



What do we study in  
macroeconomics: The big  
picture of economy

In this lecture,  
look for the answers to these questions

- Macroeconomic questions: Theory and policy
- Some key macroeconomic variables
  
- Reading: Chapter 5 in Case and Fair

# Microeconomics v.s. Macroeconomics

- **microeconomics** Examines the functioning of individual industries and the behavior of individual decision-making units—firms and households.
- **macroeconomics** Study as a whole economy
  - Macroeconomics focuses on the **determinants** of total **national income**, deals with **aggregates** such as aggregate consumption and investment, and looks at the **overall level of prices** instead of individual prices.

# Microeconomics v.s. Macroeconomics Questions

## Microeconomic versus Macroeconomic Questions

Microeconomic Questions	Macroeconomic Questions
Should I go to business school or take a job right now?	How many people are employed in the economy as a whole this year?
What determines the salary offered by Citibank to Cherie Camajo, a new MBA?	What determines the overall salary levels paid to workers in a given year?
What determines the cost to a university or college of offering a new course?	What determines the overall level of prices in the economy as a whole?
What government policies should be adopted to make it easier for low-income students to attend college?	What government policies should be adopted to promote employment and growth in the economy as a whole?
What determines whether Citibank opens a new office in Shanghai?	What determines the overall trade in goods, services, and financial assets between the United States and the rest of the world?

# Macroeconomic questions: Theory and policy

- Positive aspect:
  - To use the understanding **macroeconomic phenomena** and **predict** what will likely happen in the future.
- Normative aspect:
  - To analyze its effect, and recommend an appropriate macroeconomic policy to fix some macroeconomic problems.

# Macroeconomic Concerns (or problems)

- Three of the **major concerns** of macroeconomics are:
  - Stable economic growth
  - Jobs and employment
  - Cost of living
- What are the **key macroeconomic variables** that can be used as the **indicator** for each concern?

# Macroeconomic Concerns: stable output growth

- Stable economic growth is often referred to **stable output growth**
- **Output growth**: An overall increase in the level of production activity – e.g. growth in *aggregate output*.
- **Aggregate output** The total quantity of goods and services produced in an economy in a given period.
- A key indicator commonly used to proxy the aggregate output is the **real Gross Domestic Product (GDP)**.

# Digression 1: Real v.s. Nominal

- Macroeconomics data can be grouped into two types: ***real variable and nominal variable***.
- Nominal variable is typically referred to the one measured in **its current market value**.
- **Example:** Bank deposit rates.
  - If deposit rate is 2%, your deposit of \$100 will be \$102 at the end of the year.
  - Your saving will yield you \$2, measured in terms of dollar value of return.
  - The 2% deposit rate is typically called “nominal” interest rate.

# Digression 1: Real v.s. Nominal

- Real variable is typically referred to the one measured in **its current market value**, but **isolating or adjusting the effect of price changes**.
- **Example:** Bank deposit rates Again!
  - If prices increase by 3%, the net return, adjusted with the purchasing power, will not be **-1%**.

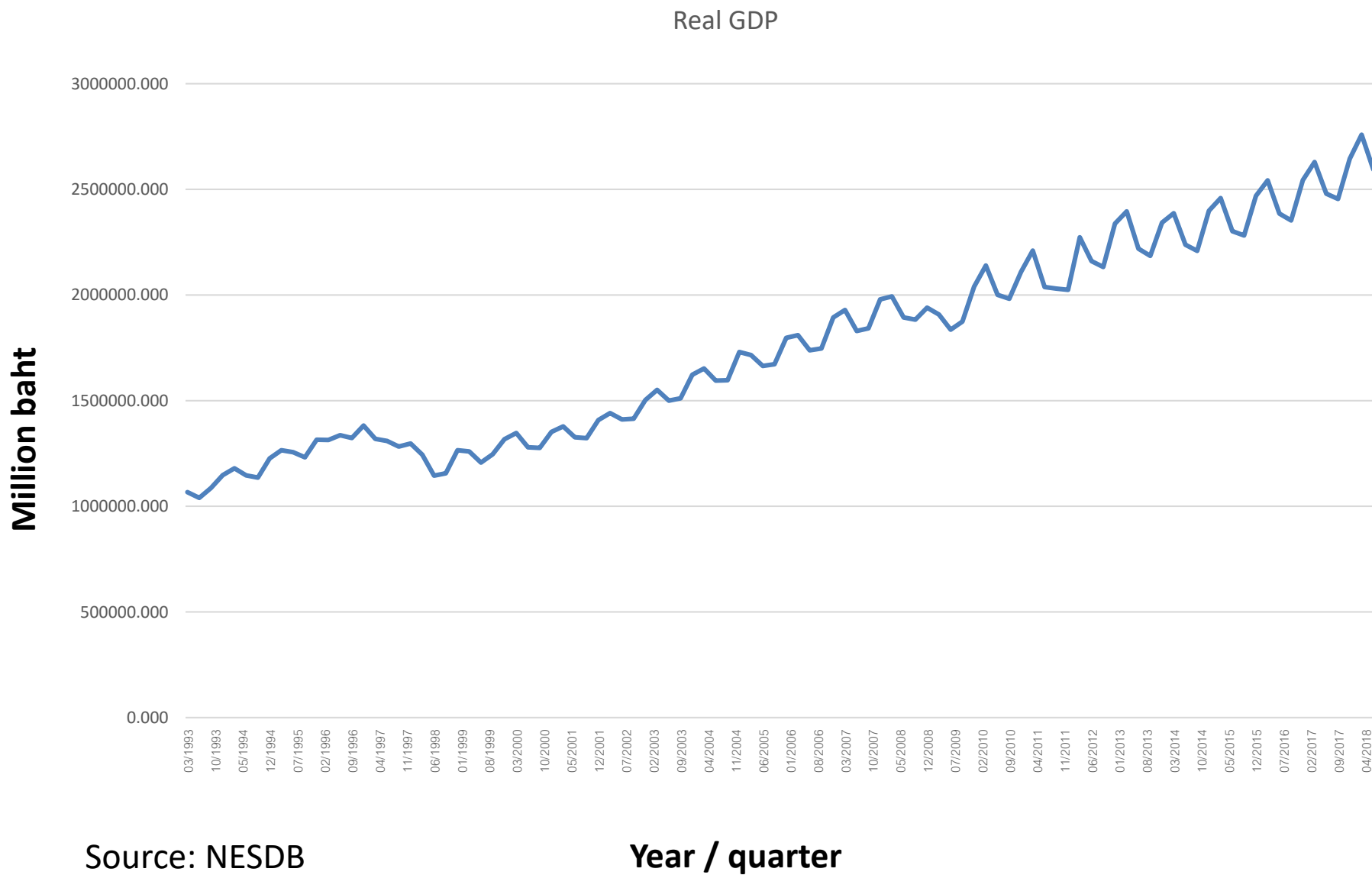
# Digression 1: Real v.s. Nominal

- **Nominal GDP** is the total current market value of goods and services produced in a country.
  - Sum of the **market value** of items.
- **Real GDP** is the total value of goods and services produced in a country using price of a selective year as the baseline for comparison.
  - Attempt to isolate the effect of price, and leave us the total amount of real quantities.

