Unit 9

LABOUR MARKET

Microeconomics
Notes Book 3

Syllabus 2023 – 25

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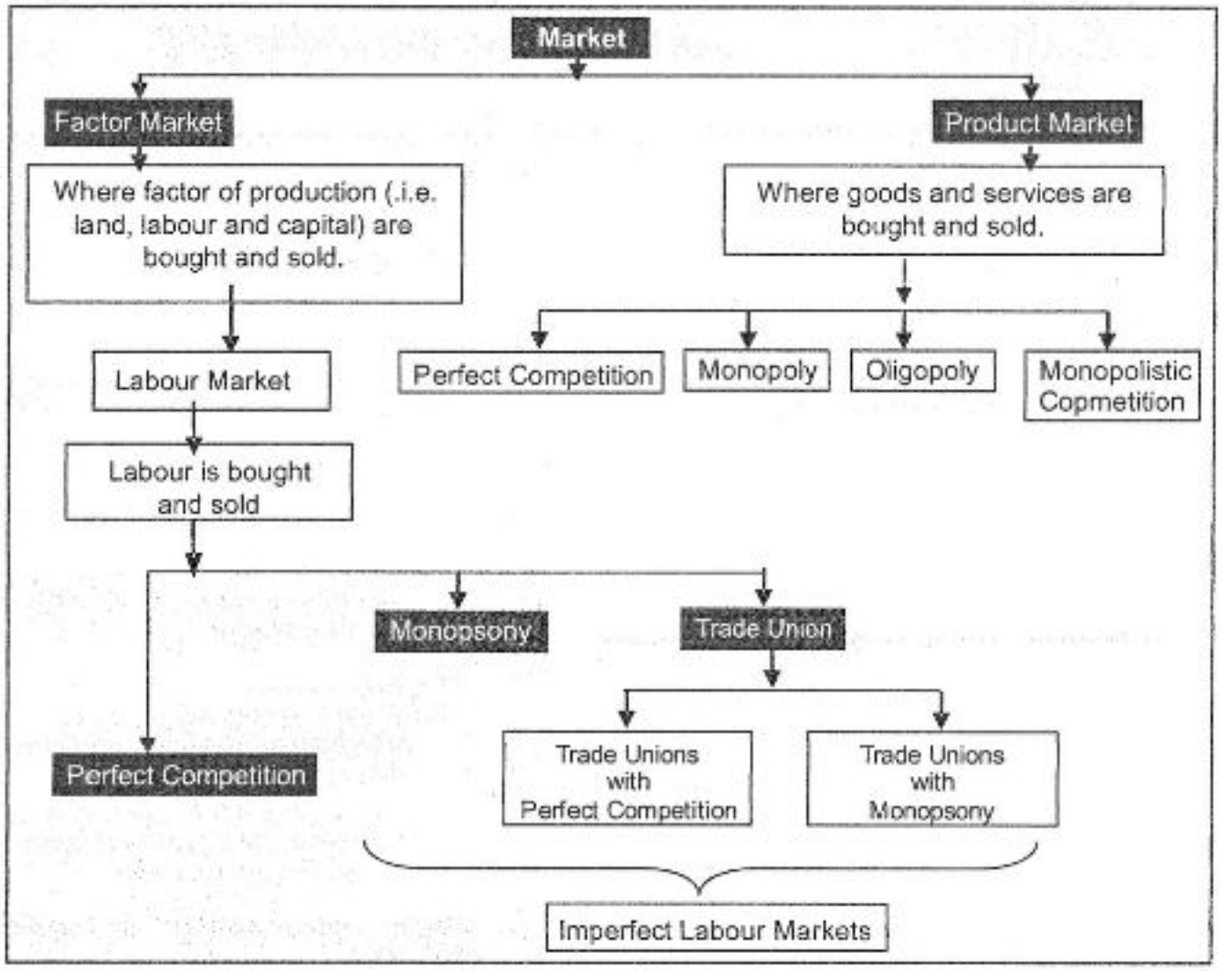
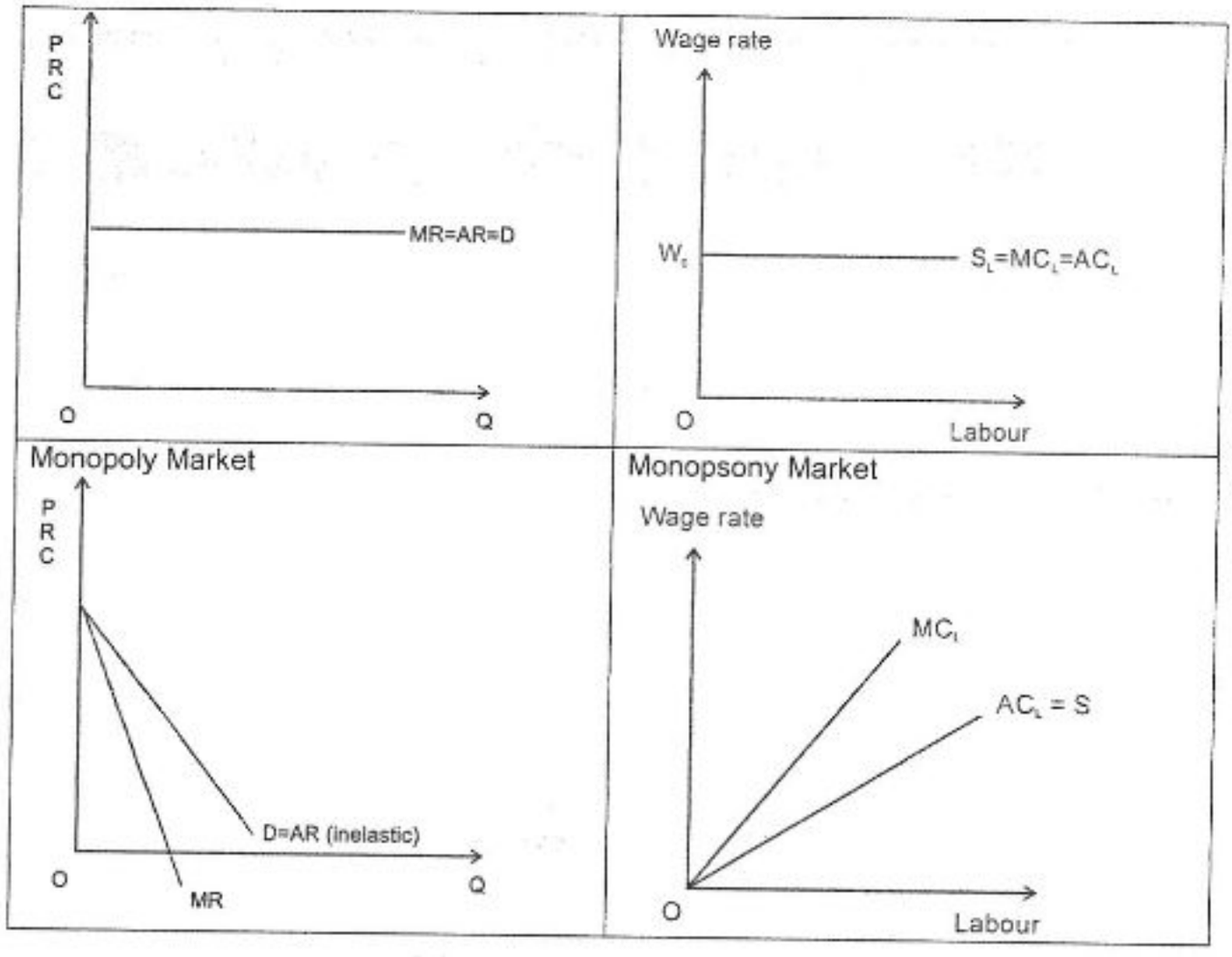
Unit 9: Labour Market



When looking at the market for labour, it is useful to make a distinction similar to that made in goods markets—i.e., the distinction between perfect and imperfect markets. We can gain a clearer understanding of the effects of power, or lack of it, in the labour market. Although, in practice, few labour markets are completely perfect, many do at least approximate to it.

Change of role from product market to labour market

Product Markets	Labour Market
Firm is seller	Firm is buyer
price	Wage rate
Revenue	Cost
Price taker or price maker	Wage taker or wage setter
Own demand	Derived demand
Perfect competition	Perfect competition



8.1: THE SUPPLY CURVE

a. Supply Curve for an Individual Worker

A supply curve shows the quantity that will be supplied to the market at any given price. For an individual worker, the "quantity supplied" is the number of hours worked over a time period, such as a year. Any change in real wage rates will have two effects:

- Income Effect
- Substitution Effect

Income effect

- The income effect is defined as the change in the willingness of a worker to work due to a change in his or her real income (caused by changes in his or her wage).
- However, work is arguably an inferior good. The higher the income, the fewer hours an individual will wish to work. For instance, it is pointless to be able to buy tennis or squash equipment if you don't have the time to play. Earning more money has little use if you cannot take the time off to enjoy it.
- So the income effect of work tends to be negative for most individuals. The higher the income, the less the work and the more leisure time is demanded.

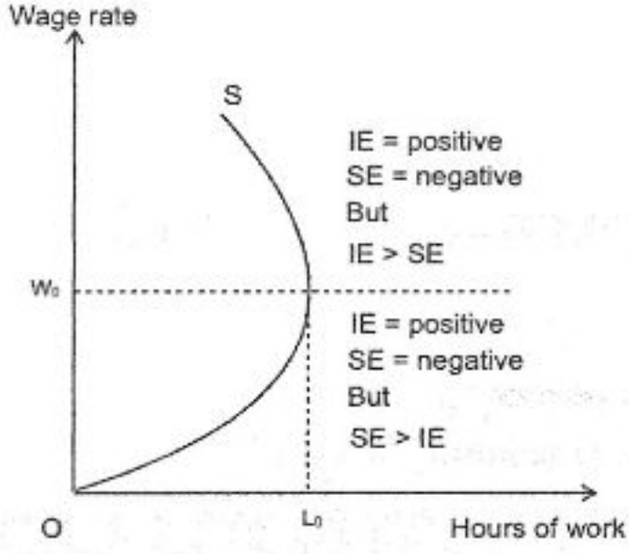
Substitution effect

- For an individual worker, the cost incurred for doing work is the leisure he or she sacrifices. Similarly, the cost incurred by the worker for choosing leisure time is the wage that he or she could have earned by working instead.

