Core Econ Book notes

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The following are notes from the core econ the-economy book :econcomics:

- **Natural experiment** An empirical study exploiting naturally occurring statistical controls in which researchers do not have the ability to assign participants to treatment and control groups, as is the case in conventional experiments. Instead, differences in law, policy, weather, or other events can offer the opportunity to analyse populations as if they had been part of an experiment. The validity of such studies depends on the premise that the assignment of subjects to the naturally occurring treatment and control groups can be plausibly argued to be random
  - An example used is the division of Germany after the second world war. Capitalist in the west, centrally planned in the east.
- GDP per capita specifies the amount of money received for all the goods and services a country produces? Or just the real value?
- Income as a measure of wellbeing. Income, especially disposable income helps understand how much a person can buy. Either needs or wants
- How does income increase? Is it simply that a person or group produces more goods or services?
- Economy is made up of firms and households

GDP as a measure for standard of living

- GDP is correlated with important metrics (like happiness, life expectancy, or HDI)
- More goods and services, usually afford more of the other good things in life.
- Misses income inequality. The average income misses the outliers (rich people can skew it)

Unit 1: The Capitalist Revolution

A question that was on my mind starting this chapter was: why do we need markets? What are they useful for and is the idea organic or is it coerced by us?

- Graph of income per household decile. The rich to poor ratio is actually a lot higher in countries that have a lower top decile income.

- "Average income in Norway is 19 times the average income in Nigeria. And the poorest 10% in Norway receive almost twice the income of the richest 10% in Nigeria"
- **The value of GDP corresponds to the total income of everyone in the country (try and think about this, how it affects belief)**

Measuring Income

- Measuring wellbeing is tricky. Average income doesn't cover everything so we might use something like disposable income. This doesn't cover everything either (like healthcare or social environment).
- "we also know from research that people care about their relative position in the income distribution". So average disposable income would not give us the full picture if there is income inequality in the group.
- "because the same average income may result from very different distributions of income between rich and poor within a group, average income may fail to reflect how well off a group of people is by comparison to some other group."
- GDP measures goods and services from the government too so in this sense its a better measure of wellbeing than disposable income (as it includes health care and provided services)
- The gaps between what we mean by wellbeing, and what GDP per capita measures, should make us cautious about the literal use of GDP per capita to measure how well off people are.
- But when the changes over time or differences among countries in this indicator are as great...
- GDP per capita is undoubtedly telling us something about the differences in the availability of goods and services

Growth in income

- A ratio scale. Plots growth rate which is the orginal value over the new value
- A constant growth rate would be a straight line.
- Useful for comparing regions rate of growth
- Some interesting examples with light being 40,000 times more efficient and the speed of information to describe technological advances. Productivity of labour, light per hour worked

Capitalism

- This hockey stick growth in GDP, labour productivity, connectivity and environmental impact is determined to be as a result of capitalism
- " An **economic system** is a way of organizing the production and distribution of goods and services in an entire economy. And by institutions, we mean the different sets of laws and social customs regulating production and distribution in different ways in families, private businesses, and government bodies"
- Capitalism is an economic system with a particular combination of institutions
  - Some example institutions in the past were private property, markets and families. The government was also an institution that determined the production and pricing of goods.
  - Private property varied in economic systems throughout history. In some societies nothing was owned apart from ornaments and clothes. Use of land in some societies was communal with the livestock and crops being private property.
  - In a capitalist economy, the equipment, buildings and other durable inputs (capital goods) are considered private property.
- Markets are a means of transferring goods and services from one person to another
  - They are voluntary so the exchange must be beneficial for both parties (in the game theoretic cost sense)
- A firm is a way of organising production
  - One or more individuals own capital goods and pay others to produce goods and services with this capital. They sell the output on the market with the hope of making a profit.
  - The expanded role of firms created a boom in another kind of market that had played a limited role in earlier economic systems: the labour market
  - Firms can be born, expand, contract and die in a short time span. They can hire employees from the labour market
- The only use in defining Capitalism would be to communicate the idea
  - we define capitalism as an economic system combining three institutions, each of which we need in turn to define.
  - Its a class of economic systems (that differ from country to country) sharing these characteristics

