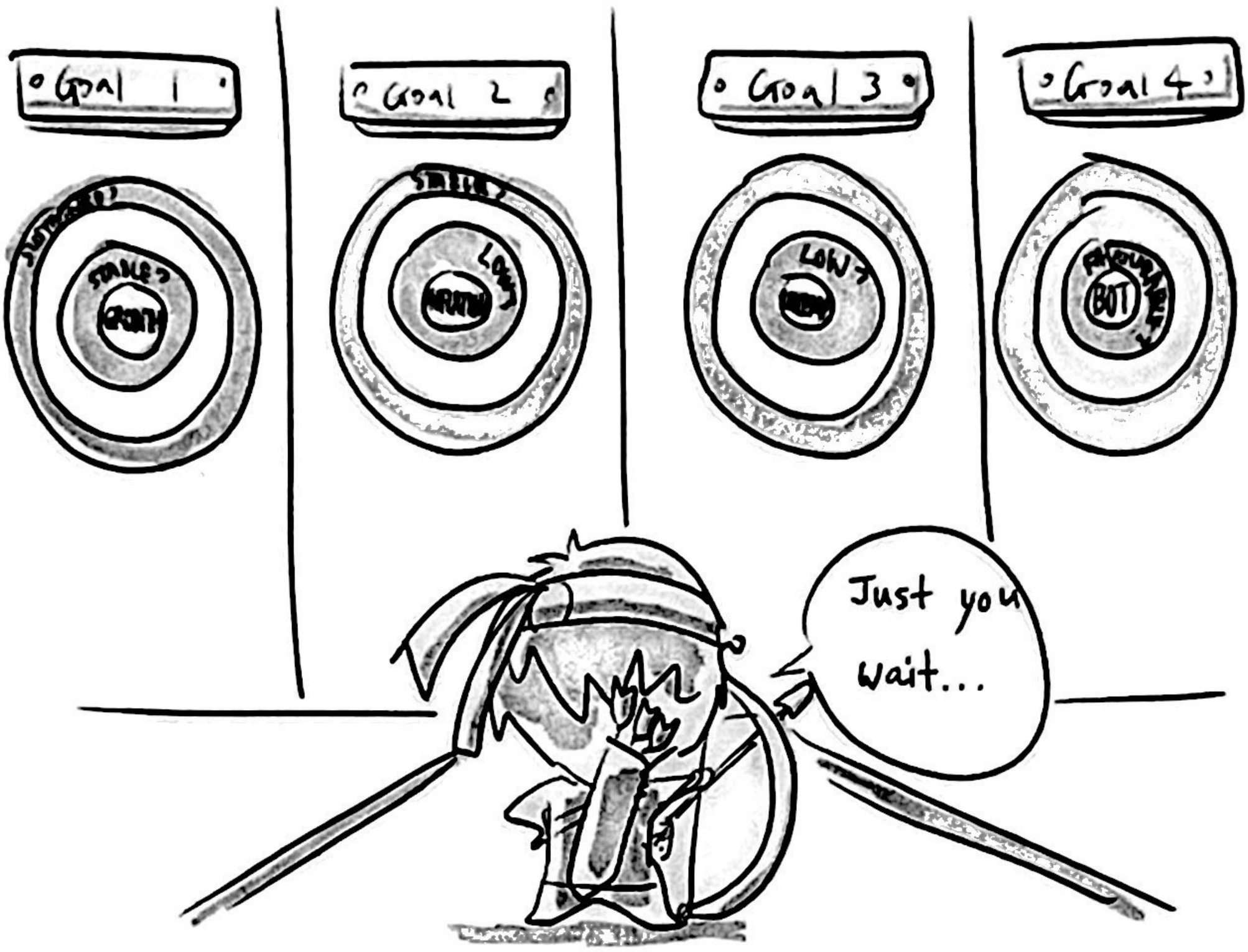
The National and International Economy II:

Part (a) Macroeconomic Aims



Name: _____

Class: _____

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Learning Outcomes

Syllabus content

3.2 Macroeconomic Aims and Policies

3.2.1 Macroeconomic aims in relation to

b) Economic performance and its indicators
- Economic growth
  - Sustainable growth
  - Inclusive growth (case of Singapore)
- Price stability
- Full employment
- Favourable position of balance of trade

3.2.2 Macroeconomic issues – causes and consequences in relation to

a) Economic growth
b) Inflation and deflation
c) Full employment and unemployment
d) Balance of trade deficit and surplus

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PART 1: ECONOMIC GROWTH

Scan here for a light-hearted video of an overview of Chapter #6 (Optional)

Part 1: Economic Growth

Conceptual outline

ECONOMIC GROWTH		
TYPES OF ECONOMIC GROWTH		
ACTUAL AND POTENTIAL GROWTH	**SUSTAINABLE GROWTH**	**INCLUSIVE GROWTH**
• Actual growth is the increase in an economy's level of real GDP over time. • Potential growth is the increase in the productive capacity of the economy which refers to the maximum output the economy is capable of producing given available resources and state of technology.	Growth is compatible with better environmental control and resources are not overused or depleted, so as to enable the economy to continue to generate growth for the benefit of future generations.	The benefits of growth are distributed equitably.
CONSEQUENCES OF ACTUAL GROWTH		
(+) BENEFITS OF ACTUAL GROWTH • Increase consumption, higher standard of living for households • Increase revenue and profit for firms • Job creation leading to reduced unemployment • Ability to achieve potential and inclusive growth	**(-) COSTS OF HIGH ACTUAL GROWTH** • Trade-off between growth and price stability, unemployment, sustainability, inclusiveness and future consumption	

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CHAPTER OUTLINE

6.1.1 INTRODUCTION

6.1.2 ACTUAL & POTENTIAL GROWTH
6.1.2.1 Meaning of Actual Growth
6.1.2.2 Meaning of Potential Growth
6.1.2.3 Importance of having Actual and Potential Growth
6.1.2.4 Consequences of Actual Growth
(A) Benefits of Actual Growth
(B) Costs of Actual Growth
6.1.2.5 Causes of undesirable rate of Economic growth and Policies to achieve Actual and Potential Growth

6.1.3 SUSTAINABLE GROWTH
6.1.3.1 Meaning of Sustainable Growth
6.1.3.2 Policies to achieve Sustainable Growth

6.1.4 INCLUSIVE GROWTH
6.1.4.1 Meaning of Inclusive Growth
6.1.4.2 Policies to achieve Inclusive Growth

6.1.5 CONCLUSION

Appendices

6.1.1 INTRODUCTION

Economic growth is one of the key macroeconomic objectives which governments pursue to achieve a successful economy.

In this chapter we will study the meaning of economic growth, its benefits and costs as well as the policies which governments use to pursue growth.

There are three types of **desirable** economic growth, namely,

Actual growth and potential growth increase in tandem	• A healthy growth is characterised by the actual growth rate growing in tandem with potential growth. • The ideal state is that the economy is producing at its potential output, thus coinciding with the full employment level of output and there are no excessive inflationary pressures. • Hence, this is the rate of growth which allows the economy to achieve **full employment without inflation**
Sustainable growth	Growth that is compatible with eco-friendly production and consumption and the **sustainable use** or **non-depletion of natural resources.**
Inclusive growth	Growth that is characterised by the **fair and equitable distribution** of the output or GDP.

Note: *if question says "Economic Growth", it normally refers to actual and potential growth.*

Ideally, the government aims to achieve the three desirable types of economic growth concurrently but in reality, there are **trade-offs.**

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6.1.2 ACTUAL & POTENTIAL GROWTH

6.1.2.1 MEANING OF ACTUAL GROWTH

Actual growth is defined as the expansion or increase in an economy's level of output or real GDP over time.

This is the most common use of the concept of economic growth and the one that is most familiar to the ordinary man in the street. E.g. It was reported in the news that the Singapore economy grew by 3.2% in 2018.

You learned the AD/AS model in Chapter 5.2.3. Here we will see how we can apply the model. Actual growth is achieved with any of the following or a combination of them:

- a rise in aggregate demand (AD)
- a rise in aggregate supply (AS)

6.1.2.1.1 Measurement of Actual Growth

- Actual growth is measured by the **rate of growth of real GDP over time.**
- It is measured by the **percentage change in the nation's real national income** over time.
- In today's context, many countries track monthly, quarterly as well as annually - commonly known as year-on-year (YoY).
- For example in Table 1, annual growth rate in GDP for 2020 is (453,821.2-479,680.9)/ 479,680.9*100 = -5.4%.

Table 1: Singapore's GDP at 2015 Market Prices and Real Economic Growth

Year	Overall GDP (S$m)	% Growth
1998	167,531.2	-2.2
1999	177,120.7	5.7
2000	193,130.9	9.0
2001	191,066.3	-1.1
2002	198,545.8	3.9
2003	207,551.4	4.5
2004	227,932.1	9.8
2005	244,705.7	7.4
2006	266,741.8	9.0
2007	290,807.6	9.0
2008	296,240.6	1.9
2009	296,599	0.1
2010	339,681.9	14.5
2011	361,210.5	6.3
2012	377,326.3	4.5
2013	395,578.7	4.8
2014	411,156.6	3.9
2015	423,444.1	3.0
2016	437,540.7	3.3
2017	457,319.2	4.5
2018	473,313.8	3.5
2019	479,680.9	1.3
2020	453,821.2	-5.4

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Source: http://www.singstat.gov.sg/

Important terms and concepts related to actual economic growth

To understand the concept of actual growth, it is important to be familiar with the following terms that are commonly used.

(1) Slowdown in Economic Growth

- The economy is said to be experiencing an economic slowdown if the actual output or real GDP continues to expand, but at a slow pace.
- For example, referring to Table 1, the real GDP in Singapore increased in absolute terms in both 2010 and 2011. However, the real growth rate fell from 14.5% to 6.3%.

(2) Negative Economic Growth

- Negative growth is a term used to describe a reduction or contraction in actual output over time.
- It is often associated with an economic recession and usually accompanied by rising unemployment in the economy. ↳ a consequetive ↓ in GDP for 2 or more quarters
- Examples of negative growth: The Great Depression of the 1930s was the longest lasting recession in the US where there was negative economic growth for many years.
- Other more recent examples include The Asian Financial Crisis (1997-98), The Global Financial Crisis (2008-2009) and Covid-19 Pandemic (2019 ongoing). Even Singapore is not spared from negative economic growth, as evident in Table 1 in 1998, 2001 and 2020.

(3) Cyclical fluctuations / the business or trade cycle

- Cyclical fluctuations refer to the periodic changes in the value of economic activity (measured by GDP) in a pattern of ups and downs. This is also known as the business cycle.
- The peaks are associated with periods of high economic growth (boom) where consumer and investor confidence are high. Prices and costs rise faster as the economy tends to operate at or near full capacity. Meanwhile the downswings are associated with a decline in GDP (also known as a recession) as consumer confidence falls. Firms cut back on production resulting in increased spare capacity and unemployment. A prolonged period of reduced economic activity marks the trough of the cycle which is accompanied by falling prices. The upswing or recovery stage happens when economic activity starts to pick up again.
- The cycles are not uniform in which some take only several months to complete while others span across several years. The long-term trend of economic growth is however, generally upward.

(4) Other related terms

- **Technical Recession**

  In reality, if an economy contracts over two consecutive quarters (i.e. over six months), it is said to be experiencing a technical recession and not a real full-blown recession. Only when the contraction persists for a longer period usually a year, the economy is said to be experiencing a full-fledged recession.

- **Hard-landing verses soft-landing**

  Hard-landing is a term sometimes used to refer to a sudden sharp or severe contraction in output, especially when an economy has been performing relatively well prior to the contraction. The contrasting term is "soft-landing" which is a reference to the gradual slow down or contraction of the economy such that there is no major rise in unemployment.

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6.1.2.2 MEANING OF POTENTIAL GROWTH

Potential growth is the increase in the productive capacity of the economy. The productive capacity refers to the maximum output the economy is CAPABLE of producing given available resources and state of technology.

It is important to note that potential growth measures the change in the economy's capacity or capability to produce and not what is actually produced. In practice, a country may or may not be producing at its potential output.

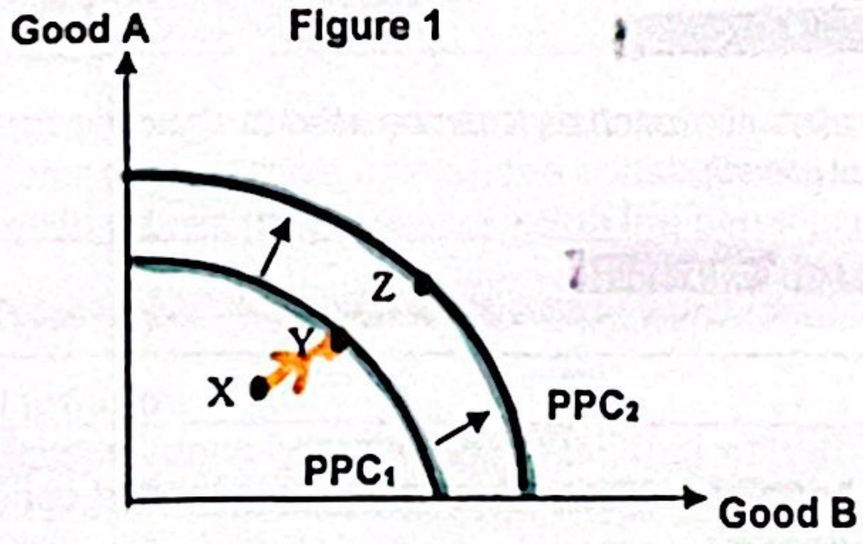
6.1.2.3 IMPORTANCE OF ACHIEVING ACTUAL AND POTENTIAL GROWTH

- For the economy to grow at an 'uninterrupted' rate, actual growth must be in tandem with the potential growth rate.
- This is because if actual growth is faster than potential growth, prices rise as the economy overheats or experiences strong inflationary pressures.
- On the other hand, if actual growth is below the potential rate, growth is said to be too slow or sluggish. When actual growth is slower than potential growth, demand-deficient unemployment becomes a problem.
- Hence, the ideal is for the economy to grow at a non-inflationary rate with full employment.

This ideal state can be illustrated on a PPC or by using the AD-AS diagram.

(a) Using PPC Approach:

Figure 1



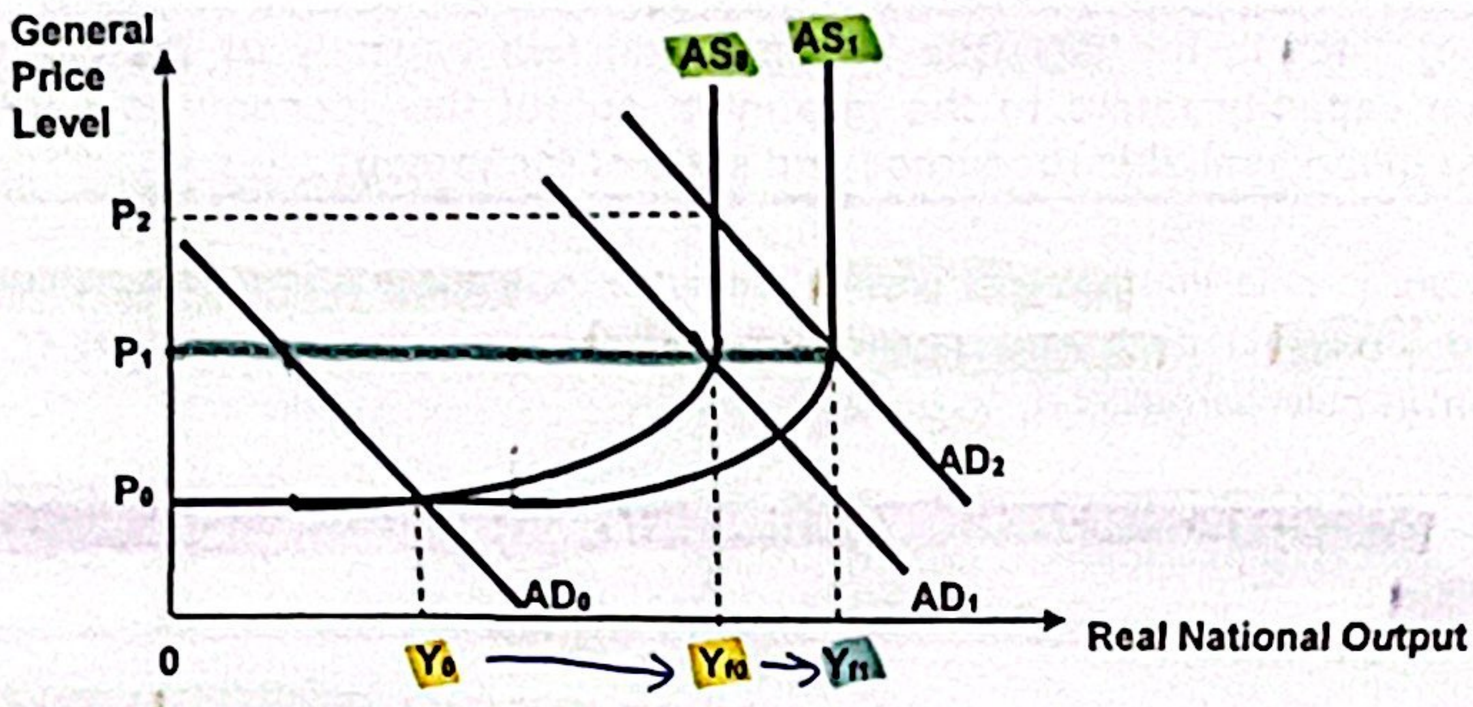
If an economy is operating inside its PPC and produces more as a result of using previously unemployed resources, or using resources more efficiently, the movement from point X towards point Y on PPC_1 represents actual growth. If PPC does not shift outwards, the economy can no longer increase output. The productive potential of an economy has to increase, this is known as potential growth. This is illustrated by an outward shift of the PPC from PPC_1 to PPC_2. With the new PPC, the economy can increase output to point Z.

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(b) Using AS-AD approach (IMPORTANT)

Figure 2



Refering to Figure 2,

- Initially, real output is at Y_0 and the economy is not operating at full employment.
- An increase in AD from AD_0 to AD_1 will raise the real output from Y_0 to Y_{f0}. This represents an increase in actual output or **actual growth.**
- For actual growth to continue in the long run, increases in AD alone are not enough. If AD continues to grow from AD_1 to AD_2 without an accompanied rise in AS, it will result in general price level increasing from P_1 to P_2 with no change in real output, leading to inflationary growth or overheating.
- An increase in AS from AS_0 to AS_1 will raise the potential full employment output from Y_{f0} to Y_{f1}. This represents **potential growth.**
- For continuous economic growth to occur there should be an increase in the productive capacity where AS_0 shifts right to AS_1. When AS shifts rightwards together with the increase in AD, real output increases further from Y_{f0} to Y_{f1}, and there is actual growth. In this diagram since price level stays at P_1, non-inflationary growth is achieved.

Note: AD-AS model is the more commonly used approach as it can be used to show the impact on general price level in addition to actual and potential growth.

6.1.2.4 Consequences of Actual Growth

(A) Benefits of Actual Growth

Desirable rates of economic growth can bring about benefits or positive intended consequences for consumers, producers and governments.[1]

(1) Consumers' perspective

Increase levels of consumption or higher material living standards

- In the study of the circular flow of income, you have learnt that an increase in real output or GDP would lead to higher incomes and thus higher purchasing power for households in the economy.
- With higher purchasing power, households can now afford to satisfy more wants via a higher level of consumption. Thus, economic growth is the key to improving the standard of living or material well-being of the average resident of the population of the country.

[1] Conversely, <u>undesirable</u> rates of growth can bring about <u>costs</u> for consumers, producers and governments.

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- The material well-being is dependent on the level of consumption per person. In practice, the real GDP per capita is used as a proxy measure. For example, in recent years, China's rapid economic growth has resulted in a surge in consumption for luxury goods like cars and smart-phones.

(2) Producers' Perspective

Increase levels of revenue and profits

Producers also stand to gain or benefit from economic growth. As more output is produced and national income increases, firms gain higher revenue and profits from sales. This in turn provides the incentive for firms to invest in more production capacity e.g. build more factories and retail outlets; purchase more equipment and tools etc. Growth stimulates more business investment.

(3) Government's perspective

Creates jobs, reduces unemployment

- When the economy grows, more output is produced and to increase production, more factors of production are employed, reducing cyclical unemployment. Cyclical unemployment occurs during the downswing of the business cycle, where a fall in output results in workers being retrenched.
- On the other hand, if the economy grows due to a rise in potential growth which is largely brought about by increases in productivity through training and reskilling, it may help to reduce structural unemployment which occurs due to a mismatch of skills when job seekers are unable to find suitable jobs because their skills do not match those required by employers.

Achieves potential growth, sustainable growth & inclusive growth

Economic growth makes it possible for the government to collect more tax revenue to finance various public expenditure e.g. education, health-care and infrastructure which further enhances potential growth. At the same time, more tax revenue can be used to increase spending on environmental friendly infrastructure like using solar energy to power the streets, HDB flats and government buildings for a more sustainable growth and social spending so as to narrow the income gap between the rich and poor, achieving a more equitable distribution of income or inclusive growth. Note that this is possible depending on how the government spends the tax revenue collected.

(B) Costs of Actual Growth

Economic growth, though resulting in many economic and social benefits to the people in the country, is not without costs or negative unintended consequences. In some situations, after some point, the costs of economic growth may even outweigh the benefits received.

(1) Trade-off between Growth and Price Stability

Demand-pull Inflation

- If potential growth does not increase in tandem with actual growth, i.e. potential growth is slower than actual growth, it results in inflationary pressure as the capacity of the economy cannot cope with rising demand. This is evident in emerging economies such as China or India. These countries are experiencing high economic growth and faster increase in price level.
- This form of inflation is called demand-pull inflation.

(2) Trade-off between Growth and Unemployment

Structural Unemployment

- Rapid growth is often accompanied by structural changes associated with a dynamic economy. A dynamic economy is often characterized by rapid innovation and technological changes as the economy moves up the value chain.
- For example, as the Singapore economy grew over the years, the economy transformed itself from dependence on exporting low-end manufacturing to high-end knowledge-based goods and services. Low-skilled workers may find themselves at the mercy of rapid economic growth as their

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skills and knowledge become obsolete. As a result, the workers may be made redundant as they can be replaced by machines quite easily.

- This form of unemployment is structural as the workers do not have the necessary skills demanded by employers in the new economy.

(3) Trade-off between Growth and Sustainability

Environmental Pollution, i.e. Negative Externalities

- Economic growth is often accompanied by rapid industrialisation which, unless carefully managed, causes deterioration of the environment such as air and water pollution, industrial noise and stench, congested cities and traffic jams. The more rapid the growth, the more serious is the problem associated with negative externalities.
- China for example is amongst the countries which experienced the fastest economic growth, but it is also the top emitter of greenhouse gases each year.
- As an economy grows and the country becomes more developed, there is also the problem of urbanisation. Rapid urbanisation leads to the destruction of green spaces (e.g. lush greenery) causing the loss of space for leisure pursuit and loss of a more relaxed lifestyle.

Depletion of Natural Resources

- Economic growth that is too rapid may bring about the depletion of non-renewable (e.g. fossil fuels) resources or over-use (i.e. faster than the rate of replenishment) of renewable resources such as over-fishing and over-logging.
- Unless measures are put in place to encourage sustainable use of resources e.g. regulation against over-fishing or over-logging, and unless viable alternatives can be found for various minerals and fossil fuels, present growth may lead to insufficient amount of natural resources available for future generations, which impedes potential growth

Note: However, environmental consciousness tends to increase with increase in affluence. The regulation on pollution tends to be stricter in developed countries than in the developing countries. Developed countries have more resources to deal with environmental problems.

(4) Trade-off between Growth and Inclusiveness

Worsen Income Inequality

- Rapid economic growth may result in widening income disparities between the rich and poor.
- The rich are usually the more mobile, entrepreneurial and highly-skilled segment of the population. Economic growth presents more opportunities for this group of people to earn higher incomes as well as exploit business opportunities to make profits.
- On the other hand, the poor are usually those who are unskilled with low education. They generally fit into low-paying jobs. Thus, their earning power tends to lag behind that of the rich.
- The growing income divide, if unresolved, poses a potential threat to social and political stability. The poor may become disenchanted with society and the political system. Widening income disparities can become socially divisive as those left behind (i.e. so-called have-nots) feel marginalised. Such social discontent can erupt into civil strife and political upheaval, thus derailing economic growth.

(5) Trade-off between present and future consumption

An important source of economic growth is investment in both physical and human capital. For there to be investment, there must first be savings. In the attempt to save more, people will consume less. Therefore, there is a trade-off between current consumption and future consumption — which is achieved through investment in more capital goods.

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6.1.2.5 CAUSES AND POLICIES TO ACHIEVE ACTUAL & POTENTIAL GROWTH

Note: Details on policies will be covered in Chapter 7.

In order to ensure that the economy grows at the desired rate, the government has to implement policies to allow both actual and potential output to grow in tandem. By this we mean actual growth must neither exceed nor fall behind potential growth, or vice versa. This implies that the government must manage both the AD and AS side of the economy.

