Minimum Wage

Resource Pack for the Economics Curriculum (Secondary 4-6)

Economic Analysis and Evaluation of Government Policies

Personal, Social and Humanities Education Section
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1. **Introduction**

A minimum wage is the lowest hourly, daily or monthly remuneration that employers may pay to workers. In terms of economics, statutory minimum wage (SMW) is a wage floor set by the legislation.

Minimum wage law first appeared in the 1890s, in New Zealand and Australia. It was intended to stop sweatshop labour, so the coverage was limited to certain industries, or to women and youths only. Nowadays minimum wage laws prevail in more than 90% of all countries (International Labour Organization, 2006).

Minimum wage has always been a controversial issue in spite of the widespread adoption. Opinions widely differ about the benefits and costs of a minimum wage. Supporters believe that minimum wage prevents excessively low wages, increases workers’ standard of living, reduces poverty, reduces income inequality, boosts morale and forces businesses to be more efficient. Critics claim that minimum wage creates more unemployment, especially among less-skilled workers. It leads to higher prices, actually increases poverty and harms businesses by raising labour costs.

In Hong Kong, after years of wrangling and heated debates, the statutory minimum wage (SMW), of HK$28 per hour has come into effect since May 1, 2011. It was revised upward to HK$30 from May 1, 2013 and HK$32.5 from May 1, 2015 onward. The introduction of SMW represents a significant milestone and breakthrough in protecting low-income workers.¹

More labour protection laws are on the way. Since April 1, 2012, full-time government employees have become eligible for five days’ paternity leave. The HKSAR government is drafting new laws to give Hong Kong fathers three days’

¹ For more details, visit the Labour Department’s website http://www.labour.gov.hk/eng/news/mwo.htm
paternity leave (Legislative Council, 2013). Regarding the alarmingly long working hours in Hong Kong, the government has set up the Standard Working Hours Committee in April 2013, which will perform a series of study and public consultation on working hours.\(^2\) As the subject of minimum wage is complex and contentious in its own right, this article is intended to provide an overview and an economic analysis of this major policy issue.

### 1.1. History & Controversy of Minimum Wage

#### 1.1.1. United States

- In the United States, popular unrest and massive poverty during the Great Depression led to a series of landmark labour laws. The first national minimum wage at US$0.25 per hour was passed in 1938 as part of the Fair Labour Standards Act (FLSA), which was a cornerstone in the US’s social and economic development.\(^3\) Prior to that, some states had passed minimum wage laws or recommendations of non-compulsory minimum wages. The first state to do so was Massachusetts in 1912.

- The US Congress revises the federal minimum wage every few years to account for inflation and the rising cost of living. Since the last update in 2009, the federal minimum wage has stood at US$7.25 per hour. Individual states can set their own minimum wage rates. The higher standard applies when difference arises (U.S. Department of Labour, 2014).

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\(^2\) The Standard Working Hours Committee will advise the government whether a statutory regime or other alternatives should be introduced. Its website (http://www.swhc.org.hk) provides a rich resource of background information and policy study of this complex and controversial issue.

\(^3\) On top of the minimum wage, the Fair Labour Standards Act (i) banned oppressive child labour, (ii) set an overtime pay standard, and (iii) introduced the maximum workweek at 44 hours (US Department of Labour, Wage and Hour Division, 2009).
1.1.2. China

- In China, the Provisions on Minimum Wages were effective from March 1, 2004. The setting of minimum wage is delegated to local governments, which choose a monthly minimum for full-time workers, and an hourly minimum for part-time workers. The minimum wages shall be reviewed at least once every two years (China Court Website, 2004).

- There is a wide range of minimum wage levels across the country. In general, the highest wages are in the more developed coastal regions and the lowest ones in the less developed central and western provinces. The monthly minimum wages are expected to be at least 40 percent of the average monthly wage. As of July 2013, Shanghai had the highest monthly minimum wage of RMB1,620 (US$266). The lowest one was in the central province of Anhui (RMB 1,010, or US$166). On the other hand, Beijing had the nation’s highest hourly minimum wage of RMB15.2 (US$2.5). The lowest ones were around RMB10 (US$1.64).  

1.1.3. Hong Kong

- Hong Kong actually had some legislation relating to the minimum wage as early as in 1932, but the right to establish a minimum wage has never been exercised.

- Minimum wage legislation has been a subject of heated debate in Hong Kong in recent decades. In the wake of the Asian Financial Crisis, some labour organizations and lawmakers proposed a minimum wage law to the government in 1998 but to no avail.

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4 The conversion rates of US$1 = RMB¥6.09 (as of Nov 12, 2013) were used.
In 2006, the HKSAR Government initiated a two-year voluntary wage protection movement for cleaning workers and security guards, adding that whether to introduce minimum wage law would hinge on the outcome of this voluntary Movement. The participation from employers was far from satisfactory, so the HKSAR Government set up the Provisional Minimum Wage Commission (PMWC) to research and prepare for the minimum wage legislation in February 2009.

After years of bargaining, the Minimum Wage Bill was passed by the Legislative Council on 15 July 2010. The statutory minimum wage of HK$28 per hour has come into effect since May 1, 2011. The minimum wage was increased from HK$28 per hour to HK$30 per hour with effect from May 1, 2013. It was further revised to $32.5 per hour with effect from May 1, 2015.

