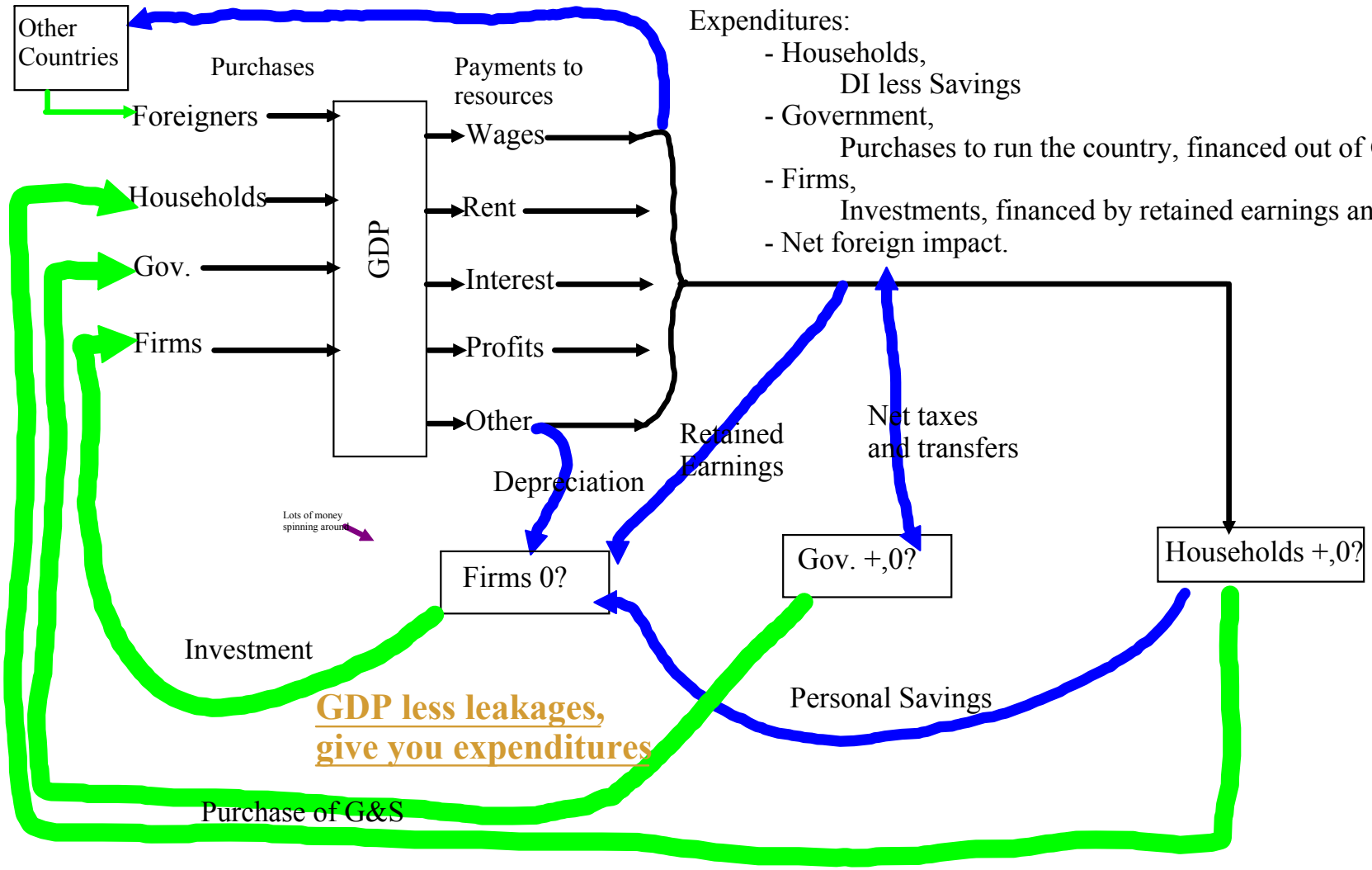
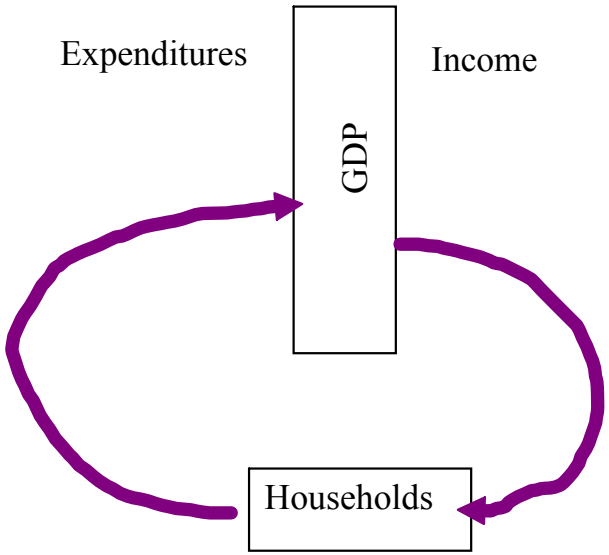
