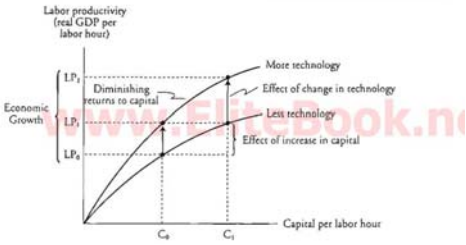
14. Economic Growth

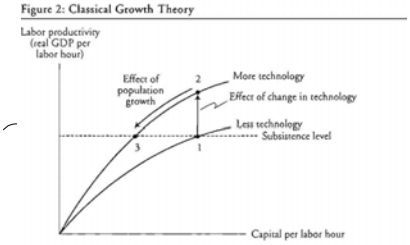
- Warm-up: Economic growth (EG)
- Estimating EG
  - Rule of 70
- a1. Sources of EG
  - Land
  - Capital goods
  - Labor ⊕
  - Entrepreneurial ability
- a2. Preconditions for E.G.- Incentive system
  - Markets
  - Property rights
  - Monetary exchange
- The productivity curve (PC)
  - Labor productivity =Real GDP per labor hour
  - Definition of PC

Figure 1: Productivity Curve

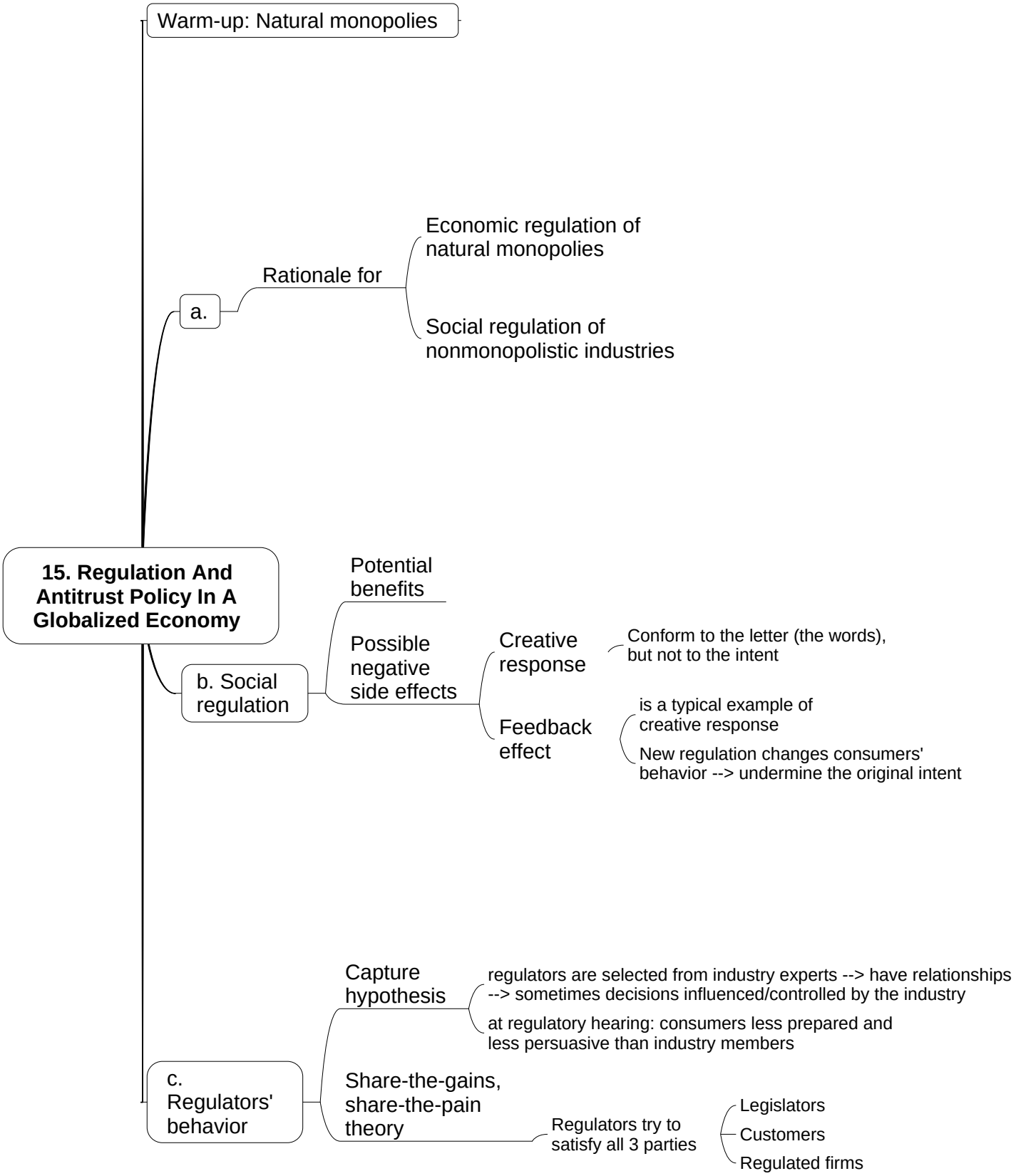


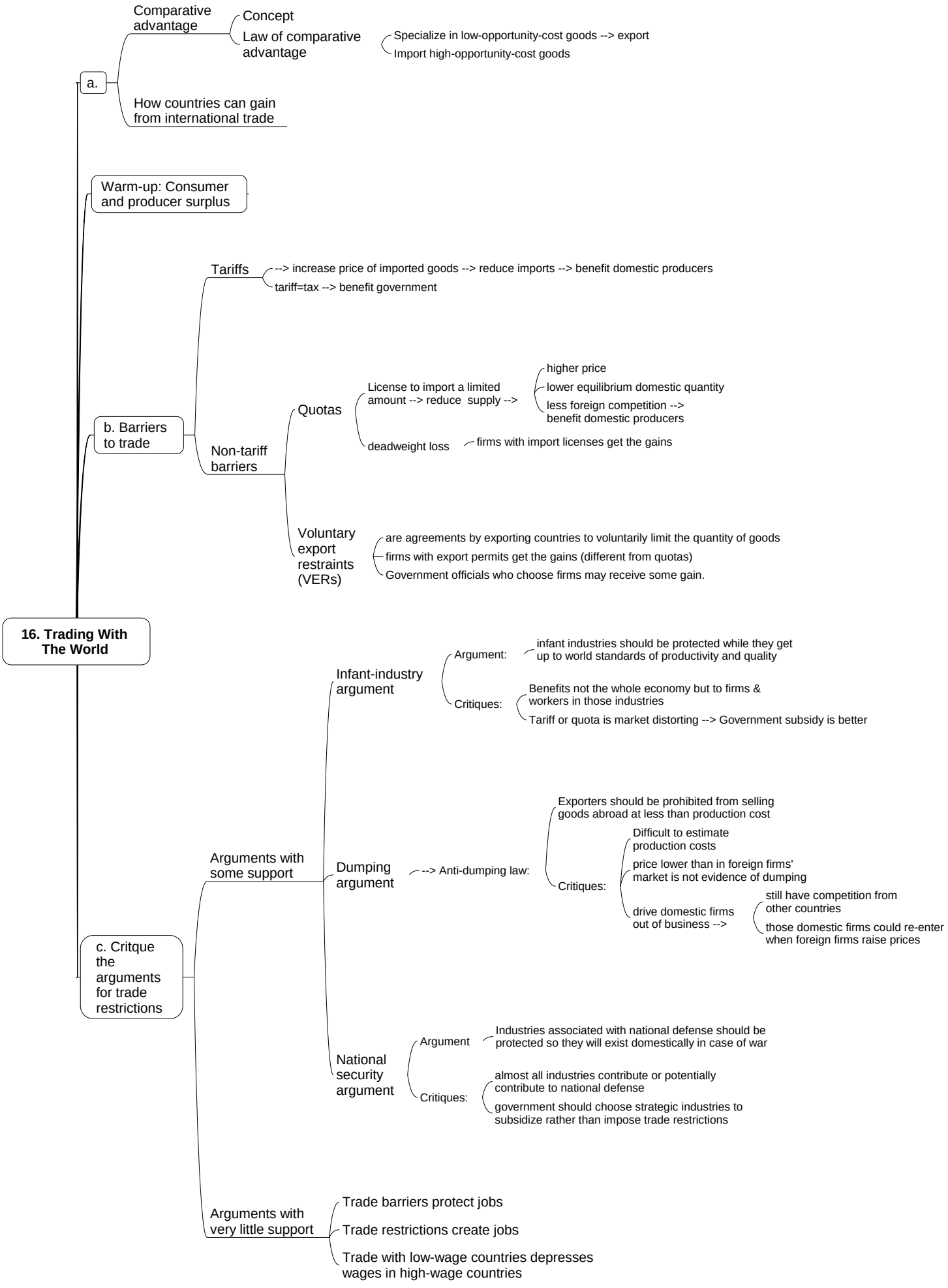
  - 2 properties of PC
    1. Growth in capital per labor hour --> movement along PC
    2. Technological growth --> shift PC upwards
  - Law of diminishing returns
  - b. The ONE-THIRD Rule ⊕
- c. Faster economic growth
  - Three ways
    - Increasing the growth of physical capital
    - Technological advance
    - Investment in human capital
  - -->Suggestions
    - Stimulate saving
    - Stimulate R&D
    - Target high-technology industries
    - Encourage international trade
    - Improve the quality of education
- d. Growth theories (GT)
  - Classical GT
    - Growth in GDP: not permanent
    - When real GDP per person above subsistence level --> population explosion --> real GDP per person back to subsistence level
    - Figure