# Macroeconomic Concerns: stable output growth

- Real GDP is the data that is gathered from various sources, and reported by government statistical agency.
  - Government collects the data in order to **monitor the state of macroeconomy**.
  - Data is periodically published so that private sector can incorporate the information into their decision making.
- In Thailand, **NESDB** is responsible for collecting and reporting the data of real GDP.

# FIGURE 1 Thailand Aggregate Output (Real GDP), 1993–2018Q1

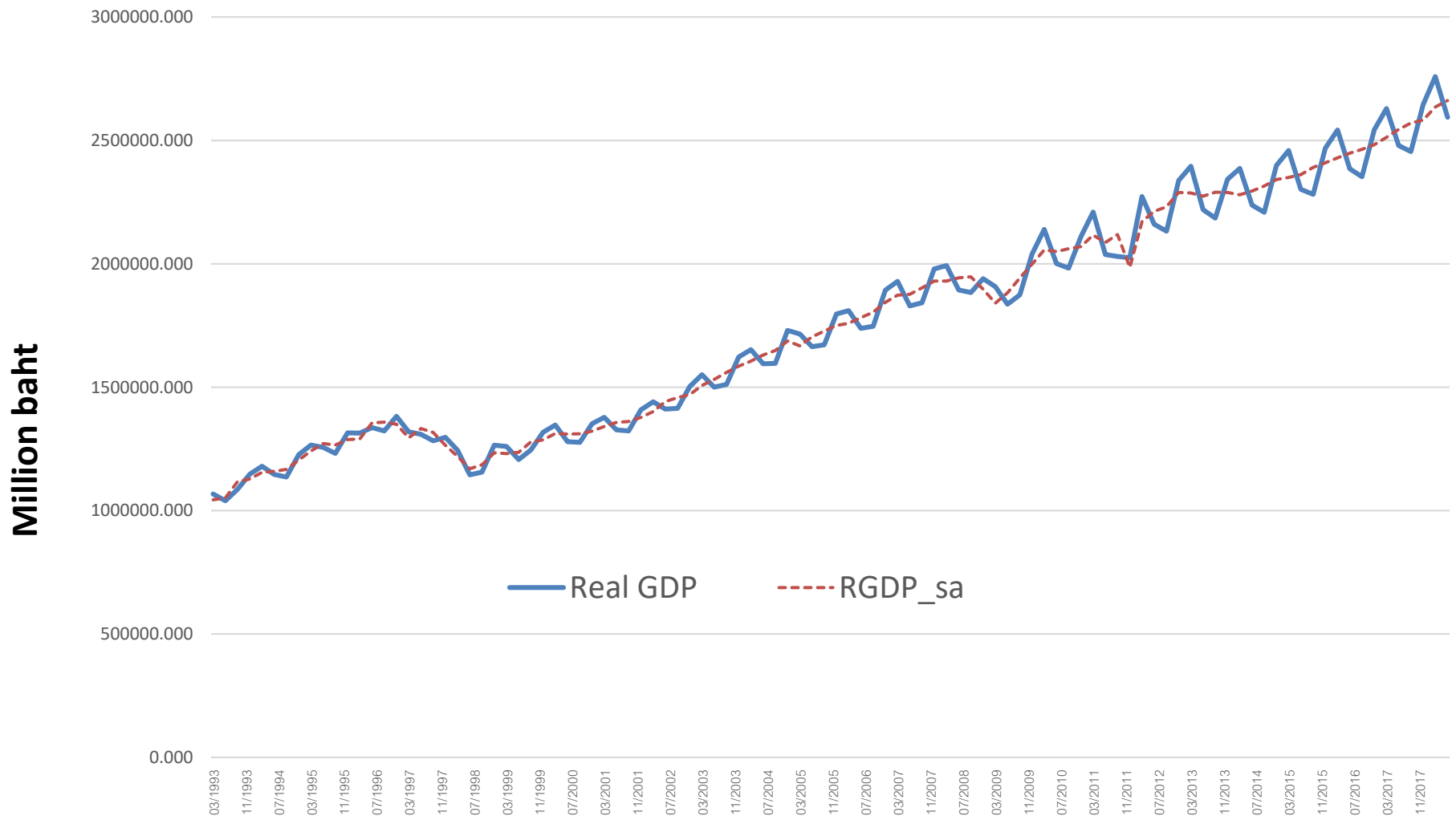


Source: NESDB

# Commonality 1 : RGDP exhibits a seasonality.

- Data shows a **seasonal pattern (seasonality)** if the data has demonstrated **regular and predictable changes** that recur every calendar year.
- **Example:** Seasonal pattern in spending
  - Q4; US consumer spending will be higher than normal. (Why?)
  - Q3; Thai Government spending will be higher than normal. (Why?)
- **Seasonally-adjusted data:** isolating the seasonal factor from the original data

# FIGURE 1 Thailand Aggregate Output (Real GDP), 1993–2018Q2



Source: NESDB

Year / quarter

# Commonality 2: RGDP exhibits an upward trend

- Real GDP has been **rising over time**.
- This commonality pattern in which data has been rising over time is called an **“upward” trending behavior**.
  - The opposite is **“downward” trending**.
- Note a variable may not demonstrate a trend.

# Growth Calculation

- **Q-o-Q growth:**  $\frac{y_t - y_{t-1}}{y_{t-1}} \times 100$ 
  - % change of the current period GDP, compared to the one in previous quarter – e.g. this quarter v.s. previous quarter.
- **Y-o-Y growth:**  $\frac{y_t - y_{t-4}}{y_{t-4}} \times 100$ 
  - % change of the current period GDP, compared to the same period of previous year – e.g. this quarter v.s. the same quarter of last year.

