

Social Welfare by Market Intervention

The progress of human society consists in the better and better apportioning of wages to work.

Thomas Carlyle, *Past and Present*

Labour Market Operations ♦ Regulation of Labour Markets ♦ Regulating Immigration ♦ Interventions to Support Industry ♦ Interventions to Support Consumers ♦ Concluding Comments

Government can aim to achieve distributional objectives in two main ways. One way is by market intervention. Government can intervene in factor markets, usually with the aim of supporting low income workers but sometimes to protect the earnings and capital of other groups in the community. Government can also intervene in product markets, either to support some producer groups or to reduce the prices of goods consumed by low income households. In both cases government may intervene either with regulations or by fiscal instruments (usually subsidies of some kind). The second way to achieve distributional objectives is to redistribute the incomes produced by markets, usually (but not always) to create a more equal distribution of income after taxes and benefit transfers.

In this chapter we examine market interventions. In the first half of the chapter we discuss the operation and regulation of labour markets, which are the main source of income inequality. This includes a brief discussion of regulating immigration. Various other methods to support low income earners are discussed in the next two chapters. We then discuss ways to assist specific industries by restricting domestic competition, price supports and import controls. Finally we discuss interventions designed to assist consumers, including measures to improve housing affordability.

As we will see, regulating markets nearly always involves a deadweight loss (DWL). This does not mean that regulation is necessarily undesirable. It may be desirable if the distributional gain is great enough and there is no other, lower cost way to achieve this gain.

Labour Market Operations

Before we intervene in a market we need to understand how it works and its strengths and weaknesses. Accordingly, we first examine how competitive labour markets work and then consider how market failures and other weaknesses may create a case for government intervention.

Abstracting from workers' occupational preferences, labour markets are efficient when each worker works at the margin in their most productive occupation. In other words, labour is allocated efficiently when the value of a worker's marginal product (VMP) is as high in

their current employment as in any alternative employment. This requires in turn that each worker's wage equals their VMP. If the wage is higher or lower than VMP, too much or too little labour will be supplied to that industry respectively. These efficiency conditions require that a given type of labour is paid the same wage in each industry, and indeed in each firm. Formally,

$$VMP_{AX} = VMP_{AY} = w_A = w_{AX} = w_{AY} \quad (21.1)$$

where A represents labour of type A , X and Y represent different industries (or firms) and w_A is the market wage rate for labour of type A .

These conditions are achieved in perfectly competitive labour markets. In such markets, labour demand and supply (which allows for occupational preferences) determine the equilibrium wage and the quantity of labour for each class of labour. Figure 21.1a shows the equilibrium market wage (w_A) for type A labour. Given this market wage, the labour supply curve to each small competitive small firm, in panels (b) and (c), is horizontal. Each firm is a wage taker. A firm cannot attract labour at a lower wage and has no incentive to pay a higher wage. These labour supply curves show each firm's average and marginal wage cost (MWC). Because MWC is constant, average wage cost (AWC) is also constant. Each firm employs labour up to the point where the marginal revenue product of labour (MRP) equals MWC. MRP is the addition to revenue from a unit increase in a factor input. Similar conditions apply to all firms in each industry employing similar labour. Perfect competition in the product market ensures that MRP equals VMP. This is because price equals marginal revenue in competitive markets. Firms employ labour until $MRP = MWC = VMP$.

Thus, perfectly competitive labour markets are efficient. Labour is paid a wage that reflects both the value of the worker's marginal product and their occupational preferences. Given human capital endowments, the equilibrium wage produces the maximum value of output at any point in time. The market also provides an incentive for workers to invest in human capital and increase their productivity.

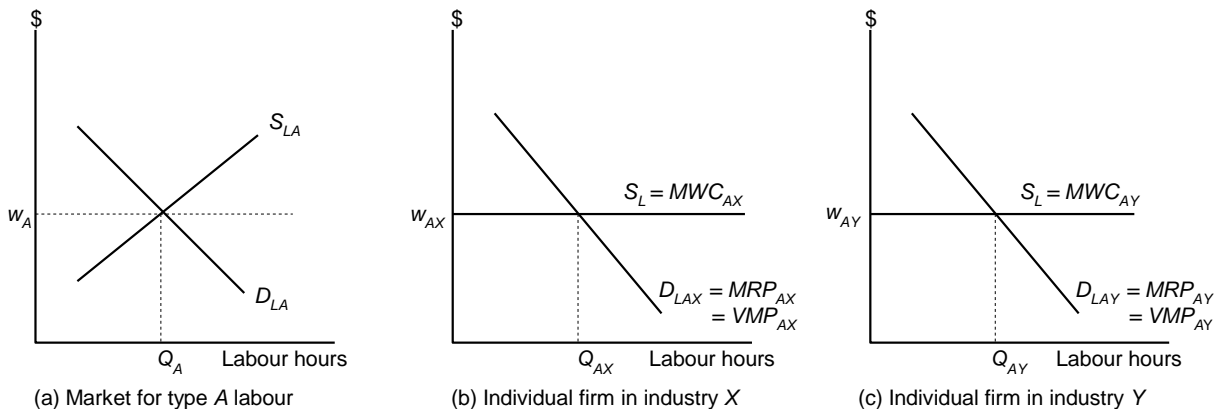
Competitive labour markets also compensate for differences in working conditions with regard to safety, comfort, location and so on. As we saw in Chapter 15, workers trade off wages for amenity. The market wage for jobs with onerous conditions must rise sufficiently to compensate the marginal worker employed for the disutility associated with the conditions.

Value of marginal product
The addition to output from a unit increase in factor input times the value of the extra output

Average wage cost
Total wage divided by the number of workers

Marginal wage cost
The cost of employing an extra worker

Marginal revenue product
Addition to revenue from a unit increase in factor input



Source: Derived from McConnell, Bruce and Macpherson (1999).

Figure 21.1 Efficient labour allocation in perfect competition

Efficiency and equity. Competitive markets may be viewed as fair as well as efficient in that each worker is paid the value of their marginal product and compensated for any disutility of working conditions. However, because wages reflect human capital, workers with low levels of human capital (innate or acquired) will be less productive and earn less income. Efficient labour markets can produce very unequal outcomes.

