RAFFLES INSTITUTION
YEAR 6 H2 ECONOMICS 2023

MACROECONOMIC POLICIES: FISCAL POLICY

Contents

Reading List

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Lecture Objectives (For Fiscal Policy):

After the series of lectures on macroeconomic policies, students should be able to:

- Distinguish between discretionary fiscal policy and non-discretionary fiscal policy (automatic stabilisers).
- Explain the consequences of government policy decisions on economic agents.
- Explain how governments use fiscal policy to achieve the macroeconomic objectives.
- Analyse the impact of fiscal policy using the AD/AS model.
- Discuss the factors limiting the effectiveness of fiscal policy.

1 INTRODUCTION

The government has a repertoire of economic tools to direct the economy towards its desired objectives. The government can either affect the level of aggregate demand and aggregate supply of the economy in order to influence the level of economic activity in the country.

Policies geared towards affecting aggregate demand are known as **demand-management policies**, which include **Fiscal and Monetary Policies**. Demand-management policies affect the level of aggregate demand, which in turn influence the level of real national income, employment, and the general price level of the economy.

Supply-side policies, on the other hand, affect the level of aggregate supply, which in turn influence the level of actual and potential output, employment and general price level. Instruments of fiscal and monetary policies can also be used to impact the aggregate supply.

Policies that directly influence **the flow of goods and services between countries** are called **trade policies**. These policies include import tariffs, import quotas, export subsidies, export taxes and free-trade agreements. Details will be covered under International Trade and Globalisation. The primary objective of Singapore's trade policy is to guard its trading interest by ensuring a free and open international trading environment.

2 FISCAL POLICY

2.1 Definition

Fiscal policy is the deliberate management of **government spending** and **taxation** designed to influence the level of economic activity to achieve the economic goals of the government. Government **changes the level and type of taxes**, the **extent and composition of spending**, and the **degree and form of government borrowing** to achieve the economic goals.

2.2 Economic Goals

(a) Macroeconomic goals
- to promote sustained, sustainable and inclusive economic growth
  - to smooth out the ever-present fluctuations in economic activity
- to push the economy closer to full employment
- to maintain price stability
- to achieve a favourable Balance of Trade

(b) Microeconomic goals
- To achieve a more efficient allocation of resources
- To achieve a more equitable distribution of income

2.3 Rationale and Objectives

Historically, the prominence of fiscal policy as a policy tool has gone through its ebbs and flows. With the Great Depression and stock market crash, there has been an **increasing push for governments to play a more proactive role in influencing allocation of resources in the economy**. According to John M. Keynes, private decisions on consumption and investment expenditure are based on self-interest. While these may provide the engine or impetus for economic growth, excessive aggregate demand may result in excessive inflation while lacklustre aggregate demand can result in serious unemployment.

Hence, the role and the objectives of fiscal policy gained prominence during the global financial crisis and more recently, during the pandemic when governments across the globe stepped in to support their economies and mitigate the impact of the crisis on the most vulnerable groups to safeguard their standard of living.

In the **short term**, governments may use **fiscal policies for the purpose of macroeconomic stabilisation (counter cyclical measures)** – for example, increasing spending and cutting taxes to support an ailing economy or slashing spending or raising taxes to reign in inflation or respond to external vulnerabilities. Meanwhile, in the **longer term**, the government may **aim to foster sustainable and inclusive economic growth to raise the overall standard of living of their citizens.** Although, all countries broadly share these economic goals, their relative importance differs, depending on the country's economic conditions. For example, low-income or developing countries may aim to shift the focus of their fiscal policy lifting people out of poverty, whereas, in advanced economies it is used to target the long-term costs related to an ageing population. Meanwhile, in oil-producing countries, fiscal policies are largely aligned with changes in oil prices by managing pro-cyclical spending – by reducing spending when oil prices increase and avoid significant cuts when they fall.

Hence, in the **short-term a government's priorities may reflect the business cycle,** response to a natural disaster or surge in fuel and food prices. In the longer term, the **drivers of fiscal policies could be related to sustainable development goals,** changes in demographics, or natural resource endowments.

In times of economic meltdown or rising inflationary pressures, governments can manage economic activity through two channels – **automatic stabilisers and discretionary fiscal policy. Stabilisers** go into effect as tax revenues and expenditure levels change **and do not depend on specific actions by the government.** They operate in relation to the business cycle. Meanwhile, **discretionary fiscal policy** requires the government to make **deliberate changes to the fiscal policy tools** such as the government spending and taxes.

2.4 Fiscal Policy Tool – The Budget

In order for the government to carry out its microeconomic and macroeconomic functions, the government carefully plans its expenditure and its taxes together with other sources of revenue during the process of drawing up its annual budget. Historically, budgets were used to raise the necessary revenue to cover the government's spending programmes. Since the Keynesian revolution, the annual budget is regarded as one of the major instruments of economic management. Budget deficits and surpluses are deliberately planned (discretionary fiscal policy) to impact the economy.

In Singapore, the National Budget is an annual statement of government accounts spelling out the estimated expenditure and revenue for the forthcoming financial year – i.e. it is from 1st April of the current year to 31st March of the following year. The Budget is debated before it is passed by Parliament.

2.4.1 Sources of Government Revenue

There are 2 avenues that the Government derives revenue from:

Refer to Appendix 1 for Sources of Government Revenue and Spending in Singapore.

1. Taxation

Taxes are **compulsory payments** made by individuals or firms in the private sector to the government without any services rendered in return. It involves a transfer of funds from the private sector to the government.

2. **Sale of Goods and Services, including:**
   - State Enterprises - fees from postal, telecommunications and public utilities services, earnings from commercial and industrial undertaking, state trading.
   - Sale of government bonds
   - Licence fees and fines e.g. marriage licence, hawker's licence, and littering fines.

2.4.1.1 Taxation

Direct and indirect taxes are often distinguished according to the **impact** and the **incidence of taxes**.

- Impact of taxation is on the person or firm on which the tax is levied. The party is responsible for handing the levy to the tax authorities.
- Incidence of taxation refers to the eventual distribution of the burden of the tax; it shows how the tax burden may be transferred from one party to another. The proportion of the tax burden borne by the buyers and the sellers depends on the relative elasticities of demand and supply of the good in question.

Direct taxes

Direct taxes are taxes on **income and wealth** paid directly to the Tax Department (IRAS - Inland Revenue Authority of Singapore). The burden of such taxes is usually borne by the person or company paying the taxes, i.e. it cannot be passed on to others. The **impact and incidence of direct taxes are usually on the same party and is not easily shifted**. The main direct taxes in Singapore are personal income tax and corporate tax.

Refer to Appendix 2 and 3 for more information on the 'Principles of Taxation' and 'Income Tax and Goods and Services Tax (GST) in Singapore'.

Indirect Taxes

Indirect taxes are **taxes on expenditure or production of goods and services.** They are called indirect taxes because although the producers are legally liable to pay the taxes to the Government, it is often the consumer who will also bear part of the burden of the tax. The **impact and the incidence of indirect taxes may not be on the same person**. The main indirect tax in Singapore is the Goods and Services Tax (GST).

Why is Singapore raising GST?

The Tax Structure of a Country's Tax System

1. A tax system can be proportional, progressive or regressive in nature.

To understand what these tax systems are, we need to distinguish between the marginal tax rate and the average tax rate.

Marginal tax rate (MTR) is the proportion of additional income paid in taxes

$$MTR = \frac{\text{Change in Tax paid}}{\text{Change in Income}}$$

The ***MTR*** indicates the ***additional*** tax burden imposed on additional income earned.

Average tax rate (ATR) **is the proportion of total income paid in taxes**

$$\text{ATR} = \frac{\text{Total Tax Paid}}{\text{Total Income}}$$

The *ATR* indicates the *overall* tax burden upon taxpayers.

2. Terms used to describe the different categories of taxes

Refer to Appendix 5 for 'Numerical Examples of Different Tax Systems'.

(a) Proportional tax

- Same proportion of income is paid as tax as income rises
- An example of proportional tax is the corporate tax which in Singapore is set at 17% of the firm's profits.

[Note: Although the tax rate is the same, the absolute amount of taxes paid differs. i.e. the high income earners will pay more tax in absolute terms than the low income earners.]

(b) Progressive tax

- The rate of tax increases as income increases
- A progressive tax takes a *larger proportion* of income from the rich than from the poor
- It takes into account the ability to pay
- It helps to reduce post-tax income differentials compared to the pre-tax income differentials
- An example of a progressive tax is the personal income tax

(c) Regressive tax

- The rate of tax decreases as income increases
- A regressive tax takes a *smaller proportion* of income from the rich than from the poor
- An example of regressive tax is indirect taxes on goods and services especially on necessities since the poor spend a larger proportion of their income on these necessities.

Economic Effects of Different Types of Taxes

The effects on the economy depend on the type of taxes levied. Different types of taxes can have different effects on the economy.

a) Incentive to work (Labour supply)

High income taxes, especially if high and steeply progressive, will encourage absenteeism and discourage overtime work. It may reduce labour supply and thus productive capacity of a country. The changes in labour supply will depend on the relative strengths of the *income and substitution effects* of a tax.

Income effect: With higher taxes, people cannot afford to have the same amount of both leisure and goods and services as before. They cut their consumption somewhat as their disposable income falls. Should they wish to maintain their consumption as before, they have to work more hours. This means they have to reduce their leisure hours. The more they work, the less they will have to cut down on their consumption. This is the income effect. Higher taxes encourage people to work more.

Substitution effect: With higher taxes, an hour's work buys less consumption than before. This implies that an extra hour taken in leisure now involves a smaller sacrifice in consumption. This is the substitution effect. Higher taxes encourage people to work less.

The net effect is uncertain. If a worker has debts to service, e.g. people with children to feed and mortgages to pay, a higher income tax rate may cause him to supply more labour and enjoy less leisure hours. In such a situation, the income effect dominates. On the other hand, the substitution effect is likely to dominate for those with fewer financial commitments.

b) Savings

Heavy progressive income taxes, high capital transfer taxes and wealth **taxes reduce the ability and willingness to save.** This in turn will reduce the pool of loanable funds available for capital formation, i.e. investment. The move by the Singapore government to remove the estate duty (inheritance tax) in 2008 was to encourage more people to save as well as to promote the growth of the wealth management industry.

c) Investments

Lower corporate taxes could increase the **financial capital available for investment.** For example, **a cut in corporate tax will increase the after-tax profits of firms** which in turn can lead to **an increase in the level of investments.** However, whether firms will invest more or not depends on many factors. These include prevailing interest rate levels, other business costs (wage rates, rentals, etc), expectations about the future, etc. The final outcome on investment is thus less certain. Thus, **a tax policy to encourage investments must be complemented by other supporting measures.**

Recall the determinants of investment under 'How the Macroeconomy Works' set of lecture notes.

d) Inflation

Indirect taxes levied on goods and services (e.g. GST and excise taxes) **increase the prices of goods and services and hence the cost of living.** This gives workers and trade unions reasons to demand for higher wages. Given favourable economic conditions, such demands will be met; prices will rise even further and this could result in an inflationary spiral.