- The substitution effect of a wage change may be defined as the change in the willingness of a worker to work due to a relative change in the prices of work and leisure.
- An increase in the real wage rate means that the reward for working increases. For instance, let us assume that a worker is initially paid \$10 per hour. If his wage rises to \$20per hour, the wages earned by one hour's worth of work earnings (i.e., \$10) can now be sacrificed for half an hour of leisure.
- Leisure is now more relatively expensive. When the wage rate changes from \$10 per hour to \$20 per hour, the worker now has to sacrifice \$20 for benefiting from an hour's worth of leisure.
- Therefore, a worker will substitute work for leisure if the rate of pay increases, and this increase in his willingness to work due to the relative cheapness of work is the substitution effect of the wage increase.

Backward bending supply curve

Between wage rates O and W_0, a rise in real wage rates will lead to an increase in working hours supplied. However, any increases in the wage rate beyond this will lead to a desire for shorter working hours. This can be shown in the diagram as follows.



The backward-bending supply curve occurs because of the interaction of the income and substitution effects.

- **At wage levels below W_0**, the positive substitution effect outweighs the negative income effect of a wage rise. Hence, a rise in the pay of these workers leads to an increase in the number of hours worked.
- **At wage levels above W_0**, the positive substitution effect of a wage increase is exceeded by a negative income effect. Hence, the worker will choose to work for fewer hours.

Past Paper Questions

M/J 16/P43/Q4/a

Some workers are paid a basic rate and then paid additional commission based on the number of products sold. In 2014, a European court ruled that a worker's holiday pay should be based on total pay including commissions and not just on the basic rate.

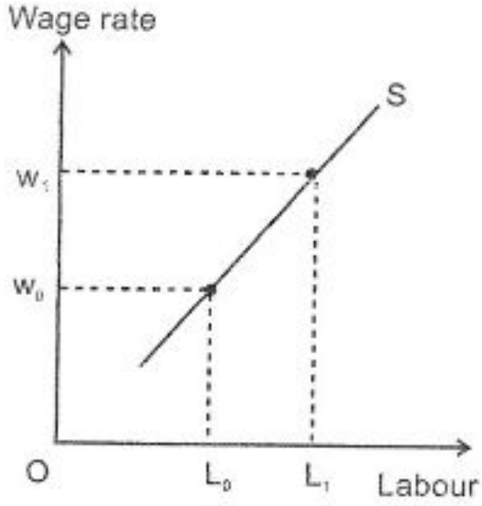
Explain, according to economic analysis, the shape of a worker's supply curve and suggest how this court judgement might affect the number of hours worked. **[20]**

M/J 10/P42/Q4/a

Analyse whether an increase in the wage rate always leads to an increase in the number of hours worked by an individual. **[10]**

b. The Market Supply Curve for Labour

The market supply curve of labour in a perfect market can be derived through the horizontal summation of all individuals' labour supply curves of both existing and new labour.



Although the supply curve of labour for individuals is backward bending, the shape of the market supply of labour is only upward sloping. This is because an industry can increase the number of hours worked by its labour force in two ways:

- It can increase the number of hours worked by its **existing labour** force
- It can recruit **new workers**

A rise in real wage rates, all other things being equal, may or may not increase the supply of labour by individual workers in the industry. However, it is likely to attract new workers into the industry. These new workers may be from other industries or they may be workers who previously did not hold a job, such as a house person or the unemployed. Therefore, the supply curve of labour for an industry is likely to be upward sloping—the ability of firms to recruit new workers outweighing any possible discouraging effects on existing workers. The higher the industry real wage rate, the more workers will want to enter that particular industry.

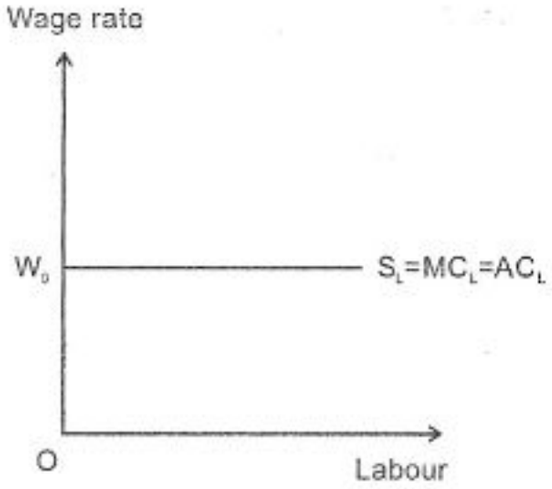
c. Supply of labour for a perfectly competitive firm:

Under a perfectly competitive labour market:

- There are **many firms(buyers of labour)**, so that any single firm purchases only a small proportion of total labour and is unable to influence the market wage rate.
- Firms in a perfectly competitive labour market are **wage-takers** and, at a given wage rate, they can employ as many units of labour as they want.

Consider the following example:

Units of labour employed (L)	Market wage rate per hour (W)	Total factor cost (TC_L = W × L)	Marginal factor cost ($MC_L = \frac{\Delta TC_L}{\Delta L}$)	Average factor cost ($AC_L = \frac{TC_L}{L}$)
1	$5	$5	$5	$5
2	$5	$10	$5	$5
3	$5	$15	$5	$5
4	$5	$20	$5	$5

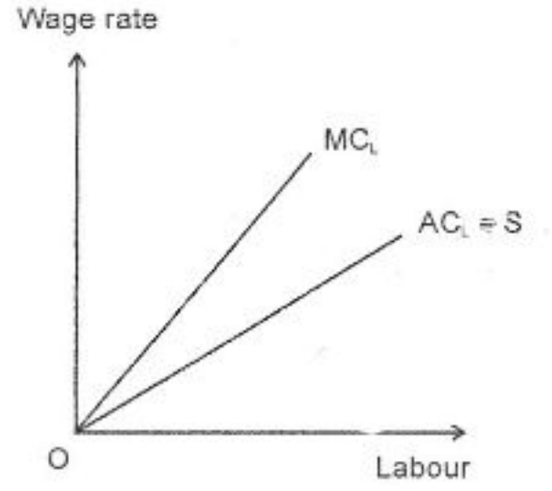


Therefore, the supply of labour to a single firm in a perfectly competitive labour market is **perfectly elastic**.

d. Supply of labour in a monopsony

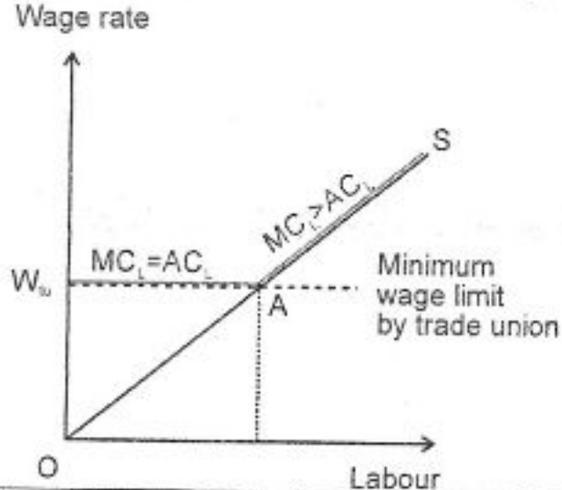
- A monopsonist firm is a single dominant buyer of a particular factor in the market.
- Since, in this case, the firm is the market for the factor, the supply of the factor service to the monopsonist is identical to its supply to the market. Thus, the supply curve to the firm is positively sloping upward from left to right. The firm can employ more units of the factor service by offering a higher price per unit.
- The MC_L curve to this AC_L curve will also be sloping upward.
- The MC_L curve will be above the AC_L curve throughout its length and will increase at a rate double that of AC_L. The reason for this is that the wage rate has to be raised to attract extra workers. The MC_L curve will thus be the new higher wage paid to the new employee plus the a rise in total wages for existing employees—after all, they will be paid at a higher wage rate too.
- $AC_L = \frac{TC_L}{L} = \frac{W \times L}{L} = W$ = Wage rate
- The AC_L curve also represents supply.

Units of labour (L)	Wage rate (W)	Total labour cost ($TC_L = W \times L$)	MC_L	AC_L
1	\$5	\$5	\$5	\$5
2	\$6	\$12	\$7	\$6
3	\$7	\$21	\$9	\$7
4	\$8	\$32	\$11	\$8



e. Supply of labour with a trade union:

- A trade union is an organization formed by workers who make a collective effort to further their own interests.
- Within an organization, an individual worker is likely to be in a relatively weak bargaining position compared to his or her employer. The employer possesses far great knowledge about everything, from safety standards to the profitability of the firm, than an individual worker. Moreover, the loss of an individual worker to a firm is likely to be far less significant than the loss of his or her job to the employee. So workers have organized themselves in unions to bargain collectively. Instead of each worker bargaining with the firm on a wide range of wage and employment issues, workers elect or appoint their union leader.
- Trade unions usually raise wage rates by setting a minimum wage limit in the market.
- The supply of labour will be unchanged for the range over and above the minimum wage limit, but will become horizontal at the minimum wage limit.



	Supply Curve	MC_L & AC_L
Before Trade Union	OS	$MC_L > AC_L$ throughout the supply curve.
After Trade Union	$W_{tu}AS$	$MC_L = AC_L$ for "$W_{tu}A$" part of the supply curve. $MC_L > AC_L$ for "AS" part of the supply curve.

