Macroeconomics: Lecture 1

Sumit Mishra

IFMR, Sri City

23 September, 2019

- What is macroeconomics
- An outline of this course
- The macroeconomics of the short run
- The macroeconomics of the long run
- Basic analytical tools.

What is Macroeconomics?

- Why is an average Indian today more than 20 times richer than the average Indian some 60 years ago?
- Why is an average American 50 times richer than an average Ethiopian today?
- Why is the gap between Indian and South Korean GDP in 2016 nearly twice of what it was in 1960?
- What is GDP and how is it measured?
- What determines the inflation rate?
- How is the level of unemployed determined?
- What is the role of government in crisis?
- Is financialization of economy any good?

Course Structure

1. The Short Run
   - What causes recessions and booms?
   - Monetary and fiscal policies.
   - The crises- global financial crisis, Lira crisis.
   - Exchange rate management and international financial system.
2. The Long Run
   - Why are some countries richer than others?
   - What are the sources of economic growth?
   - What does the relationship between inflation and output look like in a longer horizon?
   - How trade dynamics change over time?

Course Logistics

Course Material, Resources, and Other Pre-requisites:

- Primary text: Blanchard, Macroeconomics.
- Lecture slides, handouts, readings, and notes.
- Database on Indian Economy, RBI
  (Link: `https://dbie.rbi.org.in/DBIE/dbie.rbi?site=home`)
- World Bank Database
  (Link: `https://data.worldbank.org/`)

Course Logistics

Course Material, Resources, and Other Pre-requisites:

- Primary text: Blanchard, Macroeconomics.
- Lecture slides, handouts, readings, and notes.
- Database on Indian Economy, RBI
  (Link: `https://dbie.rbi.org.in/DBIE/dbie.rbi?site=home`)
- World Bank Database
  (Link: `https://data.worldbank.org/`)
- Required reading: *The Economist*, *The Financial Times*

Course Logistics

Course Material, Resources, and Other Pre-requisites:

- Primary text: Blanchard, Macroeconomics.
- Lecture slides, handouts, readings, and notes.
- Database on Indian Economy, RBI
  (Link: `https://dbie.rbi.org.in/DBIE/dbie.rbi?site=home`)
- World Bank Database
  (Link: `https://data.worldbank.org/`)
- Required reading: *The Economist*, *The Financial Times*
- Announced and unannounced quizzes, assignments.
- One presentation on contemporary economic issues.

Course Logistics

- Office hours: Tuesday (3pm-4pm) (Office # 223)
- Phone: +91-750-682-4634

Course Logistics

- Office hours: Tuesday (3pm-4pm) (Office # 223)
- Phone: +91-750-682-4634
- TA: (They will announce their office hours later.)

Course Logistics

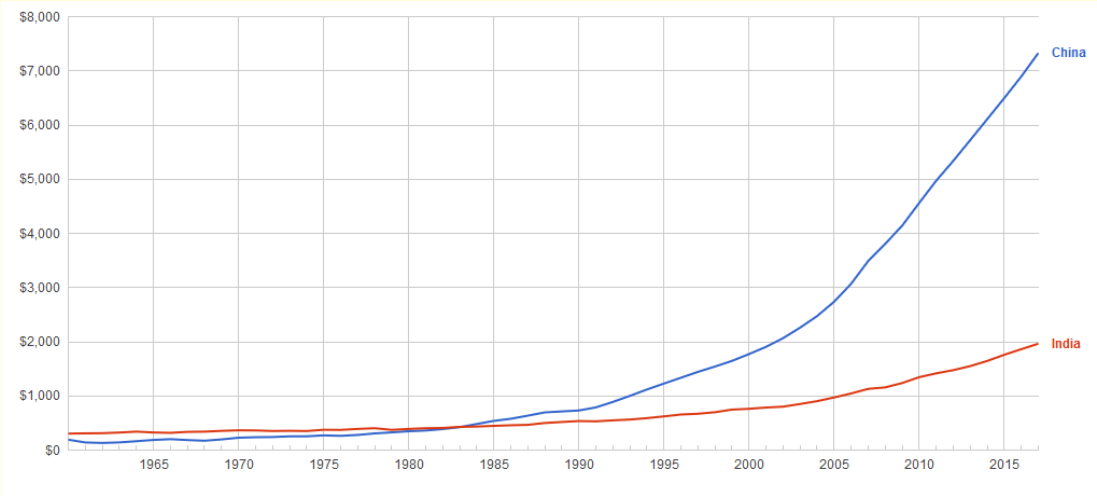
- Review the syllabus.
- Four to six assignments (mostly or entirely unannounced and in-class).
- Dropbox will contain all that you need.
- No electronic devices while you are in class.
- Be reasonable and decent w.r.t. attendance policy.