On the other hand, **increasing direct taxes reduces disposable income,** which reduces the demand for goods and services and hence prices.

Thus, while **indirect taxes tend to be inflationary** in its effects, **direct taxes are deflationary.**

Recall that changes in indirect taxes such as GST or VAT results in changes in the cost of production and hence the AS. Meanwhile, changes in direct taxes such as personal income tax and corporate taxes result in changes in AD.

e) Resource Allocation

Tax incentives, e.g. **tax deductions for local research and development (R & D),** will influence the **production of various types of goods and services** and hence the allocation of resources. Taxation may also **influence the supply of various types of labour and therefore the supply of output of various occupations.** For example, in high paying jobs in the banking industry, a highly progressive income tax may trigger an outflow of talent to countries where taxes are lower. In the case of indirect taxes, different rates of indirect taxes (or subsidies) on different goods raise (or lower) their prices. This changes equilibrium output in each of the product markets and results in resource movements in or out of the industries.

2.4.2 Government Expenditure

Government expenditure refers to spending by the public sector.

Types of Expenditure

a) Operating expenditure

This refers to **spending by the government** on a **day-to-day routine** and is thus recurrent in nature.

Examples include:

- **General services** - expenditure on the general administration e.g. expenses by the various government departments and ministries
- **Economic services** - expenditure on transport, storage and telecommunication services, as well as aid in times of economic crisis (e.g. farm aid in times of sudden drought)
- **Social services** - expenditure on education, health & social welfare services.
- **Community services** – expenditure on sewerage & fire brigade services.
- Servicing national debt I.e. *paying interest on existing debts* and making capital repayments when debts mature

b) Development Expenditure

This is for the purpose of **economic and social development.** Expenditure on development projects includes the building of expressways, schools, land reclamation and flood alleviation schemes.

Economic Effects of Different Types of Government Expenditure

a) Income and wealth re-distribution and Standard of Living

Expenditure on healthcare services, educational services, social welfare services, old age pensions will benefit mainly the poor in the society and **improve their standard of living.** Therefore, together with a progressive income tax system where the rich are taxed more, the effects of inequalities of income and wealth distribution will be reduced to some extent.

b) Economic growth

Expenditure on infrastructure development as well as improvement and extension of transport and communication facilities can **improve the productive efficiency of a country.** This in turn **attracts productive investments** which can lead to **sustained economic growth.** Such government spending here not only *increases aggregate demand*, but also *increases aggregate supply*, and is importantly seen as a supply-side measure.

c) Resource allocation

By varying the types of government expenditure, the government can **affect the pattern of production.** For example, if the government encourages a rapid move from labour-intensive industries to capital-intensive industries, it may **give grants and subsidies to encourage the expansion of the capital-intensive industries.** Resources will be **attracted into these industries and away from the labour-intensive ones.** This impacts not just the *aggregate demand*, but also the *aggregate supply* in the economy as investment by capital intensive industries increases and is hence part of supply-side measures as well.

2.5 Types of Fiscal Policy

2.5.1. Discretionary Fiscal Policy

It refers to a deliberate change in government expenditure and/or taxes so as to bring about the desired change in the level of AD. The main tool is therefore the Budget. The Budget is an estimate of government expenditure and government revenue for the coming financial year and reflects the fiscal stance of the government.

Budget planning is necessary:

- to facilitate **raising of necessary revenue** to cover spending programmes
- as an instrument to **manage the economy.**

A government can plan for a **budget deficit or surplus**. This is known as discretionary fiscal policy, and the fiscal stance can be either an **expansionary or contractionary fiscal policy.**

Balanced budget:	*Government revenue (T) = Government expenditure (G)*
Budget surplus:	*Government revenue (T) > Government expenditure (G)*
Budget deficit:	*Government revenue (T) < Government expenditure (G)*

a) Expansionary Fiscal Policy

From a policymaker's perspective, **an expansionary fiscal policy is generally used to boost economic growth and other economic indicators such as unemployment and standard of living** that tend to move with changes in real GDP. This is applied when the economy is in a **recession** and is **operating below full employment.** There is a need to **stimulate AD** to get the economy out of a recession. A budget deficit (G greater than T) can be planned by either increasing G and/or reducing T. The magnitude of the impact of fiscal policy on economic indicators will largely across countries and depend on were the economy is within the business cycle – whether it is in a recession or experiencing a boom.

Note:
- Expansionary FP = Budget Deficit
- Contractionary FP = Budget Surplus

Increasing Government Expenditure (G)

Forms of increasing G:

- transfer payments
- public works projects

The increase in G will increase real national income by a multiple value if G is a new expenditure.

Suppose that during a recession, the **government decides to use expansionary fiscal policy (by increasing G) to increase aggregate demand for goods and services.** The series of increases in induced consumption spending arising from an initial increase in government spending is termed the *multiplier effect*. The **final increase in real national income is a more than proportionate amount of the initial increase in government spending.**

Numerical Illustration:

As G increases by \$100b, given MPC=0.8 and k=5, then ΔRNY = **\$500b**

Reducing Taxes (T)

Forms of reducing tax:

- Reduce tax rates

- Eliminate certain taxes

When the government cuts taxes, e.g. personal income taxes, this will increase households' disposable income. Households will save some of this additional income, but they will spend some of it on consumer goods. This increase in consumption leads to an increase in AD, and through the multiplier process, the final increase in real national income is more than proportionate to the initial increase in consumer spending.

Refer to section 2.6 on diagrammatic effects of changes in G and T.

Numerical Illustration:

T is decreased by \$100b, MPC=0.8, k=5, Y_d increases by \$100b
C increases = \$100b x 0.8 = \$80b
$\Delta RNY = \Delta C \times k = 80 \times 5 =$ **\$400b**

Note: Taxes should be decreased by \$125b if desired ΔRNY is \$500b

Comparison of G and T as policy tools:

It must be noted from the above numerical examples that a **rise in government expenditure (e.g. \$100b) has a greater impact on raising AD and real national income** and hence reducing unemployment **than an equivalent fall in taxation (\$100b)**. This is because an increase in G will directly increase AD and have a direct impact on output and employment.

On the other hand, **a tax cut does not affect output and employment directly as part of the tax cuts could be saved instead of spent**. Thus, not all of the additional income arising from the tax cuts will be passed on round the circular flow of income as extra expenditure.

Therefore, to have the same desired increase in real national income of \$500b, taxes should be decreased by \$125b instead of the same amount of increase in government spending of \$100b.

b) Contractionary Fiscal Policy

Such a policy aims to **curb excessively high aggregate demand** that brings about **inflationary pressures** in the economy. The government plans a budget surplus (G less than T) by reducing G and/or increasing T.

Think:
Are you able to explain and illustrate the workings of a contractionary fiscal policy?

Note: The effect and analysis for a contractionary fiscal policy is the opposite of the effect and analysis for an expansionary fiscal policy.

Sectional Summary:

- *Discretionary fiscal policy is where the government deliberately changes taxes and/or government expenditure in order to alter the level of aggregate demand.*
- *Changes in government expenditure on goods and services will have a full multiplier effect. However, changes in taxes have a smaller multiplier effect as it depends on the marginal propensity to consume.*

2.5.2. Non-Discretionary Fiscal Policy: Automatic Stabilisers

Note: automatic stablisers will not be directly tested in the 'A' levels.

This is an automatic fiscal policy that checks or stimulates economic activity, **not by any deliberate government action**, but by the operation of *built-in or automatic stabilisers*.

The presence of automatic stabilisers dampens economic cycle fluctuations in income, employment, etc. These also tend to **increase budget deficits during slumps and increase surpluses during booms.** In other words, these **cyclical changes make fiscal policy automatically expansionary during recessions and contractionary during economic booms.**

Note: It is important to distinguish between automatic stabilisers and discretionary FP.

Examples of built-in stabilisers include:

a) Progressive tax structure

As an economy with **a progressive tax structure** expands, **tax payments increase faster than the increase in incomes.** The government will **receive more tax revenues** - since people earn more and are **pushed into higher income tax brackets.** This extra withdrawal exerts a **contractionary effect** on the economy. This helps to *control the increase in consumption and hence aggregate demand.* Economic expansion therefore slows down, thus **dampening the increase in prices.**

Conversely, **in times of recession, tax receipts fall** sharply. As income falls, **tax payments fall faster than the fall in national income** - since people earn less and move to **lower income tax brackets.** Therefore, the fall in consumption slows down and the fall in AD is controlled, **providing stimulus to the economy to recover from recessions.**

Hence, progressive tax systems tend to **stabilise** any changes in spending and therefore economic activity.

b) Unemployment compensation

When **income is falling and unemployment level rises**, there will automatically be **more unemployment benefits paid out.** This will offset the loss of earned income of the unemployed and therefore **the fall in AD slows down.**

As the **economy expands**, fewer workers will be unemployed; therefore, **less unemployment benefits are paid out.** This slows down the rate of economic growth and controls the rate of increase in the general price levels.

c) Family assistance programme

This aid is **tied to income levels in the economy** and therefore **automatically stabilises demand.** More provisions to families arising from hard times help to slow down the fall in C and therefore AD and real national income.

Additional Note:

- *Automatic stabilizers are generally linked to the size of the tax base and tend to be larger in advanced economies.*
- *If the stabilizers are larger, there is a lesser need for discretionary fiscal stimulus - tax cuts, subsidies, or public works programs – since both approaches help to mitigate the effects of an economic downturn. For example, during the Covid-19 recession, countries with larger stabilizers used less discretionary methods of managing their economies.*
- *Furthermore, automatic stabilizers are also not susceptible to the lags faced by discretionary fiscal policies – such as implementation lags. Moreover, automatic stabilizers and their effects are automatically withdrawn once the economy recovers from a downturn, avoiding inflationary pressures.*
- *Automatic stabilizers tend to be weak in low-income and developing countries where there are institutional limitations and a narrow tax base due to the high degree of tax avoidance.*

Sectional Summary:

- *Non-discretionary fiscal policy or built-in stabilizers are automatic changes in tax revenues and government expenditure.*
- *Non-discretionary fiscal policy exercises counter-cyclical effect on economic activity. They help to reduce the magnitude of the fluctuations in national income.*
- *However, it will not eliminate fluctuations entirely and therefore cannot be completely relied on. Hence, discretionary fiscal policy is required.*

2.6 Effects of Fiscal Policy on the Economy

2.6.1. Fiscal Policy and Economic Growth and Employment

Suppose the government uses an **expansionary fiscal policy in times of a recession.** The government spends $10m to build a new polytechnic with a large domestic contractor, a firm named XYZ.