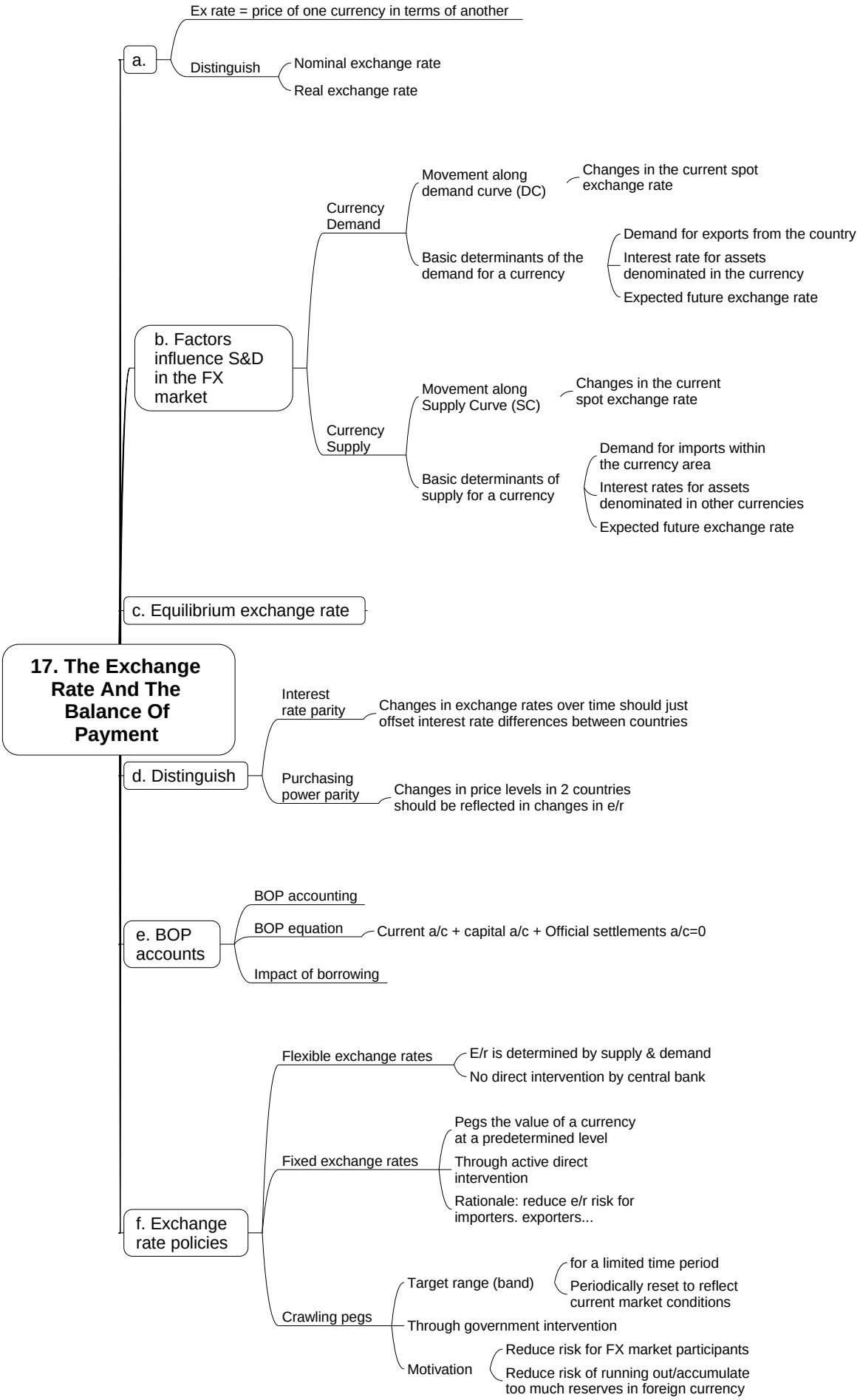
Figure 2: Classical Growth Theory

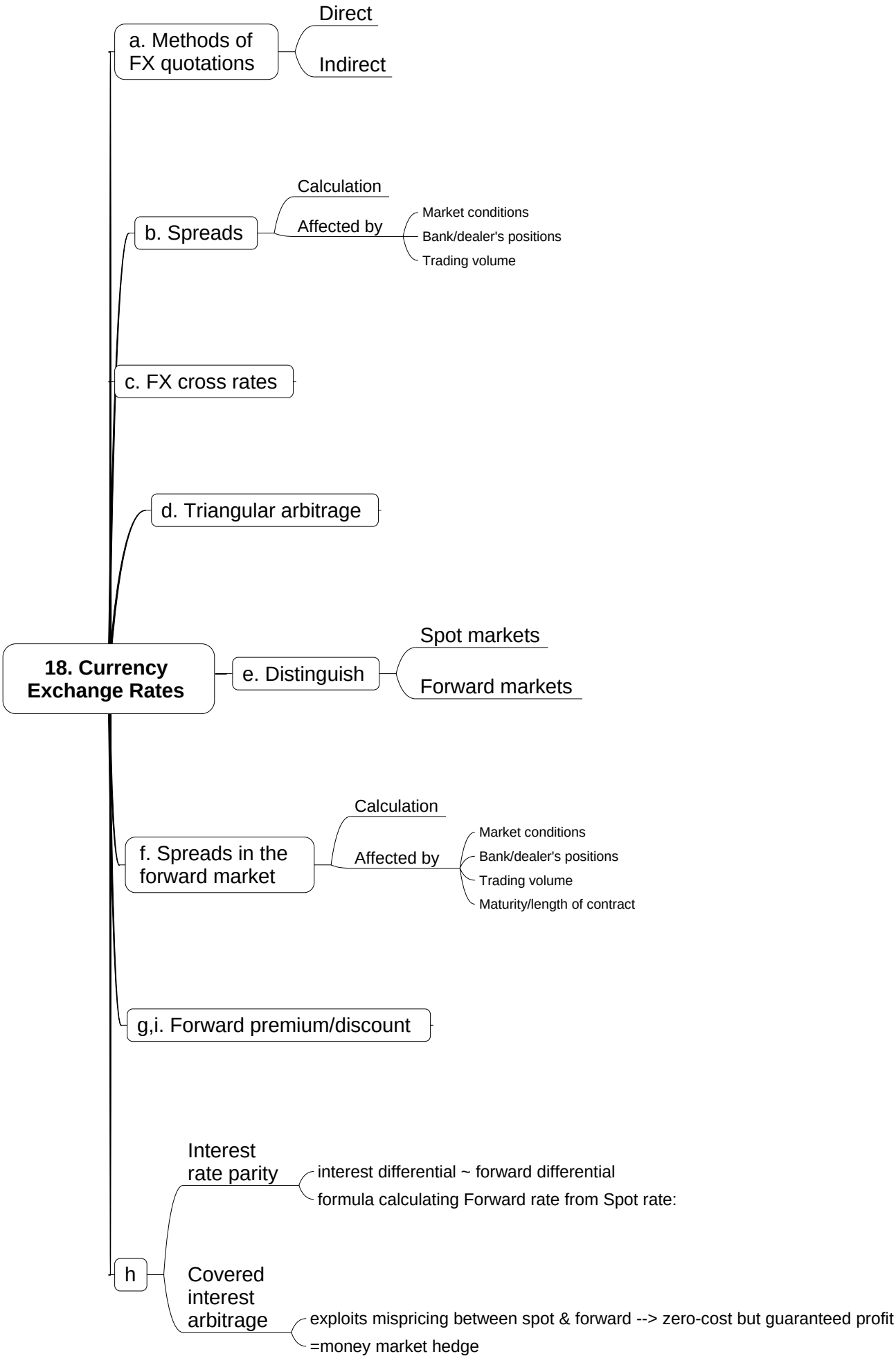


  - Neoclassical GT
    - Technological change --> increased saving & investment --> capital per labor hour increase --> long term growth in GDP
    - Different from classical GT: population growth
      - Independent of econ. growth (or real wage rate or real GDP)
      - But influenced by opportunity cost to women for entering workplace
    - Technological growth
      - Not influenced by economic growth
      - Occur through trial & error (R&D)
  - New GT
    - Based on 2 properties of market economies
      - Discoveries are the result of choices
      - Discoveries lead to profit & competition eliminates profit
    - Technological change
      - driven by profit
      - there is ongoing search to discover technologies
    - 2 other key assumptions
      - Discoveries are public capital goods
      - Law of diminishing returns does not apply to knowledge capital --> no mechanism to stop economic growth


Warm-up: Natural monopolies
15. Regulation And Antitrust Policy In A Globalized Economy
a.
Rationale for
Economic regulation of natural monopolies
Social regulation of nonmonopolistic industries
b. Social regulation
Potential benefits
Possible negative side effects
Creative response
Conform to the letter (the words), but not to the intent
Feedback effect
is a typical example of creative response
New regulation changes consumers' behavior --> undermine the original intent
c. Regulators' behavior
Capture hypothesis
regulators are selected from industry experts --> have relationships --> sometimes decisions influenced/controlled by the industry
at regulatory hearing: consumers less prepared and less persuasive than industry members
Share-the-gains, share-the-pain theory
Regulators try to satisfy all 3 parties
Legislators
Customers
Regulated firms