Supporters claim that minimum wage is beneficial not only to workers, but also to businesses and the society as a whole. For workers, a minimum wage prevents excessively low wages and protects workers from exploitation. It increases workers’ standard of living, boosts morale, reduces poverty, and encourages employment. Labour protection is deemed particularly relevant when globalization and rapid technological changes bring more and more competition among workers nowadays.

Firms are facing higher labour costs, but this is also a motivation to explore new ways for better efficiency. The society shall be benefited from reduced income inequality and greater social harmony.

Critics claim that minimum wage increases unemployment, especially among vulnerable and less skilled workers like teenagers and the disabled. As a job killer, minimum wage actually increases poverty. Consumers are facing higher prices. Firms are compelled to pay a higher wage rate, so they often lower training expenses, thereby slowing human capital accumulation. As the flexibility of the labour market is reduced, so is the economic freedom and competitiveness of Hong Kong as a whole.
1.2. Impact on Stakeholders

As a labour protection policy, minimum wage is bound to affect both employers and employees. But it may impact more parties, and to a greater extent than you might have expected. For instance, labour market is composed of many workers of different calibers and from different industries. Higher labour costs may be transferred to consumers, and so on. Below are some examples of the impact of minimum wage on various stakeholders.

- **Mary, the cleaner**
  - Mary is a cleaner who works 11 hours a day starting from 6:30am. With an hourly wage of $25.6, her monthly salary is around $6600 a month. She has to take another cleaning job at night to supplement her income. A minimum wage of $28 per hour will raise her salary by 9% to $7300 a month. But she does worry that her working hours may be cut short.

- **The cleaning company**
  - Peter is the manager of a cleaning service company. Most of his employees are earning from $24 to $27 per hour. A wage floor will significantly raise his company’s wage bill. He plans to charge his customers more.

- **Small-business owners**
  - Nick is the owner of a dim-sum restaurant. He thinks that new hands may be difficult to get a job once the wage floor is in place. It will be harder for him to hire experienced workers too. He expects to pay experienced workers at least 20 percent more than the minimum wage.
● **Small-business owners (continued)**

- Anna runs her own cafe with five full-time workers. On top of higher wage expenses, Anna also worries about the increased Long Service Payments (LSP). By law, employees in service for more than five years are owed a LSP when they retire or when their contracts end without renewal. LSP is based on both final monthly wage and years of service.

● **Petty proprietors**

- Lily is the chair-person of Owners’ Corporation. She knows that the property management company will bear a higher operation cost as cleaners and security guards will see a significant salary raise under the new minimum wage law. An increase in management fees seems inevitable. She is now exploring the possibility to use more technology to save some labour. Options like an electronic payment system in the car-park and a few more close-circuit cameras are welcomed by other proprietors.

● **Homemakers**

- Janet is a housewife. Her husband is a programmer who is not likely to benefit from the minimum wage. Her teenage son and daughter are university students who often dine outside. Janet’s mom is living in an elderly home. When minimum wage is in effect, she expects price hike from restaurants, and higher monthly fees from the elderly home. What can she do to lower her household spending? This is a question that has bothered her for months.

● **Elderly workers**

- Bob is a security guard approaching 60. To secure his job, he is willing to work long hours for relatively low pay. His current wage of $17 per hour is about 60% of the proposed minimum wage of $28. He fears that no one will hire him and the minimum wage will effectively deprive him of the job and force him into retirement.
Domestic workers

Antonio is a chauffeur who live free of charge in his employer’s residence. He is very upset when he finds out that minimum wage does not apply to live-in domestic workers like him. He will join the union’s protest with his wife Olga, who is a domestic worker for a family of five.

Student interns

Jenny is a business major in a local university. She is working as a student intern in an accounting firm as part of her degree requirements. She is expecting a pay raise happily, only to find that minimum wage does not apply to student interns.

Employees with disabilities

Johnny is a cashier with visual impairment. He worries that employers will hesitate to hire disabled workers under the new law. Officers at the Labour Department assure him that he has the right to initiate a productivity assessment to determine if his wage shall be linked to his productivity. Such arrangement is intended to safeguard disabled workers’ employment opportunities while providing wage protection.

The Public

Businesses are charging higher prices as they know many people will earn more under the new law. Vulnerable workers may find it hard to get a job. They may have to turn to the government for social security and assistance. This in turn will add to the burden of taxpayers.

Obviously, a minimum wage law generates a lot of buzz and affects many stakeholders. Table 1-1 lists the key issues around three major stakeholders, namely workers, firms, and the society as a whole.
### Table 1-1 Key Issues Affected Workers, Firms and the Society

<table>
<thead>
<tr>
<th>Workers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment effect</td>
<td>Does minimum wage kill jobs?</td>
</tr>
<tr>
<td>Fringe benefits and training</td>
<td>Does minimum wage reduce workers’ fringe benefits? In particular, will there be fewer opportunities for on-the-job training?</td>
</tr>
<tr>
<td>Family income distribution and poverty reduction</td>
<td>Does minimum wage help low-income families and reduce poverty?</td>
</tr>
<tr>
<td>Wage distribution</td>
<td>Does minimum wage increase wage inequality?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Business firms</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Costs</td>
<td>Does minimum wage increase production costs? Can it lower costs by forcing firms to be more efficient?</td>
</tr>
<tr>
<td>Hiring decision</td>
<td>Does minimum wage result in fewer working hours, heavier workload, etc.?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The society</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Inflation</td>
<td>Does minimum wage increase goods and services prices? Is there any impact on inflation?</td>
</tr>
<tr>
<td>Longer-term implication</td>
<td>Does minimum wage lower the incentive for workers to acquire more skills or better educational attainment?</td>
</tr>
</tbody>
</table>

