Public Policy and the Economics of Minimum Wages

Case study prepared for Economics of Government

Crawford School of Public Policy

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# Table of Contents

**Chapter 1: Introduction** ................................................................................................................. 1

**Chapter 2: Effects of the Minimum Wage on Employment – A Review of Empirical Evidence** ......................................................................................................................... 2
  - Microeconomic perspectives ........................................................................................................ 2
  - Macroeconomic perspectives ...................................................................................................... 4
  - Australian evidence .................................................................................................................... 6
  - International evidence ................................................................................................................ 6

**Chapter 3: International Comparison and Review of Data** ......................................................... 8
  - OECD ........................................................................................................................................ 8
  - European Union .......................................................................................................................... 11
  - Latin America ............................................................................................................................ 13
  - Sub-Saharan Africa .................................................................................................................... 14
  - Southeast Asia ............................................................................................................................ 15

**Chapter 4: History of the Minimum Wage** .................................................................................. 18
  - Australia ..................................................................................................................................... 18
  - New Zealand .............................................................................................................................. 22
  - USA .......................................................................................................................................... 22
  - China ......................................................................................................................................... 23
  - Indonesia .................................................................................................................................... 24
  - Conclusion .................................................................................................................................. 25

**Chapter 5: Government Intervention in the Minimum Wage – Warranted or Not?** .................. 26
  - The economic framework .......................................................................................................... 26
  - The case against government intervention ............................................................................... 28
  - The case for government intervention ...................................................................................... 29
  - Conclusion .................................................................................................................................. 30

**Chapter 6: Interactions Between the Minimum Wage, the Income Support System and Firms’ Decisions to Train Labour and Invest in Capital** .................................................. 31
  - The relationship between the income support system and the minimum wage ................. 31
  - Training labour .......................................................................................................................... 32
  - Investing in capital ..................................................................................................................... 32

**Chapter 7: Alternative Policy Options** ....................................................................................... 34
  - Negative income tax .................................................................................................................. 34
  - Wage subsidy ............................................................................................................................. 35
  - Vocational education and training ............................................................................................ 36
  - The trade-offs between minimum wages and alternative policies ........................................ 36
Chapter 1: Introduction

Around 90 per cent of countries have implemented a minimum wage (International Labour Organisation 2016) with the intention of assisting low income earners and thereby reducing poverty. The minimum wage is an intuitively appealing policy, as it does not require significant public expenditure and is simple and easy to explain politically. Public support for introducing or increasing a minimum price for labour is strong, with regular protests for minimum wage increases in the developing world and related issues becoming politically charged in developed countries, such as recent cuts to ‘penalty rates’ in Australia.

Minimum wages have been discussed by economists since at least the 19th century, with the consensus view being that compelling the market to increase the minimum price of labour leads to unemployment. Even around this time, a vocal minority argued against the consensus, with sociologist Sidney Webb observing that since the introduction of a minimum wage in Victoria, the “number of persons employed, far from falling, has in all cases, relatively to the total population, greatly increased” (Webb 1912). Over a century later and after a considerably larger quantity of theoretical and empirical research, minimum wages remain controversial, with many economists still believing that minimum wages are not the best way to achieve their stated policy objectives.

Perhaps owing to their wide uptake and intuitive appeal, it is not common knowledge that the minimum wage is the subject of active debate. In this case study, we aim to provide an introduction to the topic of minimum wages from both sides of the debate, and thereby address common misconceptions. We examine the theoretical and empirical evidence, weigh up the minimum wage against several policy alternatives, and present implications for designing policy to meet the objective of providing minimum income standards.

A minimum wage debate has persisted over time, led by two main schools of thought, with one believing that a minimum wage ensures decency of work for low wage earners, and the other believing that a minimum wage creates unemployment and economic disadvantage and is thus bad for low wage workers. Literature on the topic began to appear in the 19th century and was largely based on theoretical reasoning. The 20th and 21st centuries saw a rise in empirical analyses to test classical theories.

This chapter is a representative literature review of relevant empirical research, incorporating both microeconomic and macroeconomic perspectives. Microeconomic studies are concerned with the effects of minimum wage decisions as they relate to specific employers and employees, whereas macroeconomic studies investigate economy-wide effects. Both international and Australian evidence are presented.

Microeconomic perspectives

Classical economic theories originally introduced the idea that minimum wages cause unemployment. The first empirical studies, from as early as the 1950s, are surveyed by Brown, Gilroy and Kohen (1982) and largely support the earlier theoretical work, as do many studies that followed, including that of Neumark and Wascher (1992). Neumark and Wascher identify negative effects on employment for teenagers and young adults due to increases in the minimum wage, using panel data across the US states from 1973 to 1989. Panel datasets consist of observations made over time for the same entities – here, in each year for each state. They also find that the presence of a youth ‘subminimum’ wage in some states reduces the impact of minimum wage increases.

In the early 1990s, several studies emerged which challenged the consensus view. The most influential of these was Card and Krueger’s (1994) study of fast food restaurant wages in New Jersey and the neighbouring state of Pennsylvania after New Jersey increased its minimum wage in 1992. The increase made New Jersey’s minimum wage the highest in the USA at that time. Previous to this paper, most of the empirical literature had been comprised of panel data analyses, but Card and Krueger instead make use of a quasi-experimental design that compares employment effects in both states before and after the enactment of a minimum wage. This design relies on the fact that there was no minimum wage increase in Pennsylvania, using this state as a ‘control’ group to provide a reasonable sense of what would have happened to employment in New Jersey in the
absence of a minimum wage increase. The authors find that there is no real indication that increases the in minimum wage lead to unemployment.

The conflicting findings of Neumark and Wascher (1992) and Card and Krueger (1994) motivated research into why this was the case. Subsequent research tended to also fall into two camps. Neumark and Wascher (2007) point to the different way that Card and Krueger choose to measure minimum wage levels in their model and the differing time horizons between the studies. The latter point refers to Neumark and Wascher’s (1997) incorporation of lagged effects into their model, such as employers gradually reducing labour and increasing their other inputs of production in response to minimum wage increases, rather than doing so immediately (Hamermesh 1995; Baker, Benjamin & Stanger 1999). On the other hand, the panel approach of Neumark and Wascher (1997) has also been criticised for being susceptible to ‘selection bias’, i.e. not taking proper account of dynamic factors which might cause certain states to increase minimum wages over others, and which might also be associated with declining employment conditions (Dube, Lester & Reich 2010).

Further substantive critiques of Card and Krueger’s (1994) study dispute other aspects of its reliability. For example, Deere, Murphy and Welch (1995) question the validity of using Pennsylvania as a control group, given that teenage employment rates in New Jersey and Pennsylvania had diverged considerably since the late 1980s. However, Dube, Lester and Reich (2010) challenge this criticism by performing a similar analysis on all contiguous states over a longer time period (1990 to 2006), with similar results to Card and Krueger. Welch (1995) casts doubt on the quality of Card and Krueger’s data, which were collected via telephone surveys of fast food restaurants without much information being made available about how this was done. However, Card and Krueger (1998) re-estimate their model using official payroll data with the same conclusions.