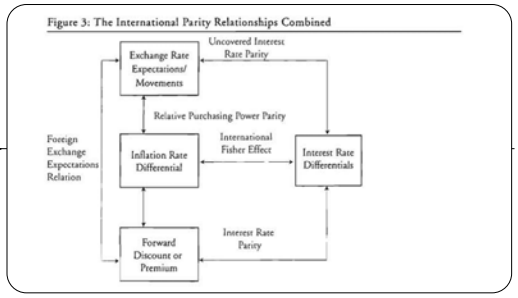

16. Trading With The World
a.
Comparative advantage
Concept
Law of comparative advantage
Specialize in low-opportunity-cost goods --> export
Import high-opportunity-cost goods
How countries can gain from international trade
Warm-up: Consumer and producer surplus
b. Barriers to trade
Tariffs
--> increase price of imported goods --> reduce imports --> benefit domestic producers
tariff=tax --> benefit government
Non-tariff barriers
Quotas
License to import a limited amount --> reduce supply -->
higher price
lower equilibrium domestic quantity
less foreign competition --> benefit domestic producers
deadweight loss
firms with import licenses get the gains
Voluntary export restraints (VERs)
are agreements by exporting countries to voluntarily limit the quantity of goods
firms with export permits get the gains (different from quotas)
Government officials who choose firms may receive some gain.
c. Critque the arguments for trade restrictions
Arguments with some support
Infant-industry argument
Argument:
infant industries should be protected while they get up to world standards of productivity and quality
Critiques:
Benefits not the whole economy but to firms & workers in those industries
Tariff or quota is market distorting --> Government subsidy is better
Dumping argument
--> Anti-dumping law:
Exporters should be prohibited from selling goods abroad at less than production cost
Critiques:
Difficult to estimate production costs
price lower than in foreign firms' market is not evidence of dumping
drive domestic firms out of business -->
still have competition from other countries
those domestic firms could re-enter when foreign firms raise prices
National security argument
Argument
Industries associated with national defense should be protected so they will exist domestically in case of war
Critiques:
almost all industries contribute or potentially contribute to national defense
government should choose strategic industries to subsidize rather than impose trade restrictions
Arguments with very little support
Trade barriers protect jobs
Trade restrictions create jobs
Trade with low-wage countries depresses wages in high-wage countries


17. The Exchange Rate And The Balance Of Payment
a.
Ex rate = price of one currency in terms of another
Distinguish
Nominal exchange rate
Real exchange rate
b. Factors influence S&D in the FX market
Currency Demand
Movement along demand curve (DC)
Changes in the current spot exchange rate
Basic determinants of the demand for a currency
Demand for exports from the country
Interest rate for assets denominated in the currency
Expected future exchange rate
Currency Supply
Movement along Supply Curve (SC)
Changes in the current spot exchange rate
Basic determinants of supply for a currency
Demand for imports within the currency area
Interest rates for assets denominated in other currencies
Expected future exchange rate
c. Equilibrium exchange rate
d. Distinguish
Interest rate parity
Changes in exchange rates over time should just offset interest rate differences between countries
Purchasing power parity
Changes in price levels in 2 countries should be reflected in changes in e/r
e. BOP accounts
BOP accounting
BOP equation
Current a/c + capital a/c + Official settlements a/c=0
Impact of borrowing
f. Exchange rate policies
Flexible exchange rates
E/r is determined by supply & demand
No direct intervention by central bank
Fixed exchange rates
Pegs the value of a currency at a predetermined level
Through active direct intervention
Rationale: reduce e/r risk for importers. exporters...
Crawling pegs
Target range (band)
for a limited time period
Periodically reset to reflect current market conditions
Through government intervention
Motivation
Reduce risk for FX market participants
Reduce risk of running out/accumulate too much reserves in foreign currency