Evaluation and Grading

- One mid-term examination (30%)
- One final exam (30%)
- In-class tests, quizzes, assignments (15%)
- One project report/presentation (25%)

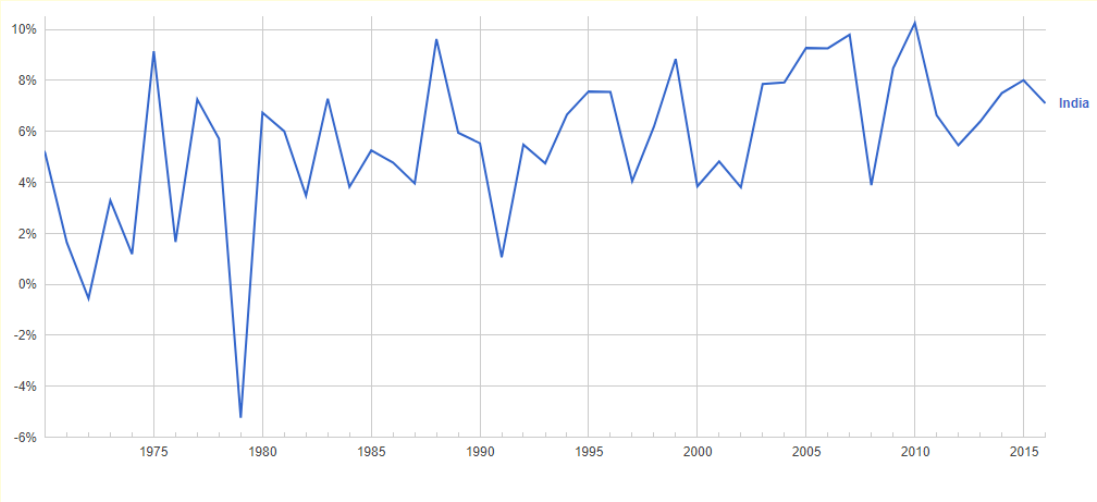
Jargon Begins

GDP Smackdown



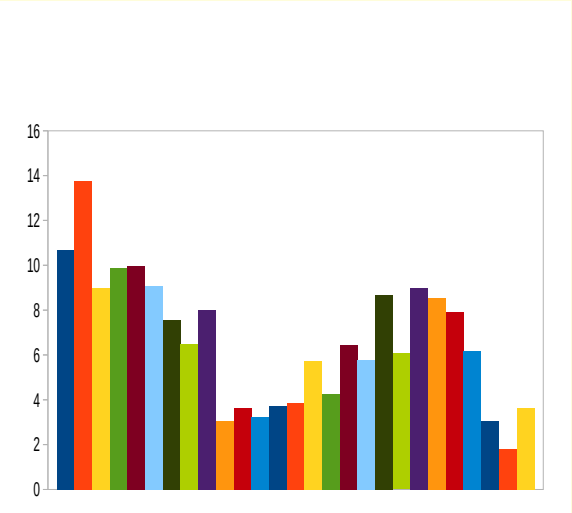
Jargon Continues

GDP Growth Rate: India



Jargon Continues

Inflation: India
1990-2016

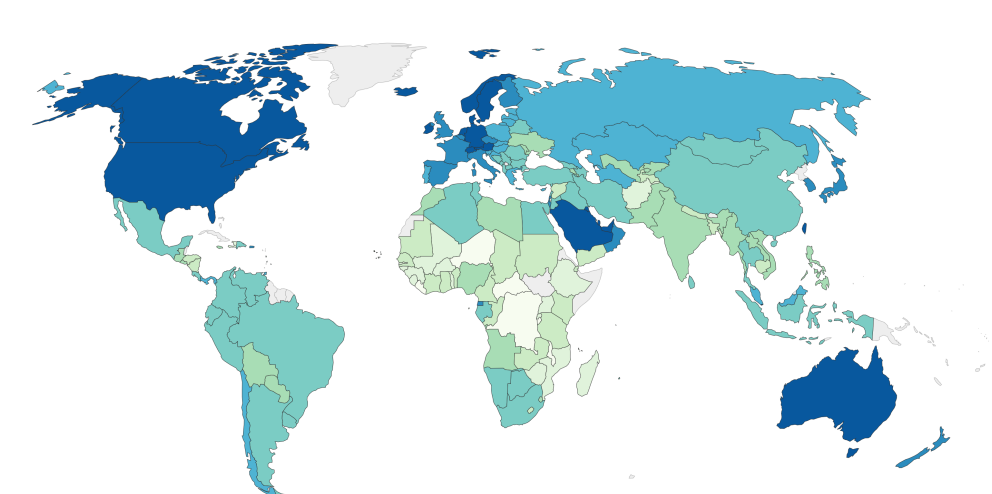


Per-capita GDP Across the Universe

GDP per capita, 2016

Real GDP per capita is measured using US$, inflation adjusted at prices of 2011. Multiple benchmarks allow cross-country income comparisons.

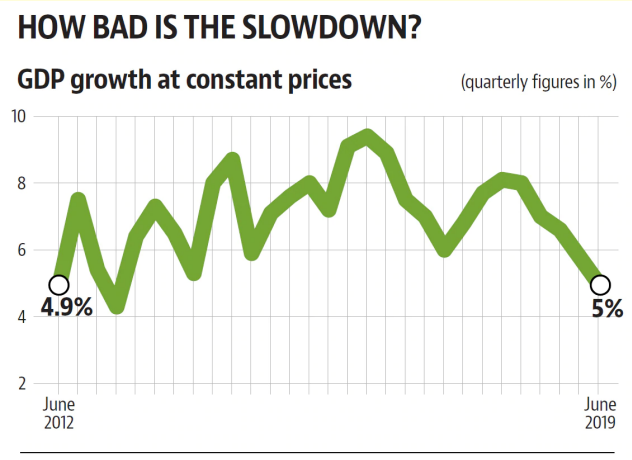
Our World in Data



Cookbook: Models, Data, and Discussions

- Document facts
- Think through a model (a fable)
- Does the model explain the world?

The Indian Story



Source: https://www.hindustantimes.com/editorials/state-of-economy-in-10-charts/story-825WukaxZqGI09QM0z2NlJ.html

Side Effects of Market Concentration

- Low productivity, slow wage growth are somehow linked to rising market concentration.

- Alan Krueger of Princeton blames: employers' clout (no-poaching agreements), lack of unions, and falling value of minimum wages.

Side Effects of Market Concentration

- Low productivity, slow wage growth are somehow linked to rising market concentration.
- Alan Krueger of Princeton blames: employers' clout (no-poaching agreements), lack of unions, and falling value of minimum wages.
- Platforms such as Google, Uber and Airbnb match buyers and sellers, and thus make outsize gains as they grow.
- In such winner-takes-most competition, a slight advantage can tip the entire market in a company's favour.

