

EE212

Principles of Macroeconomic

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Introduction to Macroeconomics

Materials covered in this chapter

1. Introduction to Economics
2. Macroeconomics objectives and policies
3. Types of macroeconomics variables
4. Key macroeconomics variables (indicators)
5. Brief history of macroeconomics

1.1 Introduction to Economics

- What is Economics?
- Relevant concepts
 - ✓ Limits, alternatives and choices
 - ✓ Three basic economic questions
- Scope of economics Microeconomics vs. Macroeconomics
- Positive Economics vs. Normative Economics

What is Economics

Economics: The study of how individuals and societies choose to use the scarce resources that nature and previous generations have provided.

Relevant concepts (Limits, alternatives and choices)

- **Scarcity**  Restricts options and demand choices
-  Because we “**cannot have it all**”,
We must decide what we will have and
what we must forgo
- **Trade off**: to obtain something you may have to lose something else
- **Opportunity cost**: “**The next best use**”
To obtain more of one thing, you or the society forgoes the
opportunity of getting the next best thing
- **Famous quote**: “**There is no such thing as a free lunch**”

Three basic questions in economics

The society faces three questions

- Which goods and services to produce?
- How to produce?
- Who gets the goods and services?

Scope of economics

Microeconomics vs. Macroeconomics

Microeconomics: The branch of economics that examines the functioning of individual industries and the behavior of individual decision-making units—that is, business firms and households.

Macroeconomics: The branch of economics that examines the economic behavior of aggregates—income, employment, output, and so on—on a national scale.

Positive Economics vs. Normative Economics

Positive Economics:

- Focuses on facts and cause-and-effect relationships.
- Includes description, theory development, and theory testing.
- Avoids value judgments.
- Tries to establish scientific statements about economic behavior and deals with what economy actually like

Normative Economics:

- Incorporate value judgments about what the economy should be like
- Looks at the desirable of certain aspects of the economy
- Economic policy normally involves normative economics

1.2 Macroeconomics objectives and policies

Criteria for judging economic outcomes:

1. **Efficiency:** In economics, allocative efficiency. An efficient economy is one that produces what people want at the least possible cost.
2. **Equity:** Fairness.
3. **Growth:** An increase in the total output of an economy.
4. **Stability:** A condition in which national output is growing steadily, with low inflation and full employment of resources.

1.2 Macroeconomics objectives and policies

Policy:

- 1. Fiscal Policy:** Government policies concerning taxes and expenditures (spending).
- 2. Monetary Policy:** The tools used by the Central Bank to control the quantity of money in the economy.

1.3 Types of Macroeconomics variables

- **Stock variables VS Flow variables**
- **Nominal variables VS Real variables**

Stock variable **vs.** Flow variable

Stock variable: A variable whose value depends on an instant rather than on a period of time.

Flow variable: A variable whose value depends on a period of time rather than an instant.

Example of Stock and Flow variables

- ❑ Flow of inward foreign direct investment (FDI) value in 2016, 2017, 2018, 2019 and 2020
- ❑ Stock of inward foreign direct investment (FDI) value on Dec 31, 2020 (from January 1st 2016)

Nominal vs. Real Variables

Nominal Variable: Variables that do not adjust for change in price, eg.

- ❖ Nominal income (Y)
- ❖ Nominal Interest Rate (i)
- ❖ Nominal GDP

Real Variable: Variables that adjust for change in price, eg.

- ❖ Real income (Y/P)
- ❖ Real Interest Rate ($r = i - \text{inflation rate}$)
- ❖ Real GDP

1.4 Key macroeconomics variables

Five major concerns of macroeconomics are:

- ☐ **Level and growth of output**
- ☐ **Unemployment**
- ☐ **Price level**
- ☐ **Interest rate**
- ☐ **Exchange rate**

1.4.1 Level and growth of output

Business cycle: The cycle of short-term ups and downs in the economy.