Market failures

The major market failure in labour markets is imperfect competition. This may reflect the market power of large firms or of worker unions. A key feature of a large firm is that it faces an upward sloping labour supply curve. Unless the firm can discriminate between workers, it must pay a higher wage to attract marginal workers and pay all workers this higher wage. In this case, MWC exceeds AWC.

In Figure 21.2a, the MWC schedule sits above the AWC schedule, which is also the labour supply curve. The firm maximises profit by equating MRP with MWC. Given a demand for labour (D_L), and assuming in this case that the product price is fixed (say internationally or nationally) so that $MRP = VMP$, this implies a wage of w_1 and employment of only Q_1 workers (compared with a wage of w_c and employment of Q_c in a competitive market). The DWL is the difference between the value of marginal product forgone and the opportunity cost of labour, which is given by area ABC .

Suppose now that the single buyer of labour is also a single seller of the product and that the price falls with increased output, the MRP schedule sits to the left of the labour demand curve. This is shown in panel (b). A profit-maximising firm now sets $MRP = MWC$. The wage falls to w_2 and employment falls to Q_2 . On the other hand, DWL rises to area DBE .

Turning to the supply of labour, workers often combine with the aim of raising wages and improving working conditions. Typically a union establishes a minimum wage at which members will offer labour. In a competitive labour market, this raises wages, reduces the labour employed and cause deadweight losses. In Figure 21.3a, a union sets a minimum wage of w_u . The labour supply curve now becomes $w_u ABS_L$. The employer equates MRP with MWC, the wage rate rises from w_c to w_u and labour employed falls from Q_c to Q_u . Workers who retain their jobs have higher wages. However, there is a DWL due to the lost surpluses of employers and workers, which is represented by area ACD .

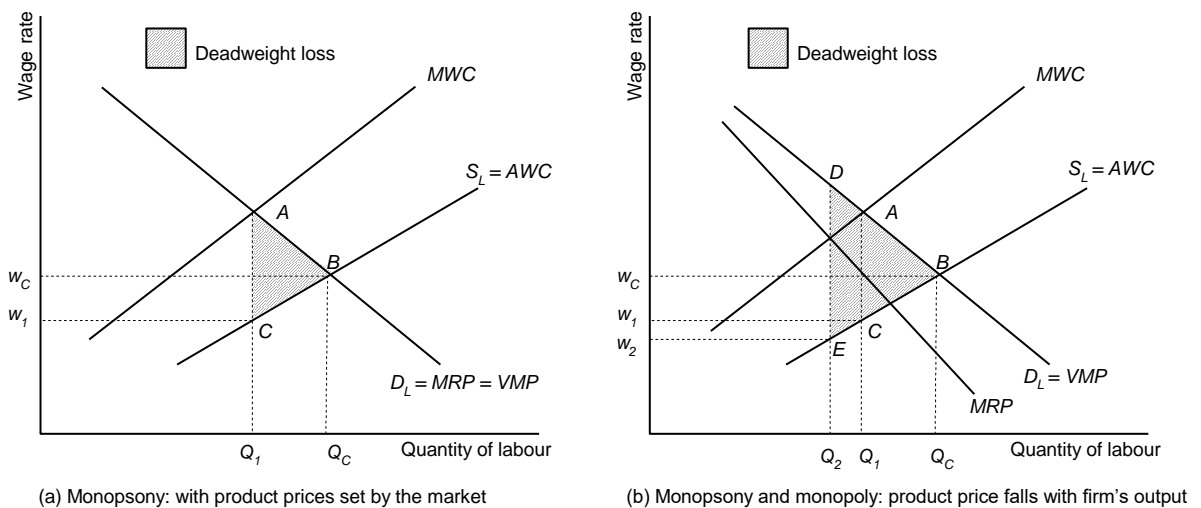


Figure 21.2 Wage rate and employment with a large firm

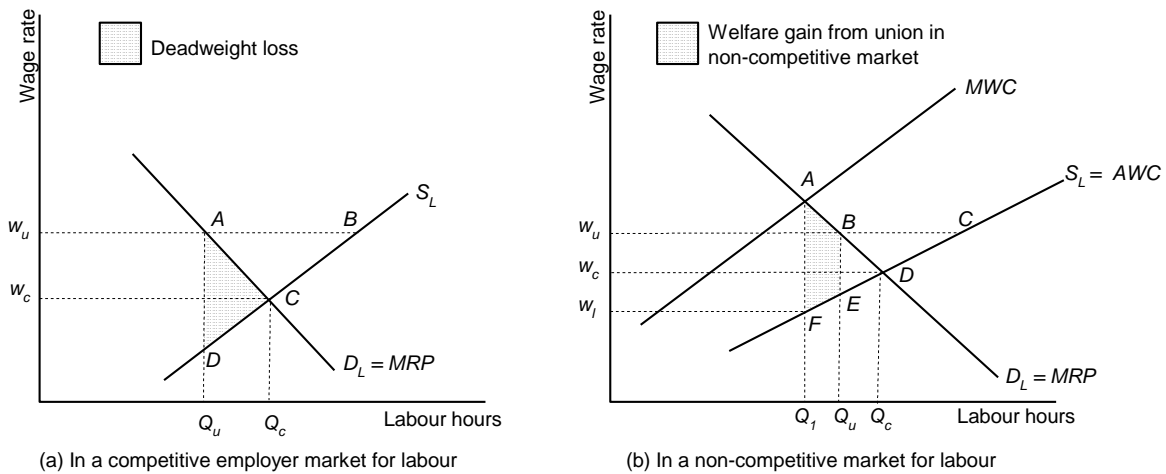


Figure 21.3 Effects of a union on wages and employment

On the other hand, if a large firm is effectively a wage maker, a union that sets minimum wages can have remarkably beneficial effects. In Figure 21.3b, the firm's demand for labour is shown by the downward-sloping curve (D_L), and the initial supply of labour by an upward-sloping curve (S_L). The MWC is again higher than AWC or the labour supply curve. Note that we assume here as in Figure 21.2a that the firm is a price taker in the product market. A profit-maximising firm will employ Q_I labour (where $MRP = MWC$) and pay a wage of w_I . Now, if a union sets a minimum wage of w_u , the firm will employ Q_u workers. Although employment remains below the competitive equilibrium (Q_c), union action here increases both employment and the wage level! There is a welfare gain equal to area $ABEF$.

