

ECO 406

Developmental Macroeconomics

Lecture 2

The Role of Aggregate Demand in the Process of Growth

Insufficient Aggregate Demand and Recessions

- How to increase **Aggregate Demand** when the economy is in a recession?
- Advocates of **fiscal austerity** argue that **fiscal consolidation** will increase private sector **confidence**
 - Therefore, **consumption** and **investment** will rise
- But **higher taxes** and/or **lower government spending** will have a **contractionary effect**
 - Therefore, private sector confidence will not increase
- If **consumption** and **investment** will not rise in the short-run, then **government spending** must be increased
 - Thus **fiscal consolidation** should wait until the economy recovers

Fiscal Policy and the Great Recession (N. Roubini)

- What is the relationship between levels of *public debt* and *economic growth*?
- What are the *causes* of *high deficits* and *debts*?
- What is the size of *fiscal multipliers*?
- What is the risk of *fiscal dominance*?
- How to reduce a *debt overhang*?
- What is the optimal pace of *fiscal consolidation*?

Aggregate Demand and Long-Term Economic Growth

- Long-term *economic growth* is determined by **Aggregate Demand**
 - It does not depend on *previous savings* or on *availability of means of production*
 - It depends on *availability of credit* and on the existence of *lucrative investment opportunities*
- Expansion of *autonomous* components of **Aggregate Demand** creates lucrative investment opportunities
- Therefore, long-term *economic growth* is a function of the *rate of investment* (i.e., of the *increase* in the *capital stock*)

The Autonomous Component of Aggregate Demand

- **Domestic consumption** cannot drive long-term growth unless:
 - The **share of wages** in total income continuously increases over time
 - Consumers continuously take on more **debt**
- **Public expenditure** cannot drive long-term growth either
 - It will cause **inflation** and **balance-of-payment crises**
- The autonomous component of **Aggregate Demand** that drives long-term growth is **exports**
 - An increase in external demand will cause **export-oriented investment** to increase

External Constraints to Growth

- An increase in *autonomous exports* causes *investment* to increase, which causes *growth*
 - *Savings* thus increase as *income* increases
 - Therefore, *investment* determines *savings* and not the other way around
- But potential growth might not be realized due to *external constraints* (i.e., *balance-of-payments crises*)
 - If the country exports mostly *primary goods*, because of relative *income elasticities* of exports and imports
 - If the country also exports *manufactured goods*, because it might experience *Dutch disease* or excessive *capital inflows*

Supply-Determined Growth

- **Neoclassical growth models** postulate that **supply conditions** determine long-term growth
 - Economic growth depends on the rates of growth of **capital, labour, and productivity**
 - Whether the **demand** for a good exists or not is not relevant
 - Aggregate Demand only explains the degree of **utilization of productive capacity**
- Therefore, **Say's law** remains valid for neoclassical theory
 - The **accounting identities** $Y = Wages + Profits$, $Y = C + S$, and $Y = C + I$ are transformed into **economic laws**

The Solow Growth Model

- $Q = AF(K, L)$
 - Where Q is real output, A is total factor productivity, K is the stock of physical capital, and L is the quantity of labour
- $F(K, L)$ is assumed to be a *linear homogeneous* function
 - Constant returns to scale
- *Perfect competition* is assumed in all markets
 - The price of factors of production is equal to the value of their marginal products
- *Technological progress* is assumed to be *exogenous*

The Solow Growth Model (cont'd)

- $Q = AF(K, L)$
- The rate of **growth** is thus:

$$\frac{\Delta Q}{Q} = \frac{\Delta A}{A} + \alpha_K \frac{\Delta K}{K} + \alpha_L \frac{\Delta L}{L}$$

where α_K and α_L are, respectively, the shares of **capital** and **labour** in total **income**

- The **known** variables are not enough to enable an estimation of the potential **growth** rate
- Solow's solution was to assume the **growth** rate of **total factor productivity** to be a **residual**

Other Shortcomings of the Solow Model

- How do we measure *physical capital*?
- Economy's *past behaviour* determines the estimate for potential growth (i.e., α_K and α_L are assumed constant)
- The value of the stock of capital is not independent of the *distribution* of income between wages and profits
 - Not possible to estimate the *value* or the contribution of *capital* to long-term economic growth (α_K is not constant)
- Temporary shocks have a permanent effect on real output (*path dependency*)

Growth Determined by Aggregate Demand

- ***Path dependency*** shows that growth cannot be independent of ***Aggregate Demand***
- Further, no good will be produced unless there exists an ***expected demand*** for it
- ***Technological progress*** also depends on ***demand***
- ***Capital goods*** are produced if there is a ***demand*** for them
 - Availability of capital is thus not independent of demand
- The fundamental issue is not the efficient ***allocation*** of resources, but rather the ***pace*** at which these resources are ***created***

