

# 1. Introduction to Macroeconomics

EE 212

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# 1 What is Macroeconomics

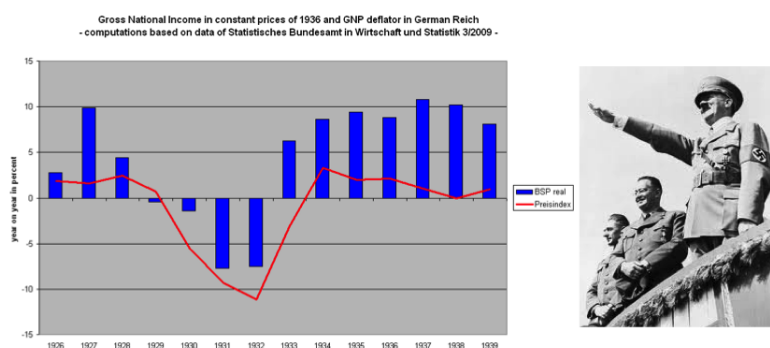
- What “Economics” is about?
  - Economics deal with a central problem faced by all individuals and all societies: the problem of “Scarcity”.
  - Scarcity
    - \* Definition of Scarcity: the excess of human needs over what can actually be produced.
  - Trade-offs among different alternatives
    - \* A trade-off implies that having more of one good thing usually it implies having less of another.
  - Economics is the study of choice under conditions of scarcity.
- Making choices in the face of scarcity implies a cost
  - Economists use the term “ opportunity cost” to highlight the fact that making choices in the face of scarcity implies a cost
  - An opportunity cost is the cost of any activity measured in terms of the best alternative foregone
- Microeconomics: the study of the economic activities and interactions of individuals, households, businesses, and other groups at the sub-national level
  - **Macroeconomics:** the study of how economic activities at all levels create a national (and global) economic environment
  - Links between macro and micro: economic conditions at the aggregate level, such as rates of unemployment and inflation, create the environment in which individual economic actors make their decisions.

## How do you think macroeconomic matters?

- To your life?
- To your family?
- To your country?

## 2 Why macroeconomics matters?

- The economic crisis of Weimar Republic and the rise of Nazism.



Source: wikipedia

[http://www.bbc.co.uk/schools/gcsebitesize/history/tch\\_wjec/germany19291947/1riseofnazis1.shtml](http://www.bbc.co.uk/schools/gcsebitesize/history/tch_wjec/germany19291947/1riseofnazis1.shtml)

## Why macroeconomics matters?

- The Thai Revolution of 1932

ตารางที่ 1.1  
สถิติข้าว พ.ศ. 2400 - 2457

| ปี<br>พ.ศ. | พื้นที่ปลูกข้าว<br>(ล้านไร่) |          | จำนวน<br>ส่งออก<br>รายปี<br>('000) | อัตรา<br>เพิ่มรายปี<br>(%) | มูลค่า<br>รายปี<br>(ล้านบาท) | ราคาข้าว<br>เฉลี่ย<br>ต่อตัน |
|------------|------------------------------|----------|------------------------------------|----------------------------|------------------------------|------------------------------|
|            | ภาคกลาง                      | ภาคอื่นๆ |                                    |                            |                              |                              |
| 2400-02    | 5.83                         | -        | 58                                 | -                          | -                            | -                            |
| 2403-07    | -                            | -        | 115                                | 14                         | -                            | -                            |
| 2408-12    | -                            | -        | 99                                 | -3                         | -                            | -                            |
| 2413-17    | -                            | -        | 113                                | 3                          | 5.1                          | 45                           |
| 2418-22    | -                            | -        | 213                                | 14                         | 10.1                         | 48                           |
| 2423-27    | -                            | -        | 216                                | -                          | 9.6                          | 45                           |
| 2428-32    | -                            | -        | 321                                | 8                          | 15.1                         | 47                           |
| 2433-37    | -                            | -        | 438                                | 6                          | 23.8                         | 54                           |
| 2438-42    | -                            | -        | 483                                | 2                          | 36.4                         | 75                           |
| 2443-47    | -                            | -        | 672                                | 7                          | 61.2                         | 91                           |
| 2448-52    | 6.8                          | 2.4      | 892                                | 6                          | 81.0                         | '91                          |
| 2453-57    | 7.2                          | 4.3      | 919                                | 1                          | 81.2                         | 88                           |
| 2458-62    | 8.2                          | 5.7      | 954                                | 1                          | 108.1                        | 113                          |
| 2463-67    | 9.6                          | 6.7      | 1,068                              | 2                          | 115.3                        | 108                          |
| 2468-72    | 10.8                         | 7.2      | 1,413                              | 6                          | 169.6                        | 120                          |
| 2473-77    | 11.8                         | 8.3      | 1,556                              | 2                          | 91.2                         | 59                           |
| 2478-82    | 12.0                         | 9.2      | 1,534                              | -                          | 94.6                         | 62                           |
| 2483-87    | 14.1                         | 11.3     | 801                                | -13                        | 99.3                         | 124                          |