This article focuses primarily on the employment effect, though other issues will certainly be touched on throughout the discussion.
2. Wage and labour market \(^5\)

Minimum wage legislation (and subsequent increases) is commonly believed to be job killers. This negative employment effect can be easily seen from the application of demand and supply.\(^6\)

Let us look at the labour market. The buyers are firms and the sellers are workers. Firms employ workers as a factor of production. Workers sell their labour services (not their soul) in exchange for wage income. Supply and demand come together to determine the equilibrium price of labour services (i.e., wage) and quantity, but wage is given to any individual employer or worker. Changes in either the demand or supply will influence equilibrium wage and quantity.\(^7\)

Assume labour markets are perfectly competitive, so there is perfect information and mobility. Labour services are identical. Firms care only about maximizing profits. Further, minimum wage covers all workers, and worker productivity is unaffected by the wage rate. We will describe the demand for and supply of labour, identify the market equilibrium, and examine the effect of a wage floor.

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\(^5\) The analysis of this part is not included in the Economics Curriculum. It is for knowledge enrichment purpose.

\(^6\) Interested readers can consult Mankiw (2012) for a more detailed description of the labour market.

\(^7\) The quantity in a labour market can be measured in number of employees or number of labour hours. We use the latter unless otherwise stated.
2.1. The demand for labour

- What determines a firm’s demand for labour?
  
  - A profit-maximizing firm thinks at the margin, meaning that it will base its hiring decision on comparing the benefits and cost of an extra worker. The benefit of hiring another worker is that more output can be produced and sold. The cost is simply the wage cost. In other words, if the benefit from hiring another worker exceeds the cost, the worker will be employed.\(^8\)

- Imagine you were an employer, and market wage was $50 per hour. Are you going to hire another worker? The hiring decision clearly depends on whether the worker can produce output worthy of $50 or more.

- Let MPL denote the marginal product of labour (MPL). It is the increase in the amount of output from an additional unit of labour. In symbols,

\[
MPL = \frac{\Delta Q}{\Delta L},
\]

where \(\Delta Q = \text{change in output}\)

\(\Delta L = \text{change in labour}\)

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\(^8\) This is an application of the marginal way of thinking in economics. Rational people are supposed to make their decisions by weighing the costs and benefits of an extra unit of variable in question.
Note that MPL is measured in physical terms, carrying the same unit as the output. It is the benefit of hiring an extra worker in real terms. We need to convert MPL to dollar terms so that it can be compared with the wage rate. The trick is to multiply MPL with the output price (P) to get the market value of the marginal product (VMPL):

\[
VMPL = P \times MPL
\]

Simply put, VMPL is the extra revenue generated by employing one more worker.

A common property regarding production is called the law of diminishing marginal product, which states that MPL falls as more and more workers are hired. Given this property, VMPL curve is downward sloping as the quantity of labour increases.

A rational employer weighs wage against the value of marginal product, so the VMPL curve is the same as the demand for labour, as shown in Figure 2-1 below.
By the law of diminishing marginal product, the labour demand curve is downward sloping. Thus, when the wage increases, the quantity of labour demanded will decrease as a result. Graphically speaking, it is a movement upward along the labour demand curve.

Note that other things are kept constant along a demand curve. This is no exception for the demand for labour. In particular, output price and worker’s productivity are assumed to be unchanged.

When does a labour demand curve shift? Since the labour demand curve is the VMPL curve, anything that changes VMPL will result in a shift of the curve. Recall that

\[ VMPL = P \times MPL \]
Anything that increases MPL or the output price P will increase VMPL at each wage level, thereby shifting the labour demand curve.

Notice that changes in P can come from a shift in demand or supply in the output market, whereas changes in MPL are often a result of better technology.\(^9\)

2.2. The supply of labour

Workers are on the supply side of the market. They sell their labour services in exchange for wage income. What determines a worker’s supply of labour?

- If a worker goes to work, he or she gets paid, but there will be less time for leisure. In economics terms, there exists a trade-off between work and leisure. The more time a worker spends working, the more leisure has to be forgone. Because of such trade-off, the opportunity cost of leisure is the wage.

- How does a worker respond to an increase in wage?
  
  - A higher wage means a higher opportunity cost of leisure. A rational worker will respond by taking less leisure and working more. Graphically speaking, when wage increases, so will the quantity of labour supplied. The labour supply curve is positively sloped as in Figure 2-2.\(^10\)

\(^9\) A worker’s marginal product (MPL) can also be affected by the supply of other factors. For example, if a firm upgrades the computers (capital) for the workers to work with, workers will be more productive. Both MPL and VMPL rise, labour demand shifts upward.

\(^10\) Theoretically speaking, it is possible that the labour supply curve might bend backward at high wage levels. For simplicity, such possibility is ignored so that the labour supply curve is always positively sloped.
When does a labour supply curve shift?

