Problem Set 2

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Question 1

Consumption expenditures	$550
Exports	$75
Government purchases of goods and services	$200
Construction of new homes and apartments	$100
Sales of existing homes and apartments	$200
Imports	$50
Beginning-of-year inventory stocks	$100
End-of-year inventory stocks	$125
Business fixed investment	$100
Government payments to retirees	$100
Household purchases of durable goods	$150

Q1 example to explain inventory stocks:
Start of year: 200
Produce in that year: 2000 (added to GDP)
Sales that year: 1950 (50 unsold goes into warehouse as inventory stock
End of year: 200 + 50 = 250

Start of year: 200
Produce: 2000
Sales: 2050 (extra 50 taken from warehouse)
End of year: 150

Consumption Expenditure: $550

Investment: $100+$100+$(125-100) = $225

Government Expenditure: $200

Net Exports: $75-$50 = $25

GDP = C + I + G + NX

= $550+$225+$200+$25

= $1000

Question 2

Year	Number of rocks painted	Price/rock ($)
2022	1000	4
2023	1200	5

Nominal GDP = GDP valued at current-year prices

Real GDP = GDP valued at base-year prices (Remove/eliminate inflation)
*cannot use adjust/account

2022 nominal GDP = 1000 x 4 = $4000

2022 real GDP = $4000

2023 nominal GDP = 1200 x 5 = $6000

2023 real GDP = 1200 x 4 = $4800

In terms of labour productivity, Sara painted 200 more rocks and so, increased the volume of production in 2023, resulting in an increase of $800 in real GDP.

By using real GDP, we have eliminated the effects of price changes and obtained a reasonable measure of the actual change in GDP over a span of 1 year.

Question 3

*no need to talk about different types of employment (no marks given)

The first cost to consider would be the economic cost. With a high unemployment rate, output is lost because the workforce is not fully utilised. Much of the burden of reduced output falls on the unemployed themselves, as their incomes fall when they don't work and their skills deteriorate due to lack of use. However, part of the economic costs still falls on society as workers that are unemployed are liable to stop paying taxes and start receiving government support payments - unemployment benefits etc. This net drain in government budget is a cost to all taxpayers. Workers may lose skills after being unemployed for a long time, hence need to undergo retraining, using more resources.

The second cost to consider would be psychological costs. Lengthy periods of unemployment can lead to loss of self esteem, feelings of loss of control over one's life, depression, and suicidal behaviour. Moreover, the families of the unemployed will also experience psychological distress exacerbated by their difficult financial situations.

The third cost would be social costs. Apart from just financial difficulties, those unemployed would also feel anger frustration and despair towards their situation. This could lead to increases in crime, domestic violence, alcoholism and drug abuse etc. Consequently, governments have to utilise more public resources to counteract these social problems.

Question 3

Therefore, more generous government benefits mean that more of the government's budget (taxpayers money) is being devoted to aiding the unemployed. In this sense, it is an additional cost for taxpayers to bear. However, this does not change the fact that by increasing government benefits, there is an increased likelihood that the widespread psychological and social costs would be alleviated.

More unemployment benefits (eg. transfer payments) → how does it affect costs:
1. Economic

- Less incentive to look for jobs (less urgency hence unemployed people may be less active in finding, prolonging unemployment)
- Strain government budget (less important reason compared to the first^)

2. Psychological

- Receiving unemployment benefits may feel shameful since they are a "receiver of welfare benefits"

Question 4

Unemployment rate	5.9%
Participation rate	62.5%
Not in the labour force	63 million

Working age population = labour force + non labour force

Participation rate = (Labour force)/(Working age population)×100

62.5 = (L.f)/(L.f+630000000) ×100

L.f=105000000

Working age population=105000000+63000000

=168000000

Unemployment rate=(number of unemployed)/(labour force)×100

5.9= (number of unemployed)/105000000×100

Number of unemployed=6195000

L.f=number of employed+6195000

Number of employed=98805000

Question 5

a) Real wage and employment rate increase.

As the demand for the type of car increases, the prices of the cars will increase as well. The value of the marginal product of labour will increase as an additional worker will generate more revenue than ever before. The higher VMP will increase the demand for labour, the demand curve for labour will shift to the right. As a result, the real wage and employment rate of the workers will increase.

b) Real wage and employment rate decreases.

As petrol prices increase, the demand for cars will decrease, which will lead to decrease in the price of cars. The value of the marginal labour will decrease as an additional worker will generate less revenue than ever before. The lower VMP will decrease the demand for labour, the demand curve for labour will shift to the left. As a result, the real wage and employment rate of the workers will decrease.

c) Real wage and employment rate increases.

New machineries are physical capital, it will increase the productivity of workers and the marginal product of labour. As a result, the higher VMP will increase the demand for labour. The real wage and employment rate of the workers will increase.