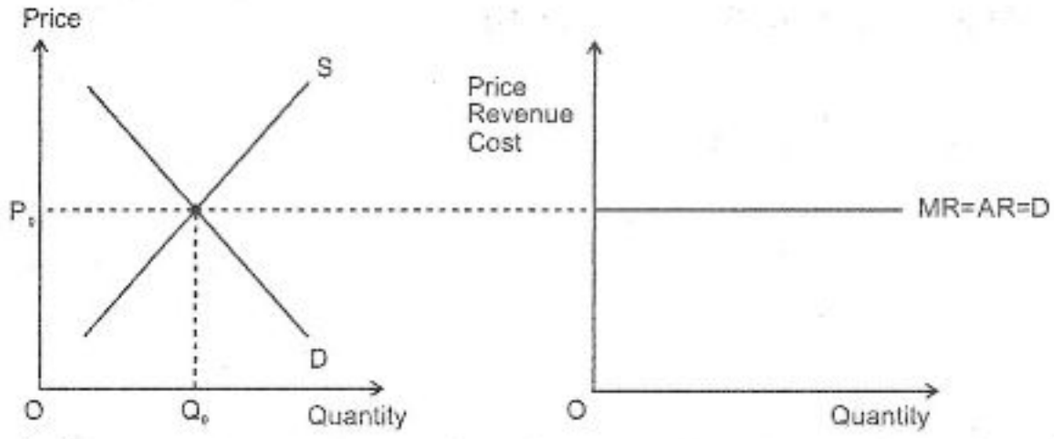
8.2: DEMAND FOR LABOUR OR MARGINAL REVENUE PRODUCT (MRP) THEORY:

Assumptions:

1. All units of a factor service are **homogenous**.
2. There **is perfect mobility of factors**, both with regard to occupational and geographical mobility.
3. There is **perfect competition** in the factor market and the commodity market.
4. Entrepreneurs are motivated by **profit maximization**.
5. The theory is based on the **law of diminishing returns**.

Derivation of MRP or demand for labour

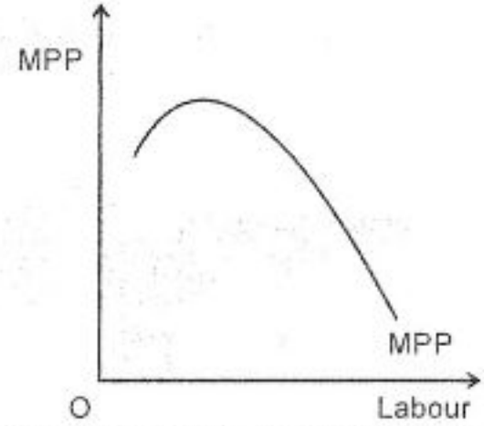
- **Marginal revenue** is the revenue gained by the firm from selling an extra unit of output produced.
- $MR = \frac{\Delta TR}{\Delta Q}$



- In perfectly competitive product markets firms are price-takers and, therefore, for a perfectly competitive firm in a product market, MR = AR = P = D—as shown in the diagram above.
- **Marginal physical product** is the extra output produced by employing an additional unit of labour.

$$MPP = MP = \frac{\Delta TP}{\Delta L}$$

- According to the law of diminishing returns to a variable factor, a firm's marginal output will start declining if it combines more and more variable factors (labour) to a fixed quantity of fixed factors.

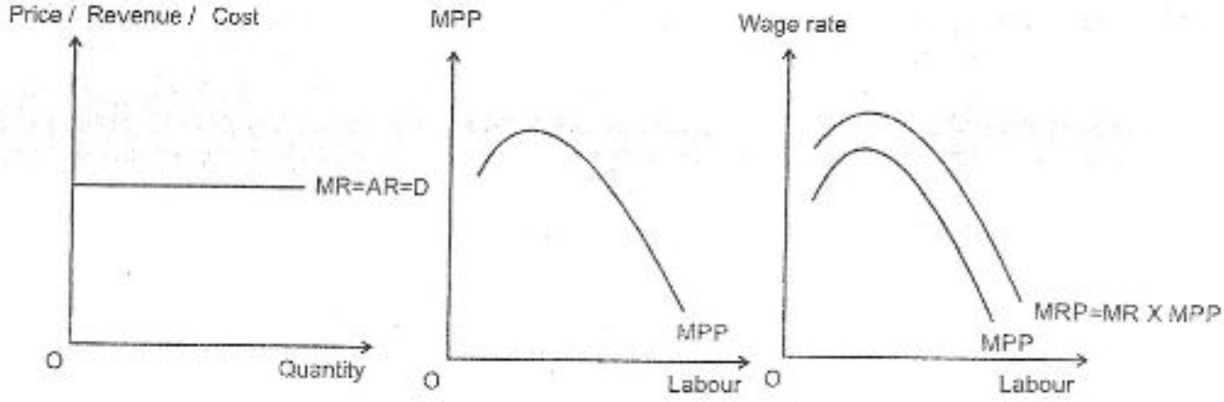


- **Marginal revenue product** is the revenue contributed by an extra unit of labour hired. It is found by multiplying the marginal physical product with marginal revenue.
-

$$MRP = MPP \times MR$$

- If the last worker produces 100 units of output per week (MPP_L), and if the firm earns an extra $2 for each additional unit sold (MR), then the worker's MRP is $200. This extra worker is adding $200 to the firm's revenue.

- Law of diminishing returns to a variable factor is the reason why the MRP curve is downward sloping. Multiplying downward sloping MPP curve with constant MR will cause a parallel shift from MPP to PRP as shown below:



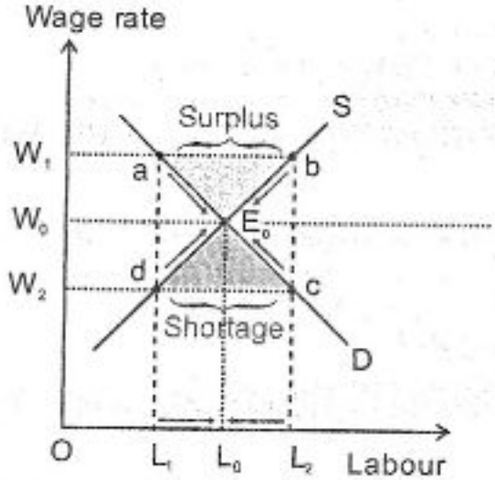
8.3: WAGE DETERMINATION IN PERFECT MARKET

a. Assumptions:

1. Everyone is a wage-taker.
2. Freedom of entry.
3. Perfect Knowledge.
4. Homogenous labour.
5. The law of diminishing returns is applicable.
6. Perfect competition in both product and labour markets.

b. Wage rate determination in a perfectly competitive industry

The diagram below shows wage determination in the case of a perfect labour market. The equilibrium wage rate is W_0, which is where demand is equal to supply.



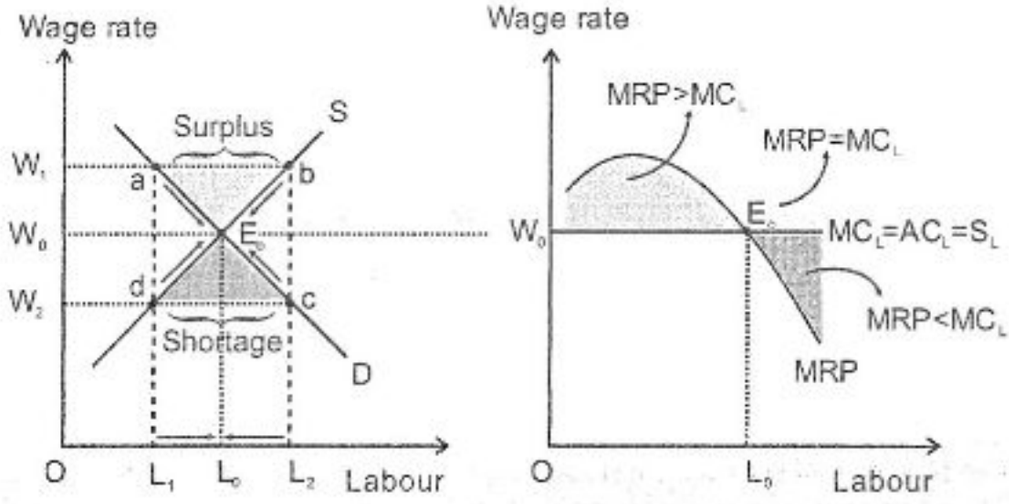
If the wage is W_1 as shown in the above diagram, the supply of labour would be more than its demand, creating a surplus. In this situation a downward pressure on the wage rate will establish the equilibrium at W_0. Similarly, if the wage rate is at W_2, the demand for labour will be more than its supply, creating a shortage. An upward pressure will then restore equilibrium to W_0.

c. Wage rate determination in a perfectly competitive firm

In the goods market, the firm will maximize profits where the marginal cost of producing an extra unit of a good is equal to the marginal revenue from selling it (MC = MR).

In the labour market, the firm will maximize profits where the marginal cost of employing an extra worker (MC_L) equates the marginal revenue that the worker's output earns for the firm (MRP).

If an extra worker adds more to the firm's revenue than to its costs, the firm's profits will increase; it will be worth employing that worker as shown in the diagram below between 0 and L_0. But, as more workers are employed, diminishing returns will set in. Each extra worker will produce less than the previous one, and, thus, earn less revenue for the firm. Eventually, the marginal revenue from extra workers will fall to the level of their marginal cost shown by labour above L_0 in the rightward diagram At the point E_0 and employment L_0, the firm will stop employing extra workers and total profit is maximized.



d. The limitations of MRP theory:

The marginal productivity theory of distribution has been criticized due to its unrealistic assumptions.

1. All units of a factor are not homogenous.
2. Factors are not perfectly mobile.
3. Perfect competition does not exist in the real world.
4. Profit motive is not the main motive.
5. Marginal revenue and marginal product cannot be calculated.

Conclusion

We can conclude that the marginal productivity theory is not an adequate explanation of the determination of the pricing of factor services. It simply states the demand side of factor-pricing and, therefore, is one-sided. It operates under the many restrictive assumptions of perfect competition and is, thus, unrealistic.

Past paper questions

MAR 22/P42/Q4/a

A profit maximising firm operating in a perfectly competitive labour market might decide to increase the number of workers it employs but it will not choose to increase its workers' wage rates.

Discuss the extent to which you agree with this statement. **[20]**

MAR 20/P42/Q5/a

How does economic analysis explain the level of wage rates in a perfectly competitive labour market? **20]**

MAR 18/P42/Q4/a

In 2016, a country's largest yacht builder said it would have to make 350 people redundant. The company, which builds luxury yachts, said demand had decreased in the recession.