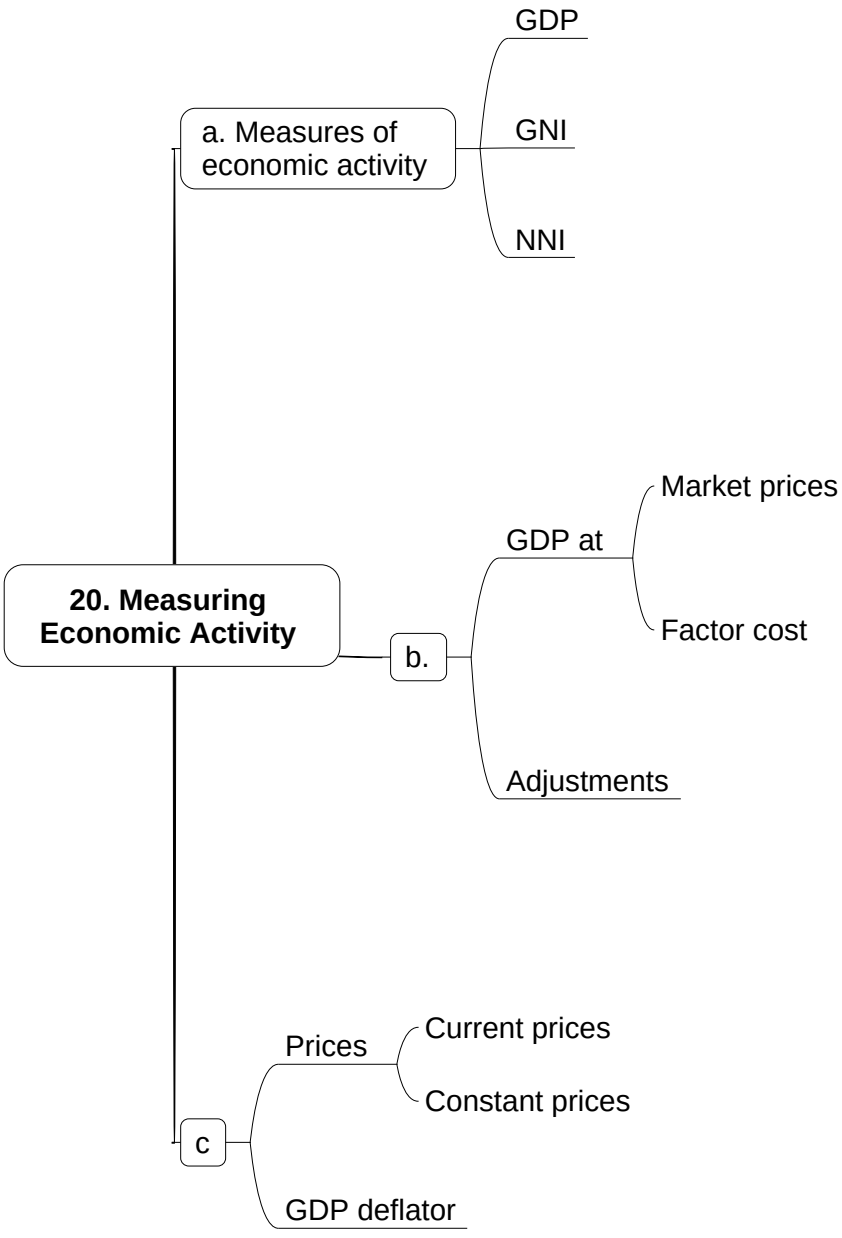

18. Currency Exchange Rates
a. Methods of FX quotations
Direct
Indirect
b. Spreads
Calculation
Affected by
Market conditions
Bank/dealer's positions
Trading volume
c. FX cross rates
d. Triangular arbitrage
e. Distinguish
Spot markets
Forward markets
f. Spreads in the forward market
Calculation
Affected by
Market conditions
Bank/dealer's positions
Trading volume
Maturity/length of contract
g,i. Forward premium/discount
h
Interest rate parity
interest differential ~ forward differential
formula calculating Forward rate from Spot rate:
Covered interest arbitrage
exploits mispricing between spot & forward --> zero-cost but guaranteed profit
=money market hedge

19. Foreign Exchange Parity Relations

- a. Exchange rate determination in a floating system
- b. BOP accounts
  - Current account (CA)
  - Financial (capital) account (FA)
  - Official reserve account
- c. How deficit or surplus in CA & FA affects an economy
- d. Factors that affect currency movements
- e. Effects of
  - Monetary policy on
    - BOP
    - Exchange rate
  - Fiscal policy on
    - BOP
    - Exchange rate
- f. Other exchange rate systems
  - Fixed
  - Pegged



- g,h. Purchasing power parity (PPP)
  - Absolute PPP
    - only requires that the law of one price is correct on average
  - Relative PPP
    - Expected spot exchange rate after t years =
- i,j. International Fisher relation
  - Interest rate differential = Expected inflation differential
  - Assumption: real interest rates
    - stable over time
    - equal across international boundaries
  - Exact formula:
  - Linear approximation:
- k. Uncovered interest rate parity
  - = combine PPP & international Fisher
  - Formula: expected spot exchange rate after n days=
- l,m. Foreign exchange expectation relation
  - Forward rate = unbiased predictor of expected future spot rate --> no reward for bearing foreign currency exposure (but empirical evidence suggests forward rate is not unbiased predictor)
  - Forward discount/premium = unbiased predictor of expected change in spot e/r


20. Measuring Economic Activity
a. Measures of economic activity
GDP
GNI
NNI
b.
GDP at
Market prices
Factor cost
Adjustments
c
Prices
Current prices
Constant prices
GDP deflator