Question 6 - Part A

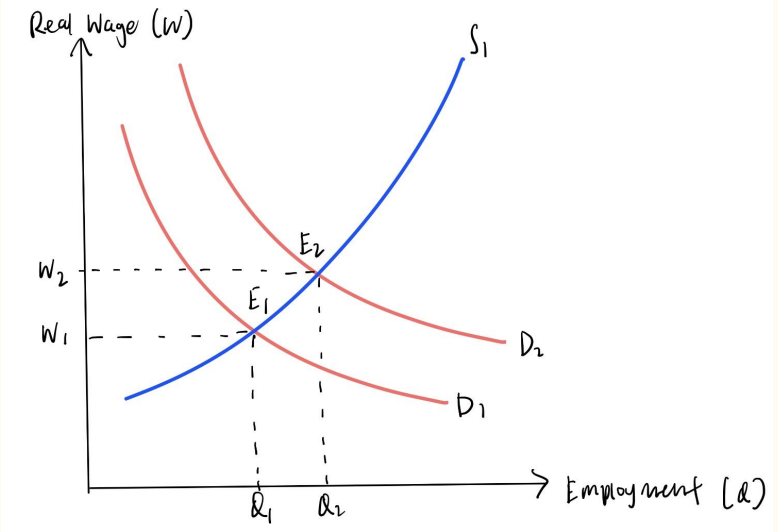
*Shortage and equilibrium explanation not necessary for macroecons

Equilibrium wage increases for skilled workers

Skilled workers can operate the new electronic equipment (increase productivity, increase quality in design and durability increase variety) hence price of output produced by skilled workers increases and marginal product increases. The **increase in value of marginal product** will hence increase demand for skilled workers, represented by the rightward shift of the demand curve from D1 to D2. Therefore, equilibrium wage increases from W1 to W2 (not E1 E2 which is equilibrium POINT not wage).

Equilibrium wage remains the same for unskilled workers

Since unskilled workers do not have the skills needed to operate the new electronic equipment, their productivity remains the same, prince of output produced by unskilled workers also remains the same, hence marginal product remains the same. Hence, the **value of marginal product remains the same** and there is no change in demand D1 for unskilled workers. Therefore, equilibrium wage remains the same at W1.



*No need for E1 E2 in the above graph

Question 6 - Part B

<u>After unskilled workers acquire training:</u>

<u>i) Supply of skilled workers increases</u>

With unskilled workers acquiring skills through training programs that teach them how to operate the electronic equipment, those that successfully upgrade themselves will become skilled workers with time.

ii) <u>Supply of unskilled workers decreases</u>

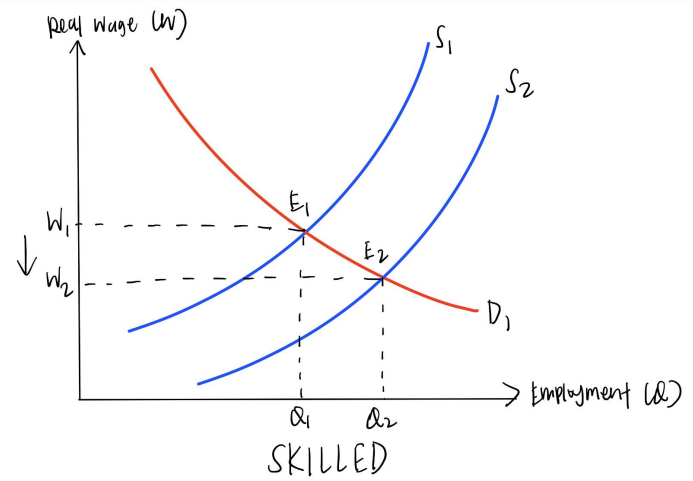
Wage differential may have reached the point whereby many unskilled workers choose to move into other industries that they still possess relevant skills for and can hence earn higher wages. Hence, number of unskilled workers in the industry for small toy decreases.

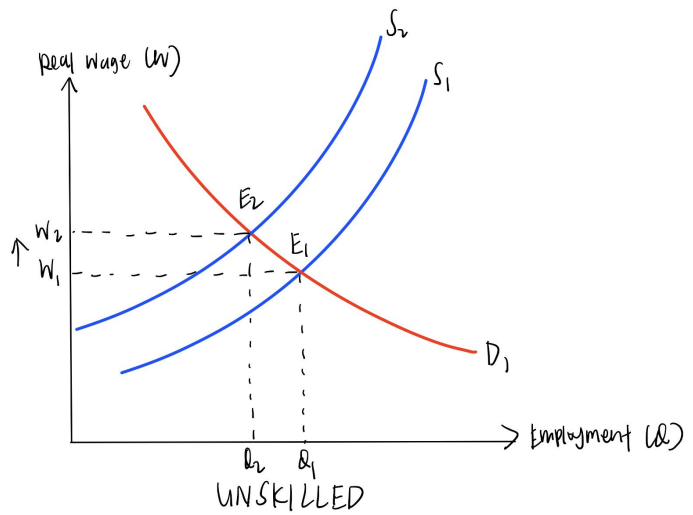
Fall in supply of unskilled workers and rise in supply of skilled workers will push down real wage and continue to increase employment, causing wage differential to become more narrow.

