Factors Affecting Standard Of Living

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Appendix: Lorenz Curve

Reference

Mankiw, Gregory N., Quah, Euston, & Wilson, Peter, Principles of Economics: An Asian Edition, Cengage Learning.

Lecture Objectives

At the end of the lecture series, you should be able to: Explain the meaning of undesirable rates of economic growth, high inflation, high unemployment and persistent or large balance of payments deficits. Analyse the causes and consequences of the macroeconomic problems.

OVERVIEW

Key Economic Goals

Economists identify the key goals that an economy or a government should seek to achieve under two major categories:

Microeconomic Goals

1. Efficiency in resource allocation

Scarce resources should be allocated with a view to attain economic efficiency in the country where the right mix of goods and services (allocative efficiency) are produced at the lowest possible average cost of production (productive efficiency).

2. Equitable income distribution

Income distribution among the people should not be so unequal that many people cannot afford basic needs of shelter, food education and health care.

Macroeconomic Goal: a high standard of living from

1. Economic growth

This aims to achieve real increases in the output of goods and services. Ceteris paribus, economic growth ensures that on average, a resident can enjoy a higher standard of living, enjoy more choices and improve its well-being.

2. Full employment of resources

The economy should aim to achieve full employment to ensure that scarce resources are fully utilized.

3. Low inflation

Economic growth should be coupled with low inflation to ensure economic competitiveness, sustained economic growth and a higher quality of life.

1 ECONOMIC GROWTH

1.1 Definition AND TYPES OF ECONOMIC GROWTH

Economic growth is defined as an increase in Gross Domestic Product. In order to achieve sustained economic growth, both actual and potential growth are required. It can be achieved by an increase in aggregate demand and/or aggregate supply.

Actual growth is the increase in national output actually produced for a given period of time, commonly measured by the percentage increase in real GDP. Its major determinant is growth in aggregate demand. A rise in aggregate demand, say from a rise in consumer confidence, which increases consumption expenditure among households, will create shortages which stimulates firms to increase output and reduces the slack in the economy. This type of growth can be represented by a shift of the aggregate demand (AD) curve to the right as illustrated in Figure 1.1(a) or a movement of a point outwards from within the Production Possibility Curve (PPC) as illustrated in Figure 1.1(b). In Figure 1.1(a), real national income increases from Y1 to Y2 when AD increases, as represented by the shift in AD from AD1 to AD2. In Figure 1.1(b), more capital and consumer goods are being produced when the economy moves from point A to point B on the PPC.



Actual growth can also result from an increase in aggregate supply due to a fall in production costs. This is represented by a downward shift of the AS curve as shown in Figure 1.1(c). In Figure 1.1(c), real national income increases from Y1 to Y2 when aggregate supply increases, as represented by the downward shift of AS1 to AS2 due to a fall in cost of production, mainly due to lower cost of labour or oil prices that encourages firms to expand output.

Figure 1.1(c): Actual growth due to an increase in AS



In contrast, potential growth is the increase in the productive capacity of the economy for a given period of time. An increase in the quantity of resources and/or an increase in efficiency or improvement in the quality of factors of production will contribute to potential economic growth. In other words, the determinant of potential growth is an increase in aggregate supply from increases or improvements in natural resources, capital (both physical and human) and technology. This type of growth can be represented by a shift of the aggregate supply (AS) curve to the right as illustrated in Figure 1.1(d) or an outward shift of the PPC as illustrated in Figure 1.1(e).



Figure 1.1(d): Potential growth due to an increase in AS

Figure 1.1(e): Potential growth

A rapid rise in aggregate demand is not enough to ensure a continuing high level of economic growth over a number of years, without a simultaneous expansion of the productive capacity of the economy. As such, further increases in actual output will eventually diminish without an expansion of potential output. , Actual output will grow at the rate of potential output when labour and other resources are fully utilised as the economy reaches full employment or operates at full capacity. Therefore, in order to achieve sustained economic growth, actual growth must be accompanied by potential growth as shown in Figure 1.1(f), with rightward shifts of both the AD and AS curves.

Figure 1.1(f): Sustained Economic Growth



WHAT IS SUSTAINABLE GROWTH?

Sustainable growth refers to a rate of growth that can be maintained without creating other significant economic problems (such as depleted resources and environmental problems), particularly for future generations. It implies a positive and stable growth rate over an extended period of time.

The Earth that supports the "sources" and "sinks" of our economic activities has not grown any larger since it was born 4.6 billion years ago. In other words, there is clearly a limit to its size. It is finite, and as such any economic activities that extract resources from this finite pool, and, to the extent that the waste is being absorbed by the Earth, cannot grow forever. This is because the Earth's sources and sinks are also finite. If the economy expands, at some point it is inevitable that we will encounter the Earth's limits. Over the past 50 years, the global economy grew by a factor of five. Accompanying that growth, world food production increased by a factor of about 2.5, the amount of water used by a factor of two, and the amount of timber logged for the production of pulp and paper increased by a factor of three. Presently, our economy is exceeding the limits that can be supported by the Earth and yet, we are still trying to produce beyond its capacity. Such growth is unsustainable. As one economist commented that "anyone who believes exponential growth can go on forever in a finite world is either a madman or an economist".

Unsustainable economic growth has implications on standard of living. It reduces the ability of future generations to consume goods and services that serve to raise their material standard of living as we are expected to face severe food shortages in many parts of the world. According to estimates, with the global population expected to reach 9.8 billion by 2050, food supplies will be under far greater stress that what we see today. The World Bank has reported that demand will be 60% higher than it is today, but climate change, urbanization, and soil degradation will have shrunk the availability of arable land. Along with food shortage, water shortage will also become acute, with poorer air quality and worsening inequality, the implications are stark. Unsustainable economic growth will cause deterioration in the material and non-material standard of living of the current generation in the future as well as for the future generations.

For example, China, which was once touted to be the global growth engine, is witnessing a significant economic downturn. The slowdown is not necessarily bad news for China, which

grew at an average rate of 9.3% from 1989 until 2012. A sustained period of high growth leads to excesses in the economy and a subsequent slowdown helps in cleaning up the excesses, suggesting that China is now on a path of a more sustainable growth rate of around 5-6%.

WHAT IS INCLUSIVE GROWTH?

Inclusive growth refers to a rate of growth that is sustained over a period of time, is broadbased across economic sectors, and creates productive employment opportunities for the majority of the country's population. In the case of Singapore, inclusive growth implies economic growth that takes income distribution into consideration and does not contribute to worsening income inequality.

Income equality is one of the most contentious issues in every society. The need to redistribute income from the rich to the poor is well accepted as a necessary economic policy but governments and countries differ on the extent to which this redistribution has to be done.

Some people have incomes far in excess of what they need to enjoy a comfortable, if not luxurious lifestyle, while others struggle to purchase even the basic necessities. This is clearly an indication of inequality.

Inequality can be examined by looking at the distribution of income and wealth.

