wage, and the activities of the AFPC and FWA, including funding research projects. A substantial component of this activity has been concerned with seeking to estimate the size and composition of minimum wage employment and of its impact on household incomes. In contrast there has been relatively little direct research on the impact of the minimum wage on employment in Australia. Rather most of the debate on the potential effects has been based upon the international research.

Employment effects

Two empirical studies have looked at the impact of the state minimum wage in Western Australia. Leigh (2003, 2004) found that increases in the state minimum wage⁸⁵ were associated with a fall in employment, with this being most strongly felt amongst young people. “*On six occasions between 1994 and 2001, the Western Australian minimum wage was increased, by between 3.49 per cent and 9.29 per cent. After each of these increases, the employment to population ratio in Western Australia fell, relative to the Rest of Australia. Aggregating these six changes, the elasticity of labour demand with respect to the Western Australian statutory minimum wage is estimated to be -0.13. The*

⁸⁵ Underlying this study was the fact that the WA State Minimum Wage, operating under the State ‘Minimum Conditions of Employment Act’ differed from the award minimum wage between 1994 and 2002. This provided a ‘natural experiment’ which could be exploited to test the impact of the different minimum wage in that State.

employment impact is most substantial among younger employees, with the elasticity of labour demand for workers aged 15–24 estimated at –0.39.”(Leigh 2003 pp 370-371)

Plowman (2007) used a different approach which focused on the association between the minimum wage and employment changes in particular submarkets within WA. His conclusion was that *“the minimum wage has had little effect on employment in general, but has impacted, in small measure, on employment in vulnerable sectors. That impact has affected part-time rather than full-time employment.”* (Plowman 2007 p 20)

Lewis (2006), using aggregate data to derive elasticities of labour demand, suggested that *“if the minimum wage had been kept constant in real terms between 1994 and 2004 about 290 thousand extra jobs would have been created”* (p. 19). Harding and Harding (2004a), looking at minimum rates in general rather than just the FMW, used data from a survey of small businesses to estimate the labour demand effect of changes in minimum rates. They conclude that a one per cent increase in the minimum wage reduced employment by 0.2 per cent in the short-term (p. 11). The study also found that there was not strong evidence to support a monopsony model of employment for the businesses they studied.

In contrast Lee and Suardi (2010) analyse changes in employment to population ratios in Australia between 1977 and 2008 and come to a *‘tentative conclusion’* that *“the seven minimum wage increases in Australia from 1997 to 2003 appear to not have had any significant negative employment effects for teenagers”* (p. 21). In considering this finding it needs to be recalled that the actual level of increase in the real value of the minimum wage over this period was relatively small – rising in real terms, in the data cited by Lee and Suardi, from \$359.40 to \$397.00 in 10 years.

Wheatley (2009) in a study of relative trends in low and high skilled employment in Australia examined the potential role of the minimum wage in reducing the relative level of low skilled employment between 2001 and 2007. He found a statistically significant effect with a one per cent increase in the ratio of the minimum wage to average earnings associated with a 1.4 to 1.6 per cent reduction in low skilled versus higher skilled employment, depending upon how higher skilled employment was defined.

While not related to the minimum wage per se a useful and challenging insight into how markets may respond to wages shocks, and the importance of institutional factors was the introduction of equal pay in Australia. Gregory and Duncan (1981) found that despite a relative earnings growth of 30 per cent for women there were no major employment effects. That is there was neither substitution of male for female labour nor falls in demand for female employment.⁸⁶ The authors ascribe this result to the extent of labour market segmentation.

Adjustment and productivity

Hancock (1998) in reviewing the history of the role of the minimum wage in Australia places a strong emphasis on the institutional factors decisions being taken in the context of a bargaining model of wages. Specifically he suggests that in such a model the focus of the task taken on by tribunals was in addressing the risk of those with low bargaining powers losing out: *“Protection of the low paid in a labour market characterised by disparities of bargaining power has, since the introduction of industrial arbitration, been among the major functions of the tribunals.”* (p62)

⁸⁶ In a somewhat allied study the role of institutions on mediating labour market outcomes to shocks such as this was addressed by Hamermesh (1985) in analysis of the impact of youth and female employment in the 1960s and 1970s. He contrasted the difference in the US and Canada in the response to increased labour supply by women. In the US youth wages fell relatively to women’s and there was strong growth in the employment of both groups. In Canada relative wage rigidities led to youth unemployment. In other countries it resulted in declines in youth participation in the labour market.

The role of tribunals was also the focus of Eggleston (1983) who was concerned with the relationship between productivity and wage settlements in Australia. His historical analysis suggests that there was a lack of transparency in this. He concludes that these tribunals *“have always recognised that productivity is a factor to be taken into account in fixing of wages and working conditions. It is rather less clear, however, just how the tribunal has made use of its conclusions as to increased productivity in actually fixing the level of award wages.”*(p526) This finding may reflect the extent to which tribunal decisions are legalistically based on ‘evidence’ presented to them in an adversarial system, and frequently concerned with the resolution of disputes and finding ‘acceptable’ outcomes rather than as independent investigators who take decisions on the basis of clear economic or social criteria.

Research for FWA undertaken by the Workplace Research Centre (Evesson et al 2011) used a case study approach involving multiple waves of qualitative research covering employers and employees in 20 firms. The objective was to identify enterprise responses to a range of issues associated with the minimum wage. The research reported that *“minimum wages increases were viewed by the majority of case study employers as neither having a pronounced impact on nor constituting a significant pressure on the enterprise’s performance. Minimum wages increases were primarily regarded as one pressure on the enterprise among many.”*(p ii) Earlier qualitative work by Wearne, Southwell and Selwyn (2008) found, from a survey of 92 firms, that employers used a range of disparate adjustment mechanisms in response to increases in wages. The most common responses were: *“increased prices; reduced staff costs through changes to staff strategy [including] business owner/manager personally working increased hours, reduced staff hours, reduced staff hours attracting overtime and penalty rates; and reduced staff costs through increased staff efficiency and productivity.”* (p. 52)

The question of the relationship between the minimum wage, productivity and business competitiveness was also considered by Farmakis-Gammoni and Yuen (2011). This used existing literature for analysing the role of the minimum wage, complemented by empirical analysis of the relationship between wage setting, especially reliance upon award rates and a wide range of aspects of business including survival rates, productivity and innovation. The paper concludes that the minimum wage can have many impacts on competitiveness and productivity through a range of mechanisms, but that much of the evidence on causality was unclear and that *“the overall effect of minimum wages on productivity for Australia is ambiguous”* (p. 80).

Minimum wage and well-being

Section 3.3.5 and 3.3.6 present contemporary analysis of the circumstances of current minimum wage employees, including the distributions of these across households by household income and various measures of well-being. This analysis builds upon a strong base of work in this field.

Richardson (1998) extensively analysed 1989-90 data to identify the relationship between being employed on a low wage and levels of household income. She found low wage workers were a diverse group. In particular as a group there were few distinguishing features other than their wage level and in terms of other characteristics they resembled other workers. Although she reports that these employees were distributed in higher and middle income households, in addition to those with lower incomes, she concludes *“A cut in low wages that focuses on those on, or around, the Australian Industrial Relations Commission minimum would be quite regressive.”*(p 577) This analysis was further developed (Richardson and Harding 1998) using 1994-95 data. Again the authors found considerable diversity in the low wage population. This paper concluded *“that an increase in the level of low and even minimum wages is not a very efficient instrument for equalising the distribution of equivalent family income”* (p27).

The relationship between low pay and household income in Australia was also examined by McGuinness and Freebairn (2007). They report that: *“Low paid employees, and more so in the case of full-time employees, are spread fairly evenly across households with different incomes.”*

Dockery, Ong and Seymour (2008) looked more widely at the relationship between minimum wages and well-being in Australia. They focused on the relative outcomes of those working on the minimum wage and those without employment, and changes in well-being when a person moved between these states. A number of different measures of well-being, including income, life satisfaction and financial stress were considered. The study concluded: *“the AFPC should be extremely wary of the potential impact of higher minimum wages on employment. The evidence is that unemployment is associated with substantially worse outcomes – in terms of general wellbeing and financial prosperity – than those experienced by people working in minimum wage jobs. On the other side of the coin, it seems that increases in the minimum wage will have virtually no effect on the wellbeing of those affected and lead to relatively minor improvements in disposable incomes....”* (pp 203-204). The paper also noted that the financial impacts of such transitions were often relatively low because of the extent to which transfer payments operate to supplement the incomes of many low earners.

5.2.3 Other US research

As indicated the Card and Krueger vs Neumark and Wascher debate is far from resolved and there continues to be considerable debate on the impact of minimum wages in the US. Some of this seeks to rework the data used in these analyses, others bring new approaches or use additional sources of data. Burkhauser (2010) in providing an ‘American perspective’ on the minimum wage in Australia summarised a range of his own and other research. He reported, in particular, on the relationship with well-being, noting that increases in state level minimum wages had had *“no effect on state poverty rates”* (and indeed potential job losses). In contrast he noted that alternative policy strategies such as an EITC could have strong effects, especially for groups such as lone parents.

The following discussion draws upon some of the more recent work that has been undertaken.

Employment effects

Ropponen (2011) has undertaken a re-examination of the two datasets used by both Card and Krueger and Neumark and Wascher on the change in minimum wage in New Jersey in 1992. In their respective studies while Card and Krueger found employment had increased in fast food restaurants, Neuman and Wascher found a negative effect. Ropponen reports that when data from each of the studies is re-analysed, the individual findings of each of the studies are largely upheld. However he reports that what was significant was that both datasets showed a similar pattern of employment gains in small restaurants and losses in large ones. Schmitt and Rosnick (2011) on the other hand find neither an employment effect, nor a firm size effect in their research on city specific minimum wages in San Francisco, Santa Fe and Washington. In contrast to the finding of relatively small or no employment impacts, in studying the impact of changes in the New York State minimum wage on people aged 16-29 years, without a high school diploma, Sabia, Burkhauser and Hansen (2012) found very strong effects. They report that employment for this group fell by around 20 per cent in response to an increase in pay from \$US5.15 to \$US 6.75 per hour – implying a labour demand elasticity of -0.7. (p 372)

Dube, Lester and Reich (2011) in their analysis of the US labour market find support for a model which takes account of labour market frictions. In policy simulations their model of the teenage labour market suggests that an increase of the US minimum wage from \$5.15 to \$7.25 per hour, would increase average teenage wages by 3.4 per cent, reduce separations by 2 per cent and reduce teenage employment by a bit under 0.4 per cent. This result is generated because the minimum wage shifts the employment distribution away from high-turnover, low-wage firms to low-turnover, high-wage ones. The authors note however that this result does not take account of the potential consequences of any passing through of the additional costs in products. A further limitation to the broader applicability of these results is whether they are specific to the very high labour turnover (62 per cent) amongst US teenagers – more than 3 times the rate of adults. Earlier work by these researchers (Dube, Lester and Reich 2010) looking at the impact of changes in

minimum wages between 1990 and 2006 on the restaurant sector found no significant employment effects.

Again looking at teenagers, Allegretto, Dube and Reich (2011) implemented a new analytical approach to try to overcome some potential technical biases in earlier studies of the impact of minimum wage increases in the US. Their results confirm the existence of various biases in the methodologies, but conclude that their analysis *“indicate[s] that minimum wage increases – in the range that have been implemented in the United States – do not reduce employment among teens”* (p 238). The methodology they used to come to this finding has though been disputed by Neumark, Salas and Wascher (2012)

Addison, Blackburn and Cotti (2011) considered the effect of the minimum wage on youth employment in the US over a period of economic downturn. They use three different datasets which encompass periods from the mid-2000s to the end of the decade, that is covering the recession of 2007 – 2009. Their conclusion was that they did not find any strong negative impacts of minimum wage increases on employment. They suggest two possible reasons for this. The first is the concentration of such employment in industry sectors where labour demand is relatively insensitive to forced wage increases. (The sectors they analysed were food services, food and beverage stores and service stations.) The second factor was the actual size of the increases in the minimum wage. They report that while the minimum wage increased relative to the average manufacturing wage between 2006 and 2009, the increases in the value of the minimum wage left its real value at rates similar to those over most of the 1980s and 1990s, and well below that of the period from 1940 to 1970.

Adjustment effects

Meer and West (2012) focused their research on outcomes at the firm level, rather than on overall employment levels. They find that *“while the minimum wage does not appear to have strong immediate effects on the level of total employment it significantly reduces rates of job growth.”*(p 19) In contrast to some of the research discussed later, they found that the effect was more pronounced in established firms than new entrants, and there was no effect on the actual entry and exit of establishments. Rohlin (2011) again looking at establishment level data suggests to the contrary that *“minimum wage increases are not detrimental enough to cause existing establishments to decrease employment, or leave the areas by shutting down or moving to an adjacent area with a lower minimum wage”* but that *“minimum wage policy does in fact decrease new establishment activity in industries that depend on minimum wage earning workers”* (p116)

Hirsch, Kaufman and Zelenska (2011) focus on fast food restaurants in two US states and report that they could find no significant impact on employment and hours from minimum wage increases. Rather they report that about two thirds of the cost increase was passed through in higher prices, with the balance impacting through lower profits, wage compression, reduced turnover and higher performance standards.

Minimum wages, training and education

Using a classical model of the labour market Sutch (2010) points out that minimum wages, if set above the market equilibrium, will have a capital deepening effect. This can take two forms. The first is through innovation by firms and the replacement of labour with technology. The second is through individuals' investment in their human capital to raise their productive capacity to or above that of the minimum wage. He estimates, for the US, that the *“cumulative effect of the minimum wage increases beginning in 1950 was to add 0.7 years to the average high school experience of men born in 1985”* (p 20) This contribution was only part however of the range of factors which saw a 3.9 year increase in this experience.

Other earlier research in the US on the link between minimum wages and education and training in the US includes Neumark and Wascher (2003) who report a negative impact of minimum wages on school enrolment. Acemoglu and Pischke (2001) however found only no or small effects of minimum wages on training in the US.

Income distribution

In responding to proposals to redress increasing inequality in the US Heckman (1996) suggests the use of broader based labour or income subsidies, either as an EITC or a direct wage subsidy to cover the gap between productivity and wage rates. These he considers preferable to alternative options, especially increasing minimum wages. *“In contrast, policies that reduce the demand for the unskilled, like minimum wage laws or increases in union wage scales, are generally bad ideas. They increase the wages of those who remain employed but at the same time have the perverse effect of increasing inequality among the least skilled, and reducing their employment.”*

The impact of the real decline in the value of the minimum wage in the US on the earnings distribution in the US was considered by Autor, Manning and Smith (2010). Focusing on inequality in the lower tail of the earnings distribution, they report that while the low level of increases in the minimum wage was a contributing factor to inequality in this part of the distribution, especially for women, it was not the primary factor.

5.2.4 The UK minimum wage

There is a substantial body of research in the UK on the impact of the introduction of the National Minimum Wage (NMW) in 1999 and subsequent increases in its value. A substantial portion of this is funded by the Low Pay Commission as part of its evidence base. On the whole this has not found significant or consistent direct employment effects, although some studies have done so. Further a number of the more recent studies suggest the existence of some adjustment mechanisms which take some time to play out. The ambiguity of many of the findings of this research is typified by Dickens, Riley and Wilkinson (2009) who report *“The evidence on employment is mixed, but overall there is no compelling evidence to indicate that the large NMW rises had an adverse effect on employment.”*(p. 7) at the same time they suggest *“there is evidence to suggest that some of the larger upratings in the NMW may have had small adverse impacts on hours worked for particular groups of low paid workers”* (p. 9). Subsequent work by these authors (2011) suggested a positive labour supply response at the age of 22 years when the full adult rate of the NMW cuts in which sees an increase in the employment rate of low skilled employees. Their most recent work (2012) presents a re-examination of the evidence of the impact of the NMW since its introduction. While they report that their findings are not ‘out of line’ with the existing literature, they make two stronger findings. The first was the introduction of the NMW reduced employment retention for women employed on a part-time basis by some 3 percentage points. The second is that adverse impacts deepen with recessions.

Fidrmuc and Tena Horrillo (2011), as well as disagreeing with the above findings of Dickens, Riley and Wilkinson concerning a positive labour supply response at age 22, conclude their analysis by suggesting that the *“NMW may have more pronounced impact on employment than the previous literature suggests”* (p.3). In making this claim they cite the specific effects arising from the age related rates of the NMW; and the experience of some sub-groups such as older workers. More generally they report *“We find evidence that NMW increases depress employment The negative effect on employment appears especially among the older workers, ... We also find that both effects are strengthened during the periods of tight labour market conditions when unemployment rises.”* (p 15-16)

Changes in the policy intent behind NMW decisions were highlighted by Butcher (2012). While mainly concerned with the way in which the Low Pay Commission took account of research in its decision

making, and presenting a summary of the substantial body of research that has been undertaken, the paper also reflects on the motivation of the LPC. This is concerned with the extent to which decisions were framed in terms of the relationship between the level of the minimum wage and growth in average earnings. He reports that while initial decisions were taken to increase the minimum wage at a faster rate than average earnings, in 2006, the LPC indicated that *“the phase in which the Commission is committed to increases in the minimum wage above average earnings growth is complete”*. That is, the initial decisions of the LPC involved a deliberate policy of earnings compression in order to reshape the income distribution.

Such a finding emphasises the need to understand the context of decisions and their specific characteristics. In a study which was primarily concerned with the potential impact of the NMW during the recession associated with the GFC Bryan, Salvatori and Taylor (2012), report that the *“2010 uprating reduced both men’s and women’s weekly hours by around 2-4 hours”* (ibid p4). There were also effects on youth and they find that the combined impact of the higher minimum wage and lower hours resulted in a weekly income loss of around 5 per cent. With regard to the specific purpose of this study they found little evidence that the recession had increased the sensitivity of employment and hours worked to the NMW.

Dolton, Bondibene and Wadsworth (2010) use local area data, especially variation in the relative incidence of minimum wage employment in different locations, to review the operation of the UK National Minimum Wage between 1999 and 2007. Of interest to the researchers were the employment effect and the impact on the wages distribution. They conclude that the NMW led, in the medium term, to a significant fall in wage inequality. Their analysis indicates, mainly since 2003, that employment grew slightly faster and unemployment fell in those areas where the NMW had its greatest impact. This latter finding though was qualified as no testing was undertaken of the possibility that this was linked to other policy interventions. Later work by these authors (2012) finds some small positive employment effects in more recent years, along with compression of earnings. This finding is consistent with Butcher’s view that this was a deliberate objective. This study did not though consider the impact on hours worked and hence the overall impact on labour demand cannot be determined.

In a paper for the UK Resolution Foundation on the future of the British minimum wage Manning (2012) concludes that there is little evidence of any negative effect on employment but then cautions *“nor does the evidence give us significant confidence to experiment with a much higher national minimum wage”*(p 2)

Dickens, Manning and Butcher (2012) sought to identify how changes in the NMW affected the earnings of other workers⁸⁷. They report the spill-overs were significant and that changes in the value of the UK minimum wage affect the earnings of those receiving up to 140 per cent of the minimum wage – around the 25th percentile of earnings. Grossman (1983) suggest that the spill-over effect is triggered by two mechanisms. The first is that firms seek to minimise a fall in the relative wages of other workers as this may cause them to reduce their work effort. The second is a potential increase in demand for better skilled and more productive workers as a substitute for the now more costly minimum wage employees.

Impact on incomes

The way in which changes in individual earnings inequality translate into changes in household income inequality has been looked at by a number of studies. These include Brewer, May and

⁸⁷ Unlike Australia in the UK the NMW is determined on a statutory basis independent of other wage setting. This is a characteristic of the arrangements in a number of other countries. Under these arrangements there is no structural linkage which permits increases to affect other wages. Rather the transmission is typically through collective bargaining where the higher minimum wage may be used as an argument for increasing the wages for other groups to reflect their relatively higher productivity.

Phillips (2009) who found that the gains from minimum wage increases were largest for those households in the third and fourth deciles of working age households. That is, the strongest outcomes were for lower middle income households, rather than those with the lowest incomes.

The impact of the introduction of the NMW on poverty amongst households with employment was considered by Sutherland (2001). She reported that the direct effect of the NMW on poverty rates, and the intensity of poverty, was small. She did suggest however that there may be some incentive effect in motivating jobless people into employment.

Adjustment mechanisms

Given the lack of any clear and consistent findings of any strong negative impact of the NMW on employment, there has been a substantial shift in focus in research in the UK to explore in more detail how firms actually adjust to changes in the increases in the NMW.

Rizov and Croucher 2011 report that there is “*significant evidence that the introduction of NMW led to increases in productivity in all low-paying sectors and the increases are more marked in larger firms*” (p. 27) Draca, Machin and Van Reenen (2011) in contrast report finding no evidence of the NMW leading to productivity gains, rather they find it reduced firm profitability and there was a “*hint that the long-run adjustment may be through lower rates of net [firm] entry into sectors most affected by the NMW*” (p. 150)

Galindo-Rueda and Pereira (2004) reported some evidence of slower employment growth in service sector companies in localities which were more exposed to the NMW. No similar result was seen in the production sector. They suggest from their analysis that the NMW may be “*making potential entrants in low paying sectors and areas more reluctant to pursue investments at the profitability margin*”. (p. 8).

If, as some of this research suggests, it is firm entry and exit which is important as a mechanism of adjustment to the minimum wage, this may suggest why little immediate impact of wage changes can be found. That is, decisions on firm entry or exit are more likely to occur in the medium rather than the short term. The identification of this mechanism may also have implications for the relationship between the minimum wage and productivity. Disney, Haskel and Heden (2003) report that some 50 per cent of labour productivity growth, and 80-90 per cent of Total Factor Productivity, in manufacturing in the UK between 1980 and 1992 arose from external restructuring – exit, entry and changes in market share – with only the balance being driven by internal changes such as new technology and organisational change. If a key driver of productivity is the entry, exit and other forms of restructuring of firms, and the minimum wage impacts on the rate that these occur, it is possible that the minimum wage may affect productivity across the economy in part through this mechanism and hence will not be observable at the firm level.

Machin, Manning and Rahman (2002) studied the introduction of the NMW in 1999 in the care home sector. In addition to finding that it resulted in a compression of earnings in the low part of the earnings distribution, there was some evidence of reduced employment and hours in the sector. The authors were however cautious about extrapolating this finding beyond the industry they studied. Georgiadis (2008) also looked at the impact on this sector and reports evidence of the minimum wage operating as an efficiency wage. Specifically this analysis found that the cost of the increases in the NMW were able to be offset by reduced levels of supervision. This effect was seen in changing proportions of people being employed as junior and senior care assistants.

Wadsworth (2009) found that there was some evidence of firms passing on the cost of the minimum wage in the form of higher prices, although a simple pass through pricing model did not seem sufficient to describe the range and timing of changes. Metcalf (2007) identified five probable factors for there not being a marked employment response to the NMW. These were: some improved

investment in human capital; increasing prices of products; falling profits; changes in hours of work; and the effect of labour market frictions.