Capitalism as an economic system

- Private property is an essential condition for the operation of markets
  - This was a point raised in the housing market course, need to revise this
- Firms are the crucial factor in the capitalist system. Private property and markets allow firms to operate as the firms can own the capital goods and make a profit with markets. Ultimately based on self interest or profits.
- In a system without firms, most production is done by individuals or families e.g. shoemakers, blacksmiths, family on a farm. This was a large majority of systems pre 1600.
- There is centralized power in the sense that workers have a boss and the boss owns all the capital goods. The boss (or firm more generally) is at the mercy of the consumer though. They are navigating a market and their profits are determined by competition and the consumer.
  - Capitalism is an economic system that combines centralization with decentralization. It concentrates power in the hands of owners and managers of firms who are then able to secure the cooperation of large numbers of employees in the production process. But it limits the powers of owners and of other individuals, because they face competition to buy and sell in markets.
- The rise of the firm coincides with this increase in GDP and productivity so its hypothesised that this caused the rise > firms competing with each other in markets had strong incentives to adopt and develop new and more productive technologies, and to invest in capital goods that would have been beyond the reach of small-scale family enterprises.
- This also would have allowed rises in specialization with the opening up of new markets (more demand) firms employed more people whose work skills could become more and more refined

Specialization

- Array of goods and services we consume we dont know who produced them
- Specialization is a more efficient form of production due to economies of scale (so producing lots of a good is more efficient that a small number) and difference in ability (soil might be better in one place than another.

- How are goods to be distributed from producer to consumer?
- The firm thus facilitates a kind of cooperation among specialized producers that increases productivity.
- Markets accomplish an extraordinary result: unintended cooperation on a global scale.
  - An example is used with comparative and absolute advantage showing that specialization can increase consumption provided that the exchange between the specialized goods is at a certain level (what is this level?)
  - Its counter intuitive too has one person has the absolute advantage in both goods while the other had a comparative advantage. Any good offered to the first person they could produce more themselves with the same labour time but the most efficient way is a market.
  - Markets contribute to increasing the productivity of labour.

Causation for Capitalism

- An example here of the centralized control of institutions affecting the livelihoods of the German people (with the East centralized and the west remaining capitalist). All we can infer is that the divergence of institutions mattered for the development of these two regions.
- Hopefully more on this later, this is too satisfactory in how economists determine causal relationships. This is just an example of one causal experiment.

No notes on the last two sections

Unit 2 : Technology, Population and Growth

- Malthus views on the inability for income to rise passed sustenance because people would just have more children to fill this surplus was influential on 19th century thought (Irish famine was seen as natures reaction to this).
- Prior to the Industrial Revolution, most of the energy used in the economy was ultimately produced by edible plants, which converted sunlight into food for both animals and people, or by trees whose wood could be burned or transformed into charcoal. By switching to coal, humans were able to exploit a vast reserve of what is effectively stored sunlight.
- Energy from food to do things, or energy from food for livestock to do things, or energy from the burning of wood to do things. There

was only surface level extraction of sunlight, either by waiting (crops to grow), or by using surface level resources (like trees)

- Coal allowed the waiting aspect to be gotten rid of, and was more efficient than wood
- People started to prefer smaller families, even though they could 'afford' larger ones
- What causes increase in wages, is it more demand for goods so the equilibrium price in the labour market is raised?

2.1

Why did the Industrial Revolution happen first in the eighteenth century, on an island off the coast of Europe?

- A simple model built off of economic historian Robert Allen. Two factors played a key role
  - Relatively high costs of labour
  - low cost energy sources
- Theres examples of 4 other historians with different views on factors affecting this change
- Interesting to note the dynamic between the economist and the historian here. The economist attempts to model things whereas the historian says that is to oversimplify the causes and processes that took place.
- Often, hypothesis for why the west rose as it did are uneconomic statements but supposedly had important consequences (like the enlightenment, reformation)

2.2 Defining models

- An equilibrium is a situation that is self-perpetuating, meaning that something of interest does not change unless an outside or external force for change is introduced that alters the model's description of the situation
- Details the dissertation of Irving Fisher who modelled prices with a large cistern
- Movements away from the equilibrium are self-correcting
- Steps to build a model:
  - Construct a simplified description of the conditions under which people take actions
  - Describe what determines these actions
  - Determine how the actions affect eachother