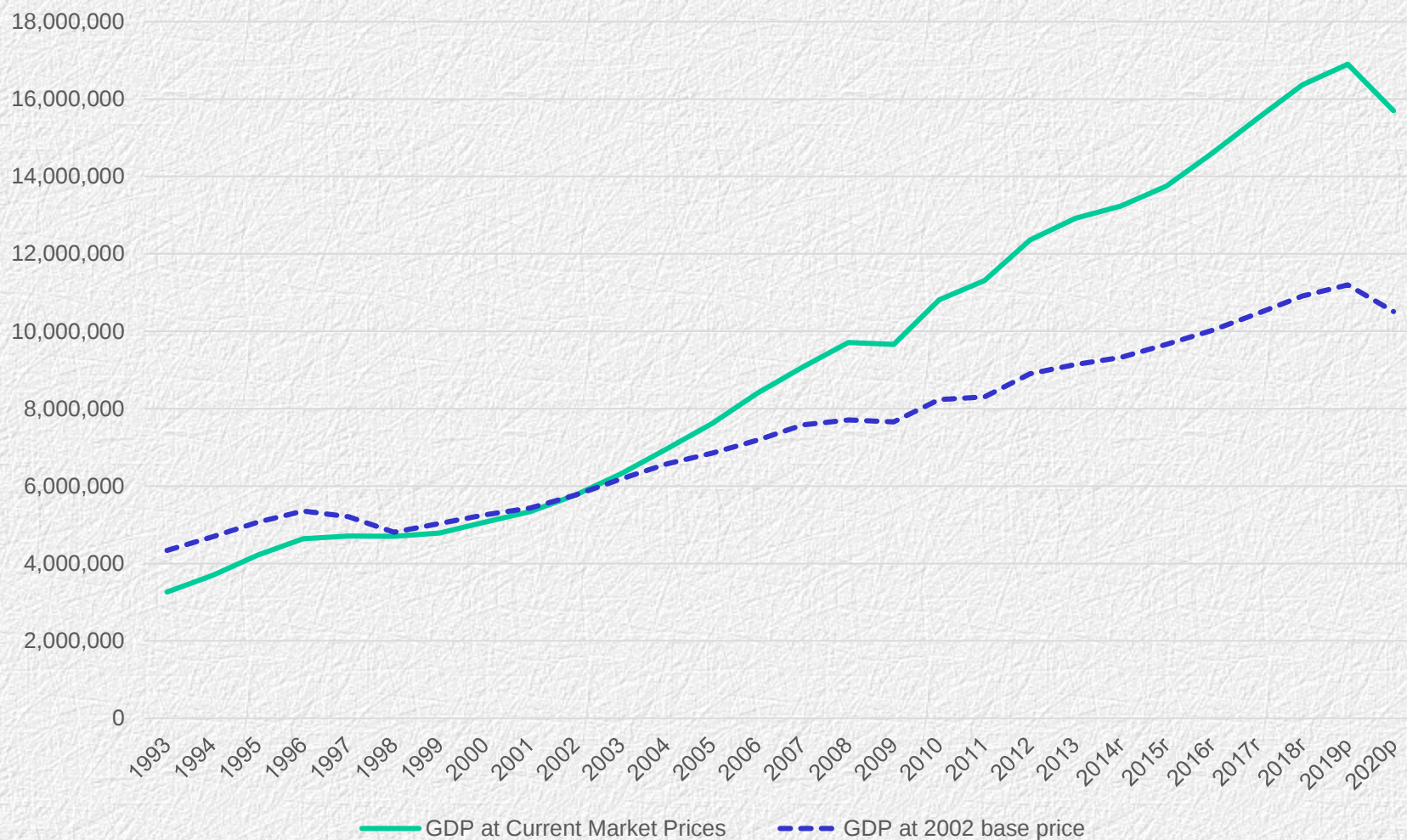
Aggregate output: The total quantity of goods and services produced in an economy in a given period.

1.5.1 Level and growth of output

Recession: A period during which aggregate output declines. Conventionally, a period in which aggregate output declines for two consecutive quarters.

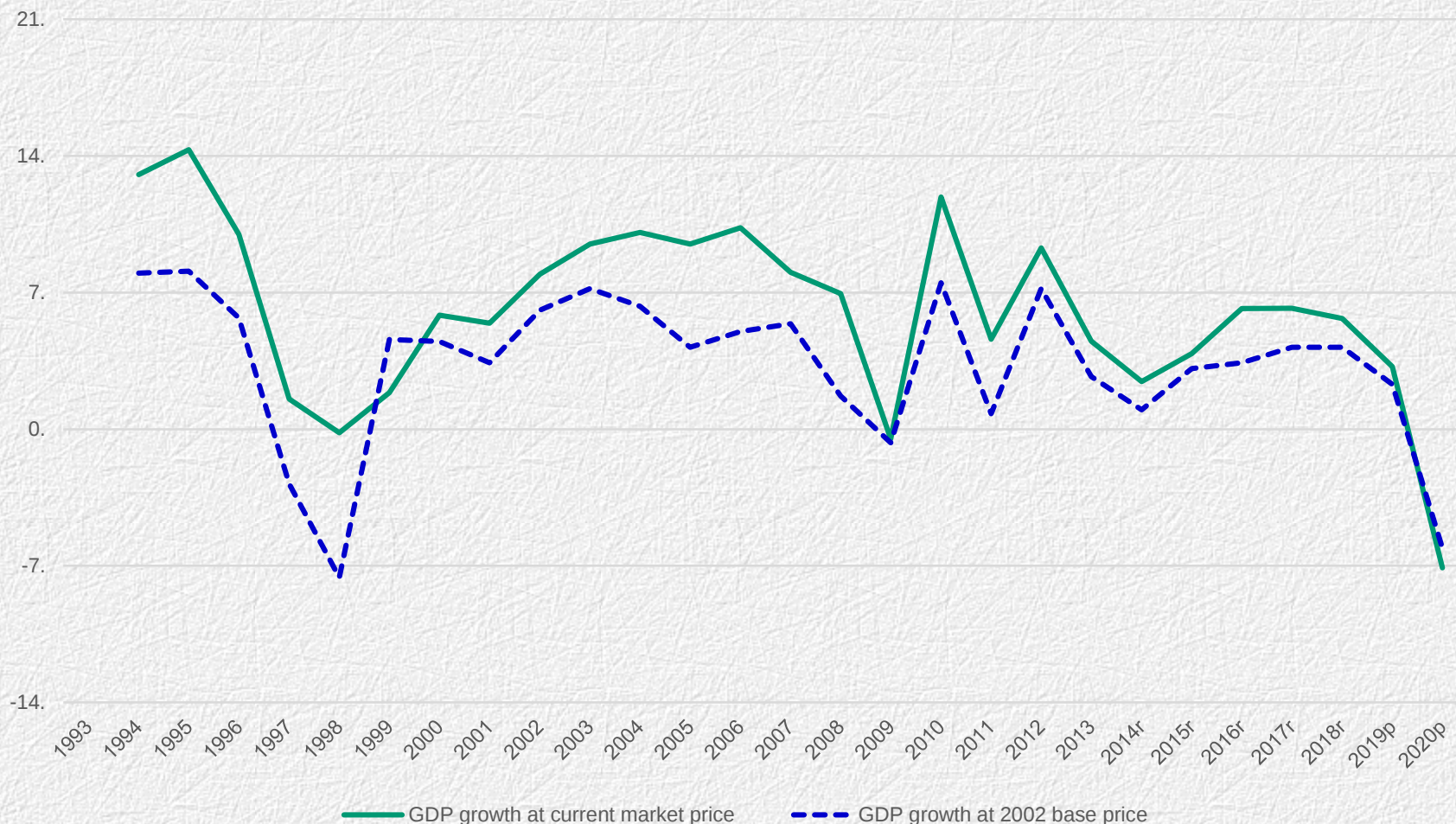
Depression: A prolonged and deep recession.