Explain, with the help of a diagram, how this situation could be incorporated into the marginal revenue productivity theory of wage and employment determination. **[20]**

O/N 17/P41/Q5/a

Explain the relationship in a perfect market between a firm's demand for labour and the wage rate offered. **[20]**

8.4: WAGE DETERMINATION IN IMPERFECT MARKETS

a. Monopsony

In the real world, many firms have the power to influence wage rates—they are not wage-takers. This is one of the major types of labour market 'imperfections'.
When the firm is the **only employer** of a particular type of labour, it is known as amonopsony. The post office is a monopsony employer of postal workers. Another example is when a factory is the only employer of certain types of labour in that district. It, therefore, has local monopsony power.
Monopsonists are 'wage setters,' not 'wage-takers'. Thus, a large employer in a small town may have considerable power to resist wage increases or even to force wage rates down.

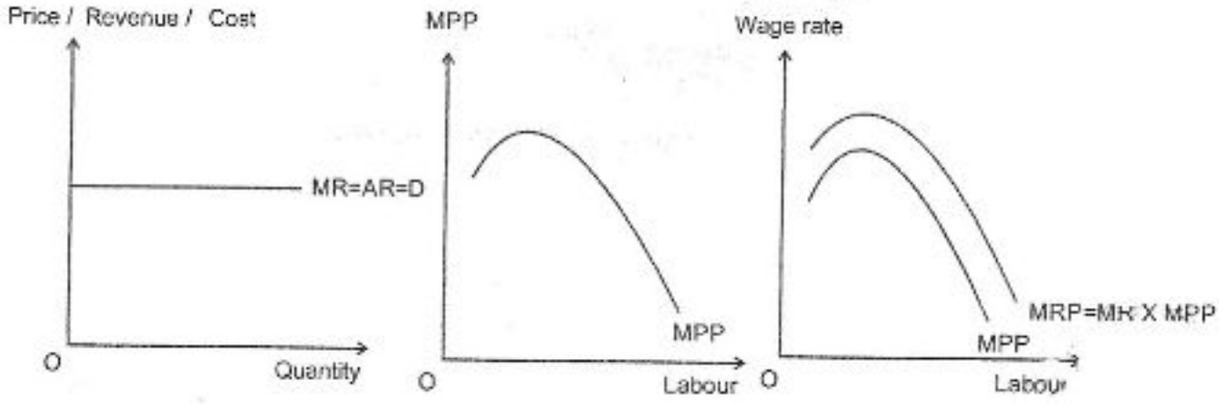
1. Demand for labor by a monopsony

The demand for labour by a monopsonist depends on the product market structure within which it operates. If a monopsonist is in a perfectly competitive product market and is a price-taker, then:

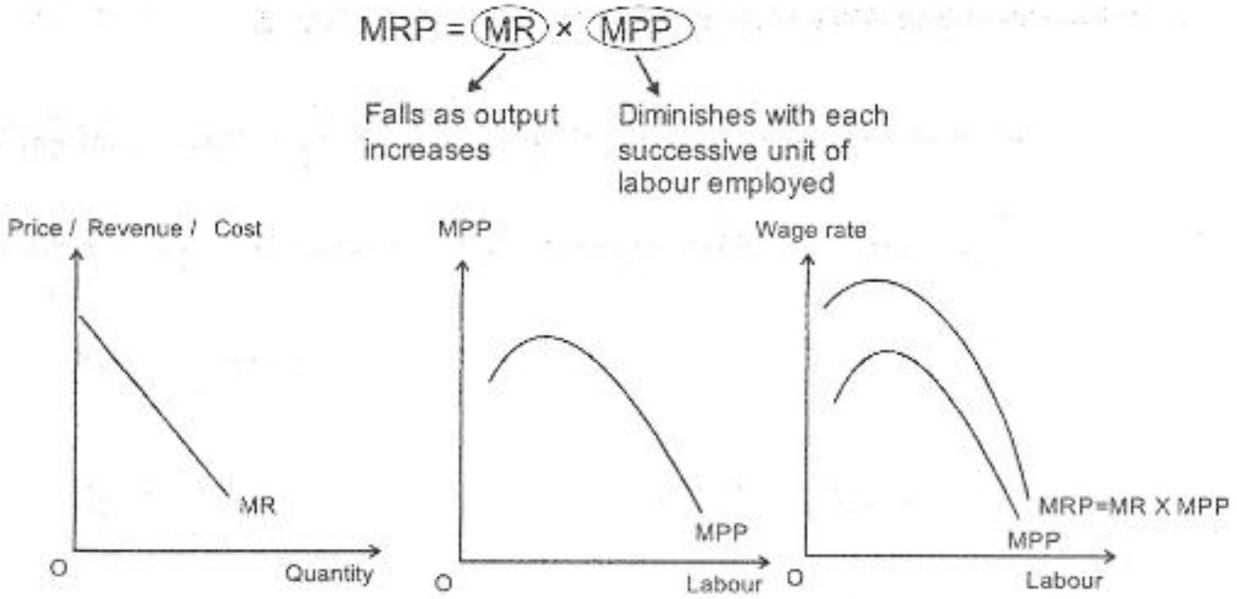
$$\text{Demand for labour} = MRP_L = P \times MPP$$

The MRP_L curve for a firm operating within a perfectly competitive product market will be downward-sloping because of the law of diminishing returns.

MRP = (MR) × (MPP)
- MR: Constant
- MPP: Diminishes with each successive unit of labour employed



However, if a monopsonist is operating in imperfect competition in the product market (such as in
monopolistic competition, an oligopoly, or in a monopoly), its MRP curve will slope downwards because of two reasons: (1) The law of diminishing returns to a variable factor and (2) the falling MR as output increases.
Under imperfect product market both the MR and AR curves are downward sloping, therefore:



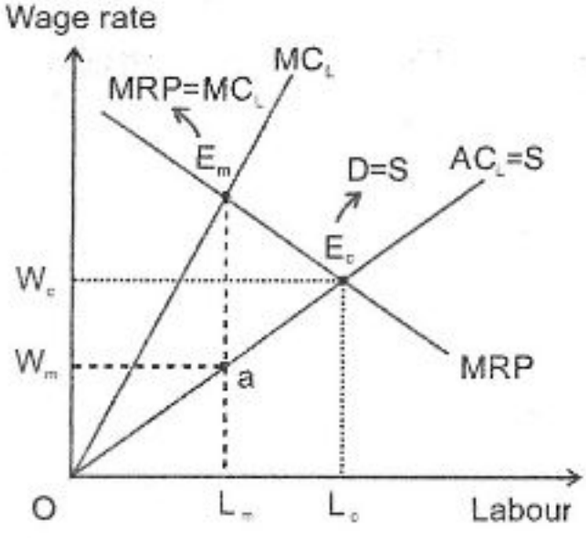
In both cases, as a monoposonist employs more labour, its MRP falls.However, it will be more wage inelastic if monopsonist operates in imperfect product market.

Past paper questions

M/J 18/P42/Q4/a

Explain how a firm derives its demand curve for labour and consider how the structure of the product market in which the firm operates affects the firm's demand curve for labour. **[20]**

2. Wage and employment determination in a monopsony



This profit-maximizing employment of labour would be at L_m, where MCL = MRP_L. The wage (found from the AC_L curve) would thus be W_m.

If this had been a perfectly competitive labour market, employment would have been at a higher level L_c, with the wage rate at a higher level W_c, where W =MRP_L. What in effect the monopsonist is doing, therefore, the wage rate down by restricting the number of workers employed.

2. Trade union

A trade union is an organization of workers who seek through collective bargaining with employers to protect their own interests.

Within an organization, an individual worker is likely to be in a relatively weak bargaining position compared to his or her employer. Compared to an individual worker, the employer possesses far greater knowledge about everything, from safety standards to the profitability of the firm. Moreover, the loss of an individual worker is likely to be far less significant to a firm than to the employee who was made redundant. So workers have organized themselves in unions to bargain collectively. Instead of each individual worker bargaining with the firm on a wide range of wage and employment issues, workers elect or appoint their union leader.

1. Aims of the trade unions

1. **To demand higher wages for its members:** This is the main objective of the organization—to fight for higher wages, especially when the cost of living in an economy increases. Trade unions usually raise wage rates by setting a minimum wage limit in the market.

2. **To improve working conditions for employees:** An example of this could be improving the conditions of the workplace to ensure the safety and well-being of the employees. Another example is reducing the noise level at the workplace to ensure that the workers are provided comfort when working, and also to protect their hearing.

3. **To demand better perks:** Examples of perks include: paid examination leave, transport allowance, free annual medical check- ups, etc. In other words, the trade union ensures that employers give a higher priority to the welfare of workers.

4. **To provide recreational facilities for the employees:** Trade unions may have a building of their own, with facilities like swimming pools, tennis courts, sports, etc.

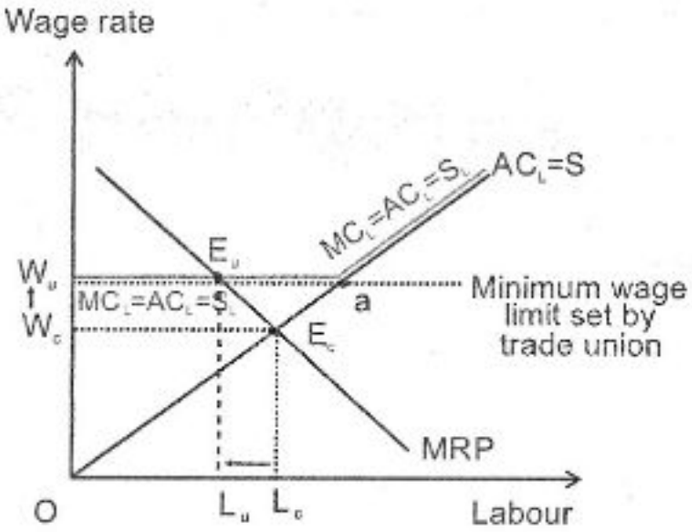
5. **To provide training courses for personal development:** Trade unions may conduct personal development and vocational courses, such as those in computer skills, basic cooking classes, and even parenting classes for married couples.

6. **To ensure that members' interests are also represented at the national level:** Trade unions may take part in national day parades, marathons, and other national events where their members' interests can be represented.