- There are two key factors that can shift the labour supply. First, if workers are moving into an economy from abroad, say, from immigration, labour supply will increase, and the labour supply curve will shift to the right. Likewise, labour supply decreases following an emigration of workers.

- Second, if there is a change in attitudes regarding the labour-leisure trade-off, the labour supply will also shift as a result. For example, if new-generation workers value leisure more and more, the quantity of labour supplied will decrease at each wage level, thereby shifting the labour supply curve to the left.
2.3. Equilibrium

- As the labour market is assumed to be perfectly competitive, firms and workers are price takers. They take the wage as given and determine the quantity accordingly.

- Like all prices, the price of labour (the wage) depends on supply and demand. The wage adjusts to balance supply and demand for labour. In equilibrium, the quantity of labour demanded equals the quantity of labour supplied (which is $L^*$ in figure 2-3). On the contrary, any difference in these two will create a pressure for the wage to adjust, so that both quantities are equal again.

Figure 2-3 Equilibrium in a labour Market

- Figure 2-3 depicts the equilibrium of a competitive labour market. The equilibrium wage and employment level are $W^*$ and $L^*$ respectively. In equilibrium, workers receive VMPL, the market value of their marginal product.
2.4. Application to Minimum Wage Law: Prediction and Criticisms

Now that we have described the characteristics of a perfectly competitive labour market, the effect of the minimum wage is quite straightforward. Minimum wage is an example of a price floor. A typical price floor is set above the (free-market) equilibrium level. Such scheme is called a binding price floor. When firms are required by law to pay the minimum wage, which is higher than the equilibrium wage rate, there will be unemployment, as illustrated in Figure 2-4.

2.4.1. Basic analysis from labour demand and supply model

![Figure 2-4 Minimum Wage as a Binding Price Floor](image)
Figure 2-4 shows the impact of minimum wage on a competitive labour market. In the absence of such policy, the (free-market) equilibrium wage is $W^*$. The equilibrium level of employment is $L^*$.

When a binding minimum wage $W_M$ is introduced, market participants will respond to this increase in wage, which essentially is a higher price of labour services. How will these price-takers respond? They will change the quantity demanded or quantity supplied accordingly. On the demand side, firms will want fewer workers whereas on the supply side, more people are willing to work. With a higher wage rate, leisure is more “expensive” to workers now, so they are willing to work for longer hours.

In the figure above, $L^D$ and $L^S$ denote the quantity demanded and quantity supplied at the minimum wage $W_M$. The introduction of minimum wage will create a surplus of labour, $L^S - L^D$. This is the unemployment created by the introduction of minimum wage $W_M$.

Things can get worse if we realize that workers are not identical as assumed in a perfectly competitive labour market. In the figure above, workers are alike in the sense that they provide identical labour service. In reality, workers can be very different individuals. They have distinct attributes such as productivity, experience, education attainment, and so on.11

If minimum wage creates an excess supply of labour, firms can be more selective in their hiring. Unemployment will be more serious among the lower-productivity workers such as inexperienced youths and the disabled. Ironically, the inexperienced young and unskilled poor are supposed to benefit from a minimum wage, but they actually will suffer because jobs are more difficult to find. No wonder some critics claim that the minimum wage law is a classic example of a good intention and a bad result.

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11 The supply-and-demand analysis can be modified by splitting the labour market into two sub-markets: skilled workers and unskilled workers. Minimum wage is expected to affect the latter but not the former.
2.4.2. Criticisms of the Model

As popular as it is, this standard analysis using demand and supply has received quite some criticisms over the years.

- First, Figure 2-4 may be a misleading and distorted version of the reality because typical minimum wage increases are small relative to prevailing wage levels. To illustrate this idea, Figure 2-4 is re-produced as the left panel in Figure 2-5. On the right panel, the minimum wage $W_M$ is placed closer to the free-market equilibrium, leading to a much smaller unemployment. So the left panel may be too dramatic and overly exaggerating. A related argument is that minimum wage increases are often set to offset inflation so that there is little increase (if any) in real wage (Reinhardt, n.d.).

Figure 2-5 Side-by-side Minimum Wage Diagrams
Second, the supply-and-demand analysis has assumed a perfectly competitive labour market, which is not the case in the real world. For example, information is often costly in the labour market. Workers need to spend time and effort for their job search. Information about job opportunities, ongoing wages, job requirements, etc., may not be readily available to workers. Likewise, firms also need to choose the right candidate for a vacant position. These information costs will decrease the extent of labour mobility.

Another assumption of prefect competition is the absence of a dominating market participant. Buyers and sellers are price-takers. However, labour market may exhibit the property of monopsony, where buyers have significantly more market power than do sellers. In that case, firms are able to set the wage. This monopsony could be a result of intentional collusion between employers, large information costs, imperfect labour mobility, etc. In a monopsonistic labour market, a binding minimum wage leads to a somewhat surprising result of more employment.12

Third, even if the labour market is perfectly competitive, the minimum wage cannot cover all workers. Some workers like self-employed and farm workers are not covered by minimum wage. If we divide a labour market into two parts, namely a covered sector and an uncovered sector, a minimum wage increase will lead to unemployment in the covered sector. But the surplus labour can move to the uncovered sector, thereby increasing the employment and dragging down the wage there. Under this two-sector labour market, the effect on employment is not obvious.13

These criticisms of the standard demand and supply analysis share a common theme in that minimum wage increases may not necessarily lead to more unemployment. Instead, employment can remain unchanged, or even increase as a result.