Lanot and Sousounis (2011) reviewed the relationship between the NMW (defined as a proportion of the cohort specific median wage) unemployment and education. While not finding a single consistent relationship, the research found a negative association between the minimum wage and higher education and apprenticeship completions and a relatively small negative association between a higher minimum wage and employer provided training for workers aged 16 to 25 years. It did not however find any relationship between the NMW and the rate of finishing secondary school. Crawford et al (2011) in looking at similar outcomes, while concluding that there was little evidence of significant effects, nevertheless cautioned that there was *“some support for the notion that the minimum wage might be having a negative effect on young people’s education and labour market outcomes, particularly the likelihood of being in full-time education for men”*. Looking more directly at work related training, and across age groups, Arulampalam, Booth and Bryan (2004) rejected the hypothesis that there were negative impacts on work related training resulting from the introduction of the NMW. Rather they find some evidence of significant positive effects of a 10 per cent increase in the probability of a person receiving training. Turning to the policy agenda they conclude *“Finally, our estimates suggest that two of the UK government’s goals - improving wages of the low-paid and developing their skills - have been compatible, at least for the introductory rates of the minimum wage.”* (p C93)

Swaffield (2012) finds some evidence of the NMW being institutionalised into the wage setting mechanism for low income earners. She finds that employers comply with the minimum wage even when it is raised more than might be otherwise expected, given other earnings growth. On the other hand she found evidence of employers *“holding down or offsetting the wage growth that they might have awarded in periods of low minimum wage increases, possibly to compensate for future or past minimum wage upratings”* (p21). This suggests that NMW decisions are to a degree simply a substitute for wage increases which otherwise would have occurred. It also adds evidence to the proposition that the timing of changes in the minimum wage and any market responses may not necessarily be closely aligned.

5.2.5 New Zealand

Maloney and Pacheco (2010) report a strong increase in minimum wage incidence rates in New Zealand between 2000 and 2008. Over this period they estimate that the proportion of the workforce on the minimum wage increased from around 3 per cent in the late 1990s to around 10 per cent in 2008. In part this was a mechanical effect of the rising wage floor absorbing those who had previously been paid at rates above the minimum wage. They estimate that 2/3 of this ‘mechanical’ effect was offset by spill-over to rising wages across the wage distribution. A second labour market response they identified was a tendency for a minimum wage increase for one group to increase non-minimum wage employment of groups who are close substitutes. They find no evidence of job loss associated with the increase in the minimum wage.

Two major changes in minimum wages for youth in New Zealand have been studied by Hyslop and Stillman. The first reforms occurred in the early 2000s which saw the adult minimum wage extended to 18 and 19 year olds, and a substantial but lesser increase in the rate of the minimum wage for those aged 16 and 17 years. While the results were sensitive to assumptions made in the analysis, with some suggestion of positive employment for groups and negative study and workforce participation, for others they concluded: *“we find no consistent and robust evidence of any adverse effects of the changes on teenage employment”*. (Hyslop and Stillman 2004 p 16). The second change, in 2008, effectively increased minimum wages for 16 and 17 year olds by 28 per cent. In this case Hyslop and Stillman (2011) again found no immediate impact of this on the employment of this age group. They did though identify a slight decline – of some 3 to 6 percentage points in the

employment rate – in the subsequent two years. This decline however appears to be quite large as a share of employment. The estimated fall of some 4,500 to 9,000 jobs identified in the study needs to be compared with the actual employment level for this age group of 39,500 in 2010. This decline did not impact on unemployment as the job loss was largely amongst those who were also engaged in education.

Pacheco and Cruikshank (2007) found nuanced effects of the earlier large minimum wage increase for youth on school participation. While the initial introduction of the minimum wage had a positive effect on school enrolment by 16-19 year olds in NZ, subsequent increases had a negative effect. The first effect is interpreted by these researchers as the initial level of the minimum wage being below the reservation wage of these young people. In such a situation where the employment they sought was likely to be remunerated at the minimum wage, this would cause them to continue in education rather than accepting employment at a wage lower than the one they sought. The latter negative impact is consistent with more classical explanations of an incentive effect.

5.2.6 Employment effects in other countries

Skedinger (2011) reviewed the impact of minimum wages in the Swedish retail sector which is subject to a collectively bargained minimum wage. He found that, over the period 2001 to 2008, during which the real minimum wage rose by 25 per cent or more, there had been an increase in separations for those in receipt of the minimum wage, and evidence of substitution by more highly paid workers. The impact in terms of hours worked was mitigated by the lower average hours worked by those whose employment ceased. Previous research he undertook in the hotel and restaurant sector between 1979 and 1999 (Skedinger 2002) found negative employment outcomes associated with minimum wage increases. He also (Skedinger 2012) used the introduction by the Swedish government of a targeted cut in payroll taxes to consider the effective impact of the minimum wage on youth employment. While the overall magnitude of the cut was very small, he found a strong effect on the probability of entry into employment by young people affected by the minimum wage. In this case the 11 per cent reduction in the payroll tax increased the probability of job entry by 6-8 per cent. This he estimates is equal to an elasticity of net employment to wage costs of -0.57, suggesting that youth employment at the level of the minimum wage is highly sensitive to minimum wage increases.

Lemieux (2011) considered the impact of the various State level minimum wages on youth in Canada using data from 1997 to 2010. For teenagers he found no spill-over effects from minimum wage increases to other workers and a disemployment effect, in particular for those aged 15 and 16 years. He found no discernible effect for young adults. Negative employment effects were found more widely by Campolieti Gunderson and Riddell (2006). They report *“Minimum-wage increases in Canada have led to substantial adverse employment effects. The elasticities for youths (16–24) range from -0.17 to -0.44 with -0.30 being a reasonable point estimate.”*

Canada was also the focus of analysis by Strobl and Walsh (2011). They found, between 1981 and 2004, that a higher minimum wage was associated with a fall in the teenage employment to population ratio and with an increase in poverty. This latter occurred because of the loss of teenage employment in low income families. Similar findings are also found by Sen, Rybczynski and Van De Waal (2011) who found that a 10 per cent increase in the minimum wage was associated with a 3 to 5 per cent drop in teenage employment and a 4 to 6 per cent increase in families with incomes below the Canadian Low Income Cut-Offs (LICO) – a measure frequently used in Canada as an income poverty line.

Pinoli (2010) considered the impact of changes in the minimum wage in Spain. The analysis suggests that in some cases adjustment to new minimum wages is made in anticipation of change, and as a result is not wholly identified in studies that simply consider post increase changes. The modelling

suggests a 10 per cent increase in the minimum wage for a young adult will generate a fall of 4.7 per cent in the probability of employment prior to the change, and 6.7 per cent after.

A negative impact of minimum wage increases on employment was also found in Portugal. Centeno Duarte and Novo (2012) report that for minimum wage and other low paid workers a one per cent increase in the minimum wage resulted in a reduction of 0.5 per cent in the likelihood of these workers remaining in employment. The effect was larger for those on the prevailing minimum wage, for those working in manufacturing relative to services and young people. The effect on successful job search was more severe than that on continuing employment.

Using employer based surveys Nolan, Williams and Blackwell (2003) report little impact of minimum wage increases in Ireland on employment. One potential reason for this is that around three-quarters of firms were not employing people on the minimum wage, although this varied considerably across sectors. They report that only 5 to 7 per cent of firms said that they would be employing more staff in the absence of minimum wage legislation.

As has been noted previously, while Germany does not have a centralised minimum wage, sectoral minimum wages are established through collective agreements. This has given rise to research in a range of fields, firstly the potential impact of introducing a national minimum wage, and secondly sectoral studies of changes in minimum wages within specific collective agreements.

Müller and Steiner (2010) modelled the potential effect of the introduction of a €7.50 per hour minimum wage in Germany⁸⁸. This suggested that such a minimum wage, taking into account immediate labour demand changes and the effect of price increases, would reduce labour demand by some 220,000 people with most of the impact being on marginally employed people. They find that at the household level the redistributive impact would be small.

Aretz, Arntz and Gregory (2012) studied the impact of the large increases in the minimum wage in the roofing sector in Germany. In this research they found very marked effects, especially for firms in the former East Germany to whom the minimum wage was extended. These effects, measured in terms of a reduction in the probability of remaining in employment, were seen not just for the lowest paid employees who were directly affected by the minimum wage, but spilled over to other employees. In former West Germany the spill-over was largely limited to employees in the lower part of the wages distribution. In former East Germany while most marked for the lower decile, they were recorded across the wages distribution. The authors suggest that these results were most probably due to capital-labour substitution induced by the higher wages. The magnitude of the minimum wage change this study focused on was large, as was the response. For firms in the former East Germany the increase in the minimum wage was up to 57 per cent – and the fall in probability of remaining in employment up to 28 per cent.

In a departure from much research on minimum wages which has tended to focus on groups such as teenagers and unskilled men, Addison and Ozturk (2011) consider the impact on prime age women. From their 16 country study which covers the period from 1970 to 2008 they find very strong and consistent disemployment effects. This study also suggests that institutional factors also impact differently on women with some of the better outcomes being associated with less regulated markets and an unfavourable impact from collectively bargained minimum wage. (As cited earlier the 2012 study by Dickson, Riley and Wilkinson in the UK also found an impact on women.)

Although less of an issue in Australia because of the extent low wages are largely co-determined along with the minimum wage, the question of the spill-over of increases in minimum wages to the

⁸⁸ This level had been raised in political debate in Germany. It is a level well below the minimum contained in collective agreements in Germany and below that of some of the high minimum wage countries such as France where the SMIC is currently €9.22.

wages paid to other employees has been the subject of some investigation. Cette, Chouard and Verdugo (2012) report that around 20 to 30 per cent of discretionary increases in the French minimum wage are reflected in long term average earnings (p.10). Using a different strategy, but again looking at the French labour market, Aeberhardt, Givord and Marbot (2012) report significant spillover effects of increases in the minimum wage on the earnings distribution of both men and women up to the seventh earnings decile. However in the UK Stewart (2011) who looked at wage inequality in terms of the ratio of the 10th to 50th percentiles of earnings could not identify any spill over effect.

5.2.7 The role of bargaining and other models

The work of Addison and Ozturk cited above identified the role of institutional factors in the outcomes of changes in minimum wages. The range of different mechanisms for setting a minimum wage was examined by Boeri (2012). In a cross national analysis he focuses on the relative impact of government legislated minimum wages (such as the US, the Netherlands and New Zealand) and collective bargained minimum wages, with a group of countries, including Australia and the UK being classified as having intermediate 'consultative' arrangements. He finds that collective bargaining regimes result in a higher minimum wage relative to average earnings. This supports the argument that in such situations unions are willing to trade off higher earnings for potentially higher earning employees for a higher minimum wage – hence leading to a compression of the earnings distribution.

Such a wage bargaining model was considered by Christofides and Oswald (1992) in examining wage setting in unionised sectors of the Canadian labour market. Their analysis suggested that a bargaining model effectively represented the operation of the labour market with real wages being an increasing function of previous profits in the employer's industry, and a decreasing function of the level of unemployment. Wage bargaining in these circumstances they considered could be seen as a form of rent-sharing.

Boockmann reported in 2010 on a cross country meta-analysis of research on the employment effects of minimum wages and of the extent of labour market regulation. This latter included the level of employment protection, benefit replacement rates and the extent of wage bargaining coordination. Around half the studies were from the US with the balance covering some 14 other countries. The study reports that there is considerable heterogeneity between countries and that *“Higher benefit replacement rates and union-employer bargaining coordination decrease the negative effects of the minimum wage, while stricter employment protection reinforces the negative employment effects.”*(p. 13)

Croucher and White (2011) undertook, for the UK Low Pay Commission, an extensive review of the international literature on the youth employment effects of the minimum wage. In this they conclude that while the employment effect appears to be relatively small, it should not be rejected as an adverse consequence of increases in the minimum wage. As with many other studies, they report that the effect is less severe where the minimum wage is a bargaining outcome. They also report potential negative consequences for young people are mitigated where there are other labour market interventions to support youth employment.

The relative roles of different mechanisms in wage determination were more broadly considered by Cahuc, Postel-Vinay and Robin (2006). Using French labour market data they suggest that competition, especially alternative employment offers from other firms, are the main driving factor in wages, although there was also evidence of bargaining. This though was unevenly distributed with the wage bargaining power of low skilled employees generally being low.

5.2.8 Low paid jobs as a stepping stone

The role of low paid employment as a 'stepping stone' into better paid work is frequently an issue in the debate about the role of the minimum wage. Theoretically a number of processes can be envisaged. Low paid employment may provide individuals with the opportunity to develop skills, both specific technical skills and those which are important to employability such as attitudes to work. It can also be seen as a means by which people can gain 'credentials' and demonstrate this capacity to other employers. Under these circumstances it can be argued that an important objective for minimum wage setting is to maximise the opportunities for the creation of these types of jobs. Conversely it has been suggested that a period of minimum wage employment may have more negative implications – such as signalling to other employers that the person lacks the capacity to perform at more productive levels, and indeed as a result it can trap them into ongoing low wage employment.

Support for the concept of low paid work as a positive 'stepping stone' has been found in the German labour market by Knabe and Plum (2010) and Mosthaf (2011). Both studies find that for those without a college degree obtaining a low paid job was an effective pathway to higher paid employment. A related study (Mosthaf, Schank and Schnabel 2009) found that while being in a low paid job increases the likelihood of a woman remaining in low paid employment, relative to high paid employment, the future earnings prospects of low paid women were better than that of the unemployed, and for some it can act as a stepping stone.

A wider, cross national review of the role of low wage jobs as a stepping stone was undertaken by Richardson and Miller-Lewis in 2002. This study emphasised the heterogeneity of the population of low paid workers. While recognising that low-wage jobs acted as a stepping stone for many, the authors argued that more deliberate policy interventions, in particular education and training, were important to help many who would otherwise remain in low paid employment. They also suggest that there is a need for some firms to rethink job quality and to move away from low wage, low training and high turnover strategies.

A more negative finding comes from Stewart (2007). In analysis of the British Household Panel Survey between 1991 and 1996 he finds that there is a high probability of moving from low paid employment to unemployment and concludes "*in terms of future employment prospects, low paid jobs are closer to unemployment than to higher-paid jobs*" (ibid p529). He suggests that the reason for this is that low paid jobs do not provide the opportunity for individuals to improve their human capital.

In Australia McGuinness and Freebairn (2007) report from analysis of HILDA data, up to 2004, "*For about a half of low paid employees, a low paid job, especially if it is full-time, is a stepping stone to a higher paying job in the future.*"(ibid p81) The question of low paid employment as a stepping stone in Australia has also been considered in a series of projects undertaken by the Melbourne Institute. In a synthesis of this research (Melbourne Institute 2011) reports: "*All studies find that the stepping stone theory holds. That is, being on low pay, in casual employment, or in part-time employment is a better starting point for obtaining a higher-paid, permanent or full-time job than the alternative of not being in employment at all.*" The report cautions though that these beneficial results were not universal and indeed a substantial group fail to exit from low paid work. Research by Butterworth et al (2011) introduces a further cautionary note. It finds that poor quality jobs – as defined by those with poor psychosocial attributes – were no better, and in some cases had even more adverse effects on mental health, than unemployment (Butterworth et al. 2011).

5.2.9 Minimum wages and in work benefits

An increasing segment of the literature is now concerned with the interactions between minimum wages and in work benefits⁸⁹. This reflects the increasing use of in work benefits in a number of countries to increase the incomes of those on low earnings, especially families with children, and to improve work incentives especially correcting distortions introduced by means testing income support. As such these programs have some similar goals to those of the minimum wage. In particular they can be used in association with minimum wages to target policies and as such relieve the burden on the minimum wage as an instrument to achieve improved living standards for those with low incomes, something which, as has been seen earlier, it does highly inefficiently.

In work benefits can be delivered as employment conditional transfer payments or tax credits. The objectives of these policies are usually described as being 'to make work pay'. As such they tend to have two functions. In some cases it is to make the return from work 'worthwhile' relative to the income people may receive from welfare payments, especially where these payments are rapidly withdrawn in the face of private income. In other cases the role is more of an absolute – of generating an adequate income from employment where earnings are insufficient to achieve this. In some cases they are specific payments conditional on employment, in others they operate more as an extension of welfare payments. Australian support for families fits more into this latter category.

Some 11 OECD countries provide what can be considered to be general in work payments or related tax credits⁹⁰. In some cases these provide benefits to all people, in others provision is limited to families with children only (Immervoll and Pearson 2009). While these policies are designed in many different ways a particular feature of in work benefits in the UK, New Zealand and Ireland is that they feature a minimum number of hours of work. This type of targeted in work benefit can however be complex to administer and by their very design they can involve high effective marginal tax rates at some point. Indeed these reasons have been cited as part of the rationale for the proposed

⁸⁹ While an emerging field in current policy and research, the historical roots of these types of policies are very deep. An often cited early case of in work benefits or wage subsidies was the Speenhamland poor laws. These operated in England between 1795 and 1834 as part of the old poor laws. Under this provision poor, mainly, agricultural workers were eligible for poor law relief as a top up to earnings. These policies have been subject to various interpretations over time. The 1832 Royal Commission to Investigate the Poor Laws (Senior and Chadwick 1834) reported considerable discontent with the "pressure of the evils which allowance to the able-bodied has produced, and by the apprehension of the still greater evils which it may be expected to produce". It reported that this provision led to employers reducing wages and offering irregular rather than full-time employment and that "The labourer feels that the existing system, though it generally gives him low wages, always gives him easy work. It gives him also, strange as it may appear, what he values more, a sort of independence. He need not bestir himself to seek work; he need not study to please his master; he need not put any restraint upon his temper". Indeed they conclude that "The History of the Poor Laws abounds with instances of a legislation which has been worse than unsuccessful, which has not merely failed in effecting its purposes, but has been active in producing effects which were directly opposed to them, has created whatever it was intended to prevent, and fostered whatever it was intended to discourage." On this basis they recommended an abolition of the relief component – recommending instead that relief be by means of the establishment of workhouses.

Polanyi (1944) saw the Speenhamland laws as being the major factor in the prevention of the development of an effective labour market during the industrial revolution. He states with regard to the abolition of these provisions: "Out of the horrors of Speenhamland men rushed blindly for the shelter of a utopian market economy" (p107). More recent analysis, much of which has drawn upon the extensive data collected by the Royal Commission but not fully used in its own work, has questioned these earlier approaches. Blaug (1963 p170) views it as a mechanism which operated to address a problem of structural unemployment with areas taking "recourse to the policy of subsidizing wages wherever the attraction of urban industry made itself felt too weakly, leaving a pool of surplus manpower and substandard wages". Boyer suggests it was effectively used by cropping farmers as a form of unemployment benefits so as to maintain a labour force sufficient for their seasonal needs. (Boyer 1986)

Notwithstanding these latter interpretations in much contemporary debate the Speenhamland laws are presented as evidence of welfare based wage supplements driving down wages, or as evidence of unintended consequences of well-intentioned policies and of cross subsidies between sectors.

⁹⁰ The OECD identifies 16 countries with some form of in work benefit. In some of these cases however the payments are only transitional for people exiting unemployment benefit receipt or involve a diminution of social security charges – effectively a wage subsidy.

introduction of 'Universal Credit' in the UK as a replacement for the working families' tax credit.⁹¹ Notwithstanding these negatives, this type of approach has particular relevance to situations where tax credits are seen as essentially complementing minimum wage policy. This is because the hours provision of the criteria enables the payment to be targeted to those who have low earnings despite a substantial level of work effort, that is because of a low rate of pay, rather than flowing to those who may earn a substantially higher hourly rate but for a much lower work effort.

The relevance of these tools was recognised in the 1998 OECD Employment Outlook which called for countries to consider integrated approaches which combined both minimum wages and in work benefits. They argue that: *"a well-designed policy package of economic measures, with an appropriately set minimum wage in tandem with in-work benefits, is likely, on balance, to be beneficial in moving towards an employment-centered social policy"* (OECD 1998 p. x).

International literature

Burkhauser, Couch and Glenn (1995) argue that, given the extent to which a considerable proportion of minimum wage increases flow to non-poor households and the potential negative impact on employment, although *"Both the minimum wage and the EITC provide the working poor with higher effective wages ... the minimum wage is a far more costly method of shifting income to the working poor"* (p. 41). Balanced against this however is the extent to which a lower minimum wage associated with an Earned Income Tax Credit (EITC) may result in a reduced incentive for employers to invest in boosting the skills and productivity of minimum wage employees.

Kenworthy (2011) also advocates an EITC to address the problem of low-wage employment. He considers that the historical capacity of the US economy to deliver wages growth at the bottom in the post war period was a result of limited product market competition, low shareholder pressure for short term profits, and the ability of unions to bargain over the gains this produced. He considers all of these institutional components have withered and that while some gains may be made in improved education, high performance work organisation and 'shared capitalism', substantial gains will require an expansion of the EITC as a redistributive mechanism which encourages employment while boosting incomes.

This same question is considered, from the supply side, by Malul and Luski (2009). Their analysis indicates that an EITC can impact differently on different groups. Firstly for people with a high cost of acquiring human capital and a short horizon of earnings, who would face reduced employment prospects from a higher minimum wage, it acts to boost the level of employment and earnings. On the other hand it tends to discourage those with a low cost of acquiring human capital and a long horizon of earnings from making the additional investment in training – something this group would do if the minimum wage was increased. They suggest the two approaches could most effectively be used if they could be targeted at different groups.

⁹¹ Notwithstanding the apparent positive outcomes that have been reported for the policy, the United Kingdom Government has announced its intention to replace the program with a new 'Universal Credit'. While this will continue to operate as in work benefit it brings together both the means testing of income support payments and tax credits so as to generate a smoother taper – removing the specific incentives to work more than 16 hours and more than 30 hours. It is argued that the program will produce better outcomes for many lower income households and improve the returns for employment for those on the lowest incomes and for primary breadwinners. It will also though generate much stronger incentives for people to work a very small number of hours, and reduce the incentive for second earners to participate in employment. As a whole the package has more negative outcomes for lone parents. It is also being accompanied by an extended regime of conditionality which will, for a single minimum wage worker, continue until they are working 35 hours a week. This may tend to reduce the impact of lowered incentives, and boost the effect of increased financial effects for others. (Department of Work and Pensions 2012, Brewer, Browne and Jin 2012) In effect these changes shift the role of incentives from ones specifically tailored to encourage substantial levels of participation (either 16 or 30 hours) to a regime which is more neutral to the hours worked. It is posited that the higher incentives to take up jobs "at a low number of hours per week" will act as a stepping stone into the workforce. (DWP 2012 p21)

Neumark and Wascher (2011) have also addressed the differences in the impact of the minimum wage and the EITC in the US for different population groups. The analysis found some substantial differences. For single women with children, the EITC boosts employment and earnings, and when combined with a higher minimum wage, these positive effects are enhanced. In contrast the employment and earnings of less-skilled minority men and for women without children are more adversely affected by the EITC when this is coupled with a higher minimum wage. The authors conclude that the finding emphasises the importance of understanding the institutional and policy framework in which a minimum wage operates.