Level of GDP 1993 – 2020 (Unit: Millions of Baht)



Source: Draw using data from www.nesdb.go.th

Level of growth GDP 1993 – 2020 (Unit: Percent)



Source: Draw using data from www.nesdb.go.th

1.4.2 Unemployment Rate

- **Labor Force:** People who are at the working age level, be able to work, and want to work.
- **Unemployed labor:** People who are in the labor force but cannot find job.
- **Population = Labor force + Non-labor force**
- **Labor force participation rate =** $\frac{\text{Labor Force}}{\text{Working age population}} \times 100$
- **Unemployment rate =** $\frac{\text{Unemployment}}{\text{Labor Force}} \times 100$

Labor Force, Employment, Unemployment 2012-2020

Unit: Thousand person

	2013	2014	2015	2016	2017	2018	2019	2020
Population 15 years and over	55,024.2	54,843.1	55,238.5	55,610.1	55,957.3	56,279.1	56,575.3	56846.6
Labor Force	39,383.8	38,576.2	38,548.23	38,266.6	38,099.8	38,433.6	38,178	38544.4
Employment	38,906.9	38,077.4	38,061.2	37,692.7	37,458.3	37864.5	37,613.4	37680.2
• Agriculture	15913.9	12,732.7	12,271.9	11,746.6	11,783.3	12,168.3	11,820.9	-
• Non-Agriculture	23,499.9	25,344.7	25,744.3	25,964	25,675	25,696.3	25,792.5	-
Unemployed Persons	283.5	322.7	340.6	377.5	450.7	404.3	373.4	651.1
Rate of unemployed	0.72	0.84	0.88	0.99	1.19	1.05	0.98	1.69

Source: Data from www.nesdb.go.th

Types of unemployment



- ❑ Frictional unemployment

- ❑ Structural unemployment

- ❑ Cyclical unemployment

Types of unemployment

Frictional unemployment : The portion of unemployment that is due to the normal working of the labor market; used to denote short-run job/skill matching problems.

Structural unemployment : The portion of unemployment that is due to changes in the structure of the economy that result in a significant loss of jobs in certain industries.

Types of unemployment

Natural rate of unemployment : The unemployment that occurs as a normal part of the functioning of the economy. Sometimes taken as the sum of frictional unemployment and structural unemployment.

Types of unemployment

Cyclical unemployment : The increase in unemployment that occurs during recessions and depressions.

1.4.3 Price level

Inflation: An increase in the overall price level.

Hyperinflation: A period of very rapid increases in the overall price level.

Deflation: A decrease in the overall price level.

Consumer Price Index (CPI) calculation, fix basket

	Quantity of Good 1	Quantity of Good 2	Price of good 1	Price of good 2	Value of goods in the basket	CPI
2017	20	40	6	2	200	100
2018	20	40	8	3	280	140
2019	20	40	7	4	300	150

The rule of three in arithmetic

In 2017, $(20 \times 6) + (40 \times 2) = 200$ **100**

In 2018, $(20 \times 8) + (40 \times 3) = 280$ $(100 \times 280) / 200 = 140$

In 2019, $(20 \times 7) + (40 \times 4) = 300$ $(100 \times 300) / 200 = 150$

Inflation rate in 2018 compared to 2017 = $[(140 - 100) / 100] \times 100 = 40\%$

Inflation rate in 2019 compared to 2018 = $[(150 - 140) / 140] \times 100 = 7.14\%$

Consumer Price Index (CPI) and Inflation

Inflation	2020 p	2019 p	2018 p	2017	2016	2015	2014	2013
1 Headline Consumer Price Index (2019=100)	99.15	100.00	99.30	98.25	97.60	97.42	98.30	96.47
(% change)	-0.85	0.70	1.07	0.67	0.18	-0.90	1.90	2.18
2 Core Consumer Price Index (2019=100) 3/	100.29	100.00	99.48	98.78	98.23	97.52	96.50	94.99
(% change)	0.29	0.52	0.71	0.56	0.73	1.06	1.59	1.00

