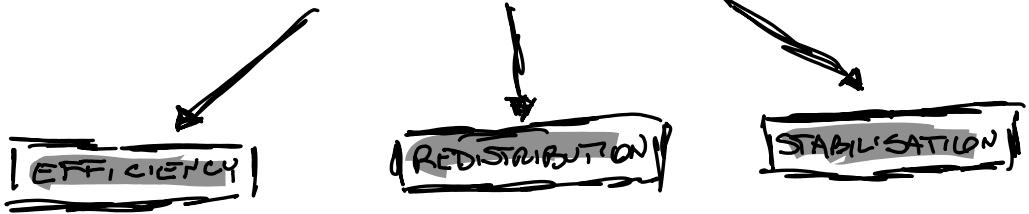


# PUBLIC SECTOR



① POSITIVE ANALYSIS

→ THEORY IS NOT ENOUGH

② NORMATIVE ANALYSIS

GOVERNMENT TAXES A MR. S SCHOME'S INCOME

① LIBERALISTS

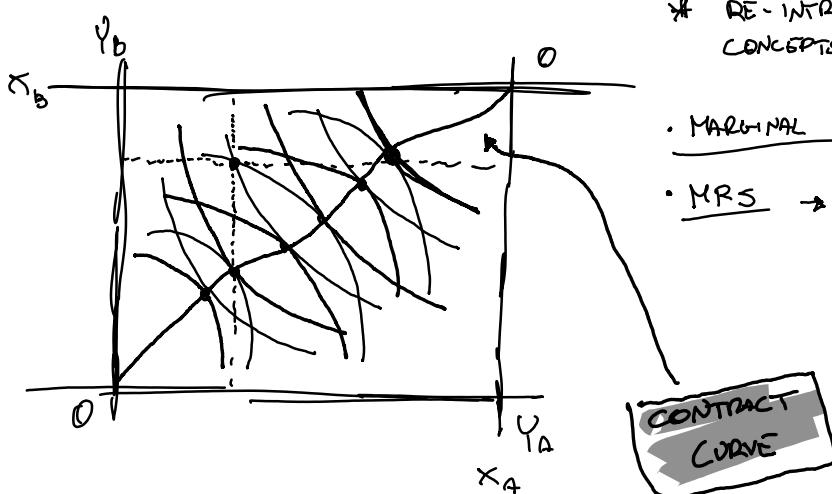
SUBST. EFFECT

② DEMOCRATS

INCOME EFFECT

# EFFICIENCY

- EDGEWORTH BOX , BY JUST ROTATING THE UTILITIES FUNCTION



BUT HOW TO FIND AN EFFICIENT POINT ?

- WHEN THE TWO UTILITIES FUNCTION CROSS EACH OTHER AT THE VERTIX

- CONCEPT. OF PARETO EFFICIENCY ;

- PERFECT COMPETITION  $\Delta$
- BUDGET CONST. MIGHT BE A SETBACK
- NO ENTRY BARRIERS
- NO EXTERNALITIES
- PERFECT INFORMATION
- PRIVATE GOODS
- SAME PRODUCTS
- NO MONOPOLIES
- PRICE TAKERS