Lee and Saez (2010) undertake a theoretical analysis of optimal wage and tax policies in a competitive labour market. They conclude that where the goal is to increase the number employed (the extensive margin) that policies which effectively reduce the tax on this employment – either through an EITC or by reducing payroll taxes are welfare improving, even when funded by higher taxes on others.

Mortensen and Pissarides (2001) conclude from modelling using a search and matching equilibrium model, with some caveats, that *“an employment subsidy targeted at low-skill workers but financed by a wage tax on high wage workers, a policy equivalent to an ‘earned income tax credit’ in our framework, can induce increases in the employment and wage of low-skill workers with little increase in the unemployment rate of high wage workers”*. (p 27)

Immervoll and Pearson (2009) focus on how the two policies, and potentially wage subsidies directed at employers, can effectively be combined with the goal of obtaining *“additional policy leverage to tackle the dual challenge of high rates of non-employment and in-work poverty.”* They specifically argue *“the case for a minimum wage becomes stronger when IWBs [In Work Benefits] are in place ... a minimum wage improves the targeting of IWBs. By preventing wage levels at the bottom from falling, they prevent employers from ‘pocketing’ the value of IWBs by lowering wages”* (p 39).

Marx, Marchal and Nolan (2012) also undertake a cross country analysis of the net income of minimum wage earners in the European Union and the US. This research finds, as with other studies that the role of minimum wages as an anti-poverty measure is 'inherently constrained'. They emphasise however the importance of maintaining some type of minimum wage as a benchmark floor for the wages system in order to avoid potential erosion effects on wages from in work benefits. As policy strategies they suggest negative income taxes or some form of in work benefits, including child benefits, but warn that it is *“unlikely that optimal one-size fits all solutions exist”* (p21).

While the US EITC is often seen as an example of the type of measure which could be used to deliver an earnings supplement to a low minimum wage, it should be noted that the evidence of its role over a long period is more limited. Dowd and Horowitz (2011) report that 60 per cent of recipients were on the program for only one or two years and just 20 per cent for more than five years. One reason for this finding was relatively high levels of earnings mobility. The authors report that this effect may be reducing and note those on low incomes who entered into the program in 1990 were less likely to move up the earnings distribution.

In reviewing the broader role of in work benefits, including parental leave and childcare benefits, Kolm and Tonin (2012), in somewhat of a departure from other research, focus on the benefits which might be achieved as a consequence of in work benefits moderating wage demands. These they report include lower unemployment and higher job creation. They also suggest as lower wage demands will boost overall labour demand, to the extent some of this will also involve higher demand for skilled labour, the net impact on training would be positive.⁹²

⁹² In a cross national study mainly concerned with the balance of growth in wages and productivity Meager and Speckesser (2011) found weak evidence of this relationship and suggested that wage moderation may increase employment in the

In summary this literature suggests that there is a strong case for using both in work benefits such as an earned income tax credit in association with a binding minimum wage. Such a combination of instruments can allow increases in disposable income to be achieved by low earning households without putting pressure on labour demand, and permits a degree of targeting of these gains to low income households, rather than to all low earning rate individuals.⁹³

5.2.10 In work benefits in Australia

As demonstrated earlier, some aspects of Australia's income support and family assistance systems effectively operate as in work benefits. Sometimes this is a consequence of deliberate design, and sometimes as result of other program priorities such as lower tapers. It is however rare for the decisions on these to have been taken as part of a deliberative policy also encompassing minimum wage policy.

The explicit use of in work benefits in such a case was central to the 'Five economists plan' put forward by Dawkins, Freebairn, Garnaut, Keating and Richardson in 1998⁹⁴ (Dawkins 2002) as an alternative to 'living wage adjustments' as part of the Safety Net Reviews. Specifically the plan suggested suspending living wage adjustments (which encompassed the minimum wage as well as other minimum award rates) for some four years and the introduction of a tax credit targeted at low income earners in low income households. It was initially estimated that this may increase employment by 2.5 to 3 per cent and reduce the unemployment rate by 1.25 to 1.5 percentage points. (Later estimates reduced these impacts, bringing the unemployment rate reduction down to 1.0 to 1.25 percentage points.)

The McClure Review (2000) also specifically considered the options related to the minimum wage in the context of policies to boost workforce participation in Australia. Taking into account the potential negative employment effects of increasing the minimum wage, as well as the inefficiency of this as a means of boosting the incomes of low income households, the Committee's preferred approach was the development of in-work benefits. They saw these as a means to "*increase the employment opportunities for people on income support payments*" and this strategy "*may have the advantage of taking the pressure of the wages system by ensuring adequate income for low skilled full-time employees and their families*" (ibid p26). The Committee also rejected strategies associated with lowering the level of income support as a means of generating stronger employment incentives.

Dawkins (2001) reiterating the theme of the five economists, as well as the findings of the McClure Report, considered the potential role of a low pay commission in Australia as a means of setting the minimum wage. Specifically he considered that traditional Australian industrial relations institutions were not necessarily well suited to the task, given their adversarial nature and tendency to consider wages in isolation from the tax transfer system. At the same time, while recognising the limitation of the minimum wage as a means of increasing incomes of low income households, and the potential negative employment effect, he emphasised a need to maintain a minimum wage. His reasons for this position was the potential for employers to exploit workers with poor bargaining power and, in

medium to long term. At the same time their research suggested that the relationship was not simple and did not hold consistently over time and over countries. One reason suggested for this was that excessive wage moderation may reduce innovation activity

⁹³ It is to be emphasised that the interaction of an EITC and a binding, externally set, minimum wage is potentially quite different to that between an EITC and low wages where the latter are simply determined by the market. Leigh (2010) for example reports that "*10 percent rise in the generosity of the credit reduces hourly wages for high school dropouts by 5 per cent, and reduces wages for those with only a high school diploma by 2 per cent*" (p 33)

⁹⁴ The plan was presented to the Prime Minister as an open letter. Its objective was to propose a set of coordinated policies to reduce the level of unemployment to 5 per cent. At the time it was prepared, while unemployment had fallen from peaks as high as 11 per cent in 1992 and 1993, the rate of decrease had stalled and it appeared to be settling around 8 per cent. The actual goal of 5 per cent which they proposed was not achieved until 2005.

the event of the development of any in work benefits, to avoid the inappropriate transfer of wage costs from employers to government.

A potential role for earned income tax credits was also discussed in the consideration of the Australia's Future Tax System (AFTS) Review (Henry 2009). A focus was on the potential of an in work benefit to be used as an alternative to relying upon taper rates in the income support system. As has been discussed previously, a feature of the Australian income support system is the degree to which some minimum wage employees (and potentially others) can retain some portion of their income support even with quite substantial employment. In reviewing these instruments the AFTS reported that while they considered the use of tapers or EITCs made no difference to the incentives, which mechanism was used could be important in areas such as "*signalling effects (such as the weight given to work)*" (p 498). An EITC was also seen as having the advantage of potentially tailoring the nature of incentives to groups. One strategy the review contemplated was to introduce a benefit structure where "*a 100 per cent withdrawal rate could be applied and earned income tax credits could be used to achieve a desired pattern of effective marginal tax rates. For example, single parents could be given a different set of work incentives compared to single people without children.*" (ibid p527)

Taking this further, three specific advantages of an EITC over the use of benefit tapers can be suggested. Firstly it provides a clear demarcation between support for those unable to obtain work, and for those who have found a degree of self-sufficiency. Not only is this potentially an important 'signal', but in moving people off 'non-work' benefits it means that regression to full reliance would involve a need to reapply for the benefit – rather than just 'slipping back' onto full payment. Secondly, as an EITC focused on work, rather than simply as a way of means testing, there is greater flexibility in introducing additional targeting into the EITC, for example, requiring minimum hours of work for receipt. Thirdly it allows for the sort of tailoring identified by the AFTS for particular groups.

In considering the options for the introduction of an EITC in Australia Ingles (2001) comes to relatively equivocal findings. In large part this is because of the extent to which family payments in Australia already play an important role in providing income supplementation to low income families with children. More generally he emphasised the need for any potential policy steps in this direction to be well integrated with other elements of the tax-transfer system.

A more critical view of the role of wage subsidies is given by Watson (1999) "*Irrespective of the final level of family income, the message which very low paid work sends to the worker is that they are not worth much in the eyes of society. If they can only survive by virtue of a government 'top up', their sense of independence is also compromised.*" (p 15) A similar approach is taken by Briggs, Buchanan and Watson (2006) in a Policy Paper for the Academy of the Social Sciences in Australia. This suggested an approach of strong government intervention to control both bottom and top wages – through a high minimum wage and high taxation of top earners, as well as stronger sector based collective bargaining.

As noted, one of the difficulties that can arise from an EITC which is directed at supporting substantial labour market participation by those on low incomes, is that it can treat those working low hours on high rates as being the equivalent of those who work substantial periods on low wage rates. An alternative way of addressing this is through a differentiated tax regime for full and part-time workers such as that which has been suggested by Belchamber (2011). This would see part-time workers taxed at a rate of 15 per cent on all earnings up to \$32,000 at which point they would then move onto the full-time workers' scale (which would have a \$32,000 tax free threshold).

A final issue, raised by O'Donnell and Arup (2001) is that of the relationship between income support and employment from a legal perspective. They suggest that as the legal nature of employment has taken an extending variety of forms, the work-welfare divide requires reconfiguration.

5.3 The theory and evidence

While the breadth of the theory and evidence on the minimum wage in many ways appears to be contradictory, as argued here, this is not necessarily the case. Rather, as noted by Cahuc, it is far better to conceive of the various theories as being complementary and necessary components of an explanation of the complex set of interrelationships which exist in labour markets. As such, the force of particular theories will depend very much on specific circumstances and institutions. Given this, it is not surprising that there is a diversity of findings in empirical analysis. That is, rather than identifying conflicting processes, the diversity of findings is better seen as illustrating the ways in which these different mechanisms are operating in different contexts. The contradictions arise when it is assumed that a single one of the theories wholly explains all labour markets under all circumstances and without bounds.

Taking this into account it can be reasonably suggested that:

- To the extent labour markets are competitive, and in the long run, the underlying mechanisms of price, supply and demand operate. That is, an increase in the minimum wage is likely to result in a decrease in demand for labour;
 - The impact of this may however be manifest over time, including changes in labour demand as a result of firm entry and exit and in the reshaping of productive processes, rather than simply reflected in short-term employment levels.
- Given the many imperfections of the markets, interventions such as a statutory minimum wage may result in improved employment outcomes, especially in the short to medium term. This essentially involves setting the minimum wage at the equilibrium which would be derived from the market;
 - Even in the longer run search and other frictions are likely to remain. Again the role of a minimum wage in responding to these is bounded.
 - There are also deliberate distortions that may be introduced. These include wage bargaining which trade off the potential higher earnings of some groups, to increase the wages of others, or industry protection and related policies which again are based on transfers from one group to another⁹⁵. The stability of these, and the costs they impose, may or may not be sustainable over time.
 - A minimum wage is also an important component of interaction between the labour market and the tax and transfer systems. Specific roles include ensuring that any in work assistance is not taken by employers through lowering wages and the minimum wage needs to be set so as to allow the payment of adequate levels of income support.
- A higher minimum wage is also sustainable with an increase in the productive capacity of those who receive it. While there is some evidence of an association between higher minimum wages and training, important issues remain unresolved. Critical is the question of the capacity of all individuals to develop, even with training, sufficient levels of productive capacity to justify higher wages.

Also, potentially critical to more recent waves of research, is the extent to which specific research results are a consequence of the particular characteristics of the labour market and economies at a

⁹⁵ Typically tariff protection requires consumers to pay higher prices for products from protected sectors, while subsidies involve transfers from one group in the population to another.

point in time. Over the past few decades most advanced western economies have experienced considerable structural change. Unemployment, and in particular youth unemployment, has been well above that of the post war decades; there have been considerable shifts in the participation of women, especially married women; and the expansion of education has generated a new workforce of students seeking part-time employment. These are circumstances which permit considerable sorting in employment and may also obscure the operation of other processes.

Industry structure has also changed. Manufacturing⁹⁶, a sector which in some countries was a bastion of minimum wage employment, has shrunk in relative terms as a source of employment in most countries, and in absolute terms in many. 'New' minimum wage sectors such as fast foods have developed particular forms of labour demand – frequently part-time and often with an orientation to youth. Many countries have also seen profound changes in the nature of labour market institutions and regulation including declining levels of unionisation and the emergence of flexible employment arrangements.

Each of these, along with many other changes, are likely to have had their own impact on the response of the market to changes in the minimum wage, as will changes in the future.

⁹⁶ Australia has quite high levels of minimum wage employment in occupations such as 'factory process workers' and in total around 11.7 per cent of minimum wage employees are in this sector. In the US the rate of minimum wage employment in manufacturing is only one third of the overall average, in the UK in the manufacturing sector minimum wage employment appears to be mainly limited to food processing and textiles.

6 AUSTRALIAN FUTURES

This final section is concerned with the future role of the minimum wage. The circumstances of the past 25 years are unlikely to be repeated in the next 25 years, and the challenges faced by the economy and society will be very different. In particular the minimum wage of today has undergone a major transformation in its role in comparison with that which it played 25 to 30 years ago. In broad terms the minimum wage has shifted from being a family wage to become a wage for a single person. The support for families in receipt of this level of earnings has been taken by the state, and by changing patterns in family workforce participation.

This is a transformation which has been possible because of the specific nature of the Australian Minimum Wage and its historical roots. It is also a transformation which may be considered to have occurred with minimal adverse outcomes, and as an evolutionary process without clear intent. It is however a transformation which has largely run its course, and in the future much more attention may be needed to be given to what the minimum wage is seeking to achieve, the costs and benefits of this, and the alternatives that are available.

If the minimum wage continues to simply be maintained in real terms, and in the absence of other changes, as productivity gains are made in other sections of the workforce, and as the workforce is increasingly composed of more skilled and educated workers, an escalation of earnings inequality is probable. Further such a static minimum wage rate may impose a dilemma for setting the rates of income support. Either these will also need to be held down, again risking increased inequality or, if they are increased, this may reduce returns for employment for the unemployed and others, and hence their incentives to gain employment. This latter is an outcome which is likely to thwart the objectives of a high participation agenda.

This agenda will also be severely challenged if the minimum wage increases without a substantive increase in the productivity of people employed at this level. It is unclear to what extent such gains can be achieved, especially in the context of changing industry structures, and the limited impact of decades of investment in labour market initiatives.

These are not decisions that need to be taken in the short term, nevertheless there is a strong case for the development of, if not a guiding strategy, at least a common understanding of the choices which will need to be made over time.

6.1 Evolving role of the minimum wage

As documented in earlier sections, the role of the Australian minimum wage has evolved considerably since the Harvester decision of 1907. Most significant has been the change in the role of the wage from being a ‘family wage’ to that for an individual.

This transition, which was particularly marked in the period between the mid-1980s and 2008, was effectively achieved by holding the real value of the wage constant, as living standards rose. The substantial increases in the level of support provided to families through the tax and the transfer system has meant that the living standards of those families reliant upon the minimum wage as their sole source of earnings increased markedly, reflecting gains across the community as a whole.

While the living standards of single persons reliant upon the minimum wage have increased a little over the same period, they have slipped relative to a couple with children on the same earnings. This is the nature of the realignment.

From a labour costs perspective the real minimum wage has increased only slowly if at all⁹⁷. This means that to the extent there are disemployment effects of a minimum wage, such pressures have not been great. On the other hand this trend has meant that the minimum wage has tended to fall behind other earnings and indeed there is evidence, even amongst lower paid workers, of an earnings decompression relative to the floor imposed by the minimum wage.

Notwithstanding these changes, the Australian minimum wage remains one of the highest across all developed nations, and it can be argued that while rates of unemployment and labour market disengagement are high amongst some groups, Australia has not experienced the same degree of labour market polarisation and disadvantage faced by other countries.⁹⁸

6.2 Pathways for the future of the minimum wage

It is probable that we have reached a point where this transition has effectively worked its way through and choices need to be made. Three major pathways can be identified:

- A minimum wage which, as with the Australian minimum wage over recent decades, is held flat in real terms
- Increasing the minimum wage broadly in line with wages and productivity gains more generally across the community; or
- Maintaining the minimum wage as with the first pathway, but seeking to top up the incomes of low income workers to ensure that their living standards do not drop relative to others in the community.

The first of these, while minimising pressures on the labour market, brings with it questions of the impact of such a policy on inequality and income distribution. These impacts arise from the failure of such a minimum wage to reflect overall improvements in living standards, and the degree to which it may impose a 'cap' on the extent to which income support payments can be paid.

The second pathway essentially requires that the individual productivity of minimum wage employees grows at rates consistent with that of the rest of the workforce. If this is not achieved then increases in the minimum wage are likely to be at a cost to employment for unskilled low wage workers.

The third requires the introduction of alternative mechanisms, such as an earned income tax credit, by which income top ups can be provided to those with low incomes. Traditionally in Australia this has only been undertaken for families with children. It also represents a potential shift in perceptions about the role of employment.

⁹⁷Although the cost of employing a minimum wage worker has moved more substantially due to the introduction/extension of the Superannuation Guarantee this in large part has not changed relativities between different groups of employees.

⁹⁸ A much more pessimistic reading of the current situation is given by Frijters and Gregory (2006). This argues that the effect of economic restructuring and technological change is such that there has been a "massive shock to the distribution of marginal productivity over the population that has made many individuals unemployable at the current wage floor" (ibid p214). and that: "At the bottom end of the labour market, marginal productivities dropped fast so that now over a million Australians are effectively receiving some form of long term government income support. ... The change in institutions following these shifts in marginal productivities has been slow in coming, but now seems inevitable. In the coming years it appears that Australia is on a trajectory of reduced minimum wages, harsher access regimes for income support, more decentralised labour negotiations and changes in marginal taxation and benefit withdrawal rates" (ibid p222).

6.2.1 Should there be a minimum wage at all

Of course some would consider that a fourth pathway exists – that of abolishing the minimum wage and allowing all wages to be simply set by the market. There are a number of strong grounds for rejecting this and to consider that a substantive binding minimum wage should be maintained as part of a coherent set of economic and social policies.

- It provides protection against exploitation for particularly vulnerable groups in the community, especially those with very poor bargaining power and information asymmetries, including barriers such as poor English language skills.
- When set at or below the market equilibrium it can have positive impacts on employment in the face of the presence of monopsonies.
- A minimum wage provides an important benchmark in the setting of rates of income support. (That is, in the absence of a minimum wage there is no ‘floor’ to the wages and hence any potential rate at which income support is provided may be higher than wages.)
- To the extent in work benefits are provided by government it controls the ability of employers to exploit these by cutting wages.

6.3 National priority objectives

Choices about the nature and level of the minimum wage and the trade-offs implicit in these are complex and need to be guided by priorities and aspirations. There are many different values which individuals will bring to such decision making and many of these are deeply contested. At the same time some aspects of a consensus on some aspects of an Australian national agenda for economic development have emerged. These are used here to establish a framework to consider the options.

6.3.1 A participation agenda

A core strategy of both the current Australian Government and its predecessor has been a ‘participation and productivity agenda’⁹⁹.

This approach was described by Peter Costello when Treasurer, as “*we need to ensure that people are able to work to their full potential. We do this through improvements to participation and productivity. ... We have put in place policies that are delivering improvements now, and will continue to do so for many years to come. With record low unemployment rates, the challenge is to reduce barriers to participation and help people rejoin the workforce where possible.*” (Costello 2007)

Similar themes were emphasised by the current Prime Minister Julia Gillard “*We must do the hard work of building an economy with higher productivity growth and higher workforce participation - the long-term drivers of future prosperity. ... Equally important is the need to maximise participation in the workforce. A high-participation economy will sustain stronger growth, stronger public finances, and will better support the pressures on services caused by an ageing population. A high-participation economy will sustain hope and purpose in individual Australians and gives security and choices to their families.*” (Gillard 2010)

⁹⁹ At various times the policy has also been articulated as ‘population, participation and productivity’, although there has been less consensus on the population component. Further, while the objectives of the agenda have been similar, the priorities within it, and strategies for pursuing it have varied. This is particularly marked with regard to education which has played a much more significant role under the current government.

The development of the participation agenda has many motivations. These include: the impact of demographic change; addressing welfare dependency and promoting social inclusion; and concerns about longer term economic growth, including the impact of a resurgent resources sector.

The publication over the past decade of regular 'Intergenerational Reports' (IGR) as a means of looking at budgetary and other pressures in the medium to long term has contributed to a growing awareness of the impact of demographic shifts on the Australian workforce. One aspect of this is the size of the workforce relative to the population. The 2010 IGR (Australian Government 2010) reports that the ratio of people aged over 65 years to the population of 'working age' (15-64 years), which was some 12 per cent in 1970, and 20 per cent in 2010, is projected to increase to some 37.6 per cent in 2050. Further, while there has been a growth in female workforce participation since the 1970s, this has been somewhat offset until the early 2000s¹⁰⁰ by a fall in male participation. Even to the extent this has resulted in higher workforce participation and hence total labour supply, it has been partially offset by a fall in average hours of work. The IGR suggests this latter will continue as it is anticipated that much of the increased participation will be by women with family responsibilities and older workers. Both these groups have a relatively high propensity to work on a part-time basis. A consequence of all of these factors is a growing fiscal gap. That is, expenditures, in many cases associated with the health and other needs of older Australians, are projected to grow more rapidly than the revenue which would be derived from existing taxation structures. These are pressures which would be significantly addressed by higher levels of workforce participation and productivity growth.

The second pressure cited by these policies is a need to respond to the increase in 'welfare dependence'. From the mid-1960s to mid-1980s the proportion of the population aged 15 to 64 years in receipt of transfer payments increased steadily from 5.8 per cent in 1964, to 21.1 per cent in 1984. After a brief decline at the end of the 1980s, it then further increased to reach a peak of 24.9 per cent in 1996. Although it has declined since it remains high.

While some of this growth in receipt of income support reflects deliberate policies which have extended support to groups in need who had previously been ignored, and demographic change, these do not fully account for the phenomena. This has given rise to considerable concern as to the extent of welfare dependency including the possibility that this may be driven by the receipt of income support becoming perceived as a substitute for participating in the workforce. It has also resulted in a flow of policies seeking to address this. The rationale for these was stated in the Report of the Reference Group on Welfare Reform as "*Australia's social support system must do more than provide adequate levels of income support for people in need. It must ensure that people are actively engaged socially and economically, including in the labour force, to reduce the risk of long term social and economic disadvantage for themselves and their families*" (McClure 2000 p 3). This recognition of the role of employment in generating social inclusion is also reflected, as noted previously, in the legislation under which the Australian minimum wage is determined. A recent literature review for Fair Work Australia summarises the pathways between employment and social inclusion as "*paid work could be seen as promoting social inclusion by its impact on: a person's resources (such as income, access to goods, services and credit, or human capital); a person's social networks and support; and a person's mental and/or physical health.*" (Nelms and Tsingas 2010 p14).