12 Ehrenberg and Smith (2006) provide a formal definition, features and consequences of a monopsonistic labour market.
13 A simplified version of this two-sectored labour market can be found in Ehrenberg and Smith (2006).
3. **Empirical findings**

There are plenty of empirical studies on many different aspects of the minimum wage, in particular, whether it will lead to more unemployment or not. This section gives a brief review of this so-called “employment effect” of minimum wage.

Until the mid-1990s, most economists believe that minimum wage generates a negative employment effect, especially among younger and low-skill workers. For example, Brown et.al. (1983) found that a 10% increase in the minimum wage caused a 1% decrease in teenage employment.

In the early 1990s, two U.S. economists, David Card and Alan Krueger, published their famous study on the effect of minimum wage (Card and Krueger, 1994). They found that the minimum wage increase in New Jersey did not result in job reduction of fast food restaurants there. While the research methodology and its unorthodox findings have been disputed by many, this study has received a lot of attention not only from the academic circles, but also from policy makers and minimum wage supporters.\(^{14}\) Here is a brief introduction.

In 1992, the minimum wage in the north-eastern state of New Jersey (NJ) rose from US$4.25 to US$5.05 per hour while the neighboring state of Pennsylvania did not change the minimum wage (standing at US$4.25) at the time. The employment in NJ was expected to decrease as a result. However, survey results of fast-food employees in NJ shows that an increase in minimum wage led to an increase in employment in the NJ restaurants (Card & Krueger, 1994). Based on a few more studies in different parts of the US, Card and

\(^{14}\) Does it sound strange if employers hire more workers following a minimum wage raise? It is potentially an invalidation of the law of demand.
Krueger (1995) concluded that the negative employment effects of minimum wage increases are minimal if not non-existent. In some cases, such increases have even generated more employment.

A number of theories have been proposed to explain the positive employment effect. For example, employers are expected to decrease other employee-related expenses such as training cost and fringe benefits following a minimum wage increase. If such spending cuts are large enough, the “total wage” (including wage and other employee-related expenses) can actually fall following a minimum wage raise. In this case, employers will hire more workers at a lowered “total wage”. Another possible explanation is that workers spend more after getting a minimum wage raise, thereby increasing the demand for goods. The demand for labour will increase as a result. Firms can also pass along the extra costs to customers by increasing product prices. There are indeed a variety of ways for labour markets to respond to a minimum-wage hike besides cutting employment (Schmitt, 2013).

Card and Krueger (1994, 1995) stirred up many heated debates. Their conclusions are often challenged for the following reasons. First, their studies were industry-specific. They looked specifically at minimum wage issues in the fast food industry, which left out a significant population of the minimum wage work force. Second, in their NJ study (Card & Krueger, 1994), the phone survey data was inconsistent with the actual payroll records used by other researchers. Third, the phone survey was conducted soon after the minimum-wage raises. It could only reflect employers’ short-run response to the policy. Therefore, the Card and Krueger (1994) study of NJ restaurants at best showed short-run effects limited to a specific industry in a state.

Neumark and Wascher (2008) discussed 45 studies that are the ‘most reliable’ research to them. On this basis, they concluded that ‘the predominance of evidence supports the view that minimum wages reduce the employment of low-wage
workers” (p.104). There are only a few prominent outliers, such as the well-known studies of Card and Krueger (1995).

What do we learn from the heated debates of employment effects? First, as Neumark and Wascher (2008) pointed out, most studies found that minimum wage created a negative employment effect. Second, studies that focused on the least-skilled groups provided relatively overwhelming evidence of bigger drop in employment for these groups. In this sense, minimum wage is doing more harm than good. Third, data and methodology are very crucial in the process of validating and testing economic theories against real-world data. Any defects in data quality or methodology may lead to a very different conclusion.
4. A Macroeconomic Perspective: Unemployment Rate and Labour Force Participation

Besides focusing on a specific industry like fast-food restaurants, the employment effect of minimum wage can also be evaluated from a macroeconomic perspective. In Hong Kong, labour statistics are released every month by the Census and Statistics Department.\(^{15}\) We will introduce some labour statistics concepts and see how the economy-wide unemployment rate and labour force participation rate are related to the minimum wage law.

- What are the unemployment rate and labour force participation rate?
  - Let us divide the working-age population\(^{16}\) into three groups:
    
    (a) Employed,
    
    (b) Unemployed,
    
    (c) Not in the labour force.\(^{17}\)
  
- Labour force is defined as the sum of the employed and the unemployed. The unemployment rate is the percentage of the unemployed in the labour force. The labour force participation rate is the ratio of the labour force to the working-age population. In symbols,

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\(^{15}\) Latest labour statistics are available in http://www.censtatd.gov.hk/hkstat/sub/so30.jsp

\(^{16}\) For simplicity, we may refer them as “adults”. In Hong Kong, these are persons aged above 15.