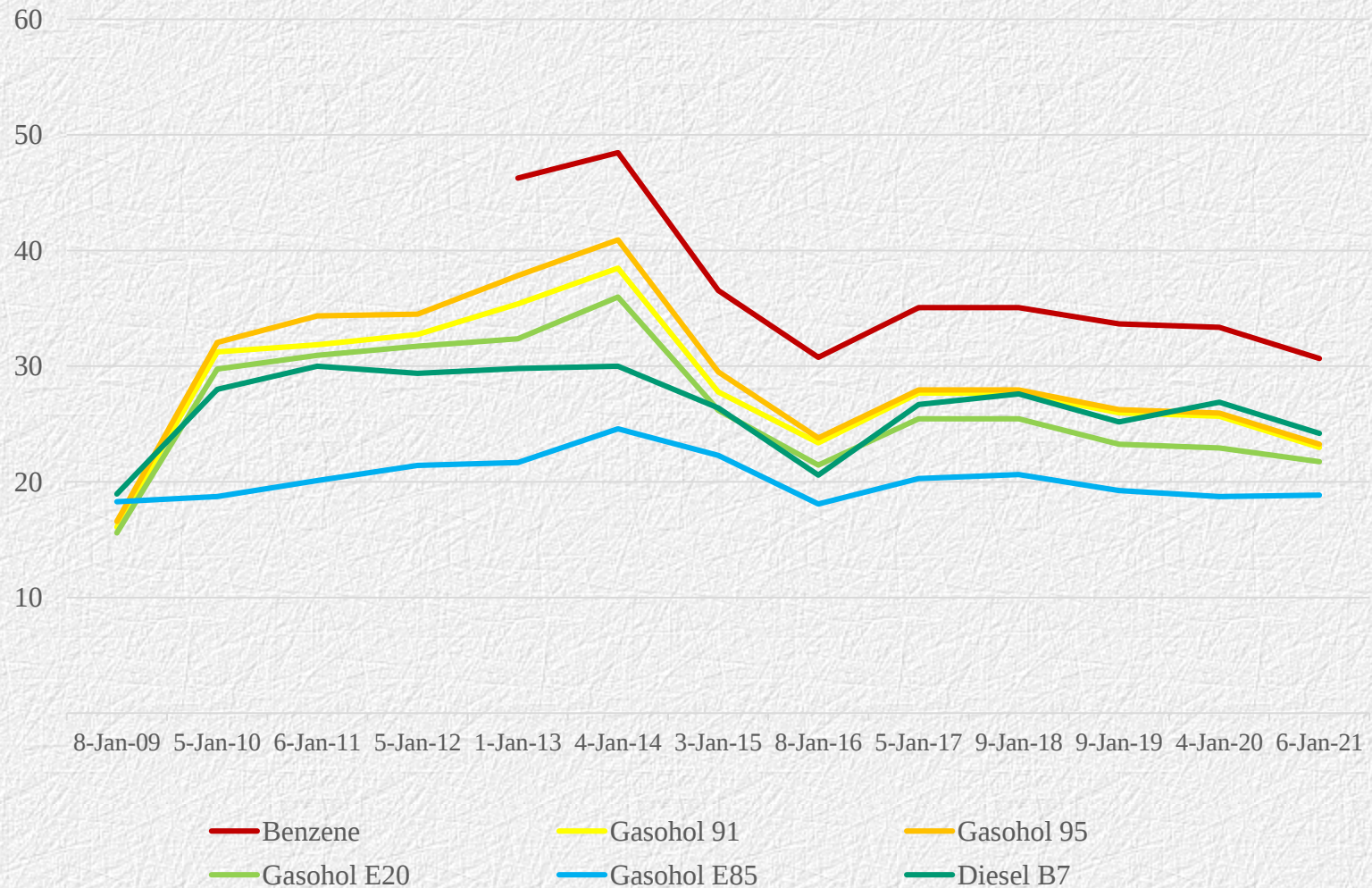
Source: Data from www.bot.or.th

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

Core inflation eliminates products that can have temporary price shocks (i.e. energy, food products)