Main Point: Expansionary FP will increase real national income and create jobs through the multiplier process in times of recession.

The initial effect of this increase in demand by the government is to raise the firm's profits and employment as it hires more factors of production, including labour, to carry out the new construction. This will lead to an increase in real national income of $10 million. **Newly hired workers earning more will respond to this increase in income by increasing their spending on consumer goods** like clothes, furniture, appliances and other products. Sellers of these consumer goods will earn higher profits, increase their production and hire more workers. Higher earnings and profits stimulate consumer spending once again, and so on. **At each step, real national income will rise but in smaller amounts due to the presence of withdrawals,** thereby increasing consumption spending and aggregate demand. Each dollar spent by the government can raise the aggregate demand for goods and services by more than a dollar. **The multiplier effect of the government expenditure arises because the initial spending stimulates successive rounds of spending and re-spending by consumers.**

Referring to Figure 1, as a result of the increase in **government spending of $10m on purchases from Firm XYZ, aggregate demand rises more than proportionately to the right from AD_1 to AD_3 due to the multiplier effect.** The shift from AD_1 to AD_2 represents the impact of the initial increase of $10m. Because this **initial spending raises incomes and leads to further increases in consumption spending, the aggregate demand curve will shift further to the right.** The process continues until the final aggregate demand AD_3. The extent of the rise in spending depends on the marginal propensity to consume (MPC) in the economy. If MPC is 0.5, a $10m increase in G will cause the real national income to increase by $20m, assuming constant general price levels.

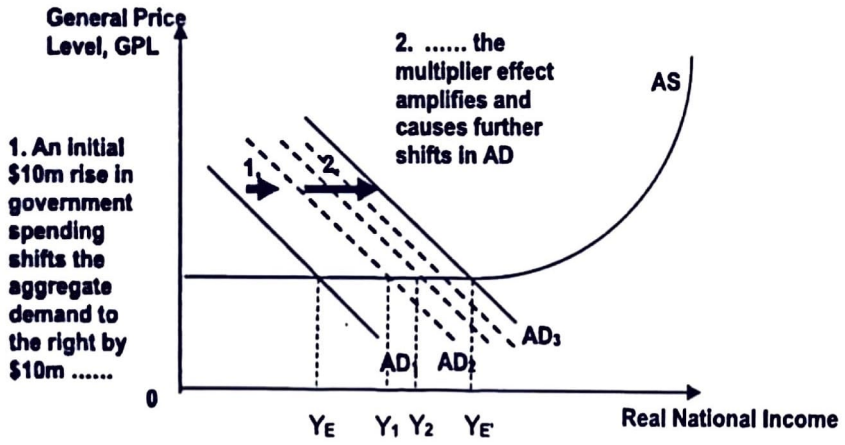


Figure 1: Multiplier Effect of Government Spending

With the increase in production comes more employment. In this situation, the economy is suffering from a recession and thus demand-deficient unemployment. Expansionary demand-management policies such as this will result in an increase in real national output and employment.

[However, the appropriate cures for unemployment will depend upon the types of unemployment. If the nature of unemployment is structural, frictional and seasonal, these are best reduced by supply-side government policies which operate on labour market incentives.]

The type of government expenditure or tax changes may also affect the productive capacity of the economy. For example, government spending on investment and R&D and tax incentives to firms to conduct their own R&D can increase the level of potential output (OY_{F1} to OY_{F2}) as shown in Figure 2. These measures are termed as **fiscal measures with supply side effects.** They increase the productive capacity of the economy and can help the government to achieve **sustained economic growth which is a combination of actual and potential economic growth.**

Refer to Appendix 6 for Role of Discretionary Fiscal Policy in Economic Downturns and the Case of Singapore.

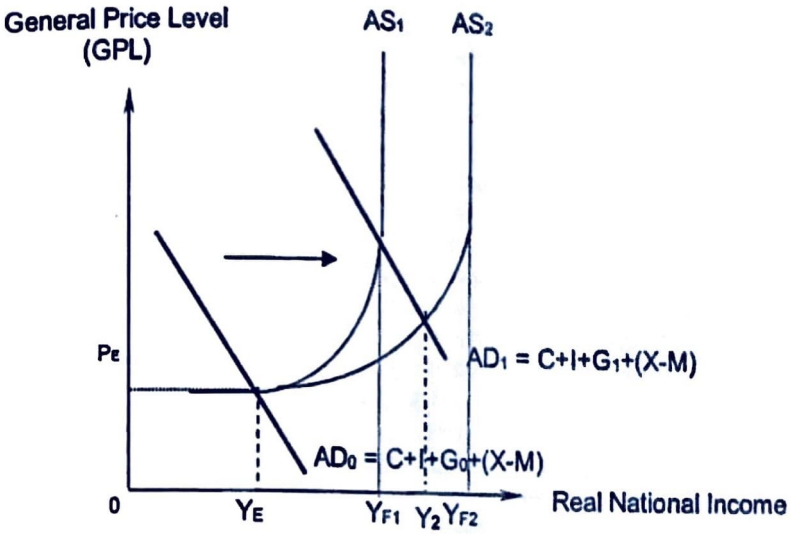


Figure 2: Some Expansionary Fiscal Policy may increase productive capacity of the economy

a) Fiscal Policy and Inclusive Economic Growth

Inclusive economic growth is a far broader concept than sustained economic growth as it entails **ensuring an economic growth that benefits all sectors of the economy such that the income gap between the rich and the poor individuals are narrowed.** Achieving more inclusive growth is one of the most significant long-term economic goals of governments across the world, particularly in countries. Although, sustained rapid economic growth during the past few decades has effectively lifted many out of poverty and raised their standard of living, income inequality continues to remain relatively higher in many countries.

Tax Cuts and Income Inequality

However, **income inequality has worsened in recent years as reflected by the sharp increase in Gini coefficient, particularly caused by the Covid-19 pandemic.** As such, governments play an increasingly important and active role in bringing about a **fairer and** more significant redistribution of income such that there are opportunities for all from the sustained economic growth. Fiscal policy is one of the most appropriate policy instruments for direct government intervention to tackle the rising income inequality to foster a more inclusive economic growth.

Singapore's Sustainable Development Goals

Fiscal policy can promote inclusive economic growth either through **spending or progressive tax system.** Government expenditures that include transfer payments contributes directly to raising the disposable income of individuals from lower income households, hence narrowing the income gap, and promoting inclusive economic growth. Ensuring redistribution of income through **direct transfer payments are more effective in fostering inclusive economic growth** than taxes.

However, direct transfers through the fiscal redistributive efforts require a well-designed mechanism to ensure that the poor are the largest beneficiaries of such transfers to ensure that the spill over benefits of economic growth is more broad based. The limited targeting of such transfer payments dampens the redistributive potential of government expenditures in developing countries. Furthermore, the size of the tax base also tends to play a significant role on the effectiveness of such fiscal redistribution measures in achieving inclusive economic growth.

Other fiscal measures such as **spending on education and healthcare can also offer most effective means of reducing the income gap**, hence promoting inclusive economic growth. Countries with high per capita spending on education and healthcare are likely to witness a more productive workforce who can make transition from low paying job to a higher paying job more easily. In addition, **government spending on physical infrastructures can also significantly benefit the poor** as better infrastructure improves access to markets to serve a larger demand and reduces transaction costs for poor small business owners in rural areas. This **enables them to earn a decent profit from sale of their products and hence raise their income levels.** As such, certain types of government spending can successfully lower the income inequality and promote inclusive economic growth.

However, **heavy spending on regressive price subsidies such as fuel subsidies, restricts the fiscal space for promoting more direct transfer payments to foster inclusive economic growth.** Though energy subsidies aim to provide the low-income groups access to essential goods at more affordable and stable prices to reduce inequity, a large part of the subsidies tend to benefit the middle and upper-income groups since they are the largest consumers of energy. As such, the fiscal costs of these energy subsidies are significantly high and results in lesser resources available (lesser fiscal space) for transfer payments to the lower-income groups to promote inclusive economic growth. This is a problem, particularly, in developing countries where there are underlying structural weaknesses such as low tax revenues due to a poor tax structure or evasion, weak control over the finances of local governments or state-owned enterprises. Hence, government expenditure should be well-targeted to benefit the lower-income groups to achieve inclusive economic growth.

b) Fiscal Policy and Sustainable Economic Growth

Singapore's Green Fiscal Policies

Sustainable growth refers to a rate of economic growth that can be maintained **without creating other significant economic problems, especially for future generations.** These problems include damage to the environment and depletion of natural resources. The rapid pace of global economic growth in the past century has led to a decline in the availability of natural resources such as forests (cut down for agriculture/demand for wood), a decline in sources of oil/coal/gas, loss of fishing stocks due to overfishing, loss of species diversity due to species extinction.

Fiscal policies provide a critical set of policy instruments for building a green economy and supporting achievement of sustainable economic growth. By **pricing environment externalities, green fiscal policies such can carbon taxes and investment in cleaner energy or green technology can foster sustainable economic growth.**

For example, the **Singapore government has launched the $180 million Enterprise Sustainability Programme** to support local companies in their sustainability efforts to transform their production methods to one that relies on cleaner sources of energy and

more efficient. Furthermore, to facilitate Singapore's transition to a low-carbon economy, the government has announced at Budget 2022 that the public sector will issue $35 billion of green bonds by 2030 to fund public sector green infrastructure projects. **The proceeds from the green bonds can be used to finance sustainable infrastructure** such as Tuas Nexus – Singapore's first integrated water and solid waste treatment facility as well as finance infrastructure upgrades for electric vehicles. These green fiscal measures are expected to create millions of green jobs and demand for talent with green skills is likely to rise sharply in the next decade.

Singapore's Green Plan

Other green fiscal measures include environmental taxation such as carbon taxes to incentivise greener transport solutions and energy efficiency improvements that can help to shift production and consumption behaviours towards a more sustainable practices, particularly in developing countries, reducing large scale deforestation and habitat destruction. Singapore was the first in Southeast Asia to introduce a price on carbon and aims to achieve net zero emission by 2030. The current carbon tax is prices at $5 per tonne of carbon dioxide equivalent emissions from 2019 to 2023. The rate will be reviewed to increase it between $10 - $15 per tonne of emissions by 2030 to promote sustainable economic growth.

