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Economics
& Society

Lecture 7

Macroeconomic Aggregates & Global Inequality



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Macroeconomic Aggregates & Global Inequality

Estimated duration: 110min



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Macroeconomics

> Introduction

★ We will now focus on the economy **as a whole**

Macroeconomics is the study of the **aggregate** economic activity

★ Interesting **questions** to answer:

1. What causes the enormous **income disparities** between countries?
for instance, Singapore's income per capita **is 7 times higher** than Malaysia's
2. What makes a nation's income **grow** or **shrink**?
for instance, Greece's income per capita **fell by 35%** from 2009 to 2019
3. How do we **measure** those differences?
cross-country and cross-time
4. Will they become **less or more** intense?

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Macroeconomic policy

> Introduction

- ★ A **5th question** is if we can **affect** the path of the economy
- ★ As we have already seen, **regulation** and government **intervention** can **alter the economic outcomes** at the microeconomic level
- ★ At a macroeconomic level, **policy** has an impact on the economic activity, too:
 - ▶ Stabilization policies can shorten **recessions**, alleviate **unemployment**, control **inflation**, lower **national debt**
 - ▶ Growth policies can **augment** economic development.
- ★ On the other hand, **corruption** or **sloppy policy** can undermine prosperity one of our **basic concerns** will be how **bad policy** can be **avoided** in the future. .

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GDP & GNP

> GDP

- ★ GDP stands for “**Gross Domestic Product**”
measures the yearly **market value** of all goods and services produced within a country
- ★ GNP stands for “**Gross National Product**”
measures the yearly **market value** of all goods and services produced by a country's nationals anywhere in the world
- ★ GDP and GNP measure the value of **production** in monetary units
GDP and GNP do **NOT** measure the **value of money**.

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3 measuring approaches

> GDP

- ★ GDP can be seen from **several aspects**; thus, it is referred to with **many terms**
Y, GDP, total production, total output, total income, aggregate expenditure
- ★ We can measure GDP with **3 distinct methods**:
 1. Count the value of what everyone **produces**
 2. Count how much everyone **spends**
 3. Count how much everyone **earns**.
- ★ All 3 methods measure the **same thing** (GDP)
thus, in principle, all 3 should yield the same result.



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1. Measuring total production

> GDP > 1. Total Production

- ★ This approach measures directly the **value of production** in the economy
- ★ We use the **market price** of a good as an estimate of its **value**
- ★ For **instance**, if the economy produced only 3 goods GDP would be
$$Y = p_1 \cdot Q_1 + p_2 \cdot Q_2 + p_3 \cdot Q_3$$
- ★ Total production **consists of**:
 - ▶ **Final goods**: sold by firms to consumers intended for **direct consumption**
 - ▶ **Intermediate goods**: sold by firms to other firms for **production** of other goods.
- ★ But final goods **include the value** of intermediate goods.

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Final vs. intermediate goods

> GDP > 1. Total Production

- ★ To avoid double counting, we can measure only each domestic firm's **value added** to the production:
 - ▶ Firm A researches car **technology** and licenses it for \$4,000 per vehicle
 - ▶ Firm B produces the car **components** and sells them for \$16,000 per car
 - ▶ Firm C **assembles** the components into a car and sells it for \$19,000 per car
 - ▶ Firm D **advertises** and **sells** the car for \$24,000.
- ★ Firm A adds value \$4K;
the **total value** of production is $4K + 12K + 3K + 5K = \$24K$
- ★ Alternatively, we can just measure **only the value of the final good** (\$24K).

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2. Measuring Aggregate Expenditure

> GDP > 2. Aggregate Expenditure

- ★ A **second way** to measure the value of production is from the **spending side** instead of counting production we can **sum the expenditure** on the production
- ★ Expenditure in the economy can be decomposed into **five categories**:
 1. **Consumption (C)**: what domestic households spend on new goods and services (excluding spending on **residential construction**)
 2. **Investment (I)**: what domestic firms spend on new goods and services (including **inventories** and **residential construction**)
 3. **Government spending (G)**: what government spends on new goods and services
 4. **Exports (X)**: what foreigners spend on new domestic goods and services
 5. **Imports (M)**: domestic spending on foreign goods and services
- ★ **None** of the above includes **wages** (wages is NOT expenditure on GDP).