# GDP Growth calculation

		Nominal GDP	Real GDP
Year	Quarter	GDP at Current Market Prices (Seasonally Adjusted)	GDP, chain volume measures [reference year = 2002] (Seasonally Adjusted)
2016	Q3	3663587.000	2463756.000
2016	Q4	3708247.000	2482747.000
2017	Q1	3779784.000	2512305.000
2017	Q2	3823768.000	2544300.000
2017	Q3	3898783.000	2570715.000
2017	Q4	3949781.000	2582309.000
2018	Q1	4003811.000	2635406.000
2018	Q2	4075226.000	2661705.000
Millions of Baht			

Source: NESBD

[http://www.nesdb.go.th/main.php?filename=QGDP\\_report](http://www.nesdb.go.th/main.php?filename=QGDP_report)

# GDP Growth calculation: Example

		Real GDP
Year	Quarter	GDP, chain volume measures [reference year = 2002] (Seasonally Adjusted)
2016	Q3	2463756.000
2016	Q4	2482747.000
2017	Q1	2512305.000
2017	Q2	2544300.000
2017	Q3	2570715.000
2017	Q4	2582309.000
2018	Q1	2635406.000
2018	Q2	2661705.000
Millions of Baht		

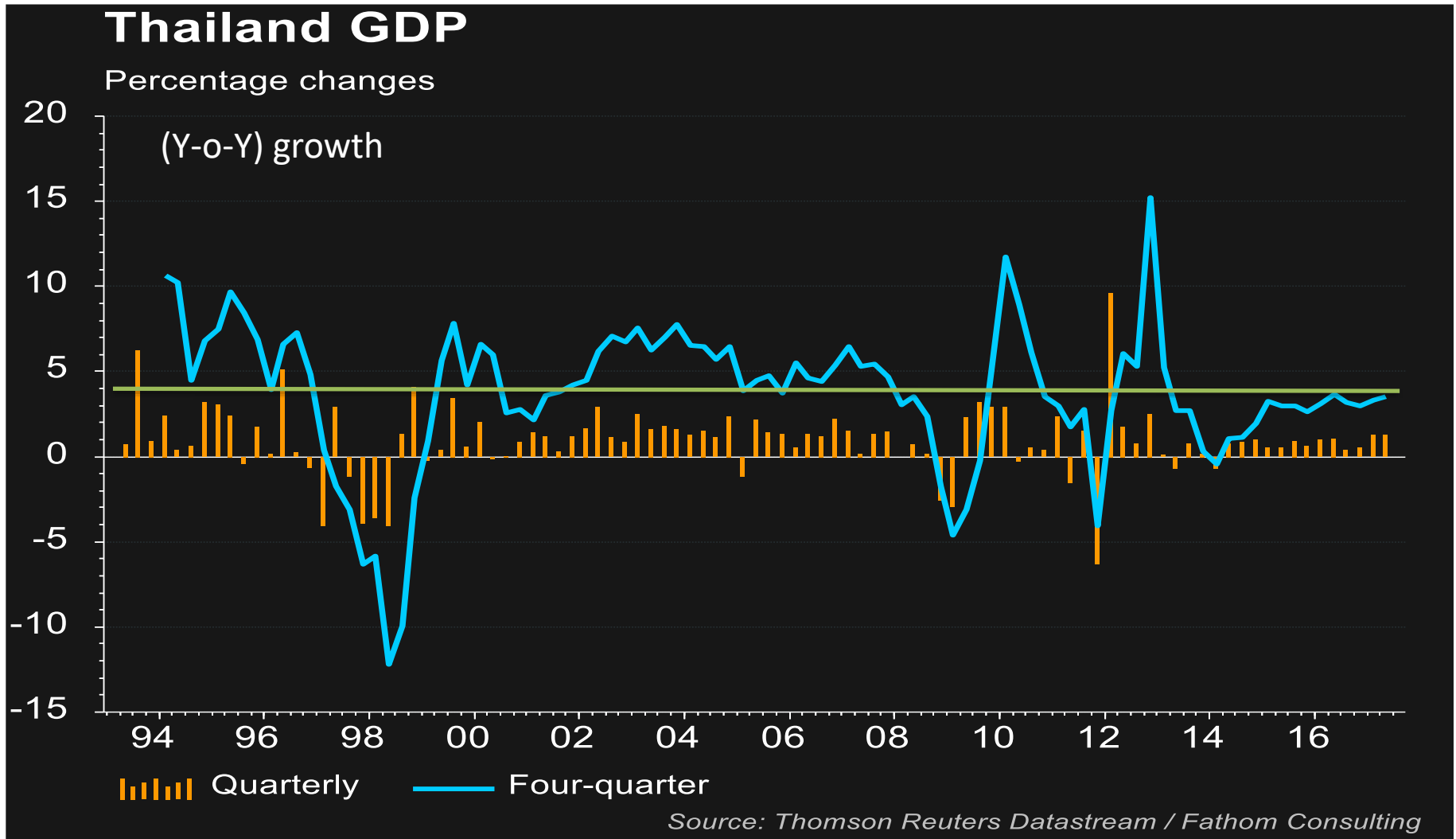
- Q-o-Q growth in Quarter 2/2018



- Y-o-Y growth in Quarter 4/2017

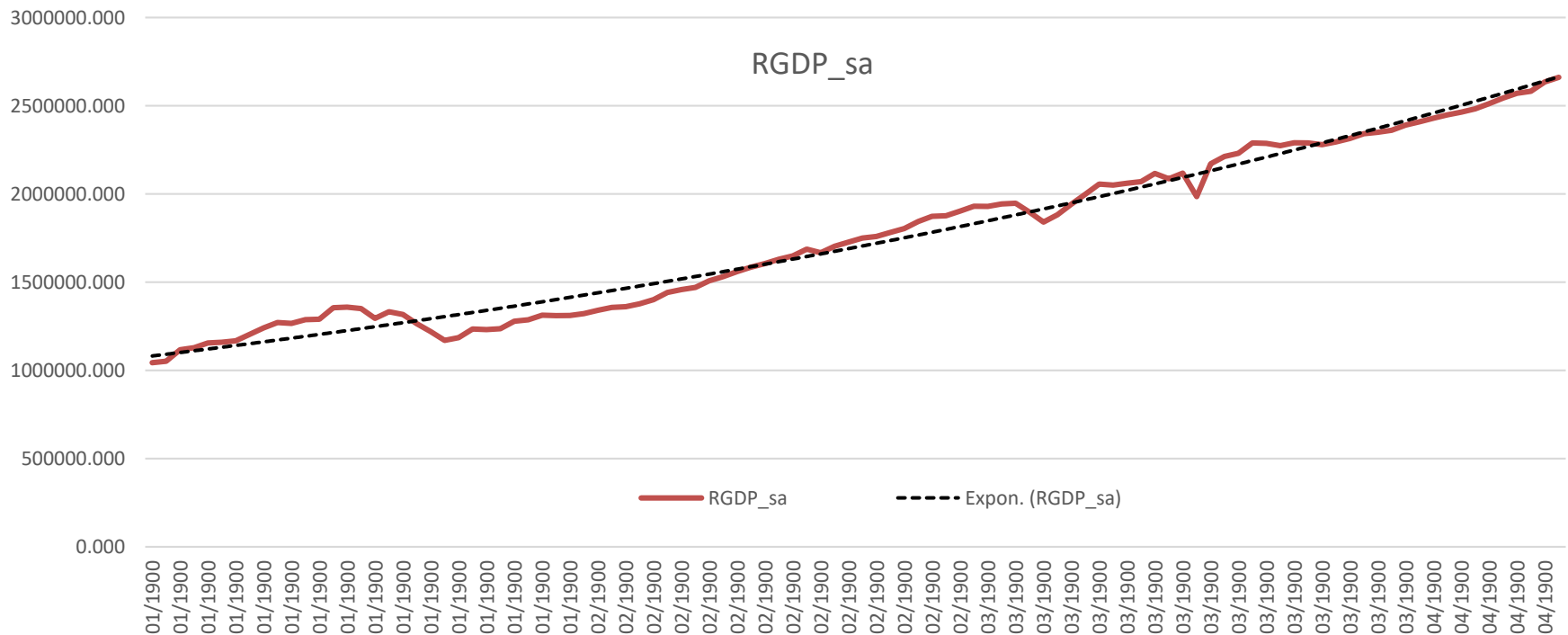