Two other labour market failures may be observed. One is a lack of information about working conditions. This may mean that wages for similar work or conditions may differ. Perhaps more important, there may be asymmetric information about workplace safety. As discussed in Chapter 15, this is an important reason for government regulation of the labour market.

Second, discrimination on the basis of race or gender may create barriers to employment. This is inefficient because labour is misallocated and productivity falls. It is unfair because discrimination between workers raises the wages of those who are protected from competition and lowers the wages of those whose choice of occupation is reduced.

Finally, labour markets may adjust slowly to wage differentials. Barriers to labour mobility may be geographical or institutional. Geographical barriers exist when movement costs offset any wage gains from moving, thus maintaining geographical wage differentials. Institutional immobility occurs when workers' associations place barriers to the movement of workers between jobs or when workers' long-term financial security depends on their loyalty to a firm. These labour supply constraints may prevent wages from adjusting in the short run to demand and supply conditions but they do not reflect market failures.

In conclusion, various market failures may warrant intervention in the labour market. But the prime concern is likely to be the unequal distribution of earnings which can occur in any market, including competitive and efficient markets. Whether intervention in markets or other policies are the best way to deal with this is a major, old and ongoing policy issue.

Regulation of Labour Markets

Most governments set rules for employment contracts. These rules are designed to protect employers and employees. In Australia, employee protection is more common. Examples are protection against unfair dismissal, leave and holiday arrangements, maternity arrangements and termination payments. Also, industrial tribunals (courts) at federal or state level regulate the length of a working week, penalty rates, minimum periods for working shifts and other such matters.

In addition, governments set rules for workers' associations. For example, government may set rules concerning union membership, the right to hold secret ballots, the right of workers to combine and negotiate as a group, the right to stop work or to strike, the right to operate secondary boycotts and so on. All such regulations may affect labour market outcomes.

Consider, for example, a regulation imposing employment termination conditions and redundancy payments on employers. Figure 21.4 illustrates possible effects in a competitive market. If the regulation does not change the behaviour or MRP of workers, the demand for labour curve is unchanged. However MWC rises with the cost of the regulation from MWC_1 to MWC_2 . Given that profit-maximising firms equate MRP with MWC, employment will fall from Q_1 to Q_2 , the wage rate will fall from w_1 to w_2 , and the cost of employment to the employer will rise from w_1 to $(w_2 + r)$ where r is the cost of the regulation. Evidently the cost of the regulation may be borne in part by workers it is intended to assist. In addition, there would be a DWL given by area ABC .

However, other scenarios are possible. First, this analysis assumes no shift in the supply curve. If the new employment conditions are attractive to labour, the supply curve for labour will shift to the right. Indeed if workers value the benefits as equivalent to money wages, the labour supply curve would shift so far that the new MWC schedule inclusive of the cost of the regulation would be little different from the initial MWC_1 . In an extreme case, workers would accept lower wage rates that directly offset any costs to employers and the MWC schedule with the regulation would be the same as without it. There would then be *no* change in employment and *no* DWL.

On the other hand, if the wage rate is fixed by government or judicial regulation then employers bear the whole additional cost of the regulation. The wage rate will not change, but there will be a greater fall in employment and a greater DWL than shown in Figure 21.4.

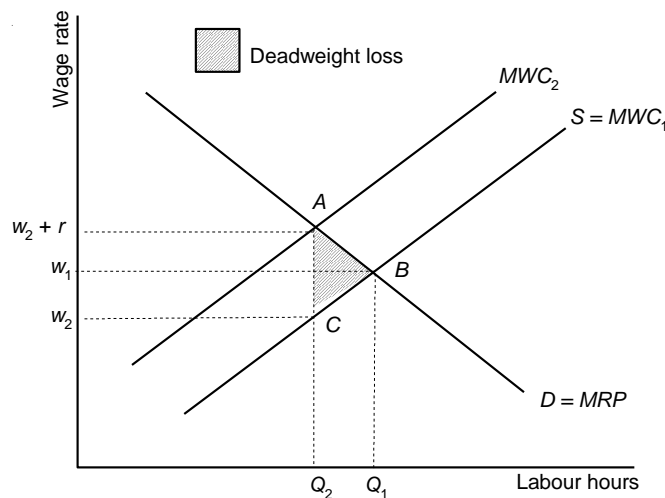


Figure 21.4 The cost of labour regulation in a competitive market

Box 21.1 Impact of dismissal cost on employment in Australia

In 2006, the Australian government introduced legislation to exempt businesses employing fewer than 100 workers from unfair dismissal laws, enabling small and even medium-sized firms to dismiss workers without special cause or cost. The government claimed that this would increase employment by 77 000 workers.

Freyens and Oslington (2007) found that this was a major overestimate of the impact. They estimated that the costs of dismissal vary by cause from one month to four months' wage cost (depending notably on whether the dismissal is contested) and that redundancy costs are equivalent to four to five months' wages.

With an average tenure of 3.6 years for dismissed workers and 5.8 years for retrenched workers, dismissal costs average about 5 per cent of the total wage cost of a dismissed employee and about 7 per cent for a redundant employee. However, they observe that only 3 per cent of workers are dismissed and 14 per cent are declared redundant. Accordingly, dismissal costs amount to only 0.15 per cent of the total wage bill and redundancy costs to 1 per cent of the wage bill. Allowing a labour demand elasticity of 0.6, Freyens and Oslington estimated that exempting small firms from the direct costs associated with the unfair dismissal protection would create only an extra 6000 jobs.

In practice, matters may be still more complex. Workers are not homogeneous. Workers who are most protected by law may be the ones that employers are least keen to employ. Moreover, because regulations are hard to enforce in the informal sector, jobs will switch from formal to informal employment. However, the actual impact of termination regulations on employment is an empirical question. As shown in Box 21.1, some Australian research suggests that the effect of dismissal costs on employment is small. More recent experience reported in Box 21.3 (pages 369-370) suggests that these findings may be optimistic.

In imperfectly competitive markets, wage outcomes depend in part on the power of each party to extract a higher proportion of the economic rent from negotiations. The larger and stronger the employees' union, and the lower its liability for damages incurred, the greater the proportion of the economic rent it is likely to extract. The more power that the government allows to organised labour, the higher are the wages of organised labour likely to be. However, this may also be at the expense of employment.