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Aggregate Expenditure calculation

> GDP > 2. Aggregate Expenditure

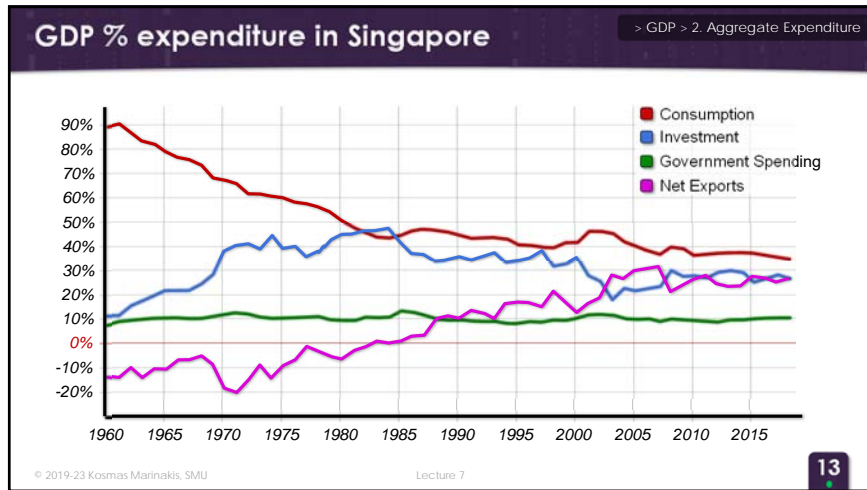
- ★ Thus, **Aggregate Expenditure** on goods and services produced domestically is
$$AE = C + I + G + (X - M)$$
- ★ $(X - M)$ is the **net exports**
- ★ **Aggregate expenditure** must **equal the value** of total production
$$Y = C + I + G + (X - M)$$
- ★ Even when a product is **not sold within the year**, its value will be registered

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3. Measuring total income

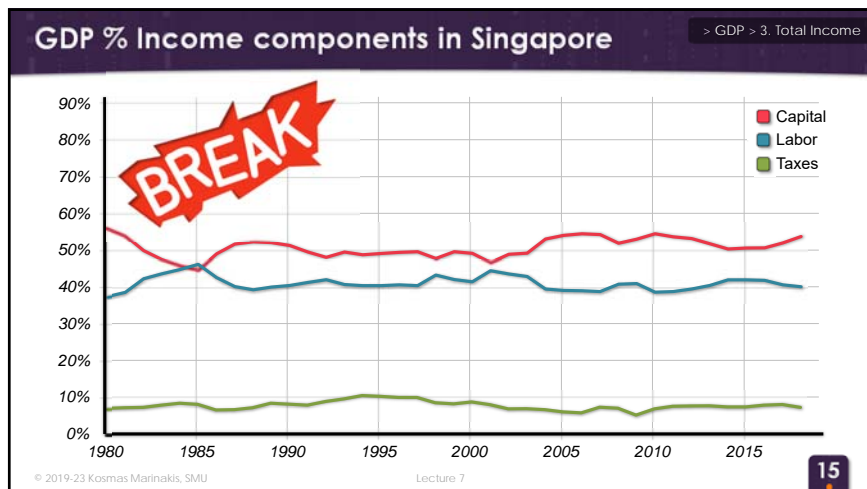
> GDP > 3. Total Income

- * A **third alternative way** to measure GDP is to count the **earnings** it brings to the households
- * In the 3-good economy, **total income** will be the sum of:
 - ▶ **Profits** for firms: $p_1 \cdot Q_1 + p_2 \cdot Q_2 + p_3 \cdot Q_3 - w$
 - ▶ **Salaries** for workers: w
- * Thus, the **total value of income** received by workers and owners of firms is

$$(p_1 \cdot Q_1 + p_2 \cdot Q_2 + p_3 \cdot Q_3 - w) + w = Y$$
 every dollar of spending will either go to some worker or be **retained by some firm's owner** as profit
- * Hence, total GDP can be **equivalently measured** by adding the incomes of workers and capitalists in the economy.