Wealth is the accumulated value of both the physical and financial assets of an individual. It is a stock concept as it is measured at a particular point in time. An individual's wealth may comprise the following:

Asset	Value
A house	\$600,000
Shares and Bonds	\$50,000
Cash in the Bank	\$10,000
Other assets such as a car	\$55,000
Total wealth	\$715,000

On the other hand, income is the amount of money an individual receives per period of time e.g per week, per month or per year. It is a flow concept as it is the amount received per period of time. For example, a daily rated cleaner gets \$60 per day, a secretary is paid \$2,500 per month, and a CEO of a bank is paid \$2.6m per year.

Income can be categorized into wage income and non-wage income. Wage refers to the income an individual earns from his labour services while non-wage income includes dividends, interest, capital gains, rent, and royalties.

Under **the free market system**, goods and services are **allocated** according to income distribution. The central problem of "for whom to produce" is **based on the dollar votes**. As a result, society tends to allocate resources to produce goods for those with the greater ability to pay. The ability to pay for goods and services depends on the wage rate that the individual receive, the assets that he/she possesses and other institutional factors.

REPRESENTATIONS OF INEQUALITY

Gini Coefficient

The Gini Coefficient is used universally as a summary measure of income inequality in a

given country. The coefficient ranges from zero to one. In a country where each member receives exactly the same income, the coefficient is zero (0 = perfectly equal income distribution). However, for a country where only one member receives all the income and the rest receive nothing, the coefficient is equal to one (1.0 = maximum inequality). In other words, the higher the coefficient, the more unequal is the income distribution.

In fact, according to the latest available data, the best instances of distribution are in countries such as Norway (0.25), Finland (0.27) and Denmark (0.25). At the opposite extreme, the indices of greatest income inequality are higher than 0.6, which are found mostly in the African nations e.g Namibia (0.7), South Africa (0.65).

Singapore's Gini coefficient was 0.459 in 2017, edging up marginally from 0.458 previously. However, with substantial government transfers and tax reductions, the gini coefficient came in much lower at 0.401.

A point to note is that the Gini coefficient is only as accurate as the gross domestic product (GDP) and income data that a country produces. Many developing nations do not produce accurate or trusted economic data, so the index becomes more of an estimate. There is also a generally negative correlation between Gini coefficients and per-capita GDP, because poorer nations tend to have higher index figures.

The Gini coefficient is thus a very powerful tool but its validity depends directly on the quality of the statistical data used to calculate it. Unfortunately, there are no international norms in this matter. That means that the Gini coefficient can be manipulated to a certain extent by left wing analysts who could seek to decry extreme inequalities or by conservative right wingers who might wish to demonstrate that inequality is at a minimum. Care should therefore be taken to make sure of the objectivity of the source of each Gini before drawing hasty conclusions.

Additional information on measures to achieve a more inclusive growth

Microcredit lending - developed by Nobel Prize winning Economist Dr Yunus

This is the dispersion of small collateral-free loans to jointly liable borrowers in groups in order foster income generation through enhancing to selfemployment. Microfinance/credit provides adequate financial tools in the form of short-term loans for the low income/low-skilled individuals who have limited access to conventional methods of borrowing through commercial banks and financial institutions due to the lack of collateral. Microfinance institutions also encourage the low-income groups to save, positively affect their future material standard of living as the savings can continue to grow in the presence of such financial institutions. Individuals can use these savings for investments in the future (examples: set up a tea stall, buy a sewing machine, set up a small grocery shop) to generate higher income through more production. Raising the income of the lower-income earners can reduce the income gap between the rich and poor, thereby also increasing the reliability of the per capita GDP figures used in measuring the material SOL of an average citizen in a country.

Skills upgrading – according to the labor market theory, there is a positive correlation between productivity and wages (will be covered in supply-side policies section) Transfer payments to the lower-income groups **Progressive taxation**

Note: These measures will be discussed in greater detail later.



WHAT CAUSES INCOME INEQUALITY? IS INCOME INEQUALITY DESIRABLE OR UNDESIRABLE?



In your exams, you have to refer to the various types of economic growth in your answers, especially when the question does not specify which growth concept is being asked for.

1.2 BENEFITS FROM ECONOMIC GROWTH

Economic growth has been defended as a high priority goal based on the following arguments:

a. Higher Material and Non-material Standard of Living

The dilemma of "unlimited wants but scarce resources" becomes less acute with economic growth as it is the path to material abundance. There is a higher level of consumption of goods and services with substantial amount of leisure time, extensive travel and luxury goods well within the reach of ordinary people for the first time in human history. A 3% per annum growth in per capita GDP doubles material well-being in approximately 25 years. Growth provides an escape mechanism from poverty for those who share in the growth.

'The good life' is possible with growth. The important amenities of life become affordable. People can take "time off for education, reflection, and self-fulfillment" (M Roberts). There is a greater demand for cars, yachts, resorts, parks and wildlife preserves. In addition, the non-material well-being is also improved as more choices and options to education, healthcare and leisure becomes available.

With higher economic growth, the government will also be able to collect more taxes. The government will be able to spend more on social safety nets like unemployment benefits, healthcare, in addition to infrastructure and recreational facilities. The people's material and non-material standard of living will improve and people's welfare will be better.

b. Decrease unemployment

Economic growth helps to reduce unemployment by creating jobs. With economic growth, more goods and services are being demanded and produced which will in turn lead to a greater derived demand for labour. This is significant because unemployment is a major source of social problems such as crime and alienation. A person will weigh his cost/benefit in engaging in a crime. This represents the motivation and disincentives faced by individuals when making such a decision. The likelihood of an individual committing a crime increase when the benefits from stealing/engaging in an illegal activity to make monetary gains outweighs the cost of imprisonment. Therefore, unemployment increases criminal activity because it reduces the cost of imprisonment.

Nonetheless, despite rapid increases in economic growth since the Second World War, areas of high unemployment in the EU remain. For example, in France and Spain, there are currently high levels of structural unemployment. This kind of unemployment may not be reduced by economic growth.

c. Easier to achieve inclusive growth: easier to redistribute income and help the poor

A rapidly growing economy can afford to be more generous to the disadvantaged. The

enlarging of the nation's economic pie enables everyone to have more, including the poor. The rise in income brings about extra tax revenues, enabling the government to spend more on programmes to alleviate poverty.



'But we also want everyone to benefit from the fruits of progress and not have a large segment of our population left behind.' ~ PM Lee Hsien Loong

d. To achieve sustainable growth: Increased Savings and Investment

As national income increases, absolute savings will increase, due to the effect of higher income on induced savings. Additionally, the marginal propensity to save will increase with higher income levels as people begin to consume increasingly less out of extra income.

With an increase in savings, there will be more funds in banks and thus cause the interest rates to fall. This, in turn, will provide greater incentive for firms to invest. Consequently, this will increase a country's capital stock and will allow the potential capacity of the economy to increase. This means that future generations will be able to continue to enjoy a high material standard of living.