ที่มา : Ingram (1971 : 38, 44, 246); Ishii (1978 : 285, 315).



<http://www.economist.com/node/13479303>

## Why macroeconomics matters?

- The crisis of 1997



## Why macroeconomics matters?

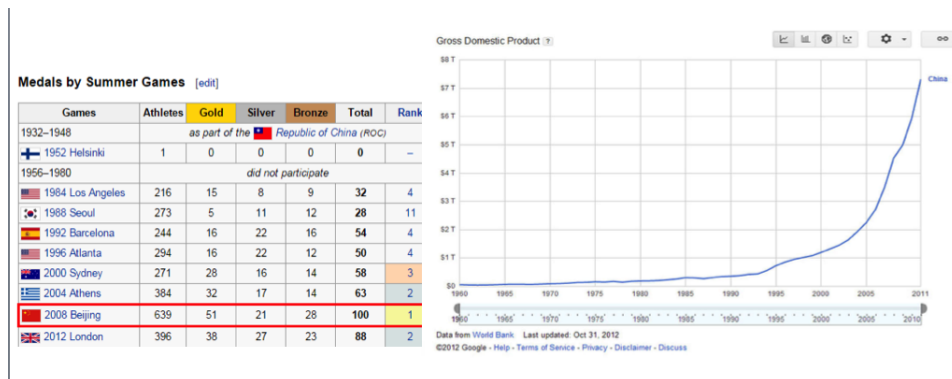
- Why “poor” countries rarely have successes at sport?



Source: [www.laureaus.com](http://www.laureaus.com)

## Why macroeconomics matters?

- Why “poor” countries rarely have successes at sport?



China (host country 2008)

### 3 What are the goals of macroeconomics?

- General goals Giving good life to everyone
  - But a question remains: what is good life?
  - Three major macroeconomic goals
    1. Raising living standards
    2. Creating stability
    3. Ensuring sustainability

#### 1. Raising living standards

- Improving what are important to life Consumptions, housing, health, education, entertainment, etc.
  - The crucial means to achieve this objective is “economic growth” (i.e. growth in GDP per capita).
  - But in the context of developing countries, concerns are also with “economic development” issues such as poverty and inequality

What are the goals of macroeconomics?

#### 2. Creating stability

- Yet, the unpredictability of economic conditions can be very harmful to your life.
  - Another major macroeconomic goal, therefore, is to deal with economic fluctuations
  - Stability enables individuals and families to enjoy economic security and to be able to make reasonable predictions about their future.

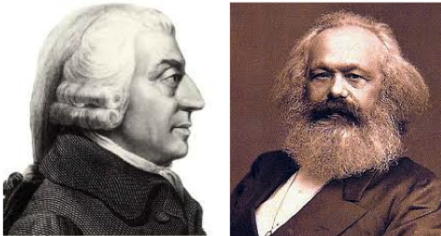
#### 3. Ensuring sustainability

- How about the future generations?
  - Economic sustainability can be made in the following ways
    - \* Financial sustainability

- Ecological sustainability
- Socially sustainable
- \* Do you think there are other goals?

