Fiscal Policy

Demand-management policy with secondary supply side effects. Impacts C, I, G, X-M.

Fiscal policy: Deliberate management of government spending and taxation through a budget in order to achieve economic goals of the government.

Recession: When and economy experiences fall in real GDP (negative growth) for two consecutive quarters.

Government revenue comes from taxes, which can be direct or indirect:

- **Direct tax (deflationary)**
  - Taxes on income and wealth
  - E.g. personal income tax (progressive), corporate tax (proportional)
  - When direct tax increases, AD falls → reduce demand-pull inflation
- **Indirect tax (inflationary)**
  - Taxes on expenditure on goods and services
  - E.g. Goods and Services Tax (GST) (regressive)
  - When indirect tax increases, increase GPL at every level of output, AS falls → worsening cost-push inflation
- Proportional tax
  - Same fixed percentage of tax is paid by all. Otherwise known as a flat tax.
- Progressive tax
  - As income increases, tax rate increases, higher percentage of income is paid as taxes → Reduce post-tax income differentials
  - Takes into account ability to pay
- Regressive tax
  - As income increases, tax rate decreases, lower percentage of income is paid as taxes
  - GST is regressive because the poor spend a larger proportion of their income on necessities that are subject to GST.
  - To visualise this, 7 cents out of 100 dollars is clearly a bigger percentage than 7 cents out of 10,000 dollars.
- Personal income tax
  - Income effect: When tax rate increases, if same level of consumption and SOL is to be maintained, incentive to work increases (individuals with more financial commitments e.g. family to feed)
  - Substitution effect: When tax rate increases, opportunity cost of leisure falls, incentive to work decreases (individuals with fewer financial commitments)
  - Increase tax → Decreases disposable income → Fall in purchasing power → Decrease consumption (and decrease imports) → Fall in AD and reduce BOT deficit
  - Increase tax → Decreases ability to save → Fall in SS of loanable funds → Increase i/r → Fall in investment (MEI theory) → Fall in AD (and AS in LR)
- Corporate tax
  - Increase tax → Fall in post-tax profits → Decrease ability and willingness to invest in production facilities in this country → Fall in investment → Fall in AD (and AS in LR)

Government expenditure is operational or developmental.

- Operational

    - Day-to-day services, recurrent → needed for funding the functioning of civil services for example (like SCDF fire brigade/healthcare provision)
    - Unlikely to fall significantly as this can reduce the quantity or quality of these essential services
- Developmental
    - E.g. building transport networks, schools etc.

Non-discretionary FP: **automatic** fiscal policy that increases budget deficits during economic downturns and increases budget surpluses during economic booms. Purpose is to reduce any abrupt changes of AD.

- Progressive tax structure
    - Tax payments will increase faster than increase in incomes → fall in AD slows
- Unemployment compensation
    - Offset loss of earned income by the unemployed → fall in AD slows

Discretionary FP: **deliberate** budget surplus (G < T) or deficit (G > T) is planned.

- Expansionary
    - Employed during recession
    - Increase G or reduce T → Budget deficit, increase AD → multiplier effect → EG
    - Increase G → Increase AD directly
    - Reduce T (direct taxes) → Increase disposable Y and increase post-tax profits → Increase C and I respectively → Increase AD → multiplier effect → EG
    - Same rise in G is more effective than same fall in T, since not all additional income from tax cuts will be spent domestically. Some will be saved, so not all enters circular flow unlike a rise in G.
- Contractionary
    - Employed during economic boom to reduce inflation
    - Decrease G or increase T → Budget surplus, decrease AD → reverse multiplier → reduce inflation
    - Decrease G
    - Increase T

Limitations and issues concerning the use of FP (* means more applicable to SG):