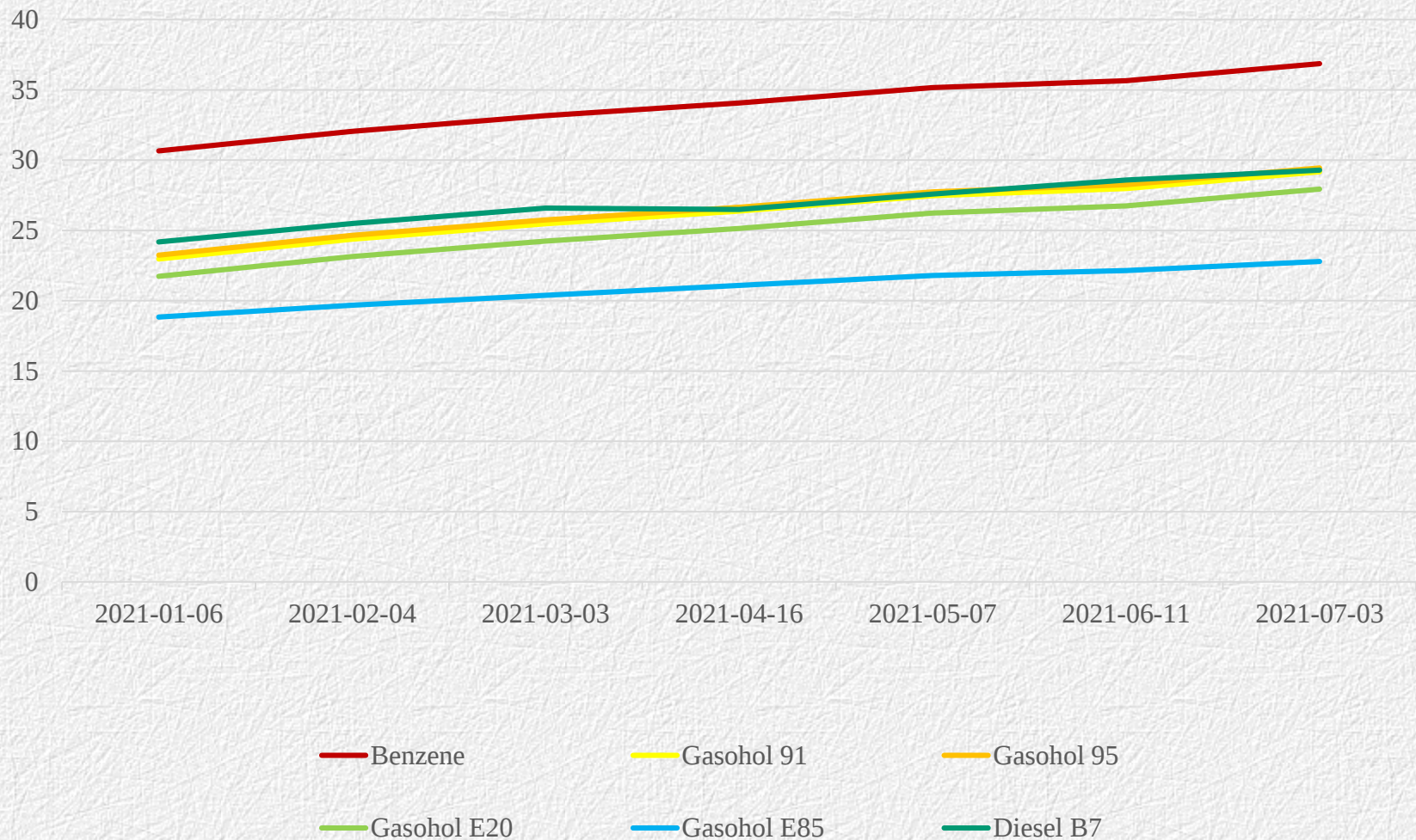
Oil price

Oil Price in January, 2009-2021



Oil price

Oil Price in 2021



— Benzene

— Gasohol 91

— Gasohol 95

— Gasohol E20

— Gasohol E85

— Diesel B7

Gold Price

10 Year Gold Price in USD/oz

Last Close: 1800.22

High: 2070.05 Low: 1050.80 ▲188.02 11.66%



Monday, July 26, 2021

Source: <http://www.goldprice.org/gold-price-history.html>

1.4.4 Interest Rate

- **Loan rate vs. Deposit rate**
- **Real interest rate**
 - = Nominal interest rate – Inflation rate**
- **Creditors want real interest rate to be high**
- **Debtors want real interest rate to be low**

1.4.4 Interest Rate

	JUNE								
	2021 p	2020 p	2019 p	2018	2017	2016	2015	2014	2013
Interest rate (year end) 10/									
Prime rate : Min	5.25	5.25	6.00	6.03	6.03	6.25	6.50	6.75	6.75
Prime rate : Max	5.58	5.58	6.35	6.60	6.60	6.60	6.85	7.13	7.25
Fixed deposits (1 yr.) : Min	0.40	0.45	1.05	1.30	1.30	1.30	1.30	1.70	2.15
Fixed deposits (1 yr.) : Max	0.50	0.50	1.55	1.50	1.50	1.50	1.50	1.75	2.35

Source: Data from www.bot.or.th

1.4.4 Interest Rate

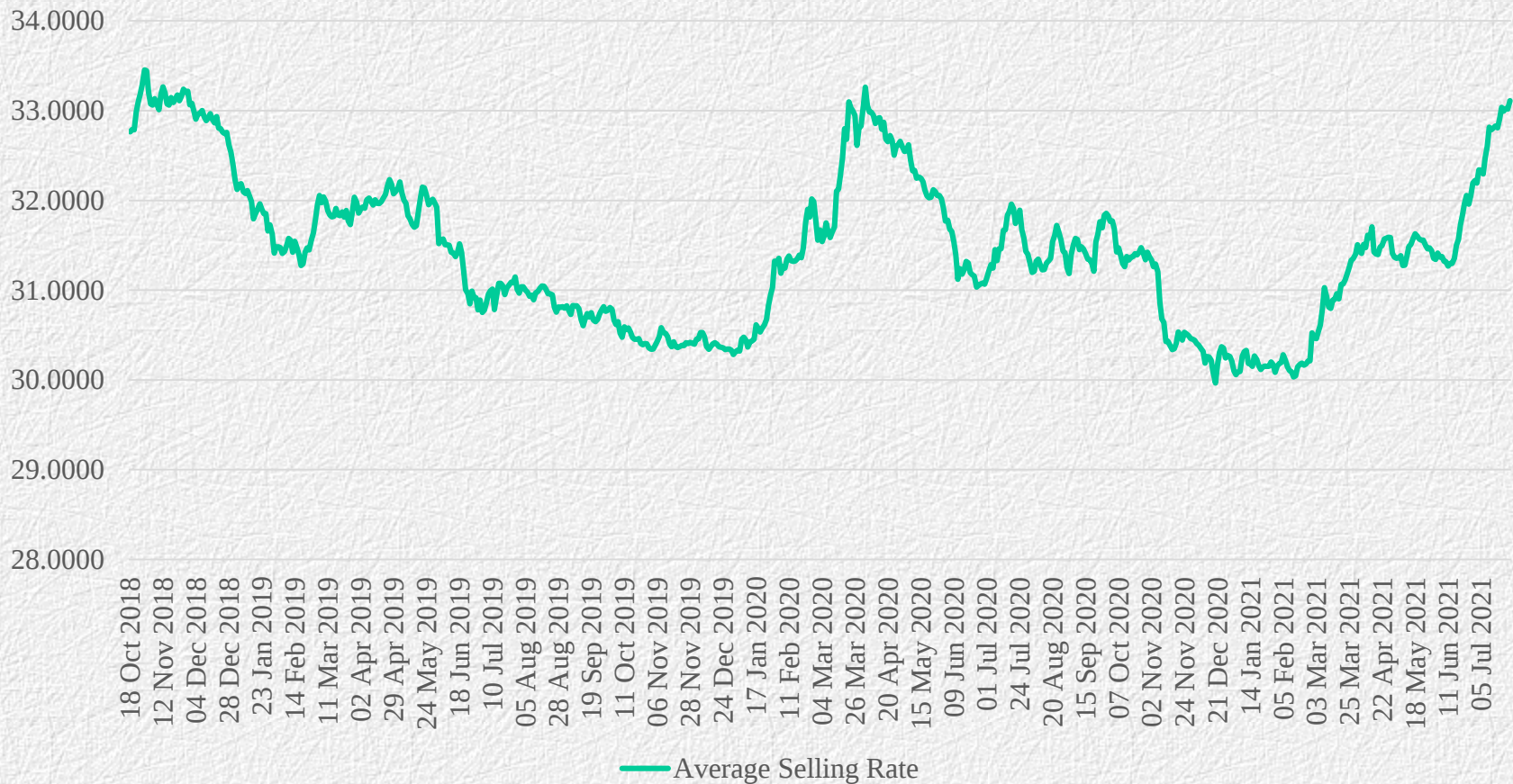
Thammasat University Savings and Credit Cooperative Limited Rate