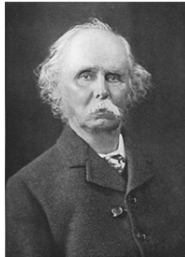
## 4 The History of Macroeconomics

- Different historical periods brought about different concerns that underpinned development in macroeconomic ideas
  - From classical to Keynesian
  - And from Keynesian to monetarism, and finally to neo-classical economics

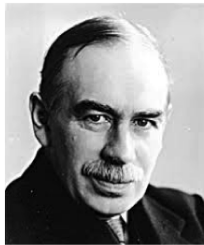


1723-1790

1818-1883



1842-1924



1883-1946



1912-2006

### 1. 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.

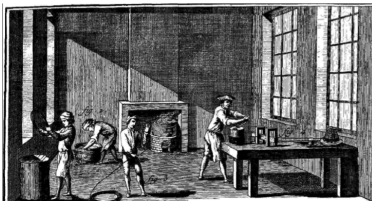
- Have to remember that Smith was a reaction to the prior “mercantilism” (controlled economy)

### Adam Smith’s view of the poor



- “He has all the inconveniences of the soil and the season to struggle with, ... Thus he who as it were supports to the whole frame of society and furnishes the means of the convenience and ease of all the rest is himself possessed of a very small share and is buried in obscurity”. (A.Smith, Lectures on Jurisprudence)

### Adam Smith’s view of the poor



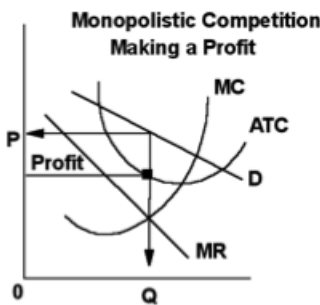
- Presenting the poor as “people with the same native abilities as everyone else”, Smith said; “the difference in natural talents in different men is, in reality, much less than we are aware of” (Smith, WN)

## 2. 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.
  - 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.

### 3. 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”



$$(31) \quad HDI_t = \sum_{i \in C} PF_{i,t} \times \overline{FS}_{i,t} - dr_t \times \overline{FS}_{i,t} + GTRANS_t$$

$$(32) \quad SAV_t = \frac{HDI_t \times \sum_{i \in C} PC_{i,t} \times C_{i,t}}{CPI_t}$$

$$(33) \quad GR_t = PTAX_t + CTAX_t + TARRIF_t + ETAX_t$$

$$(34) \quad PTAX_t = \sum_{i \in I} \eta_{i,t} \times P_{i,t} \times Q_{i,t}$$

$$(35) \quad CTAX_t = \sum_{i \in I} \kappa_{i,t} \times PX_{i,t} (C_{i,t} + GC_{i,t} \cdot ID_{i,t})$$

$$(35) \quad TARRIF_t = \sum_{i \in I} \sum_{j \in I} m_{ij,t} \times ER_{i,t} \times PWM_{ij,t} \times X_{i,t}$$

$$(36) \quad ETAX_t = \sum_{i \in I} \sum_{j \in I} \kappa_{ij,t} \times PE_{ij,t} \times X_{i,t}$$

$$(38) \quad GTRANS_t = GR_t - GSP_t - GSVA_t$$

$$(39) \quad BOT_t = \sum_{i \in I} \sum_{j \in I} PWE_{ij,t} \times X_{i,t} - \frac{P_{i,t}}{ER_{i,t}} \times TRQS_t - \sum_{i \in I} \sum_{j \in I} PWM_{ij,t} \times X_{i,t}$$

- Neo-classical economists tend to see the market system as the most efficient in allocating resources.
  - Even most economists accept the advantages of the market, there are still 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
    - \* Growth, stability, and even inequality.

### 4. 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



## 5. The Monetarists

- Led by Milton Friedman
- Put the emphasis on the roles of bad monetary policies as the major factor behind economic crisis Suggest that the gov't 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"

## 6. Neo-liberalism (following Friedman)

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

## 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.

### Debates remain:

- Classical and neo-classical macroeconomists tend to emphasize market efficiency and argue for the small role of the government.
- While Keynesian macroeconomists emphasise persistent effects of unemployment, and argue for a more active role of the gov't.
- Famous Keynes's quote: **“in the LR we are all dead.”**

### Present challenges

- The integration between national economy and the creation of "globalised economy"
- The fuel-based economy is reaching the end. 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?