- Certain types of G (e.g. Subsidies or tax incentives on R&D) can raise productive capacity, but this is secondary effect. While this reduces cost push inflation in the LR, it worsens demand pull inflation in the SR.
- *(Exp FP) **Poor sentiments** (poor expectation of future state of economy) means **lower T may not lead to increase C and I**
- ***Conflict between m**acroeconomic goals
    - **EG + cyclical unemployment VS inflation + BOP non-deficit** (due to expenditure reducing and expenditure switching effects of contractionary FP)
    - **Only cyclical unemployment falls**. If frictional or structural unemployment is to be reduce, supply-side policies on labour market reforms/incentives are needed.
- ***Size of multiplier** (small k)
- ***Small size of domestic economy** (C and I are relatively much smaller than X-M so impact on AD is smaller)
- Time lags (recognition, administrative, operational lag)

- (Exp FP) Financing fiscal deficit
    - To increase G → Increase DD for loanable funds → Increase domestic i/r
        - → Fall in C and I (internal) → Partially offset increase in G
        - → Inflow of hot money (in search of higher interest rates to increase returns) → Increase DD of currency → Appreciation → Increases Px in foreign currency and hence decreases Qx, Decreases Pm in domestic currency and hence increases Qm → if MLC > 1 holds, then (X-M) falls → Partially offset increase in G
    - Borrowing → increases national debt → repayment in future, need increase T → Lowers disposable Y → lowers EG and RNY, lowers material SOL
        - Internal: Transferring wealth from taxpayers to bondholders → Worsens income distribution
        - External: Outflow in BOP → EG suffers
- (Exp FP) Inflexibility: Once implemented, increase in developmental G is difficult to reverse (e.g. public works cannot be stopped midway)
- (Exp FP) Fiscal drag (non-discretionary)

Monetary Policy

Demand-management policy, no supply side effects. Impacts C, I, X-M.

Monetary Policy: Influence i/r and money supply to impact AD. Controlled by central bank, which in Singapore's case is MAS, but MAS uses exchange rate policy not monetary policy.

Interest rate determination

- Liquidity Preference Theory
  - Money supply set independently by central bank
- Loanable Funds Theory
  - Supply is level of savings in economy, impacted by changes in money supply by central bank
  - Demand is ability and willingness of firms to borrow to increase I

Expansionary MP:

- **(Direct Transmission, internal)**
  Increase mn SS (buying bonds from bondholders) → Increase money in bondholders' hands → Increase C → Increase AD → Increase production → Increase I (due to increase in production)
- **(Indirect Transmission, internal)**
  Increase mn SS → Decrease i/r → Increase C and I (reduced COB) → Increase AD → multiplier effect → EG and fall in cyclical unemployment
- **(External)**
  Increase mn SS → Decrease i/r → Outflow of hot money (savings that seeks higher rates of interest to increase rate of return) → Increase SS of domestic currency → Depreciation → Decreases Px in foreign currency and hence increases Qx, Increases Pm in domestic currency and hence decreases Qm → if MLC > 1 holds, (X-M) increases → Increase in AD + Improved BOT

Quantitative easing is considered expansionary monetary policy (a central bank purchases government securities or other securities from the market in order to lower interest rates and increase the money supply).

Contractionary MP:

- Exact opposite of exp MP.

Limitations and issues concerning the use of MP (* means more applicable to SG):

- ***Expectation of future state of the economy** (Keynes' animal spirits)
  - **Optimistic**: **Reduces** effectiveness of **contract MP** (since C and I may not respond significantly to changes in i/r)
  - **Pessimistic**: **Reduces** effectiveness of **exp MP**
- Interest elasticity of demand for money (how much i/r changes when mn SS changes)
- Interest elasticity of demand for investment (how much I changes when i/r changes)
- Time lags
- ***Conflicts between macroeconomic goals**
  - **EG + cyclical unemployment + BOP non-deficit VS inflation**

Exchange Rate Policy

Demand and supply-management (impacts both AD and AS curves). Impacts X-M.