Problem	Representation in AD/AS diagram	Policy's Intent	Policies
• Slowdown in actual growth • Negative actual growth	• AD rising slowly • AD falling	Target C, I & G in AD	• Expansionary Fiscal policy: Increase government spending and/or reduce tax. • Expansionary Monetary policy: Reduce interest rates to encourage consumption and investment.
		Target (X-M) in AD	• Depreciation/Devaluation of exchange rate thereby making imports more expensive and exports cheaper. • Engaging in protectionism such as imposition of tariff to make imports more expensive.
Actual growth is too fast	AD rising too fast with no or little increase in AS	Target C, I & G in AD	• Contractionary Fiscal policy: Decrease government spending and/or increase tax. • Contractionary Monetary policy: Increase interest rates to discourage consumption and investment.
		Target (X-M) in AD	• Appreciation/revaluation of exchange rate thereby making imports cheaper and exports expensive.
		Target AS	Supply side policies to improve quantity and/or quality of resources such relaxing immigration policies to raise labour force (quantity) or training programmes to raise productivity of labour force (quality).

Article on growth in Singapore

Restructuring squeeze amid slow growth (The Straits Times, 6 Jan 2015)

THE New Year parties are over, but Singapore's economy is still suffering a hangover from 2014.

A potent mix of plummeting oil prices, a lacklustre global economy, the prospect of higher interest rates and domestic restructuring pressures is expected to dampen the economic outlook in 2015. "There's been a change in the date but the prospects are similar and the risks remain," said CIMB economist Song Seng Wun.

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So what are the prospects for the different sectors and the macroeconomic outlook?

Mixed mood in manufacturing
LOOKING at the year ahead, economists say the lethargic global economy will remain a weight on Singapore's factories and exports. The outlook for the euro zone and Japan remains moribund, while China's growth is slowing. One bright spark is the strengthening United States economy, which is expected to boost global growth this year. United Overseas Bank economist Francis Tan said this should lift manufacturing segments which export mainly to the US, like semiconductors.

Trade agency IE Singapore is tipping growth in exports of between 1 per cent and 3 per cent this year. This is up from a decline of 0.68 per cent in the first 11 months of last year, and a 6 per cent contraction in 2013.
However, restructuring is still taking its toll on manufacturers, who have been struggling with the tight labour market and rising business costs, said DBS Bank economist Irvin Seah in a research note. The "only saving grace" for manufacturers is the falling price of oil and other commodities, which might provide some breathing room, he added.

Growth in the manufacturing sector is likely to languish until the second quarter, when a pickup in global economic conditions is expected, said Mr Seah.

Slowdown in services
THE service sector will not be spared the effects of heightened global volatility and increased uncertainty, Mr Seah added.

Tepid regional trade will slow down transport and wholesale trading, while financial and business services will bear the brunt of asset market swings. The tourism industry will also continue to be weighed down by slowing visitor arrivals from China, he said. The ongoing labour crunch is the service sector's most pressing concern. Supply-side constraints will result in service firms missing out on opportunities both in Singapore and abroad, said UOB's Mr Tan.

Softening construction
THE property downturn and some delays in government-funded infrastructure have weighed on building activity, dragging down the construction sector's growth for a few quarters. These trends will continue this year, said DBS' Mr Seah. "We don't see any unwinding in the property market cooling measures until interest rates rise."

Higher levies for foreign construction workers will further crimp growth. "Construction companies will have their margins squeezed, with revenues not improving significantly and costs persistently rising," Mr Seah said.

Inflation
WITH oil prices still plumbing multi-year lows and the housing market expected to stay soft, Singapore may continue to flirt with deflation - defined as a fall in consumer prices - this year.

Overall inflation here dropped below zero last month for the first time since the global financial crisis in 2009, and some economists believe this trend could persist for a few months. Citi economist Kit Wei Zheng said last month that inflation could stay "near zero" for the first six months of this year.

But Barclays economist Leong Wai Ho pointed out that the absence of inflation applies only to overall prices. Core inflation, which excludes private road transport and accommodation costs and is seen as a better gauge of everyday expenses, is likely to stay in positive territory. "We expect core inflation to be higher than headline inflation and the divergence to widen," he said. Indeed, the Government tips overall inflation of just 0.5 to 1.5 per cent next year but "firm" core inflation of 2 to 3 per cent.

Still, the lessening of inflationary pressures could give the central bank some room to ease monetary policy, although that may not happen unless a more significant drop in prices materialises, said Mr Kit and Mr Leong. If the Monetary Authority of Singapore relaxes its stance of a gradual appreciation in the Singdollar this year, it would be for the first time since April 2012.

Restructuring and labour productivity
COMPANIES will continue to feel the squeeze from ongoing restructuring efforts, which have been under way since 2010, as the Government tightened foreign labour supply. This has raised business costs for some companies, and constrained others' ability to expand.

Although tighter foreign worker supply was meant to drive up productivity, such an outcome hasn't materialised. Labour productivity dipped 0.5 per cent in the first three quarters of last year, after falling in both 2012 and 2013.

But companies might get some respite in costs. CIMB's Mr Song noted that rentals are moderating amid a soft property market and utility bills are declining due to lower global oil prices, so "almost every aspect of costs with the exception of wages will be slightly more favourable". Wage growth will be modest even in a tight labour market, as global growth is tepid, he said.

So where does this leave the Singapore economy in 2015?

Most economists seem to agree that this will not be an easy year - in the latest MAS poll, they tipped 3.1 per cent growth for 2015, down from their earlier estimate of 3.7 per cent. Making predictions has always been a risky business, but one thing does seem clear - it will be a bumpy year ahead for Singapore's small and trade-dependent economy.

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6.1.3 SUSTAINABLE GROWTH

6.1.3.1 MEANING OF SUSTAINABLE GROWTH

Sustainable growth indicates 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 term sustainable growth is a reference to the concept of **Green GDP**.

There is a trade-off between rapid economic growth today, and growth in the future. Rapid growth today may exhaust resources and create environmental problems for future generations, including the depletion of oil and fish stocks, and global warming.

Economic Growth cannot be Sustainable with the Depletion of Resources

- For an economy to continue to grow in the future, the rate of growth has to be sustainable. However, economic growth tends to bring about the depletion of resources, which are generally non-renewable in nature.

- Many of the world's most valuable finite resources are being extracted at increasingly rapid rates, hence the question of the long-term sustainability of growth. Examples include the destruction of rain forests, the over-exploitation of fish stocks and loss of natural habitats created through the construction of new roads, hotels, retail malls and industrial estates. Unless viable alternatives can be found for various minerals and fossil fuels, present growth rates may lead to insufficient amount for future generations which impedes potential growth.

- Hence, there will be a trade-off between the goods currently produced and those produced in the future, i.e. higher growth in current output comes with an opportunity cost in terms of slower growth in future output since more resources are allocated to producing goods to be consumed now, leaving fewer resources for future production hence future growth cannot be sustainable.

Economic Growth Creates Environmental Pollution

- Economic growth is often accompanied by rapid industrialisation which, unless carefully managed, causes deterioration of the environment in terms of negative externalities such as air and water pollution, industrial noise and stench, congested cities and traffic jams.

- The more rapid the growth, the more serious the deterioration of the environment with increased level of economic activities. Such pollutants generated give rise to global warming which has a long term effect on the environment. In fact, global warming and climate change have become an iconic threat to sustainable growth. It is a global concern and thus internationally co-ordinated attempts have been made to address the problem via the United Nations Framework Convention on Climate Change (UNFCCC) such as the Kyoto Protocol (Japan, 1997), the Copenhagen Summit (Denmark, 2009), the Paris Agreement on Climate Change (France, 2015) and COP26 (Glasgow 2021). The key focus of these conferences is to reduce CO_2 emissions globally in order to avoid the catastrophic consequences associated with climate change e.g. melting ice caps, rising sea levels and extreme weather conditions.

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- China for example, is amongst the countries which experienced the fastest economic growth but is also the top emitter of greenhouse gases each year. If unchecked, the unfettered emissions of CO2 or carbon emissions into the environment pose a grave danger to future growth via the devastating effects of climate change e.g. extreme weather conditions may lead to food shortages and rising sea levels and flood lead to the destruction of property and lives and in some instances the very existence of the country (e.g. Maldives).

- Thus the concept of sustainable growth is linked to growth rates that are compatible with eco-friendly practices and the sustainable use of natural resources e.g. fossil fuels and regulation of fisheries and exploitation of forest and underground mineral resources.

- **The focus on environmental protection is to reduce negative externalities.** Growth which neglects or ignores environmental degradation cannot be sustainable in the long run. To feed our growing appetite for consumables due to economic growth, large scale agriculture and cattle ranching are responsible for deforestation while palm oil development and pulp and paper plantations are responsible for forest degradation.

6.1.3.1.1 Measurement of Sustainable Growth

- **The green gross domestic product** (green GDP) is an index of economic growth with the environmental consequences of that growth factored into a country's conventional GDP.
- Green GDP monetizes the loss of biodiversity and accounts for costs caused by climate change.
- Calculating green GDP requires the net natural capital consumption, including resource depletion, environmental degradation, and protective and restorative environmental initiatives, to be subtracted from traditional GDP.

Green GDP = Traditional GDP – Net Natural Capital Consumption

- Some environmental experts prefer physical indicators such as "waste per capita" or "carbon dioxide emissions per year", which may be aggregated to indices such as the "Sustainable Development Index".

Traditional measure of GDP is inadequate

- Natural resources in particular is poorly represented in GDP as resources are not adequately considered as economic assets.
- Relative to their costs, companies and policy makers do not give sufficient weight to the future benefits generated by restorative or protective environmental projects. Moreover, important positive externalities that arise from forests, wetlands and agriculture are unaccounted for or otherwise hidden because of practical difficulties around measuring and pricing these assets.
- Similarly, the impact that the depletion of natural resources or increases in negative externalities such as pollution can have on the future productive capacity of a nation are unaccounted for in traditional GDP estimates.

Case study on using Green GDP

- In 2004, Wen Jiabao, the Chinese premier, announced that the Green GDP index would replace the Chinese GDP index itself as a performance measure for government and party officials at the highest levels. The first green GDP accounting report, for 2004, was published in September 2006. It showed that the financial loss caused by pollution was 511.8 billion yuan ($66.3 billion), or 3.05 percent of the nation's economy.
- Independent estimates of the cost of environmental degradation and resource depletion have for the last decade on China ranged from 8 to 12 percentage points of GDP growth. These estimates support the idea that by using this measure, the growth of the Chinese economy is close to zero.

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6.1.3.2 POLICIES TO ACHIEVE SUSTAINABLE GROWTH

Policies to achieve sustainable growth would need to prevent the depletion of resources and to reverse the climate change. These policies could range from policies which prevents overfishing, reduces dependency on fossil fuel by switching to renewable alternatives and regulations which cuts greenhouse gas emissions.

Article on Sustainable Growth – Singapore is vulnerable to climate change

PUB looking to guard reservoirs against rising seas

PUBLISHED: 1:45 PM, JANUARY 27, 2016, UPDATED: 10:19 PM, JANUARY 27, 2016

SINGAPORE — The Public Utilities Board (PUB) is looking at ways to protect Singapore's coastal reservoir structures from rising sea levels.

To do this, the national water agency has called for a tender for an engineering study to be conducted at 11 of the Republic's 17 reservoirs, it said in a statement today (Jan 27).

The study would review the design of existing structures — such as dams, tidal gates, dykes and spillways — and assess their adequacy to cope with projected sea level rises. Dams and dykes are especially important in estuarine reservoirs, where they work as tidal barriers to prevent seawater from entering the water supply.

In addition, the study will also look into measures of improving the reservoirs' ability to withstand higher sea levels, such as the raising of tidal gates and the installation of buffer beams.

Mr Tan Nguan Sen, the PUB's chief sustainability officer, said that such studies would help the agency "prepare for future sea level rises" and "take early steps to protect coastal reservoirs against seawater intrusion up to the year 2100".

Experts say that rising sea levels could have a devastating effect on Singapore, as 30 per cent of the island lies less than 5m above the mean sea level. The first phase of the 2nd National Climate Change Study, conducted by the Centre for Climate Research Singapore last year, predicted that average sea levels could rise up to 0.76m by the end of the century.

The Government has already taken several measures to prepare for rising sea levels in the future: Last week, The Straits Times reported that Nicoll Drive, which runs along the Changi Beach coastline, was being raised by 0.8m, and in 2011, the minimum land reclamation level was raised by 1m. This brought the new level to more than 2m above the highest recorded sea level, well above projected sea level rises.

The study will cover all nine estuarine reservoirs, along with the Pandan Reservoir and Jurong Lake.
ASHUTOSH RAVIKRISHNAN

Source: www.todayonline.com, accessed 19 July 2016

6.1.4 INCLUSIVE GROWTH

6.1.4.1 MEANING OF INCLUSIVE GROWTH

Inclusive growth is economic growth that is distributed fairly across society and creates opportunities for all. (OECD)

- Rapid economic growth may result in widening income disparities between the rich and poor.
- In the case of Singapore, the government strives to achieve inclusive growth that takes income distribution into consideration to prevent worsening income inequality.

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- The focus is on productive employment for all groups rather than on income redistribution as the means of increasing incomes for the excluded.
- In contrast to pro-poor growth[2], inclusive growth entails a focus not only on one group but more generally on those parts of the population or the labour force that are excluded from the growth process or do not get the opportunity to participate in economic processes according to their potential. Therefore, this explains why there is a trend towards governments caring not just about the level of growth but also about the distribution of its benefits.

6.1.4.2 POLICIES TO ACHIEVE INCLUSIVE GROWTH (SINGAPORE)

(1) Inclusive Growth Programme

The Inclusive Growth Programme (IGP) was launched by the Labour Movement in 2010 to catalyse industry re-development, promote inclusive growth and to ensure sharing of productivity gains with workers through higher wages. Companies are provided with funding to enhance business operations to drive higher productivity and to upgrade their workers' skills and to equip them with new skills, making them multi-skilled and share the gains of growth with them.

(2) Strengthening Social Safety Net

Measures are targeted towards alleviating the cost burden of the lower and middle income groups and in facilitating social mobility. Tax rebates and more GST vouchers have been given. More subsidies are also provided in areas of healthcare and education.

Article on Inclusive Economic Growth

Singapore tumbles in WEF index that measures inclusive economic growth

PUBLISHED: JANUARY 16, 2017

For six years running, Singapore was ranked the second-most competitive economy in the world by the World Economic Forum (WEF), right behind Switzerland.

But the Republic took a tumble in the leaderboards in a new report released today that measures how inclusive and equal countries' economic performance is. Switzerland fell to third place behind Norway and Luxembourg among 30 advanced economies.

While the traditional rankings prized performance in categories Singapore gets top marks in - such as higher education and training, and goods market efficiency - the new index has indicators that measure how well economic performance translates into social inclusion, such as asset building and entrepreneurship, employment and labour compensation, and fiscal transfers.

The new yardsticks come a day before world leaders converge in Davos for an annual meeting in the Swiss town, and are part of the WEF's call to governments to shift their economic policy priorities to respond more effectively to the insecurity and inequality that accompany technological change and globalisation. This means countries that prioritise widespread enjoyment of the fruits of economic growth rank higher than under the old gross domestic product-prioritising competitiveness model.

Rounding out the top five are Iceland and Denmark, which were ranked 27th and 12th respectively under the old model. Singapore did not receive an overall rank because of missing data, said the WEF, although average scores put it around eighth place.

It topped two of the 15 categories judged: health services and infrastructure, and how easy it is for businesses to raise capital. But it scored near the bottom in three areas: access to education and skills, how concentrated wealth is, and social welfare.

[2] Pro-poor growth refers to growth targeted at increasing the incomes of the poor relative to the rest of the population

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While it did well in primary enrolment and has no gender gap in education, the island scored poorly relative to other advanced economies in the average number of years of schooling that Singaporeans get.

Its score was equally dismal in the numbers enrolled in technical and vocational schools.

The issues are inter-related, said National University of Singapore (NUS) sociologist Paulin Straughan, who noted that aspirations and test scores have risen faster than the number of university places here.

Historical reasons have also led to a large gap in wages between white- and blue-collar jobs that push people away from becoming plumbers and carpenters, she added. "Over time, our society has developed a hierarchy of jobs and of pay, where we underpay the skills-oriented kind of vocation and overpay the other segments," she said.

Singapore also lagged behind in a category that measures how far a country is from becoming a rentier society, through yardsticks such as the gini coefficient, competitiveness of local markets, and whether there is a banking monopoly. In this area, Singapore ranked 22nd out of the 30 advanced economies.

But a low ranking here is not necessarily trouble as what matters is that small and medium-sized enterprises can survive and wage earners can make a decent living, said NUS sociologist Tan Ern Ser. "There is a need to ensure social justice without harming the incentive for work and doing business," he said.

The WEF also proposed a set of key performance indicators that it said gives "a more complete picture of national economic performance" than from GDP alone, particularly if the ultimate goal of development is sustained and well-rounded advancement of living standards rather than just greater production of goods and services.

In this Inclusive Development Index, a country's GDP per capita is just one of 12 indicators alongside others such as the dependency ratio, poverty rate and adjusted net savings. Countries that scored much better on this index include Cambodia, the Czech Republic, New Zealand, South Korea and Vietnam.

Those that fared badly include traditional economic powerhouses such as the US and Japan, as well as Brazil, Ireland and South Africa. The report noted that while the past few years have seen a worldwide consensus emerge on the need for more inclusive growth, there is still more talk than action.

"This report seeks to help countries and the wider international community practise inclusive growth and development by offering a new policy framework and corresponding set of policy and performance indicators for this purpose," it said.

Top countries in inclusive growth and development

The World Economic Forum's latest report measures countries' performance in areas such as home ownership and productive employment, compared with the traditional Global Competitive Index, which looks at indicators such as macroeconomic environment and market size.

Rank	Country	Global Competitive Index Rank	Rank	Country	Global Competitive Index Rank
1	Norway	11	6	Sweden	6
2	Luxembourg	20	7	Netherlands	4
3	Switzerland	1	8	Australia	22
4	Iceland	27	9	New Zealand	13
5	Denmark	12	10	Austria	19

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The Inclusive Development Index measures countries' performances in seven areas and 15 sub-categories. Here's how Singapore fared in the 30 countries that make up the advanced economies of the world.

Areas and sub-categories	Rank (out of 30)	Bottom 20 per cent → Top 20 per cent
Education and skills	7	
• Access	25	
• Quality	5	
• Equity	5	
Basic services and infrastructure	2	
• Basic and digital infrastructure	2	
• Health services and infrastructure	1	
Corruption and rents	8	
• Business and political ethics	3	
• Concentration of rents	22	
Financial intermediation of real economy investment	2	
• Financial system inclusion	18	
• Intermediation of business investment	1	
Asset building and entrepreneurship	5	
• Small business ownership	4	
• Home and financial asset ownership	7	
Employment and labour compensation	7	
• Productive employment	4	
• Wage and non-wage compensation	10	
Fiscal transfers	22	
• Tax code	7	
• Social protection	29	

Source: THE INCLUSIVE GROWTH AND DEVELOPMENT REPORT 2017 STRAITS TIMES GRAPHICS

6.1.5 CONCLUSION

This chapter has given you an overview of the meaning and desirability of economic growth.

Economic growth has a central place in the study of macroeconomics because it is the key to increasing the material aspect of standard of living. It is also linked to the very reason why we study economics - economic growth is really about how society can overcome the constraints of resource scarcity so as to satisfy our more and more of our unlimited wants with limited resources. Thus shifting the PPC outwards to represent economic growth exemplifies the quest to increase the level of consumption over time. A higher level of consumption is desirable because it increases the level of economic welfare or well-being.

However, this push to increase the level of consumption over time comes at a cost of balancing trade-offs. The government has to balance the desired rate of economic growth to take into account the country's current productive capacity (i.e. aim for an economic growth to be continuous), the environmental impact and depletion of resources (i.e. aim for a sustainable growth) as well as equitable distribution of income (i.e. aim for inclusive growth).

In reality, as the policy maker, balancing trade-offs is a huge challenge for the government.

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Tutorial 6.1

Question 1
2014 TYS Q6a

Since the economic crisis of 2008, rates of economic growth across the world have differed considerably.

(a) Explain the key determinants of actual and potential economic growth. [10]

Question 2 – optional question
2017 TYS Q6a

The Singapore economy grew by 1.8% on a year-on-year basis in the second quarter of 2015, sharply lower than the 2.8% growth in the preceding quarter, the Ministry of Trade and Industry (MTI) announced on Tuesday 11 August 2015.

(a) Explain the internal and external factors that are likely to have contributed to this slowdown in the economic growth rate. [10]

Question 3
2019 TYS Q5a

There is potential for governments to achieve both inclusive growth and sustainable growth.

a. Explain what is meant by inclusive growth and sustainable growth [10]

Question 4
2012 TYS Q2: China overtakes Japan as world's second-largest economy

Table 2: Growth in real gross domestic product: %change per annum

	2005	2006	2007	2008	2009
China	+9.9	+11.1	+11.4	+9.6	+8.7
Japan	+1.9	+2.0	+2.4	-1.2	-5.2

Source: various

Table 3: Total trade in goods: US$ at current prices (millions)

		2005	2006	2007	2008	2009
China	Exports	761,953	968,978	1,220,456	1,430,693	1,201,534
	Imports	659,953	791,461	956,116	1,132,567	1,005,688
Japan	Exports	594,941	646,725	714,327	782,047	580,719
	Imports	515,866	579,064	622,243	762,534	551,960

Source: World Trade Organisation

Extract 4: China growth slows as Beijing applies the brakes

China's first interest rate rise in over two years this week was a further bid to curb rising inflation, which was 3.6% for the third quarter of 2010, well above the official target of 3%. Analysts reacted largely positively to the data, judging that a short-term risk in a slowdown in demand from China was offset by the long-term need to tackle rising inflation. They said that the surprise interest rate move was a reflection of the underlying strength of China's economy.

'In the short term the slowdown means China will demand less goods from the rest of the world,' said a China analyst. 'But in the long term, the slowdown could be a benefit to the world economy because the Chinese economy cannot keep growing at such a high pace and in such an unbalanced way.'

The strength of the economy may also give China more room to accommodate demands from Europe and the US to allow its currency, the yuan, to appreciate further. Pressure is growing in the US, where lobby groups accuse China of undervaluing its currency by up to 40% and costing millions of US jobs.

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The yuan has risen by just 2.6% since June, when Beijing scrapped its peg with the US dollar, a move the US has said is insufficient. However, some analysts said the latest data suggested that China's economy could now withstand faster appreciation.

This week China's leaders met to discuss a new five-year economic plan for 2011-2015 that is aimed at creating more sustainable growth, raising the share of wages and spreading investment inland from the traditional coastal manufacturing hubs. Most forecasts show GDP growth slowing to an average of about 7.5% by 2015.

Source: *Daily Telegraph*, 21 October 2010

Extract 5: China's growth past, present and future

China overtook Japan as the world's second-largest economy during the second quarter of 2010. With its economy growing at around 9% a year, some exports now expect China to outstrip the US as soon as 2030. In contrast, the faltering Japanese economy grew by just 0.1% in the three months to June 2010. Japan's GDP of US$1.28 trillion was surpassed by China's GDP of US$1.33 trillion.

China's spectacular growth since the introduction of free-market reforms three decades ago has seen it racing up the world league of economic powers. Just 10 years ago, it was the sixth-largest in the world but has since outstripped Britain and France in 2005 and Germany in 2007. It overtook Germany as the world's largest exporter in 2009. A leading economist said. 'Clearly it was inevitable, it was just a question of when it would happen – just as it is pretty inevitable in the long run that it will be bigger than the US as well, because it has four times the population.'

For Japan, the figures reflect the continued decline of a nation that has held the second spot since 1968, when it overtook Germany, the result of Japan's remarkable rise as a manufacturing and financial giant after the Second World War. But the 'economic miracle' came to an abrupt end in the early 1990s when a property bubble burst. What followed was a lost decade, and the country has never fully recovered. Today, it faces deflation, an ageing population and decreasing population and only minimal growth.

China's rapid growth has not come without cost, causing huge social upheaval, including large-scale migration from the countryside to cities, which are growing at an unprecedented rate. China's urban population is expected to almost double by 2025, when it will have 221 cities with populations of more than 1 million, compared with 35 cities in Europe.

The economic growth figures also mask huge disparities of income in China, which has a population of 1.3 billion: the UN estimates that 300 million have been lifted from poverty since the reforms began, but while luxury boutiques spring up in Shanghai and Beijing, hundreds of millions still live in severe hardship, particularly in rural areas. Japan's people, on the other hand, are still among the richest in the world, with GDP per capita of US$39700, compared with US$46600 in the US and just US$3600 in China.

The rapid advances in China have also led to environmental problems: in 2006, the country overtook the US as the largest emitter of greenhouse gases. This month, the government in Beijing ordered more than 2000 high-polluting, unsafe or energy-inefficient plants to shut down within 2 months. The growth of China has made it hungry for natural resources and energy, driving up the cost of primary commodities.

There are also concerns that the global economy has become unbalanced, with huge trade deficits between China and the developed world. China is said to make four-fifths of the world's toys and almost three-fifths of its clothing. Developed economies are hopeful that china will become a market for their goods and services as its consumer market grows, but at present China accounts for just 2% of UK exports. Critics in the US and Europe argue that China is benefiting unfairly because it keeps its currency, the yuan, artificially low, benefiting its exporters.