Based on real-life example, unskilled workers may have higher wage than skilled workers, but people are likely still more willing to be skilled due to many reasons and attributes of the job)

Barriers to entry high (training required) → low supply of workers

barriers to entry low (no training needed) → high supply of workers



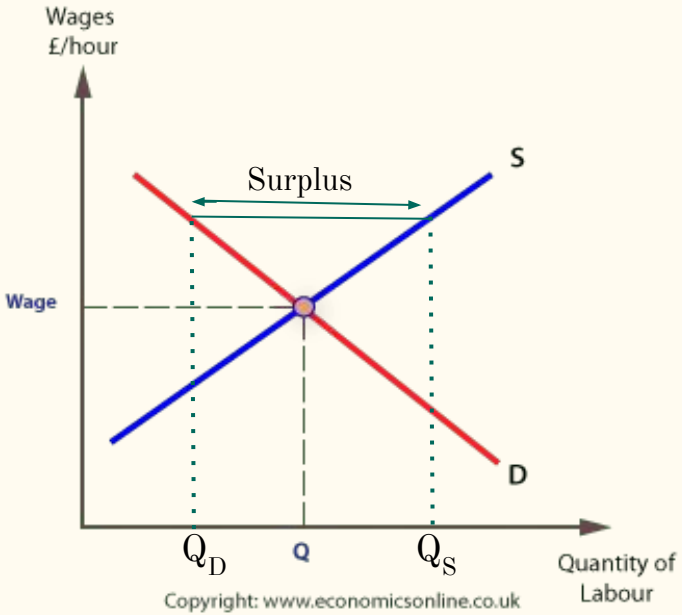


Question 7

*simple 1-2 lines explanation is enough, must identify key phrase/words

a) STRUCTURAL

Structural shifts in production → steel mill closed down



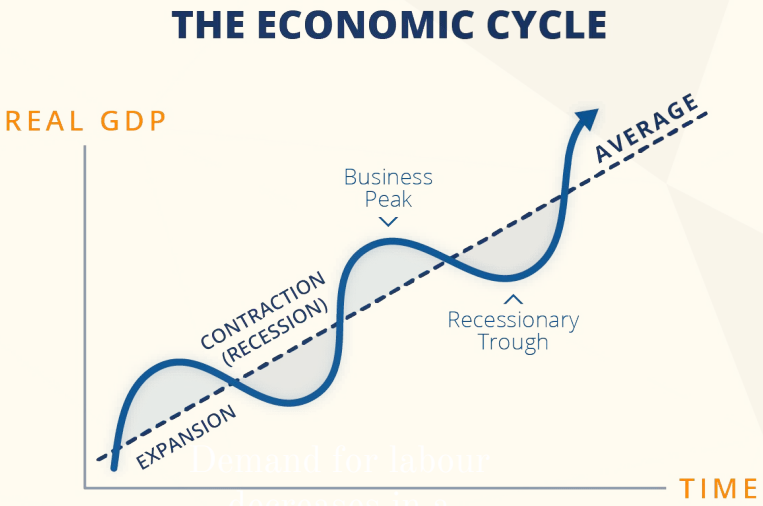
Since the steel mill closed down, demand for steel mill workers would drop and so, there would be a surplus of labour in the steel industry. To work in another industry, they would require skills suitable for that market, eg: software firms which would in turn become FRICTIONAL unemployment. Since Ted doesn't possess the skills to work in another industry, he is structurally employed (not frictionally) and so has entered a chronic and long term stage of unemployment.

Key phrase: "lack the skills"

- Suggest skills mismatch

Question 7

b) CYCLICAL



Demand for labour decreases in a recession

During a recession, there are low production levels and so, to cut costs of production, demand for labour decreases and more people are laid off.

The demand for auto cars decreased since consumer expenditure is low and so, Alice got laid off. Once the economy picks up, disposable income of individuals will increase and so will expenditure, leading to Alice possibly getting her job back.

Key word: “recession”

- Can find job when economy improves

Question 7

c) FRICTIONAL

Frictional unemployment is a short term voluntary unemployment due to the process of matching a worker's skill set with a job.

Since Tao's skills don't match with the needs of the local market, he is voluntarily unemployed despite receiving job offers. This is a short term kind of unemployment as seen by how he obtained a job soon after in a different location where his skill set was matched with a suitable job.

Key phrases: "six weeks", "turned down offers"

- Can always find jobs
- Voluntarily unemployed
- Temporary, short-term