Furthermore, **green fiscal measures that involves cutting back on inefficient government spending on environmentally harmful subsidies in key sectors such as energy and agriculture can free up significant resources for investment in green technology**. Removing fossil fuel subsidies and introducing taxes on fossil fuels that take externalities into account could provide a strong growth in government revenue to foster sustainable economic growth. Such **green fiscal policies are likely to create new opportunities for substitution and opens up new methods of production which are less resource intensive or those that rely on completely new or renewable resources** like energy generation, slowing the rate of resource depletion and, hence fostering sustainable economic growth. A salient example would be the use of solar energies which results in less pollution, lower emissions, and lower waste, reducing the burden for the future generations. Hence, **resulting in growth that can be sustained in the long run especially if the rate of technological breakthroughs continues to improve.** *However,* fiscal measures may fail to achieve sustainable growth in some countries due to the locational advantages that are offered such as access to natural resources.

c) Fiscal Policy and Standard of Living

Fiscal policies can **directly impact** the standard of living of citizens in a country by **changing tax rates (direct and indirect), size of transfer payments and other forms of government expenditure on education, healthcare, and public infrastructures** (including libraries and parks). However, governments face a difficult trade-off amid sharp increases in food and energy prices when using fiscal measures to raise the standard of living of their citizens. Hence, policy makers need to **reconsider their fiscal policies to protect the low-income families from large real income losses and ensure their access to food and energy.**

A lower personal income tax raises the disposable income of individuals, increasing their purchasing power and standard of living. However, such cuts in taxes tend to disproportionately benefit the middle and high-income earners/households more than the lower income households, resulting in a larger improvement in the standard of living of those who are already enjoying a relatively higher level of standard of living. Hence, such fiscal measures may conflict with the aim of achieving inclusive economic growth.

As such, a more direct way of raising the overall standard of living of all, particularly the lower income households to a larger extent entails providing transfer payments to low-income households. Transfer payments made particularly to the elderly and children from the low-income households can result in a more significant improvement in the standard of living since these individuals tend to consume more when they are young and old and

do the opposite when are of working age. As such, fiscal policy in the form of transfer payments can finance the gap between their income and consumption, raising their overall standard of living. In addition, increased spending on infrastructures such as parks and museums can help to raise the non-material well-being of citizens in a country. For example, the Singapore government has invested heavily in providing an efficient and integrated transport network that is largely affordable to all. Higher social spending on healthcare can also help to raise the non-material standard of living of an average citizen. In Singapore, lower to middle income Singaporeans are eligible for higher subsidies for subsidised treatment at public hospital specialist outpatient clinics and higher medication subsidies to ensure more Singaporeans can enjoy a higher standard of living through such government spending.

Furthermore, with green fiscal policies such as R&D subsidies and carbon taxes that encourage firms to adopt green technology to reduce carbon emission can help to improve the quality of air, resulting in an improvement in the non-material welfare of citizens in countries such as Bangladesh and India where air pollution has been a concern. Moreover, a slower rate of resource depletion through a sustainable use will ensure an improvement in the future standard of living of the citizens in a country. Moreover, cutting back on fuel and water subsidies can free up resources to be mobilised instead for investment in water and clean energy infrastructures, helping to improve water quality and access these services to poor communities, thereby raising their standard of living for all.

Meanwhile, the indirect effects of an expansionary fiscal policy on standard of living arises from the sustained economic growth as shown in Figure 2. If the population grows at a slower rate compared to the real national income, there will be an increase in per capita income. Hence, an average citizen will enjoy a higher real purchasing power which increases their ability to consumer more goods and services, resulting in an overall improvement in their material standard of living. A higher real per capita income would mean a larger increase in non-material SOL an average person will be more able to gain access to **higher quality healthcare to stay healthy and productive as well as educational services** to enrich themselves. Moreover, with a higher real national income growth could also imply larger increases in government tax revenues assuming unchanged income tax rates. As such, with rising income, more taxpayers will move into the higher income tax bracket (progressive tax system) and must pay a greater proportion of their income in the form of taxes, contributing to the government coffers which can then be transferred to the lower income households in the form of transfer payments and provision of public goods to raise their standard of living.

Moreover, fiscal stimulus results in a lower cyclical unemployment as there is a higher derived demand for labour arising from expansion of economic activity, suggesting that a smaller percentage of the workforce suffer from the stress in searching for a job. As such, an average person may be experiencing a higher non-material SOL. Furthermore, with an increase in the number of people working, it will reduce crime rates. Being unemployed in itself represents a situation that increases both motivation and opportunity for crime – inducing an agent to weigh his cost/benefit in engaging in a crime. Therefore, the likelihood of committing a crime decreases when the benefits from stealing/engaging in an illegal activity to make monetary gains is outweighed by the cost of imprisonment. Hence, a lower unemployment rate decreases criminal activity because it increases the cost of imprisonment, improves non-material standard of living.

2.6.2. Fiscal Policy and Inflation

If inflation is demand-pull in nature, then it can be controlled by a contractionary fiscal policy. Contractionary fiscal policy involves a reduction in government expenditure (G) and/or an increase in taxation (T), thereby creating a budget surplus.

A reduction in government spending will directly lower AD and reduce pressure on the general price level. Ceteris paribus, a rise in direct taxes such as income tax and

corporate tax will reduce consumption and investment respectively. Hence, AD will fall. Thus, a budget surplus will have a dampening effect on the economy.

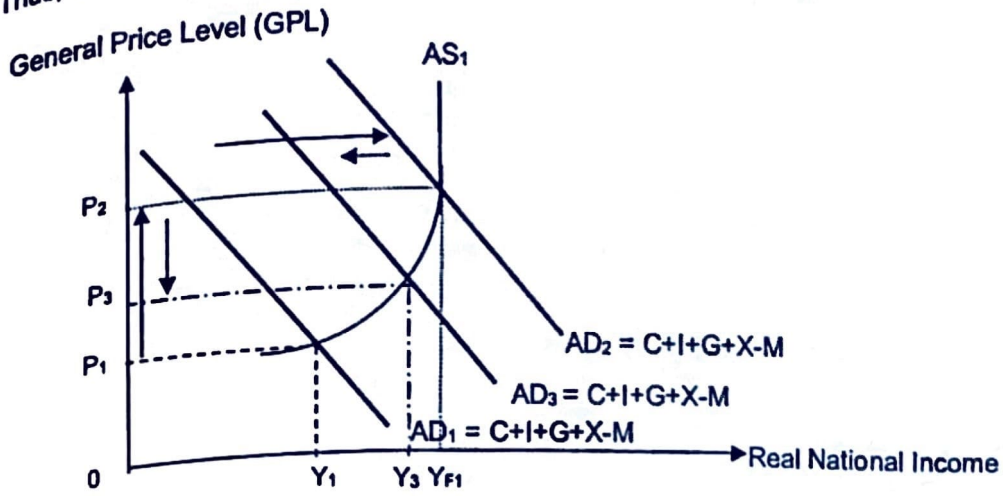


Figure 3: Fiscal Policy and Inflation

Referring to Figure 3, assuming that the economy is in an expansionary phase where households and firms are optimistic and increase their spending. This shifts the AD curve from AD_1 to AD_2. To prevent the general price level from rising so sharply from OP_1 to OP_2, the government can decrease the level of AD from AD_2 to AD_3 by decreasing G and/or increasing T (have a budget surplus).

[The government has succeeded in reducing the price level form OP_2 to OP_3 ***but at the cost*** *of some employment and output as real national output falls from OY_{F1} to OY_3.]*

The government can also tackle the problem of demand-pull inflation through fiscal measures that target aggregate supply in the economy. Even though it does not target the root cause of demand-pull inflation, it is effective in dampening the inflationary pressures brought about by excessive increase in aggregate demand through expansion in the productive capacity. For example, when the government lowers corporate taxes, there is a greater accumulation of fixed capital assets, including production facilities and machineries. As a result, the productive capacity of the economy will expand in the long run. At the same time, these measures will also reduce the unit labour cost of production (assuming productivity growth > wage growth) due to a more efficient combination of labour-capital ratio. Consequently, the increase in productive capacity can prevent overheating in the economy by dampening demand-pull inflationary pressures as well as moderate wage-push inflation in the long-run. However, this is likely to be a **long-term policy** measure and **may worsen the problem of inflation in the short run.**

2.6.3. Fiscal Policy and Balance of Trade

Recall: the causes and consequences of a BOT deficit.

To correct a balance of trade (BOT) deficit, a contractionary fiscal policy (budget surplus) can be adopted to deflate the level of AD in the economy. A fall in AD will lead to a multiple fall in the national income through the multiplier process. With a resultant lower purchasing power, this could cause a fall in import expenditure. The fall in import expenditure in turn improves the trade balance. The extent of the fall in import expenditure depends on the marginal propensity to import.

Further, a contractionary fiscal policy will reduce the general price level within the economy and this fall in prices, ceteris paribus, will make exports relatively cheaper to foreign consumers. There will be an increase in the quantity demanded for exports. Assuming the demand for exports is price elastic, the increase in the quantity demanded for exports will be more than proportionate to the decrease in the price of exports. Hence, export revenue will increase and this further improves the trade balance.

The fall in general price level applies to domestically produced goods as well. The fall in prices of domestically produced products will make import substitutes relatively more expensive to the domestic consumers. Domestic consumers thus switch away from imports, preferring domestically produced products. This reduces the demand for imports. The closer the degree of substitutability between imports and the domestically produced goods, the greater will be the switch away from imports. The reduction in import expenditure further improves the trade balance.

[Note: However, there is a possible conflict between internal and external objectives. The BOT may improve alongside lower growth rate and higher unemployment.]

2.6.4. Fiscal Policy and other Microeconomic Objectives

a) Income Distribution

See the discussion above under Section 2.6.1 [Fiscal Policy and Inclusive Economic Growth].

Note that an **increase in the goods and services tax (GST) may affect the lower income earners proportionately more**, compared to the higher income group, given its regressive nature. However, it is important to note that the collection of revenue from GST is more broad-based; foreigners and tourists contribute to the GST payment for goods and services consumed too.

b) Resource Allocation

The presence of subsidies and tax exemptions can help to divert resources from one type of sector to another. Certain types of government expenditure can address market failure and allocate resources more efficiently (such as public goods, healthcare and education provision etc).

2.7. Limitations of Fiscal Policy

2.7.1 Limitations of Expansionary Discretionary Fiscal Policy

a) Size of Multiplier

The size of *k* affects the extent of increase in real national income for a given increase in autonomous spending. A smaller *k* due to high withdrawals such as high MPM and MPS implies that the government needs to pump in a greater amount of G into the economy to achieve the desired increase in real national income. This limits the effectiveness of expansionary fiscal policy as the funds required to stimulate the economy may be very high. Therefore, an expansionary fiscal policy may be limited in achieving economic growth or lowering cyclical unemployment when the size of the multiplier is small and the economy is already operating near full capacity.

*[**However, increasing government expenditure tends to be more expansionary than lowering taxes** since the government has a direct control over development expenditures. As such, the policy is more effective in stimulating the economy compared to lowering income tax due to the presence of withdrawals. The bigger the fiscal multiplier, the more the change in public spending contributes to changes in RNY.]*

b) Role of Consumer and Business Confidence

If consumers are uncertain about future economic outlook and uncertain about their income and employment because of the ongoing recession, they are unlikely to increase

their current consumption in response to a lower income tax. Consumers will, instead, save the additional income to protect themselves against future uncertainty and possible loss in employment if the economy fails to respond to the expansionary fiscal policy.