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Not included in GDP – home production

> GDP vs. Prosperity

- ★ GDP **does not include** home production
 - buying a *cake from the store* is part of GDP – a *homemade cake* is not
- ★ Not including home production in GDP is **a flaw**, but the issue is **practical**:
 - ▶ There is no documented market **transaction**
 - ▶ There is no formal process of **price** or **quantity appreciation**.
- ★ An estimated **15% value** on top of GDP takes place at home
 - food preparation, household maintenance, childcare, housework etc.
- ★ Home production may create a significant **distortion** to our understanding of how **prosperity evolves** in time
 - for instance, *childcare* in the 1960s was home production, now it is a market good.

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The underground economy

> GDP vs. Prosperity

- ★ The **underground economy** refers to transactions that are intentionally **hidden** from the authorities for **two reasons**:
 1. **Illegal transactions** that cannot take place officially
 - drug dealing, sex-work, bribes etc.
 2. **Legal transactions** that happen under the table for tax evasion reasons, immigration status or personal reasons
 - the handyman who asks to be paid in cash etc.
- ★ In developed countries, underground economy is **around 10%** – in developing countries, it may exceed 50%
- ★ Ireland, Italy, Greece, the UK and other countries have recently **started counting some illicit activities** in GDP.

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Capital depreciation

> GDP vs. Prosperity

- ★ **Physical capital depreciation** is the reduction of the value of physical capital overtime due to:
 - ▶ Wear and tear
 - ▶ Obsolescence.
- ★ GDP measures what is **produced every year**, while depreciation affects the **preexisting stock** of the economy's capital
- ★ Depreciation is **measured** in the National Income Accounts, it **matters**, but **is not reflected** in GDP.

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Negative externalities

> GDP vs. Prosperity

- ★ GDP counts production but **fails to subtract**,
 - waste, pollution, noise, health problems etc.
- ★ Negative externalities **worsen prosperity** but are **omitted from GDP**
- ★ Moreover, they may appear as **positive contributors** to GDP
- ★ For example, industrial production **pollutes water** in the area, and makes necessary the use of **water filters** by households:
 - ▶ Needing a filter to drink water is a **loss** in terms of prosperity
 - ▶ Yet, the purchase of the filter **adds** to the GDP.

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Wars – disasters – pandemics

> GDP vs. Prosperity

- ★ **Wars** tend to stimulate production
WWII, the **wars** in Vietnam, Iraq, Afghanistan **stimulated** the GDP of the US
- ★ **Sanctions** to Russia due to the war in Ukraine affected Russian GDP by -0.3% but this **does not include** the damage to Russia's production potential and brain drain
- ★ **Earthquakes** and **floods** increase economic activity by **boosting construction**
- ★ In 2020, Singapore's GDP decreased by only 5.4%, yet entire industries (tourism, transportation, F&B) were **almost obliterated**
- ★ During wars, disasters and pandemics **GDP may grow** higher while **social prosperity worsens**

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Leisure & quality of life

> GDP vs. Prosperity

- ★ Leisure contributes to **happiness** and **well-being** but is **not included in GDP**
- ★ Some nations **may live** where others pay to go for **vacation**
a more prosper (according to GDP) German may be **envious** of a less prosper (according to GDP) Italian
- ★ Some nations may have **more relaxed work norms** than others
the average Chinese is **double as wealthy** than the average Thai; however, surveys consistently **rank Thailand above China** in human development and happiness
- ★ GDP counts the value of **material goods** produced by an economy
it tells NOTHING on how those goods **contribute to people's prosperity**

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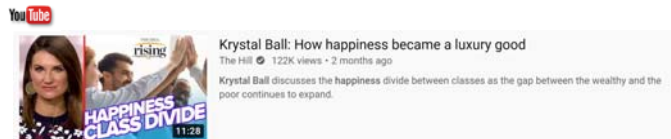
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External video

In this video by THE HILL, Krystal Ball and Saagar Enjeti discuss their view of how "the metrics prosper – but the people suffer". What is happiness and how can it be measured? A masterpiece of journalism for you to watch and see how it compares to your opinion.



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Internal video 

This video explains how we can use the CPI to make GDP comparable from year to year and the PPP to make the GDP comparable across countries.



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Thank you!

*(you are welcomed to stay for *consultation* or *discussion*)*

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! WARNING! !

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