China's growth is expected to slow progressively to around 3.5% to 4% in 20 years' time. This is in part because of an ageing population, due to its one-child policy, as well as increasing pressures on wages and a growing reliance on domestic demand as exports slow. There have recently been a series of high-profile strikes at Honda and other factories in southern China, workers demand better wages and work conditions.

guardian.co.uk, access 16 August 2010

Extract 6: China's economy: an accident waiting to happen?

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The news that the Chinese economy has finally overtaken Japan's has attracted more comment in the west than inside China itself. 'I didn't see any dancing in the streets,' said the managing director of a Beijing-based consultancy. 'Most Chinese people who any attention to these things have known it was going to happen for a long time. In time they will be the biggest economy, which makes sense given that they have the most people. The world we have been living in for the past century and a half has been unusual in that China and India have not been the biggest economies, which is what they were for most of the last 2000 years. In that sense this is a return to the normal situation.'

But there is still caution about the country's prospects despite the sense of inevitability. Some see China as an accident waiting to happen, warning that its growth is not sustainable. Economists are concerned that the country is too dependent on exports and investment, and have spoken repeatedly of the need to boost domestic consumption, though with little obvious result. Wages have declined substantially as a share of GDP over the last two decades.

Looking to its neighbour may reinforce rather than offset China's concerns. If the scale of Japan's economy has helped to spur China's efforts to surpass it, its stagnation has also offered an alarming reminder that rising powers enjoying spectacular growth rates are not always as unstoppable as they might look.

Source: *The Guardian*, 16 August 2010

Questions (Only attempt parts a, d, e and f. *KIV parts b and c*)

(a) **(i)** Compare the change in China's balance of trade in goods with that of Japan between 2005 and 2009. **[2]**
Hint: It is export revenue – import expenditure and it is called surplus and deficit for a positive and negative figure respective.

(ii) How might this comparison explain the differences in growth rates between the countries shown in Table 2? **[2]**

(b) *Explain how 'the long term need to tackle rising inflation' in China might cause 'a slowdown in demand from China' for the rest of the world's economies.* **[3]**

(c) *Explain how the world economy might become less unbalanced through an appreciation of the yuan.* **[2]**

(d) Explain why there might be concern that the Chinese economy is so dependent on exports and investment. **[3]**

(e) With reference to the data, assess the costs and benefits of aiming for lower growth rates in China. **[8]**

(f) Discuss the view expressed in both Extract 5 and Extract 6 that China will eventually grow to become the world's largest economy just because it has the greatest number of people. **[10]**

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PART 2: FULL EMPLOYMENT AND UNEMPLOYMENT

Scan here for a light-hearted video of an overview of Chapter #6 (Optional)

Part 2: Full Employment and Unemployment

Conceptual outline

Types of UNEMPLOYMENT		
DEMAND DEFICIENT	STRUCTURAL	FRICTIONAL
Consequences of high unemployment		
Consumers	**Producers**	**Government**
Reduced levels of consumption and standard of living in both material and non-material well-being	Reduced levels of profits	• Reduced C & I causes contractionary impact on the economy • Government budget position might worsen as tax revenue is reduced and likelihood of more spending. • Potential growth may be hampered should prolonged unemployment cause workers to lose skills or leave the labour market.

SECTION OUTLINE

6.2.1 INTRODUCTION

6.2.2 MEANING OF UNEMPLOYMENT, TYPES OF UNEMPLOYMENT AND MEANING OF FULL EMPLOYMENT
6.2.2.1 Meaning of Unemployment
6.2.2.2 Types of Unemployment
6.2.2.3 Meaning of Full Employment

6.2.3 MEASURING UNEMPLOYMENT

6.2.4 CONSEQUENCES OF UNEMPLOYMENT

6.2.5 CAUSES OF AND POLICIES FOR UNEMPLOYMENT
6.2.5.1 Demand-deficient Unemployment
6.2.5.2 Structural Unemployment
6.2.5.3 Frictional Unemployment
6.2.5.4 Seasonal Unemployment

6.2.6 CONCLUSION

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6.2.1 INTRODUCTION

- A key macroeconomic goal of the government is to achieve full employment. Unemployment is therefore, a macroeconomic problem to be resolved by the state.
- It is a problem that poses a threat to consumers, producers and the government.
- For instance, losing a job can be the most distressing economic event in a person's life. Most people rely on their labour earnings to maintain their standard of living and many people get from their work not only income but also a sense of personal accomplishment. The economy as well as society suffers if there is widespread unemployment. In the worst case scenario, high levels of unemployment may result in socio-political issues like high crime rates, political unrest, poor health and poverty.
- In this chapter, we shall examine the meaning of unemployment, its consequences, the causes of unemployment and various policy options to reduce it.

ECONOMIC TERMS TO HELP YOUR UNDERSTANDING OF UNEMPLOYMENT

(1) Labour Force

Any person who is able and willing to work is said to belong to the Labour Force or workforce or the working population. Thus, persons who are not actively looking for a job e.g. students, full time housewives and retirees are not part of the labour force.

Labour Force = Employed + Unemployed

When examining a country's labour force, we are interested in:

a) The size of the labour force
b) Composition of the labour force

(a) Size of Labour Force

The labour force depends on population size, output levels of the economy, educational attainment etc. It is used to determine the unemployment rate.

(b) Composition of Labour Force

This looks at the make-up of the labour force in terms of demographic characteristics e.g. age, gender, income. It has to potential to influence a country's unemployment rate.

(2) Labour Productivity

It measures the output produced (I.e. amount of goods and services) per man-hour. Increase in labour productivity is usually attained via supply-side policies such as education and training which improve the quality of labour and the use of technology to increase the output without a change in quantity of labour. An increase in labour productivity is likely to increase the employability of workers and reduce the unemployment rate.

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6.2.2 THE MEANING OF UNEMPLOYMENT, TYPES OF UNEMPLOYMENT AND FULL EMPLOYMENT

6.2.2.1 MEANING OF UNEMPLOYMENT

Unemployment refers to the situation where people in the labour force, who are willing and able to work, but are unable to find employment.

In theory, an "unemployed" person must satisfy 2 criteria:

1. **Able to work:** belong to the legal working age group and are physically and mentally able
2. **Willing to work:** actively looking for a job

Yet, this person is still jobless or cannot find employment.

Thus, the term unemployment does not apply to just everyone or anyone who is not working or out of work. For instance, students, full time housewives and retirees do not fall into the definition of the unemployed. An unemployed person is someone who is actively seeking employment or is in the labour force but cannot find employment.

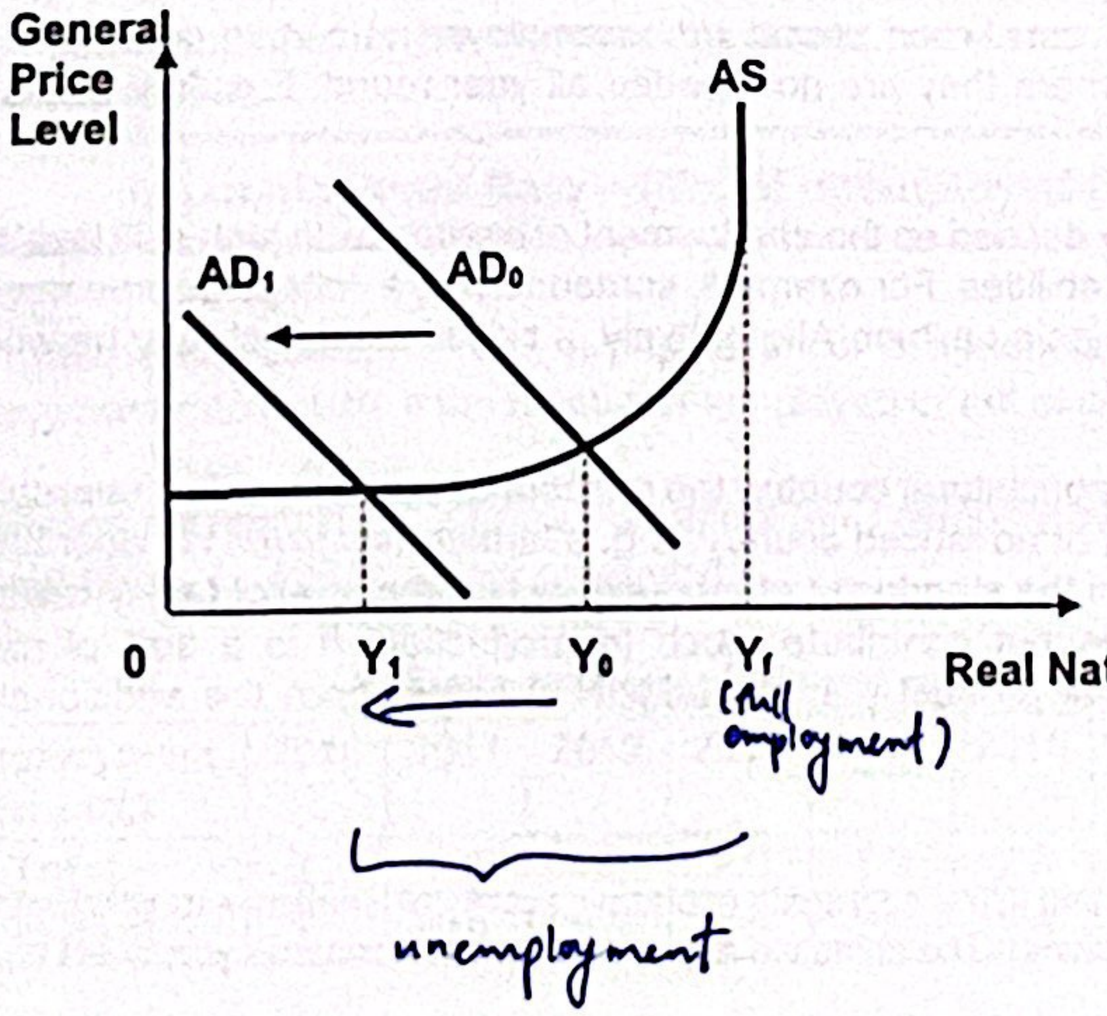
6.2.2.2 TYPES OF UNEMPLOYMENT

Three Key Types:

(1) Demand-deficient / Cyclical unemployment:

This occurs when there is an insufficient or lack of aggregate demand in the economy to maintain full employment. According to Figure 1, the lack in AD at AD_0 results in Y_0 being less than the full employment Y_f, therefore workers are unemployed.

Figure 1: Demand-deficient / Cyclical Unemployment



Scan to watch a video explanation of the graph.

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- It is commonly associated with the downswing portion of the business cycle[1] and can be illustrated by a fall in AD from AD_0 to AD_1.

- When the economy enters a recession, the economy contracts as output falls due to falling aggregate spending. As businesses suffer poor sales and even losses, they may resort to retrenching or laying-off redundant staff. Consequently, workers may become unemployed. This is known as cyclical unemployment.

- However, once the economy starts to recover and expand (upswing of the business cycle), aggregate demand increases, leading to rising output and firms increase hiring. Thus cyclical unemployment will fall.

- For example, the Global Financial Crisis in 2007/2008 triggered a rise in cyclical unemployment in US, Europe and many other countries. The fall in AD was a result of lack of consumer and investor confidence in the economy.

(2) **Structural unemployment**: This arises when there is a mismatch of skills, i.e. job seekers are unable to find suitable jobs because their skills do not match those required by employers in the economy e.g. low-skilled workers in Singapore would find it hard to find employment in the high-end manufacturing sector, which requires highly skilled workers e.g. in the biomedical sector.

(3) **Frictional unemployment**: New job seekers e.g. school leavers and new graduates may experience 'frictional' or temporary unemployment upon graduation because of the need to 'search' or look for suitable jobs available in the economy. The transition from school to employment is marked by 'frictions' due to the lack of perfect information concerning job availability in the economy. This form of unemployment, which is also known as 'search unemployment', is regarded as transitory or temporary.

Note that jobs are available in structural and frictional unemployment unlike in demand-deficient unemployment.

(4) Others:

Seasonal unemployment: This occurs when people are unemployed at certain times of the year, because they work in industries where they are not needed all year round. E.g. fruit pickers & ski resort instructors.

Underemployment: This is usually defined as the employment of workers with high skill levels in low-wage jobs that do not require such abilities. For example, someone with a college degree may be bar tending or driving a cab or working as a cashier. Alternatively, a skilled machinist may be working at a fast-food outlet.

Disguised unemployment: In an agricultural country, the concept of employment or unemployment is different from that in an industrial or advanced country. E.g. a farmer may invite his poor brother or relative to work on his farm not from the standpoint of productivity but from that of family relationship. This additional unit of labour does not contribute much to production. It is a sort of *disguised unemployment* because its marginal product (i.e. the additional output from the additional labour hired) is rather small.

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[1] Business cycle refers to fluctuation found in the aggregate economic activity of a nation – a cycle that consists of expansions and contractions (recessions). The complete explanation of the business cycle is not required in the syllabus.

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6.2.2.3 MEANING OF FULL EMPLOYMENT

- When economists talk about "full employment", they do not mean zero unemployment.
- This is counter-intuitive to the layman's understanding of full employment.
- The reason is because as long as there are enough jobs to match the number of job seekers, the economy is said to achieve full employment.
- For example, if there are 100 job seekers and there are 100 unfilled vacancies, then it can be said the economy is technically at full employment. In reality, not all the 100 vacancies may be filled immediately for 2 basic reasons:
  - **Lack of information** because job seekers might not know these jobs exist or where to find them. Time is required for job-seekers to search for them.
  - **Skills mismatch** because job-seekers might not be able to fill up the vacancies because of lack of relevant skills. Time is required to train or retrain job-seekers to fill up the vacancies.
- Whilst search and retraining is taking place, it is inevitable that there will be some unemployment. This type of unemployment which exists due to the presence of frictional and structural unemployment is collectively called the **'natural rate of unemployment'.**
- However, there is no universally accepted standard of what the 'natural rate of unemployment' or the full employment rate is. In fact, the full employment rate varies from country to country.
- In some developed countries, the unemployment rate could be as high as 5% to 6% but this is considered full employment rate for them. For Singapore, the full employment rate is considered achieved when our unemployment rate is about 2% to 3%.
- Therefore, full employment refers to a non-zero, low rate of unemployment that is compatible with price stability, when all those who are able and willing to work have gained employment.

6.2.3 MEASURING UNEMPLOYMENT

Unemployment can be expressed as an absolute number (e.g. 500,000 people unemployed) or as a percentage (e.g. 3% unemployment rate) of the labour force or working population.

With the definitions of unemployment and the labour force in mind, we can now attempt to derive the unemployment rate.

Unemployment Rate = (No. of unemployed / Labour Force) x 100%

Example:
For a hypothetical country X with a population of 5 million, and a labour force of 1 million, the unemployment rate is 10% if the number unemployed or out of work in the labour force is 100,000.

As explained on page 6.2.2, factors that affect the unemployment rate are size and composition of the labour force, as well as labour productivity.

Table 1: Unemployment rates in Singapore

Unemployment Rate (%)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total	2.2	2.0	1.9	2.0	1.9	2.0	2.1	2.2	2.1	2.2	2.8
Resident	3.1	2.9	2.8	2.9	2.8	2.8	3.0	3.1	2.9	3.1	3.9

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Source: http://www.singstat.gov.sg/

6.2.4 CONSEQUENCES OF UNEMPLOYMENT

- A high unemployment rate has serious economic, psychological and social costs.
- It also has an adverse impact on consumers, producers and governments.
- It is best to look at the adverse consequences from these 3 different perspectives
  (1) Consumers: Reduced levels of consumption and lower standard of living
  (2) Producers: Reduced production and investment
  (3) Governments: Impact on economic growth, standard of living and government budget

COSTS OF HIGH UNEMPLOYMENT

Unemployment essentially means the country is not making full or efficient use of its available manpower or human resources.

This results in high opportunity costs for consumers, producers and governments

(1) Consumers' perspective: Reduced levels of consumption and lower standard of living

- The loss of jobs brings about reduction in income. As a result, purchasing power is reduced, and (induced) consumption on goods and services falls. Hence material standard of living is lowered.
- In the event of prolonged unemployment, consumers (workers) may lose touch of their skills and knowledge, reducing their ability to gain employment. In addition, workers without regular employment not only lose their financial security, they may also suffer from loss of self-esteem, stress and become discouraged, demoralised, which often result in suicides and mental illness. Unemployment also appears to be linked to a greater incidence of crime, violence on streets, drug abuse, alcoholism and vandalism. These are the social costs (intangibles) reducing their non-material standard of living.

(2) Producers' perspective: Reduced levels of profits and investment:

- The lower consumer demand for goods and services from the unemployed reduces firms' revenue and profit margins.
- At the same time, the poor business sentiments, higher crime rate and social instability may reduce the investor confidence in the economy and discourage investment.

(3) Governments' perspective: Economic growth, living standards threatened, Government budget deficit

With unemployment, the economy faces a contractionary effect. There are several reasons:

- Unemployment reduces (autonomous) consumer and investor confidence of the economy and this reduces consumption and investment in the economy. This could lead to a fall in AD and via the reverse multiplier, the economy's actual output can fall till it is significantly lesser than its potential output. Potential economic growth is also slower due to the fall in I, thus the country is forgoing the opportunity to grow at a faster rate, and the consequent ability to enjoy better material living standards (both currently and in future).
- Unemployment reduces the tax revenues earned by the government due to the loss in income since the unemployed can no longer pay income tax. Consumers are also more prudent in their spending, so collection of consumption tax (e.g. GST) is reduced. Due to lower production levels, firms make less profits and so tax revenue from corporate tax also falls. The fall in tax revenue would mean the government would have fewer funds available for infrastructural development which would hinder economic growth. Moreover for countries with a welfare system, the government needs to spend on welfare payments. If the government is already running a budget

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deficit, the loss in tax revenue could lead to a cut in budget spending which in turn will exert a contractionary impact on the economy, further worsening unemployment.

- A country's labour force may be affected: Those who have been unemployed for a prolonged period of time may lose their skills. Moreover, the unemployed may leave the labour market due to lack of motivation to find work. This lowers the economy's productive capacity.

To sum up, the economic costs of high unemployment boil down to slow growth relative to the economy's potential and the forgoing the opportunity to enjoy better overall standard of living. In some cases, it leads to widespread endemic poverty e.g. poor undeveloped countries in the world.

BENEFITS OF LOW UNEMPLOYMENT

Ultimately, low unemployment means more efficient use of human resources. This will result in a gain in actual output (higher material standard of living). There will also be less of a drain on government revenues for unemployment benefits, and the government revenue can be used for other purposes such as improving infrastructural development and enhancing the education system which aids potential growth. With a high employment rate, there is both economic and social-political stability.

6.2.5 CAUSES OF & POLICIES FOR UNEMPLOYMENT

6.2.5.1 DEMAND-DEFICIENT UNEMPLOYMENT

CAUSES OF DEMAND-DEFICIENT UNEMPLOYMENT

Theoretical explanation

- A steep slowdown in growth causes demand to decrease and firms find they cannot sell all their current output, and stocks pile up. Firms will then adjust to the lack of demand by cutting back on production and hire fewer workers, leading to an increase in demand-deficient unemployment.
- With a recession, aggregate demand decreases and the fall in output by firms will result in cyclical unemployment.

Exemplification: Cyclical unemployment in Singapore

Slump in EXTERNAL demand (Exports)

- Over the last 2 decades, recessions or economic slowdown have been largely triggered by external shocks to our economy such as the Asian Financial Crisis in 1997/98; global dotcom crisis in 2000/01; September 11 terrorist attacks in 2001; the SARS epidemic in 2003 and most recently the Global Financial Crisis (US sub-prime mortgage crisis) in 2008/09. The economy went into sharp contractions as a result of these external shocks.
- These shocks badly affected our export trade with the rest of the world, tourism, international banking as well as financial services sectors. In short, it hit our export revenue (X) and investment (I) components of AD. Since exports from Singapore are dominated by high-end manufactured goods and services which tended to have a high income elasticity of demand, falling global income has a pronounced adverse effect on export demand from Singapore. As AD falls, actual sales are lower than expected sales and firms cut back on production. In so doing, firms will hire fewer workers and hence cyclical unemployment rises. This was seen in 2008/09 in the aftermath of the global recession due to US sub-prime mortgage crisis, where global demand fell dramatically and unemployment in Singapore rose.

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Exemplification: Cyclical unemployment in the USA

Slump in DOMESTIC demand

- One of the most important causes of unemployment in the US economy towards the end of 2008 is cyclical unemployment. As the name suggests, it is due to the downswings of the business cycle. For the US, it is the domestic business cycle that drives cyclical unemployment. This is because the bulk of AD here is made up of domestic consumption. And since the sub-prime mortgage crisis had eroded the value of real estate in the US, the wealth of the average American is now significantly reduced and this has resulted in a large decline in domestic consumption within the US economy. As AD falls, actual sales are lower than expected sales, firms cut back on production and resort to retrenching or laying-off redundant staff and hence cyclical unemployment rises.

POLICIES FOR DEMAND-DEFICIENT UNEMPLOYMENT

Note: More details will be covered under "Macroeconomic Policies".

Problem	Representation in AD/AS model	Policy intent	Policy options
Demand deficient unemployment	AD is not at full employment output	Increase C, I & G in AD to create jobs.	• Expansionary Fiscal policy: Increase government spending and/or reduce tax. • Expansionary Monetary policy: Reduce interest rates to encourage consumption and investment.
		Increase (X-M) in AD to create jobs	• Depreciation/Devaluation of exchange rate thereby making imports more expensive and exports cheaper. • Engaging in protectionism such as imposition of tariff to make imports more expensive.

6.2.5.2 STRUCTURAL UNEMPLOYMENT

CAUSES OF STRUCTURAL UNEMPLOYMENT

Theoretical explanation

- The fundamental root cause of structural unemployment is **skills mismatch.**
- Job-seekers cannot find a job as they do not have the skills to fit the available job requirements.

Below are several underlying causes why skills mismatch may happen:

Technological advancement

Structural unemployment arises when changes in technology or international competition change the skills needed to perform jobs or change the location of jobs. People made redundant in one sector of the economy cannot immediately find jobs elsewhere because they either do not have the necessary skills or are unwilling to move to another area/region where prospects are better (occupational and geographical immobility of labour respectively).

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Recall: Details of occupational and geographical immobility of labour can be found in Chapter 3 Market Failure notes

Such structural changes can arise from the demand side or supply side:

- If there is a permanent fall in the demand for the product of a particular industry, the output will have to be reduced and unemployment will result.
- If supply of resources is not forthcoming, e.g. due to the depletion of mineral or forest reserves, unemployment will also result.
- If more capital is used to substitute for labour (e.g. automation), unemployment can also result. This is known as *technological unemployment*.

Technological unemployment is a special case of structural unemployment, resulting from the successful growth of new industries using labour-saving technology. In contrast to mechanization (workers operating machines), which has usually increased the overall demand for labour, automation (machines operating other machines) reduces the demand for labour. Whereas the growth of mechanized industry increases employment, automation of production can lead to the shedding of labour, even when industry output is expanding.

Exemplification

- In recent years, the restructuring of the Singapore economy towards a knowledge-based one has led to the demise of many labour intensive and low-end capital-intensive industries in Singapore. Many of the workers who were displaced in these sunset industries found that while the job market had other vacancies, they did not possess the necessary skills to take on those jobs and hence remained unemployed. The combination of structural changes in the economy and occupational immobility of labour led to structural unemployment.
- Structural unemployment has also occurred within the service sector, partly due to the increasing use of information and communication technology (ICT) and automated services.

Globalisation: Outsourcing and Offshoring

- Emergence of new rivals like China in the global market have led to the loss of comparative advantage for other countries such as USA and EU which previously were producing low-end labour intensive goods e.g. toys, textiles, shoes for exports.

off-shoring: relocation by a firm from one country to another

- China has a comparative advantage because of its cheap labour and land which best suits the production of such low-end manufactures. Moreover, China has also become a cheap production base for world's auto-makers and other high end electronic products like smartphones and computers. Now, many firms relocate their production facility to take advantage of cheap labour and land in China.

outsourcing: contracting part of the manufacturing process to other companies

- Beside offshoring, there is also the phenomenon of services moving overseas which is termed as outsourcing, which involves contracting tasks to another company, which can provide the same service cheaper. Many MNCs have outsourced their call-services to India's call-centres.

Note: Outsourcing, which involves contracting parts of the manufacturing process to other companies (within the country or in another country), is different from off-shoring, which involves relocation by a firm from one country to another.

- As a consequence, low-skilled workers in countries like USA and EU found their jobs taken away by firms overseas. Unless they are able to reskill and fit into other available jobs these workers in developed countries will face the problem of structural unemployment.

In summary, as a result of globalization and rapid technological advancement, structural unemployment has been a threat to unskilled or low-skilled workers in many countries.

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POLICIES FOR STRUCTURAL UNEMPLOYMENT

Note: Details will be covered under "Macroeconomic Policies".

Problem	Policies
Structural Unemployment	**Supply-side policies** • Retrain existing workforce to fit into other available jobs in the economy • Restructure economy to create new jobs for the workforce to replace old jobs loss. **Protectionism** If structural unemployment is caused by the permanent fall in demand of the country's product due to increased competition from foreign producers, protectionism can be used to protect the country from these foreign competitors. For example, a tariff can be imposed making imported goods more expensive resulting in domestic consumers turning to goods produced by domestic firms thereby enabling the domestic firms to survive and continue employing workers.