Similarly, if firms have a pessimistic outlook and uncertain about future profits, they are unlikely to expand production facilities. Private investment may remain unchanged despite the lower corporate tax since there are other factors that influence a firm's decision to invest, and taxes is just one of them. Some firms may even relocate to other regions where the prospects of profitability are higher– Middle East, Africa (projected to grow at the fastest pace in the world with a large youthful population) or Brazil, Russia, India or China. As such, if a country is facing bleak economic conditions, the expansionary fiscal policy will be ineffective in stimulating the aggregate demand and hence promoting economic recovery.

c) Problems of Time Lags

Discretionary fiscal policy requires passing new laws, which can be complicated and time-consuming. These time lags can cause fiscal policy to be destabilising. Expansionary policies taken to cure a recession may come into effect when the economy has already recovered and is experiencing an expansion, thereby worsening the problem of overheating. However, if the economic downturn is expected to be prolonged as evident from the Covid-19 crisis, concerns over lags may be less pressing for governments.

Refer to Appendix 7 for the economic cycle diagram.

Types of time lags:

(i) Recognition lag: time which lapses before the problem is recognized and diagnosed. By the time it is recognized (recession or inflation), the economy may already be a few months into the problem.

(ii) Administrative lag: time between the recognition of the need for fiscal policy and the taking of action. That is, planning, designing of policies and the signing of contracts take time, changes in taxes and benefits have to be debated and passed by Parliament before they can be implemented.

(ii) Operational lag: time between action taken and impact of the action on output, employment and price levels. For e.g., a change in tax rates may not immediately affect tax payments; a change in corporate tax will affect tax payments only at the end of the financial year - a full 12-month delay; a change in investments responding to a change in tax rates will also take time as planning is required; the multiplier '*k*' effect also takes time to work its effect on real national income; etc.

d) Crowding Out Effect

(i) Crowding out of domestic private investment

Here, crowding out refers to a decline in private expenditures as a result of an increase in government spending. Assuming the government finances its budget deficit by borrowing from the private sector. The government thus competes for scarce funds with the private sector and this raises the interest rate, causing less investment spending by private firms.

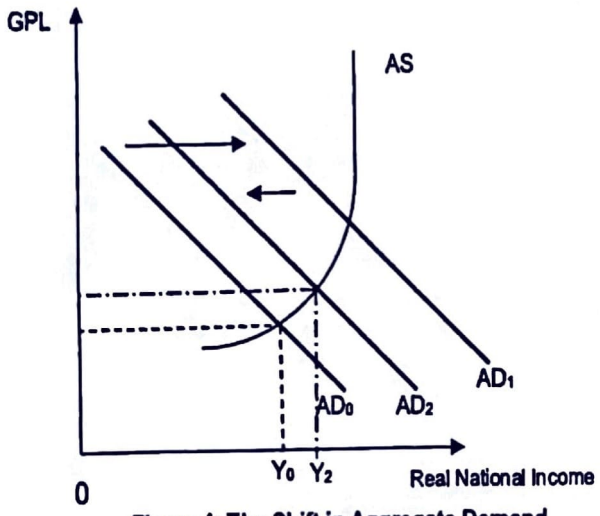


Figure 4: The Shift in Aggregate Demand

Figure 4 shows the effects of increased government spending on aggregate demand. The initial impact of the increase in government spending shifts the aggregate demand curve from AD_0 to AD_1. However, as interest rate is the cost of borrowing, the increase in interest rate tends to reduce consumption and investment demand, particularly demand for investment goods. This crowding out of investment partially offsets the initial impact of the fiscal expansion on aggregate demand and shifts the aggregate demand curve leftwards to AD_2 from AD_1. The net increase in aggregate demand is by a smaller extent from AD_0 to AD_2 instead of AD_1.

Thus, when the government increases its purchases by S$10m, the aggregate demand for goods and services could rise by more or less than S$10m, depending on whether the multiplier effect or the crowding-out effect is larger.

However, the higher interest rates from government borrowing to finance the budget deficit need not necessarily crowd out private investments. Domestic firms can borrow from external sources – foreign financial intuitions. As such, the likelihood of a fall in private investment is doubtful even when government borrowing causes interest rates to go up. Furthermore, the degree to which crowding out occurs is particularly dependent on where the economy is within the business cycle – either in recession or in a healthy expansion. For example, during a recession, crowding out tends to be smaller than during a healthy economic expansion due to the already subdued investments and interest-sensitive spending. As a result, the demand for loanable funds is already low during a recession, and hence the additional demand created by government borrowing does not necessarily increase the interest rates as much. Therefore, government borrowing may not necessarily crowd out private demand as it would during economic expansion.

[*The above may not be very relevant in Singapore as its **government may use reserves from the past to finance its deficit spending** so it does not have to resort to borrowing extensively.*]

(ii) Crowding out in an open economy

When the government borrows money from the private sector to finance its increased spending, domestic interest rates will rise. Given free capital mobility, this would attract short-term capital inflows, 'hot money', into the economy. Under the flexible exchange rate system, the currency will appreciate as the demand for the country's currency increases, ceteris paribus. Due to the currency appreciation, the country's exports will now become less price-competitive, while imports become cheaper. Quantity of exports fall while quantity of imports rise. Thus, under flexible exchange rates and capital mobility,

the crowding out of net exports will reduce the effectiveness of an expansionary fiscal policy. The effect is similar to the one illustrated in Figure 4.

e) Sustainability of running a Budget Deficit

Fiscal deficits and public debt ratios (the ratio of debt to GDP) have expanded sharply in many countries because of the recent economic crisis which has negative impact on tax revenues and cost of fiscal responses to the ongoing crisis.

The cost of running a budget deficit will depend on the following factors:

(i) Choice of instruments – Raising government expenditure or Reducing taxes

If the expansionary fiscal policy entails lowering income taxes, it may lower the willingness of individuals to work if income effect outweighs substitution effect. As a result, the supply of labour will decline. This may lead to a fall in the aggregate supply, adversely affecting the potential economic growth and standard of living. As such, an expansionary fiscal policy arising from lower taxes may be unsustainable.

[Recap: The income effect of lowering income taxes will increase the disposable income of workers. As such, individuals will need to work less to maintain their current consumption levels, reducing the supply of labour. Meanwhile, the substitution effect will increase the opportunity cost of leisure since disposable income earned from working is higher. This is because an additional unit of hour spent on leisure requires a bigger sacrifice in terms of consumption since the additional disposable income earned from working will be higher due to the lower taxes, raising the supply of labour.]

(ii) Time Period – Large and persistent budget deficit (structural deficit) VS Cyclical (temporary) deficit

Running a large and persistent budget deficit poses a more severe problem for the government as the government will continue to pose a deficit irrespective of how well the economy is performing. Such a large and persistent nature of this budget deficit very often leads to a national debt owing to the accumulation of the budget deficit over time, and also due to the lack of political will of the government (fear of losing political power) in pursuing austerity measures to reduce the deficit which are politically unpopular. This has resulted in many governments defaulting on their loans (e.g. Greek default) if they are unable to pay back. Consequently, governments defaulting on their loans may be slapped with austerity measures by lenders (IMF/ECB/EU bailout programs) which are contractionary in nature. They may end up losing credibility and be overthrown because of their inability to manage such macroeconomic crisis, rending an expansionary policy unsustainable in the long run.

Additionally, one of the consequences of a growing national debt is that debt holders would require higher interest payments to compensate for the heightening risk that they will not be repaid. This will further curtail the ability of the government to repay the debt which can lead to a debt crisis with disastrous effects such as a severe loss of investor confidence which has a contractionary effect on the economy.

On the contrary, a cyclical (temporary) deficit is related to the business or economic cycle. The business cycle is the period of time it takes for an economy to move from expansion to contraction, until it begins to expand again. A short-term temporary deficit is likely not a concern when the economy recovers. Countries can afford to run small to moderate fiscal deficits for an extended period. However, if the deficits get too large and persist for long, it may undermine confidence. Therefore, the International Monetary Fund has called on governments to establish fiscal strategy to avert a debt crisis. For example, stimulus should not have permanent effects on deficits, governments need to commit to

fiscal correction once economic conditions improve, structural reforms need to be made to enhance long-term economic growth.

f) Conflicts with other macroeconomic objectives

(i) Tradeoff with internal aims

An expansionary fiscal policy, if effective, may promote economic growth and reduce cyclical unemployment. However, it may come at the expense of an increase in consumer prices and lead to demand-pull inflationary pressures if sustained for a prolonged period of time. Furthermore, as for composition of spending, governments face a trade-off in deciding between targeting stimulus to the poor to achieve a more inclusive economic growth, where the likelihood of full spending is higher, channeling resources to infrastructure spending and supporting private investments that create jobs in times of recession.

(ii) Tradeoff with external aims

Higher domestic inflation rate brought about by the expansionary fiscal policy may erode the competitiveness of a country. If domestic inflation rate rises faster relative to the trading partners, exports will become more expensive relative to their domestically produced goods. Assuming, the demand for exports is price elastic, quantity of exports will fall more than proportionately. Meanwhile, domestically produced goods will be more expensive relative to import. As a result, the demand for imports will increase as locals switch away from domestically produced goods to imported goods. The extent of increase in import expenditure depends on the degree of substitutability (CED value). As a result, net exports will fall, worsening the balance of trade position.

g) Role of Expectations

According to the Ricardian Equivalence Theory,

i. If households have rational expectations, they will use all available economic information to make their economic decisions and tend to be forward looking.
ii. Households choose to smooth out consumption over life cycle to maintain the same standard of living over their lifetime.

If the above assumptions hold, it is postulated that current consumption is unlikely to change in response to a cut in the income tax or a possible increase in transfer payments in the form of one-off cash payments (e.g. GST-offset package or vouchers). Households view the **current tax cut as a temporary** measure and expect future tax rates to increase when the government finally decides to raise taxes to pay back the debt they have incurred to conduct the current expansionary fiscal policy (G > T which requires the government to run a deficit). As a result, households become uncertain about future income and respond by increasing precautionary savings out of their higher current income to pay for the higher possible taxes in future.

Being rational, households choose to hedge against uncertainty in future income to smooth out their consumption over lifetime such that there is no adverse effect on their future material standard of living should there be an unexpected increase income tax in the future. Therefore, households **do not see a change in their permanent disposable income** over their lifetime/cycle since the increase in current disposable income is offset by the fall in future disposable income when taxes are increased. As such, there will be no change in current consumption and hence the expansionary fiscal policy will be ineffective in stimulating the aggregate demand to reduce unemployment or bolster economic recovery.