**FIGURE 2 Thailand Aggregate Output (Real GDP growth), 1993–2018Q1: Q-o-Q v.s. Y-o-Y (Four-quarter) growth**



# Commonality 3: RGDP exhibits a cyclicality.

- While having positive average growth, the actual one might be higher/lower than the average.
  - Actual level of real GDP then moves around the trend level.



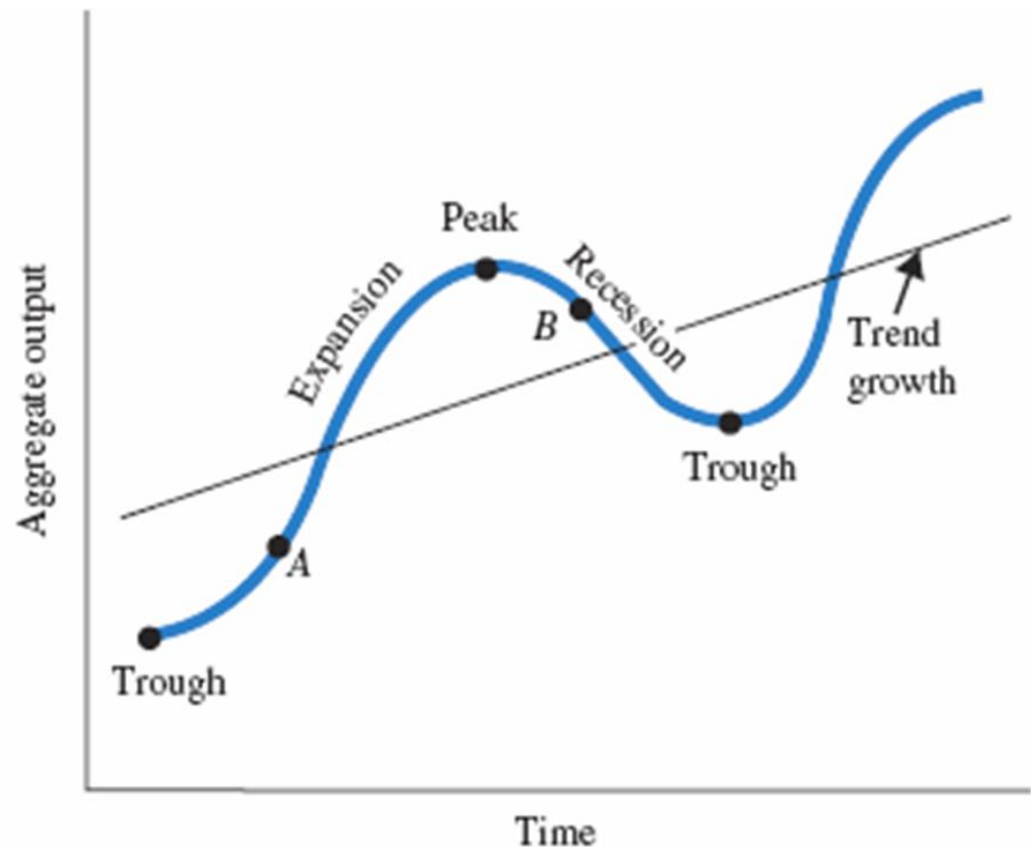
# Macroeconomic Concerns: stable output growth

- **business cycle:** The cycle of short-term ups and downs in the economy.
- **recession** A period during which aggregate output declines.
  - Conventionally, a period in which aggregate output declines for two consecutive quarters.
- **expansion or boom** The period in the business cycle from a trough up to a peak during which output and employment grow.

# Macroeconomic Concerns: stable output growth

- **Phase of a typical business cycle.**

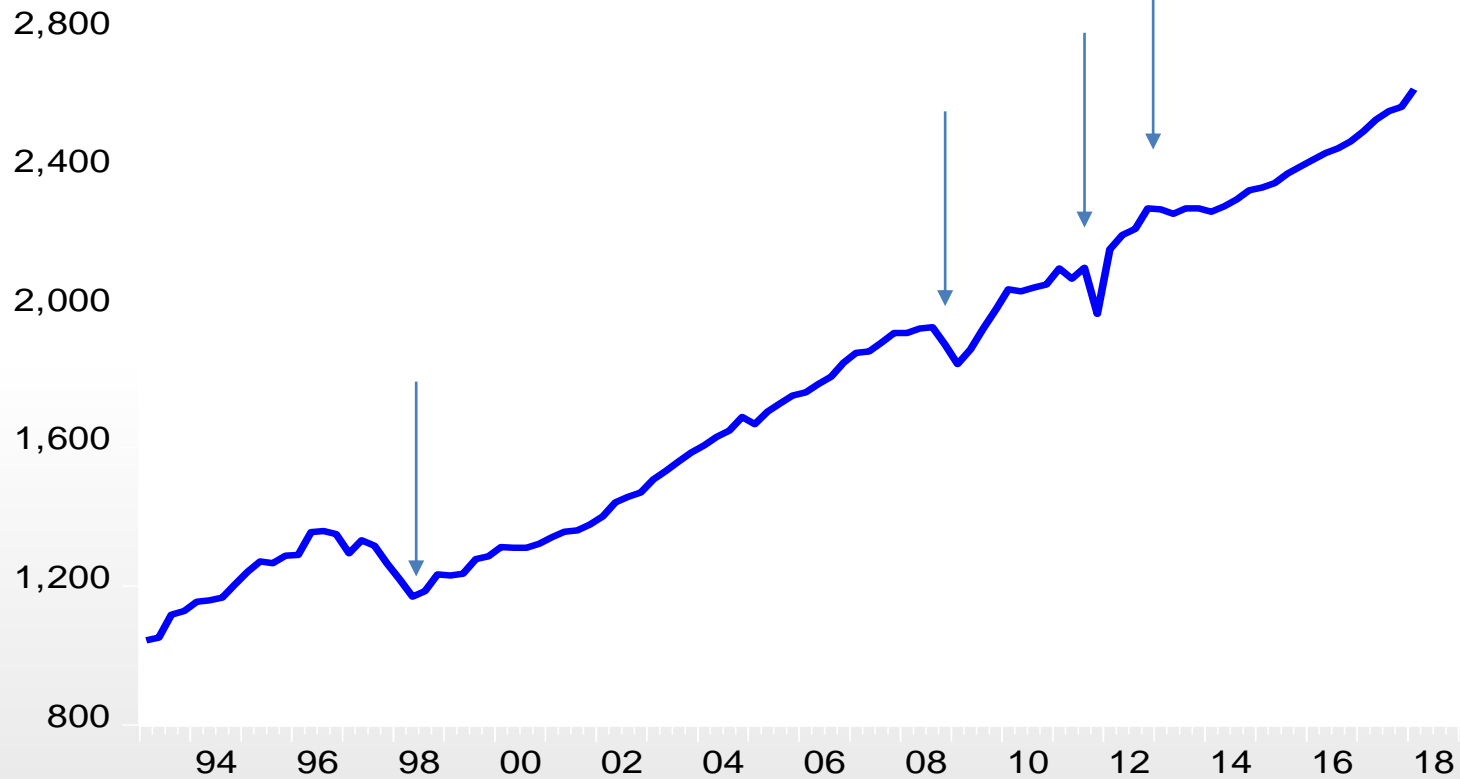
- In this business cycle, the economy is expanding as it moves through point A from the trough to the peak.
- When the *economy* moves from a peak down to a trough, through point B, the economy is in recession