Interesting Article

What Singapore's slowing GDP growth means for the jobs market
Channel News Asia, 22 Jul 2019

SINGAPORE: As Singapore's outlook darkens with growth cooling to levels last seen a decade ago, there could be more retrenchments and fewer job vacancies ahead, said economists. The job losses will likely come from outward-oriented sectors, which have been hit by a protracted trade spat between the United States and China.

Already for the first quarter, data from the Ministry of Manpower (MOM) showed an increase in retrenchments – from 2,510 in the previous quarter to 3,230 – on the back of a near three-fold jump in job losses in the manufacturing sector. The economy grew 1.1 per cent year-on-year during the first quarter but amid falling factory activity and exports, growth in the second quarter slowed sharply to a decade-low 0.1 per cent on a year-on-year basis based on recent flash estimates.

DBS senior economist Irvin Seah said it is "pretty clear that the outlook for the labour market isn't going to be great" given the "drastic" growth slowdown. "You can only expect retrenchments to pick up and job vacancies to decline in the coming quarters."

Manufacturing will continue to shed jobs in the coming quarters, with the unpredictable trade spat coinciding with a fading global electronics cycle, experts said. "The downturn in the electronics cluster has resulted in cutbacks in electronics sector jobs, which is expected to continue during the second half of 2019," said Mr Rajiv Biswas, chief economist for Asia Pacific at data firm IHS Markit. The manufacturing sector, which accounts for one-fifth of the economy, is also seeing old jobs being made obsolete by automation, added Mr Seah.

Beyond manufacturing, economists are also keeping a cautious eye on the outward-oriented services sectors. While electronics accounted for 18 per cent of the retrenchments in the first quarter, services industries such as wholesale trade and transportation and storage followed close behind with 16 and 10 per cent, respectively, MOM's labour report showed. While domestic services segments can offer support, they make up relatively smaller shares of growth and "may not be enough to offset the receding tide", said Mr Seah, referring to the sector's 1.5 per cent quarter-on-quarter dip in the second quarter on a seasonally adjusted basis.

Further weakness in services is "the bigger worry", added the economist, given how the sector accounts for about two-thirds of the economy and employment, although the tightening of foreign manpower quotas from January 2020 may mitigate the fallout on this front. Meanwhile, "undercurrents" like the recent job cuts at German banking giant Deutsche Bank will add to the retrenchment figure in the third quarter, said CIMB private banking economist Song Seng Wun.

"UNEVEN" LABOUR MARKET
Still, even as prospects are set to sour in certain sectors and translate into higher layoffs, some economists were quick to add that job opportunities remain. Mr Song pointed to sectors that have remained resilient thus far, such as modern services on the back of a Government-led push in digitalisation.

"We now have a strange landscape where headline growth numbers look quite discouraging but underneath, there are pockets of strength," he said. "This will be reflected in terms of how retrenchments will continue to edge up, reflecting the moderation in external demand, yet growth in certain pockets will continue to create jobs."

Likewise, Mr Biswas said the structure of employment growth by sectors will remain "very uneven", with positive growth in "new economy jobs". These include infocomm technology, buoyed by a digital revolution and industrial automation, as well as enhanced cybersecurity needs. Financial services are also benefiting from Singapore's role as a leading hub for segments such as asset management, financial technology and insurance.

Manpower Minister Josephine Teo, in a Facebook post after the release of dismal second-quarter flash estimates on Jul 12, noted that there are still 60,000 unfilled vacancies despite the growth slowdown. About half of them are for professionals, managers, executives and technicians (PMETs) in sectors like financial services and professional services. The remaining 30,000 unfilled jobs are for non-PMETs, which are "more or less equally distributed between clerical, sales and service workers and production and related workers". About one in three vacancies are unfilled for at least six months, with non-PMET jobs generally harder to fill, according to MOM.

JOBS NOT FOR EVERYONE?
Two recruitment firms – Hays and Robert Walters – that CNA approached said they have not seen a rise in jobseekers, though the former said "retrenchment has become an increasingly common reason" among its applicants. They also have not noticed any hiring sentiment change among businesses as yet.

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Demand for tech talent, in particular, has been strong across all industries and will remain so as demand outweighs supply, said Robert Walters Singapore's managing director Rob Bryson.

However, there may be some who will have a harder time looking for jobs. "Generally, we observe that older employees among PMETs will find it more difficult to find a job because of technological disruption and a slowing economy," said Mr Bryson. PMETs accounted for nearly 70 per cent of the retrenched residents in the first quarter. They continue to make up the majority of layoffs as they form a higher share of the local workforce, said MOM. The same labour report also showed PMETs and degree holders continuing to observe below-average re-entry rates into employment, although their rates have trended up from the first quarter of 2018.

As the jobs market outlook softens in the months ahead, PMETs will likely continue to bear the brunt, economists said. One issue is the job-skill mismatch. Referring to the "new economy jobs" in infocomm technology and others, Mr Biswas said, "The jobs being created in these sectors are skilled and specialised, resulting in a skills mismatch for workers leaving other sectors."

Mr Seah, who has written reports on PMETs becoming an "exceptionally vulnerable" segment in the labour market here, added that PMETs typically develop deep skillsets required for their roles. This makes it difficult for them to transit into other industries. Those with higher financial obligations, especially middle-aged PMETs, will also find it hard to accept lower-paying jobs, he added.

In her Facebook post, the Manpower Minister had said there is no shortage of programmes to support willing workers in their transition. She cited the more than 100 Professional Conversion Programmes in over 30 sectors, as well as Career Trial programmes that aim to help jobseekers gain experience through short-term work trials.

Mr Seah thinks there is a need for a more pre-emptive approach as the economy hits the brakes. There can be further enhancements to existing schemes that help workers pick up relevant skills, or a review of existing guidelines concerning skilled foreign workers. To mitigate the risk of further retrenchments, the Government could also kickstart broad-based industry consultations. "This is just to gather feedback and be ready in case we do dip into a recession. It doesn't mean that it must translate into immediate policies but we must step up the effort," said Mr Seah.

On the part of workers, being up to date with new knowledge and competencies will be necessary.

"That being said, it is dangerous to carry the mindset that a three-day course in data analytics would suffice in making them a relevant candidate," said Mr Grant Torrens, regional director at Hays Singapore. "To make their case even stronger, job seekers need to showcase to hiring managers that they are doing everything they can to get into their field of interest."

6.2.5.3 FRICTIONAL UNEMPLOYMENT

CAUSES OF FRICTIONAL UNEMPLOYMENT

Theoretical explanation

The root cause of frictional unemployment is the time associated with searching for a suitable job.

Two basic reasons:

(1) Lack of information

- Job-seekers generally do not know who is hiring and prospective employers do not know who is interested in filling existing job vacancies. Typically, there are 2 categories of job-seekers – the first category are those who are already in the labour force (employed) but seeking greener pastures or change in work environment. These job seekers are said to be "in-between jobs" i.e. moving from one job to another.
- The second category are the new entrants to the labour force – school leavers and fresh graduates. These job-seekers are looking for a job for the first time. Naturally, they form the bulk of job-seekers and also they are more likely to spend more time to look for available vacancies in the job market, to apply, attend interviews etc. In the meantime, these job-seekers are said to be frictionally unemployed.

(2) Expectations mismatch

- Not every job-seeker will accept the first job offered. Typically job-seekers have so-called job expectations related to a job offer such as pay, working conditions, distance from home; promotion prospects etc. Unless the expectations of prospective employers and employees matches, the job-seeker might not want to take up an initial job offer. Meantime, the job-seeker is said to be frictionally unemployed.
- The length of search time can be worsened by other factors such as unemployment benefits, parental support and mindset of job seekers. For instance, if the state provides generous unemployment benefits or if parents are willing to support their non-working adult children, job seekers will tend to be more selective and hence prolong the period of search.

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Exemplification

- In Singapore, school leavers typically take an average of 3 to 6 months to get a job.
- Although large economies such as China may be cushioned from the effects of cyclical unemployment due to its large domestic market, it is not spared from frictional unemployment. Every year, there are millions of fresh graduates entering the labour market in China, most of whom will vie for the limited job positions in the finance and commerce industries. Employers will take a longer time to interview and select the best candidates for their firms and hence the time taken for these graduates to find a job will lengthen, leading to a higher frictional unemployment rate in China.

POLICIES FOR FRICTIONAL UNEMPLOYMENT

Note: Details will be covered under "Macroeconomic Policies".

Problem	Policies
Frictional unemployment	**Provide Job information** To deal with frictional unemployment, policies that focus on improving labour market information would help improve efficiency in the labour market. For example, in the US, state governments set up websites to help collate potential employees' details and match them to the needs of prospective employers. Other examples include job fairs that the Community Development Councils (CDC) in Singapore organize regularly to bring together employers of the same industries to hold a mass recruitment exercise where workers can seek out their most suitable jobs. **Moderate Job Expectations** In countries where there are generous unemployment benefits, a reduction of these benefits could help raise the opportunity cost of being unemployed, giving the frictionally unemployed greater urgency to re-enter the work force. Another means to moderate job expectations is to provide job counselling. **Others** • Provide good and affordable transportation system so that workers are willing to travel anywhere to work. • Decentralised workplaces to minimise transport issues. Offices, industrial parks are located or spread out in various regional locations (e.g. Tampines, Woodlands, Jurong) and not just concentrated in one location e.g. CBD (central business district).

6.2.5.4 SEASONAL UNEMPLOYMENT (least important)

CAUSES OF SEASONAL UNEMPLOYMENT

Unemployment that varies with the season or weather e.g. workers in the construction industry during winter, ski instructors are jobless in summer, fruit pickers being laid off during the non-harvesting season etc. All these predominately happen in temperate countries. Hence, the industries that are likely to be affected by seasonal trades include building, tourism and agriculture. Seasonal unemployment is usually not a serious problem unless the economy is heavily dependent on industries that have a seasonal demand.

POLICIES FOR SEASONAL UNEMPLOYMENT

Not much can be done by the government for seasonal unemployment. For a country that is heavily dependent on seasonal demand, perhaps the strategy is to diversify its industries in the long run.

6.2.6 CONCLUSION

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- In summary, the study of unemployment has to be seen against the broader context of the macroeconomic goals of the government i.e. Growth and Stability.
- Unemployment is, in fact, the flip side of the inability to achieve the desired goal of FULL-EMPLOYMENT. Hence, it is considered as a macroeconomic problem.
- The theory of unemployment includes the following key ideas:
  - Not everyone who is not working or without a job is considered unemployed.
  - The measurement of unemployment is in relation to the size of the labour force, not the total population.
  - Full employment does not mean zero unemployment.
  - The most important types/causes of unemployment are demand-deficient, structural and frictional.

Tutorial 6.2

Question 1

Adapted from TYS N2017 Q4

High rates of unemployment remain a major issue in many economies of the world. An understanding of various causes of unemployment is needed in order for a government to decide on the economic policies that would help its economy achieve full employment.

Explain the various causes of unemployment. [10]

Question 2: Youth Unemployment in EU, UK and UK

Table 1: Youth Unemployment1 in UK, USA and Eurozone 2008-2012 (%)

	2008	2009	2010	2011	2012
UK	13.8	16	19.3	20.2	21.8
USA	12	14	19	18	16.5
Eurozone	15.1	19	21	20.6	23

[1]Youth Unemployment is the percentage of 15-24 year olds who are part of the labour force but are unemployed

Table 2: Economic growth in UK, USA and Eurozone 2008-2012 (%)

	2008	2009	2010	2011	2012
UK	-0.5	-2.2	0.3	0.6	0.3
USA	1.2	-3.3	0.8	1.9	2
Eurozone	2.1	-4.2	-1	2.5	0.2

Source: www.tradingeconomics.com

Extract 1: A generation left behind

Youth unemployment is rising perniciously across much of the developed world. Poor growth, widespread austerity programmes and the winding up of job-creating stimulus measures threaten further unemployment overall. The young jobless often get a particular bounce in recoveries: first out, they are often also first back in. However, the lack of a sharp upturn means such partial recompense has not been forthcoming this time round.

Youth unemployment has direct costs in much the same way all unemployment does: increased benefit payments; lost income-tax revenues; wasted capacity. In Britain a report puts the cost of the country's 744,000 unemployed youngsters at £155m ($247m) a week in benefits and lost productivity. Some indirect costs of unemployment, though, seem to be amplified when the jobless are young. One is emigration: ambitious young people facing bleak prospects at home often seek opportunities elsewhere more readily than older people with dependent families.

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Youth unemployment leaves a "wage scar" that can persist into middle age. After a period of unemployment, the temptation to take any work can be strong. Wage scarring is one of the reasons to think this has lasting effects. Young people unemployed for a long time are usually channelled into "non-regular" jobs where pay is low and opportunities for training and career progression few. Employers seeking new recruits for quality jobs generally prefer fresh graduates over the unemployed, leaving a cohort of people with declining long-term job and wage prospects.

Adapted from the Economist, 2011

Extract 2: The great mismatch

A big part of the youth unemployment problem is that educators and employers operate in parallel universes. The best way to bring these two universes together is to revamp vocational education. Some far-sighted countries such as South Korea have reinvented vocational schools to reduce the country's shortage of machine operators and plumbers; counteracting the country's obsession with academic laurels.

Adapted from the Economist, 2011

Questions

(a) (i) With reference to Table 1, compare the youth unemployment rate of Eurozone, USA and UK. [2]

(ii) Using Table 2, describe the trend of USA's GDP from 2008 to 2012. [2]

(b) Discuss whether demand deficiency is the main reason for the high youth unemployment. [8]

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PART 3: INFLATION AND DEFLATION

Scan here for a light-hearted video of an overview of Chapter #6 (Optional)

Part 3: Inflation and Deflation

Conceptual outline

<table>
<tr><td colspan="6">PRICE INSTABILITY</td></tr>
<tr><td colspan="5">INFLATION (+)</td><td rowspan="2">(-) INFLATION: DEFLATION</td></tr>
<tr><td rowspan="2">DEMAND-PULL</td><td colspan="4">COST-PUSH</td></tr>
<tr><td>Import-push</td><td>Wage-push</td><td>Profit-push</td><td>Statutory-push</td><td>Supply-shocks</td></tr>
<tr><td colspan="6">KEY CAUSES</td></tr>
<tr><td>Excess rise in AD and tight productive capacity</td><td>External supply shocks (e.g. food shortages, Oil price hike)

Weak domestic currency</td><td>Strong/ militant unions</td><td>Market dominance</td><td>Government policies</td><td>Natural calamities e.g. climate change; political problems e.g. war disrupting supply</td><td>Sustained slow growth or fall in AD

A rise in AS (Benign and not a concern)</td></tr>
<tr><td colspan="6">CONSEQUENCES</td></tr>
<tr><td>High inflation</td><td colspan="2">Consumers
• Erodes internal value of money
• Discourages savings
• Impacts income distribution
• Shoe-leather costs
• Diversion of investments into non-productive or speculative assets</td><td colspan="2">Producers
• Discourages investment
• Menu cost</td><td>Government
• Hinders economic growth and employment
• Worsens trade balance and lowers exchange rate</td></tr>
<tr><td>Harmful Deflation</td><td colspan="5">Deflationary spiral and lower standard of living</td></tr>
</table>

SECTION OUTLINE

6.3.1 INTRODUCTION

6.3.2 THE MEANING OF PRICE STABILITY

6.3.3 MEASURING INFLATION AND DEFLATOIN

6.3.4 CONSEQUENCES OF HIGH INFLATION AND DEFLATION
6.3.4.1 Harmful Inflation versus Benign Inflation
6.3.4.2 Consequences of High Inflation and Low Inflation
6.3.4.3 Harmful Deflation versus Benign Deflation
6.3.4.4 Consequences of Harmful Deflation

6.3.5 CAUSES AND POLICIES FOR INFLATION AND DEFLATION
6.3.5.1 Demand-pull Inflation
6.3.5.2 Cost-push Inflation
6.3.5.3 The Interaction between Demand-pull and Cost-push Inflation
6.3.5.4 Deflation
6.3.6 CONCLUSION

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6.3.1 INTRODUCTION

- Inflation is about prices of goods and services generally rising or goods and services getting more costly over time. An analogy for inflation is a balloon which is "inflated" over time.
- For instance, you hear people say the price of a house is many times more than say 20 or 30 years ago. A 5 room HDB apartment today costs about $500k compared to only $30K back in the 1970s. The same goes for food, clothing, bus rides, movie tickets, medical treatment and many other items that form part of the daily expenses of an average person have risen many folds over the years.
- Inflation not only affects our daily lives; it is an important macro-economic problem that has widespread repercussion on the economy. If left unchecked, inflation can have negative impact on economic growth, employment and the balance of payments. It could even erode the standard of living.
- Hence, it is important to understand the causes, consequences and policies that government can introduce to control inflation.
- An interesting development in recent years is the problem of deflation. The impact of deflation is the opposite that of inflation. Instead of a sustained rise in price level, some countries such as Japan, experience falling general price level. So, it is sometimes known as negative inflation. Japan is still struggling to counter deflationary pressures and to get out of a two-decade long recession.
- In summary, neither inflation nor deflation is desirable. The ideal is to aim for price stability which will promote economic growth and raise standard of living over time.
- In this section, we shall examine the meaning of price stability, the consequences of high inflation and deflation, the causes and various policy options to combat inflation and deflation.

6.3.2 THE MEANING OF PRICE STABILITY

Price stability means that the general price level in an economy increases at a low, stable and expected rate. There is an absence of high inflation and deflation.

Inflation is the sustained increase in the general price level of an economy over time.

Deflation, i.e. negative inflation, is a sustained decrease in the general price level of an economy over time.

One of the macroeconomic goals is to achieve price stability, i.e. low positive inflation.

- Low inflation basically means inflation that is benign, i.e. harmless and is under control. There is no fear of inflation spiraling out of control. In fact, it is an indication that the economy is experiencing healthy economic growth. Today most countries have set an inflationary target of 2% in order to ensure price stability. However, there is no standard or universally accepted figure.
- On the other hand, deflation or negative inflation rate is undesirable because it is often associated with demand deficiency and negative or very slow/sluggish growth in the economy.

Note: *If deflation is a result of a faster rise in the productive capacity of the economy, it may be deemed as beneficial.*

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6.3.3 MEASURING INFLATION AND DEFLATION

- Inflation is measured by tracking the rise in the general price level over time.
- A price index is used to measure changes in general price level over time.
- The most common price index used is the CPI or Consumer Price Index

FYI: The CPI is sometimes referred to as the Retail Price Index (RPI).

6.3.3.1 CONSUMER PRICE INDEX

- The CPI measures the average level of prices of a basket of goods and services consumed by a typical household
- A CPI is made up of 3 key elements:
  - Basket of goods and services – to represent the consumption pattern of a typical household.
  - Base year – a chosen year used as a reference point for comparing prices over time. It is typically an average year where prices are relatively stable. The price index for the base year is always 100
  - Weights – to take into consideration the relative importance of each item in the basket of goods bought by a typical household. This is measured by the % of total expenditure spent on each item. Those items that take up a greater % of total household expenditure will have a higher weight relative to those which the household spends less on.

(a) Illustration: Construction of a Weighted Price Index

Base Year (2010)

Good	Price	Price Index	Weight	Weighted Price Index
X	$2.50	100	1	100
Y	$1.60	100	6	600
Z	$0.50	100	3	300
		Total Weights	10	1000

relative importance of each item

Average Price Index for the base year = Total Weighted Price Index/Total Weights
= 1000/10 = 100

Current Year (2018)

Good	Price	Price Index	Weight	Weighted Price Index
X	$2.75	110	1	110
Y	$1.40	87.5	6	525
Z	$0.80	160	3	480
		Total Weights	10	1115

compare shows that average % price increase = 11.5%

The Price Index for the current year = (110 + 525 + 480) /10 = 111.5
OR

110x1/10 + 87.5x6/10 + 160x3/10 = 111.5

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The weighted price index shows that the average percentage price increase is 11.5%.

More illustrations:

CPI for the base year (in 2010) takes on the value of 100. If the price index in 2011 is 110, then we say that prices on average have increased by 10% in 2011 relative to year 2010. Conversely, if the price index for year 2012 is 90, then prices on average have decreased by 10% in 2012 relative to 2010 (base year), and not relative to 2011 (the preceding year).

(b) Uses of the CPI

(1) Measure of Inflation

The index is widely used by a government to provide information about the rate of inflation (or deflation) in the economy. This enables the government to implement appropriate remedial policies. The inflation rate is a measure of the rate of change or % change in general price level over time.

(2) Cost of living

This refers to the expenditure or the amount that consumers need to spend to reach a certain utility level or standard of living. Whilst the CPI does not directly measure cost of living, both concepts are inter-related. Changes in the cost of living can be monitored by comparing the CPI of the different years. For example, if the CPI increases, it means a fall in purchasing power of money, hence more expenditure is required to buy the same bundle of goods and services thus leading to an increase in the cost of living.

(3) Wage adjustment

The CPI is of interest to trade unions since an increase in the cost of living provides a basis for an increase in wages. In practice, trade unions often press for cost of living adjustments or allowances when negotiating higher wages for their members. This is to ensure real wages of workers are protected from the corrosive effect of inflation on purchasing power of money or nominal income.

(c) Limitations of the CPI

- The more an individual household's consumption pattern diverges from that of a typical household, the less effective the price index would be. One way to overcome the problem of over-generalization, is to calculate specific indices for different types of households. E.g. the upper income group and the lower income group or for the different races or even for expatriates. For example, Singapore was ranked as the fourth most expensive city out for expatriates in contrast to only 48th for locals in a research done by Lee Kuan Yew School of Public Policy.

- The CPI is more useful in making comparisons over relatively short periods of time. As a country develops in the long-run, expenditure patterns are likely to change. Thus, comparing a CPI that is based on a representative basket of goods A in 1970 and one that is calculated 20 years later based on a different basket of goods B may not be meaningful. In practice, the base year and items to be included in the basket of goods in the computation of CPI have to be periodically updated to reflect the changing consumption patterns of the target group under study.

- Changes in the quality of the goods and services that are included in the representative basket tend to go unrecorded in the construction of the CPI. In other words, the improvement in the quality of the goods and services and hence standard of living are not taken into account when CPI and price level increases.

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6.3.3.2 CALCULATION OF INFLATION RATE

The CPI is used to measure the rate of inflation in the economy using the following formula:

$$\text{Rate of Inflation} = \frac{\text{CPI for period (2)} - \text{CPI for period (1)}}{\text{CPI for period (1)}} \times 100 \qquad \frac{\Delta \text{CPI}}{\text{original CPI}} \times 100\%$$

For example, if the CPI for 2018 =130, and the CPI for 2017=125, then the rate of inflation between 2017 and 2018 is (130 – 125) /125 x 100 = 4%.

The inflation rate could be negative when the general price level falls. This situation is referred to as deflation. A good example of a country which experienced deflation in the 1990s is Japan when general price level fell over a prolonged period. For example, if the CPI for 2017 =115 and the CPI for 2018= 110, the rate of inflation is (110 – 115)/115 x 100 = -4.3% or the rate of deflation is 4.3%.

Generally, a rise in inflation means a faster increase in price levels whereas a fall in inflation means a slower increase in price levels.

***Note**: Price level is still **increasing** as long as inflation rate is **positive**.*

6.3.3.3 DIFFERENT DEGREE OF INFLATION

The rate of inflation as measured by the CPI can be used to indicate the severity or degree of inflation. In reality, the degree of inflation can range from very high/severe to low or mild.

Here are some common classifications of the various degree of inflation:

(a) **Mild Inflation:**
It is characterised by a slow rise in annual price level of 2% or below. Most economists feel that a low rate of changes in price levels might stimulate economic expansion. This has beneficial effects on the economy as it is a sign of a buoyant economy or an expanding economy with output and employment growth. Central banks such as the Bank of England adopts inflation target of 2% or below as the basis for conducting its monetary policy.

(b) **Creeping or moderate inflation:** It is a more substantial and persistent annual increase of 6% to 7% in the general price level.

(c) **Hyperinflation, Galloping Inflation, Runaway Inflation:**

- This is a situation where prices rise at a phenomenal or alarming rate (see Table 1 below for good examples). It is a sign that inflation has gone out of control.
- Prices are rising so fast that money ceases to be a medium of exchange and a store of value.
- Normal economic activities may even break down. In this case, the general price level can rise by more than 100%.
- During hyperinflation, people understandably do not want to hold on to any domestic currency. The value of money has diminished to the point where it has become worthless paper currency, where everything including basic items like food and shoes cost millions, billions or even zillions of dollars. In fact, the severity of hyperinflation is determined by how long it takes for prices to double (see Table 1, last column).

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- Workers insist on getting paid at least daily so that they can immediately buy things before any price increase or before exchanging local currency for a more stable currency, such as the U.S. dollar. As a result of hyperinflation, everyone, including merchants, will have difficulty in keeping up with rising prices.
- Hyperinflation is usually associated with social instability and disruption to the economy arising from war or crisis. In recent years, Venezuela takes top spot with 80,000% inflation in 2018.