Wage regulation

Wages may be regulated for any level of skill or kind of occupation. However, regulation of minimum wages for unskilled workers is the most common form of regulation and we focus on this below. Of course, similar analysis could apply to any level of wage regulation.

Figure 21.5a overleaf shows the demand and supply of labour in a competitive labour market with an equilibrium market wage (w_c). However, the wage regulator determines a minimum wage of w_r . This has no effect unless it is higher than w_c . Employment would fall from Q_c to Q_r and the DWL would equal area ACD . Part of this DWL is borne by workers who lose employment. Note that in this case the fall in employment depends entirely on the elasticity of demand for labour (in this case the elasticity of demand for unskilled labour). The labour supply schedule does not affect the employment outcome because there is no shortage of workers at the higher regulated wage. Le and Miller (2000) estimated that the Australian demand elasticity for labour is between -0.4 and -0.8 . In a review of local and international literature, Lewis (2006) found that the demand elasticity is generally between -0.2 and -0.8 . The DWL is low when labour demand is inelastic, but rises as the demand elasticity rises.

Panel (b) introduces an unregulated sector. Regulation in one sector causes labour to move to the unregulated sector, where the supply schedule shifts right from S_1 to S_2 . Employment in this sector rises from Q_c to Q_2 , but the wage rate falls from w_c to w_2 . The area w_cEGW_2 represents a transfer from workers to employers. However, the DWL in panel (a) is now offset partly by the gain in producer surplus in the unregulated sector given by area EFW_2 in

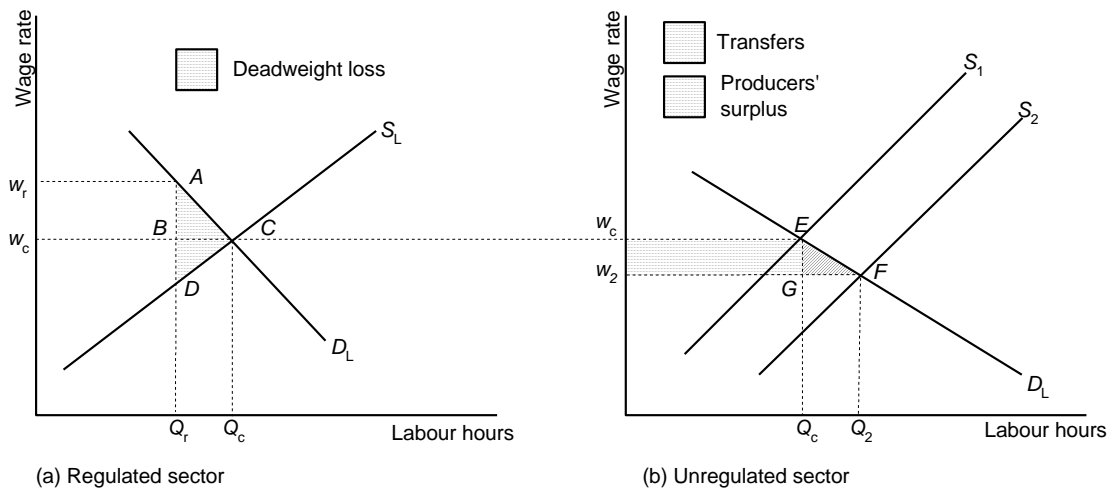


Figure 21.5 Effects of wage regulation in a competitive industry

panel (b). There is no labour surplus in panel (b)—the new employees in this sector have a net loss of surplus of area BCD in panel (a). Even if there is no change in total employment, there is a net DWL due to the inefficient allocation of labour.

However, minimum wage regulation may be efficient when employers have market power and are wage setters and so face an upward-sloping MWC curve. The argument is similar to the case of a union setting a minimum wage in an imperfectly competitive labour market, except that here government sets the minimum wage. As we saw in Figure 21.3b, minimum wage setting can increase both employment and the wage level. In this case, regulation would be efficient and may also be viewed as equitable.

International experience

Regulation of labour markets and employment outcomes vary considerably across OECD economies. In the United States the labour market is broadly deregulated and there is little welfare provision for the unemployed. There are some minimum wage provisions, but these are lower than in other less affluent OECD countries. However, as shown in Box 21.2, even these low minimum wage requirements have some negative effects on employment in the United States.

Box 21.2 Minimum wages and employment

In a major review of international labour market studies, Neumark and Wascher (2006) reported that most credible studies found that minimum wage regulations had a negative employment effect in the United States and other countries, especially for the least skilled groups. In a further study, Neumark and Wascher (2007) estimated that, in the United States, an increase in minimum wages of one per cent reduced the employment of Hispanics and Blacks under the age of 20 by 0.5-0.6 per cent.

The estimated negative effects for older minority group men and for young white men were smaller. They found little evidence of an effect of minimum wages on young female employment. The authors pointed out that the effects are likely to be smaller following the welfare reforms in the mid-1990s in the United States that require welfare recipients to work and the expansion of the earned income tax credits that encourage labour supply.

In continental Europe, labour markets are highly regulated and dismissal of workers is often difficult and expensive. Workers are less willing to accept the real wage reductions that have occurred in the United States. These conditions inhibit employment. For total employment, job creation has been more important than job losses. In the 1980s the United States lost 2 per cent of its jobs each month, while Europe lost only 0.4 per cent. Even so, between 1973 and 1994 the US generated a net increase of 38 million jobs while Western Europe reported no net increase. This suggests a trade-off. Maintaining higher wages for those in work may increase unemployment along with zero wages for those unemployed. The employed also pay higher taxes to finance social security payments. In the US, over three-quarters of working age people work; in Europe, the participation rate is under 70 per cent. Unemployment rates tend to be higher in Europe, even though a higher proportion of people of working age also leave the labour force, supported by government disability payments.¹

In the UK and New Zealand, governments substantially deregulated the labour market and cut unemployment benefits in the 1980s. Unemployment rates fell in the 1990s. However, some unemployed persons moved to other benefits, such as disability benefits or pensions, or dropped through the safety net.

Since the mid-1980s, Australia has also moved from a highly regulated labour market to a much less regulated market notwithstanding some recent policy reversals (see Box 21.3). In the same period, employment has risen considerably and unemployment rates are lower than for 30 years. However, how much of this was due to labour market deregulation and how much to a global economic environment that has been very favourable to Australia remains to be sorted out. Also, earnings dispersion has increased significantly.