Case studies in the spirit of Card and Krueger (1994) have continued to emerge. Hirsch, Kaufman and Zelenska (2011) find no employment effects from 2007-2009 US federal minimum wage changes using payroll data on fast food restaurants in Georgia and Alabama. However, Sabia, Burkhauser and Hansen (2012) find evidence for a significant reduction in employment of less skilled, less educated workers in New York state due to increases in the state minimum wage. Others have investigated employment effects on other sectors or population subgroups with similar findings, such as Sabia’s (as cited in Neumark & Wascher 2007) 2006 study of retail and small businesses, and Turner and
Demiralp’s (2001) study of effects on minorities, specifically black and Hispanic teenagers. The latter study identifies a labour-labour substitution effect from minimum wage increases that may have been understated in previous research (Neumark & Wascher 2008).

Hirsch, Kaufman and Zelenska (2011) explore a potential solution that could help to reconcile the opposing perspectives on the minimum wage (or a further complication, depending on how one views the debate). This is that there are other “channels of adjustment” to the minimum wage besides unemployment, which may be masking some of the disemployment effects in certain studies. These could include, but are not limited to, reductions in hours worked, price increases and ‘wage compression’ (reductions in wages of higher earners to compensate for the costs of minimum wage increases) (Hirsch, Kaufman & Zelenska 2011). The authors do not find evidence for reduction in hours worked, but others do (Michl 2000). Finally, it is broadly agreed that the level of a minimum wage adjustment plays a role in its impact on employment. When evidence for disemployment effects is not found, this may indicate that the size of the increase was simply not high enough to observe this outcome.

Through decades of empirical research, a divide is perpetuated between researchers that claim negative employment effects from minimum wages and researchers that do not. Contradiction between different studies has largely been the result of methodological differences or studies focusing on different jurisdictions and time periods. There have been several reviews and meta-analyses, including Neumark and Wascher’s (2007) review of 102 studies. They find that 85 per cent of the studies which they identify as most methodologically credible point to negative employment effects. If disemployment effects do occur, these clearly do not affect all low wage workers homogeneously, with less skilled, less educated and minority workers being especially at risk.

**Macroeconomic perspectives**

Early quantitative studies analysing the macroeconomic effects of minimum wages include those by Adams (1989) and Gramlich (1976). These studies model the effects of minimum wages on indicators of employment, inflation and family incomes. Adams reasons that, in the context of the USA in the late 1980s, increasing the minimum wage to be in line with inflation (from $3.35 to $4.65 per hour) would have caused only small employment effects and inflationary effects, as labour markets were relatively strong at the time, with upward pressure on wages regardless of the minimum wage increase.
Specifically, the employment effects identified by a simple regression analysis on historical data are that a 1 per cent increase in the minimum wage is associated with a long-run 0.16 per cent reduction in employment and a (statistically nonsignificant) 0.04 per cent increase in the unemployment rate. A note on terminology – the employment or participation rate refers to the proportion of working aged people who are employed, whereas the unemployment rate is the proportion of jobseekers who are unable to find work. These associations do not necessarily imply causation, but rather they provide a rough indication of complex interrelationships. Gramlich similarly infers small disemployment effects, particularly for teenagers and in terms of hours worked.

Other studies have investigated the effects of minimum wages on further macroeconomic indicators, often providing links between these indicators and employment. Šauer (2018) proposes that, despite some disemployment effects, low wage workers and unskilled households who do benefit from a minimum wage increase may use their additional income to boost aggregate consumption. Firms also increase performance standards for workers, yielding positive output and investment outcomes. Bauducco and Janiak (2018), on the basis of a quantitative model motivated by theory, propose that a moderate increase of 11 per cent in the minimum wage yields negligible effects on employment, and positive effects of 3 per cent on stock of capital and 1.5 per cent on output. On the other hand, Tulip (2004) argues that a higher minimum wage, by contributing to increased wages and therefore inflation across the economy, results in an indirect but strong structural and long-run unemployment effect. In particular, he argues that the falling relative level of the minimum wage between 1980 and the mid-1990s in the USA explains a 1.5 percentage point reduction in the unemployment rate over that period.

Researchers have cautioned against overgeneralising the findings of macroeconomic studies beyond the context in which they apply. Assessing macroeconomic effects is hard, for many reasons including that causal relationships are not readily identifiable, and heterogeneities such as specific behavioural responses are not observed due to the highly aggregated nature of the data. There are discrepancies in what different researchers expect to happen in the broader economy when the minimum wage is introduced or adjusted. However, overall effects are typically thought to be small from the types of incremental minimum wage changes that would be considered in most cases.
Australian evidence

Empirical studies on the effect of increasing average minimum wages on employment in Australia have indicated that a 10 per cent increase in average minimum wages reduces employment by around 0.8 per cent (Lewis & Seltzer 1996, Bernie & Downes 1999, Lewis & MacDonald 2002). Leigh (2003) also describes the impact of increasing the minimum wage in Western Australia on total employment as relatively small. However, on low skilled, low paid workers who earn below the minimum wage (especially young people) it is considerably higher.

More recent studies provide more granular results about the effects of minimum wages. Examining the effects of five minimum wage increases between 2018 and 2013, the Productivity Commission (2015) identifies both adverse and favourable effects on job loss, negative effects on hours worked and negative results for job entry for minimum wage workers in the short term. They conclude that adverse employment effects are most pronounced for jobseekers, and for those in jobs the main effect is a reduction in hours worked. It makes intuitive sense that, in the short term, employers would be more likely to adjust hours worked and refrain from recruiting, with layoffs being a last resort to be taken over the longer term in the case of sustained increases to the real minimum wage. Bishop (2018), on the other hand, uses job level data to find no evidence for adverse effects on job loss or hours worked, but views other adverse effects on employment, such as reductions in job entry, as plausible. He notes the potential for further work to be carried out using the increasingly disaggregated data available.

International evidence

While the most influential investigations of the relationship between minimum wages and employment occur in the American context, there is also a large body of evidence from other countries, of which we present only a very small sample. As expected, the evidence is again mixed, with findings being particularly dissimilar between developed and developing nations.

Across the OECD, Neumark and Wascher (2004) report adverse effects on youth employment and overall unemployment rates between 1986 and 2000. In France, the minimum wage is among the highest across the OECD, and Benhayoun (1994) finds a small but negative impact on the youth employment rate from increases in the French
minimum wage. Neumark and Wascher’s view is that the high minimum wage was the main cause of high youth unemployment in France during the 1980s.