The third ground is ongoing need for labour, and in particular skilled labour, in Australia's industries. This encompasses not just the demands of the resources sector, but also maintaining and building other sectors of the economy.

¹⁰⁰ Underlying the importance of the participation agenda, while the IGR identifies a growing fiscal gap, it also assumes that this occurs despite achieving a rise in the participation rate of the 15-64 year age group from 76.2 per cent in 2009-10 to 79.7 per cent by 2049-50. A failure to achieve this would involve a considerable increase in the magnitude of the gap.

6.3.2 The goals of the participation agenda and the minimum wage

Accepting that the balance between these elements is perhaps more contentious than the general thrust of participation agenda, the policies can be seen as comprising four more specific goals:

- Maintaining living standard growth, especially for low income households
- Boosting participation and rewarding and valuing employment
- Breaking out of the welfare model
- Promoting training and productivity.

The relationship between these and the minimum wage, and possible pathways are considered below:

6.4 Aspects of the choice of pathway

Before considering the merits of particular pathways for the future evolution of Australia's minimum wage policy in the light of these goals, it is useful to first consider some aspects and policy choices which emerge in considering the options. The first of these is concerned with whether there are options which will permit a higher minimum wage to be paid; the second focuses on the relationship between the minimum wage and household living standards; and the third addresses the nature of work.

6.4.1 Does training provide a productivity path to a higher minimum wage

The most optimistic interpretation of the participation and productivity agenda is encompassed in the vision of generating, across the population, through improved education and training, high levels of individual productivity which will drive higher earnings, including higher minimum wages. Under this vision those currently with low skills, both inside and outside of the workforce, will be able to overcome the barriers these impose and provide employers with a highly skilled workforce which, in turn, will permit the development of new and innovative forms of employment, as well as ensuring high and increasing living standards.

There are strong grounds for believing that there are considerable gains to be obtained from having a more highly skilled workforce, and opportunities for many of those with low skills to redress this, and to build their capacity and abilities through education and training. It is also probable that there are limits to this. Rather it may be expected that there will remain many who may not be able, or not be willing, to make the investment that these policies will require, or potentially be unable to function at the level they may need to in order to justify a higher wage level¹⁰¹.

In such a case increasing the minimum wage above the rate of productivity growth of those employed in these positions comes at a cost. Although, as discussed previously, such a cost could be spread in different ways, without there being marked change in Australian institutions, it is most likely to be carried by the least skilled and most vulnerable in our society through high and persistent unemployment – or withdrawal from the labour force.

¹⁰¹ For example, one approach to higher productivity is more intensive work effort. This and a range of other possible demands on employees in order to achieve higher levels of productivity may increase their sense of stress. Given the extent to which this is one of the factors for people being unable to participate in employment there is risk that some of these policies may be counter-productive.

The evidence of the impact of training, especially through active labour market programs directed at those who are experiencing unemployment and other disadvantage is mixed. A recent meta-review by Card, Kluve and Weber (2010) concludes that positive medium term results can be gained from class-room based and on the job training – but that there is no evidence that current programs are more successful than those implemented in the 1980s. Similarly researchers including Sala and Silva (2011) and Dearden, Reed and Van Reenen (2005) identify productivity gains from training. In this latter it is reported that *“An increase of 1 percentage point in the proportion of employees trained is associated with a 0.6 per cent increase in productivity and a 0.3 per cent increase in wages”*. Other researchers are less positive. Heckman (2012) considers that remedial interventions for disadvantaged adolescents, along with public job training, adult literacy and other education programs for disadvantaged adults are difficult to justify and have low rates of return. He argues rather that a focus needs to be placed on *“non-cognitive abilities—including strength of motivation, an ability to act on long-term plans, and the socio-emotional regulation needed to work with others”* and that for this to be effective interventions must be early – in particular in the earliest years of a child’s life and before they enter school.

A further real challenge is that while many programs can achieve gains ‘on average’, these are not spread across all participants, with the most disadvantaged at times being the least successful. If a policy of founding an increasing minimum wage is to be based upon building the productivity of the group most likely to remain employed at this level, that is those with the least capacity, this outcome is not sufficient, as these will again be the people who will be excluded.

6.4.2 Other possible pathways to a higher minimum wage

Other than the productivity path the alternative options for a higher minimum wage involve some form of transfers from one group to another. As discussed these include higher prices for some products and services, wages compression, and potentially lower profits. None of these appear to be viable long term and sustainable options.

To the extent price change is relied upon, it is to be expected that this will reduce demand for high minimum wage intensive products and services and hence result in a decline in employment in these industries. The potential for this effect can obviously be seen in some of the sectors which have high concentrations of minimum wage employment, such as food services where high prices may reduce the consumption of fast food and other prepared meals in favour of home production. In the hospitality sector higher domestic prices may lead many to holiday overseas, as well as reducing the attractiveness of Australia as a tourism destination. Similarly higher production costs for Australian manufacturing industries will result in the loss of price competitiveness with imported products.

While of course re-erecting tariff barriers might seem to be a way of limiting this latter outcome, the cost of these across the economy has been well recognised in the past. Further to the extent such strategies impose costs on other sectors of the economy – such as pushing up the price of inputs to export oriented sectors – they generate losses elsewhere, and promote conflict between industry sectors.

In the community services sector any increased costs would need to be met by increased user charges or higher government subsidies. This latter of course would further aggravate the fiscal gap, and require action such as increased taxation.

The second method is that of reducing profits. A common experience in many OECD countries over recent decades has been a major fall in the labour share of national income. In Australia the wage share of factor income rose from 50.2 per cent in 1959-60 to a peak of 60.7 per cent in 1977-78 before declining to 52.1 per cent in 2010-11. (ABS 2012) This trend has given some force to arguments suggesting that higher wages, including minimum wages may be able to be funded by a rebalancing of the capital and labour shares. (ILO 2007). Other analysis suggests that these

arguments are not as strong as they initially sound. The OECD (2012) identified capital deepening and increased productivity as being the main drivers of the changing shares. In the case of productivity where the gains are substantially as a result of the impact of new technology the research would suggest that labour has been less successful at bargaining for a share of these. While the study reports that minimum wages policies have only made a minor contribution to date it cautions *“minimum wages are estimated to depress the labour share in the long run. A higher minimum wage is likely to induce greater investment in labour-saving innovations and firm sponsored training, whose benefits ...are not fully reaped by workers in terms of higher wages.”* (ibid p111)

Again in thinking about the relevance of this to the potential to fund a higher minimum wage from profits, the sectoral distribution of low pay needs to be considered. There is little evidence to suggest that the highest profits, or these shifts in labour share, have occurred either across the sectors with high concentrations of minimum wage employment, nor, remembering some 40 per cent of minimum wage employment is in firms of fewer than 20, in the small business sector. Similarly one cannot neglect the potential response in these sectors to lower profits as a consequence of higher minimum wages – labour replacing technology and potentially a shift in investment towards more profitable sectors.

The third mechanism is that of wages compression. Essentially this involves one sector of the workforce cross-subsidising another. Typically it requires higher skilled workers forgoing gains from their productivity in order to pay for higher wages for those with lesser skills. Potentially, and more benignly, it can involve those workers with the strongest bargaining power sharing the gains from bargaining with those in weaker positions. This is a path which continues to be followed in some countries but it requires a strong, and relatively widespread, institutional framework, such as those seen in a number of European labour markets, but which no longer exists in Australia.

This is also a question which has been considered in recent wage reviews in Australia. In the 2011 review the Minimum Wage Panel reflected upon its previous approaches to the use of flat or proportionate increases and the tendency for the former to compress relativities. They noted that: *“The ACTU claimed that this compression of wage relativities is unfair because it diminishes the extent to which award rates of pay properly reflect the level of skill and responsibility inherent in different jobs and the value attached to those jobs. ... It also referred to adverse consequences for workforce development, productivity, prosperity and social inclusion as compression of relativities reduces incentives to improve skills”.* (FWA 2011 c2011/1 p80)

6.4.3 The minimum wage household income and inequality

Traditionally a central interest in the level of the minimum wage has been on its contribution to the incomes of low income households, and hence the standard of living that they can achieve and the extent of inequality. From this perspective it was assumed that increasing the value of the minimum wage would deliver considerable gains to such households.

As has been detailed in this paper, and other analysis, this assumption is far from valid. While the minimum wage does play a more important role in the incomes of low income households than it does for those with higher incomes, the match between low earning rate employment and low income households is very loose. The majority of minimum wage workers do not live in the poorest 20 per cent of households, even when these households are restricted to those with earnings from employment. Indeed only around 30 per cent of the income flow from minimum wage employment flows to these households and only a little over half flows to the poorest 40 per cent.

A second issue is even to the extent minimum wage earners are found in these low income working households a very high proportion of them are employed part-time. Indeed in the poorest 20 per cent of households with some earned income there are some 93,000 full-time adult minimum wage employees and 146,000 adult minimum wage earners who are working part-time.

Given this, the use of the FMW as a means for increasing the incomes of low income households would appear to be poorly targeted and inefficient. Most of the benefits would flow to higher income households and an increase in the rate will do relatively little to address the extent to which low incomes are driven by limited part-time employment.

6.4.4 The role of employment

Using an EITC or similar mechanism to 'top up' earnings, while totally consistent with what has already occurred for families with children, can also be seen as a departure from the expectation that employment should be a means of ensuring economic independence. As such some would argue that society would be better off without jobs that cannot pay a 'living wage'. For example the Australian Catholic Commission for Employment Relations (2002) argues "*it is also appropriate to question whether the social security system should be used as a replacement for the payment of a just wage by employers. In particular, Catholic Social Teaching proclaims that it is the responsibility of the employer to pay a just wage and that the role of the State is to establish a minimum code or standard in relation to wages to ensure that the needs of the worker and his or her dependents are met.*" Similarly a previously cited Watson (1999) argues that such a top up would compromise the sense of independence of these employees.

As noted however, these types of arguments would appear to ignore the extent to which government already intervenes directly and indirectly to reduce inequality, such as support for children, but also through housing subsidies, access to health care and other services. In addition of course the level of what would need to be paid in such a 'living wage' would also be affected by the extent to which these workers are required to pay a wide range of taxes and other government charges.

Notwithstanding the extent to which it is already accepted that interventions are required to supplement earnings to generate adequate outcomes for some groups, there is a case for any extension of this to be taken consciously and with a clear understanding that as such the employment goal for many may not be to achieve economic independence from their work, but rather through their work these people are making a contribution towards meeting their needs and fulfilling a mutual obligation to the rest of the community to maximise the degree to which they are self-supporting, even if a gap remains.

This debate however only considers one part of the equation. A further element, central to many discussions about social inclusion, and the nature of citizenship, is the potential benefits of employment which go beyond the income gains. Three concepts of this can be considered. The first is that of employment as an obligation of citizenship, the second is that all productive employment generates benefits for the community and increases the potential consumption of all members, the third, and most focused on in social policy debates are the direct benefits for individuals from employment.

The McClure Report (2000) in supporting a strong participation agenda, including the potential role of in work benefits as a supplement to earnings states: "*Participation in paid employment is a major source of self-esteem. Without it, people can fail to develop, or become disengaged from, employment, family and community networks. This can lead to physical and psychological ill health and reduced life opportunities for parents and their children*". This centrality of employment is also seen in the principle enunciated by the Australian Social Inclusion Board (2009) of "*Helping everyone get the skills and support they need so they can work and connect with the community*". While qualifying what they mean by 'decent work' this is also reflected in the ACTU (2009) view of a Fair Society "*Congress believes that participation in decent work is the single most important pathway to address disadvantage for working age Australians and their families.*"

The position statement by The Royal Australasian College of Physicians, Australasian Faculty of Occupation and Environmental Medicine (2010) on realising the health benefits of work states that “evidence-based research also provides some very good news about the relationship between health and work. Work, in general, is good for health and wellbeing”. In addition to income five other benefits are nominated: *“Ensuring that some physical activity is undertaken on work days; Providing a sense of community and social inclusion; Allowing workers to feel that they are making a contribution to society and their family; Giving structure to days and weeks; and a decreased likelihood that individuals will engage in risky behaviours, such as excessive drinking.”*

6.5 Making decisions

The fortuitous period over which Australia was largely able to hold the real minimum wage stable as it transitioned from being a wage sufficient to meet the needs of a family to being one for an individual, without imposing a large social cost, is coming to an end. While a relatively small group in the community are living in households wholly or primarily reliant upon the minimum wage, it is likely that if their incomes do not increase then the country will face increasing inequality. Yet increasing the minimum wage so as to maintain living standards will potentially act to exclude many from employment.

6.5.1 Weighing up the pathways

In section 6.2 three possible pathways are identified for the future development of the minimum wage in Australia: continue holding the minimum wage flat in real terms to minimise employment pressures; allowing it to increase – roughly in line with average earnings growth in the community and rely upon training interventions to improve the productivity of those with low skills. The third, as with the first, would be to maintain the Minimum Wage at around its current value and to utilise transfers, potentially in the form of an EITC, to boost the income from employment, if this is seen as being insufficient to allow individuals to achieve the standard of living which may be appropriate in the light of general community trends.

The relative merits of these against the national goals and aspirations previously outlined are considered below.

Maintaining living standard growth, especially for low income households

Over the past 25 years the living standards of both singles and families with children reliant upon the minimum wage have increased, notwithstanding the fact that the minimum wage has essentially remained flat in real terms. This has been achieved through tax and transfer policies.

However as detailed, because of the distribution of minimum wage workers across households, and the role of part-time employment, the minimum wage is a relatively poorly placed tool for achieving growth in living standards of low income households. Rather to pursue this objective policies are required which:

- Are much more targeted at those households on low incomes
- Seek to boost the participation of those working only limited hours, including minimum wage workers. Such policies could include those which address impediments to participation – such as child care provision – as well as a sharpening of the focus of participation objectives of transfer payments onto achieving substantial levels of participation, rather than concerns about marginal EMTRs across a very wide range of incomes. These latter could for example take the form of minimum hours of part-time work for eligibility for support.

Looking at the larger question of inequality, the role of the minimum wage is limited not just in terms of its relative role with respect to the lowest income households, but also to the extent increasing inequality has been largely driven by income growth at the very top of the income distribution.

Boosting participation, rewarding employment and promoting social inclusion

Substantial increases in the minimum wage unless matched by productivity gains are likely to have a negative impact on labour demand, although a positive effect on labour supply. This combination results in increased unemployment. Even with higher productivity there will be pressures on keeping gains in employment as employers may use a higher capital to labour mix to achieve levels of production with less employment. To the extent a higher minimum wage draws more highly capable people into the workforce, it may also result in substitution for existing employees with lower productivity and the further shuffling of those with the lowest skills further to the back of the unemployment queue. On the other hand the macroeconomic benefits of higher productivity and income may have a positive impact on economic growth and competitiveness.

Although it may be argued that a lower minimum wage may boost employment it is not likely that simply holding the minimum wage flat in real terms, while average earnings grow, will have any such effect, although it is likely to stem job losses.

Employment as a social participation goal recognises that a job provides much more for individuals than just the income they derive from it. Options such as an EITC provide the opportunity to focus economic policy on the employment objective in this context, and to use the transfer system as a complement to meet the income goal.

Breaking out of the welfare model

This goal is, in the first instance, closely linked to the first – to the extent people can gain employment many of them can move out of the welfare system. Similarly any reduction in employment opportunities – especially those for people with low levels of educational achievement, poor skills and potentially broken work histories – will tend to reinforce reliance upon income support.

This though is only part of the relationship. Under the existing structure of income support payment means testing a considerable group of part-time minimum wage workers (as well as workers earning at a higher rate) are eligible to receive some portion of income support payments. If income support payments increase more rapidly than the minimum wage, this problem will be exacerbated.

As identified by the AFTS, alternative delivery mechanisms exist through mechanisms such as an EITC. These can be delivered through the taxation system or directly as payments. The advantages of going down this path is that it provides a clear separation of the welfare system – directed at those who are unable to support themselves, and a separate system which supplements the efforts of individuals through paying in work benefits. Such a separation also allows for a clearer demarcation between being wholly reliant upon welfare and being in employment. It also permits the tailoring of in work assistance to meet the priorities of achieving appropriate labour market outcomes, rather than design directed at the welfare function.

The disadvantages of moving to a separate scheme is that it would require the program to either be run by agencies which are primarily identified as providing welfare, or the development of new delivery mechanisms, with potential duplication of existing mechanisms.

Promoting training and productivity

The relationship between training, the minimum wage and productivity has been discussed extensively, in particular the capacity of the provision of training as a means of allowing an increase in the minimum wage.

There is also the potential for increases in the minimum wage to generate pressures for some employers to provide additional training to those workers whose wages are being increased. Some people may also, on their own volition, seek to upgrade their skills to improve their chances of gaining employment and accessing this higher wage.

What is unknown is the countervailing impact on those unable or unwilling to develop their skills and meet the demands of a more intensive workplace. As such there is the potential for a group to be excluded.

Alternatives such as an EITC, while avoiding this possibility, may blunt the pressure on individuals with an unwillingness to invest in their skills.

6.5.2 How do we proceed?

Taking a decision on the strategy which should be adopted is not one which needs to be made immediately, however the question does need to enter into the public debate.

There is a clear need for future policy with regard to the minimum wage, its role and level, to be guided by a clear perspective of the outcomes that are sought and with the appropriate development of complementary policies. This is true of whichever direction is chosen. There is also a need for a strong consensus across sectors. Simple ad hoc decision making, for example, through annual reviews which simply focus on whether a change needs to be made on the basis of current circumstances and without thought or commitment to the need for underlying mechanisms, be they training or in work benefits, will not suffice to make the structural changes required.

It is also a decision that needs to be guided by improved data and analysis:

- As highlighted in this paper information on many aspects of the current role of the minimum wage, even in terms of the number of people who are paid at this rate, is sorely lacking. These gaps become even greater when areas such as the employment impact of changes in the rate of the minimum wage are concerned.
- There is also a need for an evaluation of the challenges of the training agenda. To what extent can training sufficiently boost the skills of the minimum wage workforce to achieve the productivity gains consistent with growth in the minimum wage? Can these gains be achieved universally across the population? What is the minimum skillset that should be expected of a minimum wage worker? What is the cost of this training and who will fund it?

Finally there are questions about policy priorities. To what extent should the welfare system act as a subsidy for employment, is there a need for it to be more prescriptive about the levels, both maximum and minimum, of workforce participation that people should be expected to achieve.

APPENDIX A: EVOLUTION OF THE MINIMUM WAGE

Table 18 The minimum wage November 1907 to July 2012

	Minimum wage series (\$)					Changes in value (from Sept 1978 on)		Con- sumer Price Index (g)	Estimated real value of Minimum wage (\$2012)		
	Harvester /Basic wage (a)	Basic wage (b)	Mini- mum Wage (c)	Divergence - NWC only (d)	Divergence - Metal workers (e)	FMW (f)	Value		Notes	Series I (h)	Series II
Nov-07	4.20								2.7	279	
Jun-13	5.10								3.3	280	
Jun-14	5.10								3.4	271	
Jun-15	5.30								3.9	245	
Jun-16	6.00								4.0	274	
Jun-17	6.30								4.2	272	
Jun-18	6.30								4.5	255	
Jun-19	6.60								5.1	235	
Jun-20	7.20								5.7	226	
Jun-21	8.60								5.0	309	
Jun-22	8.10								4.8	302	
Feb-23	8.05	8.05							4.9	296	
May-23		8.05							4.9	295	
Aug-23		8.50							5.0	309	
Nov-23		8.75							4.9	319	
Feb-24		8.50							4.9	311	
May-24		8.45							4.9	310	
Aug-24		8.40							4.9	309	
Nov-24		8.30							4.9	305	
Feb-25		8.35							4.9	307	
May-25		8.45							4.9	311	
Aug-25		8.55							4.9	315	
Nov-25		8.60							4.9	315	
Feb-26		8.65							5.0	315	
May-26		8.80							5.0	318	
Aug-26		9.05							5.0	326	
Nov-26		8.85							5.0	319	
Feb-27		8.80							5.0	318	
May-27		8.75							5.0	318	
Aug-27		8.65							5.0	315	
Nov-27		8.80							5.0	320	
Feb-28		8.90							5.0	324	
May-28		8.80							5.0	320	
Aug-28		8.80							5.0	320	
Nov-28		8.70							5.0	315	
Feb-29		8.70							5.0	313	
May-29		9.05							5.0	324	
Aug-29		9.05							5.1	322	
Nov-29		9.05							5.0	326	
Feb-30		9.05							5.0	329	
May-30		8.70							4.9	320	
Aug-30		8.60							4.8	320	
Nov-30		8.30							4.7	317	
Feb-31		7.11							4.6	279	
May-31		6.93							4.5	280	
Aug-31		6.75							4.3	280	
Nov-31		6.52							4.3	274	
Feb-32		6.43							4.2	274	
May-32		6.48							4.2	280	
Aug-32		6.39							4.1	280	
Nov-32		6.30							4.1	279	
Feb-33		6.17							4.0	276	
May-33		6.42							4.0	290	
Aug-33		6.33							4.0	289	
Nov-33		6.33							4.0	287	

	Minimum wage series (\$)						Changes in value (from Sept 1978 on)		Consumer Price Index (g)	Estimated real value of Minimum wage (\$2012)	
	Harvester /Basic wage (a)	Basic wage (b)	Mini- mum Wage (c)	Divergence - NWC only (d)	Divergence - Metal workers (e)	FMW (f)	Value	Notes		Series I (h)	Series II
Feb-34		6.38							4.0	287	
May-34		6.50							4.0	290	
Jun-34		6.60							4.1	293	
Sep-34		6.60							4.1	292	
Dec-34		6.60							4.1	291	
Mar-35		6.60							4.1	290	
Jun-35		6.60							4.1	289	
Sep-35		6.60							4.1	288	
Dec-35		6.80							4.1	296	
Mar-36		6.80							4.2	295	
Jun-36		6.80							4.2	294	
Sep-36		6.80							4.2	291	
Dec-36		6.80							4.3	288	
Mar-37		7.00							4.3	293	
Jun-37		7.00							4.3	291	
Jul-37		7.30							4.3	303	
Sep-37		7.30							4.4	301	
Oct-37		7.50							4.4	309	
Dec-37		7.60							4.4	312	
Mar-38		7.70							4.4	314	
Jun-38		7.70							4.5	312	
Sep-38		7.70							4.5	310	
Dec-38		7.80							4.5	312	
Mar-39		7.80							4.5	310	
Jun-39		7.90							4.6	312	
Sep-39		7.90							4.6	309	
Dec-39		7.90							4.7	306	
Feb-40		8.00							4.7	310	
May-40		8.00							4.7	308	
Aug-40		8.20							4.7	312	
Nov-40		8.30							4.8	313	
Feb-41		8.50							4.8	316	
May-41		8.60							4.9	317	
Aug-41		8.60							5.0	313	
Nov-41		8.70							5.1	310	
Feb-42		8.80							5.2	306	
May-42		9.00							5.3	307	
Aug-42		9.30							5.4	311	
Nov-42		9.50							5.5	314	
Feb-43		9.60							5.5	314	
May-43		9.60							5.6	311	
Aug-43		9.80							5.6	314	
Nov-43		9.70							5.6	312	
Feb-44		9.60							5.6	309	
May-44		9.60							5.6	310	
Aug-44		9.60							5.6	311	
Nov-44		9.60							5.6	311	
Feb-45		9.60							5.6	311	
May-45		9.60							5.6	311	
Aug-45		9.60							5.6	311	
Nov-45		9.60							5.6	309	
Feb-46		9.60							5.6	308	
May-46		9.70							5.7	310	
Aug-46		9.80							5.7	311	
Nov-46		9.80							5.7	308	
Dec-46		10.50							5.8	327	
Feb-47		10.60							5.8	330	
May-47		10.60							5.8	327	
Aug-47		10.70							5.9	327	
Nov-47		10.90							6.1	325	
Feb-48		11.00							6.2	320	
May-48		11.40							6.4	323	