# MICRO-ECONOMICS // MACRO-ECONOMICS

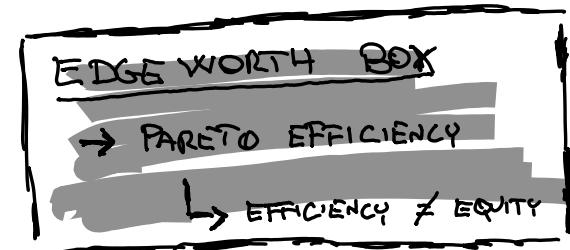
## CONCEPTS



$$MRS = \frac{UM(x_1)}{UM(x_2)}$$

→ 1<sup>st</sup> CONCEPT

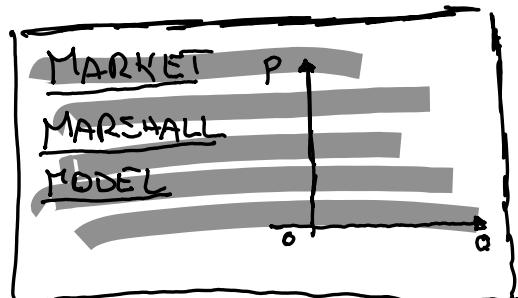
2<sup>nd</sup> CONCEPT ←



→ 3<sup>rd</sup> CONCEPT

		RIVAL	
		Y	N
EXC.	Y	PRIVATE	CLUB
	N	COMMON	PUBLIC

4<sup>th</sup> CONCEPT ←

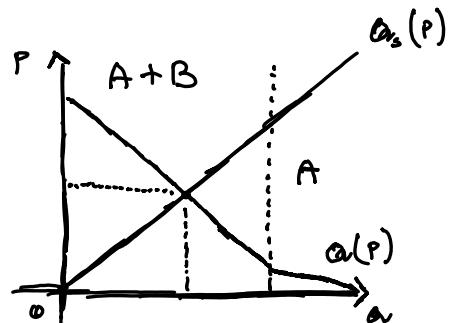


PUBLIC GOOD

- NO - RIVALOUS
- NO - EXCLUDABLE

IT BRINGS TO FREE-RIDING

→ 5<sup>TH</sup> CONCEPT



PRIVATE GOOD

$$MRS_1 = MRS_2 = MRT$$

PUBLIC GOOD

$$MRS_1 + MRS_2 = MRT$$

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EXERCISE

DEMAND CURVES →  $\begin{cases} q_a = 2 - 0,5P \\ q_b = 2,667 - 0,333P \\ q_c = 6 - 0,5P \end{cases}$

SUPPLY CURVES →  $\begin{cases} q_1 = P \\ q_2 = 0,5P - 0,5 \end{cases}$

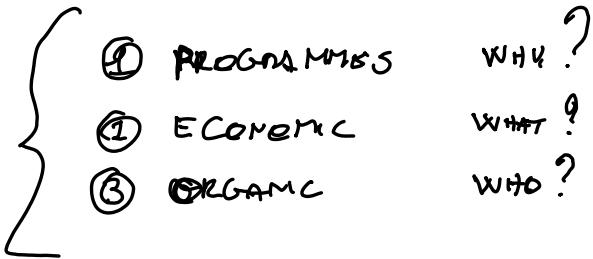
SOLVE THIS  
CONSIDERING 1<sup>ST</sup>  
A PUBLIC GOOD AND  
AFTERWARD A PRIVATE  
ONE.



## PUBLIC SECTOR BUDGET

- IS A SYSTEMATIC AND QUANTIFIED SUMMARY OF:
  - FORECASTED EXPENDITURE.
  - ESTIMATED REVENUES TO FINANCE THE EXPENDITURES.
- IT REGULATED BY LAW
  - ↳ ECONOMICAL AND POLITICAL TOOL.
- FOR TIME MANAGEMENT
  - ↳ LOOK AT CHART ON SLIDES.

• EXPENDITURE BUDGET



- CURRENT EXP // REV

- NON-DURABLE GOODS

- CAPITAL EXP // REV

- DURABLES GOODS

- FINANCIAL ASSETS

- TANGIBLES LIQUID ASSETS

① GROSS SAVINGS

$$\hookrightarrow CR - CE$$

② NET SAVINGS

$$\hookrightarrow \text{GROSS SAVINGS} - \text{FINANCIAL LIABILITIES}$$

③ NON-FINAN DEFICIT

$$\hookrightarrow CUR + CAP. REV - CUR + CAP. EXP$$

④ PRIMARY DEFICIT

$$\hookrightarrow \text{NON-FIN. DEFICIT} - \text{INTEREST PAYMENTS}$$

\* A BUNCH OF FORMULAS  
TO START :

- TAX BURDEN OF A COUNTRY

$$\hookrightarrow \text{BURDEN} = \frac{\text{TAX BASE}}{\text{GDP}}$$

- TAXES PER CAPITA

$$\hookrightarrow \frac{\text{INCOME TAX REV}}{\text{WORLD POPULATION}}$$

- TAX REVENUES

$$\hookrightarrow \text{TAX RATE} \times \text{TAX BASE}$$

UNDERSTANDING THE DIFFERENCE BETWEEN  
A TAX AND A FEES

↓  
AMOUNT OF  
MONEY

↓  
A CHARGE

BESIDES, IT IS ALSO IMPORTANT TO CLASSIFY  
THREE POSSIBLE DIMENSIONS :

(1) VOLUNTARY VS MANDATORY

(2) WITH OR W/O DIRECT COMPENSATION

(3) EARMARKED OR NOT (SPECIFIC GROUP OR USAGE)