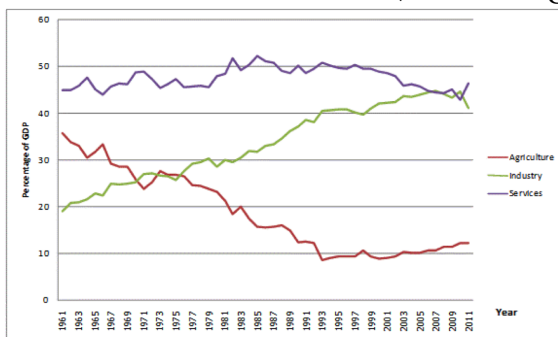
# 5 Tools for understanding Macroeconomics Issues

- Basic tools for investigating macroeconomic phenomena

## 5.1 Empirical tools

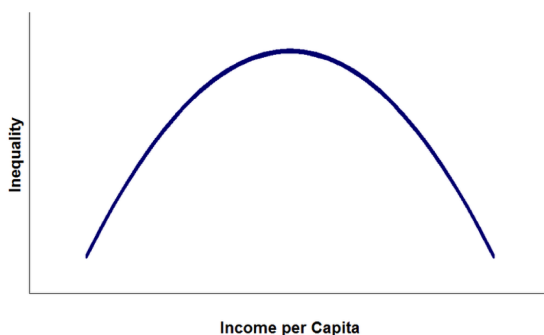
- Empirical =
- In economics, most empirical analysis are done quantitatively (through analysis of numbers)
  - Recording of how quantitative value of a variable change through time
  - Also, recording of relationships between variables
    - \* This is about finding correlation between variables
    - \* But needs to be careful that correlation does not imply causation
- Empirical tools (time-series)

Share of GDP in Thailand (Percentage) from 1961-2011



Data Source: The World Bank 2013 (<http://data.worldbank.org/country/thailand>)

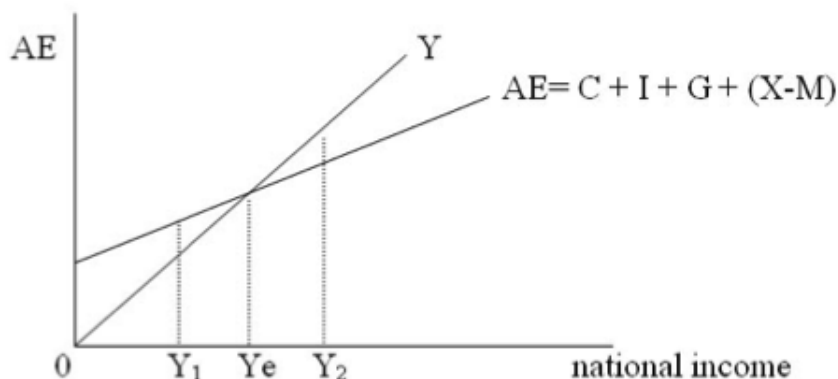
- Empirical tools (regression) : Kuznet Curve



## 5.2 Theoretical Tools

### Theoretical tools

- **Quantitative Analysis** may not produce enough insights on “how things work”
- Economists construct “economic models” to do such a task
  - A model, proposing the nature of relationships between variables, is based on thought-experiments.
  - Assumptions are outlined, and through careful reasoning, a mathematical explanation is built.
- Economic Model : Keynesian model of income determination

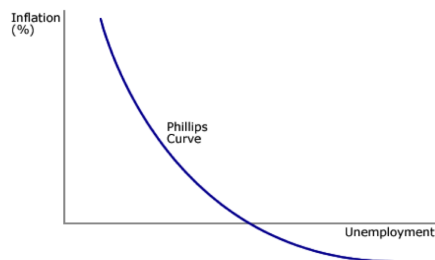


## 5.3 Historical Tools

- In addition, knowledge of historical events also forms another route in which economic knowledge can be developed.
- This route can be indispensable in giving broader insight on economic phenomena. This is because it can provide a connection between economic, social, and political factors.
- Example: “Kicking Away the Ladder” (Ha Joon Chang, 2002) Historically, the Western developed nations had used trade protections and subsidies to support the growth of their industries. Such policies, in place throughout 18-19th century, contributed to its powerful economic position in the

present. It seems, therefore, contradictory that these are the nations that ask developing countries to develop through “trade-liberalisation.