# ACTIVE LEARNING 1

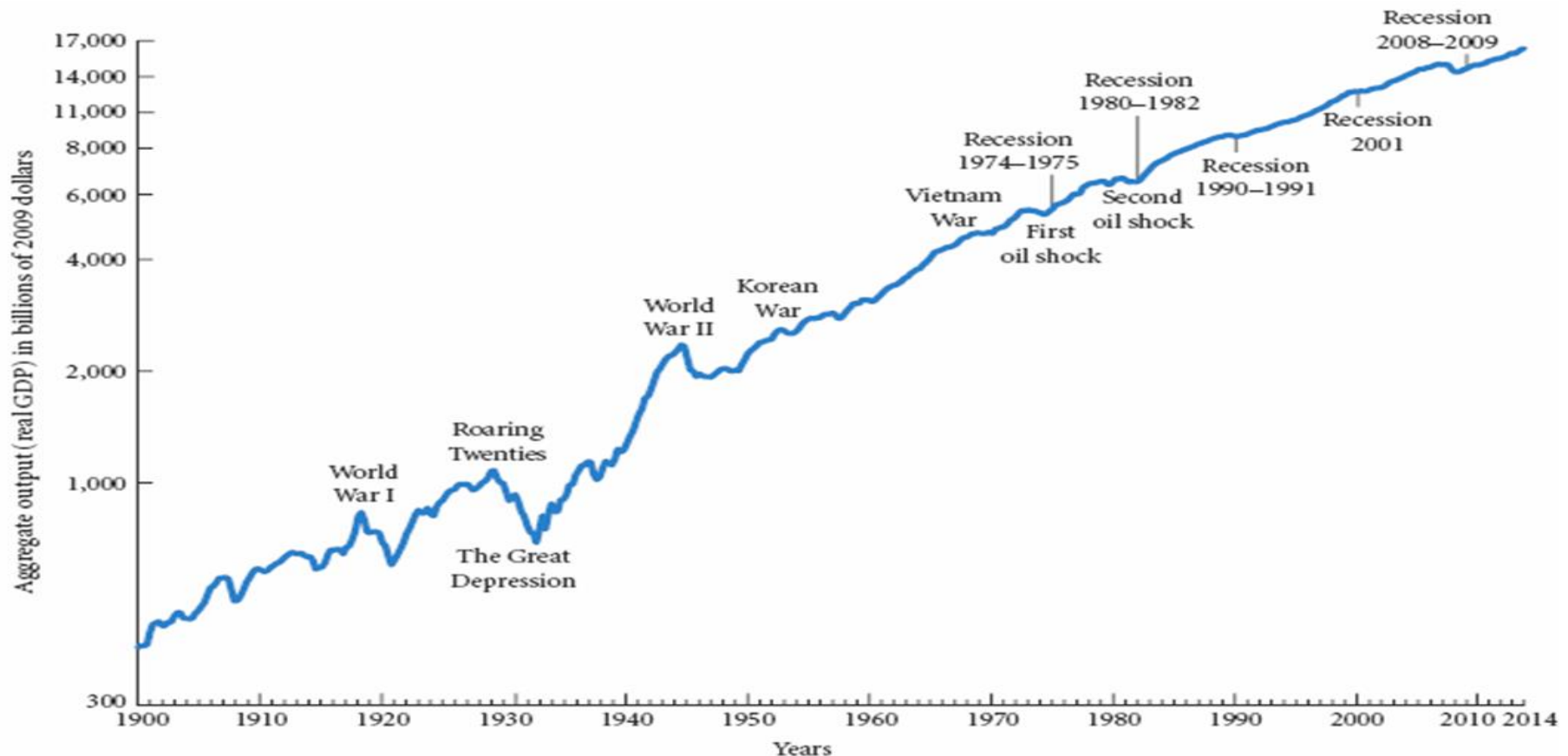
## Major events leading to Cycles

RGDP\_SA



# Macroeconomic Concerns: stable output growth

- Business cycle **commonly** occurs all over around the world.