	Minimum wage series (\$)					FMW (f)	Changes in value (from Sept 1978 on)		Consumer Price Index (g)	Estimated real value of Minimum wage (\$2012)	
	Harvester /Basic wage (a)	Basic wage (b)	Mini- mum Wage (c)	Divergence - NWC only (d)	Divergence - Metal workers (e)		Value	Notes		Series I (h)	Series II
Aug-48		11.60						6.5	321		
Nov-48		11.90						6.7	320		
Feb-49		12.20						6.8	324		
May-49		12.40						7.0	320		
Aug-49		12.70						7.1	323		
Nov-49		12.90						7.3	319		
Feb-50		13.30						7.4	324		
May-50		13.50						7.5	325		
Aug-50		13.80						7.8	319		
Nov-50		14.20						7.9	324		
Dec-50		16.20						8.2	356		
Feb-51		16.90						8.2	372		
May-51		17.60						8.6	369		
Aug-51		18.90						9.1	375		
Nov-51		20.00						9.6	376		
Feb-52		21.00						10.3	368		
May-52		21.60						10.6	368		
Aug-52		22.70						11.0	372		
Nov-52		23.10						11.2	372		
Feb-53		23.10						11.3	369		
May-53		23.40						11.4	370		
Aug-53		23.60						11.5	370		
Jun-56		24.60						12.5	355		
May-57		25.60						12.8	361		
May-58		26.10						13.0	362		
Jun-59		27.60						13.2	377		
Jul-61		28.80						14.2	366		
Jun-64		30.80						14.4	386		
Jul-66		32.80	36.37					15.5	423		
Jul-67			37.37					15.9	424		
Oct-68			38.72					16.5	423		
Dec-69			42.22					17.1	445		
Jan-71			46.22					17.9	466		
May-72			50.92					19.4	473		
May-73			60.10					20.5	529		
May-74			68.10					23.3	527		
Jan-75			76.10					26.4	520		
May-75			80.10					27.4	527		
Sep-75			82.90					28.6	523		
Feb-76			88.20					30.2	527		
Apr-76			93.20					31.0	542		
May-76			96.00					31.0	559		
Aug-76			98.50					31.8	559		
Nov-76			100.70					32.6	557		
Mar-77			106.40					35.3	544		
May-77			108.40					35.3	554		
Aug-77			110.60					36.1	553		
Dec-77			112.30					37.7	537		
Feb-78			114.00					37.7	546		
Jun-78			115.50					39.0	534		
Sep-78				115.50	127.50	\$12.00	Supplementary payment (j)	39.7	525	579	
Dec-78				120.10	132.60	4.0%	NWC	40.6	534	589	
Jun-79				123.90	136.80	3.2%	NWC	42.4	527	582	
Nov-79				123.90	141.90	3.7%	Work value case	43.4	515	590	
Jan-80				129.50	148.30	4.5%	NWC	44.7	523	599	
Jul-80				134.90	154.50	4.2%	NWC	47.0	518	593	
Jan-81				139.90	160.20	3.7%	NWC	48.8	517	592	
May-81				144.90	166.00	3.6%	NWC	50.0	523	599	
Dec-81				144.90	190.20	\$24.23	Metal industry award (k)	54.3	481	632	
Jul-82				144.90	203.80	\$13.57	Metal industry	56.6	462	650	

Minimum wage series (\$)						Changes in value (from Sept 1978 on)		Consumer Price Index (g)	Estimated real value of Minimum wage (\$2012)	
Harvester /Basic wage (a)	Basic wage (b)	Mini- mum Wage (c)	Divergence - NWC only (d)	Divergence - Metal workers (e)	FMW (f)	Value	Notes		Series I (h)	Series II
							award (k)			
Oct-83			151.10	212.60		4.3%	NWC	64.0	426	599
Apr-84			157.30	221.30		4.1%	NWC	65.2	435	612
Apr-85			161.40	227.10		2.6%	NWC	68.1	428	602
Nov-85			167.50	235.70		3.8%	NWC	71.3	424	596
Jul-86			171.40	241.10		2.3%	NWC	75.6	409	575
Mar-87			181.40	251.10		\$10.00	NWC Tier 1	81.4	402	556
Sep-87			188.70	261.10		4.0%	NWC Tier 2	84.0	405	561
Feb-88			194.70	267.10		\$6.00	NWC	85.5	411	564
Sep-88			200.50	275.10		3.0%	NWC first amount	90.2	401	550
Mar-89			210.50	285.10		\$10.00	NWC second amount (l)	92.9	409	554
Aug-89			220.50	295.10		\$10.00	NWC Tier 1	95.2	418	559
							NWC second structural efficiency adjustment			
Mar-90			230.50	305.10		\$10.00	Minimum Rates Adjustment (m)	100.9	412	545
Apr-90			230.50	308.20		\$3.10	Minimum Rates Adjustment (m)	100.9	412	551
Jan-91			230.50	314.40		\$6.20	NWC	106.0	392	535
Apr-91			236.30	322.30		2.5%	Minimum Rates Adjustment (m)	105.8	403	550
Sep-91			236.30	325.40		\$3.10	NWC	106.6	400	551
Dec-93			244.30	333.40		\$8.00	SNA First (catch up for those without first)	110.0	401	547
Sep-94			244.30	333.40		\$0.00	SNA Second	111.9	394	537
Mar-95			252.30	341.40		\$8.00	SNA 3rd confirmed	114.7	397	537
Sep-95			260.30	349.40		\$8.00	SNR Determination of federal minimum wage	117.6	399	536
Apr-97					359.40	\$10.00	SNR	120.5		538
Apr-98					373.40	\$14.00	SNR	120.3		560
Apr-99					385.40	\$12.00	SNR	121.8		571
May-00					400.40	\$15.00	SNR	125.2		577
May-01					413.40	\$13.00	SNR	132.7		562
May-02					431.40	\$18.00	SNR	136.6		570
May-03					448.40	\$17.00	SNR	141.3		572
May-04					467.40	\$19.00	SNR	144.1		585
Jun-05					484.40	\$17.00	SNR	148.4		589
Oct-06					511.76	\$27.46	AFPC Wage setting decision (n)	155.7		593
Oct-07					522.12	\$10.26	AFPC Wage setting decision	158.6		594
Oct-08					543.78	\$21.66	AFPC Wage setting decision	166.5		589
Jun-09					543.78	\$0.00	AFPC Wage setting decision	167.0		587
Jul-10					569.90	\$26.00	FWA Annual Wage review (o)	172.1		597
Jul-11					589.30	3.4%	FWA Annual Wage review	178.3		596
Jul-12					606.40	2.9%	FWA Annual Wage review	180.4		606

- (a) As per detailed discussion in Table 19.
- (b) Commonwealth Basic Wage "6 Capitals" Labour Report No 54 1968 and 1969 p 335 (ABS Cat No 6101.0)
- (c) Minimum Wage "Unweighted average of 6 Capital Cities" variously taken from Labour Reports (ABS Cat No 6101.0) 1973 p307, 1975 p93, 1976 p100, 1977 p80 1979 p108.
- (d) Series adjusted for National Wage Cases only excluding payment specifically flowing to Metal Industries Award and other Awards. From 1978 to 1984 reported increases taken from Victorian Year Book – various years (ABS Cat No 1300.2), subsequent amounts taken from NWC decisions.
- (e) As per (d) but including amounts flowing to metal industries
- (f) Taken from decisions as indicated.
- (g) September 1948 on from ABS 6401.0 September 2011 Time Series Spreadsheets Tables 1 and 2. Data prior to this data has been derived from "Retail Price Index Numbers – Australia Long Term Linked Series" Year Book Australia 1988 (ABS 1988 Cat No 1300.0 p680). In this latter series the annual estimates have been used for June and other quarters derived by linear extrapolation. The two series have been linked by using average 1948-49 data.
- (j) Dollar value taken from AMWU Research Centre Spreadsheet. Herbert (1979) reports "*Further in the Metal Industry Award, a scheme of supplementary payments was introduced by a Full Bench of the Commission. Under this scheme part of the over-award payments applicable to employees in particular classifications have been transferred into the award, and the level of over-award payment reduced by a corresponding amount.*"
- (k) The metal industry agreement ratified 18/12/1981 included an initial increase of \$25 and subsequent increase of \$14 from 1/6/82 in the fitters rate. This was to be applied pro-rata to other classifications. (Mulvey 1983) The estimated increases of \$24.20 and \$13.60 represent a ratio of 96.9%. This is apparently above the actual ratio with the fitters' rate, however this increase has been used as it permits the completion of a consistent series.
- (l) The amount of \$285.00 is cited in the 1989 National Wage Case (AIRC Print H9100 p12) as the minimum classification rate for a "Metal industry worker, grade 1"
- (m) The Accord Mark V provided for "Minimum Rates Adjustments (MRAs) to bring about consistency in award classifications across different industries. MRAs to be implemented in 4 instalments. Such MRAs are to protect low paid workers and establish stability in the award system" (Easson and Forrest 1994). Estimates of the value of the MRAs and their timing have been derived from known changes from National Wage Cases and data included in Table A12.2 of the Report of the Review of Veterans' Entitlements (Clarke, Riding and Rosalky 2003 p759).
- (n) The decision (AFPC 2006 p 63) states: "*The Standard FMW increases by \$27.36 per week bringing the weekly rate to \$511.86*". This increase however only took the rate to \$511.76 which is the base figure used in the following decision.
- (o) Increase described as \$26.00, actual increase given dollar value of the minimum wage cited was \$26.12.

The Basic Wage between 1907 and 1922

In this paper the ABS series for the minimum wage has been used from 1923 to 1978. Identifying the value of the Basic Wage between 1907 and 1922 presents a number of difficulties. Between 1907 and 1913 the wage essentially stood at the Harvester standard of 7s a day. From 1913 to 1920 it was subject to a series of decisions, effectively seeking to index it for changes in prices. In 1921 automatic indexation was introduced, along with a 3s increase in the wage 'Powers 3s' in 1922 (ABS 1967). This latter was intended to work as a buffer to ensure that the real value of the basic wage did not drop below the Harvester standard, given that the indexation was undertaken on a retrospective basis.

A detailed description of the processes over this data is given by Forster (1980). Essentially it can be considered as a steep learning curve as the court sought to develop an approach to maintaining the real value of the Harvester wage. This included: the development of meaningful price indexes; deciding on how to use price indexes over time (such as whether to use annual or quarterly data); the difficulty of having a large number of location-specific price indexes (especially where the original Harvester decision was a flat rate across locations¹⁰²); the ongoing development of a range of

¹⁰² Higgins noted this as an issue in 1913 (7 CAR 58) where with reference to the original Harvester decision he states "*Assuming this basic wage as established for Melbourne in 1907, it follows from other figures of the Commonwealth Statistician that the proper basic wage for Sydney was not 7s., but more. For it appears that ...the basic wage in Sydney should be treated as 7s. 6d. in 1907. It will be recalled that I found the 7s. in Melbourne, on Melbourne evidence. When I*

awards each with their own minimum rates; and balancing the industrial relations component of the court's decision making and the inherent nature of court decisions with an essentially technical question of how to index. In addition the Court needed to take account of quite significant price changes over the period, with periods of both inflation and deflation. This process was not made simpler by the fact that Higgins as President and Powers as Deputy at times took different approaches to a number of questions in their individual decisions.

The most frequently used (Withers, Endres and Perry 1985, Vamplew 1987) series for the minimum wage prior to the ABS series is that developed by Macarthy (1972). This is based upon an exhaustive study of all of the Awards, Consent Awards, and Industrial Agreements made by the Court between 1901 and 1921 and the development of a weighted average being based on location and industry.

This series has not been used here. Rather the focus has been placed on developing a series which can be considered to reflect the Court's deliberation on what the contemporary equivalent to the Harvester decision was. This approach was adopted for a number of reasons. These include the extent the Macarthy series includes some increases in earlier years before the Court deliberated on the actual need to update the Harvester decision, the inclusion of agreements and consent awards which did not necessarily reflect actual Court considerations of the rate of the Basic Wage, and the extent to which an average series, even adjusted for some prices, includes a wide range of location specific and industry specific decisions. The basis of the series used here is described in Table 19.

Table 19 Derivation of minimum wage series 1907 to 1921

Year	Source and notes	Weekly value)	
		(Shillings)	Dollars
1907	Harvester Decision (2 CAR 1) 7s. per day	42s.	\$4.20
1913	Federated Gas Employees (7 CAR 58) 8s. 6d. per day: In this decision the lowest rate for Yardmen and other labourers was set at 8s. 6d. in Melbourne and 8s. 3d. in Hobart. The decision contained extensive discussion by Higgins about the process of updating the Harvester Decision. (The Melbourne figure is used, 51s per week.) In the slightly later Australian Builders' Labourers Federation case (7 CAR 210) the rates are expressed on an hourly basis and there are some specific allowances – but the decision notes that the rates are sufficient "for Melbourne ... so as to afford a net income of 50s per week." (ibid p222)	51s.	\$5.10
1914	Federated Tanners and Leather Dressers (8 CAR 145): £2.11.0 per week: This rate was set for a range of miscellaneous occupations including "persons not otherwise provided for" (ibid p176). In discussion Powers refers back to Higgins Decision in the previous year to award 8s. 6d. This rate was also awarded in the Millers case (8 CAR 9) for Victoria "All adult workers not otherwise mentioned or provided for in this Agreement shall be paid not less than £2.11s. per week" (ibid p42). In the Telegraph case (8 CAR 119) Higgins indicates that "The basic wage, which would on the Australian mean cost of living be 43s. in 1907, should now be ... 53s. per week" (ibid p127) he awarded a lowest annual amount of £132 (just under 51s. per week). ¹⁰³	51s.	\$5.10

came to deal with the cost of living in other places, I invited all parties who disputed 7s. as the appropriate figure in these places to bring evidence on the subject; but no evidence – at all events, no satisfactory evidence – was adduced to show the higher cost of living in Sydney; and I treated both cities alike, as no sufficient grounds for differentiation was established." (ibid p70)

¹⁰³ This and other decisions relating to Commonwealth Government employment tend to differ from other awards made by the court in a number of respects. This appears to reflect the extent to which this employment was seen as being a permanent career. In addition to decisions usually being based on an annual salary the base rates tended to be determined only for the first year of service after which a higher rate was paid. In addition, for single men under the age of 25, an unmarried rate was paid which was below the lowest married rate which has been set at the equivalent to the basic wage.

Year	Source and notes	Weekly value)	
		(Shillings)	Dollars
1915	The Federated Artificial Manure Trade and Chemical Worker' Union of Australia (9 CAR 181) This decision explicitly referred in its summary to the daily rate of the " <i>Basic wage for Melbourne district raised to 8s 10d.</i> "(ibid p181). The same amount was provided in the Federated Gas Employees case (9 CAR 226) for Melbourne workers. Other decisions include the Letter Carriers Association (9 CAR 52) in which the Basic Wage is described as being £132 per annum (just under 51s per week) (ibid p67). The Federated Glass Founders' (9 CAR 226) provided £2.14s, although the Federated Miners (9 CAR 330) were awarded 8s 6d. per day.	53s.	5.30
1916	The Australasian Meat Industry Employees' Union (10 CAR 465) decision noted " <i>If, then, 42s. was the proper basic wage in 1907, the proper basic wage now should be fully £3 per week; and I shall award accordingly.</i> "(p484) This amount was also awarded in the Federated Artificial Manure Trade and Chemical Workers' Union case (10 CAR 522) and that of the Storemen and Packers (10 CAR 629).	60s.	6.00
1917	The Federated Gas Employees Industrial Union (11 CAR 267) This awarded to those working for 'the Melbourne companies' " <i>10s. 6d. per day or shift</i> " to labourers and yardmen – as well as other occupations not described in the award (p 291). 10s. 6d. was also awarded as the Basic wage for miners in Mount Lyell (11 CAR 17), although a consent award for Tanners and leather workers agreed to a minimum of £3 1s. 6d (11 CAR 796) while £3. was awarded to the Millers (11 CAR 316) with this amount also being cited in the Engine Drivers decision (11 CAR 197)	63s.	6.30
1918	The Federated Coopers of Australia (12 CAR 427) decision states " <i>The basic wage fixed, according to the Statistician's figures for the cost of living in the six capital cities, 1917, at 63s. per week</i> " (p 427)	63s.	6.30
1919	Federated Carters and Drivers Industrial Union of Australia decision (13 CAR 214), in addition to discussing the need for an inquiry into the question of the setting of a federal living wage, awarded £3 6s. for labourers. In the Federated Gas Employees Industrial Union case (13 CAR 437), in September 1919, Higgins stated " <i>I propose, therefore to treat 10s. 10d. as being prima facie the basic wage for Melbourne</i> "(ibid p457). The Australasian Meat Industry decision (13 CAR 153) provided a minimum rate of £5. 3s.	66s.	6.60
1920	Federated Millers and Mill Employees' Association of Australia decision (14 CAR 114) stated " <i>All adults employees whose duties are not herein specified will receive not less than £3 12s.</i> " (p133). Similarly the Wool and Basil Workers' Federation of Australia (14 CAR 288) " <i>... persons not otherwise provided for £3 12s.</i> "(p312). In both the Tramways (14 CAR 1114) and Australian Timber Workers (14 CAR 811) cases 11s. 10d. was provided – a weekly amount of 71s. was determined	72s.	7.20
1921	Federated Gas Employees Industrial Union (15 CAR 838) in discussion of the Piddington Report in this case Powers refers to the " <i>Court's basic wage of £4 6s.</i> (p860) and in the Federated Engine Drivers' and Firemen's decision (15 CAR 269) he likewise notes " <i>The basic rate of £4 6s. was only fixed in February last</i> " (p276). In the Clothing Trades decision (15 CAR 434) a marginally lower minimum wage of £4.5.6 – 85½s. per week was set.	86s.	8.60

Year	Source and notes	Weekly value)	
		(Shillings)	Dollars
1922	<p>The Federated Tanners and Leather Dressers Union of Australia decision (16 CAR 797), while in large part by agreement, contained the rate for tarpitmen and other labourers, as well as those not otherwise provided for was £4 1s.</p> <p>In October the full court agreed (16 CAR 829) a new approach to indexation and an additional 3s. per week to take account of retrospective indexation. In this decision they note that with the data on price changes to the September quarter 1921 that this <i>“equated Harvester equivalent £4 1s. 6d.; but the rate under the new method was fixed at £4 5s.”</i> (p835). (This amount is also cited in (16 CAR 4) in reference to Melbourne <i>“85s. a week is a fair basic wage for an ordinary labourer”</i>(p 16).</p> <p>Over this period there was much volatility in prices – in the Engineers case (16 CAR 231) it was noted <i>“I propose to fix 77s. a week. This would be mean a reduction of 7s. at least a week in all rates fixed by award.”</i>(p262)¹⁰⁴</p>	81s.	8.10
1923	<p>The Manufacturing Grocers Employees Federation of Australia (17 CAR 625) award set a basic wage of £4 0s. 6d. A slightly higher rate of £4 2s was set in the Carters and drivers case (17 CAR 194) although it was noted that this was a fall of 4s. on the previous award.</p> <p>The Manufacturing Grocers rate has been used since it coincides with the ABS all capitals series.</p>	80s. 6d.	8.05

This series, along with that of Macarthy and an indicative set of rates published by Fair Work Australia (FWA 2011) is shown in Table 20. In seeking to understand the real value of these rates in the early years of the minimum wage account must also be taken of the considerable limitations of price indexes over the time, and that for the purposes of this analysis the data has been used on an annual basis.

¹⁰⁴ This volatility was discussed in the Gas Employees case (16 CAR 4) *“assuming the £3 6s a week allowed by the late President was fair for the year ending the 30th June 1919”* the rates would have been *“£4 9s a week for the December, 1920, quarter. £4 8s 6d a week for the March, 1921, quarter. £4 3s a week for the June, 1921, quarter. £4 a week for the September, 1921, quarter”* (p 14).

Table 20 Comparison of estimates of the Basic Wage 1907-1922

Macarthy (1972) Average Weekly Wage of the lowest paid grade of Adult Male as prescribed by CCCA			Early minimum award rates (Fair Work Australia 2011)		As used (Table 19) Dollar equivalent
	Actual	Dollar equivalent		Actual	Dollar equivalent
1907			Harvester	£2.2.02	4.20
1908					4.20
1909	43s 8d	4.37			4.20
1910	45s 7d	4.56			4.20
1911	46s 0d	4.60			4.20
1912	48s 3d	4.83			4.20
1913	48s 3d	4.83	7 CAR at p58	£2.10.0	5.00
1914	51s 3d	5.13	WWF v CSOA	£2.11.0	5.10
			ATTCU vs PS Com.	£2.13.0	5.30
1915	52s 3d	5.23	ALCA vs PS Com	£3.3.6	6.35
1916	54s 7d	5.46	FAMTCWU	£3.1.6	6.15
1917	58s 5d	5.84	FGFA	£3.3.0	6.30
1918	60s 11d	6.09	AEPU vs PMG	£3.6.0	6.60
1919	64s 6d	6.45	FTLDEU	£3.15.0	7.50
1920				£3.17.0	7.70
	70s 1d	7.01		to £4.2.0	to 8.20
1921	77s 5d	7.74	15 CAR at 829	£4.5.0	8.50
1922			16 CAR at 829	£4.10.0	9.00
1923					8.05

APPENDIX B: JUNIOR MINIMUM WAGE WORKERS

The main analysis of the minimum wage in this paper has excluded youth. There are several reasons for this. Firstly is the focus of the paper on the establishment of the minimum wage as a family wage and its evolution relative to this function. The second is the more limited data available on youth being paid the minimum wage. In particular, the EEH is not amenable to analysis of the incidence of youth minimum wages. Thirdly there is considerable complexity in analysis because of the single year age specific rates at which the minimum wage is paid, and the extent to which these vary across awards.