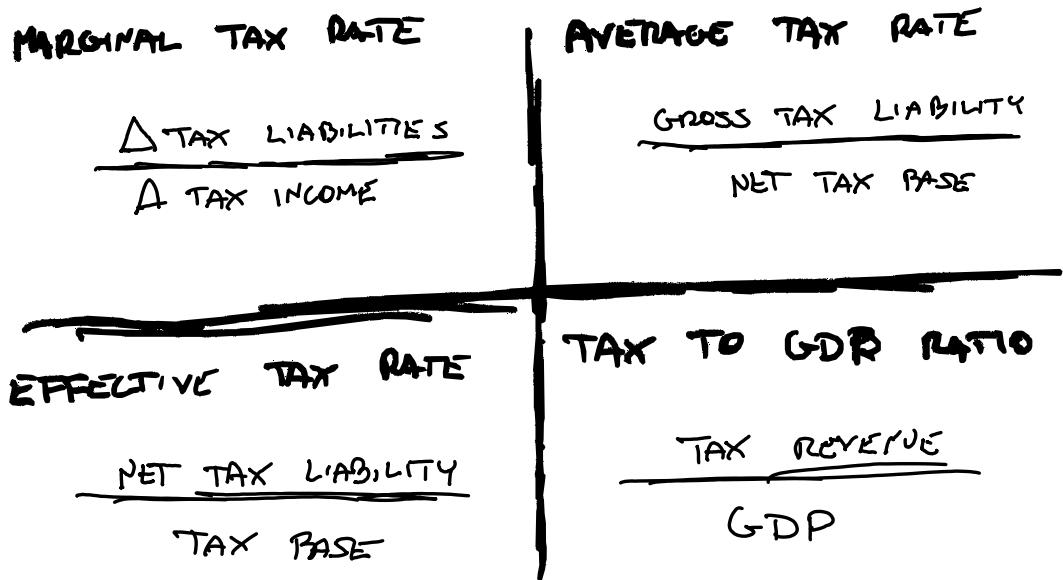
DIRECT TAX	IND TAX	FEES	P. PROCESS
- MANDATORY	- MANDATORY	- MANDATORY	- VOLUNTARY
- NO COMPENSATION	- NO COMPENSATION	- COMPENSATION	- COMPENSATION
- NO EARMARKED	- NO VOLUNTARY EARMARKED	- EARMARKED	- EARMARKED
- - - - -	-----	-----	-----
FINES	EXC. CONTROL		
- MANDATORY	- MANDATORY		
- NO COMPENSATION	- COMPENSATION		
- NO EARMARKED	- EARMARKED		
		/	

## - TAX BASE

- PERSONAL INCOME
  - PROFIT
  - UNITS EMITTED
- 
- NET TAX BASE

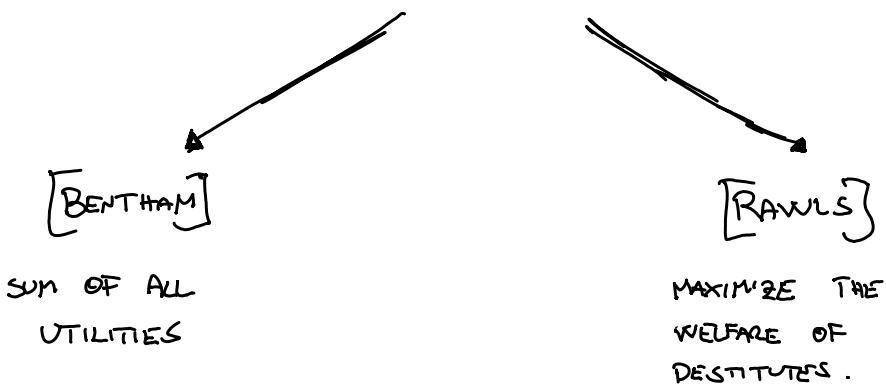
↳ TAX BASE - BASE DEDUCTION

- RETIREMENT PLAN
- YEARS' LOSSES



- HOW TO FIX INEQUITY?

↳ REDISTRIBUTION



### • INEQUITY DIMENSIONS

- MARKET INCOME =  $Z = wL + rK$ 
  - LABOR INCOME INEQUALITY
  - WORLD LIABILITIES + WORLD EFFORT + LUCK
  - WEALTH AND RATE OF RETURN
- EARNINGS
- GROUP-LEVEL
- INTERGENERATIONAL

EQUALITY

VS

EQUITY



SAMENESS

- HOW INCOME IS DISTRIBUTED



FAIRNESS

- HOW TO REDISTRIBUTE

HORIZONTAL

- TREAT EQUAL PEOPLE IN EQUAL WAY

VERTICAL

- TREAT DIFFERENT PEOPLE IN DIFFERENT WAY

A TAX SYSTEM  
IS EQUITABLE IF

ABILITY TO PAY .