Table 1: Highest Monthly Inflation Rates in History				
Country	Month with highest inflation rate	Highest monthly inflation rate	Equivalent daily inflation rate	Time required for prices to double
Hungary	July 1946	1.30×10^{16}%	195%	15.6 hours
Zimbabwe	Mid-November 2008 (latest measurable)	79,600,000,000%	98.0%	24.7 hours
Yugoslavia	January 1994	313,000,000%	64.6%	1.4 days
Germany	October 1923	29,500%	20.9%	3.7 days
Greece	November 1944	11,300%	17.1%	4.5 days
China	May 1949	4,210%	13.4%	5.6 days

Source: Prof. Steve H. Hanke, (2009)

(d) **Disinflation:** This is a situation when price levels are still rising but at a decreasing rate, i.e. inflation rate is falling over time but it remains positive.

***Note:** Do not confuse disinflation with deflation. Deflation is a sustained fall in general price level, hence the inflation rate is recorded as negative. It is usually prolonged and is associated with economic depression or recession.*

Table 2: Inflation Rate in Singapore

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Inflation Rate (%)	6.6	0.6	2.8	5.2	4.6	2.4	1.0	-0.5	-0.5	0.6	0.4	0.6	-0.2

Source: http://www.singstat.gov.sg/ *(Base year is 2014)*

6.3.3.4 CORE AND HEADLINE INFLATION

- **Headline inflation** is a measure of the total inflation within an economy, including commodities such as food and energy prices, which tend to be much more volatile.
- These prices are considered volatile as they can rise and fall over within a short period of time. This may lead to knee-jerk reaction in policy-making.
- On the other hand, core inflation or underlying inflation, excludes volatile food and energy prices.
- Volatility in prices is a bad measure of inflation since inflation is not price fluctuations or price instability but a persistent rise in price levels.
- Therefore, most countries distinguish core inflation from headline inflation to aid them in policy-making decisions.

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Interesting Articles

Singapore consumer prices down 0.6% in September, but core inflation up on pricier services and retail items
The Straits Times, Oct 23, 2015

SINGAPORE - The negative headline inflation which Singapore has experienced since November last year is showing no signs of letting up. However, core inflation, which is seen as a better gauge of everyday household expenditures, rose slightly as services and retail products became pricier.

The consumer price index, a measure of headline inflation, fell 0.6 per cent from levels seen in the same month a year ago - the 11th consecutive month of decline and the longest stretch of negative inflation that Singapore has experienced since 2009.

The latest bout of negative inflation is largely the result of cheaper oil and loan curbs that have dampened the property and car markets. Private road transport costs decreased by 3.2 per cent in September over the same month a year ago, extending the 2.9 per cent fall in August, owing to lower Certificate of Entitlement (COE) premiums and petrol pump prices. Accommodation costs fell by 2.9 per cent, similar to the decline in the previous month, reflecting the soft housing rental market.

The Monetary Authority of Singapore's (MAS) core inflation measure, which strips out accommodation and private road transport costs to better gauge everyday expenses, rose to 0.6 per cent from August's 0.2 per cent. This mainly reflected a pickup in the prices of services and retail items, said the MAS and Ministry of Trade and Industry in a joint statement.

Services inflation rose to 0.8 per cent in September from 0.5 per cent in the previous month. This mainly reflected the rise in healthcare services fees and public road transport costs, as the dampening effects of enhanced medical subsidies and SG50-related price promotions dissipated.

The overall price of retail items was 0.6 per cent higher, reversing the 0.6 per cent drop in the preceding month, largely due to more costly clothing and footwear, and household durables.

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Why use core inflation?
The Economist, Mar 30th 2011

THERE is a bit of split among the central banks of the rich world over whether it is better to focus policy choices on headline inflation or "core", that is, broad inflation stripped of volatile components like energy and food prices. It seems intuitively right to use headline inflation; after all, people spend money on petrol and bread just as they do on computers and tax preparation services. The use of the core measure may seem opportunistic to laypeople—like playing games with the numbers to get the figures that justify preferred policy choices.

But that's not the reason central banks like the Federal Reserve tend to focus on core inflation. Larry Meyer comments:
Why do we, as forecasters, and the FOMC in its own forecasts, focus on core inflation? The question should not be whether I buy groceries and gas, but whether headline or core inflation is a better measure of where headline inflation is likely to settle once overall prices have adjusted to the higher prices of energy and food. As forecasters, we want to know not only what (headline) inflation is today, but also, and much more importantly, where headline inflation is likely to be tomorrow (the medium term). Identifying a measure of underlying inflation gives us a good head start...

Our thesis, and the FOMC's position, is that headline inflation converges to core, that is, headline inflation tomorrow will fall towards core inflation today. Whether or not this is a valid thesis is an empirical question...If you test whether higher oil prices raised core inflation over the 1970s and early 1980s (or in samples that include this period), the answer is a definitive "Yes" (higher oil prices pass through to core inflation). In this case, core inflation tomorrow will converge to headline today. However, if you test this hypothesis over the subsequent period, from the mid-1980s to today, the answer is "No" (no pass-through). In this case, headline tomorrow will converge to core today. This is the basis for our forecasts...

The Fed has built credibility over the last two decades. Long-term inflation expectations are stable, have been stable for more than a decade, and are likely to remain so. This means that spikes in food and energy prices do not get translated into expectations of higher inflation down the road and, thus, do not lead to a generalized increase in prices, today or tomorrow. So the critical question is whether inflation expectations are well anchored today—we believe that they are—and, more importantly, whether they are likely to remain so...
One interesting thing to point out is that in the 1970s real GDP growth was often very high, and likely above potential. Real output grew by more than 5% in 1972, 1973, 1976, and 1978. Labour markets were often tight in this period, especially in the early 1970s, and core consumer price inflation was quite high even before the oil price shock in 1973. Conditions now are obviously quite different, and so it's not necessarily a good idea to think that rising oil and food prices will deliver the stagflation we observed in the 1970s.

But an interesting question does arise: what if rising food and fuel prices aren't transitory? What if emerging market growth, for example, will produce a steady, structural shift in the relative prices of scarce commodities? It's pretty clear how a credible monetary policymaker should handle a temporary shock; it's much harder to know what to do in this case. It's possible that headline inflation would persistently overshoot the desired level, even as the central bank held policy tighter than it preferred while growth lagged. In a Sumnerian, nominal GDP-targeting regime in this case, you might end up taking your 5% NGDP target in the form of 1% real GDP growth and 4% inflation for some time, while the economy adjusts.

That scenario, should it emerge, will prove challenging. But it does not appear to be what most of today's inflation hawks are worried about; rather, they seem to be concerned that, as in the early 1970s, a reckless Fed is simply failing to take the necessary steps to manage garden variety inflation. This seems wrong to me, because core inflation is well in hand and because long-term inflation expectations remain quite low. And mistakenly tightening in these circumstances is likely to reduce macroeconomic stability—to knock growth off its present, near-trend (and, many would say, insufficient) rate and to send inflation expectations falling, just as they did last summer.

6.3.4 CONSEQUENCES OF HIGH INFLATION & DEFLATION

6.3.4.1 HARMFUL INFLATION VERSUS BENIGN INFLATION

- It is important to note that inflation is not always undesirable. Inflation is harmful or undesirable if it is high, severe and unstable. The worst-case scenario is that of hyperinflation, which could cripple or impoverish an economy.
- The ideal is to achieve a low and stable rate of inflation or price stability for an economy.
- If inflation is low and stable, it is benign or harmless. A low and stable rate of inflation is usually predictable, and therefore households and firms can take precautionary measures to protect themselves from its potential harmful effects e.g. nominal wages can be adjusted to ensure inflation does not erode its purchasing power or nominal interest rates can be adjusted to ensure the purchasing power of savings is protected. Low and stable inflation makes it easier for firms to predict future earnings and costs, and thus avoid the risk of too much uncertainties in making investment decisions.

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6.3.4.2 CONSEQUENCES OF HIGH INFLATION & LOW INFLATION

(A) COSTS OF *HIGH* INFLATION

Economists generally regard high and unstable rates of inflation as undesirable due to the negative impact on individuals and the economy, affecting both macroeconomic and microeconomic goals.

(1) Consumer's perspective:

(a) Erodes Internal Value of Money or Purchasing Power of Money

- High inflation will erode the internal value of money or purchasing power of money. This means the same amount of money will be able to buy less goods and services. Thus, the purchasing power or real income falls. When consumers' nominal incomes cannot rise as fast as inflation, especially among the low-income households, they are not able to cope with higher cost of living and thus standard of living will be lowered.

- This may result in cost of living adjustments and wage-price spiral. If inflation gets out of control, the public may demand for cost of living adjustments. E.g. Workers may demand for higher wages or government subsidies for various essential goods like fuel and food to cushion them from the impact of higher cost of living. Rising inflationary expectations if unchecked can lead to a vicious wage-price spiral as nominal wages chase after higher and higher prices.

(b) Discourages Savings and Increases Consumption

- Savings is necessary to fund investment. However, in times of severe inflation, savers may not have the incentive to save if the inflation rate is higher than the nominal interest rate. In such a situation, the real interest rate or the returns from savings would be negative.

- Moreover, it is better to spend one's income on current consumption than save for future consumption if inflation is too severe and unpredictable because of the rapid erosion of value of money or purchasing power. This is because as prices keep rising, the same amount of money buys less and less. Thus savers would end up as losers in times of severe inflation

(c) Impact on Income Distribution

Inflation causes a redistribution of income amongst consumers, as certain groups of people benefit while others suffer from inflation. While inflation affects every household, in general it is the poor that is hardest hit in times of inflation because their incomes cannot keep pace with the rate of inflation.

The **'losers' and 'winners'** are grouped as follows:

Fixed versus variable income earners:	• Suppose inflation is expected to be 3% next year and you agree to a 4% increase in your nominal wage. You expect your real wage – that is, your wage measured in dollars of constant purchasing power to increase by 1%. If inflation turns out to be 3%, you and your employer will both be satisfied with your nominal wage increase of 4%. • If inflation turns out to be 5%, your real wage will fall by 1%, so you will be a loser and your employer is a winner. • Hence, the 'losers' are those whose incomes are fixed in monetary terms. This group includes those whose incomes are derived from fixed interest-securities, controlled rents and private pension schemes. All recipients of fixed incomes will suffer a fall in their real incomes if inflation is higher than

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	the increase nominal wage. Whereas for variable income earners, income varies in tandem with inflation. Thus their real income does not fall.
Creditors versus debtors:	• Debtors (borrowers) gain because a fall in the value of money means that the payments of their debts will be less in real terms. The debt, in monetary terms, has not changed in value, but real debt has declined, assuming interest rates remain unchanged. • As such, the creditors (lenders) end up as losers.
Consumers versus firms:	• Whether firms will gain or lose depends on the type of inflation. • During demand-pull inflation, they will benefit as profit increases while the cost of production lags behind rising prices. This is quite likely given that factor prices are usually fixed by contracts. • However, during cost-push inflation, the firms' profit margin is squeezed, and they will lose out if prices increase slower than costs. • Consumers will generally end up as losers since their real income (internal purchasing power) will fall during inflation.

(d) Shoe-leather costs

- Shoe leather cost refers to the opportunity cost of time and effort that people spend trying to counter-act the effects of inflation.
- In times of severe inflation, most people will withdraw cash from their bank accounts in search of other financial assets that give the highest rate of interest or convert other income-earning assets into cash only when necessary. Others might prefer to leave their money in banks to earn some returns instead of holding on to cash, i.e. the interest earned will help reduce the erosion of the value of money. All these require people to make frequent trips to the bank and in the process wear out the soles of their shoes (in older times).
- Hence, there is inefficiency or wastage of resources when inflation is high due to high transaction costs.

(2) Producers' perspective:

(a) Discourages investment

- Severe price instability discourages investment because it makes it difficult for firms to predict future sales revenue and costs, hence the expected future returns from investment. In such an unstable and uncertain environment, investment is too risky for firms to undertake. Hence, firms may delay or cut back investments. For instance, firms may decide not to build more plants, factories, offices, hotels, shopping malls etc.

(b) Menu cost

- There is also menu-costs which are incurred by firms when there is a constant need to update price lists in restaurant menus, catalogues, price tags, bar codes and advertisements to keep pace with rising prices. This would result in higher expenses in re-printing price tags.

(3) Governments' perspective:

(a) Hinders Economic Growth and Employment

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- Severe inflation may stifle or hinder economic growth and worsen unemployment as it discourages both saving and investment which are fundamental to promote long term economic growth.
- In the case of cost-push inflation, the economy suffers from a concurrent rise in GPL as well as a contraction in output or a recession. The underlying causes could be due to wage cost pressures, high import cost or supply shocks. Refer to section 6.3.5.2 for details.
- This phenomenon is sometimes called stagflation. In such instances there is negative growth as output contracts and there is unemployment

(b) **Worsens the Balance of Trade, Capital flight and Lowers Value of Exchange Rate**
(Details on the Balance of Trade can be found in Chapter 6 Part 4)

Dampen Export Earnings (X)	• A country suffering from high inflation rates will experience a fall in the quantity demanded of their exports as prices of their exports increase and their trading partners switch to cheaper alternatives from other countries. If |PEDx| > 1, quantity demanded will fall more than proportionately and export revenue falls. • The effect is exacerbated if the country's inflation rate is higher than other countries as the country's exports will be relatively expensive and its trading partners will switch to the relatively cheap exports from other countries, leading to a fall in the demand for the country's exports and a further fall in export revenue.
Increases Import Expenditure (M)	• Higher inflation at home will also likely increase the demand for imports, as foreign goods are now relatively cheap than domestic goods, leading to an increase in import expenditure.
Impact on BOT = X – M	• Falling export revenues and rising import expenditure cause the balance of trade to worsen.
Capital flight	• Severe inflation over a prolonged period of time may also cause businessmen and foreign investors to lose confidence in the local currency, leading to capital flight if left unchecked.
Impact on Exchange Rate	• With greater imports and capital leaving the economy, supply of currency increases. At the same time, less exports means demand for currency falls. Both will lead to a weaker currency.

The extent of the adverse consequences of inflation is dependent on whether the inflation is anticipated or unanticipated.

Anticipated Inflation is when the rise in general price level is as predicted or close to the one expected. If firms, workers, consumers and the government have correctly predicted the inflation rate, they will be more prepared in taking measures to avoid the harmful effects. For example, firms can adjust their prices to reduce erosion of profit, financial institutions can increase their nominal interest rate to maintain real interest rate, consumers may be able to distinguish between changes in the general price level and relative prices and government can adjust tax thresholds and index-linked pensions, benefits and civil servants' pay in line with anticipated inflation.

Unanticipated Inflation occurs when inflation is either not anticipated or is higher than expected. This will cause a number of problems. As people and firms have been caught unaware, the uncertainties can result in a fall in consumption and investment. The consequence of unanticipated inflation will be more adverse than when the inflation is anticipated.

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(B) BENEFITS OF *LOW* INFLATION

***Note:** If a question asks for the benefits of achieving a low and stable inflation, the answer is actually the reverse of the costs of high inflation but the approach has to be from a positive perspective as elaborated below.*

(1) Consumers' perspective:

(a) Preserves the Value of Money or Internal Purchasing Power of Money

- Consumers will benefit from low inflation as it will prevent erosion of internal purchasing power of money by maintaining real income and standard of living. This will pre-empt pressures for cost of living adjustments when incomes cannot rise as fast as inflation, especially among the low-income households.

(b) No "unfair or inequitable" Distributive Effects

- Low inflation will not impose on fixed income earners or those living on their savings from financial hardship due to rising price level. For e.g. In the face of high inflation, low skilled, pensioners, retirees could face erosion of their purchasing power, hence low inflation promotes social justice and fair play.

(c) No High Transaction Costs

- I.e. little 'shoe-leather costs' when inflation is low.

(2) Producers' perspective: Increase investments and efficient use of resources

- Low inflation provides certainty which makes it easy for investors to make projection on costs and returns of their investments.

- There is little 'menu costs' when inflation is low.

(3) Governments' perspective:

(a) Promotes Economic Growth

- With higher investments in the country due to price stability, aggregate demand rises causing the national income to increase by a multiplier effect, and thereby reducing cyclical unemployment.

- If demand-pull inflation is mild, firms may experience higher profit margins amidst rising prices since factor costs are unlikely to rise in the short-term due to contractual agreements. Thus, this will encourage both investment and growth. In the long run, the productive capacity of the economy also increases.

- Also, low inflation encourages savings which is needed to fund investments.

- Modest increase in prices is also a sign that business is profitable. Demand is buoyant; sales are healthy. In short, it is a sign of vibrant economic activity and the economy is not in the doldrums.

***Note:** Severe inflation increases uncertainty and risk and thus deters investments.*

(b) Improves the Balance of Trade and Increases the Value of Exchange Rate

- If the country's inflation rate is lower than other countries, the country's exports will be relatively cheap and its trading partners will cut back on the quantity demanded of their locally produced goods due to the rising price and demand more for this country's exports since they are substitutes, leading to an increase in its export revenue.

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- Besides, since foreign goods are now relatively expensive than domestic goods, quantity demanded for locally produced goods will rise and thus leading to a fall in demand for imports and hence a fall in import expenditure.
- Thus rising export revenue and falling import expenditure will cause the balance of trade to increase.
- The exchange rate might strengthen due to stronger demand for the domestic currency when trading partners buy more of its exports and lesser supply of domestic currency as locals buy less imports.

6.3.4.3 HARMFUL DEFLATION VERSUS BENIGN DEFLATION

Deflation is harmful when:

- AD falls (economy moving away from the full employment output), signalling falling output and rising unemployment, which is usually accompanied by a recession.
- It becomes entrenched or prolonged – when falling prices becomes a "spiral of death" with no end in sight. This happens if consumers hold back spending in anticipation of further falls in prices, causing a vicious cycle of falling prices and falling expenditures to become entrenched. In such instances, the economy can plunge into a deep recession or depression.

Deflation is benign when:

- AS rises (expansion in the economy's productive capacity or due to fall in major commodity prices like crude oil) and more is produced at lower prices. There is no imminent danger of sliding into a recession.
- It is not prolonged.

Example:

- Falling oil prices would lower average costs of production in an economy (assuming other factor costs remained unchanged). This would cause the AS curve to shift downwards resulting in lower prices and higher output for the economy.

Generally, a prolonged deflation is a concern for the economy even if it may begin initially as a benign form of deflation due to lower costs and expansion in productive capacity. This is because it can easily degenerate into a vicious cycle of falling prices and falling expenditures as consumers hold back spending in anticipation of further rounds of price reductions in order to get a better deal.

6.3.4.4 CONSEQUENCES OF DEFLATION

- Deflation which is negative inflation has become a major economic issue in recent times.
- It has plagued Japan for about two decades, and the Japanese government under Shinzo Abe has introduced an economic package known as "Abenomics" to fight deflation.
- And in early 2015, prices in the euro zone started to fall. Figures released showed that consumer prices in the year to December fell by 0.2%, marking the return of deflation for the first time since 2009. Weak demand, driven by austerity, debt and a lack of economic growth is dragging down prices. The falling oil price is making things cheaper too.
- One might think intuitively that falling prices would be something to celebrate. What's wrong with goods & services getting cheaper and cheaper?
- However, deflation is considered as more deadly than inflation. It is often described as the "spiral of death" and central banks have launch a programme of quantitative easing to fend off the threat.
- Why do economists so dread falling prices?

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(A) COSTS OF HARMFUL DEFLATION

Adverse effects on Economic Growth and Employment

Postponing Consumption and Investments

- In an environment where deflation is the norm, consumers stand to gain if they postpone their consumption or purchases in anticipate of falling or cheaper prices.
- If every consumer postpones consumption, businesses will suffer major losses in sales. Thus, there will be no incentive for businesses to carry out investment to sustain production.
- Moreover, as prices falls, businesses are faced with the real prospect of ending up with losses because their cost (based on earlier purchases of inputs) is likely to be higher than sales revenue.
- This process of delayed consumption leading to business losses can become entrenched to the point that there is widespread business closure/failure.
- All these reduce overall economic activity and can lead to a so-called 'deflationary spiral', plunging the economy into a deep recession with high levels of unemployment and low incomes.

Increase Unemployment and fall in Standard of Living

- Deflation will bring about falling revenues for firms but workers will resist cuts in their nominal wages. As such, unless workers' productivity improves to lower unit cost of production, employers will have no choice but to retrench workers to maintain their profitability since the revenues generated will be insufficient to cover costs. The loss of incomes of these workers will adversely affect their material standard of living.

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Interesting Article:

Japan's deflated generation

PUBLISHED JAN 17, 2016

Those turning 20 this year in Japan have known only an economy of falling prices. What damage have two decades of deflation, anaemic wage growth and lower job security done to their ambitions?

Leo Lewis

NO MORE BIG DREAMS

"Our parents had the 1980s bubble, we have deflation. They went a bit crazy. We are coldly practical," says Tokyo student Ayako Imaeda.

"Both generations have had their way of thinking changed deeply by the economy."

Japan has been undermined by two decades of anaemic wage increases, lower job security and lacklustre consumption, says Tokyo University professor Hiroshi Ishida. Economic factors have stripped away the incentives for young Japanese people to leave home, buy cars, marry, have children, take risks and generally grow up, he says.

To an extent, the same is true in other parts of the developed world.

In Japan, however, the phenomenon is especially bad news for the growth reforms, known as Abenomics, and for the Japanese leadership's dream of priming the nation for an era of entrepreneurship, innovation and investment.

LIFELONG PHENOMENON

This year's coming-of-age day celebrants, born in 1995 and 1996, are the first to have spent their entire journey to adulthood in an economy of mostly falling consumer prices.

Their lives have been so infused by the phenomenon that several say deflation - one of the main obstacles to growth through the 2000s - has evolved into a source of low-level apprehension that limits ambition.

But the young are not convinced, even with last November's figures showing a 0.3 per cent year-on-year rise in overall prices, the Bank of Japan (BOJ) continuing to target 2 per cent inflation and Prime Minister Shinzo Abe declaring that Japan is "no longer in a deflationary period".

Prices in Japan began falling at the time that this year's 20-year-olds were born, and the fruitless attempts to drag Japan from deflation has seeped into their psyche, say academics

The phenomenon has not just eroded faith in the enriching powers of the economy, but left this generation sharply aware that its leaders are neither all-knowing nor all-powerful.

Yusuke Hamada says: "My parents believed that the government would make their lives good and they did get richer. The lesson we have learnt is that we need to save as much as we can and take as little risk as possible."

The critical difficulty faced by Mr Abe and the BOJ, according to academics, is that they are engaged in a form of psychological warfare with the public on inflation.

They need to persuade people that prices and wages are indeed rising to give that assertion any kind of sustainability.

Deflation's clearest crime has been to squeeze company profits.

As well as suppressing wages, it is blamed, at least in part, for the steady disintegration of the job-for-life corporate culture.

Falling prices gave civil servants and those with stable jobs in large corporations a sense of rising wealth, but for everyone else - 99 per cent of Japanese companies are small and medium-sized - it has produced a sense of insecurity.

Japan now has a generation of newly enfranchised adults that become stressed over a price difference of five yen between two doughnuts at rival stores, keep count of their micro-savings in notebooks, but struggle to explain what they want to do with the money.

Author Takuro Morinaga, who has prospered by writing best-selling guides to frugal living, says: "Deflation has made Japan unable to think. The generation turning 20 does not dream big but looks for small moments of happiness in their current situation.

"They don't save for something big, but as insurance."

"(But) I am sure that if you gave me 100,000 yen now, I would save 99 per cent of it."

Excerpt from FINANCIAL TIMES

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6.3.5 CAUSES AND POLICIES FOR INFLATION & DEFLATION

6.3.5.1 DEMAND-PULL INFLATION

Demand-pull inflation arises when there is excessive aggregate demand in an economy that outpaces aggregate supply, hence leading to a rise in general price levels with little or no increase in real output.

Theoretical explanation

Demand pull inflation is due to 2 major causes:

- Excessive spending (linked to optimism in a booming economy)
- Excessive Money Supply (linked to cheap and easy credit)

Analysis:

- This is a type of inflation arising from a rise in AD (shift AD to the right) with **no or little increase in the productive capacity** of the economy, i.e. the firms are facing a supply bottleneck or tight capacity – *close to the full employment output*. The increase in AD leads to competition for factors of production and hence driving up costs (GPL), reflected as a movement along the AS curve.
- **Optimism in a booming economy:** This **rapid rise in AD** due to investment (e.g. oil discovery) or export boom may lead to excessive spending or splurging on consumption which is reinforced by the psychological "feel good" factor. In a booming economy, there is general unrestrained consumption or euphoria as the urge is to spend freely on the assumption that the good times will never end.
- **Cheap Credit:** Alternatively, with the rapid rise in AD could be fuelled by the availability of cheap and easy credit. Banks are willing to lend on liberal terms (e.g. promotion of credit cards), and at low interest rates which encourages consumers to spend freely or splurge e.g. buy cars, homes on credit and go shopping spree with their credit cards.

Exemplification: Demand-pull inflation in Singapore

- In the case of Singapore, which is heavily dependent on exports to increase its national income (exports are 1.5 to 2 times of GDP), demand pull inflation would probably be due to a boom in export demand.
- **Asset price inflation:** About 10 years ago, the property market in Singapore experienced a rapid rise in prices. The economic recovery coupled with availability of cheap mortgages led to excessive property speculation or asset price inflation, prompting the government to step in with timely "cooling measures"[1] to pre-empt a bubble. The many rounds of cooling measures help to reduce demand by reducing the purchasing power and also reducing the profitability of 'flipping' the properties.