While age specific minimum rates were included in the Harvester decision (at rates that ranged from 28.6 per cent of the adult rate for those aged under 15 years to 85.7 per cent for people age 20 years), junior rates were more frequently expressed in individual awards, as were the ages at which adult rates applied¹⁰⁵. In the 2010-11 decision of Fair Work Australia a set of relativities was adopted for the establishment of age specific minimum wages for those not covered by awards.

To look at the issue of Minimum Wage employment amongst youth these relativities have been retrospectively applied to the value of the minimum wage at the time of the 2011 HILDA survey¹⁰⁶. This indicates that an estimated 30.5 per cent of employed people under the age of 21 years were paid rates at or below the age specific minimum wage. Very strong caution however needs to be exercised with this estimate. Firstly it uses relativities which were not necessarily in place at the time at which the data was collected. Secondly it does not take account of those who may be in receipt of training rates or undergoing apprenticeships. Thirdly it ignores the extent to which some youth may be eligible for higher minimum wages where awards and agreements provide for this. Notwithstanding these problems the result is sufficient to suggest that junior employees were more likely than older workers to be paid at or near the minimum wage.

The estimated 317,261 young minimum wage workers (see Table 21) are on the whole children living at home with their parents. Such children can be divided into two groups: 169,334 dependent students all of whom were working part-time;¹⁰⁷ and 117,711 non dependent children still living at home who may or may not also be students. Of this latter group 30.5 per cent were working part-time. Only 2.3 per cent of all the minimum wage workers aged under 21 years were members of a couple and just 1.9 per cent were living alone. A further 5.1 per cent were 'other household members' a classification including people living in group houses. This family status pattern is however not unique to those young people working for the minimum wage. The 53.4 per cent of young minimum wage workers who were dependent students broadly compares with 58.6 per cent of people in this age group earning more than the minimum wage, as does the 37.1 per cent of minimum wage workers and 29.9 per cent of above minimum wage workers who were non-dependent children.

¹⁰⁵ Some 17.1 per cent of awards provide for the payment of adult rates at age 18 and 31.5 per cent either age 19 or 20. There is also considerable variation in the relationship between junior and adult rates. For example junior rates in awards for a person aged 16 years varied from 37.5 to 80 per cent of adult rates. (Australian Government 2006 p 159)

¹⁰⁶ Retrospectively applying these proportions may in part contribute to the apparent high rates of receipt of the minimum wage. By age the data suggests that the proportion in receipt of the minimum wage varies from 14.4 per cent for those aged 15 years; 20 per cent for those age 16 years; around 30 per cent for those aged 17-18 years; 41.1 per cent for those aged 19 years; and 35.5 per cent for those who were aged 20 years. This latter estimate is likely to be affected by the choice of the proportion of the adult rate, 97.7 per cent, being above the rates extant when the HILDA survey was conducted. In 2006 most awards provided for 20 year olds to be paid between 85 and 95 per cent of the adult rate. (Australian Government 2006 p 159)

¹⁰⁷ This is a consequence of the classification – in that a person who was working full-time is classified as a non-dependent regardless of their educational status.

Table 21 Persons aged 15-20 years by employment, minimum wage and family status, HILDA 2011

Employment status relative to age specific minimum wage (a)	Family status					Total
	Member of a couple	Dependent student	Non-dependent child	Other HH member	Lone person	
- Persons-						
Full-time below FMW	119	0	1,436	0	0	1,555
Part-time below FMW	476	15,498	6,092	140	920	23,126
Full-time at FMW	4,452	0	82,696	5,429	3,576	96,511
Part-time at FMW	2,197	153,836	27,487	10,601	1,532	196,069
Full-time above	12,267	0	148,050	13,683	13,537	187,537
Part-time above	12,814	424,210	68,228	21,870	7,345	535,878
Total employees	32,325	593,544	333,989	51,723	26,910	1,040,676
Other employed	757	18,813	5,201	4,702	975	30,448
Not employed	27,898	696,447	90,109	58,735	12,871	896,493
Total	60,980	1,308,804	429,299	115,160	40,756	1,967,617
All FMW or below	7,244	169,334	117,711	16,170	6,028	317,261
- %-						
Proportion of employees part-time	47.9	100.0	30.5	63.0	36.4	72.6
Proportion of part-time employees at or below FMW	17.3	28.5	33.0	32.9	25.0	29.0
Proportion of full-time employees at or below FMW	27.1	-	36.2	28.4	20.9	34.3
Proportion of total employees at or below FMW	22.4	28.5	35.2	31.3	22.4	30.5
Distribution of minimum wage workers by family status (%)						
Part-time	1.2	77.3	15.3	4.9	1.1	100.0
Full-time	4.7	0.0	85.8	5.5	3.6	100.0
Total	2.3	53.4	37.1	5.1	1.9	100.0

(a) Age specific rates derived using 2010-2011 FWA relativities. These may not reflect the actual relativities in place at the time at which data was collected.

Source: Derived from HILDA Wave 11 'In Confidence' data set.

This data also suggests that young full-time employees, 34.3 per cent of whom were on the minimum wage, were more likely to be in minimum wage employment than those working part-time (29.0 per cent). This ratio varied by age group¹⁰⁸. By gender young employed females were slightly more likely to be working for the minimum wage (33.0 per cent compared with 27.9 per cent of young males). This imbalance is present in both full-time employment where 37.4 per cent of young females were working on or below the minimum wage compared to 32.9 per cent of young males, and for part-time employment where the proportions were 32.1 per cent and 24.9 per cent respectively.

Adopting the same approach that was used in Section 3 it is possible to consider the relative income levels of the households in which these young minimum wage workers live. This is shown in Table 22.

¹⁰⁸ One possible reason for this is the likelihood that many of these full-time employees are apprentices and trainees. NCVER report that in 2010 there were some 440,700 apprentices and trainees 'in-training'. While data on current age is not available some 36.7 per cent commence this prior to the age of 20 years and 70.6 commence as full-time employees. (NCVER 2011) In the HILDA data there are some 84,000 full-time and 45,000 part-time employees under the age of 21 who are undertaking Certificate III or Certificate IV courses – which most frequently form part of apprenticeships and traineeships. 46.9 per cent of these are paid at or below the minimum wage compared with 28.2 per cent of those not undertaking this type of study.

Table 22 Employed persons under the age of 21 years by employment and minimum wage status and household income quintile, HILDA 2011.

Equivalised annual household disposable income – all households with some wage and salary income (a)							
	1	2	3	4	5	No prev. year (b)	Total
	(Bottom)				(Top)		
- % -							
All employed young people aged under 21 years with identifiable earnings							
FT FMW	30.2	21.8	23.8	11.8	12.5	0.0	100.0
PT FMW	23.0	20.8	20.8	15.6	19.1	0.8	100.0
FT Above	15.3	20.3	18.8	24.5	19.7	1.3	100.0
PT Above	19.5	22.1	23.2	18.8	15.7	0.8	100.0

(a) Previous financial year household disposable (after tax) income, equivalised using revised OECD scale (1.0 for first adult, 0.5 for subsequent adults and 0.3 for children aged under 15 years).

(b) Income quintiles are only constructed for those households with some income from earnings in the previous year.

Source: Derived from HILDA Wave 11 'In Confidence' data set.

While young minimum wage workers are somewhat more likely to be living in households in the bottom quintile of the distribution of households with some income from wages and salaries, especially if they are employed on a full-time basis, they are relatively evenly distributed across the other quintiles. As with the previous analysis, this suggests that changes in the value of the minimum wage will not flow disproportionately to low income households.

APPENDIX C: ILLUSTRATIVE RATES OF LOW PAY

This appendix provides some examples of the pay scales provided for across a range of Awards and Agreements for minimum wage and low paid positions. The pay rates are those that were payable in June 2009. At this time the value of the Federal Minimum Wage was \$543.78 per week.

Award/Agreement	Weekly pay
Hospitality Industry (General) Award (a)	
Introductory: Initial 3 months before assessment of capability to perform level 1, can be extended by a further 3 months.	543.90
Level 1: Food and beverage attendant, guest service attendant and kitchen attendant grade 1.	560.50
Level 2: Cook, clerical, door person, storeperson grade1; Food and beverage attendant, guest service attendant and kitchen attendant grade 2.	583.00
Manufacturing and associated industries and occupations award (b)	
C14: Undertaking induction training, routine duties under direct supervision. (Usually of a 3 month duration.)	543.90
C13: Assemble components, basic soldering, spot welding, repetitive packing, non trades cleaning (an employee who has completed up to three months structured training so as to enable the employee to perform work within the scope of this level).	560.50
C12: Receiving/despatching products, basic keyboard, more advanced soldering/welding, accurate measurement, assist tradespersons.	583.00
General Retail Industry (c)	
Employee level 1: Shop Assistant, Check-out operator, assembler, telephone order salesperson, etc.	600.00
Employee level 2: as per 1 with higher skills & forklift and ride on equipment operator.	615.00
Employee level 3: Senior salesperson, Deputy Department manager, cook, machine operator.	625.00
McDonald's Australia Enterprise Agreement 2009 (Wages as at 1 January 2010) (d)	
Level 1: A trainee engaged in the preparation, the receipt of orders, cooking, sale , serving or delivery of meals snacks and/or hot or cold beverages.	554.04 (Tas) – 568.15 (NSW)
Level 2: An employee who has completed either a Front or Back Area Verification and is engaged in the preparation, the receipt of orders, cooking, sale , serving or delivery of meals snacks and/or hot or cold beverages.	569.08 (Qld) – 631.66 (ACT)
Children's Services Award (e)	
Level 1.1: An employee who has no formal qualifications working under direct supervision, giving each child individual attention and comfort as required, Basic duties including food preparation, cleaning and gardening.	557.00
Level 2.1: Assist in the implementation of the children's program under supervision, Assist in the implementation of daily care routines.	579.30 600.20 after 1 year
(a) Fair Work Australia MA000009 - Hospitality Industry (General) Award 2010 http://www.fwc.gov.au/documents/modern_awards/30Jun10/MA000009_30Jun10.pdf	
(b) Fair Work Australia Manufacturing and Associated Industries and Occupations Award 2010 (Transitional) http://www.fwc.gov.au/documents/modern_awards/30Jun10/MA000010_30Jun10.pdf	
(c) Fair Work Australia General Retail Industry Award 2010 http://www.airc.gov.au/awardmod/awards/general_retail.pdf	
(d) Fair Work Australia, McDonald's Australia Enterprise Agreement 2009, and Decision [2010]FWAA 4754 http://www.fwc.gov.au/documents/agreements/fwa/AE878700.pdf	
(e) Children's Services Award, http://www.fwc.gov.au/awardsandorders/html/PR991088.htm#P806_63753	

REFERENCES

Legal and legislative

Commonwealth Arbitration Reports

- 2 CAR 1 (1907) “ex parte HV McKay” (The Harvester Decision)
- 7 CAR 58 (1913) Federated Gas Employees’ Union
- 7 CAR 58 (1913) The Federated Gas Employees’ Industrial Union
- 7 CAR 210 (1913) Australian Builders’ Labourers’ Federation
- 8 CAR 9 (1914) Federated Millers’ and Mill Employees’ Association
- 8 CAR 119 (1914) Australian Telegraph and Telephone Construction and Maintenance Union
- 8 CAR 145 (1914) The Federated Tanners and Leather Dressers Employees’ Union of Australia
- 9 CAR 52 (1915) The Australian Letter Carriers’ Association
- 9 CAR 181 (1915) The Federated Artificial Manure Trade and Chemical Workers’ Union of Australia
- 9 CAR 226 (1915) The Federated Gas Employees’ Industrial Union
- 9 CAR 330 (1915) The Federated Mining Employees Association of Australia
- 10 CAR 314 (1915) The Australian Commonwealth Post and Telegraph Officers’ Association
- 10 CAR 465 (1916) W Angliss & Co P/L vs The Australasian Meat Industry Employees’ Union
- 10 CAR 522 (1916) The Federated Artificial Manure Trade and Chemical Workers’ Union of Australia
- 10 CAR 629 (1916) The Federated Storeman and Packers’ Union of Australia
- 11 CAR 267 (1917) The Federated Gas Employees’ Industrial Union
- 11 CAR 17 (1917) The Federated Mining Employees’ Association of Australia
- 11 CAR 316 (1917) Federated Millers’ and Mill Employees’ Association
- 11 CAR 796 (1917) The Federated Tanners and Leather Dressers’ Employees’ Union of Australia
- 11 CAR 197 (1917) Federated Engine-drivers and Firemen’s Association of Australia
- 12 CAR 427 (1918) The Federated Coopers of Australia
- 13 CAR 214 (1919) The Federated Carters and Drivers’ Industrial Union
- 13 CAR 437 (1919) The Federated Gas Employees’ Industrial Union
- 13 CAR 153 (1919) The Australasian Meat Industry Employees’ Union
- 14 CAR 114 (1920) Federated Millers and Mill Employees’ Association of Australia
- 14 CAR 288 (1920) The Wool and Basil Workers’ Federation of Australia
- 14 CAR 1114 (1920) Australian Tramways Employees Association
- 14 CAR 811 (1920) The Australian Timber Workers’ Union
- 15 CAR 838 (1921) The Federated Gas Employees’ Industrial Union
- 15 CAR 269 (1921) Federated Engine-drivers and Firemen’s Association of Australia
- 15 CAR 434 (1921) Federated Clothing Trades of the Commonwealth of Australia
- 16 CAR 797 (1922) The Federated Tanners and Leather Dressers Employees Union of Australia
- 16 CAR 829 (1922) The Fairest method of securing the “Harvester Judgement Standard” to the Workers
- 16 CAR 4 (1922) The Federated Gas Employees’ Industrial Union

16 CAR 231(1922) Amalgamated Society of Engineers
17 CAR 625 (1923) The Manufacturing Grocers Employees Federation of Australia
17 CAR 194 (1923) Federated Carters and Drivers Industrial Union of Australia
68 CAR 698 (1950) Basic Wage Inquiry 1949-50
147 CAR 172 (1972) National Wage and Equal Pay Case 1972

AIRC/AFPC/FWA & Legislation

Australian Industrial Relations Commission, Dec 530/89 M Print H9100 (National Wage Case August 1989), 7 August 1989

Australian Industrial Relations Commission, Dec 335/97 S Print P1997 (Safety Net Review Wages April 1997), 22 April 1997

Australian Industrial Relations Commission, Dec 457/98 M Print Q1998 (Safety Net Review Wages April 1998), 29 April 1998

Australian Industrial Relations Commission, Dec 384/99 V Print R1999 (Safety Net Review 1999), 29 April 1999

Australian Industrial Relations Commission, Dec 384/00 M Print S5000 (Safety Net Review 2000), 1 May 2000

Australian Industrial Relations Commission, PR002001 (Safety Net Review 2001), 2 May 2001

Australian Industrial Relations Commission, PR002002 (Safety Net Review 2002), 9 May 2002

Australian Industrial Relations Commission, PR002003 (Safety Net Review 2003), 6 May 2003

Australian Industrial Relations Commission, PR002004 (Safety Net Review 2004), 5 May 2004

Australian Industrial Relations Commission, PR002005 (Safety Net Review 2005), 7 June 2005

Australian Fair Pay Commission Wage-Setting Decision and Reasons for Decision October 2006

Australian Fair Pay Commission Wage-Setting Decision and Reasons for Decision July 2007

Australian Fair Pay Commission Wage-Setting Decision and Reasons for Decision July 2008

Australian Fair Pay Commission Wage-Setting Decision and Reasons for Decision July 2009

Fair Work Australia, [2010] FWAFB 4000, Annual Wage Review 2009–10 (C2010/1), 3 June 2010

Fair Work Australia, [2011] FWAFB 3400, Annual Wage Review 2010–11 (C2011/1), 3 June 2011

Fair Work Australia, [2012] FWAFB 5000, Annual Wage Review 2011–12 (C2012/1), 1 June 2011

Workplace Relations Act 1996

Fair Work Act 2009 Section 284

Other

ABS – Australian Bureau of Statistics (various to 1974) *Labour Report*, ABS, Canberra.

ABS - Australian Bureau of Statistics (1976) *Year Book of Australia No. 61, 1975 and 1976*, ABS, Canberra.

ABS - Australian Bureau of Statistics (1983) *Labour Statistics, Australia 1983*, Cat No 6101.0, ABS, Canberra.

ABS – Australian Bureau of Statistics (1988) *Year Book Australia 1988*, Cat No 1300.0, ABS, Canberra.

ABS - Australian Bureau of Statistics (2010) *Information Paper: Outcome of the 16th Series Australian Consumer Price Index Review, Australia* Cat No 6469.0 December 2010, ABS Canberra.

ABS - Australian Bureau of Statistics (2011) *Labour Force, Australia: Labour Force Status and Other Characteristics of Families, June 2011*, Cat No 6224.0.55.001, ABS, Canberra.

ABS - Australian Bureau of Statistics (2012) *Analytical Living Cost Indexes for Selected Australian Household Types, Dec 2011*, Cat No 6463.0, ABS, Canberra.

ABS – Australian Bureau of Statistics (2012) *Australian System of National Accounts 2011-12*, Cat No 5204.0, ABS, Canberra.

- ABS - Australian Bureau of Statistics (2012) *Consumer Price Index*, Cat No 6401.0, ABS, Canberra.
- ABS – Australian Bureau of Statistics (2012) *Selected Living Cost Indexes, September 2012*, Cat No 6467.0, ABS, Canberra.
- ABS - Australian Bureau of Statistics (Various) *Employee Earnings and Hours*, Cat No 6306.0, ABS, Canberra.
- ABS - Australian Bureau of Statistics (Various) *Employee Earnings, Benefits and Trade Union Membership*, Cat No 6310.0, ABS, Canberra.
- Acemoglu D and Pischke J-S (1999) “Beyond Becker: Training in Imperfect Labour Markets”, *The Economic Journal*, Vol. 109 No. 453, Royal Economic Society.
- Acemoglu, D and Pischke J-S (2001) *Minimum Wages and On-the-Job Training*, IZA Discussion Paper 384, Institute for the Study of Labor (IZA).
- ACTU (2009) *A Fairer Society Social Inclusion and Workforce Participation Policy*, ACTU Congress.
- Addison JT and Ozturk OD, (2011) *Minimum Wages, Labor Market Institutions and Female Employment: A Cross-Country Analysis*, Reihe Ökonomie Economics Series 278, Institute for Advanced Studies, Vienna.
- Addison JT, Blackburn ML & Cotti CD (2011) *Minimum Wage Increases Under Straightened Circumstances*, IZA Discussion Paper 6036, Institute for the Study of Labor (IZA).
- Aeberhardt R, Givord P and Marbot C (2012) *Spillover Effect of the Minimum Wage in France: An Unconditional Quantile Regression Approach*, Working Paper G2012/07, Direction des Études et Synthèses Économiques, Institut National de la Statistique et des Études Économiques, Paris.
- Alesina A and Glaeser, EL (2004) *Fighting Poverty in the US and Europe: A world of difference*, Oxford University Press.
- Allegretto SA, Dube A and Reich M (2011) “Do Minimum Wages Really Reduce Teen Employment? Accounting for Heterogeneity and Selectivity in State Panel Data”, *Industrial Relations*, Vol. 50, No 2, Malden.
- Aretz B, Arntz M & Gregory T (2012) *The minimum Wage Affects Them All: Evidence on Employment Spillovers in the Roofing Sector*, IZA Discussion Paper 7047, Institute for the Study of Labor (IZA).
- Arulampalam W, Booth AL and Bryan ML (2004) “Training and the New Minimum Wage”, *The Economic Journal*, Vol. 114, No. 494, Conference Papers (Mar., 2004), pp. C87-C94.
- ATO - Australian Taxation Office (2011) *20 years of superannuation guarantee*, webpage Last Modified: Wednesday, 24 August 2011 <http://www.ato.gov.au/content/00290217.htm>
- ATO – Australian Taxation Office (2013) *Introducing your super: changes to the super guarantee rate* (Webpage) <http://www.ato.gov.au/superfunds/content.aspx?menuid=0&doc=/content/00320488.htm&page=11&H11>
- Australian Catholic Commission for Employment Relations (2002) *The Living Wage and the Needs of the Low Paid: A Discussion Paper*, Melbourne.
- Australian Government (2005) *Welfare to Work, 2005-06 Budget Overview*, http://www.budget.gov.au/2005-06/overview2/download/overview_welfare.pdf .
- Australian Government (2006) *Submission to the Australian Fair Pay Commission 2006*, 28 July 2006, <http://www.fwa.gov.au/sites/afpc2006wagereview/submissions/AustralianGovernmentSubmission2006Tableofcontents.pdf> .
- Australian Government (2007) *Budget Overview Budget 2007-08* <http://www.budget.gov.au/2007-08/overview/download/overview.pdf> .
- Australian Government (2010) *Australia to 2050: future challenges (2010 Intergenerational Report)*, Australian Government, Canberra http://www.treasury.gov.au/igr/igr2010/Overview/pdf/IGR_2010_Overview.pdf.
- Australian Government (2012) *Submission to the Senate Inquiry on the adequacy of the allowance payment system for job seekers and other. A joint interagency submission from the Department of Education, Employment and Workplace Relations, the Department of Families, Housing, Community Services and*

Indigenous Affairs, the Department of Human Services and the Department of Industry, Innovation, Science, Research and Tertiary Education, Canberra.