  - Determine the outcome of these actions (describing the outcome of the two above steps). Often converge to some equilibrium.
  - Get insight by studying what happens when variables change

2.3 The basics

- *Model to explain the circumstance under which new technologies are chosen*
- Key concepts
  - Ceteris paribus, all things being equal, or hold other things constant
    * e.g. "what would happen if the price changed, but everything else that might influence the decision was the same." like brand loyalty, or how a person feels on a given day
  - Incentives, affect the benefits/cost to taking one action over another
    * All economic models have something equivalent to gravity, and a description of the kinds of movements that are possible. The equivalent of gravity is the assumption that, by taking one course of action over another, people are attempting to do as well as they can (according to some standard).
  - Relative prices The price of one good or service compared to another (usually expressed as a ratio).
  - economic rent A payment or other benefit received above and beyond what the individual would have received in his or her next best alternative. e.g. some innovation that reduces costs but can take advantage because it can sell at or slightly below the current market price.

2.4 Isocost lines, evaluating technology costs

- Important to note how a change in the relative price (of inputs to cost) change the Isocost lines
- When we describe a person or firm as entrepreneurial, it refers to a willingness to try out new technologies and to start new businesses.
- When innovation rents are not taken adavtange of any
- Eventually a new technology is adopted by all firms. Any firm that does not adopt it will not be able to compete on the market as they can not offer at the new low price. Schumpeter called this *creative destruction*
- For Schumpeter, creative destruction was the essential fact about capitalism: old technologies and the firms that do not adapt are swept away by the new, because they cannot compete in the market by selling goods at a price that covers the cost of

production. The failure of unprofitable firms releases labour and capital goods for use in new combinations.

- With this model of relative price changes affecting innovation rents we can see that rising wages in England in the 17th century encouraged a push to more energy intensive production. The incentive to replace workers with machines was increasing
- As wages rise technology that once were not cost effective become cost effective, and development of their efficiency increases.

2.7 Diminishing average product of labour

- Factors of production are inputs into the production process
- *Production function* is a relationship that describes the amount of output produced for a given amount of inputs
  - e.g. if there are X farmers then there will be Y grain
  - In this example the *diminishing average product* can be caused by
    - more labour devoted to a fixed quantity of land
    - more and more inferior land being used
- This worried Malthus, as more labour is devoted to farming with the average product falling, incomes are reduced.

2.8 Populations grow when living standards rise

- This section talks about how Malthus related humans to animals in the sense that any increase in living standard increases population. This, coupled with the law of the diminishing average product results in a subsistence level of income or food (for animals maybe). An example of antelopes with no predators in a large open plain is used.
- Technological advancement under this model would not result in any large rise in income or living standards. A new technology in farming would increase the average output per farmer, this increases their income, the population rises and there becomes less farmland, or the average product reduces. The population increases slightly but not the income for farmers
- This assumes demand is elastic right? That any increase in supply will be met with an increase in demand causing a real wage curve to shift up
- Wages fall as the average product reduces (each new farmer produces less grain).
- The population is now higher but wages return to what they were. I can't fully visualise this.
- **Some exercises on this topic might be useful**

2.9 long-term economic stagnation

- Analysises how Malthusian model applies to the trends in real wages and population growth from 1300-1600 after the black death. There was a rise in wages due to more land and increase product of labour. This came back to equilibrium though with a population increase that increased labour supply and reduced the average labour product.
- Wages returned in 1600 to what they were 300 years previously.
- Theres causal links too, to the peasants revolt in England of 1381.
- In the seventeenth and eighteenth centuries, the wages of unskilled English workers, relative to the incomes of landowners, were only one-fifth of what they had been in the sixteenth century.
- Land use became more valuable

2.10 Escaping stagnation

- Think of total output as the size of the pie and wages as the share of this pie going to workers
- It seems that the power of the worker has actually increased with technological innovation not really become a slave to it.

Unit 3: Scarcity, Work and Choice

- Marginal product can be determined from the slope of a production function
  - **Production function** A graphical or mathematical expression describing the amount of output that can be produced by any given amount or combination of input(s). The function describes differing technologies capable of producing the same thing