Studies from developing countries are more likely to demonstrate neutral or offsetting effects, largely due to noncompliance behaviour. A meta-analysis of evidence from 14 major developing economies finds that the sensitivity of employment with respect to minimum wage changes is minimal (Broecke, Forti & Vandeweyer 2017). The study also finds that young people and low skilled workers are the most affected and that higher minimum wages lead to an increase in informal employment. Further evidence from Brazil supports a similar conclusion, with Lemos (2009) finding no evidence of adverse employment effects in formal or informal sectors, but strong wage compression effects in both. Finally, Neumark and Wascher (2007) discuss several pieces of evidence around Indonesia’s doubling of its minimum wage in real terms over the early 1990s. Their overall assessment is that the evidence is mixed and not very conclusive (in itself an interesting finding, given the magnitude of the change), with potentially large variations in effects between firms of different sizes. Smaller and less statistically significant effects for smaller firms are likely due to lower compliance among these firms.
Chapter 3: International Comparison and Review of Data
This chapter provides cross-country comparisons of data relating to the minimum wage, including relationships between the minimum wage and key indicators such as unemployment and average wages. The analysis includes countries in the European Union, Latin America and sub-Saharan Africa, as well as Southeast Asian developing countries – the Philippines, Cambodia, Myanmar and Indonesia.

A note on measurement – in this chapter we primarily measure minimum wage levels by their real rather than nominal values, converted into USD to provide a universal basis for comparison. Real values allow us to assess how minimum wages have changed over time, disregarding the effects of inflation. Further, currencies are often converted using purchasing power parity (PPP) rather than standard exchange rates, as these provide a way of comparing values from different currencies based on purchasing power. We also sometimes measure minimum wages by taking the ratio of the minimum wage to the median or mean wage, which is also known as the Kaitz index. The Kaitz index is particularly useful for assessing the amount of income inequality reduction targeted by the minimum wage, whereas real values tend to be more useful for comparing how adequate the minimum wage is in supporting individuals’ expenditure, and therefore their standard of living.

OECD

OECD data provide an overview of minimum wages in relatively developed countries. 28 out of 36 OECD countries have a minimum wage as at 2019, which are depicted in Chart 1. International Labour Organisation (ILO) (2016) statistics give a more general indication of global minimum wage coverage – 92 per cent of its 186 member states have a minimum wage as at 2015. The majority of countries that do not have a minimum wage set a wage floor through collective bargaining within industries.
The relationships between minimum wages and unemployment, and minimum wages and economic growth in the OECD as indicated by GDP per capita, are shown in Chart 2 and Chart 3. There does not appear to be a particularly clear association between higher minimum wages and higher unemployment, but higher minimum wages do seem to be clearly related to higher GDP per capita. This association is probably due to governments raising the minimum wage as their ability to enforce the law increases, and the labour market becomes more resilient to shocks. Economic growth also typically results in wage growth, leading to increased political power for workers and therefore increased ability to demand higher minimum wages from the government.

In general, the relationships identified in this chapter are not indicative of causation, and there are many other factors underlying them. It is very hard to perform causal inference from bivariate comparisons without controlling for other potential factors. Even though above we have not identified a clear relationship between the minimum wage and unemployment, there are many other ‘confounding’ factors which can cause high unemployment, such as economic slowdown or recession. Nevertheless, exploring associations between relevant variables is often the first step towards formulating theories which can then be tested with high-quality data and appropriate statistical methods.
Chart 2: Unemployment rate vs hourly minimum wage in the OECD, 2017 (data source: OECD 2019a, 2019b)

Chart 3: GDP per capita vs hourly minimum wage in the OECD, 2017 (data source: OECD 2019a, 2019c)
European Union

In the European Union (EU), 22 out of 28 member states have a binding national minimum wage (as shown in Chart 4); Luxembourg has the highest minimum wage of 2000 euros per month, and Bulgaria has the lowest of 260.8 euros per month. Austria, Denmark, Finland, Italy and Sweden have no statutory minimum wage – instead, minimum wages are negotiated through unions with collective agreements, which in most cases results in relatively high minimum wage rates for workers (Eurofound 2018). One result that stands out from Chart 4 is that Greece is the only country with a higher minimum wage in 2008 than 2018. The global financial crisis had a significant impact on the EU, particularly Greece, Italy and Spain, and while Italy and Spain are recovering, profound effects are still being felt in Greece. Chart 5 does not indicate an obvious relationship between minimum wages and the unemployment rate in the EU.

Several EU countries fix the minimum wage to a certain percentage of average or median wages, often around 50 per cent (Eurofound 2018, pp. 23-25). Other countries such as Estonia, Lithuania, Portugal and Slovakia are not currently at this level but their governments are working internally and with trade unions to meet this target. In Spain, trade unions demanded an increase in the minimum wage to 60 per cent of the average wage in 2017, which the government agreed to do by 2020, contrary to warnings from the Institute of Economic Studies that structural unemployment in the medium term would be a likely consequence (Eurofound 2018). Nordic countries tend to have much smaller gaps between the minimum and average wage. For example, in Sweden, the minimum wage tends to be around 60-70 per cent of the average wage (Halvorsen, Hivinden & Schoyan 2016).
Chart 4: Monthly minimum wages in the EU, 2008 and 2018 (Eurostat 2018a)

Chart 5: Unemployment rate vs monthly minimum wage in the EU, 2018 (data source: Eurostat 2018b, 2018c)
Latin America

Changes in minimum wages, average wages and unemployment in Latin America during the 1980s and 1990s are analysed by Grimshaw and Miozzo (2003). They note that there is no immediately identifiable effect of policies to reduce minimum wages during this time period on unemployment and average wages, with macroeconomic turbulence in these countries being reflected in widely varying outcomes, as seen in Table 1.

Maloney and Nunez Mendez (2003) rank Latin American countries against OECD countries by the Kaitz index (Chart 6). The results indicate that, in several Latin American countries, the inequality-reducing impact of the minimum wage is comparable to that in the OECD. However, if the minimum wage is not enforced, as is more likely in Latin America than across the OECD, then a high Kaitz index does not mean much (Grimshaw & Miozzo 2003). Also, as the Kaitz index is the ratio of the minimum to the average wage, it may sometimes be more reflective of low average wages than especially high minimum wages.