- Australian Government (2013) *Guide to Social Security Law, Version 1.192 - Released 2 January 2013*, http://guidesacts.fahcsia.gov.au/guides_acts/ssg/ssg-rn.html.
- Australian Social Inclusion Board (2009) *Social Inclusion Principles*, Canberra.
- Autor DH, Manning A & Smith CL (2010) *The contribution of the minimum wage to US Wage Inequality Over Three Decades: A Reassessment*, NBER Working Paper 16533.
- Baskaya YS and Rubenstein Y (2011) *Using Federal Minimum Wages to Identify the Impact of Minimum Wages on Employment and Earnings Across the U.S. States*, Institute for Research on Labor and Employment, (IRLE) Working Paper Working Paper No. 157-07.
- Belchamber G (2011) *Tax reform and low incomes, presentation to ACOSS 2011 National Conference*, http://www.acoss.org.au/images/uploads/Grant_Belchamber-Tax_reform_and_low_incomes.pdf.
- Bhaskar V and To T (1999) "Minimum Wages for Ronald McDonald Monopsonies: A Theory of Monopsonistic Competition", *The Economic Journal*, 109 (April), 190-203. Royal Economic Society, Oxford.
- Blaugh M (1963) "The Myth of the Old Poor Law and the Making of the New", *The Journal of Economic History*, Vol. 23, No. 2 (Jun., 1963), pp 151-184.
- Boeri T (2012) "Setting the Minimum Wage", *Labour Economics*, Vol. 19, pp 281-290.
- Boockmann B (2010) *The Combined Employment Effects of Minimum Wages and Labor Market Regulation: A Meta-Analysis*, IZA Discussion Paper No. 4983, Institute for the Study of Labor (IZA).
- Booth AL and Bryan ML (2006) *Training, minimum wages and the earnings distribution*, Centre for Economic Policy Research Discussion Paper No. 537, ANU, Canberra.
- Boskin MJ (1996). *Toward a More Accurate Measure of the Cost of Living: Final Report to the Senate Finance Committee. Advisory Commission to Study the Consumer Price Index*. <http://www.ssa.gov/history/reports/boskinrpt.html>
- Boyer GR (1986) "The Old Poor Law and the Agricultural Labor Market in Southern England: An Empirical Analysis", *The Journal of Economic History*, Vol. 46, No 1 (March 1986) pp 113-135.
- Bradley ME (2007) "Efficiency Wages and Classical Wage Theory", *Journal of the History of Economic Thought*, Cambridge Journals Online, Vol. 29 Issue 02.
- Bray JR (2010) *Submission 16th Series Australian Consumer Price Index Review*, ANU, Canberra. [http://www.abs.gov.au/websitedbs/D3310114.nsf/4a256353001af3ed4b2562bb00121564/915e99efbd_bbe251ca2576e800280b1d/\\$FILE/Bray.pdf](http://www.abs.gov.au/websitedbs/D3310114.nsf/4a256353001af3ed4b2562bb00121564/915e99efbd_bbe251ca2576e800280b1d/$FILE/Bray.pdf)
- Brewer M, Browne J & Jin W (2012) "Universal Credits: a preliminary analysis of Its Impact on Incomes and Work Incentives", *Fiscal Studies*, Vol. 33 No. 1, Institute of Fiscal Studies.
- Brewer M, May R and Phillips D (2009) "Taxes, Benefits and the National Minimum Wage - Report prepared for the Low Pay Commission". http://www.lowpay.gov.uk/lowpay/research/pdf/FromLPC_Document_Feb.pdf
- Briggs C, Buchanan J and Watson I (2006) *Wages Policy in an Era of Deepening Wage Inequality*, Occasional Paper 1/2006, Policy Paper No. 4, The Academy of the Social Sciences in Australia, Canberra.
- Bryan M, Salvatori A and Taylor M (2012) *The impact of the National Minimum Wage on Earnings, Employment and Hours through the Recession*, Research Reports Commissioned for the 2012 Report, Low Pay Commission, London.
- Buddelmeyer H and Kalb G (2008) "The effect of minimum wage changes on labour supply and income distribution", in *2008 Minimum Wage Research Forum Proceedings, vol. 2* (Research Report No. 4b/08), pp. 211-233, Australian Fair Pay Commission, Melbourne.
- Burdett K and Mortensen DT (1989) *Equilibrium Wage Differentials and Employer Size*, Northwestern University Working Paper No. 860.

- Burkhauser RV, Couch, KA and Glenn AJ (1995) *Public Policies for the Working Poor: The Earned Income Tax Credit versus Minimum Wage Legislation*, Institute for Research on Poverty Discussion Paper no. 1074-9 November 1995.
- Burkhauser RV (2010) "An American Perspective on the 2010 Increase in the Australian Minimum Wage", *Australian Bulletin of Labour*, Vol. 36 No. 3, National Institute of Labour Studies, Flinders University.
- Butcher T (2012) "Still evidence based? The Role of Policy Evaluation in Recession and Beyond: The Case of the National Minimum Wage", *National Institute Economic Review*, 2012 219: R26, NIESR.
- Butterworth P, Leach LS, Strazdins L, Olesen SC, Rodgers B, Broom D (2011) "The psychosocial quality of work determines whether employment has benefits for mental health : results from a longitudinal national household panel survey", *Occupational and Environmental Medicine* 68, 806–812.
- Cahuc P, Postel-Vinay F and Robin J-M (2006) "Wage Bargaining with On-the-Job Search: Theory and Evidence", *Econometrica*, Vol. 74, No. 2 (Mar., 2006), pp. 323-364.
- Cahuc, P (2006) *The Natural Survival of Work: Job Creation and Job Destruction in a Growing Economy*, MIT Press.
- Calleary, D (2010) "National Minimum Wage - Written Answers Thursday, 7 October 2010", *Dáil Éireann Debate*, Vol. 717 No. 4. <http://debates.oireachtas.ie/dail/2010/10/07/00176.asp>
- Campolieti M, Gunderson M and Riddell C (2006) "Minimum Wage Impacts from a Prespecified Research Design: Canada 1981–1997", *Industrial Relations: A Journal of Economy and Society*, Vol. 45 Issue 2, pages 495-216, Blackwell Publishing Inc.
- Card D and Krueger AB (1995) *Myth and Measurement: The New Economics of the Minimum Wage*, Princeton University Press. Princeton, New Jersey.
- Card D, Kluve J and Weber A (2010) "Active labour market policy evaluations: a meta-analysis", *The Economic Journal*, 120 (November), F452–F477.
- Carneiro P and Heckman JJ (2003) *Human Capital Policy*, IZA Discussion paper series, No. 821, Institute for the Study of Labor (IZA).
- Castles FG (1985) *The Working Class and Welfare: Reflections of the Political Development of the Welfare State in Australia and New Zealand*, Allen & Unwin, Sydney.
- CBCS - Commonwealth Bureau of Census and Statistics (1929) *Labour Report No 19 1928*, Commonwealth Bureau of Census and Statistics, Canberra.
- CBCS - Commonwealth Bureau of Census and Statistics (1939) *Labour Report No 28 1937*, Commonwealth Bureau of Census and Statistics, Canberra.
- CBCS – Commonwealth Bureau of Census and Statistics (1948), *Labour Report No 36, 1947*, Commonwealth Government Printer, Canberra.
- CBCS – Commonwealth Bureau of Census and Statistics (1950), *Labour Report No 38, 1949*, Commonwealth Government Printer, Canberra.
- CBCS – Commonwealth Bureau of Census and Statistics (1953), *Labour Report No 41, 1952*, Commonwealth Government Printer, Canberra.
- CBCS - Commonwealth Bureau of Census and Statistics (1955) *Labour Report No 42 1953*, Commonwealth Bureau of Census and Statistics, Canberra.
- CBCS - Commonwealth Bureau of Census and Statistics (1970) *Labour Report No 54 1968 and 1969*, Commonwealth Bureau of Census and Statistics, Canberra.
- Centeno M, Duarte C and Novo AA (2012) *The impact of the minimum wage on low-wage and young workers: Employment and match evidence*, Paper presented to the 53rd Annual Conference of the Italian Economic Society, Matera, 18-20 October 2012.
- Cette G, Chouard V and Verdugo G (2012) *Les effets des hausses du Smic sur le salaire moyen*, Document de Travail No 366, Banque de France.

- Chapman B (1998) "The Accord: background changes and aggregate outcomes", *Journal of Industrial Relations*, Vol.40, No.4, Dec 1998, pp 624-642.
- Christofides LN and Oswald AJ (1992) "Real Wage Determination and Rent-Sharing in Collective Bargaining Agreements", *The Quarterly Journal of Economics*, Vol. 107, No. 3, Aug., 1992, pp 985-1002.
- Clark D (2012) "The PM's cleaner deserves more pay", *The New Zealand Herald*, 4 September 2012.
- Clarke JM, Riding D and Rosalky D (2003), *Report of the Review of Veterans' Entitlements*, Commonwealth of Australia, Canberra.
- Costello P (1998) *Tax Reform – not a new tax – a new tax system*, *The Howard Government's plan for a New Tax System*, Australian Government Publishing Service, Canberra.
- Costello P (2007) *Intergenerational Report 2: Frameworks for the Future*, Address to the National Press Club, 2 April 2007.
<http://www.treasurer.gov.au/DisplayDocs.aspx?pageID=&doc=speeches/2007/003.htm&min=phc>
- Crawford C, Greaves E, Jin W, Swaffield J and Vignoles A (2011) "The Impact of the Minimum Wage Regime on the Education and Labour Market Choices of Young People", *Research Reports Commissioned for the 2012 Report*, Low Pay Commission, London.
- Croucher R and White G (2011) *The impact of minimum wages on the youth labour market – an international literature review for the Low Pay Commission*, Project Report, The Low Pay Commission, London.
- Dabscheck B and Niland J (1984) "Recent Trends in collective bargaining in Australia", *International Labour Review*, Vol 123 No 5 pp 631-646.
- Dandie S and Mercante J (2007) *Australian Labour Supply Elasticities: Comparison and Critical Review*, Treasury Working Paper 2007-04, October 2007, The Treasury, Canberra.
<http://www.treasury.gov.au/contentitem.asp?NavId=049&ContentID=1319>
- Danziger L (2009) *Endogenous Monopsony and the Perverse Effect of the Minimum Wage in Small Firms*, CESifo Working Paper No 2740.
- DARES - direction de l'animation de la recherche, des études et des statistiques (2011) *Les Bénéficiaires de la Revalorisation du Smic au 1er Janvier 2011*, Dares Analyses, September 2011, No 047.
- Dawkins P (2001) *Do We Need a Low Pay Commission in Australia?*, Melbourne Institute of Applied Economic and Social Research, University of Melbourne.
- Dawkins P (2002) *The 'Five Economists' Plan: The Original Idea and Further Developments*, CEPR Discussion Papers 450, Centre for Economic Policy Research, Research School of Economics, Australian National University.
- Dearden L, Reed H and Van Reenen J (2005) *The Impact of Training on Productivity and Wages: Evidence from British Panel Data*, Working Paper 05/16, The Institute for Fiscal Studies.
- Debelle G. and Vickery J (1998) "The Macroeconomics of Australian Unemployment", pp. 235-265 in Borland and Vickery, (editors), *Unemployment and the Australian Labour Market, Proceedings of a Conference*, Reserve Bank of Australia and the ANU.
- Department of Work and Pensions (2012) *Impact Assessment Universal Credit Final Stage December 2012*.
<http://www.dwp.gov.uk/docs/universal-credit-wr2011-ia.pdf>
- Dickens R, Manning A and Butcher T (2012) *Minimum Wages and Wage Inequality: Some Theory and an Application to the UK*, Economics Department Working Paper Series No. 45-2012, University of Sussex.
- Dickens R, Riley R and Wilkinson D (2009) *The Employment and Hours of Work Effects of the Changing National Minimum - Report prepared for the Low Pay Commission*, Low Pay Commission, London.
<http://www.lowpay.gov.uk/lowpay/research/pdf/NMW12.pdf>
- Dickens R, Riley R and Wilkinson D (2011) *The UK Minimum Wage at Age 22: A regression Discontinuity Approach*, NIESR Discussion Paper No 378,
<http://www.niesr.ac.uk/pubs/searchdetail.php?PublicationID=2946>

- Dickens R, Riley R and Wilkinson D (2012) *A Re-examination of the Impact of the UK National Minimum Wage on Employment*, Working Paper No 46-2012, Economics Department, University of Sussex.
- Disney R, Haskel J and Heden Y (2003) "Restructuring and productivity growth in UK manufacturing", *Economic Journal*, Royal Economic Society, Vol. 113(489), pages 666-694.
- Dockery AM, Ong R and Seymour R (2008) "Life on the minimum wage: an empirical investigation", *2008 Minimum Wage Research Forum Proceedings Volume 2*, October 2008, AFPC Research Report No. 4b/08.
- Dockery AM, Seymour R and Ong R (2010) "Life on the Minimum Wage in Australia: An Empirical Investigation", *Australian Journal of Labour Economics*, Vol 13 No 1.
- Dolton P, Bondibene CR and Wadsworth J (2012) "Employment, Inequality and the UK National Minimum Wage over the Medium Term", *Oxford Bulletin of Economics and Statistics*, Vol 74 No 1, Oxford.
- Dolton P, Bondibene CR, and Wadsworth J, (2010) "The UK National Minimum Wage in Retrospect", *Fiscal Studies*, Vol. 31, No. 4, pp. 509-534 (2010), Institute for Fiscal Studies.
- Doucouliagos H and Stanley TD (2008) *Publication Selection Bias in Minimum-Wage Research? A Meta-Regression Analysis*, Economics Series 2008_14, Deakin University, Faculty of Business and Law, School of Accounting, Economics and Finance.
- Dowd T and Horowitz JB (2011) "Income Mobility and the Earned Income Tax Credit: Short-Term Safety Net or Long-Term Income support", *Public Finance Review* 39(5) 619-652.
- Draca M, Machin S and Van Reenen J (2011) "Minimum Wages and Firm Productivity", *American Economic Journal: Applied Economics*, 3 (January 2011) pp 129-151.
- Dube A, Lester TW and Reich M (2010) "Minimum Wage Effects Across State Borders: Estimates Using Contiguous Counties", *The Review of Economics and Statistics*, November 2010, 92(4): 945-964.
- Dube A, Lester TW and Reich M (2011) *Do Frictions Matter in the Labor Market? Accessions, Separations and Minimum Wage Effects*, IZA Discussion Paper No. 5811 June 2011, Institute for the Study of Labor (IZA), Bonn.
- Dustmann C and Schönberg U (2004) *Training and Union Wages*, IZA Discussion Papers 1435, Institute for the Study of Labor (IZA), Bonn.
- Easson M and Forrest T (1994) "Good While It Lasted: The Position and Prospects of Australian Unions in 1993", *The Economic and Labour Relations Review*, Volume 5. Issue 1, June 1994, Centre for Applied Economic Research and Industrial Relations Research Centre.
- Eggleston R (1983) "Productivity and Wages Policy", *The Journal of Industrial Relations*, Vol 25 Dec 1983 pp 517-536.
- Elder W (1963) "Speenhamland Revisited", *Social Service Review*, Vol 38 No 3 (Sept 1964) pp 294-302.
- Eldring L and Alsos K (2012) *European Minimum Wage: A Nordic Outlook*, Institute for Labour and Social Research (FAFO), Oslo.
- Evesson J, Oxenbridge S, Schutz H, Baldwin S, Moensted M and Buchanan J (2011) *Enterprise Case Studies: Effects of minimum wage-setting at an enterprise level Parts 1-3*, FWA Research Report 7/2010 Fair Work Australia.
- Fair Work Australia (2011) *Waltzing Matilda and the Sunshine Harvester Factory*, Fair Work Australia, Melbourne.
- Fair Work Ombudsman (2012) *Annual Report 2011-12*, Fair Work Ombudsman, Melbourne
- Fair Work Ombudsman (2012) *National minimum wage* (Website), <http://www.fairwork.gov.au/pay/national-minimum-wage/pages/default.aspx> accessed 16/2/2012.
- Fakhfakh F and FitzRoy FR (2005) *Dynamic Monopsony: Evidence from a French Establishment Panel*, IZA Discussion Paper 1622, Institute for the Study of Labor (IZA), Bonn.
- Falk A, Fehr E, and Zehnder C (2005) *The behavioral effects of minimum wages*, IZA Discussion Papers, No. 1625, Institute for the Study of Labor (IZA), Bonn.

- Farmakis-Gamboni S and Yuen K (2011) *An overview of productivity, business competitiveness and viability*, FWA Research Report 1/2011, Fair Work Australia.
- Fidrmuc J and Tena Horrillo JdD (2011) *The impact of the national minimum wage on the labour market outcomes of young workers*, Research report prepared for the UK Low Pay Commission. <http://www.lowpay.gov.uk/lowpay/research/pdf/FidrmucTenaHorrilloFinal.pdf>
- Foster RA (1996) *Australian Economic Statistics 1949-50 to 1994-95*, Reserve Bank of Australia, Sydney.
- Forster C (1980) Indexation and the Commonwealth Basic Wage 1907-1922, *Australian Economic History Review*, 20(2), September 1980, pp 99-118.
- Frandsen BR (2010) *Union Wage Setting and the Distribution of Employees' Earnings: Evidence from Certification Elections*, Paper presented to NBER Labor Studies Program Meeting, October 2010. http://www.nber.org/public_html/confer/2010/LSf10/Frandsen.pdf
- Frazer A (2002) *The Federal Conciliation and Arbitration Power: from Cradle to the Grave?*, Parliamentary Library Politics and Public Administration Group Research Paper No.15 2001-02, 28 May 2002. <http://www.aph.gov.au/LIBRARY/pubs/rp/2001-02/02rp15.htm>
- Freeman, RB (1996) "The Minimum Wage as a Redistributive Tool", *The Economic Journal*, Vol. 106, No. 436 (May, 1996), pp 639-649.
- Frijters P (1998) *The effect of a minimum wage on unemployment in a model of team production*, School of Economics Discussion Paper No. 442 1998, School of Economics, The University of Queensland, Australia.
- Frijters P and Gregory R (2006) "From Golden Age to Golden Age: Australia's 'Great Leap Forward'?", *The Economic Record*, Vol 82 No 257, June 2006, pp 207-224.
- Funk L and Lesch H (2005) *Minimum wages in Europe*, European Industrial Relations Observatory on-line. <http://eurofound.europa.eu/eiro/2005/07/study/tn0507101s.htm>
- Galindo-Rueda F and Pereira S (2004) *The Impact of the National Minimum Wage on British Firms Final Report to the Low Pay Commission on the Econometric Evidence from the Annual Respondents Database*, Fair Pay Commission, London. <http://www.lowpay.gov.uk/lowpay/research/pdf/t0Z2NTSH.pdf>
- Georgiadis A (2008) *Efficiency Wages and the Economic Effects of the Minimum Wage: Evidence from a Low-Wage Labour Market*, CEP Discussion Paper No 857 Centre for Economic Performance London School of Economics and Political Science.
- Gillard J (2010) *Moving forward to a stronger and fairer economy*, Address to the National Press Club, 15 July 2010, <http://www.pm.gov.au/press-office/moving-forward-stronger-and-fairer-economy>
- Gramlich EM (1976) "Impact of Minimum Wages on Other Wages, Employment, and Family Incomes", *Brookings Papers on Economic Activity*, Economic Studies Program, The Brookings Institution, vol. 7(2), pages 409-462.
- Gregory RG and Duncan RC (1981) "Segmented Labor Market Theories and the Australian Experience of Equal Pay", *Journal of Post Keynesian Economics*, Vol. 3, No. 3 (Spring, 1981), pp. 403-428.
- Gregory RG, Ho V and McDermott L (1988) "Sharing the Burden: The Australian Labour Market during the 1930s", in Gregory RG & Butlin NF (eds) *Recovery from the Depression, Australian and the world economy in the 1930s*, Cambridge University Press, Cambridge, UK.
- Grossman JB (1983) "The Impact of the Minimum Wage on Other Wages", *The Journal of Human Resources*, Vol. 18, No. 3 (Summer, 1983), pp 359-378.
- Hamermesh DS (1985) *Substitution Between Different Categories of Labour, Relative Wages and Youth Unemployment*, OECD, Paris. <http://www.oecd.org/eco/outlook/35484944.pdf>
- Hamermesh DS (1993) *Labor Demand*, Princeton University Press, Princeton NJ.
- Hancock K (1998) "The Needs of the Low Paid", *Journal of Industrial Relations*, Vol 40 pp 42-62.
- Hancock K (2004) "Economists and Australian Wage Policy Before World War II", *Australian Journal of Labour Economics*, Vol.7, No. 4, December 2004, pp 413 - 438.

- Harding D and Harding G (2004a) *Minimum wages in Australia: an analysis of the impact on small and medium sized businesses - A report to the Department of Employment and Workplace Relations*, Turning Point Research Pty Ltd. http://www.airc.gov.au/safetynet_review/2004/comm/mwr_a.pdf
- Harding D and Harding G (2004b) *Minimum Wages in Australia: Theory, Evidence and Policy Implications*, Conference Paper, 9th Australasian Macroeconomics Workshop 2004, Canberra.
- Hawke RJ (1969) *Total wage concept*, Radio Broadcast for the Australian Broadcasting Commission (Victoria 3AR) Monday 21 July 1969. http://www.library.unisa.edu.au/bhpmi/speeches/pre/1969_July_TotalWageConcept.asp
- Hawke RJ (1987) Policy Statement, 23 June 1987, http://www.youtube.com/watch?v=bx0leQQ7WjI&feature=player_detailpage.
- Healy J (2010) *The Minimum wage workforce in Australia: Extending the evidence*, Working Paper No 162, National Institute of Labour Studies, Flinders University.
- Healy J and Richardson S (2006) *An Updated Profile of the Minimum Wage Workforce in Australia - Report commissioned by the Australian Fair Pay Commission*, National Institute of Labour Studies, October 2006.
- Heckman JJ (1996) "Old Problem, New Despair A response to Richard Freeman's 'Solving the New Inequality'", *Boston Review*, December/January 1996-97 issue.
- Heckman JJ (2012) "Promoting Social Mobility", *Boston Review*, September/October 2012.
- Henry K (Chair) (2008) *Australia's Future Tax System (AFTS) Architecture of Australia's tax and transfer system*, Commonwealth of Australia, 2008.
- Henry K (Chair) (2009) *Australia's Future Tax System (AFTS), Report to the Treasurer, Part 2: Detailed analysis Volumes 1 and 2*, Commonwealth of Australia, 2010.
- Herbert RN (1978) "Employer Matters in 1978", *Journal of Industrial Relations*, March 1979 vol. 21 no. 1 102-109.
- Higgins HB (1915) "A New Province for Law and Order: Industrial Peace through Minimum Wage and Arbitration", *Harvard Law Review*, Vol. 29, No. 1 (Nov., 1915), pp. 13-39.
- Hirsch BT, Kaufman BE and Zelenska T (2011) *Minimum Wage Channels of Adjustment*, IZA Discussion Paper No 6132, Institute for the Study of Labor (IZA), Bonn.
- Hyslop D and Stillman S (2004) *Youth Minimum Wage Reform and the Labour Market*, Working Paper 04/03, New Zealand Treasury.
- Hyslop D and Stillman S (2011) *The Impact of the 2008 Youth Minimum Wage Reform*, Department of Labour, Wellington. <http://www.dol.govt.nz/publications/research/impact-2008-youth-minimum-wage-reform/impact-2008-ymwr.pdf>
- ILO (2007) *Labour Shares*, Technical Brief No 1, Policy Integration Department, International Labour Office, Geneva.
- Immervoll H (2007) *Minimum Wages, Minimum Labour Costs and the Tax Treatment of Low-Wage Employment*, IZA Discussion Paper no 2555, Institute for the Study of Labor (IZA), Bonn.
- Immervoll H and Pearson M (2009) *A good time for making work pay? Taking stock of in-work benefits and related measures across the OECD*, OECD Social, Employment and Migration Working Papers no. 81, DELSA/ELSA/WD/SEM(2009)9, OECD, Paris.
- Ingles D (2001) "Earned Income Tax Credits: Do they have any role to play in Australia", *The Australian Economic Review*, Vol 34 No 1 pp 14-32.
- Keating PJ (1994) *Working nation: policies and programs*, Australian Government Publishing Service, Canberra.
- Kenworthy L (2011) *Low Wage Jobs and No Wage Growth Is There A Way Out*, New America Foundation, Washington.
- Knabe A and Plum A (2010) *Low-Wage Jobs – Stepping Stone or Poverty Trap?*, SOEP papers on Multidisciplinary Panel Data Research No 337, Deutsches Institut für Wirtschaftsforschung, Berlin.