NOT DEPENDENT  
FROM PUBLIC SECTOR  
BENEFITS .

## ① ABILITY TO PAY

- INCOME
- EXPENDITURE



## TAXES CAN BE :

- PROGRESSIVE
- PROPORTIONAL
- REGRESSIVE

## MEASURES OF PROGRESSIVITY

### ① ELASTICITY

$$\left\{ \begin{array}{ll} \epsilon > 1 & \text{PROGRESSIVE} \\ \epsilon = 1 & \text{PROPORTIONAL} \\ \epsilon < 1 & \text{REGRESSIVE} \end{array} \right.$$

### ② MTR / ATR

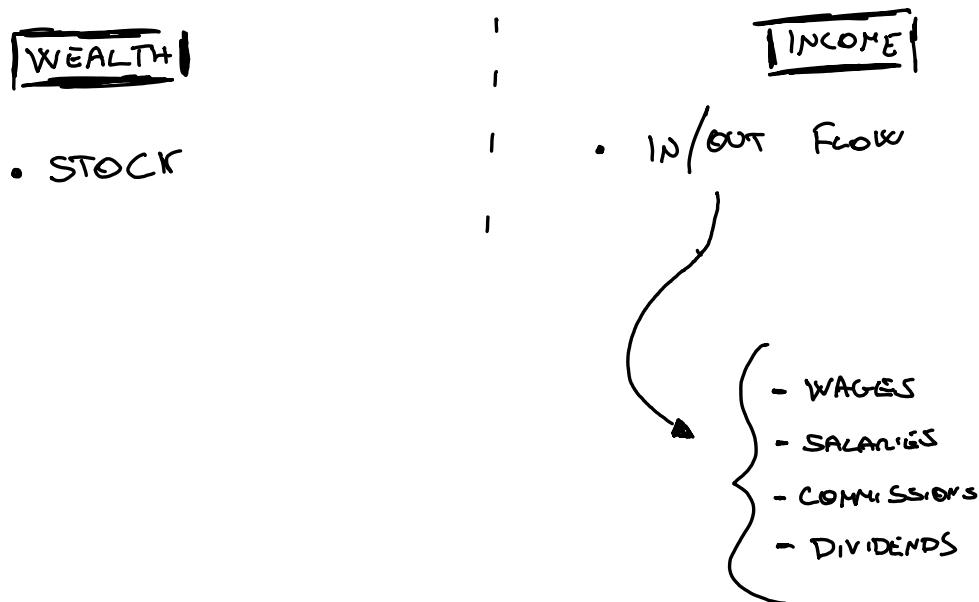
$$\left\{ \begin{array}{ll} MTR > ATR & \text{PROGRESSIVE} \\ MTR = ATR & \text{PROPORTIONAL} \\ MTR < ATR & \text{REGRESSIVE} \end{array} \right.$$

### ③

$$\frac{\Delta ATR}{TB}$$

$$\left\{ \begin{array}{ll} > 0 & \text{PROGRESSIVE} \\ = 0 & \text{PROPORTIONAL} \\ < 0 & \text{REGRESSIVE} \end{array} \right.$$

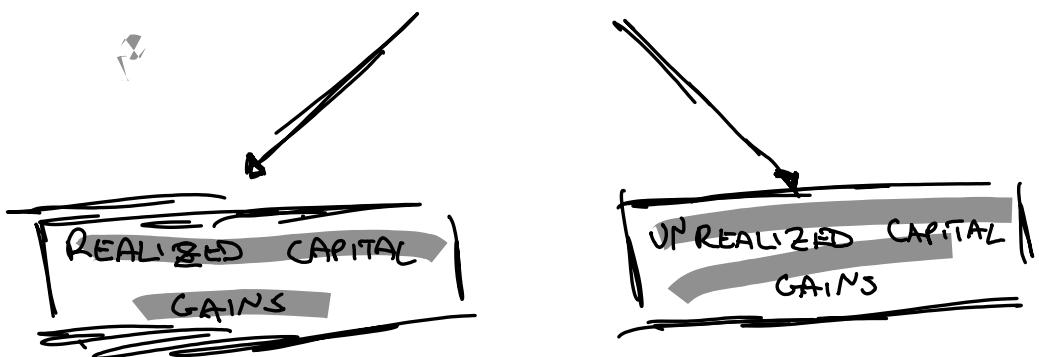
# PERSONAL INCOME TAXATION



$$I_i = C_i + \Delta W_i$$

INCOME EQUAL TO CONSUMPTION PLUS  
VARIATION OF WEALTH.