# Macroeconomic Concerns: stable output growth

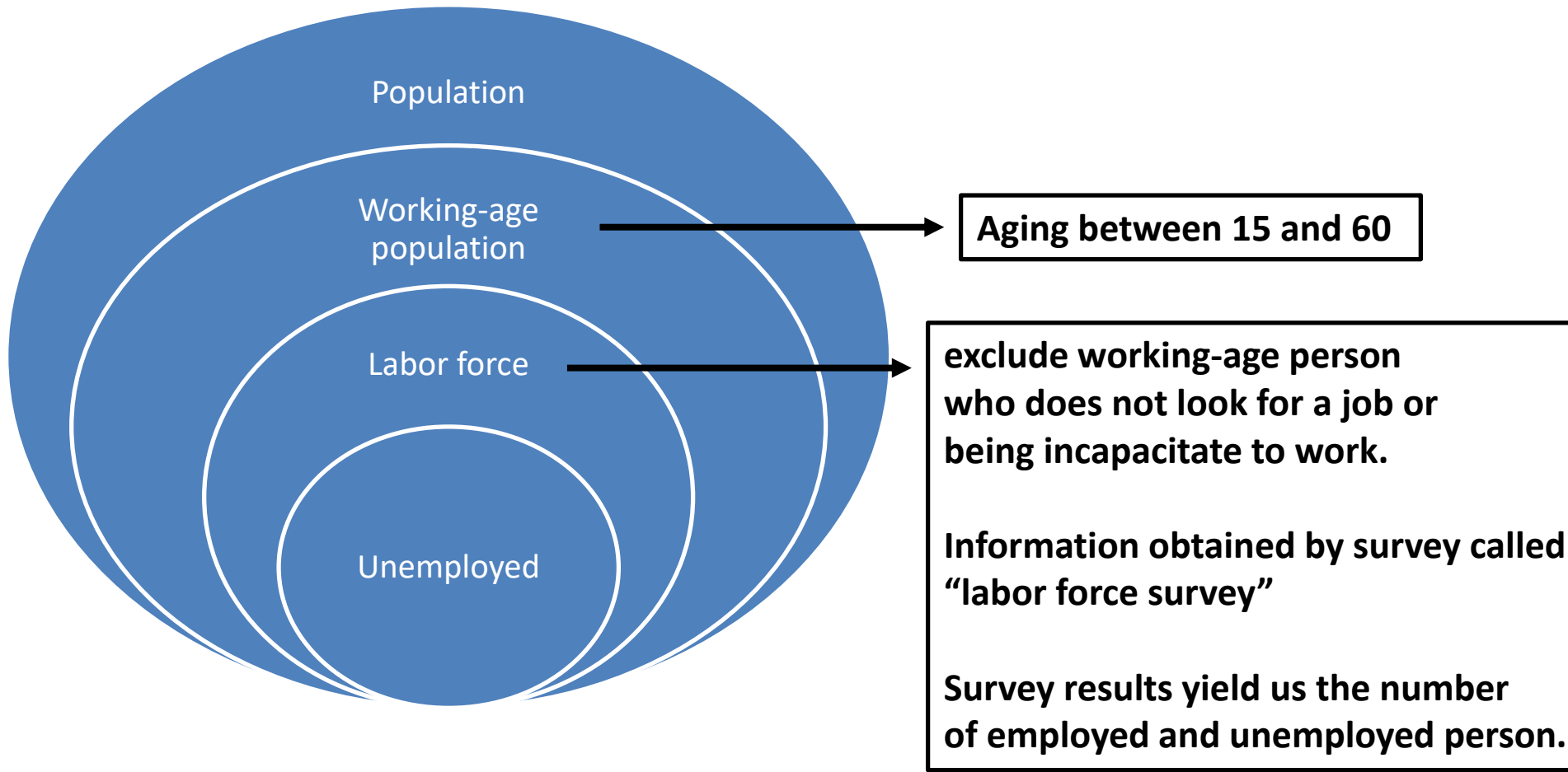
- Government aims to achieve **stable output growth**.
  - Maintain high level of output growth
  - Less fluctuations / Less volatile business cycles
- Macroeconomic policy is often used to **tame the cycle**.
  - Countercyclical macroeconomic policy (fiscal and monetary policy)

# Macroeconomic Concerns: Jobs and employment

- High level of aggregate output can infer a strong macroeconomic activity with high employment.
- However, it is not always the case if aggregate output is mainly produced by capital or machine.
- **Unemployment rate** is a better indicator used to convey the information about people jobs.

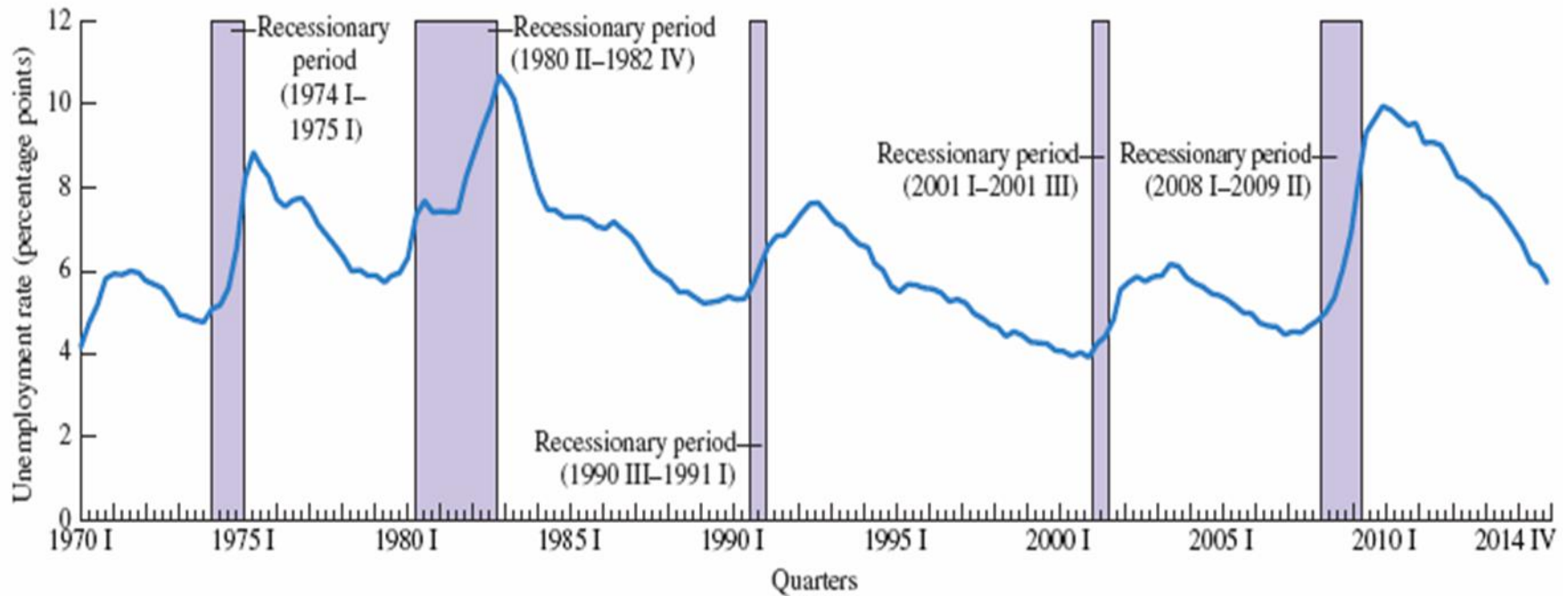
# Macroeconomic Concerns: Jobs and employment

- **unemployment rate** The percentage of the **labor force that is unemployed** – e.g.  $\# \text{ unemployed} / \# \text{ labor force}$