- Kolm A-S and Tonin M (2012) In-Work Benefits and the Nordic Model, IZA discussion Paper 7084, Institute for the Study of Labor (IZA), Bonn.
- Lanot G and Sousounis P (2011) *The Minimum Wage and Human Capital Accumulation of Young Low-paid Workers in a Recession - Report prepared for the Low Pay Commission*, Low Pay Commission, London. <http://www.lowpay.gov.uk/lowpay/research/pdf/LanotSousounisFinal.pdf>
- Lee W-S and Suardi S (2010) *Minimum Wages and Employment: Reconsidering the Use of a Time-Series Approach as an Evaluation Tool*, IZA Discussion Paper No. 4748 February 2010, Institute for the Study of Labor (IZA), Bonn.
- Lee D and Saez E (2010). *Optimal Minimum Wage Policy in Competitive Labor Markets*, Working Paper, Institute for Research on Labor and Employment, UC Berkeley. <http://escholarship.org/uc/item/07w2z7t6>
- Lee W-S and Suardi S (2008) "Minimum Wages and Employment: Reconsidering the Use of a Time-Series Approach as an Evaluation Tool" Melbourne Institute Working Paper Series Working Paper No. 20/08 <http://www.melbourneinstitute.com/wp/wp2008n20.pdf>
- Leigh A (2003) "Employment Effects of Minimum Wages: Evidence from a Quasi-Experiment", *Australian Economic Review*, Volume 36, Issue 4, pages 361–373.
- Leigh A (2004) "Minimum Wages and Employment: Reply", *Australian Economic Review*, Volume 37, Issue 2, June 2004, Pages: 173–179.
- Leigh A (2010) "Who Benefits from the Earned Income Tax Credit? Incidence among Recipients, Co-workers and Firms," *The B.E. Journal of Economic Analysis & Policy*: Vol. 10: Iss. 1 (Advances), Article 45. Available at: <http://www.bepress.com/bejeap/vol10/iss1/art45>
- Lemieux T (2011) *Minimum Wages and the Joint Distribution Employment and Wages* <http://www.econ.ucla.edu/workshops/papers/Econometrics/Lemieux%20MW.pdf>
- Leonard TC (2000) "The Very Idea of Applying Economics: The Modern Minimum-Wage Controversy and Its Antecedents", *History of Political Economy*, Annual Supplement to Volume 32 (2000) 117-144. http://muse.jhu.edu/journals/history_of_political_economy/v032/32.5leonard.pdf
- Lewis P (2005) *Minimum Wages and Employment: A Reappraisal*, The Centre for Labour Market Research Working Paper 05/2, Curtin Business School. <http://www.business.curtin.edu.au/download.cfm?DownloadFile=145F7359-A2E9-BAE4-6E30FD4EA4E33E87>
- Lewis P (2006) *Minimum Wages and Employment - Report commissioned by the Australian Fair Pay Commission*, Australian Fair Pay Commission Research Report No. 1/06.
- Low Pay Commission (2011) *National Minimum Wage - Low Pay Commission Report 2011*, Controller of Her Majesty's Stationery Office, London. http://www.lowpay.gov.uk/lowpay/report/pdf/Revised_Report_PDF_with_April_date.PDF
- Macarthy PG (1972) Wages for Unskilled Work and Margins for Skill, Australia, 1901-1921, *Australian Economic History Review*, Vol 12 pp 142-160
- Machin S, Manning A and Rahman L (2002) *Where the Minimum Wage Bites Hard: the Introduction of the UK National Minimum Wage to a Low Wage Sector*, 2002 CEP Discussion Papers No dp0544, Centre for Economic Performance, London School of Economics and Political Science.
- Maloney T and Pacheco G (2010) "Interpreting Changes in Minimum Wage Incidence Rates", *Australian Journal of Labour Economics*, Vol 13 No 3 pp 219-240.
- Maloney T and Pacheco G (2011) *Assessing the Possible Antipoverty Effect of Recent Rises in Age-Specific Minimum Wages in New Zealand*, Department of Economics Working Paper No 2011/03, Auckland University of Technology, Auckland.
- Malul M and Luski I (2009) "The Optimal Policy Combination of the Minimum Wage and the Earned Income Tax Credit," *The B.E. Journal of Economic Analysis & Policy*, Vol. 9: Iss. 1 (Contributions), Article 51.

- Manning A (2012) *Minimum Wage: Maximum Impact*, Resolution Foundation, London.
<http://www.resolutionfoundation.org/us/downloads/minimum-wage-maximum-wage/MinimumWageMaximumImpact.pdf>
- Marshall A (1890) *Principles of Economics: Unabridged Eighth Edition*,
- Marx I, Marchal S and Nolan B (2012) *Mind the Gap: Net Incomes of Minimum Wage Workers in the EU and the US*, IZA Discussion Paper No 6510, Institute for the Study of Labor (IZA), Bonn.
- McClure P (Chair) (2000) *Participation support for a more equitable society – Final Report of the reference Group on Welfare Reform*, Canberra, Department of Family and Community Services.
- McGuinness S and Freebairn J (2007) “Who are the low paid?”, *Australian Journal of Labour Economics*, 10 (1): 17-38 March 2007.
- McGuinness S, Freebairn J and Mavromaras K (2007) *Characteristics of Minimum Employees*, Australian Fair Pay Commission Research Report No 2/07.
- McKenna FJ (1950) *Correspondence to Mrs BM Rischbieth*, 12/7/1950,
<http://vrrroom.naa.gov.au/print/?ID=19563>
- Meager N and Speckesser S (2011) *Wages Productivity and employment: A review of theory and international data*, European Employment Observatory Thematic expert ad-hoc paper.
- Meer J and West J (2012) *Effects of the Minimum Wage on Employment Dynamics* (June 26, 2012). Available at SSRN: <http://ssrn.com/abstract=2094726>
- Melbourne Institute (2011) *Information sheet on Stepping Stones/Pathways: Based on reports under the 2005–2009 Social Policy Research Services agreement with the Department of Education, Employment and Workplace Relations*, Information Sheet 3/2011, Melbourne Institute.
- Mendelsohn R (1979) *The Condition of the People; Social Welfare in Australia 1900-1975*, George Allen and Unwin, London
- Metcalfe D (2007) *Why has the British National Minimum Wage Had Little or No Impact on Employment?*, Centre for Economic Performance (CEP) Discussion Paper No 781, LSE.
- Mortensen DT (1998) *Equilibrium unemployment with wage posting: Burdett-Mortensen meet Pissarides*, University of Aarhus CLS Working Paper No. 98-014. Available at SSRN: <http://ssrn.com/abstract=176069>.
- Mortensen DT and Pissarides CA (1999) “New Developments in Models of Search in the Labour Market”, Chapter 39 *Handbook of Labour Economics Vol 3* (editors Ashenfelter O and Card D), Elsevier.
- Mortensen DT and Pissarides CA (2001) *Taxes, Subsidies and Equilibrium Labour Market Outcomes*, Centre for Economic Performance, London School of Economics and Political Science.
- Mosthaf A (2011) *Low-wage jobs – stepping stones or just bad signals?*, IAB Discussion Paper 11/2011, Institute for Employment Research, German Federal Employment Agency.
- Mosthaf A, Schank T and Schnabel C (2009) *Low-wage employment versus unemployment: which one provides better prospects for women?*, Diskussionspapiere, Universität Erlangen-Nürnberg, Lehrstuhl für Arbeitsmarkt- und Regionalpolitik, No.65.
- Müller K-U and Steiner V (2010) *Labor Market and Income Effects of a Legal Minimum Wage in Germany*, IZA Discussion Paper No. 4929, Institute for the Study of Labor (IZA), Bonn.
- Mulvey C (1983) “Wage Policy and Wage Determination in 1982”, *Journal of Industrial Relations*, March 1983; vol. 25, 1: pp. 68-74.
- National Minimum Wage Low Pay Commission (2011) *National Minimum Wage Low Pay Commission Report 2011*, Presented to Parliament by the Secretary of State for Business, Innovation & Skills April 2011.
- NCVER (2011) *Australian vocational education and training statistics - Apprentices and trainees*, Annual ,2010, National Centre for Vocational Education Research, Adelaide.
- Nelms L and Tsingas C (2010) *Literature review on social inclusion and its relationship to minimum wages and workforce participation*, Fair Work Australia Research Report 2/2010.

- Nelms L, Nicholson P and Wheatley T (2011) *Employees earning below the Federal Minimum Wage: Review of data, characteristics and potential explanatory factors*, Fair Work Australia Research Report 3/2011.
- Neumark D and Wascher W (2003) "Minimum wages and skill acquisition: another look at schooling effects", *Economics of Education Review*, 22(2003) pp 1-10.
- Neumark D and Wascher WL (2010) *Minimum Wages*, MIT Press, Cambridge, Massachusetts.
- Neumark D and Wascher W (2011) "Does A Higher Minimum Wage Enhance The Effectiveness Of The Earned Income Tax Credit?", *Industrial and Labor Relations Review*, Vol. 64, No. 4 (July 2011).
- Neumark D, Salas JMI and Wascher W (2012) *Revisiting the Minimum Wage-Employment Debate: An Evaluation of New Evidence (Or, Be Careful Not to Throw Out the Baby with the Bathwater)*, Conference Paper, IZA, Bonn.
- New Zealand Department of Labour (2012) *Minimum Wage Review 2011: Officials' Report*, Department of Labour, Wellington.
- Nieuwenhuysen J (1974) "The National Wage Case, 1974", *Journal of Industrial Relations*, September 1974, 16: 284-290.
- Nolan B, Williams J and Blackwell S (2003) "New Results on the Impact of the Minimum Wage on Irish Firms", *ESRI Quarterly Economic Commentary*, Vol 2003 Issue 4 pp1-10, Dublin.
- Obama BH (2013) Remarks by the President in the State of the Union Address, February 12, 2013, <http://www.whitehouse.gov/the-press-office/2013/02/12/remarks-president-state-union-address>.
- O'Donnell A and Arup C (2001) *Social Security and Labour Law: Constructing the Labour Market Subject*, Working Paper No 24, Centre for Employment and Labour Relations Law.
- OECD - Organisation for Economic Co-operation and Development (2012) "Labour Losing to Capital: What Explains the Declining Labour Share?", *OECD Employment Outlook 2012*, OECD, Paris.
- OECD - Organisation for Economic Co-operation and Development (2012) OECD.StatExtracts, *Minimum relative to average wages of full-time workers & Real hourly minimum wages & Incidence of FTPT employment - common definition* extracted 03 Feb 2012.
- OECD - Organisation for Economic Co-operation and Development (1998) *Employment Outlook, June 1998*, OECD, Paris.
- OECD - Organisation for Economic Co-operation and Development (2007) *Taxing Wages 2005/2006*, OECD, Paris.
- Pacheco GA (2007) "The Changing Role of Minimum Wage in New Zealand", *New Zealand Journal of Employment Relations*, 32(3):2-17.
- Pacheco GA and Cruikshank AA (2007) "Minimum wage effects on educational enrolments in New Zealand", *Economics of Education Review* 26(2007) pp 574-587.
- Pember Reeves W (1969), *State Experiments in Australia and New Zealand*, 1902 Reissued 1969, Macmillan of Australia, Melbourne.
- Piddington AB (1920) *Report of the Royal Commission on the Basic Wage*, Government of Australia.
- Pinoli S (2010) *Rational Expectations and the Puzzling No-Effect of the Minimum Wage*, IZA Discussion Paper No. 4933, Institute for the Study of Labor (IZA), Bonn.
- Plowman DH (1990) "Administered Flexibility: Restructuring the Metal Industry Award", *The Economic and Labour Relations Review*, Vol. 1, No. 2, University of New South Wales, Centre for Applied Economic Research.
- Plowman DH (1991) "The 1991 National Wage Case: An Industrial Relations Perspective", *The Economic and Labour Relations Review*, Vol. 2, No. 1, University of New South Wales, Centre for Applied Economic Research.
- Plowman DH (1995) "Protecting the Low Income Earner: Minimum Wage Determination In Australia", *The Economic and Labour Relations Review*, vol 6 no 2 December: 252-287.

- Plowman DH (2007) *The Minimum Wage and Unemployment*, Paper presented at the Curtin University of Technology Graduate School of Business 2 March 2007.
http://www.business.curtin.edu.au/files/State_Wage_Case_-_Roundtable.pdf accessed 23/1/2012
- Polanyi K (1944) *The Great Transformation: The Political and Economic Origins of Our Time*, 2001 Edition, Beacon Press, Boston.
- Preston A (1998) "Australian Wage Determination: The Importance of Comparative Wage Justice" R. Harbridge et al.(eds) (1998): 524-33.
<http://www.mngt.waikato.ac.nz/departments/Strategy%20and%20Human%20Resource%20Management/Airaanz/old/conferce/wgtn1998/PDF/preston.pdf>
- Price R (2009) "In bramble of chicanery belated justice stands': Early Judicial Interpretations of the Factories and Shops Act 1896 (Vic)," *Labour History*, May 2009.
- Raff DMG and Summers LH (1987) "Did Henry Ford Pay Efficiency Wages?," *Journal of Labor Economics*, Vol. 5, No. 4, Part 2: The New Economics of Personnel (Oct., 1987), pp S57-S86.
- Richardson S (1998) "Who gets minimum wages?" *Journal of Industrial Relations*, Vol 40, No 4: pp 554-79.
- Richardson S and Harding A (1998) *Low wages and the distribution of family income in Australia*, Discussion Paper No 33, NATSEM, Canberra.
- Richardson S and Miller-Lewis L (2002) *Low Wage Jobs and Pathways to Better Outcomes*, Working Paper 02/29, New Zealand Treasury.
- Rizov M and Croucher R (2011) *The impact of the UK national minimum wage on productivity by low-paying sectors and firm-size groups - Report to the Low Pay Commission*, Low Pay Commission, London.
<http://www.lowpay.gov.uk/lowpay/research/pdf/RizovCroucherFinal.pdf>
- Rodriguez J (2008) *De la charité publique à la mise au travail? Autour du Speenhamland Act*, La vie des idées, Essais et débats. <http://www.laviedesidees.fr/De-la-charite-publique-a-la-mise.html>
- Rohlin SM (2011) "State minimum wages and business location: Evidence from a refined border approach", *Journal of Urban Economics*, Vol 69 p103-117.
- Ropponen O (2011) "Reconciling The Evidence of Card and Krueger (1994) and Neumark and Wascher (2000)", *Journal of Applied Econometrics*, Vol. 26: pp. 1051-1057.
- Sabia JJ, Burkhauser RV and Hansen B (2012) "Are the effects of minimum wage increases always small?: New Evidence from a case study of New York State", *Industrial Relations and Labour Review*, 350, Cornell University.
- Sala H and Silva JI (2011) *Labour Productivity and Vocational Training: Evidence from Europe*, IZA Discussion Paper 6171, Institute for the Study of Labor (IZA), Bonn.
- Salverda W (2009) *The Dutch minimum wage – A radical reduction shifts the main focus to part-time jobs*, Amsterdam Institute for Advanced Labour Studies Working Paper 09-71, March 2009.
- Schmitt J (2012) *Low-wage lessons*, Center for Economic Policy Research, Washington.
- Schmitt J and Rosnick D (2011) *The Wage and Employment Impact of Minimum-Wage Laws in Three Cities*, CEPR Reports and Issue Briefs 2011-07, Center for Economic and Policy Research (CEPR).
- Sen A, Rybczynski K and Van De Waal C (2011) "Teen employment, poverty, and the minimum wage: Evidence from Canada", *Labour Economics*, Volume 18 (2011) pp. 36-47.
- Senior N and Chadwick E (1834) *Report made in 1834 by the Commissioners for Inquiring into the Administration and Practical Operation of the Poor Laws*. as accessed at
<http://oll.libertyfund.org/simple.php?id=1461>.
- Shaviro, D (1997) "The Minimum Wage, the Earned Income Tax Credit, and Optimal Subsidy Policy", *The University of Chicago Law Review*, Vol. 64, No. 2 (Spring, 1997), pp 405-481.
- Skedinger P (2002) *Minimum wages and employment in Swedish hotels and restaurants*", Institute for Labour Market Policy Evaluation (IFAU) Working Paper 2002:18, Uppsala.

- Skedinger P (2011) *Effects of Increasing Minimum Wages on Employment and Hours: Evidence from Sweden's Retail Sector*, Research Institute of Industrial Economics (IFN) Working Paper Series 869, Research Institute of Industrial Economics.
- Skedinger P (2012) *Effects of Payroll Tax Cuts for Young Workers: Evidence from Swedish Retail*, paper presented to IZA Workshop: Youth Unemployment and Labor Market Integration, July 2012.
- Statistics Canada (2010) *Perspectives on labour and income Minimum wage*, Catalogue no. 75-001-XIE, Statistics Canada.
- Statistics New Zealand (2011) *New Zealand Income Survey: June 2011 quarter*, Statistics New Zealand, Wellington.
- Stewart MB (2007) "The interrelated dynamics of unemployment and low-wage employment", *Journal of Applied Econometrics*, Vol 22 pp 511-531 (2007).
- Stewart MB (2011) *Wage Inequality, Minimum Wage Effects and Spillovers*, Warwick Economic Research Papers No 965, Department Of Economics, University of Warwick.
- Stigler GJ (1946) "The Economics of Minimum Wage Legislation", *The American Economic Review*, Vol. 36, No. 3 (Jun., 1946), pp 358-365.
- Stiglitz JE (1976) "The Efficiency Wage Hypothesis, Surplus Labour, and the Distribution of Income in L.D.C.s", *Oxford Economic Papers*, Oxford University Press, vol. 28(2), pages 185-207, July.
- Strobl E and Walsh F (2011) "The ambiguous effect of minimum wages on hours", *Labour Economics*, Vol 18 pp 218-228.
- Sutch R (2010) *The unexpected long-run impact of the minimum wage: an educational cascade*, Working Paper 16355, NBER.
- Sutherland H (2001) *The National Minimum Wage and In-work Poverty*, Microsimulation Unit Discussion Paper MU0102, Department of Applied Economics, University of Cambridge.
- Swaffield JK (2012) *Minimum wage hikes and the wage growth of low wage workers*, University of York Discussion Papers in Economics, No 12/10, University of York, Heslington.
- Swan W (2011) *Tax Measures in Mid-Year Economic and Fiscal Outlook*, Media Release No 148 29 November 2011, <http://www.treasurer.gov.au/DisplayDocs.aspx?doc=pressreleases/2011/148.htm&pageID=&min=wms&Year=&DocType=0>
- The Age (2007) 'Hawke regrets child poverty comment', June 16, 2007, <http://www.theage.com.au/news/National/Hawke-regrets-child-poverty-comment/2007/06/16/1181414583336.html>
- The Argus (1940) "Best Citizens Suffer – Basic Wage Method", *The Argus*, Thursday 8 August 1940, Melbourne.
- The Royal Australasian College of Physicians, Australasian Faculty of Occupational and Environmental Medicine (2010) *Position Statement on Realising the Health Benefits of Work*, Sydney
- Treasury (2001) "Towards higher retirement incomes for Australians: a history of the Australian retirement income system since Federation", *Economic Roundup*, Centenary Edition, Treasury, Canberra.
- US Bureau of Labor Statistics (2011) *Characteristics of Minimum Wage Workers: 2010*, U.S. Department of Labor, February 25, 2011 <http://www.bls.gov/cps/minwage2010.pdf>
- US Bureau of Labor Statistics (2012) *Usual Weekly Earnings of Wage and Salary Workers, Fourth Quarter 2011*, Press release January 24, 2012 USDL-12-0092, <http://www.bls.gov/news.release/pdf/wkyeng.pdf> accessed 13 February 2012
- US Department of Labor (2012) *Minimum Wage Laws in the States - January 1, 2012*, webpage, <http://www.dol.gov/whd/minwage/america.htm#Texas>, accessed 13 February 2012.
- Vamplew W (1987) *Australians, historical statistics*, Fairfax, Syme & Weldon Associates, Sydney.

- van den Berg GJ (2003) "Multiple Equilibria and Minimum Wages in Labor Markets with Informational Frictions and Heterogeneous Production Technologies", *International Economic Review*, Vol. 44, No. 4 (Nov., 2003), pp 1337-1357.
- Victorian Government Statist (1904) *The Victorian Year-Book 1903*, Victorian Government, Melbourne.
- Voitchovsky S Maitre B and Nolan B (2012) "Wage Inequality in Ireland's 'Celtic Tiger' Boom", *The Economic and Social Review*, Vol 45 No 1 Spring 2012 pp 99-133.
- Wadsworth J (2009) *Did the National Minimum Wage Affect UK Prices?*, CEP Discussion Paper No 947, Centre for Economic Performance, LSE.
- Watson I (1999) *Proposals for a Wage Freeze and Tax Credits: Will Subsidising Low Wage Jobs Solve Unemployment?*, Research Paper 29 1998-99, Department of the Parliamentary Library, Canberra.
- Watson I, Buchanan J, Campbell I and Briggs C (2003) *Fragmented Futures: New Challenges in Working Life*, Federation Press, Sydney.
- Wearne N, Southwell A and Selwyn B (2008) *Employer Responses to Minimum Wage Adjustments - Report commissioned by the Australian Fair Pay Commission*, AFPC Research Report No. 3/08.
- Webb S (1912) "The Economic Theory of a Legal Minimum Wage", *Journal of Political Economy*, Vol. 20, No. 10 (Dec, 1912), pp. 973-998.
- Webster E (2000) *The Effects of Wages on Aggregate Employment: A Brief Summary of Empirical Studies*, Melbourne Institute Working Paper Series wp2000n14, Melbourne Institute of Applied Economic and Social Research, The University of Melbourne.
- Webster E (2003) "The Effects of Wages on Aggregate Employment: A Brief Summary of Empirical Studies", *Australian Economic Review*, Volume 36, Issue 1, pages 134-142, March 2003.
- Wheatley T (2009) "Labour market outcomes for low-skilled people in Australia", chapter in *Changes in the Australian Labour Market over the Economic Cycle*, (Mowbray N, Rozenebes D, Wheatley T and Yuen K eds), Research Report No 9/09 Australian Fair Pay Commission Secretariat.
- Whitehouse G (2004) "From Family Wage to Parental Leave: The Changing Relationship Between Arbitration and the Family", *The Journal of Industrial Relations*, Vol 64 No 4 December 2004 pp 400-412.
- Whyte WF (1946) "Basic Wage and Child Endowment", *Cairns Post*, Saturday 28 September 1946.
- Withers G, Endres G and Perry I (1985) *Australian historical statistics: labour statistics*, ANU, Canberra.
- Zavadny M (1998) "Why Minimum Wage Hikes May Not Reduce Employment", *Federal Reserve Bank of Atlanta Economic Review*, Second Quarter 1998.