# COMPONENTS OF H-S INCOME (HAIG-SIMONS)



RECEIVED DURING  
THE YEAR .

NOT YET RECEIVED  
BY SELLING AN ASSET .

## • LOCK-IN EFFECT

INVESTORS DIFFER TO CAPITALIZE IN ORDER TO  
KEEP THEIR TAX BILL LOW .



IT'S AN EFFICIENCY  
COST

## WALKTHROUGH TO CALCULATE TAX

① TAX BASE

② TAXABLE INCOME

$$\hookrightarrow \text{TAX BASE} - \text{DEDUCTIONS}$$

③ TAX LIABILITY BEFORE [CREDITS]

$$\hookrightarrow \text{TAXABLE INCOME} * \text{TAX RATES}$$

④ REGULAR TAX LIABILITY

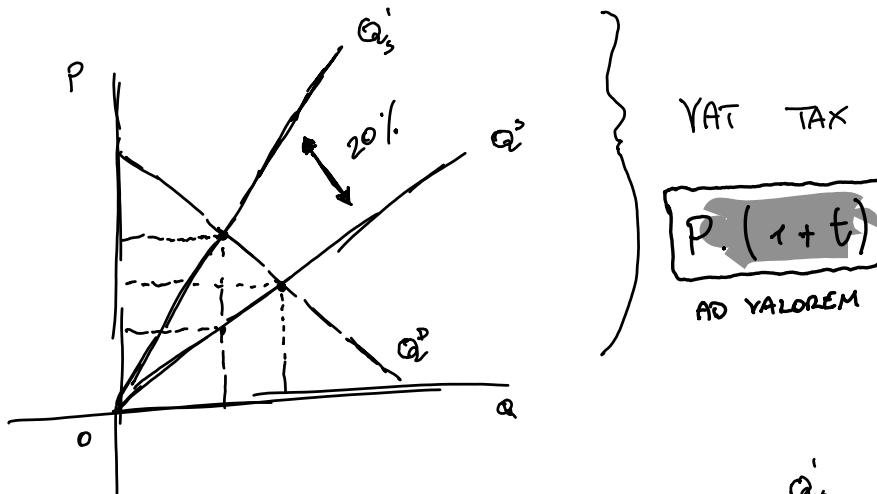
⑤ PAYMENT



MORE BENEFICIAL  
THAN DEDUCTIONS

# CONSUMPTION TAX

- SALES TAX
- VAT TAX



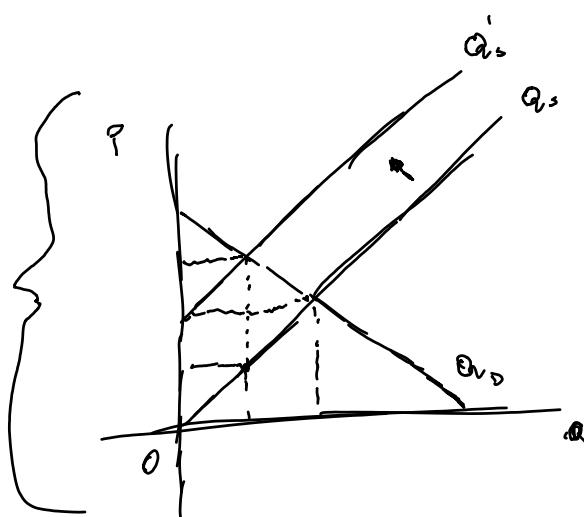
PIGOVIAN TAX

OR

ALCOHOL TAX

$P + t$

UNIT PER TAX



# WEALTH

THIS IS A STOCK, NOT A FLOW LINE CAPITAL INCOME. AT SUCH, HOW DOES THE GOVERNMENT EXTRACT TAXES FROM IT?

① WEALTH TAX BASE

$$(1+r) W$$

② CAPITAL INCOME  
TAX BASE

$$rW$$

$$\boxed{T^w = \frac{h}{1+r} \cdot T^c}$$