<table>
<thead>
<tr>
<th></th>
<th>Urban real minimum wages (1980=100)</th>
<th>Urban unemployment rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Arg</td>
<td>Braz</td>
</tr>
<tr>
<td>1980</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>1985</td>
<td>6.1</td>
<td>5.3</td>
</tr>
<tr>
<td>1990</td>
<td>4.5</td>
<td>4.6</td>
</tr>
<tr>
<td>1992</td>
<td>7.0</td>
<td>5.8</td>
</tr>
<tr>
<td>1994</td>
<td>11.5</td>
<td>5.1</td>
</tr>
<tr>
<td>1995</td>
<td>17.5</td>
<td>4.6</td>
</tr>
<tr>
<td>1998</td>
<td>12.9</td>
<td>7.8</td>
</tr>
</tbody>
</table>

Table 1: Trends in urban real minimum wages and unemployment in Latin America, 1980-1998 (Grimshaw & Miozzo 2003)
Sub-Saharan Africa

Most countries in sub-Saharan Africa (SSA) have introduced some form of minimum wage legislation. In many of these countries, there are multiple minimum wage rates applying to different occupations or sectors (Bhorat, Kanbur & Stanwix 2015). In SSA countries, consistent with other developing countries, the minimum wage tends to adjust upward as economic development occurs, which can be seen in Chart 7.
While there has been limited research on the employment effects of increasing minimum wages in SSA, empirical findings have been consistent with other countries, indicating either a small negative impact or no measurable impact on employment. Large variations in minimum wage regimes and levels of compliance may partly explain the difficulty of isolating these effects in the SSA context (Bhorat et al. 2015).

**Southeast Asia**

Cheap labour is available in most Southeast Asian countries, and minimum wage systems have been set up in many of these countries in response. This section focuses on the Philippines, Indonesia, Cambodia and Myanmar. Current minimum wage levels are summarised in Table 1 (ranked from highest to lowest), with lower and upper bounds specified where minimum wage levels are set at different levels across regions. Unemployment rates are included for comparison. Note that in Cambodia, the minimum wage applies only to the garment and footwear industries.
<table>
<thead>
<tr>
<th>Country</th>
<th>Monthly minimum wage, 2019 (lower bound, USD)</th>
<th>Monthly minimum wage, 2019 (upper bound, USD)</th>
<th>Unemployment rate, 2018 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philippines</td>
<td>182.57</td>
<td>309.27</td>
<td>2.5</td>
</tr>
<tr>
<td>Indonesia</td>
<td>110.72</td>
<td>277.77</td>
<td>4.3</td>
</tr>
<tr>
<td>Cambodia</td>
<td>170</td>
<td></td>
<td>1.1</td>
</tr>
<tr>
<td>Myanmar</td>
<td>95.44</td>
<td></td>
<td>1.6</td>
</tr>
</tbody>
</table>

Table 2: Monthly minimum wage and unemployment rate in selected Southeast Asian countries (data source: Philippine National Wages and Productivity Commission 2019, Mungoven 2019, ILO 2019)

Unemployment rates are relatively low across Southeast Asia. This is partly a result of high business investment in much of the region, and also very limited unemployment benefits. Note that low unemployment does not indicate anything about pay, quality of working conditions or job stability. Low minimum wages across the region may also be contributing to keeping unemployment low. We can observe from Table 2 that the more developed Southeast Asian countries (Philippines and Indonesia) have higher minimum wages and higher unemployment than the less developed countries (Cambodia and Myanmar). The International Monetary Fund (Brooks 2002) has historically made this link, calling for moderation of increases in real minimum wages in the Philippines to lower problematic levels of unemployment (11 per cent in 2001).

Throughout Southeast Asia, minimum wages are increasing but at a decreasing rate, as seen in Chart 8. This growth profile appears to be the result of continuing pressure on governments to raise minimum wages, being increasingly offset by strong competition in the region, and with China, for labour, as well as minimum wage increases continuing to exceed inflation (see Chart 9).
Chart 8: Percentage rate of year-on-year minimum wage increase in selected Asian countries, 2011-2018 (Iwamoto 2018)

Indonesia: Special Capital Region of Jakarta; Vietnam: Urban areas of Hanoi, Ho Chi Minh City, Haiphong; Philippines: Metropolitan Manila; China: Inside Shanghai

Chart 9: Real economic growth and inflation rate in Southeast Asia, 2010-2018 (Iwamoto 2018)

*Estimated  **Predicted
Inflation rate: Average change in consumer prices
Chapter 4: History of the Minimum Wage

This chapter details aspects of the history of the minimum wage in several countries. The evolution of minimum wage systems in developed countries (Australia, New Zealand and the USA) is contrasted with developing countries (China and Indonesia). We focus on the origins and changing role of the minimum wage in these countries over time, with particular emphasis on the Australian context.

Australia

The first Australian minimum wage was established in 1896 in Victoria. In response to a parliamentary inquiry into oppressive wages and working conditions, the state passed the *Victorian Factories and Shops Act 1896*, which enabled a wages board to determine minimum pay for particular industries. Other states quickly followed suit. Since its inception, the Australian system has been based on a detailed system of ‘award wages’ which provides specific minimum wages depending on worker characteristics, such as industry, age, skill level and qualifications.

The foundation for the first national minimum wage was set by the Commonwealth Court of Conciliation and Arbitration (CCCA) in the 1907 decision of *Ex parte H.V. McKay* (the Harvester decision) which determined that 7 shillings a day for unskilled labour was a “fair and reasonable” wage having regard to “the normal needs of the average employee regarded as a human being living in a civilised community”. The ‘Harvester wage’ was taken up as the minimum award rate across industries and applied consistently in CCCA hearings (Bray 2013, pp. 3-4). Throughout its history, the minimum wage has transformed significantly. Rates have been adjusted over time in response to inflation and decisions by the CCCA and its successor courts. A formal, federal minimum wage which acts as a floor beneath the award wages system was only introduced in 1997 (Bray 2013). Currently, minimum wages are determined by the Fair Work Commission (FWC), taking into account industrial conditions, inflation and costs of living (FWC 2018).

The weekly minimum wage between 1906 and 2013 (in 2012 dollars) is shown in Chart 10. Apart from a drop at the time of the Great Depression, the minimum wage increased consistently until the 1980s, at which point it dropped again, before picking up growth again in the late 1990s. This profile has been driven by the changing role of the minimum wage. It was originally established as a family wage to support a household budget, but in more recent years has been adjusted to support a single person, reflecting significant changes in patterns of family workforce participation, and the introduction of separate...
government programs to take up the role of family support (Bray 2013). Since 2013, the minimum wage has grown strongly (OECD 2019a) and is currently $719.20 as at 2019 (Fair Work Ombudsman 2019).

The declining real value of the minimum wage compared to average earnings is shown from Australian Bureau of Statistics (ABS) data in Chart 11. This may suggest that the proportion of employees who are paid at or near the minimum wage has been declining (Bray 2013). Yuen, Ellis and Nelms (2018) estimate from the 2016 ABS Employee, Earnings and Hours Survey that 2.1 per cent of employees paid at the adult rate are minimum wage earners. The personal, employment and business characteristics of these people are summarised in Table 3. Part-time and casual staff are significantly represented in the population of minimum wage earners (around 80 per cent for each), as are employees of small businesses (around 60 per cent). Almost a quarter of employees aged 24 and under are minimum wage earners (Yuen et al. 2018).