1.3 Costs of Economic Growth

Though economic growth is generally seen as beneficial, we should note that there are costs to it too. These costs may lower non-material living standards. For example, higher economic growth rates may lead to problems such as faster environmental degradation and resource depletion as well as a quickened pace of life that leads to stress-related health problems.

a. Inequality of Income Distribution

Growth propagates the inequality in income distribution within a country. Economic growth through the use of GDP are necessary but not reliable and sufficient to guarantee inclusive growth in the global economy. For example, if economic growth in a country is driven by exports, workers in the export-oriented industries will see an increase in their wages due to a higher derived demand for labour in these industries which may include banking or tourism industries. Therefore, a rapid growth in certain industries or sectors of the economy that produce higher value-added goods/services will cause widening income disparities within the country as it tends to provide more opportunities for those that are skilled and talented than those who are low skilled.

b. Lower non-material standard of living

The measure of non-material standard of living is obtained from large-scale surveys of individuals and captures the income and non-income determinants of well-being. These surveys provide very different stories to what the GDP data tells. For instance, in the US, economic growth has been steady for years and unemployment is at record lows. However, life expectancy has been falling due to preventable deaths such as suicide, drug overdose, alcohol poisoning, mostly amongst the educated cohort. Similarly, China, which saw an increase in GDP per capita, experienced a dramatic fall in non-material standard of living. Mental health reports and suicides increased. The unhappiest were mainly educated workers

in the private sector, precisely those who were benefiting the most from China's "new" economy because of the long working hours, lack of leisure time, deteriorating air quality due to rapid industrialisation.

c. Environmental costs and depletion of non-renewal resources

Growth encourages the creation of artificial needs and consumers tend to buy things which they have no intrinsic need. The fancy packaging and throw-away society syndrome create unnecessary waste. The higher the rate of growth and consumption, the higher the costs on the environment.

The adverse spillover costs threaten the ecological system. The uncontrolled felling of trees destroys land and primitive methods like the slash and burn approach led to the haze enveloping South East Asia in 1997, of which, the problem is yet to be resolved. The finite quantity of fuel and mineral resources has been rapidly depleted due to excessive mining and the large scale burning of fossil fuels is increasing the carbon dioxide content of the atmosphere creating a harmful greenhouse effect.

c. Overheating economy

An overheated economy refers to one that has no available capacity or one that has supply bottlenecks, resulting in a rapid increase in inflation due to further increases in AD at/close to full employment level. An increase in AD along the upward sloping portion of the AS curve will cause prices of raw materials and labour to increase as firms compete for these scarce resources. Examples of countries that have been experiencing such supply bottlenecks are China and India. They have been growing at a unsustainable rate in recent years, experiencing a combination of strong economic growth and rising inflationary pressures.

1.4 CAUSES OF WEAK/ NEGATIVE ECONOMIC GROWTH

The causes of weak economic growth can be categorised into demand and supply factors as seen below.

	Recall the determinants of investment:
1.4.1 Demand Factors	Investment projects are demanded only if
	they are profitable. Hence the determinants
Lack of Aggregate Demand	of investment are factors which affect the
	expected profitability of investment projects.

The rate of increase of AD for goods and services and the rate of economic growth are interrelated. Unemployment is inevitable if AD does not expand fast enough to keep the economy operating at its full employment output level. AD must keep pace with AS in order 'to absorb' the goods that have been produced or available inputs in the economy will lie idle, leading to a lower rate of economic growth.

Thus, any factor that causes a fall in AD may cause a recession or weak economic growth.

a. Low Rate of Investment

Physical capital refers to the stock of equipment and structures that are used to produce goods and services. Capital formation includes investment in physical capital and economic infrastructure - this enables the adoption of more efficient methods of production. The capacity of the economy grows with an increase in the amount of capital and improvement in productivity.

Investment funds must be available for capital stock to expand. Savings provide the

necessary pool of funds which entrepreneurs will mobilise for capital accumulation. It will be used to replace worn-out capital goods, or expand the supply of capital goods available to each worker. The rise in the ratio of capital to labour is known as <u>capital deepening</u>. It is important to increase the quantity of capital per worker as this will increase the productivity of labour.

To increase output at a satisfactory rate, worn-out and obsolete capital has to be replaced with the most up-to-date and technologically advanced plant and equipment. In addition, the economy has to keep increasing the capital stock. Economic growth rate will slow down if a country devotes a higher proportion of its resources to producing consumer goods instead of capital goods.

A low rate of investment may be caused by a lack of investor confidence. If investors lack confidence, they will not invest. Since investment is geared to the future, it is dependent on expectations, which is formed by looking at the current state of the economy and political factors. A low rate of investment may also be caused by other factors, such as a high interest rate. A firm will only invest if the expected rate of return of an additional unit of investment is equal to or greater than the prevailing interest rate. The higher the interest rates, the smaller the number of profitable investments.

To have more funds for investments, a high savings rate in the country is needed, especially when there is a lack of foreign investments. However, the savings rate is low in many developing countries due to low income. This is because when a household's income is low, many needs are not satisfied and there is a need to spend a large proportion of income on consumption. In other words, the poor cannot afford to save much.

On the other hand, some developed countries such as USA, UK and New Zealand have seen a decrease in savings rates over the last few decades. Some possible reasons for low savings rate are:

- The role of central banks or market forces in decreasing interest rates and this will discourage savings.
- An erosion of traditional beliefs in the 'virtues' of savings.
- Liberalisation of the financial sector the ease of obtaining unsecured credit can lead to a decreased dependence on savings.
- An increase in the level of social security benefits such as healthcare subsidies and other forms of welfare has reduced the need to rely on savings for retirement.
- Expectations of high inflation in the future might cause households to bring forward their purchases, resulting in low rate of saving
- High income tax, which lowers disposable income relative to gross income.

b. External Shocks

In the short run, slow or negative growth can also sometimes be caused by external shocks which may lead an economy to fall into a recession. A recession is defined as a situation where the real GDP falls for two consecutive quarters.

External shocks such as a recession, which affects a country's trade partner, will result in a fall in the country's exports and hence, aggregate demand. A global recession may also reduce consumer and business confidence. Consumers will become less optimistic about their employment and income prospects in the future, while firms become less confident about their future profitability. As such, such external shocks may also reduce consumption and investment expenditures, and hence aggregate demand.

c. Political situation

Corruption has hindered economic growth in many countries (Mugabe's Zimbabwe, Duterte's

Philippines and Maduro's Venezuela Proper law enforcement and crime prevention can lower business costs and reduce the uncertainties arising from loss of property and personal injury. It will encourage savings and investment in long-term capital projects from local citizens and foreigners. There must also be enforcement of well-established property rights, contracts, including sound government policies on land and tax reforms.

Political stability is crucial to the growth process as stable dictatorships may possibly attract more investment than unstable democracies. Countries enmeshed in revolutions may default on loans and repel domestic as well as foreign investment.

Export oriented policies in countries like Japan, Singapore and South Korea have resulted in trade acting as an engine of growth for them. They are politically stable countries where a vital factor in their high growth rates seems to have been the government's adoption of policies that encouraged industries to be outward looking and competitive.

1.4.2 Supply Factors

a. Lack of Natural Resources

Natural resources are the inputs into the production of goods and services that are provided by nature such as land, rivers and mineral deposits. An increase in the quantity or quality of natural resources, such as the discovery of a new mineral deposit will shift the aggregate supply curve to the right.