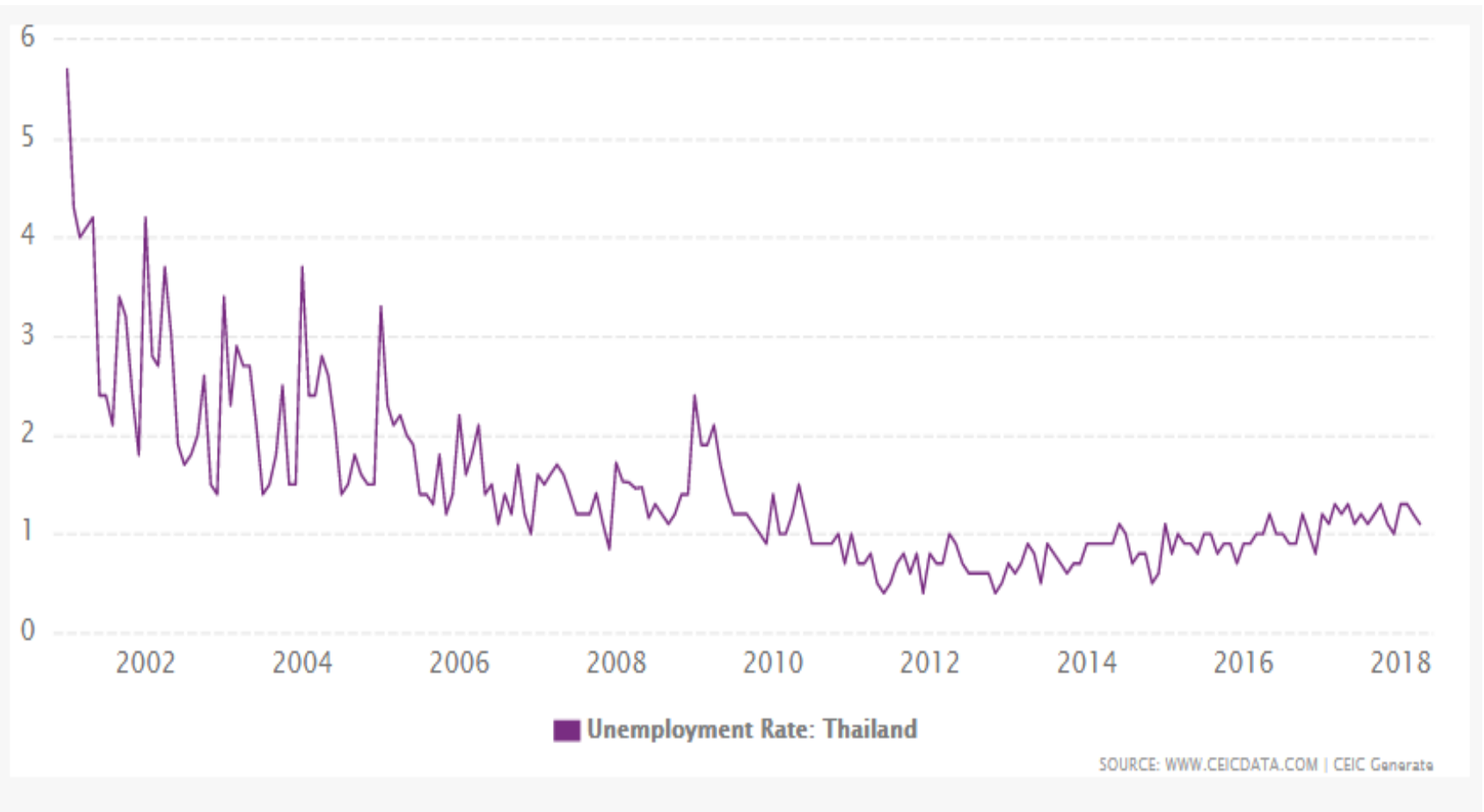
# Macroeconomic Concerns: Jobs and employment (USA)

- The existence of high unemployment rate seems to imply that the aggregate labor market is not in equilibrium, and thus require some government actions.



- The U.S. unemployment rate since 1970 shows wide variations.
- The five recessionary reference periods show increases in the unemployment rate.

# Macroeconomic Concerns: Jobs and employment (Thailand)



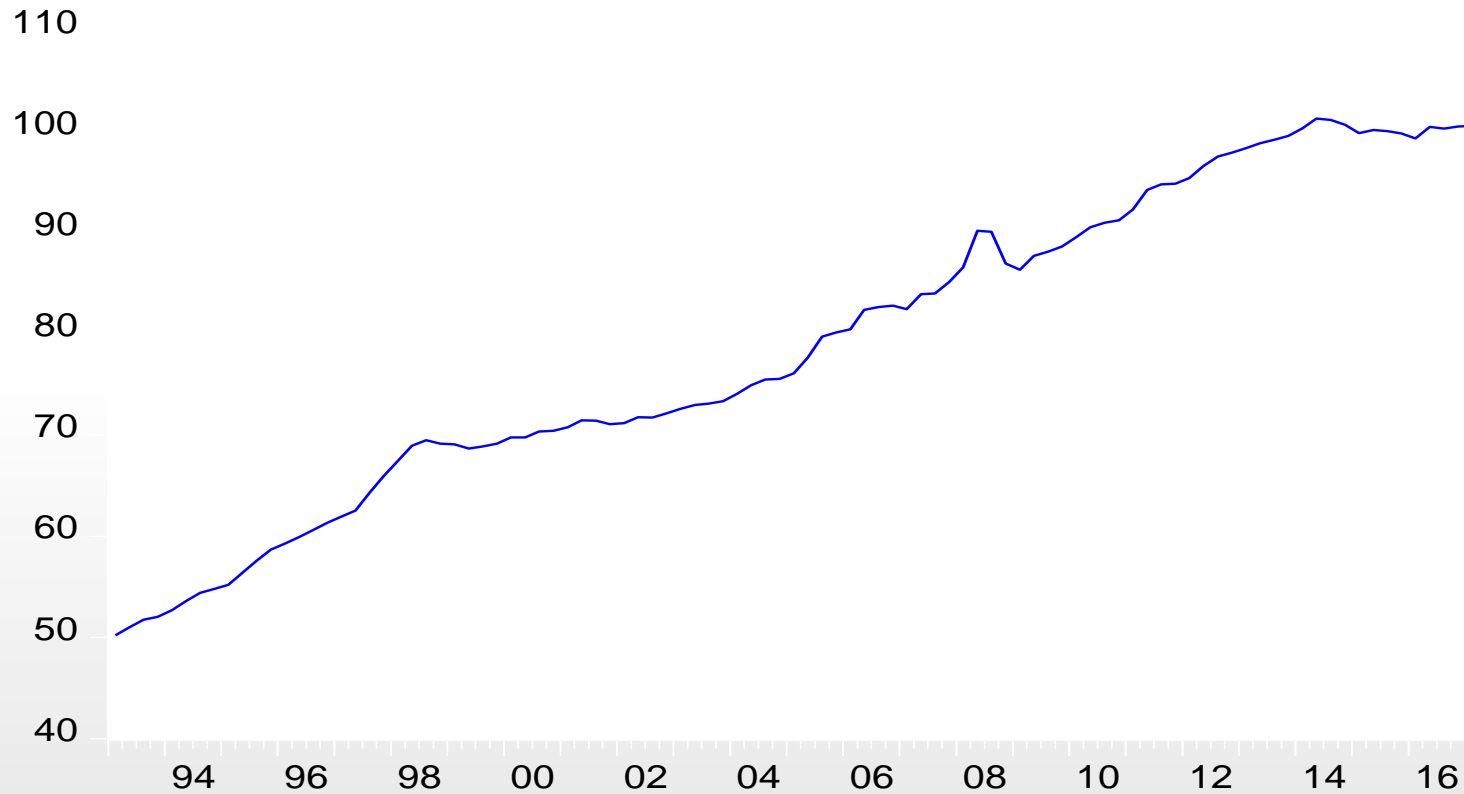
**Read this article:** <https://www.bangkokpost.com/learning/work/466226/why-thailand-unemployment-rate-is-ridiculously-low>