Box 21.3 Labour market regulation in Australia

More than most countries, Australia has used wage awards as a partial substitute for social welfare expenditure. In 1904, the Commonwealth established the Commonwealth Court of Conciliation and Arbitration to arbitrate on industrial disputes. In the path-breaking *Harvester Case* in 1907, Justice Higgins was required to arbitrate on the *Excise Tariff Act*, which provided tariff protection to firms who paid a fair and reasonable wage. Higgins determined that a fair wage was based on needs—the award should provide a minimum acceptable standard of living for a family (with a full-time employee, a wife and three children). For the next 90 years, most governments supported a needs-based minimum wage determined by industrial tribunals. Occupational benefits were also regulated. Awards required employers to pay for absence due to sickness and for long-service leave.

Labour market regulation in Australia had two key features: industrial (court-based) tribunals and centralisation. The tribunals made wage determinations based on needs, comparative wage justice and capacity to pay.

Comparative wage justice attempted to allow margins for skills; workers with similar skills and doing similar work for different employers or in different locations should receive similar wages. In the 1980s, wage awards were tempered by the view that the economy could not afford large wage increases.

But decisions remained centralised. The federal tribunal was the dominant industrial court. All courts made awards for wages and non-wage conditions for all members of a trade regardless of the industry they worked in or the location of the work. National awards were set for occupations regardless of local demand and supply conditions. Labour was overpriced where there was low demand for labour and underpriced where demand was high.

In 1993 the Labor government introduced enterprise bargaining, which represented a major shift to decentralised wage setting. Then in 1996 the Liberal-National Coalition government introduced the *Workplace Relations Act 1996*.

This Act reduced the power of the Australian Industrial Relations Commission (AIRC) to making awards for 20 matters (still covering most major concerns including pay, penalty rates, leave allowance, redundancy payments and so on). It encouraged development of enterprise-based collective agreements, known as Certified Agreements, which had to be consistent with AIRC determinations but allowed variations. Also, it allowed individual contracts, Australian Workplace Agreements (AWAs), whereby individuals could negotiate directly with employers without union involvement.

continued

¹ Some of the unemployment in Europe may reflect fixed exchange rates in the European Union.

In December 2005, the government established the Australian Fair Pay Commission to take over the wage-setting and adjusting functions of the AIRC. In setting minimum wages, the commission was to have regard to employment and competitiveness across the economy as well as an appropriate safety net for the low paid. AIRC retained its role in dealing with employment disputes.

In March 2006, the government introduced WorkChoices amendments to Australian labour law. This Act streamlined Certified Agreements and AWAs. Under the changes, AWAs had to meet only five minimum standards contained in the Australian Fair Pay and Conditions Standard: the minimum wage, four weeks annual leave (unless negotiated away), 10 days personal leave a year, 38 normal working hours per week, and unpaid parental leave for up to a year. The amendments facilitated dismissal of workers (exempting businesses with fewer than 100 staff) and allowed an AWA to override employment conditions in state or territory laws, except for occupational health and safety, workers' compensation or training arrangements.

The WorkChoices amendments proved politically unpopular and after the election of the Labor government in 2007, the

new parliament passed the *Fair Work Act* in July 2009 which replaced the *Workplace Relations Act*. The main features of the *Fair Work Act* were increased worker protection from unfair dismissal (including for small firms previously exempt), 10 minimum employment conditions, rules governing industrial action, assistance for bargaining for low paid workers, widened provision for unpaid parental leave and rights to request flexible working arrangements.

These changes have increased the cost of employment. In 2010-11, 37 262 employees lodged cases of unfair dismissal or general protection as compared with 17 658 cases in 2009. The onus is on employers to disprove a claim and they often find it less costly to pay out claims than to contest them.

Assessments of Australian regulation of the labour market vary. When transport and communications constraints allowed a few firms to dominate markets, labour market regulation may have protected wages with possibly little impact on output or employment. Also, if tariffs were to provide economic rents, it was fair that labour should share the rent. However, in an open and competitive economy it is harder to protect labour by regulating employment conditions as the demand for labour is much more elastic.

Regulating Immigration

Given that wages depend on labour supply, restrictions on immigration of labour represent a possible strategy for maintaining or even increasing wage levels, especially restrictions on labour that can substitute most easily for local labour. However, immigrants with the skills to obtain employment in the local economy or the willingness to take on jobs that local workers do not want usually provide a net benefit to the local economy. The following simple example shows this

Consider the demand and supply conditions shown in Figure 21.6. The D_L curve shows the local demand for labour to service domestic consumption and exports. The domestic labour supply curve is S_D and there is a perfectly elastic supply of foreign labour given by the horizontal schedule S_F . With no immigration, there would be Q_1 local employment with wage w_1 . Suppose now that limited labour immigration is allowed such that total employment rises to Q_2 and the wage falls to w_2 . Employment of local workers would fall from Q_1 to Q_D and immigrants would take $Q_2 - Q_D$ jobs. However, the gross value of local output would rise by area ADQ_2Q_1 and there would be a net welfare gain to the local community of area $ABCD$. This gain is the sum of the reduction in costs due to using $Q_1 - Q_D$ imported labour which is shown as area ABC and the surplus associated with the $(Q_2 - Q_1)$ increase in low cost labour which is area ACD . These benefits arise because immigrants are willing to work at a lower wage than local labour. In this model, the fall in local wages from w_1 to w_2 is more than offset by the benefits of lower consumer prices and increased return to capital. Immigration is efficient but would reduce local wages and employment.