Differences in natural resources are responsible for some of the differences in standards of living around the world. Some have argued that natural resources provide a limit to how much the world's economies can grow. However, the scope of generating growth from natural resources can be quite limited. Being endowed with abundant natural resources does not guarantee growth.

A weak resource base can be a serious obstacle to growth but what is more vital is entrepreneurship, skilled labour and capital to exploit whatever limited resources that are available. Switzerland, Israel, Japan, Hong Kong and Singapore have achieved high levels of living standards despite the odds against them in terms of natural resources.

Notable Quotes



'...the green revolution and the materials-science revolution have reduced the importance of natural resources in economic success. Having natural resources did not make one rich; not having natural resources did not stop one from being rich.' ~ Lester Thurow

b. Poor Human Capital

Human capital is the economist's term for the knowledge and skills that workers acquire through education, training and experience over time. Human capital raises a nation's ability to produce goods and services and hence, labour productivity.

Human resources are necessary to utilise natural resources and turn them into products. Quantity of labour depends on the size of the population and the average length of the work week. Countries like Singapore, Australia and New Zealand need to import labour to achieve economic growth with their shortage of labour and ageing population. Therefore, it is paramount for countries, facing a tight labour market, to raise labour productivity which allows them to produce more output per unit of input (in this case, labour). Quality of the labour force is more important than quantity. Workers are effective inputs in a growing economy if they are well educated, trained, healthy and motivated. They must also be geographically and occupationally mobile. The quality of labour can be improved through education and training to upgrade their skills. This is known as investment in human capital. A nation's education system plays a basic role in improving the quality of human capital. In many developing countries, the main obstacle to increase the quantity and quality of its human resources is the opportunity cost of diverting resources away from their current use. E.g. in a poor country, many children have to work to support their family and cannot attend school. In some developed countries such as the US, the declining education system has been cited as one of the reasons that have led to the decline of labour productivity.

Note: The benefits of education and training are often only realized in the long run. In the short-run, raising the educational level reduces the labour force, detracting from growth objective but in the long run, labour productivity is enhanced, leading to an improvement in economic growth.

Another special type of human resource needed is the pioneering, risk-taking, inventive spirit of entrepreneurs. Joseph Schumpeter believed that if this spirit of entrepreneurs is replaced by a security-seeking bureaucracy of managers, capitalism will decay and economic growth will be stunted.

c. Lack of technological advancement

Technological advancement involves the discovery of new knowledge, through research & development (R&D) which permits the combining of a given amount of resources in new ways so as to result in a larger output. It includes:

- New production techniques
- Improvements in the design and performance of machines
- Better organization and management processes
- More efficient transport and communication systems

Invention and innovation (the use of new knowledge to provide new products or produce existing product more efficiently) increases economic growth in two ways:

• It cuts the average cost of producing a product.

Examples: High speed electronic computers, robots, automated machines, power driven textile looms, jet-engine aircrafts, fax machines, satellites, etc.

• It opens up new investment opportunities as expansion in one industry could spread to related industries, setting off a chain reaction. New products are created for the market and this induces consumers to spend. Without spending, there would be a lower level of economic growth.

The source of many areas of technological progress is basic and applied research, the financing of which requires tremendous investment. Countries with little investment in technology will likely see slow growth with the usage of archaic production methods and equipment. However, countries with large investments in R&D may not necessarily see higher rates of economic growth as the rate of technological progress depends also on the success of the scientists and innovators. With the uncertainty of success as well as prohibitively high costs, institutional support such as government subsidy is important. Economists differ though on the quantitative importance of R&D in the growth process and the effectiveness of government strategies in promoting technological advancement.

1.5 CONSEQUENCE OF WEAK/ NEGATIVE ECONOMIC GROWTH: LOW/FALL IN SOL

When real GNP/GDP falls, an economy is producing less output for its people to enjoy. When less output is produced, fewer inputs are used. When output falls, employment declines as there will be a lower derived demand for labour, the unemployment rate rises and a smaller percentage of the capital stock at an economy's disposal is used – more of an economy's plants and equipment are running at less than full capacity. Thus, with negative economic growth (when real output falls), real incomes decline and the people's standard of living will fall.

Some key characteristics of negative economic growth:

- 1. Declining demand for output (a technical recession is defined as a fall in real GDP for 2 consecutive quarters) leading to higher levels of spare productive capacity
- 2. Contracting employment / rising unemployment as firms lay-off workers to control their costs
- 3. A sharp fall in business confidence and profits
- 4. A decrease in fixed capital investment spending because there is insufficient demand to justify new capital projects
- 5. De-stocking and heavy price discounting this leads to possibility of deflation
- 6. Reduced inflationary pressure in the labour market as unemployment rises
- 7. Falling demand for imports
- 8. Increased government borrowing

Unemployment and Lost Output

A rise in unemployment (cyclical unemployment) will occur when an economy is experiencing slower or negative economic growth caused by a fall in aggregate demand (AD).

In one sense, a rise in unemployment is simply a symptom of a more fundamental problem. The basic problem is that firms are producing less. The definition of a recession is, after all, a decline in real GDP, or real output for 2 consecutive quarters. When firms cut back and produce less, they employ fewer workers and less capital. Thus, the first and most direct cost of a recession is that we lose real goods and services that otherwise would have been produced.

A loss of employment will translate into a loss of income and hence material standard of living. There will also be a fall in non-material standard of living as a result of rising depression and stress amongst those who are unemployed. Also, with a fall in income tax revenue and rising expenditure on the unemployed (unemployment benefits) could put a strain on government budget that may negatively affect future economic growth and reduce the ability of the government to achieve its other goals. Refer to the section on unemployment for further details.

b. Lower Savings and Consumption

Households consume less due to a fall in their real purchasing power since they are unemployed. The level of savings in the economy is also lower and the level of savings among unemployed households is probably negative during these periods. Such households often spend more than they make and hence, they are likely to dissave. This also results in a fall in material standard of living of an average individual since they are able to consumer a lesser quantity of goods and services than previously. At the same time, the government will also have lesser tax revenue to channel funds for the provision of public and merit goods to improve the standard of living of individuals or narrowing the income gap.

c. Lower investment and Long-term Growth

Recessions will lead to lost output in the future. When there is a recession, the level of

investment tends to fall. The lower rate of investment and capital production will lead to lost output in the future, retarding economic growth.

Note:

The above are consequences associated with negative economic growth rates. However, very high rates of economic growth may be undesirable as well due to inflationary effects. For a fast-growing economy such as China, it is possible for the economy's AD to increase faster than the increase in its productive capacity, resulting in the economy overheating. This leads to an increase in prices but has no increase in real output.

Section Summary

- Economic growth consists of actual and potential growth.
- Actual growth is measure by the increase in real GDP.
- Actual growth may be caused by an increase in AD and/or AS.
- The change in the equilibrium point in the AD and AS curve will show the actual growth.
- Potential growth on the other hand is cause solely by an increase in AS.
- It is difficult to measure the increase the increase in productive capacity.
- Sustained EG refers to actual and potential growth. It is associated with price stability.