\(^{17}\) Characteristics of these three groups can be found in any introductory economics textbook, or from the Census and Statistics Department website.
Equation 4-1 Labour Force, Unemployment Rate and Labour Force Participation Rate

\[
\text{Labour Force} = (a)+(b) ,
\]

\[
\text{Unemployment Rate} = \frac{(b)}{(a)+(b)} ,
\]

\[
\text{Labour Force Participation Rate} = \frac{(a)+(b)}{(a)+(b)+(c)} .
\]

- With more than three million workers employed in Hong Kong, there are numerous employment decisions such as hiring and quitting to be made on a daily basis. The labour market therefore is very dynamic by nature. Figure 4-1 shows various labour market categories and four major flows among them.
The four major flows are:

1. those who are not in the labour force decide to enter.

2. members of the labour force decide to drop out (say, by retiring or becoming a homemaker),

3. employed workers become unemployed (quitting by themselves or being laid off),

4. unemployed workers land a job,
In fact, we can group these four flows into two categories centering around the concept of labour force. First, (1) and (2) represent flows into and out of the labour force. Second, (3) and (4) are the flows within the labour force.

Figure 4-1 and the flows are very useful in explaining the effect of minimum wage. Pessimists say that it will kill jobs. It means an increase the flow of (3), and a higher unemployment rate if other things are the same. Supporters claim that a higher wage will attract more quality workers to the workplace, thus increasing the flow of (1). In this case, there will be a higher labour force participation rate.

Figure 4-2 shows the unemployment rate from Jan 2010 to Dec 2013. If minimum wage leads to a significant flow of (3), there will be a higher unemployment rate.

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Figure 4-2 Seasonally Adjusted Unemployment Rate and Underemployment Rates in HK

Figure 4-2 shows that the unemployment rate fluctuated within a relatively narrow range. In particular, it was low and stable after the 2011 minimum wage legislation, and it was also low and stable after the 2013 minimum wage increase.

Can we conclude that minimum wage does not kill jobs? Minimum Wage Commission (2012) and Lui (2012) both pointed out that the economy was booming during that period. The demand for labour would increase and offset the negative employment effect brought forth by the minimum wage. Besides, the data availability was very limited for a relatively new policy. Therefore, in Lui’s words, “we should wait for more economic data in order to make a more comprehensive judgment” (Lui, 2012).
5. Minimum Wage in Hong Kong

Hong Kong had some legislation relating to the minimum wage as early as in 1932, but the right to establish a minimum wage has never been exercised. In the wake of the Asian Financial Crisis, some labour organizations and lawmakers proposed a minimum wage law to the government in 1998 without success. Minimum wage legislation has been a subject of heated debate since then.

In 2006, the HKSAR Government initiated a two-year voluntary wage protection movement for cleaning workers and security guards. As the participation from employers was far from satisfactory, the Government went on to set up the Provisional Minimum Wage Commission (PMWC) to research and prepare for the minimum wage legislation in February 2009.

After years of hot debates and negotiations, the Minimum Wage Bill was passed by the Legislative Council on 15 July 2010. The statutory minimum wage of HK$28 per hour has come into effect since May 1, 2011. The rate shall be revised at least once in every two years, and it was increased from $28 per hour to $30 per hour with effect from May 1, 2013. It was further revised to $32.5 per hour with effect from May 1, 2015.

The minimum wage applies to all employees, full-time or part-time. Employees with disabilities enjoy the same protection. In order to strike a balance between providing wage protection to disabled persons and safeguarding their employment opportunities, they have the right to invoke a productivity assessment, so that their wages can be linked to their productivities.

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19 The only exception is the employment of foreign domestic helpers, who are subject to a statutory minimum. An employer convicted of paying below this wage floor is liable to a fine and imprisonment.

20 The right to invoke assessment is entirely vested in the disabilities employees but not the employers.
There are a few exceptions to the minimum wage law. For instance, domestic workers who live free of charge in their employer’s residence are not covered. There is a period of exempt student employment for student interns as well.21

5.1. Basic Facts of Low-income Workers in Hong Kong

What are the socio-economic characteristics of low-income workers? For the ease of discussion, let us state a few definitions:

- Low-paid employees are employees earning hourly wage within the lowest 10% of the wage distribution;

- Low paying sectors (LPS) are sectors with a relatively high proportion of low-paid employees.

- Under this definition, low-paid employees were earning less than $29.3 per hour in May to June 2011, when the statutory minimum wage had just taken effect. During this period there were 279 400 low-paid employees, amounting to about 7.5% of the labour force. 64.6% of the low-paid employees were minimum wage earners (i.e. with hourly wage at $28).

- What are the features of a typical low-paid employee?

  - Most low-paid employees were females, with lower educational attainment, young (aged 15 to 24), or middle-aged/elderly employees (aged 45 and above).22 In terms of tasks, 90.1% of the low-paid employees were elementary workers, and service and sales workers.

21 See footnote 1.

22 To be precise, 61.4% of low-paid employees were females, 72.2% were workers with lower educational attainment (secondary 3 and below). In terms of age, 10.8% were aged 15 to 24, 61.9% were aged 45 and above.
Which sectors were hiring more low-paid employees?

The Minimum Wage Commission has identified four low paying sectors (LPS), including retail, restaurants, estate management, security & cleaning services, and other LPS. The proportion of low-paid employees in these four LPSs as a whole was 29.8% (see Table 5-1).