Exemplification: Demand-pull inflation in China / India

- For emerging economies such as India and China, they are said to be facing 'overheating' from a rapid increase in AD which is not in tandem with a rise in output along AS.
- Since these countries have natural factor endowments in terms of abundance of land, labour and raw materials, they have a comparative advantage[2] in producing agricultural products and low-skilled labour-intensive goods such as tea and textiles.

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[1] E.g. of cooling measures: the introduction of Seller's Stamp Duty (SSD) in 2010 and Additional Buyer Stamp Duty (ABSD) in 2011.

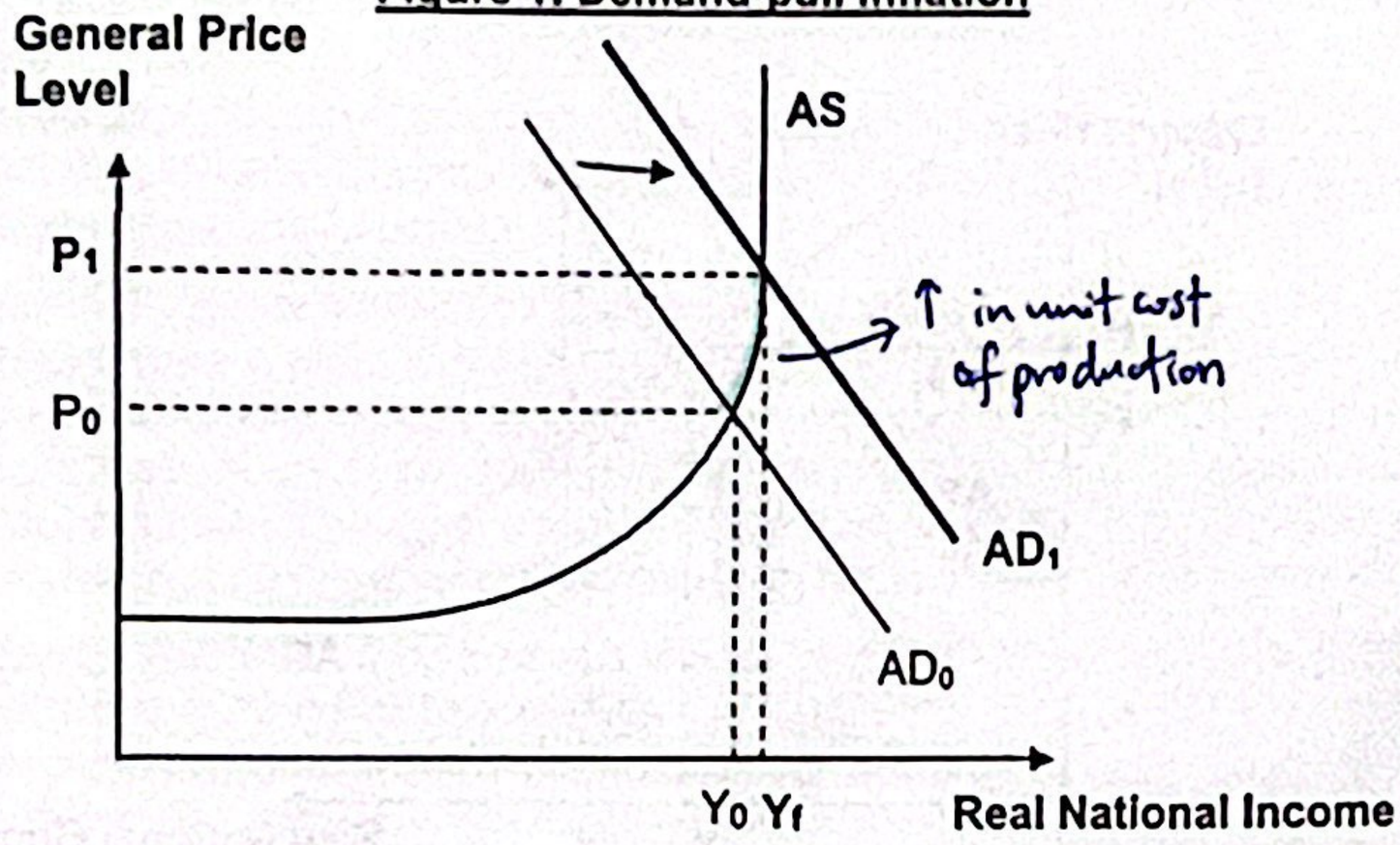
[2] Comparative advantage refers to the production of a good by a country at a lower opportunity cost than another country.

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- Foreign firms will want to leverage on this and hence inject huge amounts of foreign direct investments into these countries, adding on to the investment component of these countries' AD.
- At the same time, China and India tend to export a large proportion of their goods and services to the rest of the world, leading to an increase in X and hence a shift of AD to the right. These increase in AD lead to demand-pull inflation in the short-run.

Figure 1: Demand-pull Inflation



- In Figure 1, AD increases from AD_0 to AD_1 due to either an export-led boom or investment-led boom or both (e.g. China in recent years have experienced rapid growth from export revenue and investment inflow leading to overheating of the economy).
- In order to meet the rising demand, firms will increase their production as long as the prices of their goods are rising faster than the prices of inputs they use in production.
- To do that, they will need to acquire more resources (factors of production) which will be in competition with other users for these resources, e.g. drawing workers from other industries, employ less skilled workers, encourage workers to work overtime, extend the hours of part-time workers, hire recently retired workers, etc.
- Thus, there is an increase in unit cost of production (as shown by the movement along the upward sloping portion of AS).
- Eventually, price level rises from P_0 to P_1 as the economy reaches full capacity (operating at its potential) and output cannot increase further.

POLICIES FOR DEMAND-PULL INFLATION

Problem	Policy's intent	Policies
Demand-pull inflation	Target C, I & G in AD	• Contractionary Fiscal policy: Decrease government spending and/or increase tax • Contractionary Monetary policy: Increase interest rates to discourage consumption and investment
	Target (X-M) in AD	• Appreciation/revaluation of exchange rate thereby making imports cheaper and exports expensive
	Increase AS	• Supply side policies to improve quantity and/or quality of resources

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6.3.5.2 COST-PUSH INFLATION

Cost-push inflation arises when the aggregate supply in an economy falls due to persistent increase in costs of production, for reasons not associated with increase in aggregate demand, hence leading to a rise in general price level.

Figure 2: Cost-Push Inflation

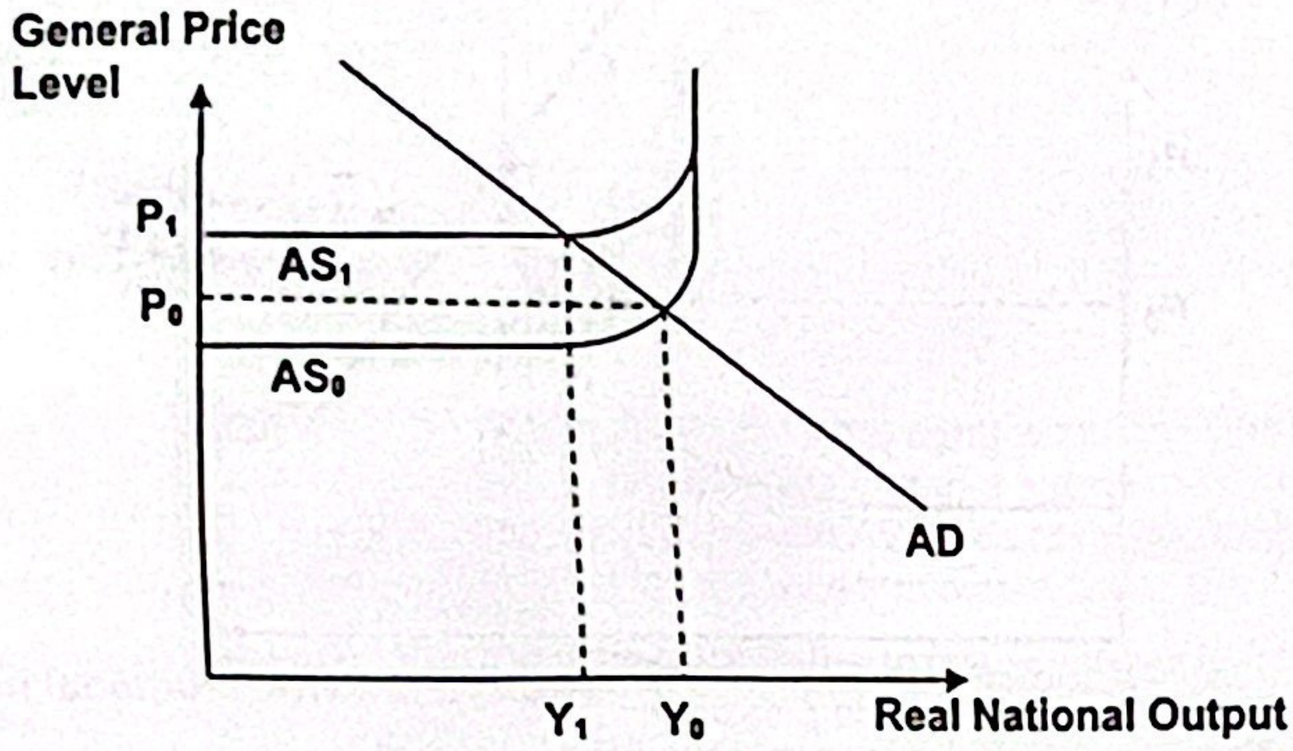


Figure 2 shows an economy initially at equilibrium at general price level at P_0 and output level at Y_0.

- If there is an autonomous increase in the costs of production at all levels of output, the AS_0 curve shifts up to AS_1, resulting in a higher price level at P_1 and a lower equilibrium output at Y_1. This illustrates cost-push inflation in the economy.
- A good example is the hike in oil price. Oil is a major resource used across all industries as a source of energy for transport or to generate power and electricity to drive machines and factories. A significant increase in oil prices would affect the economy through higher costs of production. In order to protect their profit margins, businesses have to raise the price of their output by the increase in their unit cost. This explains why the AS shifts up as cost of production rises.

TYPES OF COST-PUSH INFLATION

There are five main causes of cost-push inflation: rise in import prices, rise in wages without a rise in productivity, monopolies jacking up prices, negative supply shocks and statutory reasons.

***Note:** It is important to note the difference between an autonomous increase in cost (represented by an upward shift of AS curve) and an increase in cost due to higher demand (represented by an upward movement along AS curve as AD rises). In the case of the latter, if demand increases say for labour, causing wages or labour cost to rise, this is an example of demand-pull and not cost-push inflation. However, if strong union bargained for excessive increases in wages, then such an increase in wage cost is deemed as cost-push because it is unrelated to demand.*

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(A) IMPORTED INFLATION

(1) Rising prices of key imports

This type of inflation originates from importing raw materials and finished goods from other countries which are facing inflation. As a result, there is a rise in cost of production, shifting AS upwards from AS_0 to AS_1 as seen in Figure 2 above.

Exemplification:

- This type of inflation is especially pertinent to small and open economies such as Singapore, which has no natural resources and has to import necessities and raw materials for consumption and production of goods for exports.
- A good example of imported inflation was when OPEC countries quadrupled the price of oil during 1973-74. The increase in price of imported oil contributed to an increase in the cost of production. Oil is a major resource used across all industries as a source of energy for transport or to generate power and electricity to drive machines and factories. A significant increase in oil prices would affect the economy through higher costs of production. In order to protect their profit margins, businesses have to raise the price of their output by the increase in their unit cost.
- Another example was when food prices increased in neighbouring countries in 2008. The rising prices of food items contributed to our inflation in Singapore. In that same year of 2008, oil prices saw also an unprecedented sharp increase (US$147 per barrel in July 2008). Both oil and food prices have driven Singapore's inflation rate in 2008 to 6.6%, which was 3 times the inflation rate in 2007.

Note: *Two key imports, FOOD and FUEL, accounted for much of cost-push inflation world-wide.*

(2) Weak currency

Another cause of imported inflation is a depreciation of the importing country's currency. A fall in the exchange value of its currency will cause the importing country to give up more of its currency for one unit of foreign currency, i.e. price of imports is now more expensive in terms of domestic currency. Thus, even if the prices from the exporting country are stable, the importing country faces higher prices due to currency depreciation.

(B) WAGE-PUSH INFLATION

- This type of inflation is due to **wages rising faster than labour productivity, i.e. output per unit of labour**, causing the unit cost of production to increase in the economy. It is a widely held view that powerful trade unions could clamour for high wages which exceeds members' productivity.
- This will shift SRAS to the left as it will give rise to an autonomous increase in labour cost.
- **Exemplification:** Industrialised Western economies such as the UK and Germany saw the rise of trade union power in the mid-20th century. This made wage-push inflation a main concern for these economies.

(C) PROFIT-PUSH INFLATION

- This stems from too much concentration of market power. When there is too much market power wielded by one firm or groups of firms, prices tend to rise during periods of rising costs.
- Monopolies raise prices of their goods by an amount that is far more than what is required to offset the increase in the cost of production. The more price inelastic the demand for these goods, the

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larger will be the increase in prices. With strong barriers to entry amongst these firms, new entrants are prevented from entering or competing in the industry. Existing firms therefore keep prices high.

- Exemplification: After WW2, in a bid to stabilise price levels, the US government heavily regulated key industries (e.g. airline industry). This resulted in high barriers to entry into these industries which prevented competition and gave firms too much market power. Firms were thus able to set high prices which increased profits of the firms. Their collective ability to raise prices in various key industries resulted in profit-push inflation.

(D) NEGATIVE SUPPLY SHOCKS

Negative supply shocks are unexpected events that could be either natural or man-made. Examples of a naturally occurring negative supply shock include the Kobe earthquake (1995), Asian earthquake and tsunami (2004) and tsunami in Japan (2011). An example of man-made supply shock includes the oil crises in the 1970s. The effects of these negative supply shocks can be represented by an upward shift of the AS curve.

(E) STATUTORY-COST PUSH INFLATION

Statutory-cost push is linked to government policies such as the imposition of taxes (GST), licensing fees and other fees and charges for services provided by the government e.g. COE and ERP

(a) Rise in Indirect Taxes on Goods and Services

- This occurs when cost of living increases as a result of firms passing part of higher indirect taxes imposed on their goods and services to consumers, i.e. Goods and Services Tax (GST) or Value-Added Tax (VAT). If firms face a rise in costs through taxes, they usually respond by passing some of the higher costs to consumers through higher prices, and partly by cutting back on production.
- **Exemplification:** The increase in GST in Singapore in 2007 from 5% to 7% caused prices to rise in the year it was implemented, leading to tax push inflation.

Note: Such a policy is a result of a shift in tax paradigm (from direct to indirect tax regimes)

(b) Implementation of Certificates of Entitlement (COE) for Vehicles and Electronic Road Pricing (ERP) (Singapore)

- To control road congestion, the Singapore implements the COE and ERP systems.
- A COE represents a right to vehicle ownership and use of the limited road space for 10 years. The COE prices are influenced by the supply and demand which the former is a quota system controlled by the government. When the government reduces the quota, COE prices/premium will rise. Besides, the ERP system, an electronic toll collection scheme is adopted to manage traffic, and as a usage-based taxation mechanism to complement the purchase-based COE system.
- These increase the cost of transportation and cost of production for firms especially those that use many vehicles. Thus leading to cost-push inflation in Singapore.

***Note:** This is an example of conflicting goals, namely controlling negative externality to achieve allocative efficiency at the expense of price stability (since this results in cost-push inflation).*

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POLICIES FOR COST-PUSH INFLATION

Cause of cost push inflation	Policy intent	Policies
Imported inflation	Keep import prices from increasing	• Appreciate currency • Implement price ceiling
	Provide alternatives	• Diversify suppliers • Develop more local substitutes
Wage push inflation	Keep wages from rising too fast	• Freeze wage
	Ensure that productivity keeps up with wage increases	• Clamp down labour unions • Raise labour productivity eg. Skills upgrading
Profit push inflation	Control market power	• Implement price ceiling • Deregulate to increase competition level
Negative supply shock	Control prices from escalating in short period of time	• Implement price ceiling • Provide subsidies
	Maintain sufficient stock in anticipation of such events	• Stockpile (keep buffer stock)
	Find alternatives to reduce dependency	• Switch to alternatives
Statutory-cost push	There is no real cure for this as this is the case of conflicting goals.	

6.3.5.3 THE INTERACTION BETWEEN DEMAND-PULL & COST-PUSH INFLATION

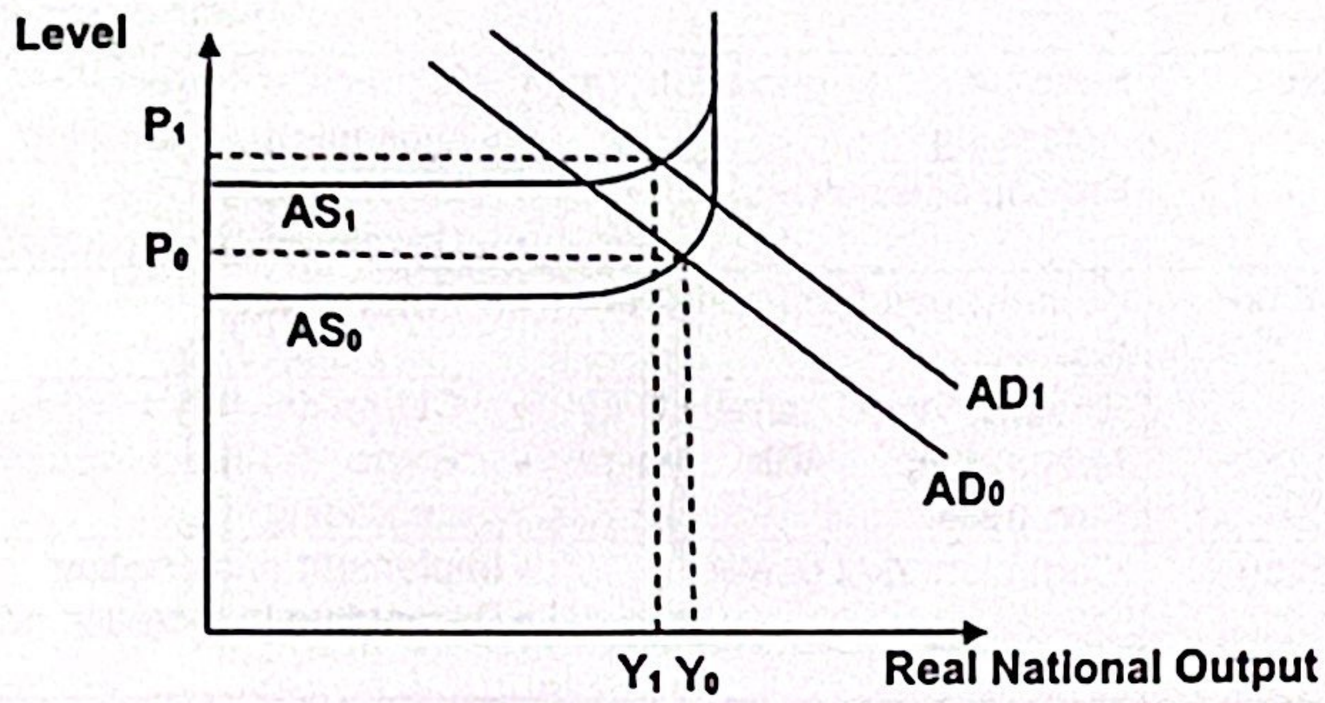
- **Multi-causal Inflation:** In reality, there are many causes contributing to inflation. It is a result of **continuous** shifts in AD and AS curves, leading to increasing price levels.
- One example of an interaction between demand-pull and cost-push inflation is the *wage-price-spiral.* With reference to Figure 3, the economy is initially at equilibrium with price level P_0 and output (Y_0) at fullemployment.
- If inflation expectations (i.e. expectation of higher prices in the future) could drive workers to demand higher wages rates, and if workers (through the help of trade unions) are successful at securing higher wage rates though there is no improvement in productivity, unit costs of production will rise. This will cause the AS curve to shift upwards from AS_0 to AS_1.
- Firms respond to the rising costs of production by cutting back on the workers they hire. To prevent a rise in unemployment, the government boosts the level of aggregate demand by increased spending on infrastructure and/or by cutting taxes. This shifts the aggregate demand curve to the right from AD_0 to AD_1.
- The net effect on output and employment may be very small or even fall, but price levels may rise considerably from P0 to P1. If there are substantial shifts in AS and AD, a **wage-price spiral** will result. Trade unions will demand higher wages. To offset rising cost of living, firms increase their

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prices to cover rising costs of production. Wages and prices further increase, contributing to a wage-price spiral.

Figure 3: Interaction of Demand-Pull and Cost-Push Inflation



- Since inflation is multi-causal, one should adopt a multi-pronged approach to solve it. This means that the "cure" for inflation may involve a combination of policies that include both demand management and supply side policies.
- During periods of severe (i.e. galloping) inflation, the consequences of inflation could be dire. It could trigger a wage-price spiral, where inflation feeds further inflation. Even worse, inflation, if left unchecked, could erode the functions of money and may eventually lead to monetary and economic collapse. Thus even if inflation is caused initially by upward shift of the AS, the short term repercussions need to be dealt with using contractionary demand management policies to mitigate inflationary pressures.
- **Unintended Consequences:** However, there is a downside to dampening demand to slow down price increases brought about by rising costs – it will worsen the contraction in output, thus leading to even higher levels of unemployment. If AS shifts upwards and AD shifts leftwards simultaneously, the contraction in output will be amplified.

6.3.5.4 CAUSES AND POLICIES FOR DEFLATION

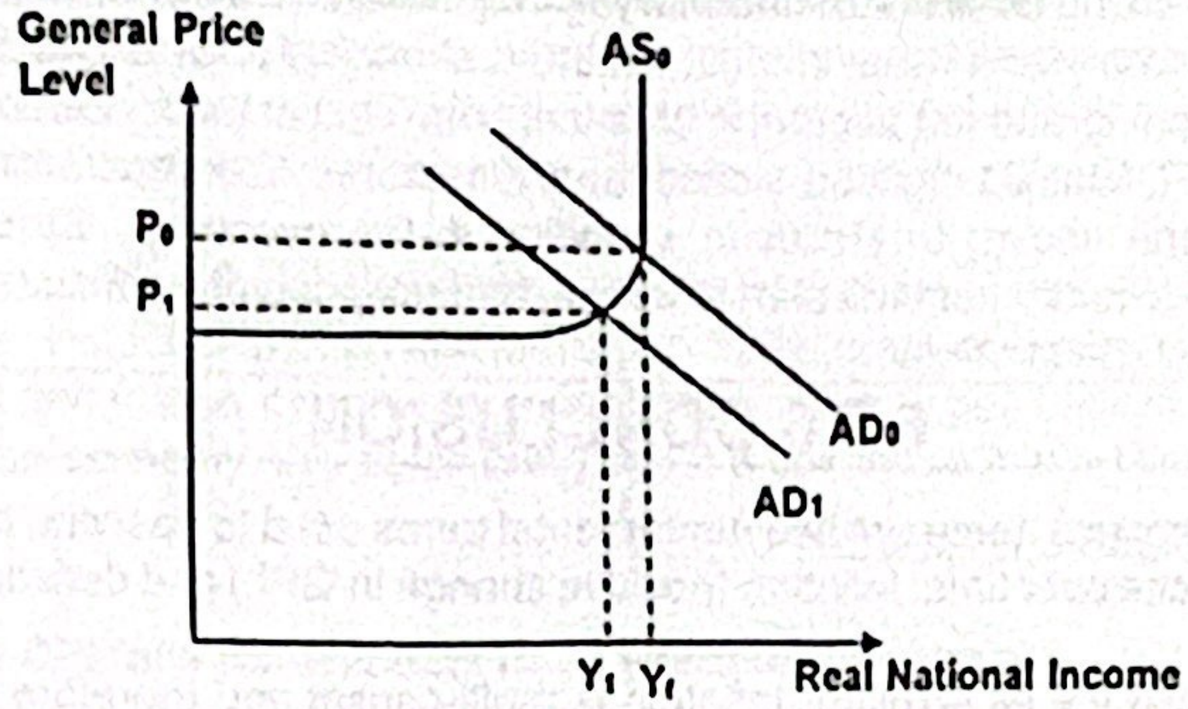
Deflation or negative inflation involves a fall in the price level. From a very basic standpoint, there are two main potential causes of deflation:
- Persistent fall in in aggregate demand (AD) below the full employment level of national output
- An increase in the productive capacity of the economy, aggregate supply (AS) shifts to the right

Harmful Deflation due to a fall in AD
Deflation usually occurs during a deep recession, when there is a sustained fall in aggregate demand and output. This is similar to the causes of slow or negative growth and demand-deficient unemployment.

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Figure 4: Deflation due to a fall in AD



In Figure 4, AD decreases from AD_0 to AD_1 due to either a slump in the export market or domestic demand. The fall in AD has led to both a contraction in the output from Y_f to Y_1 and a fall in GPL from P_0 to P_1.