2 INFLATION

2.1 DEFINITION

Inflation is a situation where there is a sustained increase in the general price level.

Prices of goods and services change over time. While the prices of some goods and services increase, the prices of others could be falling. If on average, prices are rising for a sustained period of time, then inflation is said to have occurred.

2.2 terms associated with inflation

There are various degrees of inflation including:

- Mild: an inflation rate that is single digit and not distorting relative prices severely.
- Galloping: price level increasing at a higher rate at double or triple digits.
- Hyper: extremely high (more than triple digit) rate of inflation. People lose confidence in the currency which will then cease to function as a medium of exchange. May have to resort to barter trade.

Other terms associated with inflation include:

- Disinflation: slowing rate of price increases or **falling** inflation rate.
- Deflation: falling prices or **negative** inflation rate.
- Stagflation: a period of rising prices coupled with no or negligible growth in real GNP/GDP.

2.3 CAUSES OF INFLATION

2.3.1 DEMAND-PULL INFLATION

Demand-pull inflation is inflation caused by persistent rises in aggregate demand (AD) when the economy is operating close to or at the full employment level, and is usually associated with a booming economy with supply bottlenecks.

Keynesians believed that the increase in AD was largely due to increases in real variables such as consumer expenditure by households, investment by firms, government expenditure, foreign residents' demand for the country's exports, or any combination of these four.

Monetarists, however, believed that the increase in AD was largely due to increases in the money supply. They believed that rapid growth of the money supply will cause people to have more money than they require to hold and will spend the surplus, thereby increasing aggregate demand.



Either way, firms respond to a rise in aggregate demand partly by raising prices and partly by increasing output. The extent to which firms raise prices depends on the degree of slack or spare capacity there is in the economy. Inflation persists when AD rises continuously (i.e., AD curve keeps shifting to the right).



Figure 2.3.1 Demand Pull Inflation

Assume that there is a single increase in demand (or a 'demand shock'). This could be due, for example, to an increased level of government expenditure. The effect is to give a single rise in the price level.

Aggregate supply (AS) shows the total supply of goods and services that firms are able to produce at each and every price level. At lower levels of output when there is plenty of spare productive capacity, firms can easily expand output to meet increases in demand from AD0 to AD1 without raising the price levels significantly.

For inflation to persist there must be continuing rightward shifts in the AD curve as it approaches the full employment level, resulting in a sustained increase in the general price level. Such a situation where AD keeps shifting is typically associated with a booming economy with rising inflationary expectations, and hence the higher will be the resulting actual rate of inflation.

With rising inflation expectations, aggregate demand increases further from AD1 to AD2 as consumers and firms increase their current consumption and investment expenditure, respectively. Consumers will stock up on food and other items as they expect price levels to rise further in the future, increasing consumption expenditure in the current period. Meanwhile, firms will expand their production facilities and purchase more capital goods such as machines and build more factories to increase their production levels in expectation of higher profits when the general price levels finally rise in the future. As such, firms will compete for scarce resources as the economy approaches full employment (capacity) in order to expand production. Firms will bid up the prices of these factors of production, including labour and raw materials, resulting in demand-pull inflation if there is a sustained increase in AD.

2.3.2 COST-PUSH INFLATION

Cost-push inflation attributes the basic cause of inflation to supply-side factors. Cost-push inflation occurs when there is rising production costs in times of low unemployment. It attempts to explain why prices of goods and services are forced upwards by increase in factor costs.

Figure 2.3.2(a) shows the economy initially in equilibrium with the price level at 0P and output at 0YF. If there is an increase in the costs of production at all levels of output, the AS curve will shift upwards to AS1 resulting in a higher equilibrium price of 0P1 and a lower equilibrium level of income at 0Y1.



A supply-side shock caused by, for example an increase in price of imported raw materials or strong wage bargaining power by the trade unions, can lead to a persistent rise in the costs of production. As a result, the AS will shift further to AS2. This will generate a persistent rise in the price level where equilibrium is restored at the higher price of 0P2 with a further reduction in output 0Y2.

Different forms of cost-push inflation include:

a. Wage-push inflation

Cost-push inflation is usually regarded as being primarily a wage inflation process because wages constitute, by far, the greater part of total costs. Powerful and militant trade unions have considerable control over wage rates. The market power for some unions are so great that they can obtain wage increases that are greater than the increase in labour productivity, resulting in an increase in unit labour cost. Management contends that wage increases initiate price increases and therefore unions are obviously the villains in the cost-push inflation.

In general, powerful and militant trade unions that negotiate wage increases in excess of productivity growth are more likely to succeed in their wage claims the closer the economy is to full employment and the greater the problem of skill shortages.

b. Profits-Push Inflation

When faced with higher costs, employers with considerable market power 'push' the increases to consumers by raising prices of their products to maintain or seize the opportunity to increase their profit margins. The more price inelastic the demand for their goods, the less likely such behaviour will lead to a fall in quantity demanded for their products. This theory is based upon the presumption that both unions and businesses typically possess a significant degree of market power and therefore, within limits, can manipulate wages and prices independent of overall conditions of total demand.

c. Inflation due to increases in price of raw materials/inputs

Product prices may increase as a result of increases in the costs of energy or raw material inputs. An increase in the price of coal, oil and many other basic inputs or even semimanufactured goods used as component parts in the production process will manifest itself as higher consumer prices. Oil is used as a raw material in the production of plastics and a wide range of petrochemical products, besides its use as a fuel to meet transportation needs. The severe shortages in oil markets in 1973, 1978, and again in late 1999 increased business costs of production and a sharp burst of cost-push inflation followed. Oil prices are expected to rise after the announcement by Organization of the Petroleum Exporting Countries (OPEC) in December 2018 to cut its supply in 2019 to prop up prices.

d. Import-Induced Inflation

Inflation may exist in a country through higher import prices. This could be due to supply shortages or a weaker external value of the country's currency (currency depreciation). For example, 1973 – 1974, inflation in Singapore was due to higher import prices particularly, import prices of fuel and foodstuffs.

e. Structural inflation

Due to structural rigidities (e.g., immobility of labour), inflation can result even in a less than full employment situation. General supply is not responsive to general demand, because certain strategic factors of production are not available or simply because of institutional rigidities. Prices in expanding sectors increase because of slow movement of resources into that sector. It is also hard to reduce prices in contracting sectors because of low mobility of factors of production. For example, in less developed countries, where the real factors adversely affecting growth are due to the supply rather than to the demand factors.

Note that in practice, it may not be easy to identify the primary cause of inflation. An increase in aggregate demand or an increase in costs of production could initiate an inflationary spiral an interlocking process of cost increases and aggregate demand increases. Once inflation is underway, inflationary expectations will cause a spiral.