<table>
<thead>
<tr>
<th>Low-paying sector</th>
<th>Proportion of low-paid employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail</td>
<td>17.4%</td>
</tr>
<tr>
<td>Restaurants</td>
<td>24.3%</td>
</tr>
<tr>
<td>Estate management, security &amp; cleaning services</td>
<td>52.3%</td>
</tr>
<tr>
<td>Other LPS</td>
<td>23.7%</td>
</tr>
<tr>
<td>All LPSs</td>
<td>29.8%</td>
</tr>
</tbody>
</table>

It is worth noting that some sub-sectors among the 4 LPSs had particularly high proportions of low-paid employees. They were: security services (64.3%), cleaning services (63.4%), real estate maintenance management (45.5%), fast food cafe (43.5%), and elderly homes (36.4%).

LPS has another striking feature that 82.8% of the low-paid employees were engaged in LPS, though the number of employees in LPS accounted for 27.7% of all employees in Hong Kong.
5.2. Different Opinions about Employment Effect

Academics and opinion leaders in Hong Kong have vastly different views on the employment effect of minimum wage. Here are some of the more vocal ones:

- **Francis Lui (雷鼎鳴)**
  - It is estimated that the minimum wage law will cause 50,000 to 100,000 job losses.

- **Joseph Lin, Richard Wong**
  - The finding of a positive correlation between minimum wage and employment has already been rebutted more recent research.

- **Richard Wong (王于漸)**
  - (The rise in employment) was due to the increase in demand for low-skilled labour in Hong Kong.

- **Lam Hang Chi (林行止)**
  - I really doubt if minimum wage causes more unemployment. Even so, such negative impact is relatively mild and insignificant when comparing with the benefits brought by the legislation.

- **Wong H. and Ye S. (2012)**
  - Survey results show that there is a positive employment effect for newly arrived women and CSSA (Comprehensive Social Security Assistance) recipients. But the employment effect is negative for people with disabilities.
5.3. Different Opinions about Other Issues

- Joseph Lin, Richard Wong
  - Minimum wage legislation will inevitably benefit large corporations but harm the SMEs.

- Richard Wong
  - According to the General Household Survey, only a small percentage of minimum wage workers were from a low-income family, indicating the ineffectiveness of such policy in helping the poor.

- Wong H. and Ye S. (2012)
  - There was a general increase in satisfaction in jobs and quality of life among low-income workers and other vulnerable workers (when the minimum wage took effect).

- Lam Hang Chi
  - As a journalist, I have witnessed the excessive greed of some capitalists. So a mild level of minimum wage is a good way, though not the best, to protect the low-income labour.
  - Indexation can be an efficient way to adjust the minimum wage level.

- Steve Chiu
  - If the objective of the minimum wage legislation is extended to ‘strengthening the power of the disadvantaged groups’, or other unquantifiable factors, enacting minimum wage law can be a good thing.
● Wong Hung

◆ The positive effects brought by minimum wage legislation can be maximized with the supplement of other social welfare policies.

● Joseph Lin, Richard Wong

◆ There are better labour protection policies, such as the negative tax income. Meanwhile, a minimum wage level after discussions is far too mild to achieve its purpose of helping the low-income families.
6. Negative Income Tax: An Alternative to Minimum Wage?

Under a negative income tax (abbreviated NIT) system, people earning below a certain amount would receive supplemental pay from the government instead of paying taxes.

NIT is essentially a system that provides a basic income to each citizen. Milton Friedman (1962) proposed NIT to address the issue of low incomes.

Ideally speaking, NIT covers not only low-income workers, but also citizens without any income at all. In reality, NIT implementation is very rare and limited in scope. Both the US and the UK have a simple variant that covers low-income workers in the form of tax credits.23

What are the advantages of NIT?

- In contrast to a minimum wage, NIT does not interrupt the market of low-income workers. In particular, NIT would not cause unemployment, which is generally believed to be a consequence of a wage floor.

- NIT is intended to be a single system that functions not only as a taxation system, but also fulfill the social goal of ensuring a minimum level of income for all. With NIT in place, a government can eliminate other welfare and assistance programs (such as minimum wage), thus reducing administrative overhead.

- It brings more social harmony and less economic fluctuations. As consumers can enjoy a minimum income, they won’t be overly pessimistic even in times of recession.

23 In Hong Kong, the government is planning to implement a low-income working family allowance scheme in 2015 (2014 Policy Address, p.52). While it provides a basic income to recipients, it is granted on a family basis, and coverage is limited to low-income workers.
What are the shortcomings of NIT?

Like other income-based tax systems, NIT requires reporting and supervision to avoid abuses. That means a significant amount of expenses of policing fraud and administration costs. On top of these costs, NIT might also reduce workers’ incentive to work and produce a continuing burden to the government budget.

Supporters of NIT are often skeptical of minimum wage. NIT is regarded as a better way to address the poverty issue (Wong 2011, 2012), a more efficient way to help workers (劉展灝), and a policy without labour market distortions (Wong 2011, 2012; 練乙錚). Besides, minimum wage is deemed not enough to help workers (Lee Cheuk Yan; Wong Hung). Nevertheless, NIT has its own flaw. It will need a dramatic change of the whole taxation system, and there are not many foreign examples to follow. (Chiu, 2010)

Given the complex nature of most countries’ current tax systems, NIT implementation would require a complete revamp of taxation laws, welfare system, and the underlying philosophy. This is politically infeasible.
7. Policy Evaluation

The statutory minimum wage shall be revised at least once in every two years. The first revision took effect from May 1, 2013, with the wage rate rising from HK$28 to HK$30 and further to HK$32.5 per hour. What is the employment effect of a minimum wage increase, which is likely to occur once every two years?