However this simple model does not account for the heterogeneity of the workforce or the flow-on effects of immigration. The increase in employment of labour and capital is likely to increase the demand for goods and services including demand for non-tradable goods like housing. Immigrant labour may also complement existing labour or capital and increase productivity and output including in export markets. These factors will increase the demand

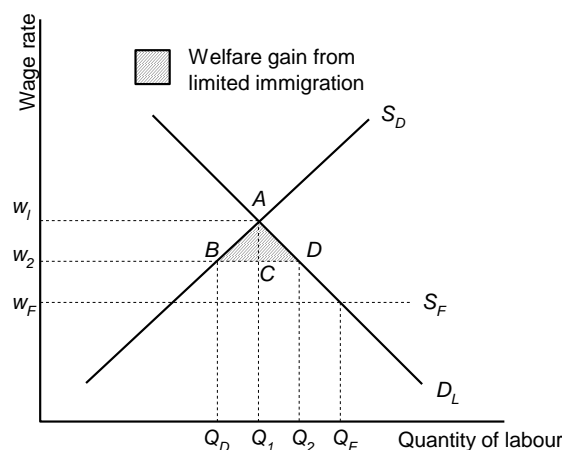


Figure 21.6 Partial model of immigration and the labour market

for labour and may increase local, as well as total, employment compared with the pre-immigration case.

Evidently, the impacts of labour immigration on wages and local employment depend on the circumstances, especially on skills that are not readily available locally. The effects depend also on the availability of capital to support labour and the flow-on effects on the demand for goods and hence for labour. A partial equilibrium analysis suggests that, although immigration initially reduces the wage rate, local households gain overall because lower prices and higher returns to capital offset the reduction in wages. However, modelling immigration effects is complex and a computable general equilibrium model is required to model the full effects of migration on the economy.

Interventions to Support Industry

Government may assist industries with financial support or by regulations. In both cases the prime objective is to increase labour incomes and returns to capital in the assisted industries. However, whereas taxpayers generally bear the cost of financial assistance to industry, consumers pay for regulations in the form of increased prices.

Table 21.1 overleaf outlines various industry assistance strategies. These include regulations to restrict entry into the industry, financial assistance to industry, price supports and protection from international competition. The table also cites some effects of these policies and examples.

The general stance of economists is that most assistance strategies, whether financial or regulatory, encourage resource misallocation and are inefficient. The key premise is that the competitive market understands market conditions and makes efficient investment and employment decisions. Assistance for selected industries encourages the employment of resources in relatively unproductive industries. It is an economic waste to subsidise labour to work in one industry when it could produce higher valued goods in another industry. It should be said that this is not the view of most Australian state jurisdictions which have active industry programs to avoid unemployment by supporting industry re-adjustment or to assist start-ups that the market is not financing (or only partially financing).

However, at the Federal level, the Australian Government has largely cut its traditional protection of manufacturing, notably ceasing all subsidies for motor vehicle manufacturers, which have now closed completely in Australia.

Table 21.1 Examples of industry assistance strategies

<i>Industry assistance strategy</i>	<i>Policy instrument</i>	<i>Policy effects</i>	<i>Examples</i>
Protection from domestic competition via quantity controls	Licensing of occupational groups Mandating product use	May provide quality control and protect consumers, but also reduces supply of services and raises prices	Licensing of professions, e.g. doctors, lawyers, architects, surveyors Mandating use of Australian produced ethanol-based petrol
Direct financial assistance	Direct subsidies Taxation relief	Encourages relatively inefficient producers and so misallocates resources	State government subsidies for businesses that are restructuring Payroll tax relief for new businesses
Price supports for output	Guaranteed local prices	Misallocates resources to products in low demand	Support for dairy product prices and incomes of dairy farmers Support for sugar cane growers
Protection from international competition	Tariffs on imports, import quotas, domestic content requirements Subsidies for exports	Import restrictions reduce supply of goods and raises prices Export subsidies misallocate resources	Motor vehicle tariffs Clothing/footwear quotas Local content of TV programs

Chapter 15 described the DWL associated with licensing occupations and restrictions on the supply of services. Restrictions on entry into the taxi industry prop up the capital value of taxi licences but increase the costs of taxi services and do nothing for incomes of taxi drivers (for whom there is reduced demand). Abelson (2010) estimated that the DWL due to high taxi fares and poor service amounted to over \$250 million a year in Sydney alone. Another issue is the mandating of ethanol use in petrol. Apart from possible environmental reasons, a major aim is support for sugar cane farmers and ethanol producers. This will almost certainly increase oil refinery costs and petrol prices and may reduce vehicle efficiency.

Mandating or guaranteeing producer prices in excess of market prices is another common policy especially for farm products. Indeed, guaranteed minimum prices for agricultural products in the European Union and the United States are responsible for more distortion of international resource use than any other factor. Friedman (2003) noted that direct US governmental support for farm crops, including wheat, cotton, rice, sugar and other crops, cost over US\$21 billion in 1999. This did not include indirect supports such as output restrictions that cost consumers many billions of dollars more in increased prices. In both continents the major aim is to assist farmers, although environmental benefits are also claimed. There are fewer examples of price supports in Australia. For a long time dairy farmers were guaranteed a minimum domestic price, but this practice has been discontinued.

Figure 21.7 illustrates the DWL of mandated or minimum prices. In this figure, Q_1 and P_1 represent the market equilibrium quantity and price respectively. However, suppose that government mandates a higher price of P_2 and agrees to buy any surplus output. Market output would increase to Q_2 . Government would hold $(Q_2 - Q_3)$ stocks, which it could sell only if the price fell to P_3 . The DWL would equal area DBF , which is the difference between the cost of supplying the product and its value to consumers. Alternatively, government could mandate a price of P_2 but not agree to purchase any surplus. In that case, producers would restrict supply to Q_3 and there would be a DWL of area ADE due to undersupply.

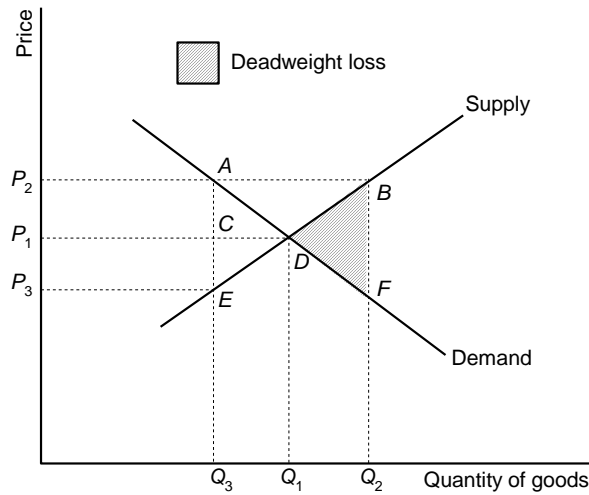


Figure 21.7 The deadweight loss of mandated producer prices

Import regulation

Regulation of imports by tariffs or by quantity (quota) restrictions are another form of industry protection. If the domestic market is competitive and quotas are auctioned or traded, for any given reduction in imports, the DWL is the same with quotas as with tariffs. Here we provide an analysis of the welfare loss with tariffs.²