{*However, in reality, households are myopic and would rather spend the additional disposable income from the tax cut or transfer payments (one off GST payment) for*

consumption instead of saving it to pay higher taxes in the future. This is particularly true for the pioneer generation/older generation who tend to have a higher marginal propensity to consumer at the end of their life cycle and are not concerned about the possible tax burden faced by the future generation. Similarly, in developing countries, consumers are less inclined to make economic decisions based on economic forecasts/outlook given the lack of education.]

h) Other Limitations:

(i) Problem of magnitude with forecast errors

Effectiveness of fiscal policy depends on the accuracy of forecasting and the predictability of the outcome of fiscal measures. Most of the time it is very difficult to estimate the size of *k* where the MPC fluctuates as households' consumption depend on households' expectations about future price and income changes; MPM may also fluctuate according to changes in exchange rate.

(ii) Inflexibility (Lack of Reversibility)

Once an increase in government expenditure is implemented, it may be difficult to cut back on such expenditure when the economy recovers. This is especially so if the government expenditure undertaken is in public works; they cannot be stopped midway even if the economy has recovered from a recession.

(iii) Political pressures from lobby groups (vested interest groups)

Deficits are often politically attractive and surpluses politically painful. Thus, many governments tend to implement expansionary fiscal policies even when a budget deficit might not be feasible or effective.

2.7.2 Limitations of Contractionary Discretionary Fiscal Policy

a) Role of Expectations and Confidence

If households are confident about the future and certain about their income and employment prospects, they will continue to buy consumer durables. Similarly, if firms are optimistic about future profitability, they will continue to expand production facilities despite the higher corporate taxes which reduces the after-tax profits. Firms will continue to acquire more fixed capital in expectation of higher profits in the future. As a result, a contractionary fiscal policy will be ineffective in lowering aggregate demand to reign in inflationary pressures as private investments and consumption may continue to rise.

b) Conflict with other macroeconomic aims

A moderation of demand-pull inflationary pressures will cause consumer prices to fall but it comes at the expense of higher cyclical unemployment due to a lower derived demand for labour falls as firms cut back on production due to the contractionary effects on AD.

c) Inflexibility

Fiscal policy is inflexible downwards. For example, lowering infrastructure spending on key projects in order to dampen demand-pull inflationary pressures will be unfeasible since such projects require long-term investment and commitment from the government. Therefore, reducing government expenditure to reign in rising consumer prices will not be feasible in times of high inflation.

d) Undesirable impact on economic growth and standard of living

Raising income taxes may increase the overall willingness to work, increasing labour supply and aggregate supply. However, if substitution effect of higher taxes outweighs

the income effect, it will adversely affect economic growth and deteriorate standard of living in the long run. The income effect of raising taxed will lower the disposable income of individuals. Workers will then work harder and longer to maintain the consumption at the current level, raising the supply of labour. Meanwhile, the substitution effect will reduce the opportunity cost of leisure since disposable income earned from working is now lower. An additional unit of hour spent on leisure requires smaller sacrifice in terms of consumption since the additional disposable income earned from working will be lower due to the higher tax, reducing the supply of labor. As a result, the policy becomes undesirable in the long run if substitution effect outweighs the income effect.

2.7.3 Limitations of Non-Discretionary Fiscal Policy

Automatic stabilisers may have limited impact in reducing the severity of fluctuations. Moreover, they suffer from two other drawbacks:

a) Adverse supply-side effects

High tax rates may discourage work effort and initiative - steeply progressive income taxes may discourage workers from doing overtime or seeking promotion and producers from taking risks (reduce AS). To the extent that steeply progressive income taxes discourage the growth of production, they will also tend to increase the rate of inflation. With any given growth in AD, the smaller the growth in AS, the higher will be the rate of inflation. High unemployment benefits may increase frictional unemployment as it reduces the opportunity costs of being unemployed and may encourage people to take a longer time looking for the 'right job'.

b) Problem of fiscal drag

Fiscal drag **refers to the tendency of automatic fiscal stabilisers to reduce the recovery of an economy from recession.** Economic recovery from a recession entail rising national income. With progressive tax rates, this brings about rising tax revenues which dampens the increase in disposable income of households and dampens the increase in consumption. At the same time, government expenditure on transfer payments tends to be withdrawn with recovery so this reduces the extent of increase in consumption as well. These effects tend to exert a drag on the growth of aggregate demand. Fiscal drag thus hinders the ability of the economy to attain the full employment level of real national income, especially when it is recovering from a recession. To reduce the fiscal drag, a bigger change in G or T would be necessary to achieve a given change in national income.

However, the responsiveness and scope of stabilisers can be improved by a more progressive tax system that taxes high-income households at a higher rate than lower income households. In addition, transfer payments can be explicitly linked to unemployment rates or other triggers in the labour market.

Sectional Summary:

- *Factors affecting the effectiveness of discretionary fiscal policy include size of the multiplier, expectations and confidence of firms and consumers, methods of financing government expenditure, policy conflicts, time lags, inflexibility of government expenditure as well as, inaccurate projections,*
- *Non-discretionary fiscal policies can create disincentives effects on households and firms due to the uncertain effects of tax changes on consumption and investment. It can also act as drag on recovery from a recession.*

2.8 Fiscal Policy in Singapore

As Singapore's fiscal policy is directed primarily at promoting long-term economic growth, the Singapore Government has adopted the following principles in its conduct to meet its objective:

- the private sector is the engine of growth, and the government's role is to provide a stable and conducive environment for the private sector to thrive;
- tax and expenditure policies should be justified on microeconomic grounds and focus on supply-side issues, i.e. incentives for saving, investment and enterprise;
- the counter-cyclical role of fiscal policy is limited, due to high import leakages.

The success of Singapore's fiscal policy over the years lies in the government's prudent expenditure patterns and conducive taxation policies that have complemented monetary policy in promoting sustained and non-inflationary economic growth.

The main focus of the Government's expenditure is on the delivery of essential public goods and services to Singaporeans. The Government spends to assure the nation of a secure future. Therefore, key areas of expenditure are on education, public housing, health care and national security. The Government is also committed to building and maintaining world-class economic infrastructure and services. This is evidenced by the fact that development expenditure accounted for around one-third of government expenditure on average over the last three decades.

Singapore's tax policies, although providing the main source of funding for the government, seek to enhance its economic competitiveness and attract foreign investments to Singapore and foreign talent to Singapore. Our direct tax rates are among the lowest in the world.

Against the backdrop of such a prudent fiscal policy and high economic growth, Singapore was able to enjoy consistent budget surpluses over the years. These surpluses have helped the Singapore government achieve one of the highest investment rates in the world without having to incur foreign debt. They have also provided Singapore with a high level of national reserves, which has served to boost investor confidence and provide a buffer against adverse economic shocks.

2.9 Conclusion

In many advanced countries, Singapore included, the COVID-19 pandemic has prompted unprecedented fiscal responses to support businesses and households through the crisis, especially during the lockdowns enacted to slow the spread of the virus. Through public finance and national budgets, governments have sought to provide short-term relief and stave off the economic scarring that could arise if mass bankruptcies and unemployment were to occur. The Singapore government has further taken the opportunity in the crisis budgets to accelerate developments in technology and social support systems, laying the foundation for a more digitalised economy and society ready to grasp growth opportunities once the pandemic subsides.

Singapore has been deeply affected by the COVID-19 pandemic. In 2020, its economy contracted by a record 5.4%. Singapore's initial fiscal response to COVID-19 involved multiple budgets amounting to more than 19% of its 2019 Gross Domestic Product (GDP), and drawing on part of its national reserves. Its overall fiscal responses show that small economies can still act effectively in a crisis to support their economies and societies. Fiscal prudence (generating reserves) and discipline (spending control) in past years have afforded it the resources needed to ameliorate the adverse economic impacts of this pandemic without taking on substantial debt.

******END******

Appendix 1: Singapore's Fiscal Policy

Sources of Government Revenue and Spending in Singapore (2021 – 2022)

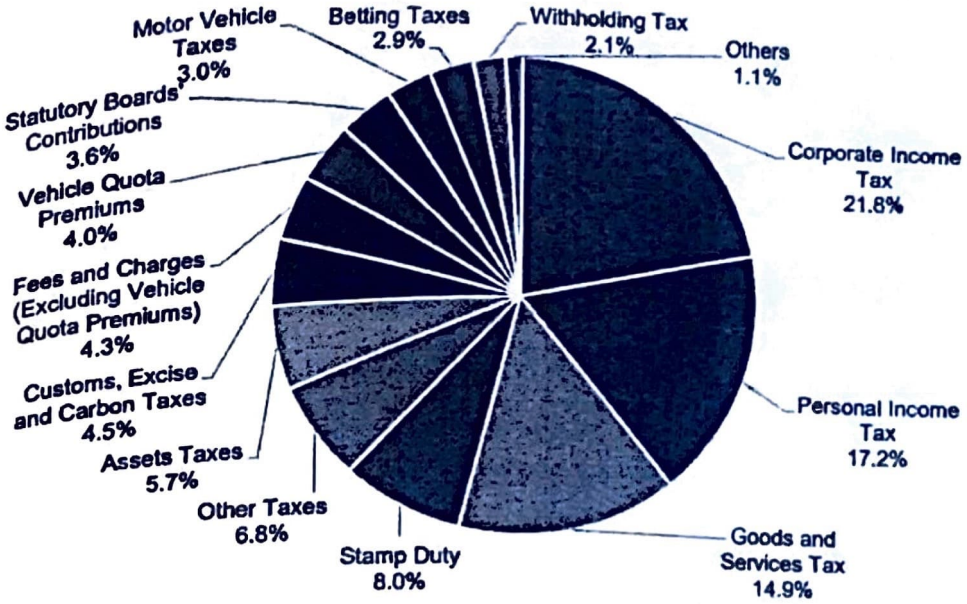
Ministry of Finance Economic Performance and Outlook (Budget 2022)

Ministry of Finance Support for Households, Firms and Workers (Budget 2022)

Ministry of Finance Tik Tok Video on Household Support (Budget 2022)

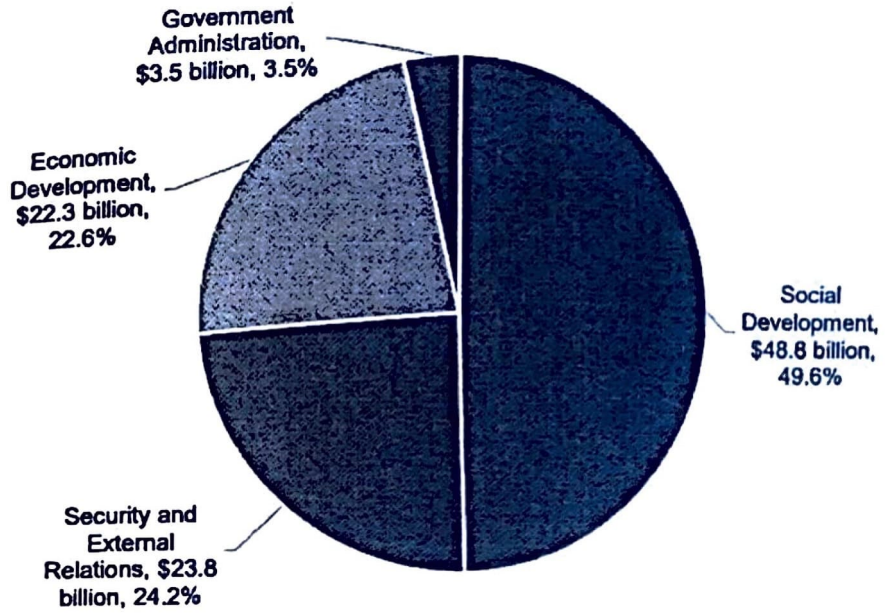
Ministry of Finance Tik Tok Video on Additional Support Package Announced in October 2022

Chart 1.1: Breakdown of Government Operating Revenue in FY2021[1]



[1]The Government's Overall Revenue comprises the Government's Operating Revenue and Net Investment Returns Contribution (NIRC). The Government's Operating Revenue, which includes tax and non-tax revenues (shown above) contributes to 79.8% of the Government's Overall Revenue in FY2021. NIRC, which is itemised in Section 1.5, contributes to the remaining 20.2% of Overall Revenue in FY2021.