# Macroeconomic Concerns: Cost of living

- **Cost of living** : generally measured by the change in the **overall price level**.
- **Itemized prices v.s. Overall price** : statistical agency collects itemized prices and construct a single number used to measure average price of goods that typical households purchase.
- The single number constructed as a measurement for overall price level is commonly known under the **consumer price index (CPI)**.

# Macroeconomic Concerns: Cost of living

HL\_CPI



# Macroeconomic Concerns: Cost of living

- **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.

# Calculating CPI inflation

2016Q2	100.5
2016Q3	100.3467
2016Q4	100.5233
2017Q1	100.62
2017Q2	100.6
2017Q3	100.8
2017Q4	101.4
2018Q1	101.23
2018Q2	101.93

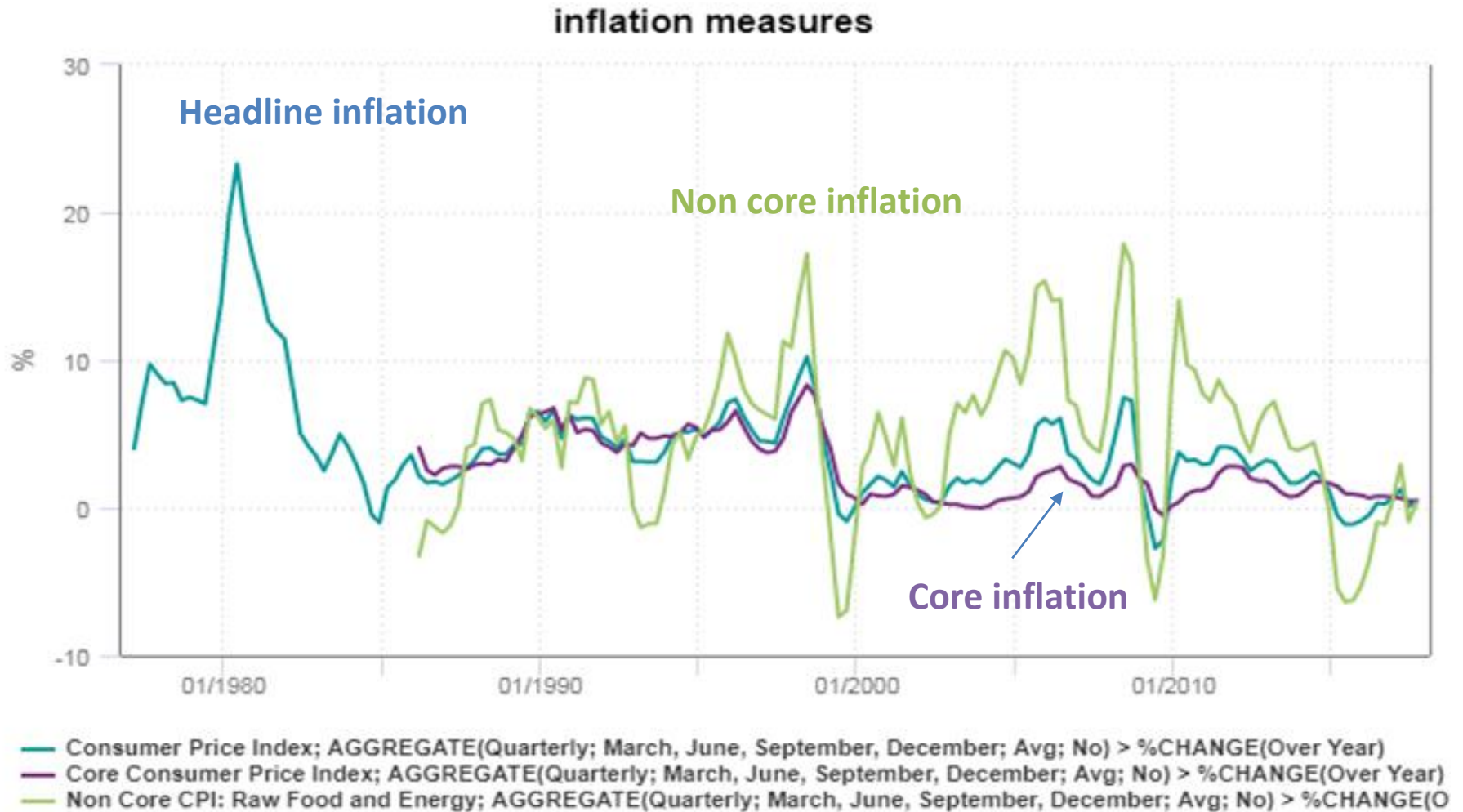
**Source:** CEIC; monthly average

- Q-o-Q inflation of Q2/2017 =
- Y-o-Y inflation of Q4/2017 =

# Macroeconomic Concerns: Cost of living

- The series are calculated monthly by **the Bureau of Trade and Economic Indices**, Internal Trade Department Ministry of Commerce (สำนักดัชนีเศรษฐกิจการค้า กรมการค้าภายใน)
- Data is collected, based on the survey.
  - **Headline (General) CPI:** prices of 7 groups (373 items) of goods and services.
  - **Core CPI:** prices of 266 items, **excluding fresh food and energy group** (107 items).

# Macroeconomic Concerns: Cost of living



Source: CEIC Data

## ACTIVE LEARNING 2

# Why do we care about inflation?

How does the change in overall price level affect your life? Why do you think that inflation matters to you?

# Sources of macroeconomic data

- **Production data : NESDB**
- **Financial data : Bank of Thailand**
  - **Interest rates:** return on saving and cost of borrowing.
  - **Exchange rates:** price of a national currency in terms of foreign national currency.
- **Database:** BOT and St.Louis Fred
- **Subscribed database:** CEIC, Thomson Reuter (Datastream)