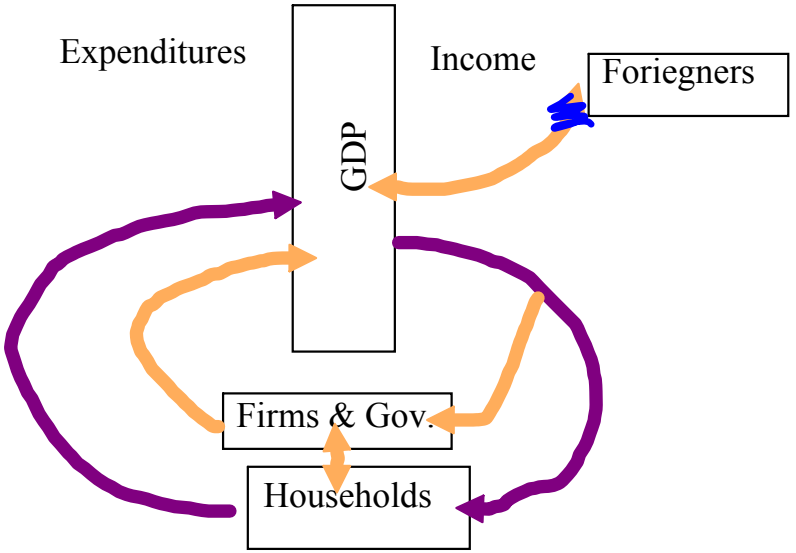
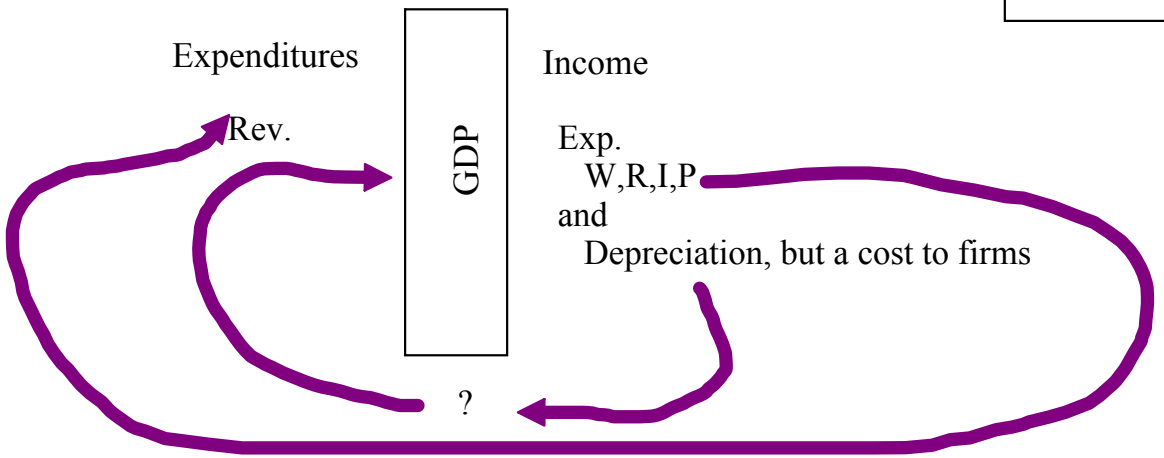