2. Unions facing competitive employers

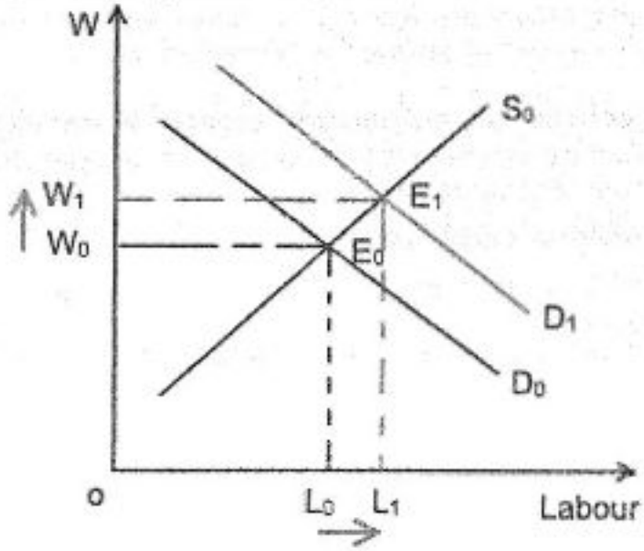
If the employers are producing under perfect or monopolistic competition, unions can raise wage rates, but only at the expense of employment. Firms are only earning normal profit; thus, if unions force up wages, then some firms will go bankrupt and leave the industry. Fewer workers will be employed. The fall in output will lead to higher prices. This will enable the remaining firms to pay a higher wage rate.

The diagram below shows the impact of a trade union entering a perfect labour market. Initially, the wage determined was W_c. After the union influences the market it sets a minimum wage rate W_u. In this case, the demand for labour is less than supply, creating an excess supply of workers in the market, as shown by the distance E_ua, who will be wishing to work in this industry but will not be available to find jobs for themselves.



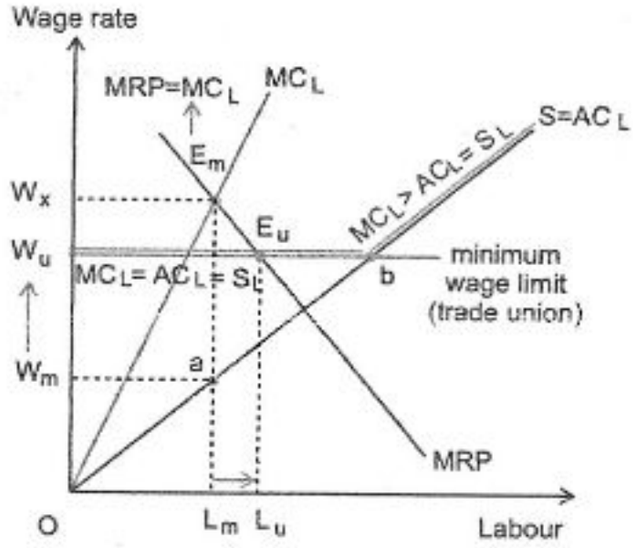
The union thus creates two disadvantages: It causes a loss of jobs because of pushing up the wage rate, and it is possible that the people who are unemployed might undercut the union wage (thereby causing union members to be made redundant in favor of the cheaper labour), unless the union can somehow prevent the firm from employing non-union members. In a competitive market, then, the union is faced with the choice between wages and jobs. Its actions will depend on its objectives.

Wage rates can be increased without a reduction in the level of employment only if, as a part of the bargain, the productivity of labour is increased. This is called a **productivity deal**. The MRP curve (demand curve) shifts to the right from D_0 to D_1, which consequently will increase the number of workers employed from W_0 to W_1.



3. Trade Unions vs. Monopsony Employers

Many trade unions operate in factor markets where there are monopsony employers. A sole seller of labour (the trade union) faces a sole buyer of labour (the monopsonist).



The figure shows the entry of a trade union to the industry. Assume that the trade union forces the wage rate up to OW_u. This produces a kinked supply curve W_ubS. The monopsonist cannot pay a wage lower than OW_u because of its union agreement. However, it is free to pay higher wage rates if it wishes to employ more than OL_u workers. This produces a kink in the marginal cost of labour to the firm. Up to OL_u, the marginal cost of the labour (MC_L) is the same as the union negotiated wage rate (W_u). The employer can hire an extra unit of labour at that wage rate. If it employs more than OL_u workers, the wage rate will rise, resulting in $MC_L > AC_L = S_L$. The monopsonist has a profit incentive to hire extra workers so long as the marginal revenue product of labour, shown by the demand curve, is greater than the marginal cost of labour. Hence it will employ OL_u workers and will establish equilibrium at E_u.

What this means is that the union can push the wagerate right up from W_m to W_u and the firm will still want to employ L_u. In other words, a wage rise can be obtained without a reduction in employment.

4. Advantage and disadvantages of trade unions

Disadvantage of trade union

Trade unions operating in competitive industries reduce employment levels to raise wage rates and therefore causes inefficiency.

Advantages of trade union

Most industries in the real world are **imperfectly competitive**. A trade union facing a monopsonist will redress the balance of power in the industry and lead to a level of employment and a wage rate which is nearer to the free market price of labour. It could well be that the presence of a trade union increases economic efficiency in an imperfectly competitive market. Hence the effect of trade unions on economic efficiency depends on the structure of markets in an economy.

The trade union deals with workers' problems and removes the need for the firm to **negotiate pay with each worker**. More importantly, it can be a good vehicle for **negotiating changes in working practices**. A firm may wish to implement changes which will lead to less pleasant working conditions for its workers. Perhaps it wishes to increase the speed of the assembly line or force workers to take a variety of tasks rather than just one. It may find it difficult to implement these changes on a non-unionized workforce because some workers may take unorganized industrial action or do their best to disrupt any changes being introduced. A union may help the firm to persuade workers that changes in working practices are in their own interest. The union will usually demand a price for this co-operation—higher wage rates for its members. But it still leads to an increase in economic efficiency because the firm is able to make higher profits whilst workers receive higher wage rates. According to this view, trade unions increase productivity in the economy.

5. The power of trade unions

The extent to which unions will succeed in pushing up wage rates depends on the power and militancy. It also depends on the power of the firms to resist, and on their ability to pay higher wages.
There is a variety of factors which make trade unions more or less powerful:

1. **The elasticity of demand for a firm's good:** If the demand for a firm's good is elastic, i.e., the change in the quantity demanded of a good is more than the change in its price, especially in the case of luxury goods, the trade union will be unsuccessful in demanding higher wages. Even if the producer lowers prices when the cost of production is reduced, the total revenue of the firm will still decrease due to the elastic demand for the product.

2. **The proportion of labour cost out of the total cost of production:** If labour cost is a major portion of total cost of production, the trade union will be unsuccessful in demanding higher wages as increase in wages will increase cost of production. Profits will be reduced when costs increase.

3. **Size, membership, and leadership of the trade union itself:** If the trade union is weak with a small membership and the leaders do not have the support of the members, it will be more difficult for the leaders to demand for higher wages.

4. **Economic conditions:** If the prevailing economic condition is poor, i.e., the economy is declining and economic growth is slow or negative, it will be more difficult for the trade union to demand higher wages.

5. **Availability of substitutes:** If labour can be substituted easily with capital or machinery for a particular job, the trade union will be less successful in demanding higher wages.

6. **Profitability of the employer:** A trade union is unlikely to be able to negotiate large wage increases with an employer on the verge of bankruptcy. It is likely to be in a stronger position with a highly profitable firm. This implies that trade unions will be stronger in monopolistic and oligopolistic industries, where firms are able to earn abnormal profit, than in perfectly competitive industries where only normal profit can be earned in the long-run.

7. **Militancy:** Unions are more likely to call for industrial actions if union members are militant. The more militant the union membership, the more costly a dispute is likely to be for an employer

Past Paper Questions

M/J 22/P41/Q2/a, M/J 22/P43/Q2/a
Discuss the costs and benefits of a trade union intervening to influence the wages of workers in a specific occupation. **[20]**

O/N 21/P41/Q3/b
'Monopsonist employers cause labour market failure while trade unions can solve this labour market failure.'
To what extent do you agree that this view is accurate? **[20]**

MAR 21/P42/Q4/b
'Trade unions can gain an increase in wage levels only at the expense of higher levels of unemployment.'
To what extent do you agree with this statement? **[20]**

O/N 20/P41/Q5/a
In some industries the wage rate is often omitted when a job is advertised.

Explain the role of the marginal revenue product in determining the wage rate in a perfectly competitive firm and consider whether the labour market is likely to be perfect or imperfect if the wage rate is omitted from an advertisement. **[20]**

O/N 20/P41/Q5/b

Discuss, with the aid of a diagram, whether it is possible for a trades union to increase its members' wage rate without reducing the level of employment. **[20]**

M/J 20/P41/Q5

After negotiation, the workers in an industry obtained from employers higher wage rates. The employers' spokesperson said 'the cost of the deal would have to be met through improved productivity or by reductions in other costs'.

Analyse whether this deal can be incorporated into the economic theory of wages and consider the possible outcome for employment of such a deal. **[20]**

O/N 19/P42/Q5/b

Discuss whether workers always benefit when their trade union achieves an increase in wages. **[20]**

MAR 19/P42/Q5/b

Discuss the economic conditions that might make it possible for a trade union to increase the wages of its members without reducing the number of workers employed. **[20]**

O/N 17/P41/Q5/b

Discuss how a firm's demand for labour and the wage rate might change if the market were to become imperfect. **[20]**

8.5: WAGE DIFFERENTIALS

Wage differentiates are defined as the differences in wages received by different people. There may be many reasons that cause these differences. Wage differentiates may exists due to demand side seasons, supply side reasons, market imperfections, government laws, and discrimination.

1. Demand-side reasons:

The demand for labour is derived demand as labour is not demanded for its own sake. Demand for labour depends upon the demand for the product that workers produce and therefore derived demand.

The demand for labour can be changed due to various factors.