Source: `https://www.economist.com/finance-and-economics/2018/08/30/central-bankers-grapple-with-the-changing-nature-of-competition`

Side Effects of Market Concentration

- Concentration means high consumer prices and lower wages.
- Firms squeeze greater profits.
- Some studies show that high markups can be extremely detrimental to consumers.
- Economists are sounding alarm on the threat posed by corporate power.

Source: `https://www.bloomberg.com/view/articles/2018-09-04/economists-gear-up-to-challenge-the-monopolies`

Market Concentration and Macroeconomics

- Financial wealth has increased rapidly despite no real increase in the amount of investment in the economy.
- This rise in wealth hasn't translated into greater investments.
- Interest rates have fallen, but average rate of return on capital has remained steady.
- The share of labour income has declined.
- An increase in monopoly rent has driven up the returns on capital.

Source: `https://equitablegrowth.org/how-the-rise-of-market-power-in-the-united-states-may-explain-some-macroecon`

Agenda

- Measuring National Income
- Measuring Cost of Living

Gross Domestic Product (GDP)

The market value of all final goods and services produced within a country in a given period of time.

Market Value

GDP adds together many different kinds of products into a single measure of the value of economic activity. To do this, it uses market prices. Because market prices measure the amount people are willing to pay for different goods, they reflect the value of those goods. If the price of an apple is twice the price of an orange, then an apple contributes twice as much to GDP as does an orange.