Chart 10: Weekly minimum wage in Australia (2012 dollars), 1906-2013 (Hamilton 2014)
Chart 11: The minimum wage relative to average employee earnings, selected years 1914-2010 (Bray 2013)

<table>
<thead>
<tr>
<th>Personal characteristics</th>
<th>NMW earners (%)</th>
<th>All employees (%)</th>
<th>Proportion of employees who are NMW earners (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>41.3</td>
<td>47.5</td>
<td>1.8</td>
</tr>
<tr>
<td>Female</td>
<td>58.7</td>
<td>52.5</td>
<td>2.3</td>
</tr>
<tr>
<td>Age Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-20</td>
<td>22.3</td>
<td>2.8</td>
<td>16.8</td>
</tr>
<tr>
<td>21-24</td>
<td>18.7</td>
<td>8.8</td>
<td>4.4</td>
</tr>
<tr>
<td>25-29</td>
<td>14.9</td>
<td>12.8</td>
<td>2.4</td>
</tr>
<tr>
<td>30-49</td>
<td>25.8</td>
<td>48.8</td>
<td>1.1</td>
</tr>
<tr>
<td>50-64</td>
<td>16.4</td>
<td>24.2</td>
<td>1.4</td>
</tr>
<tr>
<td>65 and over</td>
<td>1.8</td>
<td>2.6</td>
<td>1.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employment characteristics</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time/part-time status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-time</td>
<td>22.3</td>
<td>61.1</td>
<td>0.8</td>
</tr>
<tr>
<td>Part-time</td>
<td>77.2</td>
<td>38.9</td>
<td>4.2</td>
</tr>
<tr>
<td>Type of employee</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permanent/fixed term</td>
<td>20.4</td>
<td>78.9</td>
<td>0.5</td>
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<tr>
<td>Casual</td>
<td>79.6</td>
<td>21.1</td>
<td>7.8</td>
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<td>98.7</td>
<td>76.7</td>
<td>2.7</td>
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<tr>
<td>Public</td>
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<td>23.3</td>
<td>0.1</td>
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<tr>
<td>Employer size</td>
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<td>Fewer than 20 employees</td>
<td>59.4</td>
<td>22.0</td>
<td>5.6</td>
</tr>
<tr>
<td>20 or more employees</td>
<td>40.6</td>
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<td>1.1</td>
</tr>
<tr>
<td>Total</td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
<td><strong>2.1</strong></td>
</tr>
</tbody>
</table>

Table 3: Characteristics of national minimum wage (NMW) earners, 2016 (Yuen et al. 2018)
Further to Table 3, Healy and Richardson (2006) investigate the household characteristics of minimum wage and low wage employees, using 2004 data from the Household, Income and Labour Dynamics in Australia (HILDA) survey. At the time, the minimum wage was $12.30. The authors find that minimum wage workers are spread across the household equivalised disposable income deciles, and are not necessarily confined to the bottom end of the distribution. Here, equivalisation has been performed by dividing household disposable income by the square root of the number of individuals in the household. This profile is depicted in Chart 12.

One of the main aims of minimum wage policy is to reduce poverty. In Australia, the (relative) poverty line is set at half of the median household income (ACOSS 2018). Continuing increases to Australia’s minimum wage do not appear to be significantly correlated with poverty rates (Chart 13), although effects may be difficult to observe due to interactions of the minimum wage with other poverty mitigation policies.
New Zealand

New Zealand was the first country to legislate a national minimum wage, passing the *Industrial Conciliation and Arbitration Act 1894*. The law’s intent was to regulate the working conditions and wage patterns of vulnerable workers and to establish arbitration boards to resolve industrial disputes (Pacheco 2007). The law also resulted in the increased formalisation of worker organisations and trade unions (Holt 1986).

Similar to Australia, minimum wages for many industries were determined by a system of awards until 2001. These awards were negotiated by unions, with the federal minimum wage interacting with this system (Pacheco 2007). Due to the withdrawal of the awards system, minimum wages in New Zealand now function as a universal wage floor. Minimum wage increases occur as a result of annual reviews by the Minister for Workplace Relations and Safety (Ministry of Business, Innovation and Employment 2019).

USA

In the USA, Massachusetts was the first state to enact minimum wage laws in 1912, but only for women and children (International Labour Organisation 2016). The national minimum wage was set in 1938 at $0.25 per hour (Neumark & Wascher 2008). The
minimum wage was introduced to protect workers from the impact of the Great Depression and in response to growing concerns about poor working conditions, especially those experienced by female workers and child labourers. Since its establishment, the minimum wage has been raised 22 times as at 2019, with movements over time shown in Chart 14.

![Chart 14: The US federal minimum wage since its creation in 1938 (Kopf 2017)](chart.png)

Increases to the minimum wage can only be enacted by congressional action and the minimum wage is not subject to indexation. Notably, many states set a more generous wage than the national rate. For example, a recent law will ensure that $15 per hour is the minimum wage in California by 2023, which is more than double the current federal minimum wage of $7.25 per hour (DeVore 2018).

### China

As a communist country with an increasingly reliance on markets, the experience of China provides a unique case study. China introduced a national minimum wage regulation in 1993. The regulation did not establish a unified minimum wage throughout the country, and each province could still set its own rate based on local conditions, as long as it was consistent with the national framework (Mayneris, Poncet & Zhang 2018, p. 22). This regional system remains in place today. The regulation stated that local governments should set up the minimum wage according to five principles: local living cost, household size, labour productivity, unemployment, average wage level, and local economic development. The regulation also stated that the minimum wage in a local area should be at least 40 per cent of the local average wage (Mayneris et al. 2018, p. 23).
In the 1990s, the minimum wage slowly increased, but not all workers were covered. By the 2000s, China was experiencing rapid economic growth, and with it an increase in inequality across the country. To address this, the Chinese government reformed wage laws in 2004, particularly focusing on increasing living standards in cities where the minimum wage was at its lowest. Reforms around this time also strengthened penalties for employers that failed to pay the requisite rate, increased coverage, and made more frequent adjustments to the minimum wage (at least once every two years) (Gan, Hernandez & Ma 2016, p. 83).

**Indonesia**

There was a national minimum wage across most of Indonesia by the 1970s, but it did not exist in a standardised or justified manner. The minimum wage was also largely symbolic and not enforced during this time. In 1989, legislation was introduced to standardise the minimum wage. The case of Indonesia is notable due to very large increases in the minimum wage (tripling in nominal terms and doubling in real terms) over the early 1990s to reflect “minimum subsistence needs”. These developments may have been the result of international pressure to dramatically improve working conditions, as well as concern on the part of the government that workers were not sharing the benefits of economic growth (Rama 2001). Currently, Indonesian minimum wages are set at the provincial level annually, with discrepancies between provinces reflecting different costs of living (Hohberg & Lay 2015).