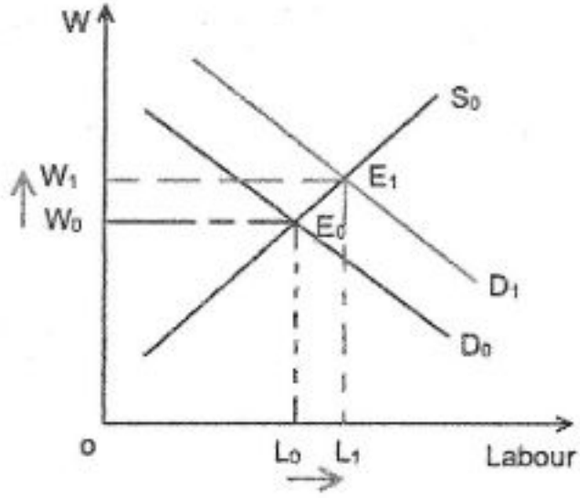
a. Productivity of labour:

The more productive is labour, greater will be marginal physical product (MPP) and hence higher MRP and demand for labour. A skilled worker who have higher MPP will be demanded more than an unskilled worker. Productivity of worker depends upon factors like education, training and motivation.

b. Demand and value of the product

The higher the market demand for the good, the higher will be its market price, and hence the higher will be MR, and thus the MRP. It shows how the demand for labour (and other factors) is a derived demand (i.e., one derived from the demand for the good. such as the higher the demand for houses, the higher their price, the higher will be demand for bricklayers and the better the wages they are paid).

Workers with higher demand (D_1) will be paid better (W_1) than those with lower demand as shown by the following diagram.



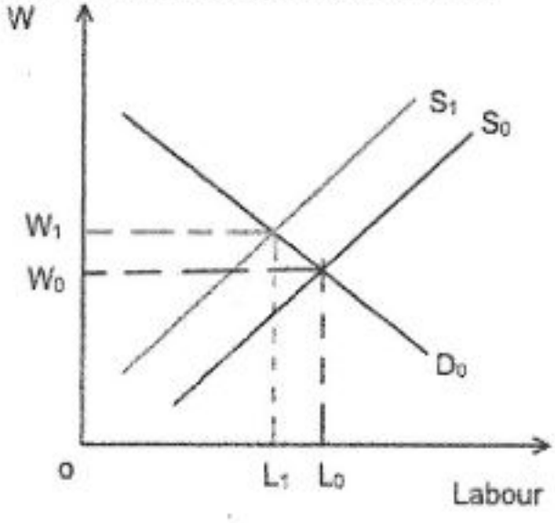
2. Supply-side reasons:

There is a wide range of factors that influence the supply of labour. These can be divided into

- wage factors (also called monetary or pecuniary factors)
- non-wage factors (also referred to as non-monetary or non-pecuniary)
- limiting factors

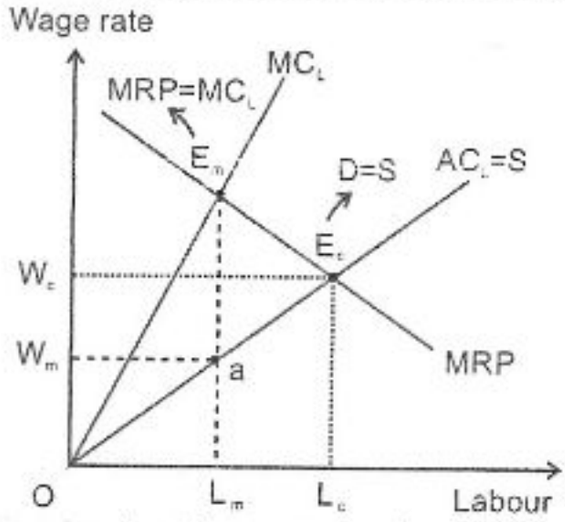
Wage Factors (monetary or pecuniary factors)	Non-monetary factors (non-monetary or non-pecuniary)	limiting factors
1. Wage rate or salary 2. Bonuses 3. Commissions	1. Job satisfaction 2. Type of work 3. Working conditions 4. Working hours 5. Holidays 6. Pensions 7. Fringe benefits 8. Job security 9. Career prospects 10. Location	1. Qualifications 2. Skills 3. Experience 4. Place where they live 5. Opportunity cost

Wage factor will cause a movement in supply curve but all non-wage and limiting factors will shift the supply curve. Occupations with lower supply (S_1) will be paid more (W_1) than those with greater supply (S_0) as shown in the following diagram.



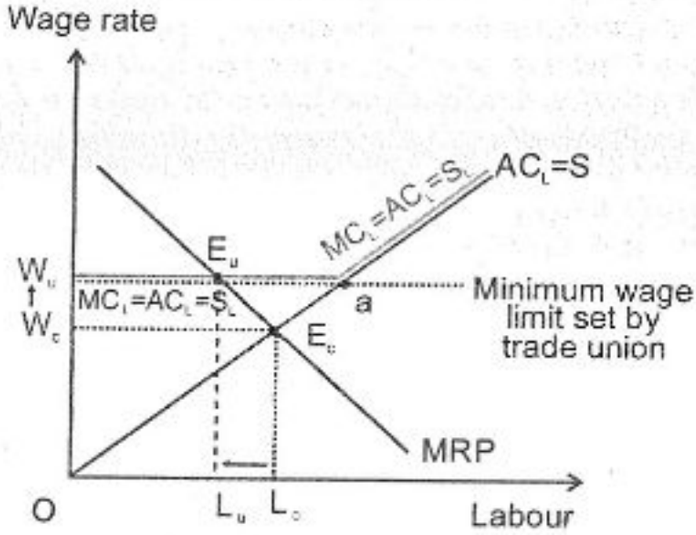
3. Market imperfections:

Generally speaking, the market comprised of perfect and imperfect markets. Wages are determined at a different position in perfect market as compared to an imperfect market such as a **monopsony** (single buyer of labour). This can be observed in the diagram below.

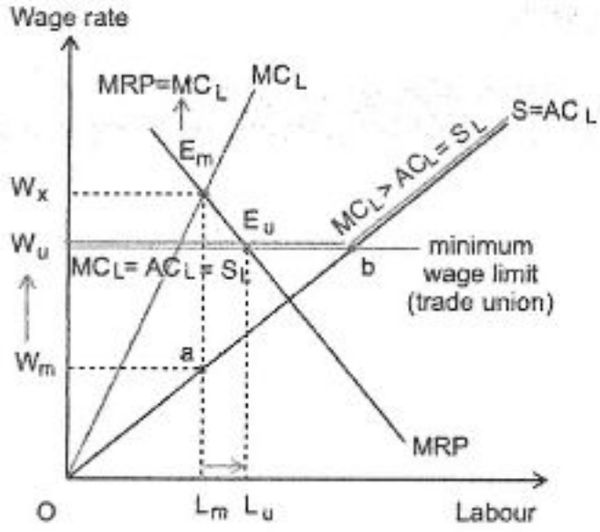


The diagram above shows a comparison between a perfect labour market and monopsony. Under a perfect labour market the wage rate is W_c and the quantity of labour is L_c. This is the point where the MRP intersects with the supply curve. In an imperfect market or monopsony the wage rate is at W_m and the employment at L_m. Thus the monopsony not only offers a lower wage rate (W_m) as compared to that of a perfect labour market (W_c), but it also the restricts the employment of labour to L_m.

Wage differentials may also be caused by **trade unions** when they enter a perfectly competitive market or an imperfect market. The difference in the wage fluctuations in the two markets will be different because of different demand-supply curves. The effect of a trade union in a perfect market is shown in the diagram below.



The diagram shows the entrance of a trade union in a perfect market. Initially, the wage rate is at W_c, where the market forces intersected with other. But due to the trade union a higher wage rate has been set at W_u; this is the minimum wage rate set by the trade union—the firm cannot offer less than the negotiated wage rate, but they can offer more. Similarly, trade unions can also cause wage differentials in an imperfect market, as shown in the diagram below.



The diagram shows the entrance of a **trade union under imperfect competition** (monopsony). Initially, the equilibrium was established at W_m where the quantity was L_m. But in this case the trade union has not only pushed up the wage rate but has also increased the number of people employed. The wage rate set by a trade union is higher than monopsony thus leading to wage differential.

4. Government regulations:

Wage differentials in the market may also be due to government regulations. The government might set a minimum wage so that monopsonist employers cannot exploit people and offer low wage rates. Certain laws can be imposed by the government, such as the minimum wage, which is entitled to those who are above 27 years old. Hence, the wages of those who are above 27 will be higher than those who are below 27, leading to wage differentials.

5. Wage discrimination:

Lastly, wage differentials may be due to discrimination. The whites way be paid more than the blacks, women may be paid less than men, Asians may be paid less than Europeans, etc. Therefore, there are a number of reasons that lead to the existence of wage differentials.

Past paper questions

M/J 21/P41/Q5, M/J 21/P43/Q5

'Wage differentials can be explained by economic theory. They are a sign of the power of a firm to exploit its workforce and are unjust.'

Do you agree with this view? **[20]**

O/N 20/P42/Q4

The wages of the Chief Executive Officers (CEO) of the six largest banks in the United States (US) were reported to be between 250 and 360 times the average wage of the workers in those banks. The six CEOs were all male. Discuss the extent to which economic theory can account for these variations in wages. **[20]**

O/N 20/P43/Q5

Marginal revenue productivity theory analyses why wage rates differ in imperfect markets.