Figure 21.8 shows the demand curve for a good that can be produced locally or imported. It also shows three supply schedules: domestic supply (S_D), foreign supply without a tariff (S_F),

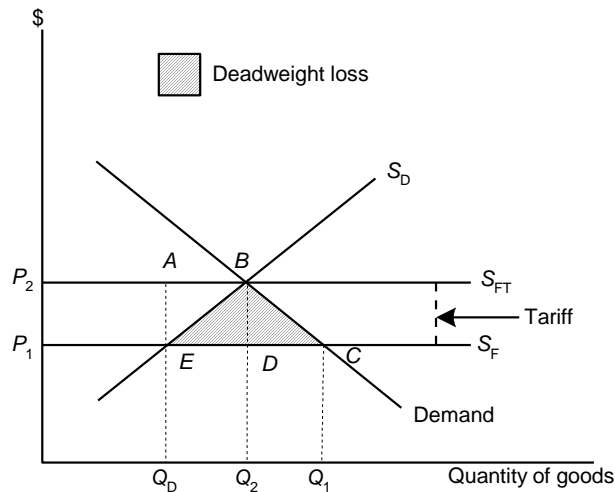


Figure 21.8 Deadweight loss of tariff protection

² The analysis here assumes that the importing country is a price taker (i.e. it is a small or medium economy). A large economy can reduce import prices and so can gain from imposing a tariff. This is not relevant to the subject here as the gains in this case accrue to government rather than to industry.

and foreign supply with a tariff equal to BD (S_{FT}). With no tariff, Q_1 units would be supplied at a market price of P_1 . Local supply would be Q_D and imported supply would be $(Q_1 - Q_D)$. With the tariff, supply falls to Q_2 while the market price rises to P_2 . Local producers supply the whole market; there are now no imports. The total DWL equals area BEC . This is the sum of the loss of consumer surplus (area BCD) and the cost of the local resources used to meet demand compared with the cost of imports (area BDE). The area ABE is not a DWL because the gain in producer surplus offsets the loss in consumer surplus.

Interventions to Support Consumers

When the objective is to support producer incomes, government usually sets product prices above market rates. When the aim is to support consumers, especially those on low incomes, government typically mandates product prices below market prices.

Governments in many countries impose maximum price controls on commodities such as food, water, electricity and petrol. This is done most easily when goods are produced by public agencies and can be readily subsidised. It is harder to achieve by regulating the prices of private production. Unless these goods are also subsidised, this results in excess demand and chronic under-supply of these goods. Consumers suffer unless government maintains supply by paying higher prices separately to producers. But, if government does subsidise producers, there is a chronic strain on the government budget.

Housing rent and cost controls

Rent controls are a prime example of price controls that have been applied in many countries. The poor results have fully confirmed the predictions of economic theory. Figure 21.9 depicts the effects of rent control in the short and long run.³ The main difference between the short and long run lies in the supply side. In the short run, the supply of rental housing is fixed. In the long run, capital can move out of housing (or not move into it) and the supply of housing is responsive to rents or, more precisely, to the rate of return on capital. The demand for

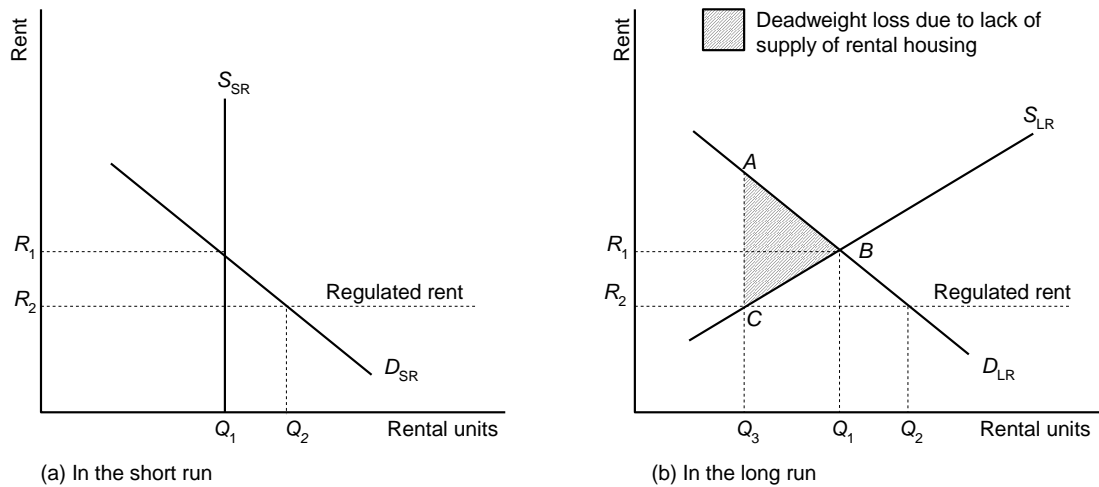


Figure 21.9 Effects of rent controls

³ Figure 21.9 assumes a homogeneous standard of rental housing. Rent control is more complicated when housing standards vary greatly, as they generally do.

housing may also be more elastic in the long run as individuals can form more households in response to lower prices. Panel (a) depicts the short run. Rents fall from R_1 to R_2 (the regulated rent) and there is excess demand ($Q_2 - Q_1$) for rental accommodation. This may result in illicit black market arrangements that reward landlords. Alternatively, to accommodate the excess demand, occupancy rates rise so that the effective quality of the accommodation falls.

Panel (b) shows a greater shortfall of accommodation ($Q_2 - Q_3$) in the long run and the associated DWL. In addition to black markets and higher occupancy rates, while demand increases landlords will let the quality of their accommodation fall until the rate of return on their investment equals that in alternative investments. Thus, the rental unit in panel (b) is lower quality than the rental unit in panel (a). In many cities, including Sydney after the Second World War, New York, London, Alexandria and Mumbai, to mention just a few, rent controls led to substantial disinvestment in housing and to reduced and inferior housing stock.