Determination of exchange rate

- X-axis is quantity of domestic currency
- Y-axis is foreign currency/domestic currency (price of domestic currency in other currency)
- Demand for SGD
    - Demand for SG gd/svc by foreigners
    - Relative i/r (hot money)
    - Expectation of currency traders about likely future value of SGD against foreign currencies
- Supply of SGD
    - Demand for foreign gd/svc by Singaporeans
    - Relative i/r (hot money)
    - Expectation of currency traders about likely future value of SGD against foreign currencies
- In LR
    - Relative inflation rates
    - Relative productivity growth rates
- Fixed or managed float or freely float

Exchange rate policy in Singapore is conducted by the **Monetary Authority of Singapore** (MAS), and its purpose is to **promote low and stable inflation** (price stability) as a **basis** for **sustained non-inflationary economic growth** in the **long run**. To do so, it adopts a policy stance of **gradual and modest appreciation** of SGD.

Application to the Singapore context (why exchange rate and not i/r as MP):

- **Small domestic economy**
    - Highly dependent on external sector
        - (X+M) is 4x of GDP
        - Exchange rate impacts largest component of AD → More effective than i/r in impacting AD
    - Price taker in global market
- **Resource-poor (import-reliant)**
    - Exports/output has high import content + price taker in global market → Susceptible to imported inflation, likely to impact inflation significantly
- **Openness of economy**
    - Free capital mobility
        - Small differences in i/r → Quick and large movement of funds → Difficult to target mn SS in Singapore
- Open Economy Trilemma
    - Free capital mobility (chosen)
    - Control over exchange rate (chosen)
    - No control over i/r (must relinquish control over i/r)

Depreciation:

- Impact on AS (most direct)
  - Prices of imported raw materials used in domestic production increase → Increase in COP → AS decreases, shift upwards
  - Prices of imported final gd/svc increases → Increase GPL → AS falls, shift upwards
- Impact on AD
  - Prices of exports will fall, in terms of foreign currency, so increase in quantity demanded of exports.
  - Prices of imports will rise, in terms of domestic currency, so decrease in quantity demanded of imports.
  - Assuming Marshall-Lerner Condition (MLC) holds, which is that the sum of price elasticities of demand of exports and imports is greater than 1, (X-M) increases → Increase AD + BOT improves

Appreciation:

- Impact on AS (most direct)
  - Prices of imported raw material used in domestic production decrease → Decrease COP → AS increases, shifts downwards
  - Prices of imported final gd/svc falls → Decrease GPL → Increase AS, fall downward
- Impact on AD
  - Prices of exports becomes higher in terms of foreign currency so quantity demanded of exports fall
  - Prices of imports becomes lower in domestic currency so quantity demanded of imports increases
  - Assuming Marshall-Lerner Condition (MLC) holds, which is that the sum of price elasticities of demand of exports and imports is greater than 1, (X-M) decreases → Decrease AD + BOT worsens

Limitations and issues concerning the use of exchange rate policy (* means more applicable to SG):

- ***Conflict between macroeconomic goals**
  - **EG + cyc unemployment + BOP non-deficit VS inflation**
- (SR) J curve effect
  - In very short run, MLC may not be satisfied
  - PED may be inelastic
    - Consumers: take time to find substitutes and change expenditure patterns
    - Producers: bound by contracts in terms of volume and price
  - In very short run, depreciation will decrease (X-M) instead of increasing it
- Depreciation
  - Never LR policy due to inflationary spiral
- ***Appreciation**
  - **Decreases AD** and hampers EG/employment **in SR**
  - **In LR, targets low and stable inflation → bases for long term sustained non-inflationary EG**
- Time lags
  - Overcome by MAS implementing policy in a forward looking manner

Supply Side Policy

Supply-management policy with secondary demand-side effects (e.g. government expenditure in labour saving technology etc → Increase G → Increase AD).

Supply side policies: Policies designed to improve rate of potential growth of the economy. Necessary for sustained economic growth.

In the long run, growth of an economy is determined by supply-side factors.

It **solves structural issues** of an economy.