2.3.3 Interaction of demand-pull and cost-push inflation

Figure 2.3.2(b): Interaction of demand-pull and cost-push inflation

Demand-pull and cost-push inflation can occur together, since wage and price rises can be caused both by increases in aggregate demand and by independent causes pushing up costs. Even when an inflationary process starts as either demand-pull or cost-push, it is often difficult to separate the two. An initial cost-push inflation may encourage the government to expand aggregate demand to offset rises in unemployment as shown in Figure 2.3.2(b). An initial cost-push inflation causes the price level to rise from 0P1 to 0P2 with a reduction in output from 0YF to 0Y1. The increase in aggregate demand is represented by a shift of the AD curve from AD1 to AD2. Thus, output increases to the original level 0YF but the price level increases further to 0P3. This may trigger a further increase in cost of production and hence an upward shift

2.4 BENEFITS OF LOW AND STABLE / ANTICIPATED INFLATION

a. Promotes actual economic growth

If **households expect prices to rise slowly** in the future, they will have the incentive to buy more now because consumer goods and services are cheaper now. This will lead to an **increase in consumption** which will in turn lead to a rightward shift in the aggregate demand curve because consumption is a component of aggregate demand. Likewise, if **firms expect sales to rise in the future**, they will **increase their level of investments** in expectations of higher future profitability which will in turn lead to a rightward shift in the aggregate demand curve because investment is also a component of aggregate demand.

The increase in aggregate demand can lead to a more than proportionate increase in real national income due to the multiplier effect which states that one person's spending is another

person's income and income generates more spending, hence, actual economic growth can increase. There will be a lower cyclical unemployment since firms will hire more factors of production, including labour to meet the increase in aggregate demand for goods and services.

b. Promotes investment and in turn potential economic growth

When households are certain about the future value of their savings, they will have more incentive to save. This will lead to a fall in interest rates which will stimulate investment expenditure. A lower interest rate reduces the cost of borrowing for firms in order to expand their production facilities by purchasing capital goods. Therefore, a lower interest rates will increase the number of investment projects that remain profitable for profit maximizing firms to undertake. Additionally, firms are incentivized to increase investment expenditure when inflation rate is low and stable as they are able to predict future changes in cost of production and hence estimate their profits with greater certainty from a given investment project.

The increase in investment which include accumulation of fixed capital assets such as factories, machineries and etc will lead to greater rightward shifts in the aggregate supply curve. This expands the productive capacity of the economy, which raises the ability of the economy to produce a greater amount of final goods and services, promoting potential economic growth as reflected by the increase in the full employment level of national income.

c. Improvement in international competitiveness and hence actual economic growth

If domestic inflation is lower relative to inflation in other countries, this improves the price competitiveness of the domestic country's exports. When exports become relatively cheaper, foreign countries will buy the relatively cheaper exports. Assuming that the demand for exports is price elastic, quantity demanded of exports will increase more than proportionately, resulting in a higher export revenue. In addition, with relatively lower inflation rates domestically, households will switch to the relatively cheaper domestically produced goods away from imported goods.. This will lead to a fall in demand for imports and hence import expenditure. There will be an overall increase in net export revenue, raising AD and hence promoting actual economic growth. Consequently, this will raise the welfare of citizens in an economy, assuming real GDP growth exceeds population growth, increasing real GDP per capita and hence standard of living.

2.5 CONSEQUENCES OF INFLATION

Inflation is a complex phenomenon which has effects on both the domestic and external economy. Its internal and external effects depend on the rate at which the general price level is rising and its underlying causes. Inflation expectations need to be firmly anchored to maintain stable prices.

2.5.1 Uncertainty and the rate of growth falls

Many economists believe that inflation creates unemployment and lowers growth in the long run. Inflation increases costs of production and creates uncertainty. Businessmen are less willing to take the risks associated with any investment project. Uncertainties during inflation make long term planning difficult as doubts are raised about the price a given output will sell for in the future especially if the inflation rate is variable, hence making it difficult for firms to estimate their profits with accuracy. Countries with relatively high rates of inflation tend to have relatively high rates of interest to tighten lending to rein in inflationary pressures. A higher interest rate makes cost of borrowing loans more expensive, hence lowering consumption and investment expenditures. Consumers may cut back on their purchase of consumer durables, while, firms will find fewer investment projects as profitable as before. As a result, there will be a fall in AD which will adversely affect actual economic growth as economy operates further away from the full employment level. This will also raise demand-deficient unemployment as there will be a lower derived demand for labour to meet the lower production needs. In the long-run, a fall in investment expenditure also hinders potential economic growth. For further elaboration, refer to the section on monetary policy centered on interest rates.

This is particular true in the case of cost-push inflation. Firms that cannot absorb some of the higher factor prices may find it difficult to survive. Such firms may react to the increasing wage cost by employing fewer workers. This results in unemployment but not cyclical/demand-deficient unemployment.

a. Fall in Foreign Investment

If inflation is due to cost-push inflation, this will increase production cost. This increased cost coupled with the loss of confidence in the economy may discourage foreign investors from investing in the country as it is less profitable for them to do so. As such, there will be a fall in AD in the short-run and stagnation of the productive capacity of the economy, adversely affecting actual and potential economic growth. See the explanation for point 2.5.1 for further elaboration.

2.5.2 Loss in international competitiveness of exports

Ceteris paribus, if domestic inflation increases faster than foreign inflation, the prices of a country's domestically produced goods which includes exports will become less price competitive to foreigners in local currency.. Assuming that the demand for exports is price elastic, quantity demanded of exports will fall more than proportionately, lowering export revenue. Imports, on the other hand, will now be relatively cheaper than domestically-produced substitutes. As a result, the demand for imports will increase as domestic consumers switch from consuming domestically produced goods to imported goods, leading to an increase in import expenditure. Overall, there will be a fall in net export revenue as the value of exports falls while the value of imports increases. Ceteris paribus, this can lead to an unsustainable situation in the future as a country is only able to pay for its imports if it is able to sell its exports and earn other countries' currencies to pay them for their goods. Additionally, a fall in net export revenue for countries that are small and open, and hence are highly reliant on exports to drive its economic growth will be adversely affected.

2.5.3 Fall in Real Value of Savings

With inflation, savers lose. As price levels rise, the real value or purchasing power of savings deteriorate as interest rates do not rise fast enough to match the higher unanticipated inflation. Savings accounts, insurance policies, annuities, and other fixed value paper assets which were once adequate to meet rainy day contingencies or to provide for a comfortable retirement decline in real value with inflation. For example, a \$1,000 cash balance would have lost one half its real value between 1967 and 1977. Though most forms of savings earn interest, the value of one's savings will still decline if the nominal rate of interest does not increase as much as the inflation rate to accommodate the increase in general price level.

2.5.4 Arbitrary Redistribution of income

Inflation will cause an arbitrary redistribution of income. In most cases, the redistributive effects of inflation depends on whether it is anticipated and whether income receivers can adjust their nominal incomes to take into account the expected changes in the general price level. Nominal or money income measures income in monetary terms whilst real income measures the purchasing power of money income. For example, if money income remains constant and the general price level rises by 5 percent, then real income falls by 5%.