- The concept of trade-off is central to economics
  - Remember the Production Possibility Frontier (PPF)?
- What about the trade-off in macroeconomics?
  - Employment and inflation
  - Energy and environment
  - Efficiency and equality
- Trade off in employment and inflation
  - Phillips Curve



## 6 Tradeoff between macroeconomic objectives

- Trade off in efficiency and equity
- Programs to promote equality comes at the expense of distorting incentives to work and, thus, reduce efficiency in the economy.
  - For example: unemployment benefits
- But we have to keep in mind that several notions of “trade-off” are contestable.

Finding macroeconomic data online

- From the World Bank website, we can check for data for Thailand and other countries
  - <http://data.worldbank.org/country/thailand>
- Example:
  - We can find data on unemployment and inflation, and plot them as time series.
  - We can also observe their relationship overtime.

Example : “Public debate in France turns to the subject of reducing unemployment benefits. The system gives the benefits to those unemployed who need it. However, not everyone is even eligible. Upon the past history, when people have the right to receive unemployment benefits, some of them quitted their job and have never worked since.”

How does the policy help us to achieve any of macroeconomic goal? Does the policy contradict to any of macroeconomic goal? Comment on the reduction in unemployment benefit policy. Is there any trade-off in macroeconomic goals in this case? Discuss.

# 7 Basic concepts in understanding economic activities

- 4 essential macroeconomic activities:

## 7.1 Capital Stock and Resource Maintainance

- Resource maintenance = the management of natural, manufactured, human, and social resources in such a way that their productivity is sustained.
- Capital stocks = a quantity of any resource that is valued for its potential economic contribution

- Types of capital

- Natural capital
- Manufactured capital
- Human capital
- Social capital
- Financial capital



## 7.2 Money, Wealth and Income

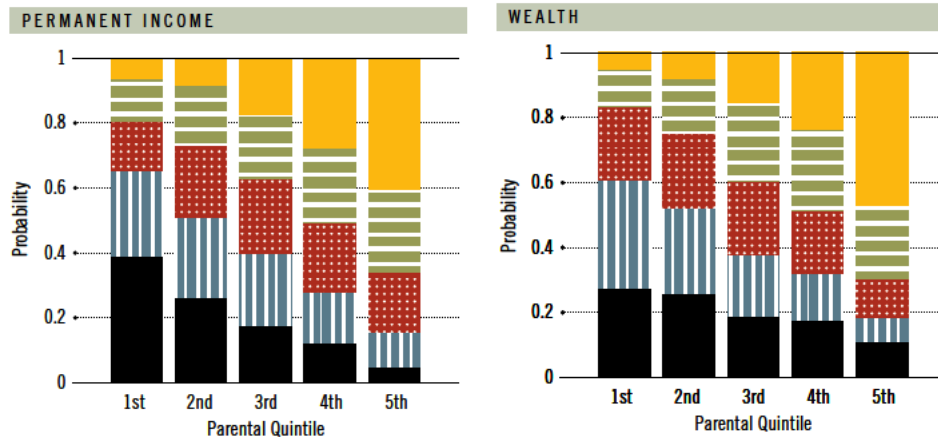
- Money refers to what is actually accepted as payment for goods, services, and debts.
- Income refers to earnings during a period of time, such as a year.
- Wealth refers to the accumulated assets/property at a point in time.
- What's this difference?

Example: high income? wealthy?

- If I own \$2 million worth of diamonds but no cash or bank accounts
  - I am wealthy but I do not have any money.
  - Suppose you win a \$25 million lottery prize which you take as a lump sum, put the cash under your bed, and then quit your job.
  - Suppose a computer genius in Silicon Valley blows all of his income every year on food, parties, vacations even though he earning \$250,000 per year.
- Discussion:
    - **Which Persists More from Generation to Generation—Income or Wealth?**
    - **Why should we care about intergenerational mobility - the changes in a family's economic status between successive generations?**
    - **If inequality were increasing, economic mobility would become more important topic of discussion. Do you agree?**
    - **What is it that makes one society more economically mobile than another?**

### Earnings and Wealth from One Generation to the Next

OFFSPRING QUINTILE: ■ 1st ■ 2nd ■ 3rd ■ 4th ■ 5th



Source: <https://www.stlouisfed.org/publications/regional-economist/july-2016/which-persists-more-from-generation-to-generation-income-or-wealth>

“NOTE: Each panel shows the population in the study broken down into five quintiles, with each quintile having roughly the same number of people. The 1st quintile represents those at the bottom of the income/wealth ladder, and the 5th quintile represents those at the top. How should these figures be interpreted? Follow this example: In the Permanent Income panel, those born into the 1st quintile have a 39 percent chance of ending up there themselves. In the Residual Wealth panel, residual wealth is defined as wealth net the effect of permanent income and education. (In the middle panel, wealth is just assets minus liabilities.)”