Of All?

GDP measures the market value of not just apples and oranges but also mangoes and jackfruits, books and movies, haircuts and healthcare, and on and on.

Of All?

GDP measures the market value of not just apples and oranges but also mangoes and jackfruits, books and movies, haircuts and healthcare, and on and on.

GDP also includes the market value of the housing services provided by the economy's stock of housing. For rental housing, this value is easy to calculate- the rent equals both the tenant's expenditure and the landlord's income. Yet many people own the place where they live and, therefore, do not pay rent.
How would you then measure GDP?

Of All?

Not really. There are goods and services that can't be included in GDP.

Examples?

Of All?

Not really. There are goods and services that can't be included in GDP.
Examples?

Household chores are not included in GDP.

Final Goods

The coffee procured by Blue Tokai from a coffee plantation in Karnataka is an *intermediate good*. The cappuccino or macchiato you get in the end is the *final good*. The GDP only accounts for the value of final good. Why?

This is done because the value of intermediate goods is already included in the prices of the final goods.

Goods and Services

GDP includes both tangible goods (food, clothing, cars) and intangible services (haircuts, housecleaning, doctor visits). When you buy a CD by your favourite band, you are buying a good, and the purchase price is part of GDP. When you pay to hear a concert by the same band, you are buying a service, and the ticket price is also part of GDP.

Produced

GDP includes goods and services currently produced. It does not include transactions involving items produced in the past. When Motorola produces and sells a new phone, the value of the phone is included in GDP. When you decide to sell it on OLX, the value of the used Motorola phone is not included in GDP.

Within the country

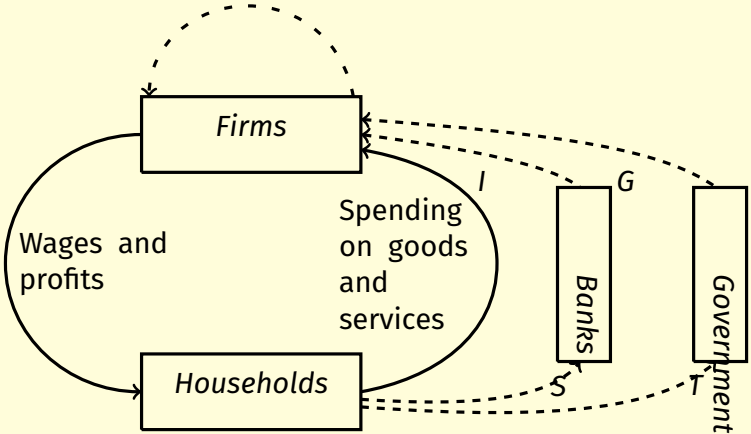
GDP measures the value of production within the geographic confines of a country.

- When an Indian citizen works temporarily in the United States, her income is part of U.S. GDP.
- When an American citizen owns a factory in India, the production at his factory is not part of U.S. GDP.
- Thus, items are included in a nation's GDP if they are produced domestically, regardless of the nationality of the producer.

In a given time period

GDP measures the value of production that takes place within a specific interval of time.

- Usually, that interval is a year or a quarter (three months). GDP measures the economy's flow of income and expenditure during that interval.
- When the government reports the GDP for a quarter, it usually presents GDP "at an annual rate." This means that the figure reported for quarterly GDP is the amount of income and expenditure during the quarter multiplied by 4.



Circular Flow Diagram

Other Measures of Income

- *Gross National Product (GNP)*: Total income earned by a nation's citizens. It includes income earned by citizens who live abroad and excludes earnings by foreigners working within country.
- *Net National Product (NNP)*: Total income minus depreciation.
- *National Income*: Total income earned in the production of goods and services. It excludes indirect business taxes and includes subsidies given to businesses.
- *Personal Disposable Income*: Total income received by households and non-corporate businesses minus personal taxes.