If inflation is anticipated, an income receiver may be able to take steps to avoid or mitigate the adverse effects which inflation would otherwise have on one's real income. In most cases, there will be some who gain and some who lose as a consequence of the redistributive effect. A change in an individual's real income is likely to affect their real purchasing power, and hence their material standard of living.

a. Fixed Income Earners vs Variable Income Earners

Fixed-income earners refer to the group of people whose money income has not increased with inflation. People like pensioners and fixed salaried workers will be worst off because with a fixed nominal income, their real income will decline as prices increase and they are able to buy fewer goods and services than before.

Variable income earners refer to the group of people whose income are directly related to prices. People like the producers and businessmen may benefit from inflation because rising prices may mean higher profits for them. Especially during mild inflation, the prices of goods and services rise faster than the rise in costs of production.

b. Debtors vs Creditors

Assume that the loan of a specified sum is stated in money terms and that nominal interest rate is fixed. Inflation will benefit the debtors at the expense of the creditors (i.e. creditors will be worst off) because inflation reduces the real burden of the debt. For example, a \$1000 loan is now only worth \$500 in real terms if the general price level has doubled. In cases when the inflation rate is greater than the interest rate, the gains to the debtor is greater because he is actually paying back less in real terms. On the other hand, creditors lose out because the principal sum they receive is less in terms of purchasing power.

2.5.5 Shoe-leather / Menu Costs

Shoe-leather cost refers to the time and effort wasted as people try to minimize their holdings of money. Because inflation reduces the value of money, people do not hold large amount of money. This requires them to make frequent trips to banks or ATMs, hence the term "shoe-leather costs".

Menu cost refers to the cost of constantly revising price lists, tags, as well as catalogues. The opportunity cost of the resources used for all such necessary adjustments is the menu cost of inflation

2.5.6 Breakdown in the functions of money

If inflation develops into 'hyperinflation', with prices rising perhaps by several hundred per cent or even thousands per cent per year, the whole basis of the market economy will be undermined. Firms constantly raise prices in an attempt to cover their soaring costs. Workers demand huge pay increases in an attempt to stay ahead of the rocketing cost of living. Thus prices and wages chase each other in an ever-rising inflationary spiral. People will no longer

want to save money. Instead they will spend it as quickly as possible before its value falls any further. People may even resort to barter in an attempt to avoid using money altogether. In less severe situations, people may prefer to use the currency of a foreign country which has a lower stable rate of inflation.

For example, Venezuela's inflation rate has recently hit 1.3 million percent in November 2018. President Nicolas Maduro increased the monthly minimum wage by 150% to 4,500 bolivars, fewer than \$10 at the black-market exchange rate. Citizens had complained that they could not afford basic items despite a previous 60-fold minimum increase in wage. The hyperinflation is expected to hit 10 million percent, implying that something that cost \$1 now costs \$100,000. This is attributed to years of economic mismanagement despite being an active member of OPEC, with its vital oil industry nearly at a standstill. Recently, Venezuela has seen tens of thousands of people flee the country daily to neighboring Colombia and Brazil in search of food and medicines.

2.6 DEFLATION

Deflation occurs when the inflation rate falls below 0% (a negative inflation rate). This should not be confused with disinflation, a slow-down in the inflation rate (i.e., when inflation declines to lower levels or the general price levels increase at a slower pace. **Deflation is a period when the general price level falls i.e. the cost of a basket of goods and services is becoming less expensive.** This allows one to buy more goods with the same amount of money over time.

Well-known deflation periods over the last hundred years have been related to economic crises: the United States during the Great Depression of 1929-1933, Japan 1990-2006, and Hong Kong following the Asian financial crisis of 1998-2004.

2.7 CAUSES OF DEFLATION

Economists generally believe that deflation is a problem in a modern economy because it is normally associated with a fall in aggregate demand, AD; which may be attributed to a variety of causes such as a decrease in domestic consumption or a fall in foreign demand for exports etc.

However, an increase in aggregate supply could also cause deflation. For example, the falling oil price lowers costs of production, leading to increases in aggregate supply and hence, deflation. In rare circumstances, rapid growth in technology may enable lower prices, whilst at the same time increasing output. This could be termed 'benign inflation' as output increases.

2.8 CONSEQUENCES OF DEFLATION

Under the circumstances of falling economic growth rates and wage levels, deflation is somewhat of a relief for the consumer, since general price levels are falling. Deflation can be a serious problem for the economy if a deflationary spiral develops, supported by expectations of further deceleration of the economy and price reductions. As price reductions take root in the expectations of households and firms, consumption and investment expenditures are postponed, leading to a further fall in AD, thereby causing a deflationary spiral. Some of the effects of deflation are as follows:

Holding back on consumption spending: consumers may opt to postpone demand if they
expect prices to fall further in the future.

- Lower profit margins: Lower prices would mean a reduction in revenues and profits for businesses, which can lead to firms cutting back on production plans or withholding expanding their current facilities in response to lower profitability.
- A fall in consumption and investment expenditures will lead to a further fall in AD. As firms see an unplanned increase in inventories, they respond by cutting back on production in the next period by hiring fewer factors of production, including labour. This leads to an increase in cyclical unemployment since labour is a derived demand.
- The real cost of borrowing increases: Real interest rates will rise if nominal interest rates do not fall in line with prices. When deflation occurs, the real cost of borrowing increases.

Section Summary

- There are two broad causes of inflation, namely demand-pull and cost- push.
- Demand-pull inflation is caused by increases in AD when there is limited spare capacity in the economy.
- Cost-push inflation is caused by an increase in cost of production which results in a fall in AS.
- The main problems associated with high inflation are its effects on investor confidence, competitiveness of exports and allocative inefficiency because the signaling function of prices is impaired. Ultimately, economic growth is lowered and a country's SOL will also be lowered.

3 UNEMPLOYMENT

3.1 DEFINITION

Theoretically, full employment is a situation where all factors of production such as land, labour, capital and entrepreneurship are fully utilized, i.e.; there are no idle or unemployed factors of production. Unemployment of labour refers to the situation where people who are available for work and are actively seeking work but cannot find jobs. In reality, full employment means unemployment is at the natural rate (see below) which is about 2% since it is very difficult and costly to completely reduce unemployment to zero. In other words, there will still be some people who will be unemployed even when the economy is operating at the full employment level of national income or at full capacity.

Jobs are the main source of income for most households in the world, especially in the poorer countries. Opportunities for gainful work offer households the means to increase consumption and reduce its variability. In addition to their fundamental and immediate contribution to earnings, jobs affect other dimensions of well-being, positively and negatively. Not having a job undermines mental health, especially in countries where wage employment is the norm and the lack of employment opportunities translates into open unemployment rather than underemployment. But a job prone to occupational accidents or work related diseases can damage physical health or worse. More generally, monetary, nonmonetary, and even subjective characteristics of jobs can all have an impact on well-being.

Macroeconomics

3.2 UNEMPLOYMENT RATE

The unemployment rate is calculated as the percentage of unemployed persons to the labour force, i.e.

Unemployment Rate = $\frac{\text{No. of unemployed persons}}{\text{Labour force}} \times 100\%$

3.3 CAUSES (TYPES) OF UNEMPLOYMENT

There are three main causes (types) of unemployment - frictional, structural and cyclical unemployment. Unemployment may be classified as voluntary or involuntary. Involuntary unemployment includes structural and cyclical unemployment. Frictional unemployment is a form of voluntary unemployment.