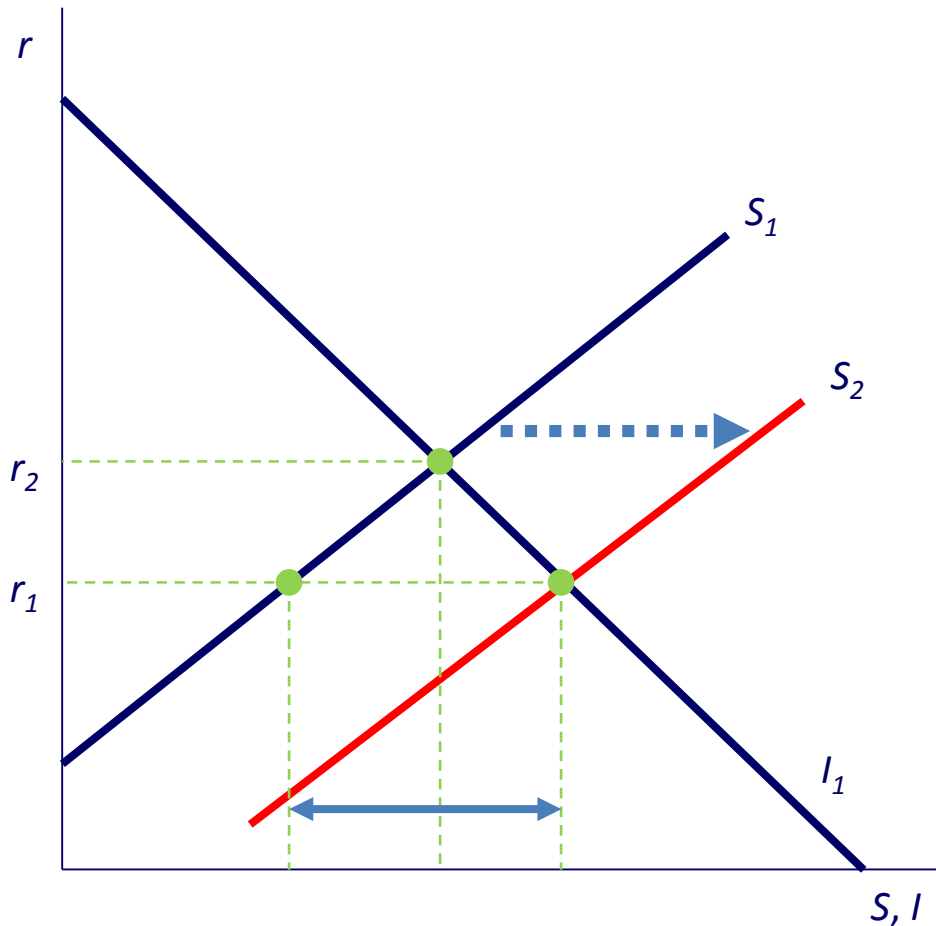
Investment and Long-Term Growth

- **Investment** increases the **productive capacity** of the economy
- **Investment** depends on two main factors:
 - The opportunity **cost of capital**
 - The **profit opportunities** perceived by enterprises, which depends on expectations of future **demand**
- **Investment** adjusts to the expected growth of **demand** as long as the **expected rate of return** is higher than the **cost of capital**
 - Thus the availability of capital is not an obstacle to growth
- Orthodox theory opposes the idea of **demand-led growth** on the grounds that **investment** depends on **previous savings**

Savings and Investment

- **Investment** requires the availability of **credit**, which depends on the creation of **liquidity** by the financial system
 - If banks are willing to extend their credit lines, enterprises can implement their investment projects
- Once the **investment** is carried forward, **income** is created
 - This income generates further **Aggregate Demand (consumption)** and there is a **multiplying** effect
 - As **income** increases, **savings** also increase
- Therefore, **savings** always adjust to the level of **investment** desired by entrepreneurs
- **Obstacles** to the expansion of productive capacity have a **financial nature** (e.g., **cost of capital** higher than **expected profit**)

The Saving and Investment Functions



Consider the following savings and investment curves, where the savings curve corresponds to a particular level of income (Y). Suppose that the real rate of interest is r_1 .

Mainstream economists will argue that at r_1 there is an excess demand for **loanable** funds and thus the rate of interest will increase to r_2 .

Keynesian economists will argue that at r_1 there is an excess demand in the goods market and thus Y will increase. As Y rises, the S curve shifts to the right until $S = I$ at r_1 .

Technological Progress and Growth

- If *technological progress* is considered *exogenous*, then the pace at which technology expands will limit *growth*
 - But technological progress is not exogenous
- Since *technology* is usually embedded in *physical capital*, the pace of introduction of *innovation* is largely determined by the pace of *capital accumulation*
- Not possible to distinguish between increases in *productivity* due to *technological* progress or to higher *capital/labour* ratio
- Therefore, greater *capital accumulation* induced by greater *demand* leads to:
 - Faster pace of *technological* progress
 - Labour *productivity* growth

Investment, Technological Progress, and Economic Growth

- In the long run, the basic determinant of output is **Aggregate Demand** (which encourages **investment** and **technological progress**)
- The rate of **investment** depends on the existence of lucrative investment **opportunities** (which in turn depend on **Aggregate Demand**)
- If there is demand, enterprises will increase production and productive **capacity** (as long as the **profit** margin is high enough)
- **Investment** can be oriented to the **domestic** or **foreign** market depending on the growth of the **domestic** or **external** demand

Autonomous Aggregate Demand

- Growth in **Aggregate Demand** depends on increases in **consumption, investment, government** spending, and **exports**
- **Consumption** depends largely on total **wages**, which in turn depend on the distribution of **income** and the level of **employment**
 - Therefore, **consumption** is an **endogenous** and not an **exogenous** variable
- **Investment** largely depends on the level of **income** and thus is also an **endogenous** and not an **exogenous** variable
- Therefore, there are only two **exogenous** components of Aggregate Demand: **government** spending and **exports**

Aggregate Demand and Economic Growth

- An increase in an *exogenous* component of **Aggregate Demand** would cause the economy to expand
 - It would cause *income* to increase
 - It would create a *multiplying* effect by also causing the *endogenous* components of Aggregate Demand to expand
- In the *short run*, increases in *consumption*, *investment*, *government* spending, and *exports* will cause the economy to expand
- In the *long run*, only increases in *exports* will cause the economy to expand
 - Therefore, the *export* growth rate is the *exogenous* variable par excellence in the determination of economic *growth*