Other Countries
Purchases
Payments to resources
Foreigners
Households
Gov.
Firms
GDP
Wages
Rent
Interest
Profits
Other
Expenditures:
- Households,
DI less Savings
- Government,
Purchases to run the country, financed out of GDP
- Firms,
Investments, financed by retained earnings and loans
- Net foreign impact.
Retained Earnings
Net taxes and transfers
Depreciation
Lots of money spinning around
Firms 0?
Gov. +,0?
Households +,0?
Investment
Personal Savings
GDP less leakages, give you expenditures
Purchase of G&S



But more complex, and the complexities have policy implications





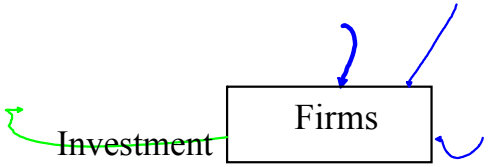
Gov. policy can try to affect:
1) Inc. to HH vs Gov.
2) Investment level of firms (funds supply or demand)
3) Leakage to foreigners
4) Investment in new or old etc.

To calculate GDP:

We can count payments to resources (income approach)

or

We can the value of G&S bought expenditure approach



I said the only expenditures that count from firms are invesments.

WHY? Our goal is to only account the value of stuff created ONCE.

If I make a car, the firm makes expenditures to buy parts, raw materials etc.
Then the consumer makes an expenditure to buy the car.

Do both expenditures count as GDP? No, only the final goods => the car

1) GDP accounts are careful in what they count - **not every transaction is counted**
2) Only final goods, no intermediate goods are counted as expenditures
3) Firm expenditures are almost all not counted, except for capital they buy (more on this)

What transactions are not counted as GDP expenditures?

1) Intermediate goods
   - parts purchased by one company from another for production
   - firm purchase of the four resources are not expenditures: see income accounting

2) Transactions that are not for a new **product**
   - financial transactions (transfer payments, stock and bond trades)
   - payments for second had goods

What transactions are counted:

Households: C = Consumer expenditures
G & S from durable goods to non-durable goods to services

Firms: I_g = Gross private investment (to be discussed further)
1) Purchases of machinery, equipment, tools
2) All construction (including residential homes)
3) Change in inventory.