The evolution of the average Indonesian minimum wage since the early 1990s is depicted in Chart 15, with data from the Indonesian National Statistical Office, and with wages indexed to 100 in 2001.
Governments across the world have increasingly implemented minimum wage systems as a way of setting minimum income standards. Australia was the second country (after New Zealand) to introduce minimum wages in 1896. Minimum wages were originally intended to provide support for families and fairer compensation for oppressive working conditions, but have grown strongly as a component of social welfare for individuals since then. Introduction and subsequent increases in minimum wages not only reflect a society’s values, but also its stage of economic development. As economies grow and labour markets formalise, their governments are increasingly able to enforce minimum wage laws and workers gain more political power. In developing countries like Indonesia, minimum wages may begin as a largely symbolic policy, then are adjusted upwards as an emphasis on social policy becomes both more feasible and demanded by citizens.
Chapter 5: Government Intervention in the Minimum Wage – Warranted or Not?

In this chapter, we outline the cases for and against minimum wages as a social policy, with particular reference to the underlying economic rationale. This debate follows on from the persisting divide in perspectives in the empirical minimum wage literature, as explored in Chapter 2. Proponents believe that the minimum wage has poverty and inequality reduction effects, whereas others claim the opposite, due to negative effects on employment and economic growth.

The economic framework

Standard economic texts prescribe that government intervention in the form of minimum wages in a perfectly competitive market produces inefficient outcomes (Gans et al. 2018). This follows from a ‘supply and demand’ model. The supply side is represented by workers, as the producers of labour, and the demand side is comprised of employers who require labour inputs. If wages increase, the supply of labour in terms of hours worked will be higher because workers want to earn more money, but demand will be lower because high wages undermine a firm’s capacity to maximise its profits. On the other hand, if wages decrease, labour supply will be lower because workers will be less willing to work, but employers will demand a higher quantity of labour. The ‘equilibrium price’ (or market-clearing price) is a balance between these two forces. When the government establishes a minimum wage, unemployment results from labour supply exceeding demand (see Chart 16). There are clear winners and losers in this scenario. Workers who get jobs at above-equilibrium wages win, while those who are willing to work at (or even lower than) the minimum wage but cannot find a (legal) job lose. A possible alternative effect is underemployment, where some employees are working fewer hours than what they would prefer.

There are some cases where economic theory does not predict negative employment effects from minimum wages. If there is a ‘market failure’, government intervention might be required to remedy inefficiencies, rather than being the cause of inefficiency. An example of such a market failure would be if one or a few employers have ‘monopsony’ power as exclusive buyers of labour, allowing them to demand fewer hours from workers for the purpose of driving wages down. In this case, a minimum wage would raise wages and expand employment at the same time (The Economist 2001). However, minimum wages cannot alleviate all market inefficiencies. For example, in a monopoly
product market – that is, where a firm is the only supplier of a product – the firm will not change its employment behaviour in response to minimum wages but instead pass the rising costs of labour on to consumers (Gans et al. 2018), with a resulting loss of economic efficiency.

The effect of minimum wages on unemployment also depends on whether the minimum wage is above or below the market-clearing wage. If it is below the market-clearing wage, then there is no effect on employment, because wages are already higher than the minimum wage.

**Chart 16: Labour market with a minimum wage (Lewis 2006, p. 14)**

Elasticities of supply and demand (i.e. the degree of responsiveness to changes in price on the supply and demand side) are also important to consider. If supply and demand are more elastic (i.e. more responsive to price changes), negative employment effects will be higher, both in the short-run and in the long-run. There are several factors which might influence the elasticity of labour supply and demand. For example, higher elasticity of demand results from firms’ ability to substitute capital for labour inputs, and higher elasticity of supply can be a result of a more occupationally mobile workforce. Long-run negative employment effects are due to the demand for labour decreasing as firms
increasingly adapt to rising labour costs via several possible strategies, such as investing in technology to replace human labour or relocating production to a country with lower wages. At the same time, supply of labour increases over time due to population growth (Mateer & Coppock 2014).

The case against government intervention

The above theory directly provides the main argument against the minimum wage – that in most cases it should result in negative effects on employment. These effects are expected to be more immediate and pronounced for less experienced and less educated workers, and minorities. Negative effects on employment may take a wide variety of forms – not only reductions in employment rates and hours worked, but also potentially reductions in employer-provided training, which would otherwise contribute to skill acquisition and enhancement across the workforce (Hara 2017).

One of the aims of minimum wage policy is to reduce poverty. However, if unemployment is instead increased due to minimum wages, this is likely to result in higher poverty, which is not only commonly thought to be a problem in itself, but also carries associated social and economic costs, such as lack of access to education and healthcare, increased crime, and reduced productivity and economic output. Higher poverty is also associated with higher inequality.

In practice, middle to high income households are those most likely to benefit from minimum wage policy, as the minimum wage may provide a form of supplementary income for these households (Seltzer 1997, Gans et al. 2018). We can clearly see this in the case of low skilled teenagers and students, often from middle to high income households, who enter the workforce. The minimum wage is not only in many situations a poor anti-poverty policy, but its targeting may actually benefit more advantaged employees.

The minimum wage may be particularly detrimental in developing countries which often have fewer resources to enforce minimum wage laws. Noncompliance is therefore more likely, and as informal employment tends to be more common in these countries, any minimum wage system is more likely to apply haphazardly and inefficiently (Ham 2016). Even if such a regulation is able to be enforced, this may result in the exacerbation of poverty due to possible unemployment effects, which most governments would want to
avoid, especially in countries where welfare systems are underdeveloped and where poverty is already a problem.

Even in developed nations, wage laws are often poorly enforced. Cooper and Kroeger (2014) estimate that the aggregate difference between the amount of money American workers would hypothetically be receiving with regard to the statutory minimum wage, and the amount that they are actually being paid, is around $15 billion. Note that this claim does not take into account disemployment effects from applying the minimum wage comprehensively, but it does illustrate the extent of minimum wage violation. In this way, introducing a minimum wage can also induce illegal behaviour in developed countries. In Australia, this has been recently exemplified by a scandal involving 7-Eleven stores breaking the law by underpaying their staff, many of whom are international students (Ferguson & Danckert 2015).

In general, the weaker the labour market (i.e. the lower wages are already), particularly at the lower end of the wage distribution, the worse equipped it will be to handle increases in the minimum wage. An additional point from the macroeconomic perspective is that, even to the extent that minimum wage increases do result in higher wages at the same level of employment, this places upward pressure on the prices of products, possibly affecting their competitiveness in international markets (Adams 1989).