3.3.1 FRICTIONAL UNEMPLOYMENT

Frictional Unemployment exists in all healthy economies. It is shortterm and voluntary and hence is less of a concern to governments.

The labour market is characterised by a great deal of searching by both workers and firms. The unemployment that arises as workers search for suitable jobs and firms for suitable workers is called frictional unemployment. It is a result of market imperfections such as:

<u>Imperfect knowledge</u> of existing market conditions i.e. ignorance of available job opportunities.

There is always frictional unemployment given that the economy is dynamic, with jobs continually being created and destroyed and workers continually entering and exiting the labour force. It is, however, not very serious and usually of a short duration.

3.3.2 STRUCTURAL UNEMPLOYMENT

Structural unemployment – long-term and chronic unemployment that can exist even when the economy is not in recession – arises from a change in the structure of the economy and occupational immobility of labour i.e. workers do not have the relevant skills to take up jobs in the expanding industry. For example, when an economy changes from an agrarian based one to an industrial or service-orientated one, existing workers have to relocate from economically depressed areas to those that are growing or retrain themselves for a new job and this usually takes a long period of time. Structural unemployment may also be caused by long term changes in demand and supply factors affecting specific industries/areas.

a) Changes in Demand

The long term demand for a country's goods and services may fall because of a change in taste, invention of substitutes, cheaper imports and a loss of foreign market to competitors. When the demand for goods and services falls, production will decrease, leading to a drop in demand for labour. This results in unemployment in that declining/sunset industry.

Structural unemployment occurs when the retrenched workers cannot find work although job vacancies exist because the new job vacancies require skills that they do not have.

An example can be analysed in terms of US car manufacturers. When Japanese producers compete successfully in the US and European markets, demand for US cars is affected adversely. Unemployment results if retrenched workers in US car industry are not able to find alternative employment because they lack the skills needed in other expanding industries

such as the aerospace industry.

Similarly in Singapore, structural unemployment was a problem Singaporeans faced due to her economic transformation in the 1980s-1990s. Much of the structural unemployment stemmed from the progressive downsizing of the electronics industries. Low skilled workers who lost their jobs in the labour-intensive industries like plastic toys could not upgrade fast enough for the high skilled opportunities that were created in the **high end** industries such as information technology.

b. Changes in Supply

Loss of international competitiveness is a major source of structural unemployment in open economies.

Unemployment may be caused by changes in supply conditions such as exhaustion of mineral deposits and high wage costs.

An example would be the loss of jobs arising from the exhaustion of mineral deposits that forces firms to close down and the mining sector to collapse. Retrenched workers do not have the skills set required to take up jobs in other sectors. Similarly, high wage costs can increase the costs of production to the extent that firms find it unprofitable to continue production and the country loses its comparative advantage, i.e., the ability to produce the good at a lower opportunity cost compared to other countries. Workers from this industry will thus be unemployed in the same way.

Cyclical unemployment is caused by a fall in AD which reduces the demand for labour since the demand for labour is derived from the demand for goods and services.

3.3.3 CYCLICAL UNEMPLOYMENT

Cyclical unemployment is associated with economic recessions. As the economy moves into recession, aggregate demand falls. Firms see an unplanned increase in their inventories and will respond by cutting back on production in the next period by hiring fewer factors of production, including labour since the demand for labour is derived from the demand for goods and services. This will result in cyclical unemployment.. The deeper the recession becomes and the longer it lasts, the higher will cyclical unemployment become. As the economy recovers and begins to grow again, cyclical unemployment will start to fall again as firms hire workers to increase production as they see an unplanned fall in their inventories in times of high aggregate demand.

Cyclical unemployment is also sometimes known as demand-deficient unemployment.

3.4 NATURAL RATE OF UNEMPLOYMENT

The natural rate of unemployment refers to a combination of frictional and structural unemployment that persists in an efficient, expanding economy when labour and resource markets are in equilibrium. The natural rate of unemployment is unemployment is caused by supply side factors rather than demand side factors.

CONSEQUENCES OF UNEMPLOYMENT

a. Productive Inefficiency and Cost of Forgone Output to the Economy

Unemployment suggests the economy is operating inside of the PPC at say point A since labour resources are not fully utilised. This represents productive inefficiency since the cost of production could be reduced further by utilising the idle labour in the economy. Also, if all

labour resources were fully utilised, the economy could be at point B. Because the economy produces within the PPC at point A with combinations of output of 0Y1 and 0X1 instead of at point B with 0Y2 and 0X2, society is deprived of a higher output and standard of living.



b. Negative impact on government budget

The unemployed do not receive an income and thus do not pay income tax. This results in a loss of tax revenue for the government.

In countries with a welfare system, the government will also have to incur higher expenditure on unemployment benefits and other welfare payments when unemployment increases. This is a cost to society as instead of putting this money to productive use, it is handed out to people who are idle and this may reduce the incentive for them to actively seek jobs. In many parts of Europe, it common for people to remain unemployed for an extended period of time because the benefit/payout they receive from the government can sometimes be greater than their wages they would earn from being employed.

Additionally, a fall in government's may reduce its ability to achieve its microeconomic goals of attaining an efficient allocation of resources in the provision of public and merit goods and achieving a more inclusive growth by providing transfer payments.

c. Increase in Social Problems

Severe hardship and misery can be caused by prolonged periods of unemployment. A high unemployment rate usually leads to a higher incidence of deviant behaviour such as increases in theft, alcoholism, depression, child abuse, suicides, reducing non-material standard of living. Loss of employment reducing the opportunity cost of committing a crime, making individuals likely to resort to criminal activities to earn money. Hence, the government must ensure that the compensation or the unemployment benefits that is provided to an unemployed is sufficient enough to prevent them from engaging in criminal activities.

d. Hysteresis

Hysteresis refers to the loss of skills among those who are chronically unemployed. It is the cost of structural unemployment. Hysteresis results in a reduction in the productive capacity of the economy and loss of potential output in the long run (The AS curve shifts left).

Section Summary:

- 2 unemployment problems are cyclical and structural unemployment.
- Cyclical unemployment is caused by a fall in the derived demand for labour due to a fall in the demand for final products (output). It is also known as demand-deficient unemployment.
- Structural unemployment by a mismatch between the skills of job seekers and those required in job openings.

Appendix: Lorenz Curve



The Lorenz Curve is a graphical representation of the income distribution in a country. It shows the degree of inequality that exists in the country and is often used to illustrate the extent that income is distributed unequally in a particular society. The 45-degree line reflects a perfectly even distribution of income. A perfectly equal income distribution is one in which everyone has the same income. For example, in Figure 10, at Point V along the line of perfect equality, 25% of the households earn 25% of the total income in the country while at Point W, 50% of the households earn 50% of the total income.

The further the Lorenz Curve is from this line, the greater the inequality. At point U, which is on the Lorenz Curve, the bottom 50% of the households gets only approximately 13% of total income.