Deposit rate (31 August 2020)	Rate(%)
Saving	0.75
Saving (Sintawee)	1.00
Fixed Deposit (3 months)	2.00
Fixed Deposit (6 months)	2.25
Fixed Deposit (9 months)	2.25
Fixed Deposit (12 months)	2.50
Fixed Deposit (24 months)	2.75
Fixed Deposit (36 months)	3.00
Fixed Deposit (48 months)	3.15
Fixed Deposit (60 months)	3.25
Loan rate (1 October 2020)	
Member loan rate	4.75

Source: <https://www.tucoop.or.th/>

1.4.5 Exchange Rate

Exchange Rates of US Dollar
(Baht/1 US Dollar)



Source: Draw using data from www.bot.or.th

1.4.5 Exchange Rate

	2020	2019	2018	2017	2016
REFERENCE RATE : US DOLLAR (USD)	31.2955	31.0470	32.3104	33.9385	35.2980
USA : DOLLAR (USD)					
BUYING SIGHT	31.0333	30.7867	32.0555	33.6876	35.0373
BUYING TRANSFER	31.1255	30.8769	32.1397	33.7707	35.1268
SELLING	31.4618	31.2183	32.4817	34.1053	35.4659
MID RATE	31.2937	31.0476	32.3107	33.9380	35.2964
EURO ZONE : EURO (EUR)					
BUYING SIGHT	35.2009	34.2909	37.6762	37.8059	38.5791
BUYING TRANSFER	35.3093	34.4013	37.7829	37.9105	38.6822
SELLING	36.0445	35.1083	38.5198	38.6450	39.4243
MID RATE	35.6769	34.7548	38.1514	38.2778	39.0533

Source: Data from www.bot.or.th

1.4.5 Exchange Rate

	2020	2019	2018	2017	2016
JAPAN : YEN (100 YEN) (JPY)					
BUYING SIGHT	28.8452	28.0024	28.7928	29.8240	32.0844
BUYING TRANSFER	28.9470	28.1079	28.8766	29.9051	32.1715
SELLING	29.7045	28.8533	29.6377	30.6341	32.8815
MID RATE	29.3258	28.4806	29.2572	30.2696	32.5265

CHINA : YUAN RENMINBI (CNY)					
BUYING SIGHT	4.4415	4.4070	4.8028	4.9449	5.2177
BUYING TRANSFER	4.4730	4.4373	4.8297	4.9696	5.2468
SELLING	4.6039	4.5524	4.9529	5.0870	5.3800
MID RATE	4.5385	4.4949	4.8913	5.0283	5.3134