Market-oriented: **Reduce role of government**, enable free market forces to work

- **Product markets**
  - **Privatisation**
    - The sale of public enterprises/companies to the private sector
    - New owners → Restructuring enterprise and **increased competition** from other firms → **Incentive to cut cost** → Unit cost of production falls → Downward shift in AS
    - Allows **price mechanism** to take over the allocative function → Firms can respond more rapidly to changes in demand and supply, resulting in greater **allocative efficency** over time
    - Breaking up state-owned monopolies (deregulation + privatisation) → Increase competition → Expected to yield cost savings
  - **Pro-competition policies**
    - **Greater competition** → Firms become more cost efficient → **Lower COP** → Downward shift in AS
    - E.g. tougher **competition policy** regime
      - Curb anti-competitive behaviour
      - **2004 Competition Act** → Prevention of mergers
    - E.g. **Removing (legal) barriers to entry**
      - Remove legal restrictions to entering industries (deregulation) → Increase competition → Incumbent firms need to operate more efficiently → Lower COP
    - E.g. **Promoting freer trade** between nations
      - Eliminate tariffs → Competition for domestic producers → Lower COP
  - **Promotion of enterprise**
    - Encoruage **more entrepreneurs** (through loans, providing technical expertise) → Increase number of firms → Increase competition → Reduce COP
    - Also bring **new technology** or methods of production → **Increase productivity** of FOP (more goods can be produced from the same quantity of FOP) → **Reduce COP** and **increase productive capacity**
    - E.g. **Productivity & Innovation Credit Scheme** (tax incentives and grants for productivity improvement expenses), Local Enterprise Financing Scheme (lowered interest rates for start-up funding)
- **Labour markets**
  - **Reduce power of trade unions**

        - Trade unions → Push up wages → Wage push (cost push) inflation
        - Reduce power → Wage cost can be projected accurately → **Reduce cost push inflation** (**Reduce COP** since wages only increase in line with productivity growth → AS shifts downwards) and **promote investments** by firms
        - Reduce power → Reduce industrial strikes → **Attractiveness to FDI**
        - Increased I and FDI → Increase capital accumulation → **Increase productive capacity**
    - **Reduction in direct taxes**
        - Reduce personal income tax → Increase opportunity cost of leisure → **Increase incentive to work** → Increase effective labour supply → **Increase productive capacity**
        - Reduce corporate tax → Increase post-tax profits → **Increase I** → Increase productive capacity
    - **Cut welfare spending**
        - Overly comprehensive unemployment compensation → Reduce incentive to rejoin workforce → Cut such programmes → **Increase willingness to work** → Increase effective labour supply → **Increase productive capacity**

Interventionist: Direct government intervention because **govt views that free market provides too little incentive** for education, investment, R&D, keeping workers employed during recession etc.

- **Manpower policies**
    - **Education and training**
        - Reduce labour bottlenecks
        - **Positive externalities** (employee – future employer, firm – other firms that trained employee may go to)
        - **Imperfect information** (employee – unaware of increased salary from increased education level, firm – unaware of increase productivity from training)
        - **Ineffective demand** (employee and firm – willing but financially unable)
        - Retraining → Increase labour productivity such that > wage growth → Lowers unit cost → Increase AS (shift downwards)
        - Low labour cost + well-educated workforce → **Attractiveness to FDI** → Increase capital accumulation → **Increase productive capacity**
        - **Training (vocationally oriented) → Improve occupational mobility → Reduce structural unemployment**
        - E.g. **SkillsFuture (2015)** – All Singapoeans aged 25 and above have been given $500 to spend on training and upgrading courses
        - E.g. **Skills Development Fund** – Offers subsidies of up to 90% of training costs
    - **Income policies**
        - Wages rise < Productivity gains
        - **Jobs Credit Scheme**
            - Prevent unemployment
            - During economic downturn → Firms receive grant → Defray labour costs, encourage firms to retain workers instead of laying them off
        - **Variable component in wages** (Flexible wages)