Goverment: Government purchases

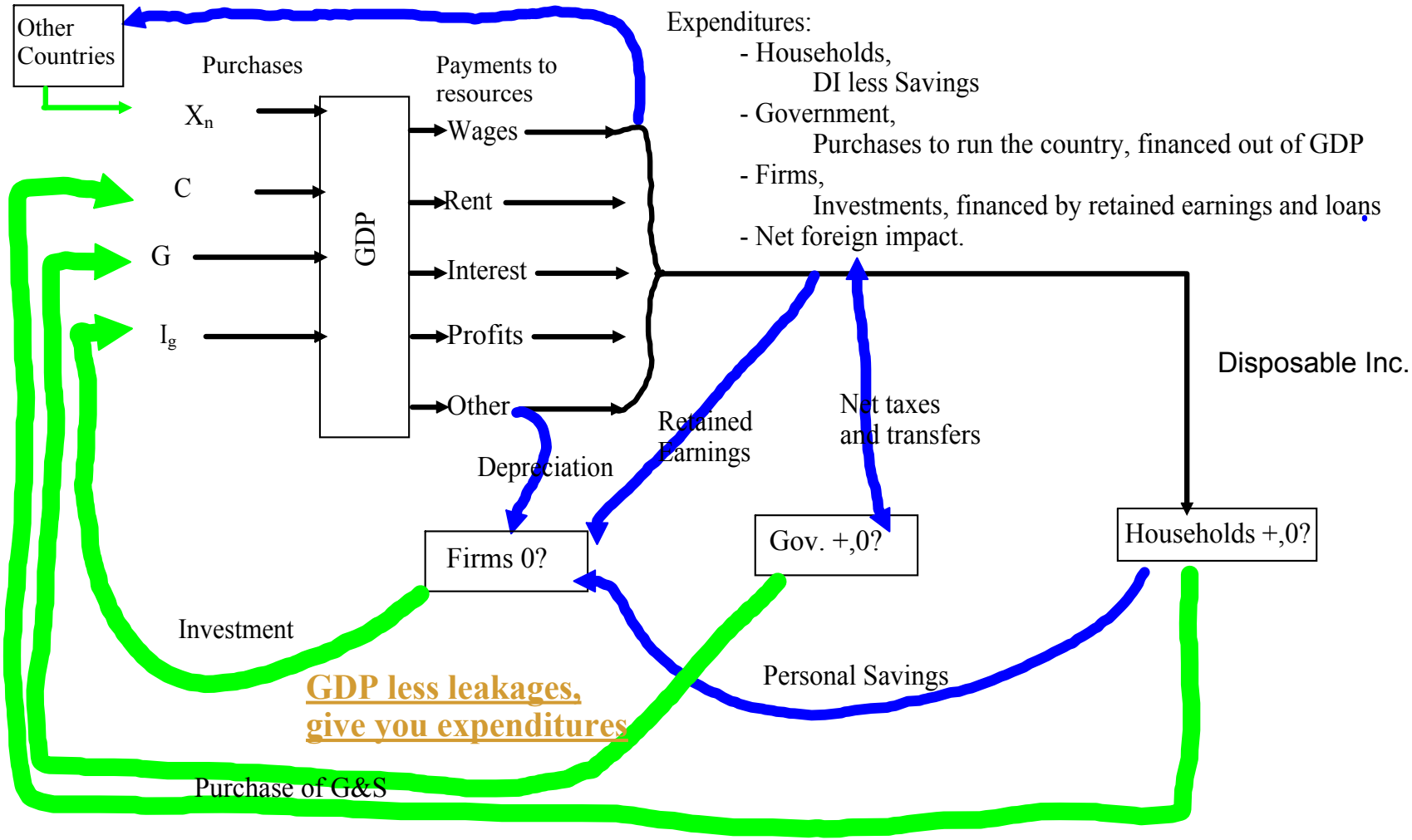
1) G & S
2) Social capital (infrastructure => schools roads)

Foreigners: X_n = Net exports = Exports (X) - Imports (M)
Could be negative

$$GDP = C + I_g + G + X_n$$

$$GDP = Income$$

$$Income = C + I_g + G + X_n$$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Disposable Inc.
Retained Earnings
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Depreciation
Firms 0?
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GDP less leakages, give you expenditures
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$GDP = C + I_g + G + X_n$

GDP = Income

Income:

Wages
Rents (paid to firms or households)
Interest (payments on borrowings)
Profits
- o Proprietors income (non-corporations)
- o Corporate profits

Total = GDP

- depreciation

NDP

- foreign factor income (payments to foreign resources)
- indirect business taxes (sales tax, excise tax, business property tax, license fees etc.)

National Income

- social security payments
- corporate income tax
- retained earnings
+ transfer payments

Personal Income

- personal taxes

Disposable Income

OR

Disposable Income

+ personal taxes
+ social security taxes
+ corporate income taxes
+ retained earnings
- transfer payments
+ indirect business taxes
+ net foreign factor income
+ deprecation

= Income

= GDP = $C + I_g + G + X_n$

Personal consumption expenditures	$400
Government purchases	128
Gross private domestic investment	88
Net exports	7
Net foreign factor income earned in the U.S.	0
Consumption of fixed capital	43
Indirect business taxes	50
Compensation of employees	369
Rents	12
Interest	15
Proprietors' income	52
Corporate income taxes	36
Dividends	24
Undistributed corporate profits	22

DI=C+S

1. The gross domestic product for the above economy i
A) $584.
B) $592.
C) $609.
D) $623.

2. Refer to the above data. Net domestic product is:
A) $520.
B) $580.
C) $623.
D) $573.

3. Refer to the above data. The national income is:
A) $561.
B) $573.
C) $580.
D) $530.

4. Refer to the above data. Disposable income:
A) cannot be determined from the data given.
B) is $484.
C) is $416.
D) is $502.