Source: Data from www.bot.or.th

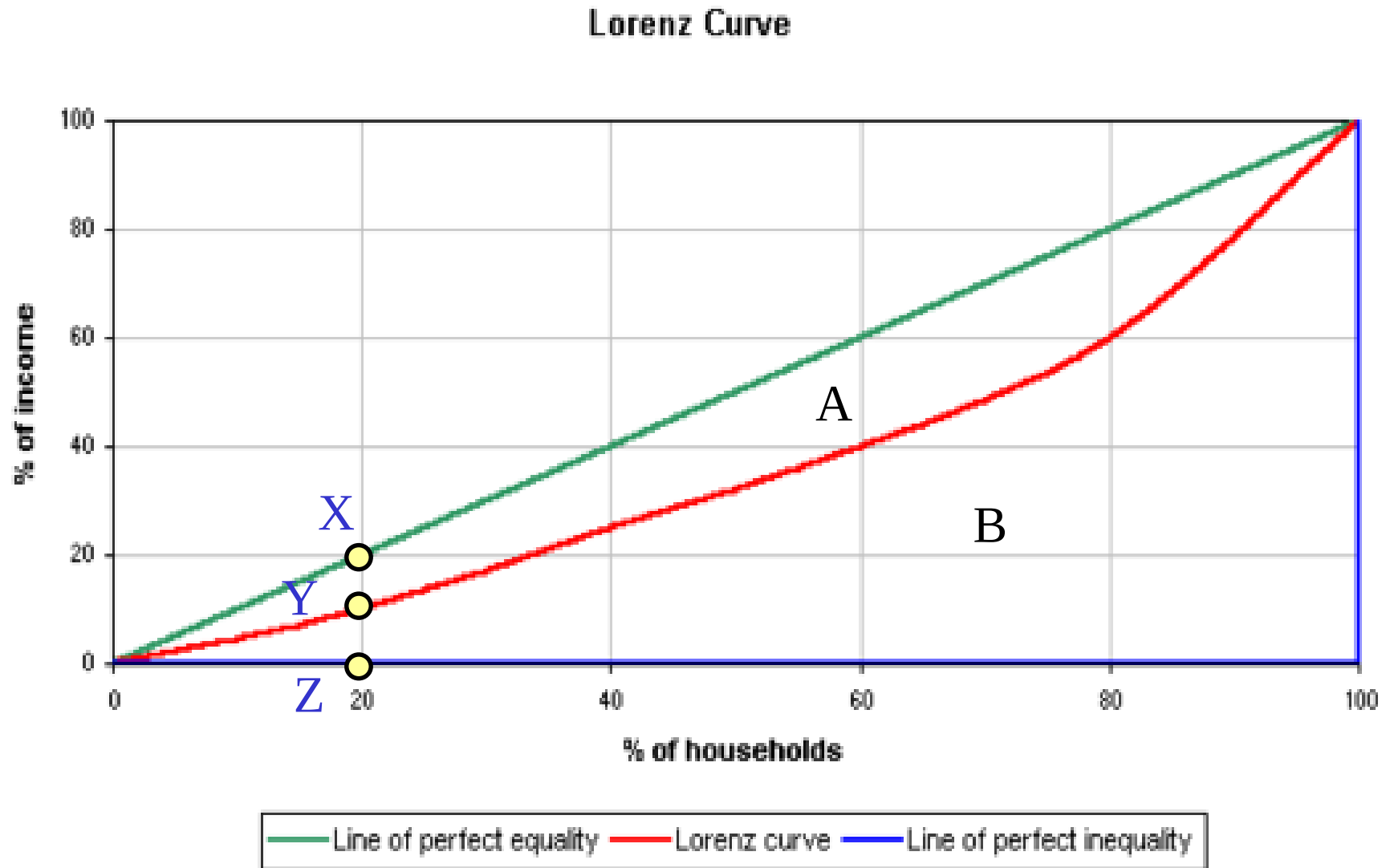
1.4.5 Exchange Rate

Baht per/1 unit of foreign currency

Buying Sight	2020	2019	2018	2017	2016
USA : DOLLAR (USD)	31.0333	30.7867	32.0555	33.6876	35.0373
UNITED KINGDOM : POUND STERLING (GBP)	39.5631	39.0805	42.5541	43.1245	47.2801
EURO ZONE : EURO (EUR)	35.2009	34.2909	37.6762	37.8059	38.5791
JAPAN : YEN (100 YEN) (JPY)	28.8452	28.0024	28.7928	29.8240	32.0844
CHINA : YUAN RENMINBI (CNY)	4.4415	4.4070	4.8028	4.9449	5.2177

Source: Data from www.bot.or.th

1.4.6 Income distribution (Lorenz Curve and Gini-coefficient)



1.4.6 Income distribution (Lorenz Curve and Gini-coefficient)

At point X → 20% of household receives 20% of income

At point Y → 20% of household receives 10% of income

At point Z → 20% of household receives 0% of income

Point X is on the “Perfect Equality Line”

Point Y is on the “Lorenz Curve”

Point Z is on the “Perfect Inequality Line”

$$\text{Gini-coefficient} = \frac{\text{area A}}{\text{area A} + \text{area B}}$$

Gini-coefficient ↑ → Unequal income distribution ↑

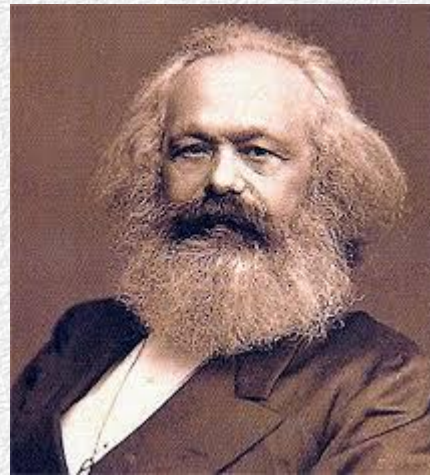
1.5 The History of Macroeconomics

- Different historical periods brought about different concerns that underpinned development in macroeconomic ideas
- From Classical to Keynesian (through Marx)
- And from Keynesian to Monetarism, and finally to Neo-classical economics