Other Measures of Income

- *Gross National Product (GNP)*: Total income earned by a nation's citizens. It includes income earned by citizens who live abroad and excludes earnings by foreigners working within country.
- *Net National Product (NNP)*: Total income minus depreciation.
- *National Income*: Total income earned in the production of goods and services. It excludes indirect business taxes and includes subsidies given to businesses.
- *Personal Disposable Income*: Total income received by households and non-corporate businesses minus personal taxes.
- GVA at factor cost + (Production taxes less Production subsidies) = GVA at basic prices
- GDP at market prices = GVA at basic prices + Product taxes- Product subsidies

Components of GDP

To understand how the economy is using its scarce resources, economists study the composition of GDP among various types of spending. To do this, GDP (which we denote as Y) is divided into four components: consumption (C), investment (I), government purchases (G), and net exports (NX):
$Y = C + I + G + NX$.

Real Versus Nominal GDP

If total spending is changing over time, one of the following must be true:
1. There is greater production of goods and services in the country.
2. The price of the goods and services has risen.

To separate one from the other effect, we use *real* GDP.

Real Versus Nominal GDP

If total spending is changing over time, one of the following must be true:
1. There is greater production of goods and services in the country.
2. The price of the goods and services has risen.

To separate one from the other effect, we use *real* GDP.

Nominal GDP uses current prices to place a value on the economy's production of goods and services. Real GDP uses constant base-year prices to place a value on the economy's production of goods and services

Real and Nominal GDP

Example

Year	Price (per kg) of Rice	Quantity of Rice	Price of Fish	Quantity of Fish
2015	10	1000	20	500
2016	20	1500	30	1000
2017	30	2000	40	1500

GDP Deflator

Nominal GDP reflects both the quantities of goods and services the economy is producing and the prices of those goods and services.
By contrast, by holding prices constant at base-year levels, real GDP reflects only the quantities produced.
From these two statistics, we can compute a third, called the GDP deflator, which reflects only the prices of goods and services.
GDP Deflator $= \frac{\text{Nominal GDP}}{\text{Real GDP}} * 100$

Exercise

Below are some data from the land of milk and honey.

Year	Price (per kg) of Milk	Quantity of Milk	Price (per 100g) of Honey	Quantity of Honey
2015	70	100	140	50
2016	70	200	140	100
2017	140	200	280	100

1. Calculate nominal GDP, real GDP, and GDP deflator (base: 2015).
2. Compute percentage change in nominal GDP, real GDP, GDP deflator.
3. Did economic well-being rise more in 2016 than in 2017? Explain.

Exercise

A farmer grows wheat, which he sells to a miller for $100. The miller turns the wheat into flour, which he sells to a baker for $150. The baker turns the wheat into bread, which he sells to consumers for $180. Consumers eat the bread.

a. What is GDP in this economy? Explain.
b. Value added is defined as the value of a producer's output minus the value of the intermediate goods that the producer buys to make the output. Assuming there are no intermediate goods beyond those described above, calculate the value added of each of the three producers.
c. What is total value added of the three producers in this economy? How does it compare to the economy's GDP? Does this example suggest another way of calculating GDP?

Consumer Price Index

The consumer price index (CPI) is a measure of the overall cost of the goods and services bought by a typical consumer. Each month, the Labour Bureau of India computes and reports the consumer price index.

Consumer Price Index

Cookbook:

Fix the basket. Determine which prices are most important to the typical consumer. If the typical consumer buys more rice than wheat, then the price of rice is more important than the price of wheat and, therefore, should be given greater weight in measuring the cost of living.

Find the prices. Find the prices of each of the goods and services in the basket at each point in time.

Compute the basket's cost. Use the data on prices to calculate the cost of the basket of goods and services at different times.

Choose a base year and compute the index.

$$CPI = \frac{\text{Cost of the basket in current year}}{\text{Cost of the basket in base year}} * 100$$

Compute the inflation.

$$\text{Inflation} = \frac{CPI_1 - CPI_0}{CPI_0} * 100$$

Exercise

	Injera	Pizza	Ice Cream
2015 price	140	280	70
2015 quantity	100	100	200
2016 price	140	420	140
2016 quantity	100	100	200

- Using a method similar to the consumer price index, compute the percentage change in the overall price level.
- If you were to learn that an ice-cream scoop increased in size from 2015 to 2016, should that information affect your calculation of the inflation rate? If so, how?
- If you were to learn that the ice cream store introduced new flavours in 2016, should that information affect your calculation of the inflation rate? If so, how?

Few Other Things

- Differences between GDP Deflator & CPI.

Few Other Things

- Differences between GDP Deflator & CPI.
- Real and nominal interest rates.
  Real interest rate = nominal interest rate - inflation rate