Gross private domestic investment	$ 46
Exports of the U.S.	9
Disposable income	190
Personal saving	10
Government purchases	84
Net foreign factor income earned in the U.S.	10
Consumption of fixed capital	52
Dividends	13
Imports of the U.S.	12
Indirect business taxes	22
Personal taxes	38
Social Security contributions	23

DI=C+S

5. Refer to the above data. The gross domestic product is:
A) $326.
B) $282.
C) $307.
D) $300.

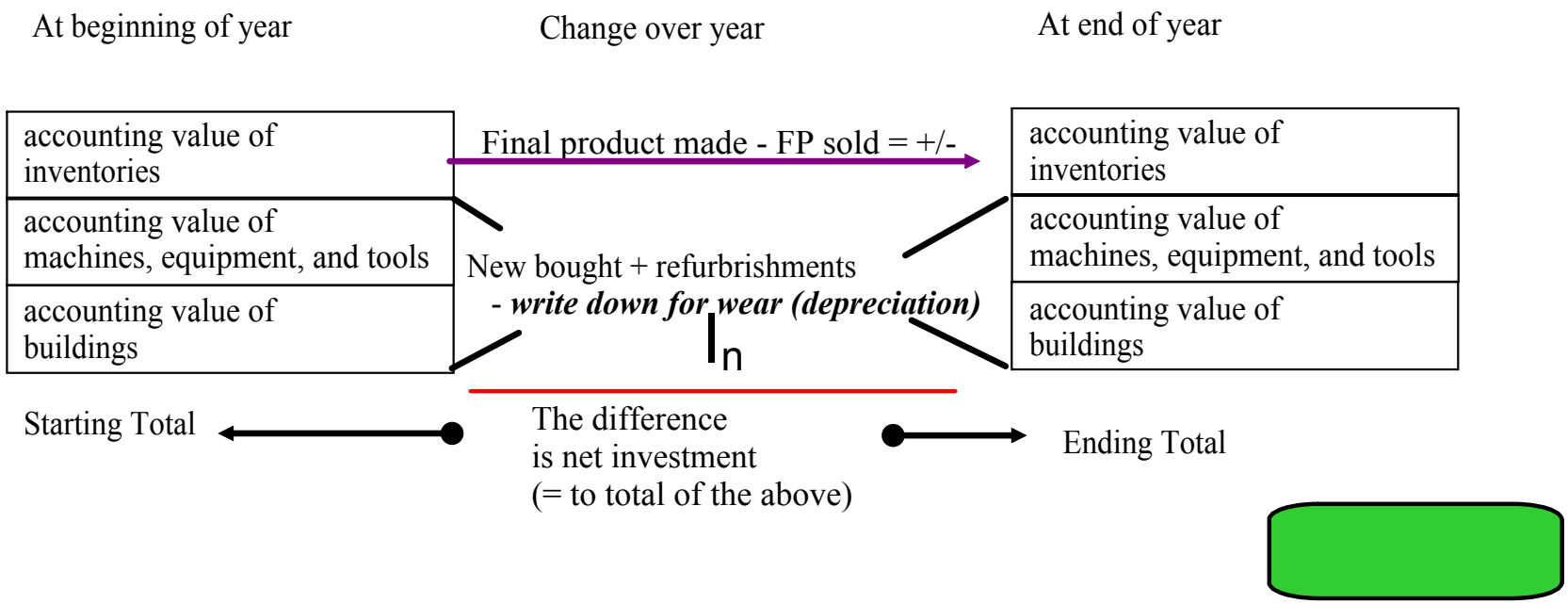
6. Refer to the above data. The net domestic product is:
A) $233.
B) $255.
C) $230.
D) $348.