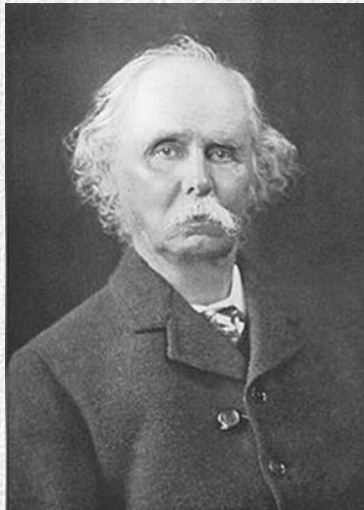
The History of Macroeconomics



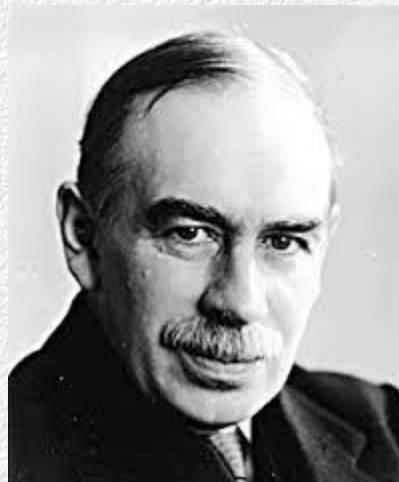
1723-1790



1818-1883



1842-1924



1883-1946



1912-2006

The History of Macroeconomics

Classical period

- **Adam Smith** and "An Inquiry into the Nature and Causes of the Wealth of Nations"
- In the context of the beginning of **industrialisation**
 - ✓ **Division of labour** (**specialisation**) is crucial to raising production
 - ✓ **Market** can help coordinate self-interested actions of individuals so that they would ultimately serve the social good.
- Through the **market system**, "**the invisible hand**" bring the benefits to everyone.
 - ✓ Note: Smith was a reaction to the prior "mercantilism" (controlled economy).

The History of Macroeconomics

Marxist Economics

- In contrast to the pro-market view, **Karl Marx** raised a crucial observation on the (unfair) distributions of benefits from industrialisation
- The concern for Marx on the exploitation that occurred from “capitalism”
- And the way Marx sees the world is not just bounded to the working of the markets. He sees the whole society as proceeding through the systematic plot of history.

The History of Macroeconomics

Marxist Economics

- History is the history of “**class struggle**”, i.e. conflicts between **ownership class** that controls means of production, and **labour**. In the modern context, this conflict arises between the capitalists and the working class.



The History of Macroeconomics

Neo-classical economists

- The revived belief in “markets”
 - ✓ Market as the most efficient, and also self-regulating
- Alfred Marshall
 - ✓ The “father” of modern economics
 - ✓ Founded theories explaining “demand”, which underpins the modern microeconomic understanding of “markets”
 - ✓ More importantly, Marshall also introduced the concept of “homo-economicus”(economic human), posing the understanding of economic agents as individuals seeking to fulfill “self-interests”

Markets: the core of neo-classical economics

- Neo-classical economists tend to see the market system as the most efficient in allocating resources.
 - ✓ Nonetheless, we should keep in mind that, even though most economists accept the advantages of the market, there can be different views on the degree of regulations needed for markets to work,
 - ✓ In addition, we may also place different values to other economics-related objectives

The History of macroeconomics

Keynesian economics

- In the context of “the great depression”
- Recognize that classical economics, which sees the market as self-regulating, is not adequate in dealing with economic fluctuations
- Keynes offer solutions: boosting aggregate demand
 - Through encouraging domestic consumptions, raising government spendings, and lowering interest rates
 - Particularly through government investment

The History of Macroeconomics

The Monetarists

- Led by **Milton Friedman**
 - ✓ Put the emphasis rather on the roles of bad monetary policies as the major factor behind economic crisis
 - ✓ Government should leave the goods market alone, acting rather through controlling the money supply

Neo-liberalism (following Friedman)

- Keeping the trend of the “neo-classics”
- Arguing for reducing the government roles and privatising public services
- Pro “free-trade”

The History of Macroeconomics

Synthesising Classical and Keynesian perspectives

- **Classical view**: economics will naturally settle at full-employment, as wages and price manage to adjust to changes in money supply or unemployment
- **Keynesian view**: unemployment arises from failure of the labour market to adjust fast enough, leaving room for fiscal and monetary policies to be effective means in coping with fluctuations
- **Classical** is often seen as “long-run” perspective, while **Keynesian** is seen as the “short run” perspective.

The History of Macroeconomics

Debates remain:

- Macroeconomists toward **classical** (or neo-classical) tend to emphasize **market efficiency** and argue for the **small role of the government**.
- Macroeconomists toward **Keynesian** spectrum emphasize way in which unemployment can cause severe human suffering and persistent effects. They argue for a **more active role of the government**.

Famous Keynes's quote:

“In the long run we are all dead.”

The History of Macroeconomics

Note:

- **Classic** believes that
 - ✓ economies operate **at full employment level**
 - ✓ **price of goods and wages are flexible.**
- **Keynes** believes that
 - ✓ economies operate **lower than full employment level**
 - ✓ **price of goods and wages are sticky.**

Present challenges

- The integration between national economy and the creation of "globalised economy"
- The fuel-based economy is reaching a critical juncture. Climate change has got nearer.
- The persistency of global poverty and inequality. Is a more inclusive growth possible?
- What about Thailand? What do you think is our current challenges?

1.6 Other issues

➤ **Per capita output vs. labor productivity**

- Per capita output = Total output the economy can produce/total population
- Labor productivity = Total output the economy can produce/Labors used in production

1.6 Other issues

- Economy with the situation of **stagnation** (output not increase, still or decline) and **high inflation** is called

“Stagflation Economy”

1.6 Other issues

➤ **Determinant of capacity in the long run**

- Natural resource
- Factors of production = Land, Labor, Capital and Entrepreneur
- Productivity of the factor of production

1.6 Other issues

➤ **Macroeconomics deals with three main markets**

- **Good market**
- **Money market**
- **Labor market**