Currently a popular proposal to deal with housing affordability is to require developers to provide part of their developments, say 10 per cent of the units, to community housing providers who will let out the units at 20 per cent below market rents. This is another form of rent control. In this case, the beneficiaries will be a few median income households (as low-income households cannot afford even discounted rents for new dwellings). It is not clear how the scheme will be managed, for example for changes in income status of the renter or for sub-letting. And it will probably have a minor disincentive impact on new construction and dwelling maintenance.

An example of cost controls. Traditionally Australian governments also attempted to reduce the cost of housing for owner-occupiers by regulating mortgage interest rates. This also exemplifies general problems of price controls. Up to 1985, the Australian government controlled the rate of interest that banks and building societies could charge on mortgages to house buyers. In effect, they were required to lend money to home buyers at below market rates. However, this had little effect on the real price of borrowing for home purchase. Because lending rates were controlled, the demand for funds exceeded the supply and the financial institutions had to ration their funds. They did this partly by requiring borrowers to have an account history with them before they could borrow. Borrowers had first to deposit funds with the institutions for a few years at low or zero interest rates. The institutions also restricted the amount lent on each property and thus reduced their risks. House buyers then borrowed the extra amount required in a secondary market at a high marginal rate. As so often occurs, the market found ways to nullify the effects of the regulations.

Effects of housing subsidies on prices and consumption

In Chapter 32 (Table 32.2) we will see that Australian governments heavily subsidise housing, especially owner-occupied housing, in an attempt to make it more affordable. Abelson and Joyeux (2007) analysed how the housing subsidy (net of taxes) affects house prices and consumption and the DWL. Some results are summarised here.

If the supply of housing is fixed, a demand subsidy of X per cent would simply increase house prices by X per cent. There would be no increase in housing consumption. Existing homeowners would receive a capital gain. New homeowners would pay a higher price for their houses and be no better or worse off than before. However, the analysis is complicated because the private rental sector also receives a small subsidy and because higher house prices may increase the supply of housing.

As usual, outcomes depend on demand and supply elasticities. Assuming plausible unitary demand elasticities in both homeowner and renter markets and a unitary supply elasticity, Abelson and Joyeux (*ibid.*) estimated that a 10 per cent subsidy to homeowners (with no subsidy to renters) would increase house prices by 4 per cent and the amount of housing

consumed by owner-occupiers by 5.8 per cent, but it would reduce the amount of housing consumed by renters by 13.5 per cent (due both to a switch to home owning and to the price effect on renting). The supply effect is critical. With limited supply response, a housing subsidy simply increases housing prices with little effect on housing consumption.

To estimate the DWL of the net housing subsidies, we need to compare what households are willing to pay for housing with the real opportunity costs of new housing. Drawing on the standard formula for DWL (see Equation 27.7, page 483) and assuming a competitive housing market, Abelson and Joyeux (*ibid.*) estimated that the DWL would vary from \$0 per annum (if the supply of housing has is fixed) up to \$450 million per annum if the supply is highly elastic. The efficiency loss arises because households consume goods that they would not consume in the absence of the subsidy.

Concluding Comments

Governments can intervene in markets in many ways to assist workers, industry or consumers. Market interventions designed to correct market failures can produce economic gains. Thus market interventions to support labour in markets where large firms fix wages or product prices can be efficient as well as fair.

However, most market interventions to redistribute factor incomes or to protect producers or consumers involve some loss of efficiency (deadweight losses). This holds for most regulations in labour markets, policies to regulate international movements of labour or goods, polices to assist industry and policies to protect consumers.

This does not necessarily rule out these policies. But economists will want to know, for any given redistribution of income, the efficiency costs (deadweight losses) arising from intervening in markets compared with a tax-transfer system that redistributes market incomes.

Summary

- In this chapter we review how government may regulate factor or product markets with the aim of improving distributional outcomes.
- Government can regulate labour markets in various ways, for example by setting the rules for employment contracts, establishing the conditions under which unions may operate, determining occupational and safety rules, or regulating wages.
- These regulations affect distributional outcomes and, when there are market failures, some regulations can also make markets more efficient.
- However, regulations of employment contracts, such as dismissal conditions or minimum wages, can also create distortions that affect the allocation of labour, reduce employment and result in a deadweight loss.
- Controls over immigration may protect some wages. But restrictions on immigration may reduce productivity, limit service provision and increase prices. The issues are complex and cannot be fully resolved without economy-wide modelling.
- Industry assistance policies include entry or quantity restrictions, financial assistance, price supports and regulations of imports.
- Such policies tend to have deadweight losses. Financial assistance distorts resource allocation. Price supports encourage oversupply of a good. For small or medium price-taking economies, tariffs have a deadweight loss.
- Governments sometimes mandate maximum prices in product markets to assist low-income households. Rent controls, a major example, reduce the quantity and quality of rental housing so that there is little, if any, overall gain for rental households.
- In summary, market regulations can improve distributional outcomes but often with significant efficiency costs. When there are such costs, policy makers need to know whether other policies could achieve the distributional objectives at lower cost.

Questions

- Under what conditions may government regulation of minimum wages raise both wages and employment?
- How do government regulations of labour unions affect the distribution of economic rents?
- What are the main reasons for thinking that regulations of labour markets are likely to cause deadweight losses?
- Suppose that government requires employers to pay mothers six months' maternity leave. Who bears the cost of this regulation?
- How may the immigration of (a) skilled workers and (b) unskilled workers affect the earnings and welfare of existing Australian workers?
- Explain why restrictions on taxi licences provide economic rent for owners of taxi licences but tend to reduce the earnings of taxi drivers.
- Should farmers receive water at a below-market price? What are the possible efficiency costs?
- The Australian government has recently (i) largely replaced individual Australian Workplace Agreements by contracts based on enterprise bargaining and (ii) re-introduced unfair dismissal regulations for medium sized businesses. The Department of Employment and Workplace Relations asks you to conduct an objective and fearless inquiry into the effects of these changes. How would you evaluate them?
- In London, assessors of fair rents for rent-controlled apartments were required by law to base their assessments on rents set in comparable rent-controlled apartments and to assume that demand and supply for apartments were equal. Why is this assumption meaningless?
- Australian government policy is to restrict use of regular unleaded petrol in order to promote the use of ethanol-based petrol. What are the likely effects?

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