Chart 1.2: Breakdown of Government Spending by Sector in FY2021[2]



[2] Government spending here does not include Special Transfers and spending from Government Endowment and Trust Funds.

Appendix 2: Principles of Taxation

Adam Smith argued that there were 4 principles of a good tax system (Canons of Taxation):

(a) Equity
Taxation should be based on the ability to pay. To distribute the tax burden so as to bring about an income distribution regarded as optimum to society in general. This is related to the "Ability to pay" principle and it calls for a progressive tax structure based on income and wealth.

(b) Economy
Taxation should not be expensive to administer. Cost of tax administration should be kept at a minimum. An efficient and effective administration is necessary for the maintenance of equity. A tax will be productive if its yield is greater than its costs of collection and payment.

(c) Convenience
Method and frequency of payment should be convenient to the taxpayer.

(d) Certainty
Tax structure should be formulated in such a way (simplicity of legislation and tax forms) so that taxpayers are certain of how much they have to pay, how they pay and when.

In addition, a good tax system should also consider:

(e) Diversity and Flexibility
Broad tax base will spread out the tax burden and to minimise disincentive effects.

(f) Difficult to evade
If it is desirable to have a given tax, people should not be able to escape paying it. A distinction here is made between tax evasion and tax avoidance. Tax evasion is illegal. This is where, for example, the poor do not declare income to the Inland Revenue Department. Tax avoidance is legal, albeit from the government's point of view it is undesirable. This is where people try to find ways of managing their affairs so as to reduce their tax liability. They usually employ an accountant or tax consultant to help them.

Appendix 3: Income Tax and Goods and Services Tax (GST) in Singapore
(Source: www.mof.gov.sg; www.iras.gov.sg)

Income Tax in Singapore

In Singapore, personal income taxes are applied to the previous year's chargeable income after certain deductions are made. These deductions include allowances for personal relief, maintenance of wife, children and dependants, life insurance premium and contributions to the Central Provident Fund (CPF).

From YA 2024 onwards

Chargeable Income	Income Tax Rate (%)	Gross Tax Payable ($)
First $20,000	0	0
Next $10,000	2	200
First $30,000	-	200
Next $10,000	3.50	350
First $40,000	-	550
Next $40,000	7	2,800
First $80,000	-	3,350
Next $40,000	11.5	4,600
First $120,000	-	7,950
Next $40,000	15	6,000
First $160,000	-	13,950
Next $40,000	18	7,200
First $200,000	-	21,150
Next $40,000	19	7,600
First $240,000	-	28,750
Next $40,000	19.5	7,800
First $280,000	-	36,550
Next $40,000	20	8,000
First $320,000	-	44,550
Next $180,000	22	39,600
First $500,000	-	84,150
Next $500,000	23	115,000
First $1,000,000	-	199,150
In excess of $1,000,000	24	

From YA 2017 - 2023

Chargeable Income	Rate (%)	Gross Tax Payable ($)
First $20,000	0	0
Next $10,000	2	200
First $30,000	-	200
Next $10,000	3.50	350
First $40,000	-	550
Next $40,000	7	2 800
First $80,000	-	3 350
Next $40,000	11.5	4 600

Chargeable Income	Rate (%)	Gross Tax Payable ($)
First $120,000	-	7 950
Next $ 40,000	15	6 000
First $160,000	-	13 950
Next $ 40,000	18	7 200
First $200,000	-	21 150
Next $ 40,000	19	7 600
First $240,000	-	28 750
Next $ 40,000	19.5	7 800
First $280,000	-	36 550
Next $ 40,000	20	8 000
First $320,000	-	44 550
Above $320,000	22	

Corporate Tax in Singapore

It is the Government's policy to keep our tax regime competitive to make Singapore an attractive business hub to encourage new investments and to spur entrepreneurship. In Singapore, there is only one rate of tax imposed on companies. This was set at a rate of 17% since YA 2010.

The Government seeks to provide start-ups with every opportunity to thrive and succeed. In this regard, a start-up tax exemption scheme was introduced since 2004 to provide newly-incorporated companies generous exemptions on their taxable profits, up to 100% tax exemption for the first S100,000 of chargeable income.

The Government also recognises that small and medium-sized businesses are an important component of a vibrant economy. To help such companies to grow and establish themselves, the Government has put in place a partial tax exemption scheme, which lowers the taxable profits of these companies. While the partial tax exemption scheme is available to all companies, the exemption thresholds are designed to target the benefits at small and medium-sized companies.

Corporate Income Tax Rebate is given to all companies to help them deal with rising business costs. The Corporate Income Tax Rebate for YA 2017 was 50%, capped at $25,000 and in YA 2018 and YA2019, 20% capped at $100,000 respectively.

Goods and Services Tax (GST) in Singapore

- It was first implemented in 1 April 1994 at a rate of 3%. It was a 4% tax on domestic consumption in 2003, with a further revision to 5% in 2004 *(off setting packages were introduced to cushion the rise in GST on the poor in 2003)*. Since 2007, the rate has been revised to 7%. Refer to Table 1 for the workings of the GST. GST is set to rise to 9%, between 2021 – 2025.
- It is paid when money is spent on goods and services, including imports. GST is a type of value added tax which is an indirect tax imposed on the value added at each stage of production.
- The producers of goods and the providers of services collect the tax. GST is attracted on goods and services of businesses whose annual taxable turnover exceeds or is expected to exceed S$1 million.

- *Exemptions:* Financial services, transactions of residential properties and purchases by tourists from participating retailers.

Example of workings of the GST (at 7%)

	Price ($) – before GST	Price ($) – after GST (7%)	GST paid to govt.
Manufacturer	5.00	5.35	0.35
Wholesaler	7.00	7.49	0.14 (0.49 – 0.35)
Retailer	10.00	10.70	0.21 (0.70 – 0.49)

Rationale for the implementation of GST:

- Encourage savings and investment i.e. it rewards enterprise (due to reduction in income taxes).
- A tax on domestic consumption only. Exports are not taxed.
- Cuts down on tax avoidance and evasion.
- Does not dilute the incentive to work.
- More stable source of revenue as it is less affected by trade cycles and the ageing population.
- Less distortion – tax burden not heavily felt, affects relative prices of goods and services less than other forms of sales taxes, and does not interfere with allocation of resources.

More specific reasons for the use of GST in Singapore:

- To keep corporate tax rate at an internationally competitive level.
- To keep personal income tax rate low so as to retain the existing professional and skilled manpower and to attract others from abroad.
- To enable the spreading of tax burden more broadly among the population, in view of our ageing population.

To sum up, the main rationale for the introduction of GST is to promote economic growth leading to a higher standard of living.

Economic implications of GST

Tax level and tax mix – Tax level is not expected to change (measured by tax revenue to GDP), therefore, it is revenue neutral and the types of taxes in Singapore will gradually shift towards indirect taxes to improve economic competitiveness.

Price level and inflation – One-time increase in price level, it may not be inflationary unless economy is unable to manage wage-price spiral initiated by the one-time increase (which is unlikely to happen in Singapore as our labour union has good rapport with the government). The real value of balances of CPF is likely to be reduced.

Administrative costs will likely increase

In conclusion, the implementation of GST and the accompanying measures help the government to mitigate the regressive impact of an indirect taxation. In broadening the tax base, it gives more flexibility to the government in its policy-making.

Ministry of Finance Video on Measures to Cushion the Impact of GST Hike

How does the GST hike affect you?

Appendix 4: A Summary of the Merits and Demerits of Direct and Indirect Taxes

	Merits	Demerits
Direct Tax	1. Direct taxes are **more equitable** than indirect taxes as progressive tax rates are applied and people are taxed according to their ability to pay. The heaviest burden falls on those who can afford to pay and assists in the redistribution of income. 2. The taxpayer can work out the amount of tax liability and the state is also certain of who pays as the incidence can be easily traced. Payments are made direct to the government authorities. Therefore, **the yield would be high relative to its costs of collection.** 3. Direct taxes serve as built-in stabilizers (or *automatic stabilizers*) for the economy. As money incomes rise during inflation, the tax yield also increases, thus reducing, the purchasing power. Therefore, the government **can influence the level of aggregate demand without making additional changes.**	1. The burden of direct taxes is directly felt and may lead to **discontent.** **2. Tax evasion** tends to arise in cases of irregular incomes and where accounting system is inefficient. 3. Since extra income from extra work is reduced with the extra tax to be paid, labour prefers leisure to work. As such, at higher levels of tax rates, there is a greater **disincentive to work.** Similarly, high corporate taxes reduce the funds available for reinvestments. It is also a disincentive to invest, as after-tax rewards obtained from risk-taking, would be small.
Indirect Tax	1. It can be **collected with little or no friction** at all because the taxpayers feel very little burden as it is collected as part of the price paid for the product at the point of purchase. 2. The tax is included, as part of the price of the commodity and thus the consumer will find it **almost impossible to avoid or evade.** 3. Indirect taxes can be used to **regulate consumption** of certain demerit goods, e.g. cigarettes and alcohol. It can be imposed on imports as protective trade measures, it can also be used to encourage exports and discourage imports. 4. This helps the government to **avoid heavy reliance on direct taxes.**	1. Such a system is **regressive** since both the rich and the poor pay the same rate when they buy the commodity. It is especially regressive if it is levied on basic necessities, as the real burden of the tax is greater on the poor. 2. High yields are possible only if it is imposed on goods with inelastic demand. Such goods tend to be basic necessities and hence this will **aggravate the inequality in the distribution of income.** 3. Since the incidence of taxes may be easily shifted, the extent of which depends on the elasticities of demand and supply, its **economic effects are uncertain.** 4. To effectively check the consumption of goods with inelastic demand, some indirect tax rates have to be very high. This may continue to build up **inflationary** pressures.