The case for government intervention

The best case for government intervention exists when there is a market failure. In this case, an example of when a minimum wage might be most effective is in reducing the one-sidedness of an monopsonistic labour market, as referred to earlier in this chapter. Even in the absence of monopsony, a government may want to put in place a minimum wage to insure against worker exploitation. The other side of this argument is that, under normal market conditions, this should not happen, but given that the supply and demand model is a simplification of how the labour market functions in practice, it cannot be ruled out as a possibility.

Again, just as there is evidence pointing to negative employment effects from the minimum wage, there is also some empirical evidence against this claim. If the minimum wage actually has neutral or positive employment effects, it may also have a poverty-reducing impact by increasing the wages of low paid workers.
An argument in favour of the minimum wage as anti-poverty policy under regular market conditions is that a higher wage acts as an incentive for unemployed people to look for jobs instead of relying solely on welfare benefits. However, this argument disregards the general notion that minimum wages may create conditions that make it more difficult for low wage workers to find jobs, particularly to the extent that labour supply and demand are more elastic.

Minimum wages might enhance productivity by encouraging firms to make better investments in human capital. An example is the substitution of higher skilled labour for less skilled labour due to a shift in demand towards higher skilled labour as minimum wages rise. To the extent that employers make this substitution, productivity levels will rise without any change in overall employment levels (Kuddo, Robalino & Weber 2015). However, if they are not perfect substitutes, unemployment will result.

Conclusion

Economic theory clearly indicates that minimum wages have negative impacts on employment and economic performance, unless they have been implemented to remedy market failure. Negative employment effects may not be limited to unemployment, but may also include other “channels of adjustment”, including underemployment and reductions in employer-provided training. Various academics disagree on why certain empirical studies do not appear to support economic theory, as outlined in Chapter 2. However, strongly substantiated risks of negative employment effects, combined with poor targeting of benefits from the minimum wage and incentivisation of illegal behaviour, imply that social policy alternatives without these problems should be preferred. We discuss alternative policy options in Chapter 7.
Chapter 6: Interactions Between the Minimum Wage, the Income Support System and Firms’ Decisions to Train Labour and Invest in Capital

This chapter examines how the minimum wage interacts with a government income support system, and firms’ decisions about training labour and investing in capital. Note that this chapter does not focus on any specific country or firm, but instead this is a conceptual discussion which builds on the basic supply and demand model to demonstrate further ways in which economists reason about minimum wages. The resulting insights can be used to assist with making policy decisions.

The relationship between the income support system and the minimum wage

As we have seen in Chapter 5, the most likely theoretical consequence of introducing a minimum wage is that it causes unemployment to rise, as an increased number of workers want to supply labour at that price are unable to do so due to reduced employer demand. A larger public income support system (i.e. payments to assist unemployed people) may therefore be required to mitigate the social and economic costs of unemployment, and achieve positive externalities (i.e. side effects) from more workers being able to participate in the labour force. This is contrary to the intention of minimum wage policy, which is to increase wages and thereby reduce poverty and reliance on an income support system. The higher the minimum wage, the greater the incentive for individuals to leave income support, but the greater the level of unemployment and therefore reliance on income support (Tasci 2013). It is also worth noting that lower employment and economic activity reduces the ability of a society to pay for this larger income support system.

In the absence of minimum wages, income support policy may fulfil the same objective and also comes with the risk of higher unemployment, but for a different reason – people may prefer to remain on income support rather than seek employment (Barr 1992). To resolve this issue, employment needs to be sufficiently incentivised. One way of doing this is to set income support at an optimal level – high enough to mitigate poverty, but low enough that the wage expected from gaining employment would be higher. Introducing a minimum wage is likely a less appropriate way of incentivising employment.
Training labour

A minimum wage has impacts on the decisions that a firm makes, including those related to training labour. From a firm’s perspective, the incentives for training are influenced by wages and potential profits from labour.

For a firm to make a decision to invest, the ‘marginal benefit’ of the investment must be greater than or equal to the ‘marginal cost’. Marginal cost and benefit refer to the incremental cost and benefit associated with a single ‘unit’ of the investment. In terms of the decision to provide training, if the additional cost of providing some training is less than the additional benefit that the firm would receive, then it is beneficial for the firm to invest in that training (Hashimoto 1982). This notion of marginal benefit does not include any benefit to the individual and therefore does not include positive externalities from investing in training. When a minimum wage is set, the marginal cost of providing the training is more likely to exceed the marginal benefit, as the firm needs to incorporate the higher cost of labour into its decision making process.

As discussed by Acemoglu and Pischke (1999), ordinarily reductions in training resulting from a wage increase could be reversed subject to negotiation, with the full value of a wage optionally being provided in part by the direct wage and in part by the value of training provided to the individual. When a minimum wage is implemented, this negotiation is not able to occur and firms’ investment in training may be reduced. Firms may instead find it more efficient to recruit already trained labour at the minimum wage price rather than invest in the training of less skilled minimum wage workers. Alternatively, a firm may receive greater marginal benefit from investing in capital.

Investing in capital

Firms may be incentivised to make more investments in fixed assets and adopt new technologies to offset the impact of minimum wages on labour costs. Investment in minimum wage-earning labour may be substituted with investment in technology that accomplishes the same task at a lower marginal cost (Autor, Levy & Murnane 2003; Acemoglu & Restrepo 2017). Firms that are labour-intensive or are unable to pass labour costs on to consumers are more likely to invest in capital when a wage floor is imposed. Labour-intensive firms especially benefit from investing in capital in the presence of a minimum wage, due to the ‘law of diminishing returns’, which refers to the decrease in
marginal output as the amount of labour is incrementally increased. Increasing the cost of labour emphasises the effect of this law on the firm’s investment decision.

Some firms may not have the flexibility to respond to the minimum wage in a timely manner (e.g. by cutting training programs or investing in capital). In this case, the performance of these firms is more likely to be harmed, and their risk of shutting down may even increase due to rising labour costs.
Chapter 7: Alternative Policy Options

In this section, we discuss policies which are designed to provide assistance to low income earners and therefore can function as alternatives to the minimum wage. We focus on negative income tax, wage subsidies and vocational education and training policies.

Negative income tax

Negative income tax (NIT) is a type of social welfare policy within the tax system, where the government provides lower income earners with transfers while still requiring people who earn income above a specified threshold to pay tax. NIT can be a poverty reduction strategy, as it increases the disposable income of people who are in poverty. Under a traditional NIT system, non-workers are included. Anyone who can file a tax return is covered by the policy. This feature distinguishes the NIT from an earned income tax credit (EITC) system, where only individuals with earned income are eligible. An EITC system has been implemented in the USA, where the payment is means tested and particularly targeted at people with children (Rothstein 2009).