7. Refer to the above data. The national income is:
A) $223.
B) $249.
C) $208.
D) $346.

8. Refer to the above data. Personal income is:
A) $184.
B) $221.
C) $149.
D) $208.

I_g vs I_n

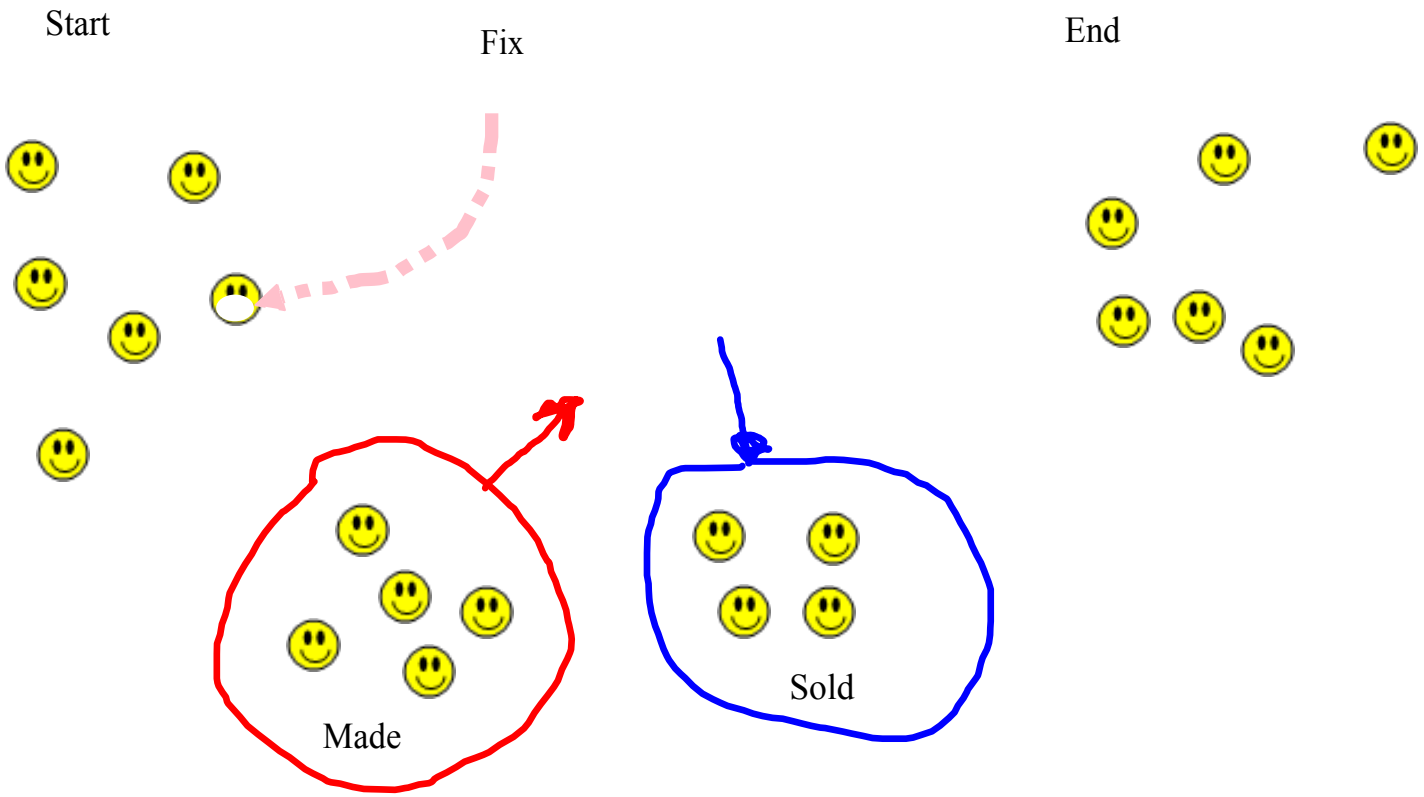
A further word on I_g, depreciation, and NDP



Expenditure counts Gross investment = Net inv. with deprecation add back

Income side takes depreciation out to get to NDP.