Appendix 5: Numerical Illustration of Different Tax Systems

Hypothetical Individuals: Individuals A, B and C with $10,000, $20,000 and $30,000 amount of taxable income respectively

A Proportional System: The proportional tax rate is 20%, applied to all taxable income

In a proportional tax system, no matter what an individual's taxable income level, the marginal tax rate and the average tax rate remain the same.

	MARGINAL TAX RATE AND TAXES PAID		AVERAGE TAX RATE	
Individual A	0.20 x $10,000	= $2,000	$2,000 / $10,000	= 20%
Individual B	0.20 x $20,000	= $4,000	$4,000 / $20,000	= 20%
Individual C	0.20 x $30,000	= $6,000	$6,000 / $30,000	= 20%

A Progressive System: Marginal tax rates in three tax brackets are as follows: 10% on first $10,000, 20% on second $10,000 and 30% on third $10,000

In a progressive system, as the individual's taxable income goes up – in our example, from $10,000 to $20,000 to $30,000 – a higher and higher marginal tax rate is applied. The average tax rate therefore increases.

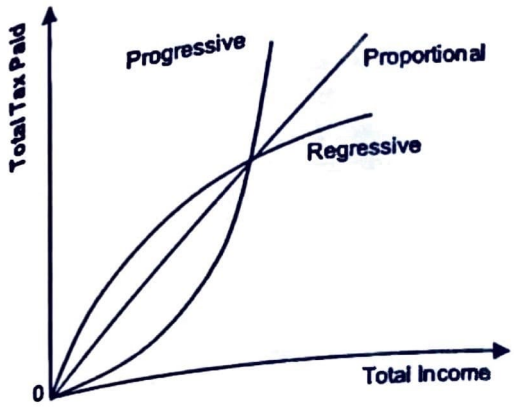
	MARGINAL TAX RATE AND TAXES PAID		AVERAGE TAX RATE	
Individual A	0.10 x $10,000	= $1,000	$1,000 / $10,000	= 10%
Individual B	0.10 x $10,000 0.20 x $10,000 Total	= $1,000 = $2,000 = $3,000	$3,000 / $20,000	= 15%
Individual C	0.10 x $10,000 0.20 x $10,000 0.30 x $10,000 Total	= $1,000 = $2,000 = $3,000 = $6,000	$6,000 / $30,000	= 20%

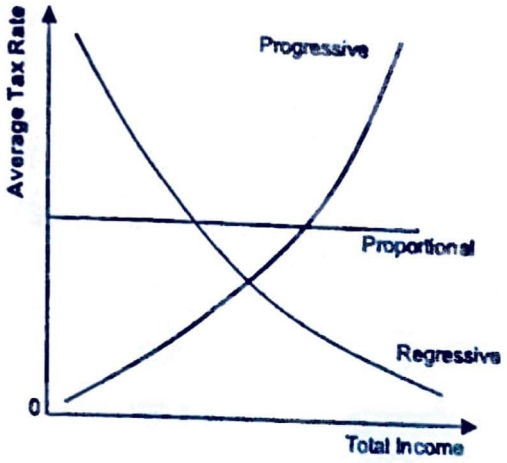
A Regressive System: Marginal tax rates in three tax brackets are as follows: 30% on first $10,000, 20% on second $10,000 and 10% on third $10,000

Finally, in a regressive system, a lower and lower marginal tax rate is applied, and the average tax rate is seen to decrease – in our example, from 30 per cent to 20 per cent.

	MARGINAL TAX RATE AND TAXES PAID		AVERAGE TAX RATE	
Individual A	0.30 x $10,000	= $3,000	$3,000 / $10,000	= 30%
Individual B	0.30 x $10,000 0.20 x $10,000 Total	= $3,000 = $2,000 = $5,000	$5,000 / $20,000	= 25%
Individual C	0.30 x $10,000 0.20 x $10,000 0.10 x $10,000 Total	= $3,000 = $2,000 = $1,000 = $6,000	$6, 000 / $30,000	= 20%

Diagrammatic Representation of the 3 tax systems:





Appendix 6: Role of Discretionary Fiscal Policy in Economic Downturns and the Case of Singapore

(Source: http://www.singaporebudget.gov.sg/speech_toc/downloads/index.html)

Smoothing Effect of Automatic Stabilisers

Tax Collections

Taxes typically work as an automatic stabiliser. During high growth years, tax revenues from corporate profits and personal incomes, as well as from consumption such as Goods and Services Tax tend to be higher. As taxes are extractions from the economy, the higher tax collections serve to dampen aggregate demand, thereby reducing inflationary pressures.

Conversely, during years of low GDP growth or even contraction, tax collections would automatically adjust themselves to lower levels and reduce the extractions from the economy to mitigate the effect of slowing aggregate demand.

Government Expenditures in Singapore

In addition, the expenditures of most government ministries in Singapore are pegged to a seven-year moving average of past and projected GDP. Government expenditures are injections into the economy as they add to the aggregate demand for goods and services. Therefore, volatility in government spending is reduced by pegging government spending to a smoothed average of GDP growth. In years when actual GDP growth is high, government spending increases are muted to mitigate inflationary pressures. Conversely, government spending would not fall in tandem with sharp GDP contractions and exacerbate falling aggregate demand during a downturn.

Discretionary Fiscal Policy in a Sharp Downturn

Automatic stabilisers (tax collections and more stable Government expenditures) could be supplemented by discretionary fiscal policy especially during a sharp downturn. Discretionary fiscal policy includes measures to further reduce extractions from the economy such as providing additional tax rebates to effectively reduce tax collections, and measures to introduce injections into the economy such as additional government spending on goods and services, and grants and tax credits to increase the incomes of households and businesses.

Limitations of Discretionary Fiscal Policy

Discretionary fiscal policy has several limitations which reduce its effectiveness as a countercyclical tool.

Long Time Lags

It takes time for government agencies to implement discretionary fiscal policies. For example, additional government projects to be implemented in a recession needs to be designed, tendered out and evaluated for cost-effectiveness before the projects are awarded. In addition, where transfers are made to increase incomes of households and businesses, there is a time lag between their actual receipt of cash and actual expenditures into the economy.

Leakages

The scope for using discretionary fiscal policy as a tool for macroeconomic stabilisation is more limited for countries with open economies due to import leakages. The effect of fiscal transfers on aggregate demand would also be blunted in economies with high

savings rates because the injections into households or businesses are not fully spent but kept as precautionary savings.

Fiscal Sustainability: Trading off Long-term Investments

Discretionary fiscal policy means running a larger deficit in a year of low growth. Such measures can lead to persistent deficits, and threaten long-term sustainability and competitiveness. This is because the deficits are typically financed by increased borrowing which would eventually be repaid through higher taxes. In addition, the Government's borrowing could lead to higher interest rates and crowd out funds for private investments and in turn reduce long-term growth prospects.

Discretionary Fiscal Policy's Role in Severe and Prolonged Downturns

There are however the following arguments for discretionary fiscal policy especially in a severe and prolonged downturn.

Enhancing Fiscal Multipliers through Better Targeting and Timing

The effectiveness of discretionary fiscal policy can be enhanced if the measures are delivered in a timely manner and targeted at individuals and companies that would need them the most during a prolonged downturn. The probability of mistiming due to lags is also reduced in a prolonged downturn.

Value in Providing Relief

Regardless of the economic impact, fiscal policy can do much to improve the well-being of households and individuals. It can reduce the loss of incomes of individuals and provide relief in a recession even if the fiscal impulse is weakened through leakages, e.g. by expenditure on imports.

Improvement of Expectations

By providing help to counter a downturn, businesses and households would have more confidence that the economy would recover. This reduces the precautionary savings inclination that could further dampen consumption, and stem a downward spiral.

Effectiveness of Discretionary Fiscal Policy in Singapore

Multiplier of Discretionary Fiscal Measures Not Insignificant

In Singapore, the multiplier from previous applications has typically been positive but small, depending on how they are targeted. Targeted transfers at the lower income tend to have a higher multiplier, as does the Government's direct consumption of goods and services. For example, measures such as Workfare Income Supplement (WIS), GST Credits and Government hiring plans would have a significant economic multiplier. While taxes and investments tend to have a lower multiplier, they tend to provide a longer term boost to economic growth.

Short Implementation Lags

The effectiveness of discretionary fiscal policy is enhanced by the short implementation lags in Singapore. This is due to our efficient tax and CPF systems that enable the Government to distribute transfers quickly.

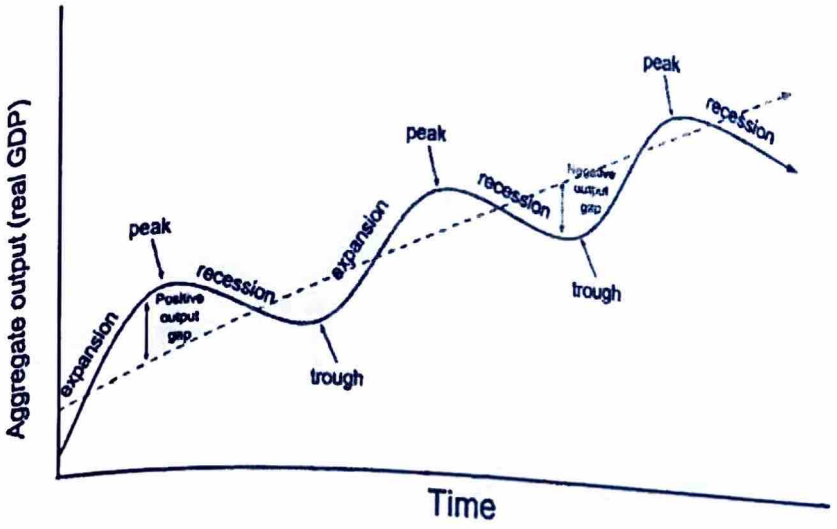
No Trade-Off on Long-Term Objectives

Given Singapore's policy of running a balanced budget over a business cycle, fiscal policy in Singapore tends to be financed from accumulated budget surpluses rather than from

borrowing. This enhances the impact of temporary measures, as the Government is unlikely to need to finance fiscal policy through higher future taxes. Neither would the Government need to borrow to finance the deficit – therefore it would not draw on the credit in the market and crowd out private investments.

Singapore has therefore made judicious use of discretionary fiscal stimulus measures to supplement the fiscal automatic stabilisers built into our system – Overall Budget Balance has been broadly countercyclical over the past ten years.

Appendix 7: Economic Cycles



Source: Khan Academy