Explain this analysis using a diagram and consider if a trade union negotiated a higher wage than determined by the market, whether the outcome would necessarily be the same as that in perfect competition. **[20]**

O/N 19/P43/Q5

Analyse and discuss whether the economic theory of wages can explain why there are inequalities in wage rates in a country. **[20]**

O/N 18/P43/Q4

Discuss how economic theory analyses wage rate determination. Consider if the theory can be used to explain the fact that the highest pay is often given for the work that is most agreeable while those occupations that are most unpleasant, such as rubbish collection, receive low pay. **[20]**

O/N 16/P43/Q5/b

Discuss how far wage differentials are caused in the real world solely by differences in market demand and supply. **[20]**

O/N 16/P42/Q6/a

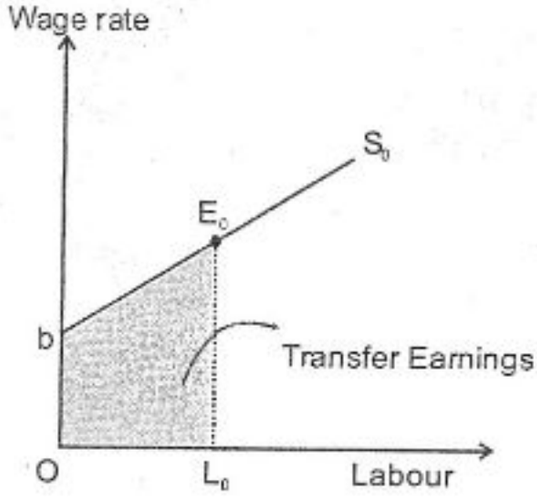
Some occupations that do not have pleasant working conditions, such as rubbish collection, receive low pay, while those with pleasant conditions, such as senior managers, receive high pay. How far does economic analysis explain this situation? **[20]**

8.6: TRANSFER EARNINGS& ECONOMIC RENT

The theory of economic rent distinguishes between two elements in the payment made to a factor of production.

a. Transfer earnings (TE):

- The transfer earnings of a factor are the minimum payment needed to keep the factor in its present use. If a worker is paid $200 a week, but could only earn $150 a week in her best paid occupation, then her transfer earnings would be $150 per week. Transfer earnings are the opportunity cost of employing the factor. A change in transfer earnings will affect the allocation of resources. If the worker could now earn $250 a week in their next best paid occupation, economic theory would predict that all other things being equal they would leave their present $200 a week job and take the job that pays higher.
- Height of supply curve of a factor of production will show the value of transfer earnings at a given unit of employment, and the area below the supply curve will indicate total transfer earnings for given units of factor of production employed, as shown in the figure below.

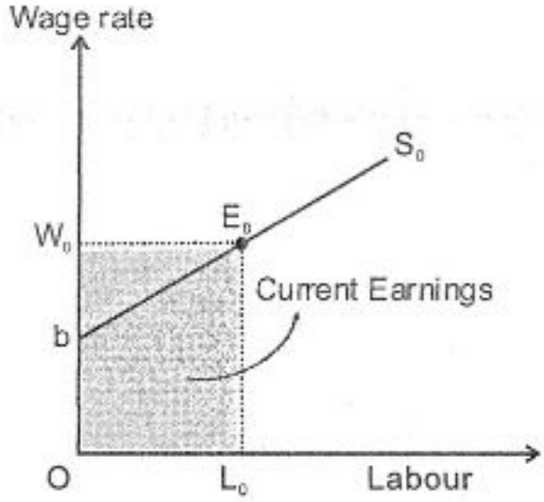


Current earnings (CE):

Current earnings means whatever a worker is earning at a given wage rate for certain units of labour.

Current earnings = wage rate × labour

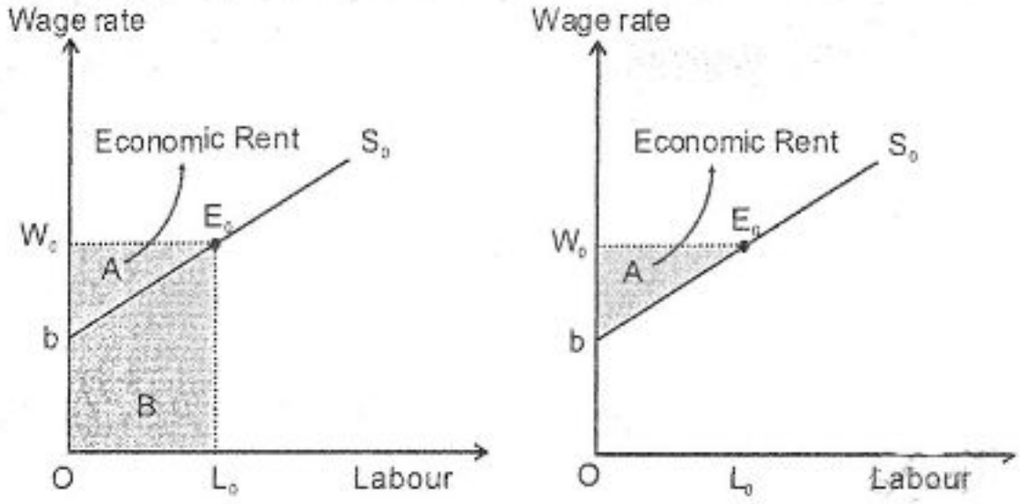
Current earnings can be shown by the following diagram:



b. Economic rent (ER):

- The economic rent of the factor. Economic rent is the payment over and above the minimum needed to keep the factor in its present use (i.e., it is the difference between its current earnings and its transfer earnings).
  Economic rent = Current earnings – Transfer earnings

- Economic rent will not affect the allocation of resources. If the transfer earnings of a worker were \$150, she would remain in her present job whether she earned \$200 or \$250 per week.
- Economic rent is the area between wage rate and supply curve ash shown in the diagram below:



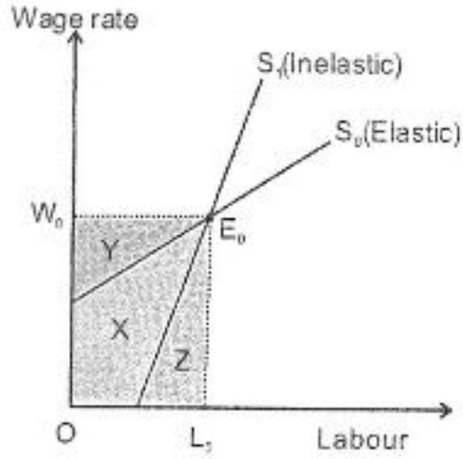
The theory of economic rent can be explained using the demand and supply diagram. In the figure above, the equilibrium wage rate of labour is OW_0. Supply curve shows the minimum wage rate for which workers would be prepared to work. As successive workers are employed, the transfer earnings of the marginal worker (the last worker employed) increase. Total transfer earnings of all the workers employed is the area B.

The total earnings of OL_0 workers is the area AB (total number of workers OL_0 times the wage rate per worker OW_0). The difference between the total payment to a factor and its transfer earnings is its economic rent. Hence the economic rent of labour in the figure is the area A.

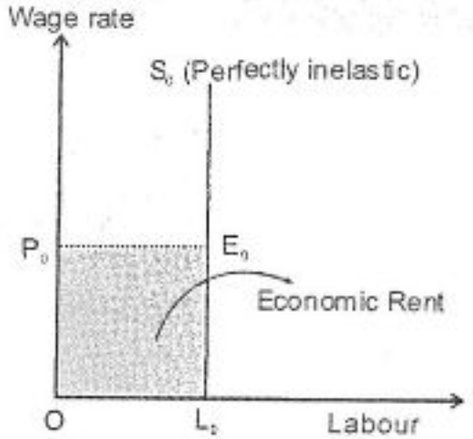
c. Determinants of transfer earnings and economic rent

1. Elasticity of supply

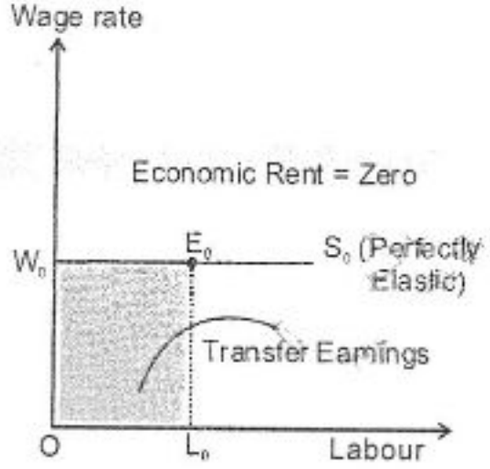
Economic rent will be greater the more inelastic the supply curve. Economic rent will be area Y if supply is elastic (S_0) and XY if it is inelastic (S_1) as shown in the figure below:



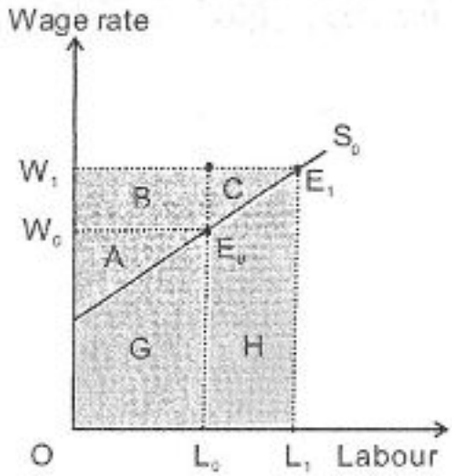
If, as in the figure below, supply is perfectly inelastic, then all the factor payment is economic rent and the transfer earnings of the factor is zero. The transfer earnings are zero because the factor will be supplied whether the payment received is zero or infinity (as shown by the vertical supply curve).



Similarly, if supply is perfectly elastic (i.e., the supply curve is horizontal), all the factor payment is transfer earnings and economic rent is zero. Whatever quantity bought, a higher price would result in demand for the factor falling to zero. The factor cannot earn anymore than the minimum needed to keep it in its present use.

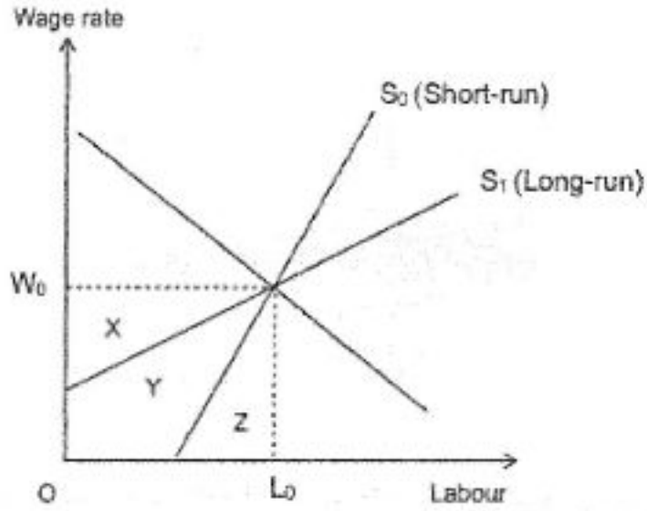


Economic rent and transfer earnings both will increase with the increase in wage rate as shown in the diagram below:



b. Short Run Vs Long Run (Quasi-rent)

In the long run, there can be more substitutes either by automated machines or more people acquiring the same skill that was rare in the beginning and therefore making supply of labour more elastic (S_1 in the diagram below) in long run decreases economic rent (from XY to X). Transfer earnings will increase from Z to ZY. The portion of economic rent which becomes transfer earning in the long run is termed **quasi rent** or quasi rent is that portion of economic rent which can only be earned in the short run.