I_n + depreciation = I_g


Start
Fix
End
Made
Sold

GDP measures things in money, not quantity, weight, or size

Problem: Inflation

Price goes up 10% have we made 10% more stuff?

Nominal GDP = the number calculated without any adjustment

Real GDP = Inflation adjusted GDP

Prices in 1983 are considered 100	GDP is $ 5,000
Prices in 2004 are considered 187.8	GDP is $ 6,500
Prices in 2007 are considered 207.3	GDP is $ 8,000

What is are the real changes in GDP?

Was there real growth from 1983 to 1998? If so what % growth was there? If not what % shrinkage?

Was there real growth from 1998 to 2003? If so what % growth was there? If not what % shrinkage?

Year	Index	Nom. GDP	Real GDP	%Chg Real GDP
1983	100	$10,000	$10,000	
1998	140	$17,000	$12,142.86	21.42%
2003	170	$20,000	$11,784.71	-3.11% (since 1998)

$$\text{Price index for a year} = \frac{\text{price index for a specific set of goods (the basket) in that year}}{\text{price index for a specific set of goods (the basket) in the base year}} \times 100$$

$$\text{Real GDP} = \frac{\text{Nominal GDP}}{\text{Price index}} \times 100$$

So, US GDP in real terms went up from $11,003.5 mm to $11,319.40mm from 2005 to 2006. Are we better off?

Maybe, but what if we made more stuff just because there are more us?

We need real GDP per capita.

Real GDP per capita went from $37,067.26 to $37,767.22.

(Did you make $148.69 worth of stuff today?)

Did population grow or shrink?

Real GDP per capita went from $37,067.26 to $37,767.22.
Are we better off?

Maybe, a list of things to check, mostly subjective.

GDP is not prefect:

Only captures the market value as represented in market transactions.
Therefore it probably understates;

- Work people do for themselves
- Enjoyment from leisure
- Improved quality
- Underground/blackmarket
- Environmental state
- Mix of goods
- Other

Intermediate G&S
Net exports
Inventory growth
Depreciation
value added

Economic Growth = Real GDP per capita KEY
    Arithmetic of growth IGNORE

Growth in United States p500 through Catching Up is Possible, ending p504 READ, v nt (car ex)

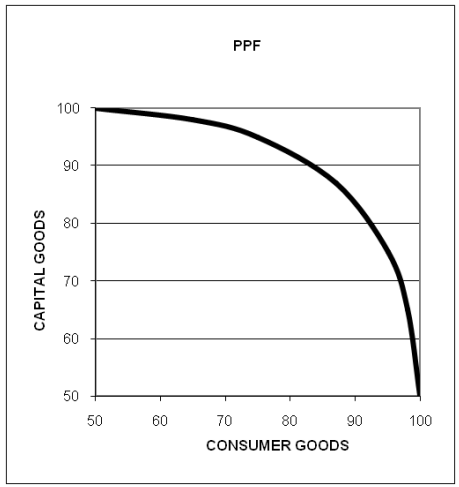
Institutional Structures that Support Growth - REVIEW, fair game

Ingredients of Growth - THE TOPIC, KEY
    Supply Factors - Old PPF story, recast
    Demand Factors - NEW Increase any of C + I + G + Xn (not a zero sum game)
    Efficiency Factor - Old PPF story, recast
Production Possibility Analysis -REVIEW, fair game

Labor and Productivity - A definition (see below)

Remainder: Well worth reading as application of principles

What is growth?
An increase in real gdp & or
An increase in real gdp per capita



Supply:

Increase in the quality and quantity of natural resources
Increase in the quality and quantity of human resources
Increases in the stock of capital goods
Improvement in technology.

with

a willingness to demand/purchase the goods

The flow of goods does not work at capacity without demand.

Efficiency: If we are not operating at full efficiency and full employment, we will have reduced growth.

Very relevant

- Hire more heads
- Each works more hours

Ed/training, better tools, better methods, more tools, optimal level of production, etc.

Productivity:

Real GDP ($) = hours of work (hrs) X Labor productivity ($/hrs)

or

Real GDP ($)
---------- = Labor productivity ($/hr)
hours of work (hrs)