Using the demand-and-supply framework, let us assume the increase leads to a wage rate higher than the free-market equilibrium wage. In economics terms, this is a binding wage floor (see figure 2-4). Will there be more unemployment? It depends on the economic situation. There are two scenarios, namely economic expansion and recession.

Scenario 1: Economic expansion

- What happens to the demand for and supply of unskilled workers? Facing a stronger demand for goods and services in good times, firms will hire more workers and the demand for labour increase. The supply is likely to remain unchanged.\(^{24}\)

- Thus, a binding wage floor will create unemployment, but a strong economy generates higher demand for labour, offsetting the negative employment effect by a minimum wage increase. The net result is no perceptible change on employment. This is likely to be the case when the minimum wage was increased in 2013.

\(^{24}\) It can be argued that workers may value leisure more in times of economic expansion, when they are confident that they can find a job easily. In this case, supply will decrease, but the amount of decrease is expected to be small.
Scenario 2: Recession

As in Scenario 1, a binding wage floor will create unemployment, but the economy is in recession this time. The demand for labour decreases because of a weaker demand for goods and services. The negative employment effect by a higher minimum wage will be “magnified”. The net result is a negative employment effect, and more unemployment following a minimum wage adjustment.
8. Discussion questions

Question 1

In Hong Kong, the demand for pharmaceutical products has steadily increased in recent years. This is widely regarded as a result of the individual visit scheme, which began on July 28, 2003.

i. Suppose the price of pharmaceutical products rises, will there be a change in demand for, or supply of sales persons in this business?

ii. What is the effect on the equilibrium wage and quantity of labour?

Question 2

Figure 8-1 below shows the labour market situation of Hong Kong during the 3-month period of May to July in 2009.25

i. Name the groups represented by (a), (b) and (c).

ii. Calculate the unemployment rate.

iii. Compute the labour force participation rate.

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25 The data are reprinted from a press release by the Census and Statistics Department (HKSAR Government, Census and Statistics Department, 2009). They are provisional figures and not seasonally adjusted yet.
Question 3

The US economy suffered from the financial tsunami in September 2008. The unemployment rate has increased quickly and reached its peak about a year later. Go to the website of the Bureau of Labour Statistics (http://www.bls.gov/bls/unemployment.htm) for the monthly unemployment rate in the US.

i. Find the US unemployment rate in January and December 2008. How much was the increase during this period?

ii. What is the highest US unemployment rate since the financial tsunami broke out in September 2008? How was it different from one year ago?
Question 4

The Labour Department has compiled a list of frequently asked questions regarding the coverage of statutory minimum wage (SMW) in Hong Kong (http://www.labour.gov.hk/eng/faq/smw_coverage.htm). Visit the website and answer the following questions.

i. Does SMW cover hourly-rated workers only?

ii. Does SMW apply to student interns?

iii. Does SMW apply to employees with disabilities? If so, would SMW hurt their employment opportunities?
**Suggested answer**

**Question 1**

i. If the product price goes up, the demand for labour will shift to the right. Pharmaceutical firms increase their demand for sales persons as they find out that the extra revenue (VMPL) brought by an extra worker has increased.

ii. Both the equilibrium wage and quantity of labour increase following a rightward shift in demand for labour.

**Question 2**

i. Groups (a) and (b) represent the young and institutionalized, and the labour force respectively. Group (c) is a bit tricky, it includes (a) and “out of the labour force”.

ii. The unemployment rate = 213,800 / 3,719,000 = 5.7%

iii. We don’t have enough information to find the answer. To calculate the labour force participation rate, we need to know how many people are “out of the labour force”, which is not available in this question.

**Question 3**

i. The table below lists the US unemployment rate in January and December 2008. During this period, the unemployment rate rose by 2.3 percentage points.

<table>
<thead>
<tr>
<th>Year</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>5.0</td>
<td>4.9</td>
<td>5.1</td>
<td>5.0</td>
<td>5.4</td>
<td>5.6</td>
<td>5.8</td>
<td>6.1</td>
<td>6.1</td>
<td>6.5</td>
<td>6.8</td>
<td>7.3</td>
</tr>
</tbody>
</table>

ii. In October 2009, the US unemployment rate reached the post-financial-tsunami peak of 10.0%. It was 6.5% a year ago, and there existed an increase of 3.5 percentage points.
Question 4

i. SMW applies to all employees, whether they are monthly-rated, weekly-rated, daily-rated, hourly-rated, piece-rated, permanent, casual, full-time, part-time or other employees. There are only a few exemptions such as student interns and live-in domestic workers.

ii. SMW does not apply to student interns.

iii. SMW applies to employees with disabilities and able-bodied employees alike. Employees with disabilities are also entitled to wages at not lower than the SMW rate.

In order to strike a balance between wage protection and employment opportunities, employees with disabilities can choose to invoke a productivity assessment procedure. Under this special arrangement, employees whose productivity may be impaired by their disabilities can be assessed and determined if they should be remunerated at not lower than the SMW level or at a rate commensurate with their productivity. To avoid any abuses, the right to invoke assessment is entirely vested in the employees with disabilities but not the employers.
9. References


**Commentary Articles**

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