There are three steps to operationalise NIT (Braybrook 1970, pp. 123-124). Firstly, a poverty line must be established to assist with defining eligibility criteria. A poverty line may consider several variables, including disposable income, age, sex, work status, dependants and family size, rather than necessarily being applied uniformly across the population. Secondly, the break-even income level (that is, the income threshold beyond which no NIT is received) must be defined. This threshold is normally set at some amount above the poverty line, to allow individuals to retain some of their earned income. Thirdly, a tax rate must be defined to determine the amount of NIT individuals receive. The amount of NIT received by an individual is equal to the tax rate multiplied by the amount by which the threshold exceeds their income.

A simple example of how the NIT works is as follows (Linke 2018). The government sets the NIT income threshold at $40,000 and the tax rate at 50 per cent. This implies that someone who makes $20,000 in a given year receives $10,000 from the government in ‘negative tax’. Someone who makes $35,000 receives $2,500. Above the threshold, the tax system functions as we would expect.

Advocates of NIT consider it to be a better welfare system than the minimum wage or many other social security policies as it guarantees a minimum income while providing work incentives, thus curtailing issues of exploitation of government support (Dawkins
et al. 1998, p. 241). NIT achieves this by ensuring that those who work always earn more than those who do not work. However, the NIT guarantees a minimum income, which may reduce incentives to work somewhat (depending on the elasticity of labour supply), compared to a world where there is no such guarantee. Work incentives can be further increased under a NIT system by incorporating decreasing marginal tax rates (Perlman 1968, p. 290), such that those closer to the threshold receive a greater percentage of the difference between the threshold and their earnings, or implementing an EITC system instead. Further, NIT does not theoretically introduce structural unemployment or otherwise negative employment effects by fixing the price of labour as with minimum wages. Another advantage of the NIT is that it can be implemented within the existing tax system, therefore requiring minimal additional administrative or operational costs.

**Wage subsidy**

Wage subsidies are another policy option for social welfare within the labour market. They are intended to raise standards of living for the working poor without negative employment effects (Gans et al. 2018). Wage subsidies involve the government transferring some form of benefit to employers to assist them in hiring new workers, such as unskilled labour or new entrant workers (Borland 2016).

There are three main methods of providing the wage subsidy. Firstly, the government may provide social security or health insurance contributions to newly hired workers. Secondly, the government may provide the subsidy to the employee in the form of a refundable tax credit (i.e. the subsidy can be used to offset taxes, and if the amount exceeds taxes, the individual can receive the difference as a refund). Thirdly, the government can pay the employer directly to incentivise hiring unskilled or unemployed workers by lowering the cost of hiring jobseekers (Almeida, Orr & Robalino 2014).

The way that wage subsidy systems operate varies substantially between countries, including in terms of eligibility criteria. In some countries, all low income workers receive the subsidy, whereas others limit the target population. In Australia, there are five main eligibility groups – ‘restart’ (jobseekers aged 50 and over), youth, parents, long term unemployed and Indigenous Australians (Department of Jobs and Small Business 2018).

One of the benefits of wage subsidies is increasing labour demand by lowering hiring costs, and this potentially increases aggregate employment. Also, as with many pro-work policies, by incentivising firms to hire new workers, a wage subsidy policy makes it easier
for workers to acquire skills and increase their experience, making it more likely for these workers to stay employed (Almeida et al. 2014).

There are also disadvantages to wage subsidy policies. Subsidised workers may replace unsubsidiised workers due to employer preferences for low cost workers, and in this way unemployment may not be reduced. If the government needs to raise taxes to fund wage subsidies, this also generally results in deadweight loss (that is, an overall reduction in economic efficiency due to taxation). There may be other displacement effects due to wage subsidies, such as employment shifting from employers that do not receive wage subsidisation to those that do, or inability of employers that do not receive wage subsidisation to compete against those that do (Borland 2016).

**Vocational education and training**

A further policy option to provide assistance to low income and unemployed people is providing vocational education and training (VET). VET facilitates upgrades in the capabilities of unemployed and unskilled labour, thereby increasing the quality of labour supplied.

The type of training provided can have an effect on labour market outcomes. Internships and on-the-job training appear to have a more positive impact than classroom training for many industrialised countries, such as Australia and Belgium (Betcherman, Olivas & Dar 2004). The specific vocational area of training also has a large influence on the probability of employment.

From the perspective of workers, receiving training is an expense, but in many cases provides ongoing benefits that far outweigh the cost. Training provides workers with skills that can help them obtain employment and increase their wages over time, resulting in better overall wellbeing. From the perspective of employers, more highly trained workers may mean higher productivity, reduced staff turnover and positive changes in workplace culture. There are broader economic benefits that may result from VET programs, such as reduced unemployment and increased economic growth. Further associated social benefits may include improved health outcomes and reduced crime.

**The trade-offs between minimum wages and alternative policies**

The above policy options, as well as the minimum wage, are designed to provide assistance to low wage earners. Minimum wage policy intends to increase wages and
reduce poverty, but it may actually have negative impacts on employment and provide greater benefits to non-poor families, as well as incentivising illegal underpayment of workers. NIT, wage subsidy or VET policies may be more successful in supplementing low wages and reducing poverty, as well as better targeted, but these policy options require financial injections from the government, thus increasing tax burdens. Given that negative effects on employment due to minimum wages may necessitate increased government expenditure (or reduced economic output) anyway, the policy options discussed in this chapter are arguably more effective, and not mutually exclusive, alternatives to minimum wages.
Summary of Findings

Overall, this case study has shown that minimum wages are a divisive issue. There is a continuing debate about whether minimum wages negatively influence employment, with compelling evidence on both sides. However, there are alternative ways of providing assistance to low income earners for which there are fewer such concerns.

In this case study, we:

- summarised empirical evidence on the effects of minimum wages on employment. The evidence is mixed, but overall suggests a small negative or neutral effect on employment. (Chapter 2)

- reviewed international data on minimum wages. National minimum wages tend to increase with economic development but may be restrained by competition for international investment and noncompliance. (Chapter 3)

- outlined the history of the minimum wage in selected countries. In Australia, the system was first intended to provide fairer compensation for families in light of oppressive working conditions, but has since broadened in scope. Today, minimum wage earners tend to be part-time or casual employees, and are spread throughout the household income distribution. Minimum wages have increasingly been implemented around the world. (Chapter 4)

- summarised the economic theory behind the minimum wage. Theory clearly indicates that minimum wages have negative employment effects, unless they have been implemented to remedy market failure. Negative employment effects may not be limited to unemployment, but may also include underemployment and wage compression, among other “channels of adjustment”. (Chapter 5)

- showed, as a result of economic theory, that the minimum wage may require a larger income support system to deal with reduced employment, or cause firms to reduce investment in training labour and substitute capital for labour inputs. (Chapter 6)

- explored alternative policies which also aim to assist low income individuals and reduce poverty – negative income tax, wage subsidy and vocational education and training policies. These options may achieve their objective with a lower risk of negative employment effects and improved targeting. (Chapter 7)
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