For example, a doctor may earn economic rent in the short run by opening his clinic in a small town but entry by competitors i.e. springing up of other clinics in the long run reduces his ability to earn rents

Past Paper Questions

MAR 21/P42/Q4/a

Distinguish between transfer earnings and economic rent. With the help of diagrams, consider the links between transfer earnings, economic rent, the elasticity of supply of labour and an individual worker's wage rate. **[20]**

O/N 19/P42/Q5/a

Explain the relevance of economic rent and transfer earnings when comparing the wages of skilled workers and unskilled workers. **[20]**

O/N 19/P41/Q5/b
With the help of a diagram analyse what is likely to happen to a worker's transfer earnings and economic rent if a perfectly competitive labour market is replaced by a monopsony. **[20]**

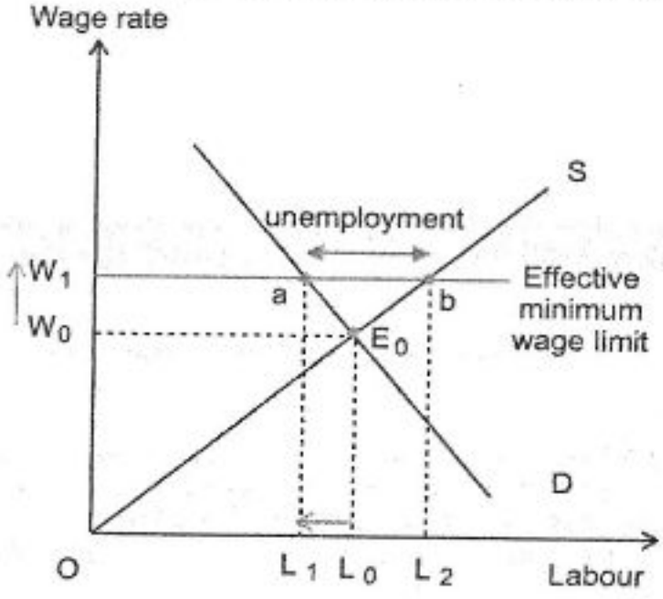
O/N 15/P42/Q7/a
Distinguish between supernormal profit and economic rent and consider the circumstances when each occurs. **[20]**

8.7: NATIONAL GOVERNMENT MINIMUM WAGE

Minimum wage laws that determine the minimum price of labour (the wage rate) that an employer (a firm) must pay. The objective is to guarantee an adequate income to low-income workers, who tend to be mostly unskilled. (The market-determined wages of skilled workers are usually higher than the minimum wage.)

a. Impacts of minimum wages on market outcomes

According to following diagram, market equilibrium was established at E_0 with wage rate W_0 and employment L_0 before introduction of national minimum wage limit.



Effective minimum wage is the one which is set above current market equilibrium wage rate. The minimum wage, W_1, lies above the equilibrium wage, therefore, is effective. At W_1, the quantity of labour supplied L_2, is larger than the quantity of labour L_1, is less than the quantity demanded at equilibrium, L_0. There results a surplus of labour $L_1 - L_2$ in the market
The labour market in state of disequilibrium when there is a minimum wage.

b. Consequences of minimum wages for various stakeholders

1. On firms (employers of labour)

Disadvantage:
Firms are worse off as they face higher costs of production due to the higher labour costs. Firms will lose their profit margin if they cannot pass the increase in labour cost to consumers by increasing the price of the product when face elastic demand in product market.

Advantages:
Firms may cover increased costs by raising the price of the product and **pass the burden onto the consumer**. This is possible if demand for the product is inelastic.

Minimum wages, if related to the cost of living, as in the case in advanced countries, tend to reduce labour unrest and maintain **industrial peace**. This helps the firms to avoid the cost incurred in industrial actions like labour strikes.

Minimum wages will so increase the incomes of workers that their consumption expenditures will increase which will in turn lead to an expansion of the consumer's goods industries and via the acceleration principle to the capital goods industries. All this will tend to **stimulate sales** of all firms in the economy.

Minimum wages may prove beneficial to the employers by **increasing the productivity** of workers as workers will have more ability to invest in their training and education to enhance their skills. Better wages will also act as motivation for workers to work better, hence, increasing their productivity. Increased productivity encourages employers to adopt better techniques of production and replace the inefficient employees.

2. On workers (suppliers of labour)

The impacts on workers are mixed. Some gain, as they receive a higher wage than previously ($W_1 > W_0$), but some lose as they lose their job L_0 to L_1. Extent to which existing workers will lose their jobs depends upon the wage elasticity of demand for labour. More workers will lose their jobs if demand for labour is elastic than in case of inelastic demand.

It is commonly felt that with the fixation of a national minimum wage, the minimum will become the maximum. Employers already paying more will have the tendency to level down the wages.

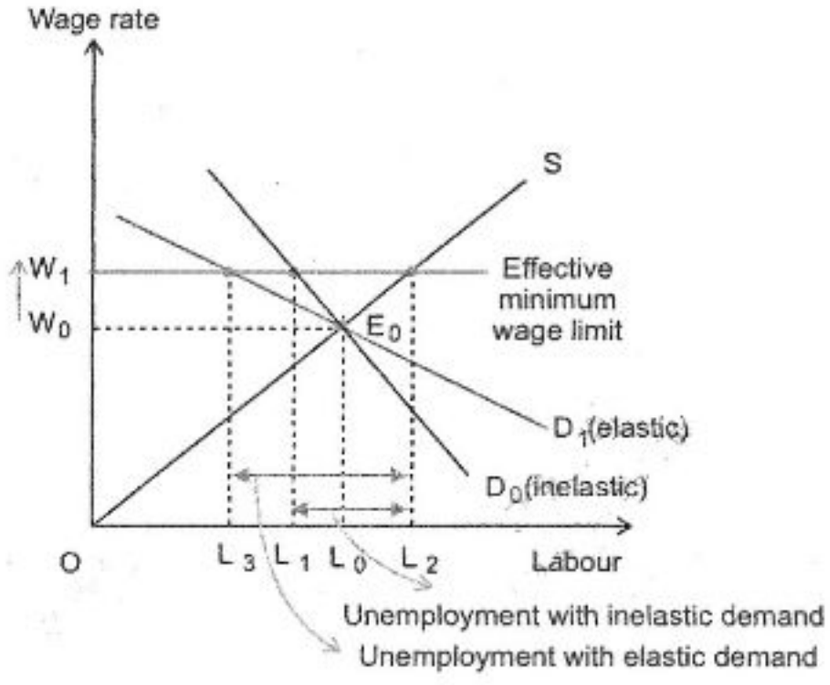
3. On consumers

Consumers are negatively affected, because the increase in labour costs leads to a decrease in supply of products (a leftward shift in firm supply curves) causing higher product prices and lower quantities. However, firms may not be able to pass on significant burden to consumers when demand for the product is price elastic.

c. Consequences of minimum wages for the economy

1. Unemployment

The imposition of a minimum wage in the labour market creates a surplus of labour equal to $L_1 - L_2$ or $L_3 - L_2$, which is unemployment. Extent to which minimum wage will create unemployment depends upon the wage elasticity of demand for labour. More workers will unemployed, $L_3 - L_2$ in the diagram below, if demand for labour is elastic than in case of inelastic demand i.e., $L_1 - L_2$.



Minimum wage in some situations may have no effect or even a positive effect on total employment. Some firms respond to the minimum wage by maintaining the same number of workers but cutting non-wage benefits (such as paid holidays or sick leave); or they may hire fewer unskilled workers and more skilled workers. Also, it is possible that labour productivity (defined as the amount of output produced per worker) may increase due to the minimum wage, as workers feel motivated to work harder, with the result that some firms hire more unskilled labour in response to minimum wages.

2. More employment of illegal immigrants

Illegal employment of some workers at wages below the legal minimum may result; this often involves illegal immigrants who may be willing to supply their labour at very low wages.

3. Effect on balance of payments

If minimum wages are also fixed for export industries above the competitive level, country's export trade will suffer. For costs rise, profits shrink, output declines and the competitive strength of the industry falls in the face of world competition. This will not only reduce employment but also the national income.

4. Misallocation of labour resources

The minimum wage affects the allocation of labour resources, as it prevents the market from establishing a market clearing price of labour. The wage acts as a signal and incentive to workers (the suppliers of labour) and firms (the demanders of labour) to determine the optimal allocation of labour resources. The imposition of a minimum wage changes these signals and incentives for unskilled labour, whose wage is affected by the minimum wage. Therefore, industries that rely heavily on unskilled workers are more likely to be affected, and will hire less unskilled labour.

5. Effect on distribution of income

Minimum wage laws will help to increase incomes earned by unskilled workers and therefore reduce the income inequality in the country.

6. Enforcement of minimum wages in LDCs

There is, however, the problem of enforcing the minimum rates where strong trade unions do not exist as in less developed countries (LDCs). The responsibility for the enforcement of minimum wages, therefore, depends upon the labour department and its inspectorate. It is only when the inspectorate staff is sufficient and honest that minimum wage laws can be effective in practice.

Past paper questions

M/J 22/P41/Q2/b, M/J 22/P43/Q2/b

The introduction of a national minimum wage will always benefit employees at the expense of employers.

Discuss the extent to which you agree with this statement. **[20]**

MAR 22/P42/Q4/b

The government of a country sets an effective national minimum wage for workers. Discuss the arguments for and against the government's decision. **[20]**

O/N 21/P41/Q3/a

Explain the factors which determine the elasticity of demand for labour and discuss the importance of the elasticity of demand for labour in relation to the effectiveness of a government's minimum wage policy. **[20]**

MAR 20/P42/Q5/b

Discuss, with the aid of a diagram, the possible effects on the operation of an imperfectly competitive labour market of a government fixing a wage rate in this market. **[20]**