## **Which Persists More from Generation to Generation—Income or Wealth?** By George-Levi Gayle , Andrés Hincapié

**“Do you earn more money than your parents? Do you have more wealth, i.e., assets minus liabilities, than your parents?** Economists use the answers to these questions to determine what is called **intergenerational mobility**—the changes in a family’s economic status between successive generations. **Why should we care about intergenerational mobility?** Being able to do better than one’s parents is part of the American Dream. Also, a society with intergenerational mobility might have less economic inequality across generations.

It is well-documented that income and wealth inequality, i.e., the size of the differences in income or wealth between the haves and the have-nots, has increased significantly over the past 40 years.<sup>1</sup> If there were no inequality, then economic mobility would probably not be a topic of discussion because parents would have no economic advantage to bequeath. However, inequality exists, and as it increases, the need for economic mobility becomes more important. Policies that promote economic mobility can reduce inequality in the next generation.

**What is it that makes one society more economically mobile than another?** Are there factors that can promote economic mobility? In discussing such questions, economists have come up with two possible approaches to these challenges: (1) **the economic opportunity structure** and (2) **economic growth**. Economic growth promotes mobility by raising earnings or wealth for the entire population, all else being equal. ... The economic opportunity structure can promote economic mobility by helping the poor escape poverty (perhaps with the help of free preschool, for example) or by limiting the advantage of those who grew up privileged (by imposing inheritance taxes, for example, so that they have less to pass down to the next generation). ... “

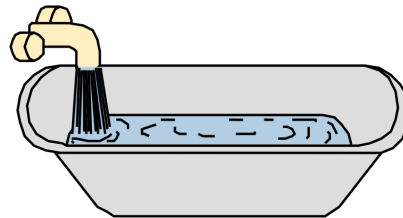
For more details you may read the whole article. The source is below.  
<https://www.stlouisfed.org/publications/regional-economist/july-2016/which-persists-more-from-generation-to-generation-income-or-wealth>

## 7.3 Stock VS Flow Variable

- Stock VS Flow Variables
  - Stocks
  - Flow
- Flows change the level of stocks
- Most macroeconomic variables can be categorised into stock or flow variables

### Examples

- Income =
- Wealth =
- Investment =
- Capital =



- **Investment VS Depreciation**

- Investment is primarily the activity of resource maintenance
  - Depreciation occurs when Manufactured assets, for example, wear out and lost their usefulness overtime.
  - Resource maintenance activities help to keep up the quantity and quality of important capital stocks.
- **Consumption** : The final use of a good or service
    - Consumption is frequently contrasted with Investment
  - **Production** = conversion of resources into goods and services.
    - Production converts "inputs" into "outputs"
    - Inputs include materials that become part of the produced good, supplies that are used up in the production process, and labour time.

- But there are flow of services, arising out of capital stocks, that will not be used up.
- These include human capital, social capital.

Example : Suppose T-land quarterly data of for GDP and public debt is as follows.

|                | 2017<br>Quarter 1 | 2017<br>Quarter 2 | 2017<br>Quarter 3 | 2017<br>Quarter 4 |
|----------------|-------------------|-------------------|-------------------|-------------------|
| 1. GDP         | 3,400             | 3,300             | 3,330             | 3,500             |
| 2. Public debt | 4,017             | 3,993             | 4,072             | 4,329             |

Calculate the yearly data 2017 for the two variables. Show how to calculate and explain

## 7.4 “Nominal VS. Real” Value

- In economics, “nominal” value refers to the value expressed in monetary terms, i.e. in the units of a currency.
- “Real” is a value that is adjusted from the nominal value to remove the effect of a change in price over a period of time. For example,

### Example.

- 2016 : A farmer produces corns worth \$10,000. (Price of corn = \$40 a ton)
- 2017 : The farmer produces corns worth \$12,000. (Price of corn = \$50 a ton)