        - Annual Wage Supplement
        - Monthly Variable Component
        - Joint decision by National Trade Union Congress (NTUC), Singapore National Employers Federation (SNEF), Ministry of Manpower (MOM) → National Wage Council
- **Nationalisation**
    - Government taking over certain industries into public ownership
    - **To increase scale** to reap available **iEOS → Reduce COP**
    - Result in **higher investment** due to increased prudence → **Increased productive capacity**
    - Or better **coordination between government agencies** required
    - E.g. **Public Utilities Board (PUB)** and **Port of Singapore Authority (PSA)** control public utilities and port operations
- **Grants to encourage R&D**
    - **Underproduction** of R&D by private sector (merit good)
        - **Third party benefits**: Other firms that are able to use and apply the research findings to improve production processes also (external benefits)
        - **Imperfect information**: Firms may be not fully aware of the private benefits that can arise from conducting R&D, or incorrectly perceive the private cost as being too high
        - **Ineffective demand**: Lack of funds and so unable to produce R&D + risks
    - R&D is economically desirable to the nation → **Process innovation** → Technological advancement → **Increase productive capacity** and **reduce COP**
    - E.g. **Research Innovation Enterprise (RIE) 2020** - $19B commitment to R&D spending (1% of GDP).

General Limitations:

- Effectiveness depends on **accuracy and availability of information** to government (condition of perfect information)
- **Long term nature** of policies
- **Uncertainty** of outcome
- Government **fiscal position** (availability of government funds)
    - Cannot give grants or subsidies (for increasing enterprise and productivity, for education, for R&D)
- **Secondary demand side effects** (those that increase G or decrease T)
    - Tax reform (Decrease T) → Increase C and I → Increase AD

Summary and Specific Limitations:

Market-oriented		
Policy	Effect	Limitations
Privatisation and liberalisation (pro-competition)	Incentive to **decrease COP**	Monopoly: **Allocatively inefficient** Perfect Competition: Lack scale, **market reconcentration**, foreign firms VS domestic firms (globalisation)
Encouraging enterprise	Increase productivity and new technology → **Increase productive capacity**	Other factors affect willingness of firms to innovate and enterprise (e.g. **level of risk**, **business confidence**, availability of alternative ways to reduce cost)
Reduce power of trade unions	Prevents excessive increase in wages → **decrease COP** Encourage investment (low labour cost) → **Increase productive capacity**	Union's non-compliance to **wage guides** since they are **voluntary** (see income policy) Power of union depends heavily on relationship between government and its people
Decrease tax & decrease welfare	Increases labour supply → Decrease wages → **Decrease COP** Decrease tax → Increase investment → **Increase productive capacity**	Other factors affect investment and work decisions **Tax incentives alone not sufficient** to attract FDI, need political stability and conducive business environment **Unemployment benefits essential** → there is necessary minimum level for social cohesion

Interventionist		
Policy	Effect	Limitations
Income	**Decrease COP**	Union's non-compliance to wage guides since they are voluntary (SG tripartite policy) **Workers** themselves need to be **convinced of necessity** of such policies and **trust that employers** will increase wages when economic performance improves Power of union depends heavily on relationship between government and its people
Education & Training	Increase productivity → **Reduce COP, increase productive capacity**	Other factors affect willingness of firms to send employees for training/willingness of workers to be trained **Poor employer support** **Steeper learning curve** for older workers → Reduced effectiveness **Time** needed for training to translate into increased productivity Training **does not guarantee** increased productivity
Nationalisation	Increase I → **Increase productive capacity**	**Lack of private profits → Decrease incentive to be efficient/innovative** **Depends on adequacy of civil service** and sufficiency of government funds
Encourage R&D	Better production methods → **Reduce COP** Increase I → **Increase productive capacity**	Other factors affecting willingness of firms to conduct R&D Government-initiated R&D requires expertise and funds **Long gestation period** before R&D may yield significant results R&D may not produce results, "**high risk – high return**"