Benign Deflation due to a rise in AS

Rapid growth in the productive capacity of the economy (perhaps due to rise in size of labour force) may enable lower prices while increasing output. Or it could be due to fall in average costs of production (perhaps fall in commodity prices such as oil). This could be termed 'benign deflation' as output increases. This is usually considered beneficial and not an area of concern.

Figure 5a: Benign Deflation due to a rise in productive capacity

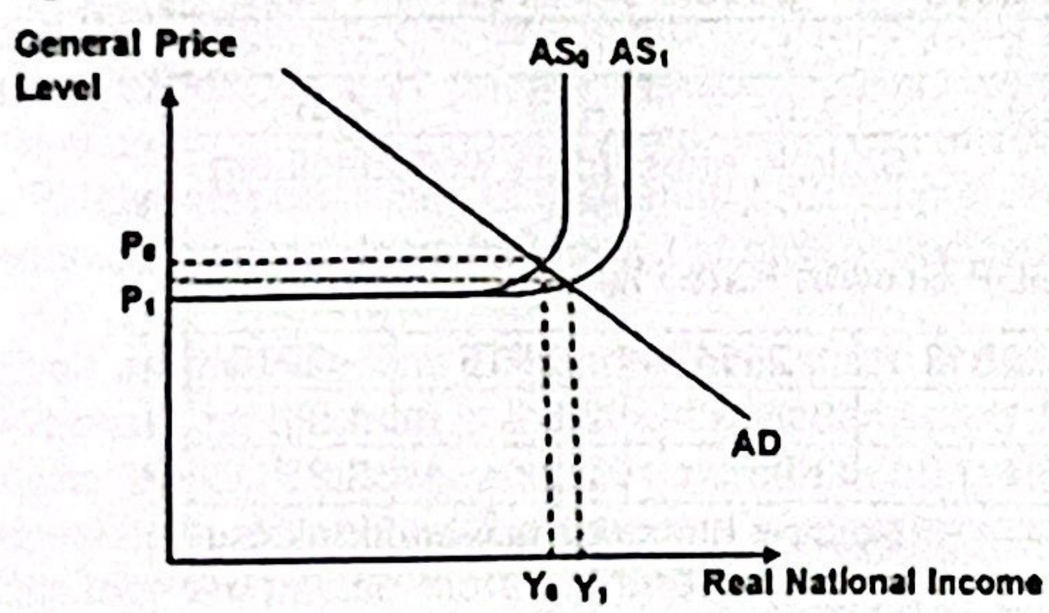
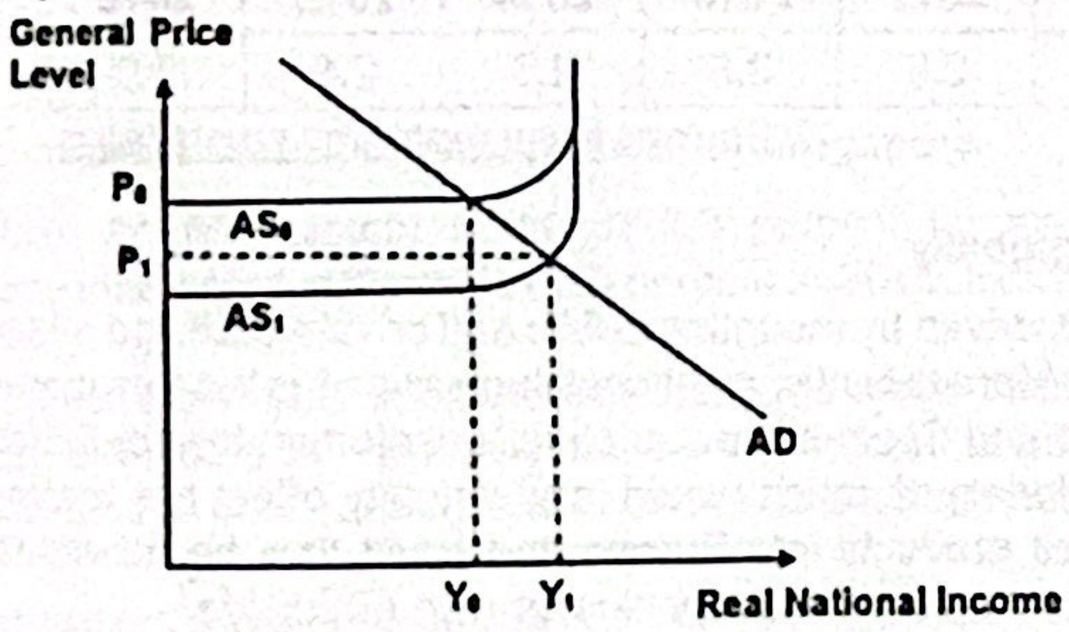


Figure 5b: Benign Deflation due to a fall in costs of production



In Figures 5a and 5b, GPL falls from P_0 to P_1 and output rises from Y_0 to Y_1 due to a rise in AS.

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Challenge in reversing harmful deflationary pressures

To reverse the trend of falling prices or deflationary spiral, it is often not enough just to adopt stimulus measures such as monetary and fiscal stimulus without changing price expectations. The key is to get people to start spending and not postpone consumption. That in theory can be done by changing inflation expectations. Countries fighting deflationary pressures like Japan for instance have set inflation targets (2% and above) to stimulate spending in the economy. By deliberately creating inflation, the argument is consumers will start to spend, and not postpone consumption, as purchasing power of their income starts to shrink.

6.3.6 CONCLUSION

- In the world of economics, there are two fundamental terms used to describe the price movements of goods and services over time: inflation (positive change in GPL) and deflation (negative change in GPL).
- There is no one-size fits all solution. Inflation is multi-causal and therefore the policies chosen must be appropriate and in accordance with the type and causes of inflation.
- Economists generally favor a low and stable (predictable) rate of inflation. Such a stable price environment is not only benign but also conducive to supporting sustained non-inflationary growth.

Tutorial 6.3

Question 1: Inflation, deflation and unemployment (2019 H1 Economics C2 BT1)

Table 1: Annual Headline Inflation Rate (%)

	2011	2012	2013	2014	2015	2016
UK	5.2	3.2	2.4	2.1	0.0	1.2
Singapore	3.2	2.6	2.4	1.0	-0.5	-0.5

Source: https://data.worldbank.org

Table 2: Annual GDP Growth Rate (%)

	2011	2012	2013	2014	2015	2016
UK	0.7	1.5	2.1	3.1	2.3	1.9
Singapore	4.9	4.1	5.1	3.9	2.2	2.2

Source: https://data.worldbank.org

Table 3: Unemployment Rates in Singapore (%)

	2011	2012	2013	2014	2015	2016
Resident Unemployment Rate	2.9	2.8	2.8	2.7	2.8	3.0

Source: www.mom.gov.sg/statistics

Extract 1: Low and negative inflation seen globally

Deflation has emerged recently. Weak demand, driven by mounting public and private debt and a lack of economic growth are dragging down prices. More recently, oil prices plunged and in the Eurozone, deflation grips tightest. Germany, Italy, Greece and Spain all saw price falls. Unfortunately, deflation is not just Europe's problem. Europe's deflationary situation would inadvertently affect her trading partners' exports. The US and China sell their products into Europe and could thus be adversely impacted. The broader problem is that deflation can produce very slow growth worldwide.

Source: *The Guardian*, 17 Nov 2016

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Extract 2: Falling prices – good or bad

Opinion is split among economists regarding deflation and its implications for the UK economy. Paul Hollingsworth, a UK economist, takes the view that the mild deflation seen in recent months is essentially good for UK's economic growth "because it boosts households' purchasing power and lowers firms' day-to-day running costs," he says. This is even more so because people expect prices to rise again in the future.

In contrast, there are critics that believe deflation is bad news. They opined that it could alter households' inflation expectations as well as firms' investment decisions. Deflation discourages business investment and makes it harder for existing borrowers to pay back loans. If incomes fall far and long enough in an economy, this could bring about a spiral culminating into a severe recession.

Source: *The Straits Times*, 19 May 2017

Extract 3: Headline CPI falls for first time in 13 years in Singapore

The Headline Consumer Price Index (CPI) considers prices of all goods and services and is a relevant indicator for inflation and cost of living in an economy.

The Headline CPI for Singapore fell 0.5 percent last year from a year earlier, the Monetary Authority of Singapore (MAS) said today. This was the index's first full year of negative inflation in 13 years.

On the other hand, the MAS Core CPI for 2016 rose to 0.9 percent, from 0.5 percent the year before.

Source: www.todayonline.com, 25 January 2017

Extract 4: Singapore has less to worry about deflation

While deflation points to deeper structural issues for economies like Japan and Europe, economists say that Singapore has less to worry. The biggest contributors towards deflation are the declines in accommodation and private transport costs, following the government's introduction of cooling measures to the housing and motor vehicle markets. Accounting for more than one-third of Headline CPI, cheaper certificate of entitlement (COE) premiums for cars and decreasing home rents have led consumer prices down its longest stretch of declines.

Even as the Headline CPI index was stuck in deflationary trend for the past two years, everyday expenses for the man in the street have not come down in tandem. Many households do not pay for items like COE prices, and with more than 80 percent of the population owning an HDB flat, many households do not feel the impact of weaker rentals and that's why Singaporeans in general still feel that they are paying more. Moreover, economists also expect headline inflation to pick up gradually by end 2016 as the deflationary effects of oil as well as government's policies are merely temporary in nature.

Source: *Business Times*, 10 May 2016

Extract 5: Rising unemployment in Singapore

After holding steady at about 2.8 percent for about four years, the annual average resident unemployment rate rose to 3.0 percent in 2016, hitting the highest level since December 2009.

One of the worries is caused by business cycles. Companies are slowing down hiring because they are affected significantly by the weak external and internal demand. Clear examples can be found in the oil and gas, banking and finance sectors that have the highest number of layoffs in 2016.

However, there is no outright recession or financial crisis brewing in the horizon, so there is no reason to be too pessimistic or expect a sharp spike in the near-term unemployment rate, according to OCBC Bank's economist, Selena Ling. She expects jobless figures to stabilise around 2.5 percent in the

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medium term. She added that for unemployment to hit new highs of 5 percent or more would require a 'severe recessionary situation'.

The challenges faced by the labour market are not just about decreasing job creation and rising lay-offs due to a slower economy. Instead, a bigger worry looms in the form of structural unemployment, economists said. Unlike previous economic downturns where jobs were hard to come by, there remain employers in Singapore that struggle to fill positions, such as those in the burgeoning IT industry. This boils down to unrelenting technological developments that have widened the gap between the skill sets that workers have and the ones that employers want.

According to the Ministry of Manpower, jobseekers are finding that it takes longer to get a job and for those who have lost their jobs, fewer of them were re-entering the workforce. The jobseekers may find the pay or working conditions unattractive, be unsure of the availability of work or not have the necessary skills. However, the overall employment rate of graduates from the main local universities remained high, most of them found jobs within six months of completing their final examinations last year, according to a survey conducted by the institutions.

Manpower Minister Lim Swee Say has two succinct explanations for the unemployment situation: "Missed matches", where the jobseekers do not know where the openings are; and "mismatches", where the jobseekers do not have the right skills. The Government is tackling both. Missed matches are easier to solve, but mismatches are harder.

Source: Adapted from *The Straits Times*, 7th May 2017 and *Channel News Asia*, 5 May 2017

Questions

(a) (i) Distinguish between deflation and disinflation. **[2]**

(ii) Using Table 1, compare the changes in the General Price Level of UK and Singapore over the period between 2011 and 2016. **[3]**

(b) Using AD/AS analysis, explain the view that the 'mild deflation seen in recent months is essentially good for UK's economic growth'. (Extract 2) **[4]**

(c) With reference to Extract 2 and with the help of an AD/AS diagram, explain how deflation can lead to a severe recession in an economy. **[5]**

(d) (I) Explain the main difference between headline inflation and core inflation in the context of Singapore. **[2]**

(ii) Using appropriate evidence from the data, explain and comment on whether deflation can improve the living standards in Singapore. **[8]**

(e) (i) Define unemployment and given the information in Extract 5, explain the three causes of unemployment in Singapore. **[7]**

(ii) Comment on the validity of the statement: 'Missed matches are easier to solve, but mismatches are harder.' (Extract 5) **[4]**

(f) With reference to the data, discuss whether the Singapore government should be more concerned about deflation or unemployment in the economy. **[10]**

[Total: 45 marks]

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Question 2 Essay (A Level 2013)

On 1 September 2011 the Monetary Authority of Singapore (MAS) reported that inflationary pressures remained strong because of tight domestic labour market, high consumer spending and rising global commodity prices.

(a) Explain how the factors mentioned above will lead to inflationary pressures remaining strong in Singapore. [10]

Question 3 Essay (A Level 2015) – optional question

In its September 2013 Recent Economic Developments Statement, the Monetary Authority of Singapore noted that inflation was expected to rise moderately. Strong GDP growth in Q2 2013 was mainly due to increased output in the manufacturing and trade-related service sectors with a slowing of growth in private consumption. There was expected to be continued strong wage pressure from persistent tightness in the labour market caused by shortages in labour supply, accompanied by steady expansion in demand for goods and services from the US, Japan and the Eurozone.

Source: Recent Economic Developments in Singapore, MAS, 5 Sep 2013

(a) Explain how the above-mentioned factors might have caused the rate of inflation to rise in Singapore. [10]

Question 4 Essay (A Level 2019)

In 2017, the annual rate of inflation in Singapore was significantly lower than the average rate for Southeast Asia.

(a) Explain a possible demand side reason and a possible supply side reason for a rise in the rate of inflation. [10]

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PART 4: BALANCE OF TRADE

Conceptual outline

BALANCE OF PAYMENTS (BOP)	
Current Account • Balance of trade (BOT) * • Primary Income • Secondary Income	**Capital and Financial Account** • Foreign Direct Investment (FDI) * • Portfolio Investment e.g. Government bonds & Companies Shares • Short-term capital flow ('Hot money') *

CONSEQUENCES OF AN IMPROVEMENT IN BOT & CAPITAL FLOWS ON GROWTH, EMPLOYMENT AND PRICE STABILITY	
BOT	**CAPITAL FLOWS**
• (+) Expansionary impact on economy – higher growth and lower unemployment • (-) If it is due to low imports of consumer goods, lower material SOL • (-) Possible demand-pull inflation, if there is tight capacity	(+) • FDI inflow: More employment opportunities for domestic economy • Portfolio investment inflow: More foreigners buying government bonds – funds for government spending (-) • Countries should refrain from over-reliance of FDI • Large financial inflow may cause the exchange rate to appreciate too much – destabilises the exchange rate

CONSEQUENCES OF A DETERIORATION IN BOT & CAPITAL FLOWS ON GROWTH, EMPLOYMENT AND PRICE STABILITY	
BOT	**CAPITAL FLOWS**
• (-) Contractionary impact on economy – slower growth and higher unemployment • (+) If it is due to high imports of consumer goods, higher material SOL • (+) Eases demand-pull inflation, if any	(-) • FDI outflow: Less employment opportunities for domestic economy • Large financial outflow may cause the exchange rate to depreciate too much which destabilises the exchange rate • Lesser Portfolio investment inflow may mean less funds for government (+) • Profits earned by FDI will be repatriated back to home-country and improve the current account in the long-run

CAUSES OF A DETERIORATION IN THE POSITION OF THE BOT & CAPITAL FLOWS	
BOT: ↓X, ↑M or ↑X<↑M • ↓X - Loss of comparative advantage due to competition from emerging economies + depletion of resources • ↓X - Higher inflation rate • ↓X - Unfair trade practices by trading partners e.g. undervaluation of currency, protectionism • ↑M - Overconsumption of imports due to affluence and habits • ↑M on capital goods and raw material such as crude oil due to industrialisation	CAPITAL FLOWS • ↓FDI Inflow - Loss of comparative advantage leading to relocation/offshoring of firms + ↑outflow domestic investment - Other countries more attractive for FDI – lower corporate tax rates, better business sentiments • ↓hot money inflow + ↑hot money outflow - Fall in interest rate

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SECTION OUTLINE

6.4.1 THE BALANCE OF PAYMENT
6.4.1.1 Meaning and Purpose of the Balance of Payment
6.4.1.2 Structure of the Balance of Payment

6.4.2 CONSEQUENCES OF AN IMPROVEMENT OR DETERIORATION IN BALANCE OF TRADE & CAPITAL FLOWS
6.4.2.1 Consequences of an Improvement in BOT & Capital Inflow
6.4.2.2 Consequences of a Deterioration in BOT & Capital Outflow
6.4.2.3 Consequences of a Persistent BOT Deficit

6.4.3 CAUSES OF DETERIORATION IN THE POSITION OF THE BALANCE OF TRADE & CAPITAL OUTFLOW

6.4.4 POLICIES TO CORRECT A BALANCE OF TRADE DEFICIT & CAPITAL OUTFLOWS

6.4.5 CONCLUSION

6.4.1 THE BALANCE OF PAYMENT

6.4.1.1 Meaning and Purpose of the Balance of Payment

The Balance of Payments (BOP) for a country is a record or overall statement of all economic transactions between residents of a country with the rest of the world, usually over a year.

Simply put, the BOP is a set of official accounts use for **tracking the net flow (inflow of earnings and outflow of expenditure) of Foreign Exchange (FX).**

For the H2 syllabus, we will be focusing only on the **Balance of Trade** and **Capital flows** in the BOP.

6.4.1.2 Structure of the Balance of Payments

To record ALL external transactions systematically, the BOP is divided into 2 major accounts:

1. **Current Account (record of all TRADE flows vis-à-vis the rest of the world)**
2. **Capital and Financial Account (record of all INVESTMENT flows vis-à-vis the rest of the world)**

All transactions between a country and the rest of the world are recorded in the country's BOP into one of the two separate categories, which are shown as follows:

BALANCE OF PAYMENTS (BOP)	
Current Account	**Capital and Financial Account**
• **Balance of trade** (BOT) • Primary income account e.g. rent, interest, profits and dividends • Secondary income account e.g. unilateral transfers and remittances	• **Foreign Direct Investment** (FDI) • **Portfolio Investment** e.g. government bonds & companies shares • **Short-term capital flow** ('Hot money')

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Note: Candidates are required to have knowledge of the key components of the balance of payment accounts, but the accounting process is not required.

6.4.1.2.1 The Balance of Trade

The balance of trade is the import and exports of goods and services.

Table 1: Balance of Trade for Singapore, 2011 to 2020 (S$ millions)

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
BOT	149727	144369	145952	125351	115248	115591	93512	88958	89339	96825
Goods Balance	129,203	132,107	137,015	139,509	124,304	127,267	109,846	98,574	93,667	95,027
Exports Of Goods	567,948	602,070	619,050	575,081	515,602	544,736	570,951	573,077	563,674	564,415
Imports Of Goods	438,745	469,963	482,035	435,571	391,297	417,468	461,104	474,502	470,007	469,387
Services Balance	20,524	12,262	8,937	-14,157	-9,055	-11,676	-16,334	-9,616	-4,327	1,798
Exports Of Services	258,790	296,277	278,869	236,078	209,886	210,622	194,843	177,719	161,769	150,013
Imports Of Services	238,266	284,014	269,932	250,236	218,942	222,299	211,177	187,335	166,097	148,214

Source: the Singapore Department of Statistics (SingStats)

(1) The Trade in Goods Account (Visible Trade)

This is a record of the import and export of **goods** e.g. cars, computers, clothes. The balance of trade in goods thus shows the difference between the values of exports and imports of tangible goods. This is often known as the balance of visible trade or merchandise balance. For example, the import of cars from Germany is a debit item in the current account of Singapore, whereas the export of semi-conductors to China is a credit item.

(2) The Trade in Services Account (Invisible Trade)

This is a record of the import and export of **services**. Services include shipping and civil aviation, financial services such as insurance, banking and also tourism. For example, if a Singapore resident purchases an airline ticket from a foreign airline, this has the same impact as the import of a service and is recorded as a debit item. However, if a local bank such as DBS provides a loan to a foreign firm, the fee and interest charge by DBS is equivalent to an export and will be recorded as a credit item. The difference in trade in services is known as the invisible balance.

In summary: (1) + (2) is known as

Balance of Trade in goods and services = $P_XQ_X - P_MQ_M$

A BOT surplus occurs when the export revenue exceeds the import expenditure.
A BOT deficit occurs when the import expenditure exceeds the export revenue.

6.4.1.2.2 The Capital and Financial Account

The Financial Account

- This is another important sub-account within the BOP which records all cross-border investment flows.
- There are essentially 3 main types of cross border investments as explained below:

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(1) Direct Investment (DI)

Real or tangible assets like setting up businesses abroad e.g. building factories and offices, shopping malls and hotels. This account covers the flow of FDIs. For example, when foreign MNCs build plants in Singapore, it is an inflow of foreign direct investment into Singapore *(FYI only: and is recorded as a negative change (-) in Singapore's financial account)*. When Singapore companies build plants overseas, it is an outflow of direct investment from Singapore *(FYI only: and is recorded as a positive change (+) in Singapore's financial account)*.

(2) Portfolio Investment

This refers to the purchase of company shares and government bonds. Example, a Singaporean may purchase Apple Inc (US) shares and the Chinese government can purchase the US bonds.

(3) Other Investment ('Hot Money')

These are cash deposits and loans with commercial banks and generally known as **'hot money'** flows. The term 'hot money' is a metaphor used to refer to the transfer of short-term funds (cash) from one country to another in order to take advantage of better interest rates or more favourable exchange rates. Such transfers occur frequently whenever fund managers expect interest rates or exchange changes. Hence, such funds are always moved around or kept on the run and often not long enough in one place for it to "cool down".

Table 2: The Capital and Financial Account Balance for Singapore, 2008 to 2017 (S$ millions)

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Capital and Financial Account Balance	-19,851	84,270	61,245	47,287	78,617	72,054	59,919	40,184	30,405	56,668
Direct Investment	-75,981	-95,302	-82,381	-49,580	-41,107	-33,753	-20,552	-23,913	-43,526	-21,703
Portfolio Investment	71,028	145,217	66,149	27,224	19,970	84,760	58,961	80,128	98,586	12,584
Financial Derivatives and Other Investment	-14898	34355	77477	69643	99754	21048	21511	-16030	-24653	65787

Source: the Singapore Department of Statistics (SingStats)

6.4.2 CONSEQUENCES OF AN IMPROVEMENT OR DETERIORATION IN BALANCE OF TRADE & CAPITAL FLOW

6.4.2.1 Consequences of an Improvement in BOT & Capital inflow

The consequences of an improvement or deterioration in balance of trade and capital flows can be analysed from the perspectives of consumers, producers and governments. For governments, we are interested in the implications on both the external economy (trade and overseas investment) and the internal economy

(I) Consequences of an improvement in the <u>BOT</u>

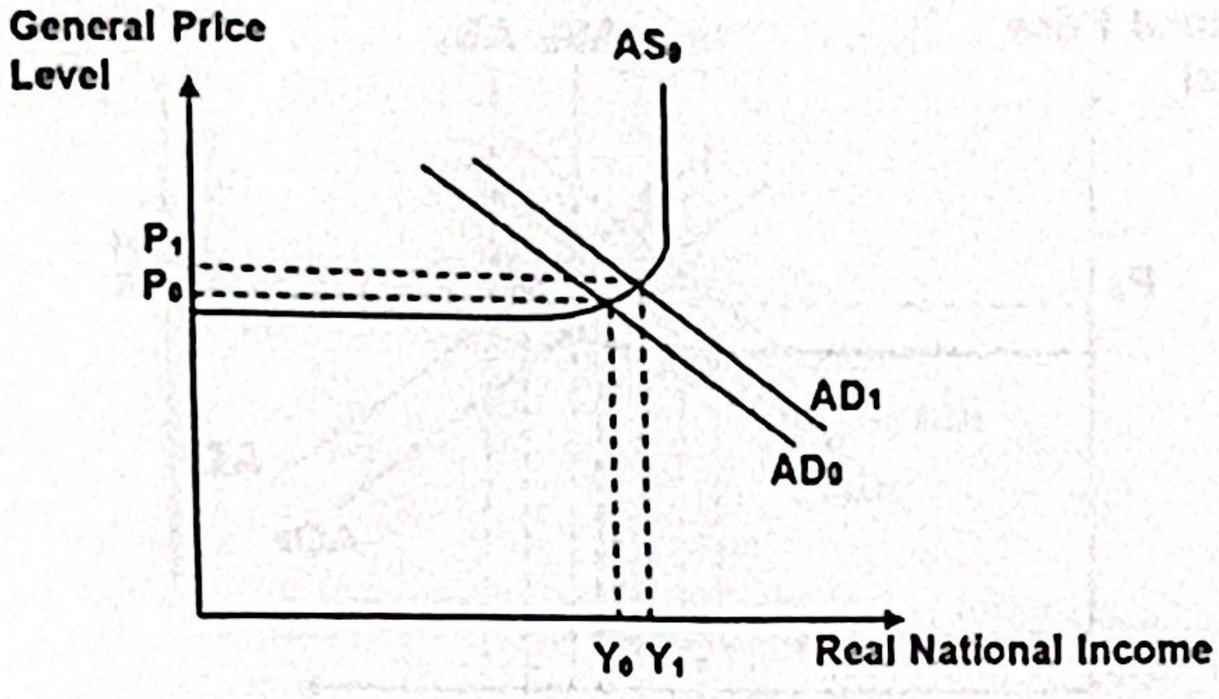
(1) Governments' perspective: Expansionary effect on the economy

- Assume there is an increase in the real trade balance (e.g. rise in BOT due to a rise in the demand for exports). This will in turn increase the aggregate demand since net export is a component of the aggregate demand and national income will increase through the multiplier process.