- 
- 2016 : nominal value of corns = .....
  - 2017 : real value of corns = .....
  - 2012 : nominal value of corns = .....
  - 2012 : real value of corns = .....

$$\text{Real value} = \frac{\text{Nominal value}}{\text{Price Index}} \times 100$$

## Example

- 2016 : a wage earner earns 200 Baht a day. Price of meal = 50 Baht a meal
- 2017 : a wage earner earns 300 Baht a day. He expects the price of a meal to remain the same.
- In 2016 : Nominal wage =  
Real wage =
- In 2017 : Nominal wage = .  
Real wage (the wage earner expects to be) =
- Suppose that in 2017 the price level increases at the same rate as nominal wage. The inflation rate increases and unemployment rate decreases.
- Therefore, the relationship between inflation and unemployment is negative. (Phillips curve)

## 7.5 Important Concept on Distribution

- **Distribution** the allocation of products and resources among people
- Macroeconomists are usually particularly interested in ...Who receives income?... Labour VS Capital Labour income is compensation received by workers in the form of wages, salaries, and fringe benefits Capital income include rents, profits, and interest
- Questions usually arise
- Tim Cook (Apple CEO) VS A Chinese labour (who produces apple products)



The Apple CEO's pay was \$4.2 million in 2012 (Forbes)



A salary for an entry level worker in Foxconn factory is approximately \$ 3600 per annual in 2013 (DailyMail, UK)

The difference is just 1,166 times

- Measurement of income distribution 20:20 Ratio (income of the richest 20% divided by that of the poorest 20%)

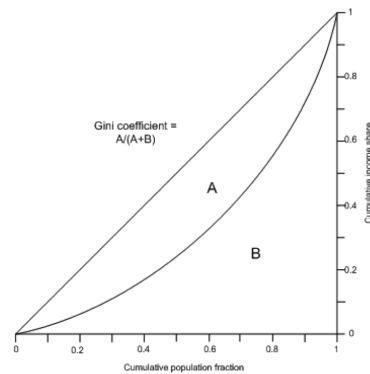
– Example. Suppose the data of T-land is as follows.

| Percentile of income among population | Share of income earned by each group of percentile in 1990 | Share of income earned by each group of percentile in 2017 |
|---------------------------------------|--|--|
| 1-20 (20% the poorest)                | 10   | 8  |
| 21-40                                 | 12   | 15   |
| 41-60                                 | 20   | 19   |
| 61-80                                 | 23   | 21   |
| 81-100(20% the poorest)               | 35   | 37   |

- Calculate 20:20 ratio in 1990 and 2017.
- Comment on the change in the extent of equality from 1990 to 2015.
- Higher 20:20 ratio, the ..... the economy is unequal.

- Lorenz curve = a line used to portray an income distribution, drawn on a graph with percentiles of household on the horizontal axis and the cumulative percentage of income on the vertical axis.

- Gini ratio (or coefficient) =  $a/a+b$
- If the gini is higher, the economy is ..... unequal.



- Thailand Gini Coefficient (world bank)

|                  |       |       |       |      |
|------------------|-------|-------|-------|------|
| Year             | 1990  | 2000  | 2006  | 2009 |
| Gini Coefficient | 45.27 | 42.84 | 42.35 | 40.0 |

Does Thailand inequality improve over time?

- Other countries

- Cambodia 2009 = 36.0
- South Korea 2007= 31.3

- Wealth inequality – the distribution of wealth, i.e. what people own in assets or debt
- Example: <http://business.time.com/2014/01/20/worlds-85-wealthiest-people-as-rich-as-3-5-billion-poorest/>
- Important concepts on distribution: taxes VS transfers Taxes is the main venue for the government to raise revenue.
- Transfer are flow of money, goods, or service from the government to its people. It forms an important part of the roles of a government in providing welfare.

|                                   |          |
|-----------------------------------|----------|
| Percentage share of income (2009) | Thailand |
| income share held by lowest 10%   | 2.8      |
| income share held by lowest 20%   | 6.7      |
| income share held by highest 20%  | 47.2     |
| income share held by highest 10%  | 31.5     |

[www.worldbank.org](http://www.worldbank.org)