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Figure 1



- Refer to Figure 1, a rise in the net exports will shift the aggregate demand (AD) from AD_0 to AD_1. Through the multiplier process, it will lead to a more than proportionate increase in national income, from Y_0 to Y_1. At the same time, cyclical unemployment will decrease due to the rise in real output from Y_0 to Y_1 as more resources are hired to increase production. General price level rises from P_0 to P_1.

(2) Producers' perspective: Increase in investments

- With an increase in incomes, demand for goods and services increases and firms hire more workers and increase production. They gain greater revenue and profits. The macroeconomic effects of a rise in AD due the increase in trade balance boosts investor confidence, leading to greater investments by the firms.

(3) Consumers' perspective: Increased consumption, higher material standard of living

- With economic growth due to an increase in the trade balance, consumers' income and purchasing power increases. This increases consumers' demand for goods and services which in turn increase consumption and reduces savings. The purchase of more goods and services increases the material standard of living of consumers.

(II) Consequences of Capital Inflows

(a) Inflow of FDI:

(1) Governments' Perspective: Non-inflationary economic growth, Increased employment

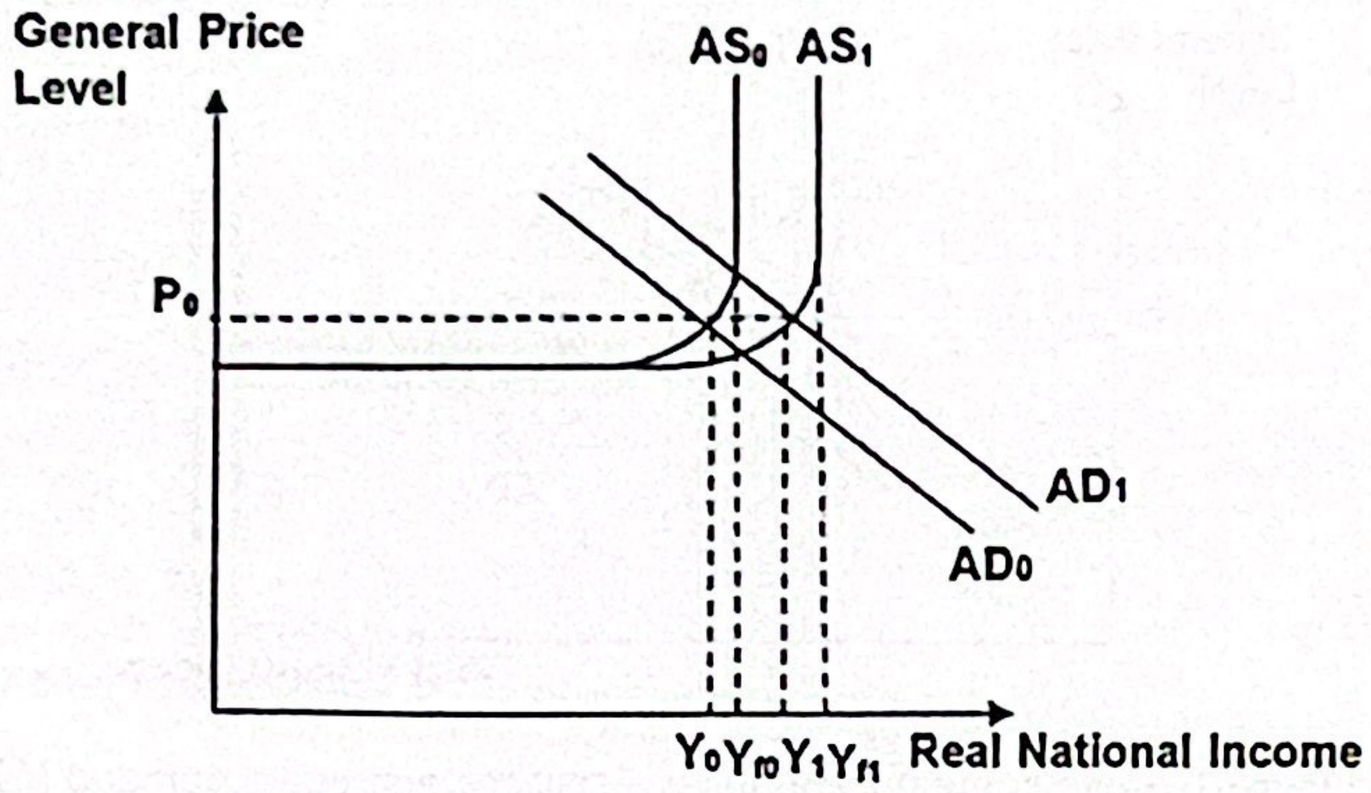
- Foreign Direct Investment (FDI) is an important factor which helps to create jobs in an economy. An increase in net borrowing in financial account associated with an inflow of foreign direct investment, will result in transfer of technology and more job opportunities. This will cause a rise in both AD and AS of the host country.
- In Figure 2, an increase in FDI will cause AD to rise from AD_0 to AD_1. At the same time, the increase in productive capacity will cause AS_0 to increase to AS_1, raising the national income to Y_1 while maintaining price level at P_0, leading to non-inflationary growth.

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(2) The **Consumers' and Producers' Perspective** is similar to 'Consequences of an improvement in the BOT' as the rise in AD will similarly increase incomes of consumers and hence consumption and material standard of living while lowering savings. Producers will similarly be encouraged to increase output level and investment.

Figure 2



(b) Inflow of 'Hot Money' and Portfolio Investment:

(1) Governments' perspective: Impact of Currency Appreciation

- 'Hot money' inflows can be due to relatively higher domestic interest rates of domestic interest-bearing assets such as fixed deposits or bonds.
- Financial flows into the stock market can be due to positive expectations on the performance of the companies that issued the stocks or actual improvements in their performance.
- The inflow of hot money would exert an upward pressure on the external value of the country's currency, resulting in an appreciation.
- Since local stocks or interest-bearing assets are often transacted in the domestic currency, such inflows will lead to an increase in demand for the domestic currency, thus exerting an upward pressure on its exchange rate.
- However, an appreciation of the currency, in turn may dampen a country's export competitiveness and adversely affects its balance of trade.

6.4.2.2 Consequences of a Deterioration in BOT & Capital Outflow

(I) Consequences of a deterioration in the BOT

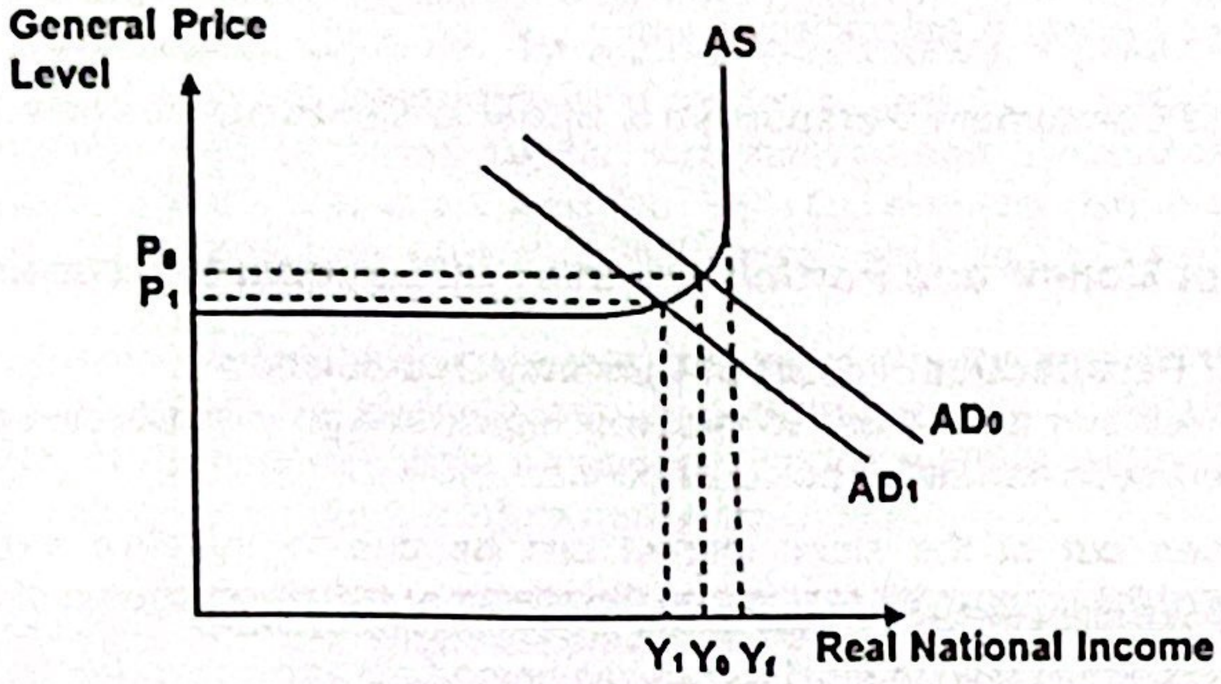
(1) Governments' Perspective: Contractionary effect on the Economy

- A growing deficit in the current account that stems from a fall in net exports for example reduces aggregate demand and national income through the multiplier process.

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Figure 3



- With reference to Figure 3, a fall in the net exports can decrease the aggregate demand (AD) from AD_0 to AD_1. Through the multiplier process, it will lead to a more than proportionate decrease in national income, from Y_0 to Y_1. At the same time, cyclical unemployment will increase as seen from the increase in output gap from Y_0Y_F to Y_1Y_F since the lack of demand for output will mean lesser factors of production are needed and thus workers are retrenched.
- At the same time, the deficit in current account will result in a drawing down of foreign reserves.

(2) Producers' Perspective:

- With a fall in incomes, demand for goods and services decreases and firms hire less workers and reduce production. The macroeconomic effects of a fall in AD reduce investor confidence, leading to fewer investments by the firms.

(3) Consumers' Perspective:

- With the contractionary effect on the economy due to the fall in net exports, consumers' income falls and purchasing power shrinks. This reduces consumers' demand for goods and services which in turn reduce consumption and increase savings. The purchase of fewer goods and services also lowers the material standard of living of consumers.

1. Explain why a similar deficit in the balance of trade can have different impact on different economies.

(II) Consequences of Capital Outflows

(a) Outflow of DI:

(1) Governments' Perspective: Slow or negative growth, slow increase in productive capacity, loss of jobs

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- FDI is an important source for creating employment. The outflow in the financial account is due to a re-direction of investments away from domestic economy towards lower labour costs countries, i.e. offshoring/relocation of the factories, will lead to a fall in her AD and cause a multiple fall in her national income through the reverse multiplier process. The fall in national output will thus reduce the demand for labour and result in a rise in unemployment in the domestic economy. The productive capacity of the economy will grow at a slower pace.
- *<u>Note:</u> There will be a decrease in a country's productive capacity if its factors of production are destroyed by natural calamities or war.*

The **Producers' and Consumers' Perspective** is similar to 'Consequences in a deterioration in the BOT'.

(b) Outflow of 'Hot Money' and Portfolio Investment Leading to Depreciation:

(1) Governments' Perspective: Impact of Currency Depreciation

- 'Hot money' outflows can be due to relatively higher foreign interest rates of foreign interest-bearing assets such as fixed deposits or bonds.
- Financial flows out of the stock market can be due to negative expectations on the performance of the companies that issued the stocks or actual worsening of their performance.
- These outflows would lead to local currencies being sold and converted to foreign currencies causing the supply for the local currencies to rise. This exerts a downward pressure on the external value of the country's currency, resulting in a depreciation.
- A depreciation of a country's currency may in turn improve its export competitiveness and generate actual growth and employment opportunities through an increase in net exports and hence AD.
- However sudden depreciation destabilizes the exchange rate - affects investor confidence.

(2) Producers' Perspective:

- The depreciation of the exchange rate will affect producers' dependence on imported raw materials and capital to produce goods and services as the more expensive imports increases the cost of production and reduce profit margins.
- At the same time, the destabilizing effect on the exchange rate will discourage investment.

(3) Consumers' Perspective:

- The depreciation of currency will make imports more expensive and consumers are likely to reduce consumption of imported goods. If there are no locally produced substitutes available, consumers' material standard of living is likely to fall.

6.4.2.3 Consequences of a Persistent Trade Deficit & Capital Outflows

- A country that is facing a persistent trade deficit is not earning enough from its exports to pay for its imports.
- If a trade deficit is financed through borrowing, it is unsustainable in the long term as the country will be burdened with interest payments. Countries with large interest payments have little left over to spend on investment. E.g. Russia, Brazil and African countries had experienced repayment problems. If the deficit is financed by foreign multinationals investing in a country or purchasing assets, more of the country's future income will flow out to foreigners in the form of interests, rents, dividends and profits (via the primary income balance on the current account). If there is a

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depletion of foreign reserves, this means that these reserves are unavailable for future purchase of imports for consumption. Hence, a country that is facing a persistent current account deficit is merely enjoying higher current consumption at the expense of the welfare of future generations.

- However, a trade deficit may not always be a cause of concern. If the deficit is financed from long term capital inflow (FDI), it can increase the productive capacity of the country and create jobs. E.g. Japanese investment has been good for the UK economy as the economy benefited from increased investment and the Japanese firms also helped bring in new working practices to increase labour productivity. Moreover, for a developing country, a persistent current account deficit in the initial years of development could be due to imports of capital goods (rather than consumption goods). This facilitates capital accumulation and contributes to the growth of productive capacity and exports in the long run. With the eventual rise in exports, the current account should improve over time, possibly transforming from a deficit to a surplus.

Unlike a persistent trade deficit, countries are less concerned about a persistent trade surplus as a surplus means that the country is saving some of its current income to finance future spending. However, if a country is running very large surpluses, then the question will be whether the current generation is sacrificing too much for the future generation.

6.4.3 CAUSES OF A DETERIORATION IN THE POSITION OF THE BALANCE OF TRADE AND CAPITAL FLOWS

CAUSES OF A DETERIORATION IN THE POSITION OF THE BOT & CAPITAL FLOWS		
TRADE: ↓X, ↑M or ↑X<↑M		CAPITAL FLOWS: Net outflow of FDI or/& hot money
↓X • Loss of comparative advantage • Unfair trade practices that lowers export revenue • Higher inflation rate relative to other countries • Fall in GDP of trading partners	↑M • ↑ Consumption of Imports due to affluence and habits • ↑ Import of capital goods and raw material as a result of industrialisation	↑outflow domestic investment + ↓FDI Inflow • Loss of comparative advantage *(you will learn more about this concept in International Trade)* leading to relocation/offshoring of firms; other countries more attractive for FDI – lower corporate tax rates, improvement in infrastructure & better business sentiments ↑outflow Portfolio Investment • Credit rating of credit worthiness of a debtor
		↓hot money Inflow + ↑hot money outflow • Fall in interest rate • Expectation of a fall in the external value of domestic currency relative to other currencies OR • Expectation of rise in the external value of foreign currency relative to other currencies

(I) An Increase in Trade Deficit

(A) <u>Reduction in Export Revenue</u>

(a) Loss in Comparative Advantage due to Emergence of Low-Cost Competitors

- The law of comparative advantage states that countries should specialize in the production of goods for which it has a lower opportunity cost. (More details under *International Trade*).

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- Many developed countries have lost their **comparative advantage** in the production of low-end manufacturing goods with the emergence of low-cost economies like China. Her abundance in cheap labour, vast land and other resources, resulted in China having a **lower opportunity cost** in the production of such goods relative to the developed countries. China will thus **specialize** in mass production of these goods and enjoys **cost savings via economies of scale.** This will then translate to **lower price.**
- This results in a loss in export competitiveness of the developed countries as the Chinese products are preferred due to their lower price. When the price of China's export is cheaper, importers will import from China and their demand for the developed economies' exports will fall, assuming a high degree of substitutability between these exports.
- Developed countries' imports will also increase as their residents switch their expenditure to the relatively cheaper imported goods. Assuming that the demand for imports is price elastic, there will be a more than proportionate increase in quantity demanded for imports and import expenditure increases.
- Hence, the fall in exports revenue, coupled with a rise in imports expenditure will result in a worsening balance of trade and even a deficit.
- Many Multi-nationals Companies (MNCs) have **outsourced and/or offshored** their production to these emerging economies to take advantage of their comparative advantage. As a result, the developed countries lost their export revenue to the emerging economies.

(b) Higher inflation rate <u>RELATIVE</u> to other trading partners

- A rise in a country's inflation rate relative to others will cause her exports to be relatively expensive and imports to be relatively cheap.
- Assume demand for exports is price-elastic due to the availability of substitutes, a rise in price of exports will cause quantity demanded to fall more than proportionate and the export revenue will fall. The effect is exacerbated if the country's inflation rate is higher than other countries as the country's exports will be relatively expensive and its trading partners will switch to the relatively cheap exports from other countries, leading to a fall in the demand for the country's exports and a further fall in export revenue.
- Assume domestic goods and imports are substitutes deemed by consumers to be alternatives to satisfy similar wants, with a higher inflation rate, a rise in the price of domestic goods will cause demand for imports to rise as consumers switch to the relatively cheaper imports, leading to a higher import expenditure.
- As a result, a fall in export revenue together with a rise in import expenditure will worsen the balance of trade.

(c) Unfair Trade Practice

It is a cyclical factor (temporary) if countries resort to unfair trade practices to boost their exports in times of an economic downturn/recession. However, it is a structural factor (long term) if countries adopt unfair trade practices as a normal trade policy.

Trading partners under-value their currencies

- Countries like US have accused its trading partners, particularly China of keeping the Yuan undervalued. For example, by lowering the value of the Yuan, US citizens find Chinese goods cheaper in terms of the US dollar, while the Chinese will find that the US goods are more expensive in terms of Yuan. US citizens find Chinese goods cheaper in terms of the US dollar as US importers now need less US$ to buy the same amount of Yuan and thus quantity demanded in US$ will increase. However, given that prices of Chinese goods remain unchanged in Yuan

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(assuming ceteris paribus), then the demand for Chinese goods in Yuan increases, export revenue (X) measured in Yuan increases.

- At the same time, imports will be more expensive in terms of Yuan as Chinese importers need to use more Yuan to buy the same amount of foreign currencies and assuming demand for imports is price elastic, quantity demanded for imports will fall more than proportionately and import expenditure (M) measured in Yuan will fall.
- As a result, China's net exports will rise when the value of Yuan is lowered. Conversely, US's net exports will fall when the value of US$ rise, leading to a worsening of the trade balance.

Trading partners' practice of protectionism
Country A's trading partner levies a specific tariff on imports, raising the price of imports. As a result, the locals may switch back to the domestic goods leading to a fall in demand for Country A's exports.

(B) Increase in Import Expenditure

Affluence leading to High Imports for Consumption + Industrialization leading to Higher Imports for Machines and Raw Material

- Higher growth rate together with increasing consumerism will result in a larger import expenditure on consumer goods. Emerging economies like China and India have been enjoying high growth rates and this resulted in a growing middle class who demanded for goods such as cars and air-conditioner units. These countries which are undergoing the industrialization phase have a huge appetite for imports especially in capital goods and raw materials to support production.
- Assuming most of the imports they purchase are positive income elastic, the demand will increase more than proportionate when income increases. This higher demand for imports will worsen the trade balance, ceteris paribus

(II) An Increase in net Capital Outflow

(a) ↑Outflow + ↓Inflow of Long-term direct Investment

- Many Multi-national Corporations (MNCs) have **offshored** their production into the emerging economies to take advantage of their comparative advantage. This helps to lower the cost of production and increase their profits. E.g., Manufacturing firms setting up production plants in China while IT companies setting their base in India.
- The governments of these emerging economies allocate large amounts of funds to improve their infrastructure such as building bigger ports, widening roads to improve the efficiency of the transport system, improving the telecommunication system and building more electric plants to meet the rising demand. They also give out attractive tax holidays and tax exemption to attract MNCs. Such development enticed more MNCs to set up their regional Headquarters in these emerging economies and used them as gateways to the neighbouring Asian countries.
- All these result in an outflow of domestic investment to these emerging countries and at the same time, there is lesser inflow of FDI because potential investors are also diverted to these emerging economies.

<u>Note:</u> This also helps to boost the exports earnings of these emerging economies.

(b) Changes in <u>RELATIVE</u> Interest Rates

- Changes in a country's interest rate is very much tied to its monetary policy.

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- If the interest rates in a country fall relative to those in foreign countries, the residents would be induced to deposit their funds abroad to earn the higher rate of interest. This causes an increase in the outflow of hot money.
- At the same time, foreigners would be discouraged to deposit their funds in this country. This causes a fall in the inflow of hot money.

6.4.4 POLICIES TO CORRECT A BALANCE OF TRADE DEFICIT

Aim: Reduce Import expenditures		Aim: Increase X revenue
Devaluation/Depreciation Protectionism (tariff, quota, etc.) aimed at making imports more expensive so as to discourage the consumption of imports and/or make exports more price competitive.	Contractionary fiscal and/or monetary policies aimed at slowing down income growth and hence consuming less imports	Supply-side policy to raise competitiveness of country's exports e.g. Grants to help exporting companies to raise productivity

6.4.5 CONCLUSION

In summary, the balance of trade and capital flows a country has with respect to other countries show the relationship the country has with its partners. A surplus may not always signify a healthy economy neither does a deficit always signify an unhealthy economy. We need to look deeper into the cause/s of the deficit or surplus.

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Tutorial 6.4

Question 1:

Exports of Goods (% of GDP)

	2013	2014	2015	2016	2017
China	23.1	22.4	20.6	18.8	18.6
Singapore	133.4	130.0	112.5	106.3	110.3
United States	9.4	9.2	8.2	7.8	7.9

Imports of Goods (% of GDP)

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	2013	2014	2015	2016	2017
China	20.4	18.8	15.2	14.3	15.2
Singapore	121.3	116.3	96.3	91.8	96.8
United States	13.9	13.8	12.7	12.0	12.4

Source: WTO and Trading Economics

(a) Explain which country/countries has/have a trade deficit? [2]

(b) Explain which country is most likely to have the largest trade surplus? [2]

Question 2: TYS 2015 Q2

Table 1: European Union (EU) trade balance with China

Year	EU imports from China (billions)	EU exports to China (billions)
2008	248	78
2009	214	82
2010	283	113
2011	294	136
2012	290	144
Average annual growth 2008-2012	4%	17%

Source: Eurostat

(a) With reference to Table 1, compare the EU's trade balance with China in 2008 and 2012. [2]

Question 3: Essay Practice TYS 2007

(a) Explain the potential causes of a balance of trade deficit. [10]

Question 4: TYS 2009 Q2f

Extract 5: The world buys the US, China buys the world

Foreign direct investment (FDI) into the US grew by 74% in 2006, almost twice the global rate of growth. Last year's global total FDI was the highest since 2000, when the amount of foreign investment funds flowing into all countries peaked before technology stocks began to tumble. Terrorist attacks in the US in the following year added to the worldwide slowdown.

In 2006 China saw its inflows of investment fall for the first time in seven years, down from US$72.4 billion in 2005 to US$69.5 billion. However, China's investments in the rest of the world surged. Its state-owned and private companies poured US$16.1 billion into foreign assets in 2006, up 34% from the 2005 figure. Chinese firms' foreign holdings seem set to rise further. Last month China's government launched a US$400 billion investment fund that will allow China to rival the US as a global investor over the coming years.

China, India and the other rapidly growing economies in need of energy and metals have caused an investment boom in Africa. Investment funds flowing into Africa doubled between 2004 and 2006 to a record US$36 billion. Asian firms were responsible for a quarter of the total and look poised to increase their share. About half of the investment flowing into Africa went into the acquisition of existing firms. The other half went into so-called 'greenfield investments'. These are new mines of factories built from scratch. The results so far have been mixed, and a number of countries are seeking to reduce foreign ownership in local companies or to increase the share of profits that foreign firms must re-invest locally or share with host governments.

Ultimately, the overall impact of the profit generated from the investment will be determined by the way it is shared between the foreign companies and the host country, and on how the government's portion of the profit

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is distributed and used. Funds should be used to support development objectives and the needs of current and future generations.

Source: *Asia Times*, 18 October 2007

Table 3: Gross Domestic Product (GDP) and its components in selected economies (% of total), 2006

	China	US	Singapore
Total GDP (US$ billion) 2006	2765.4	12433.9	132.2
Composition:	%	%	%
Private consumption	36.5	69.9	40.1
Government consumption	13.8	19.2	11.1
Gross fixed investment	41.9	16.7	23.1
Exports of goods and services	39.7	11.1	249.6
Imports of goods and services	-31.9	-16.9	-223.9

Table 4: Singapore: selected economic indicators 2003-2006

Economic indicator	2003	2004	2005	2006
Consumer price index	98.3	100	100.4	101.4
Productivity (% change)	4.4	7.0	2.1	1.2
Unemployment rate (%)	4.0	3.4	3.1	2.7
Index of industrial production (2003=100)	100.0	113.9	124.7	139.5
% change in GDP at 2000 market prices	3.1	8.8	6.6	7.9

(f) With reference to the data where appropriate, assess whether on balance the Singapore economy would benefit from a large increase in investment from China. [10]

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