

$CBA \leftrightarrow BCA$

$$NB = B - C$$

- Clear about the Base
- Alternatives?
- Who is impacted + how?
- Who matters? → **STANDING**

Technical Steps

- Predict, quantify, monetize, + discount impacts
- Sensitivity analysis
- Analyst Recommendation

Cost Effectiveness Analysis

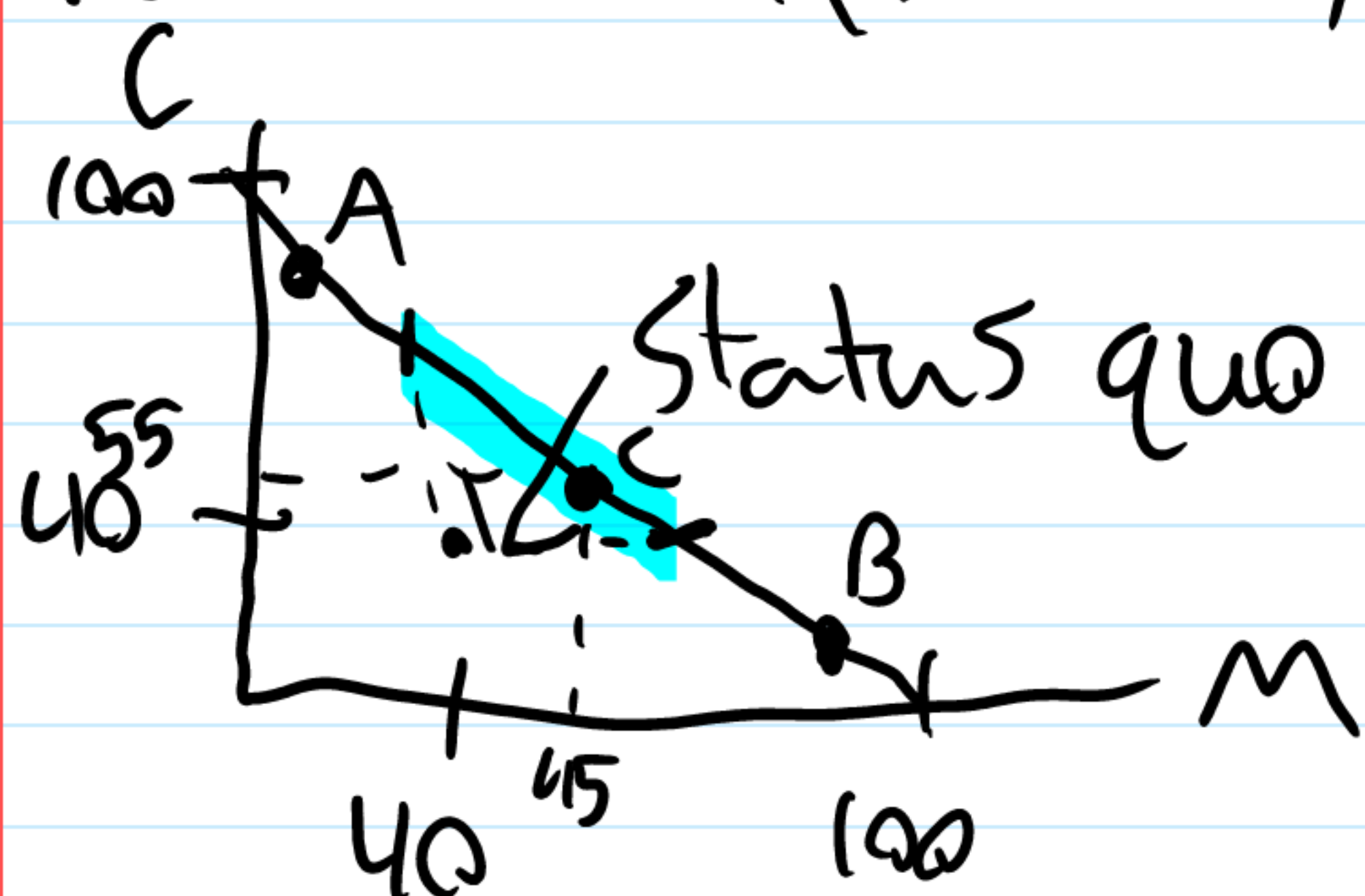
Economic Impact analysis

↳ NOT A CBA/BCA

More Conceptual Foundations

How to measure efficiency?

Pareto efficiency



Pareto efficient: Nobody loses

Kaldor-Hicks Efficiency

↳ If something is potentially Pareto, do it

1.3 More Conceptual Foundations

Monday, August 24, 2020

1:06 PM

$B+C?$

WTP \rightarrow willingness to pay

Opportunity Cost

$$NB = B - C$$

$$B \div C = B/C$$

New users +10

Old users -5

Const cost 3

$$\hookrightarrow NB: 10 - 5 + 3 = 2$$

$$4 B \div C = \frac{10}{5} \text{ or } \frac{5}{3}$$

1.2 1.67

Potential Problems

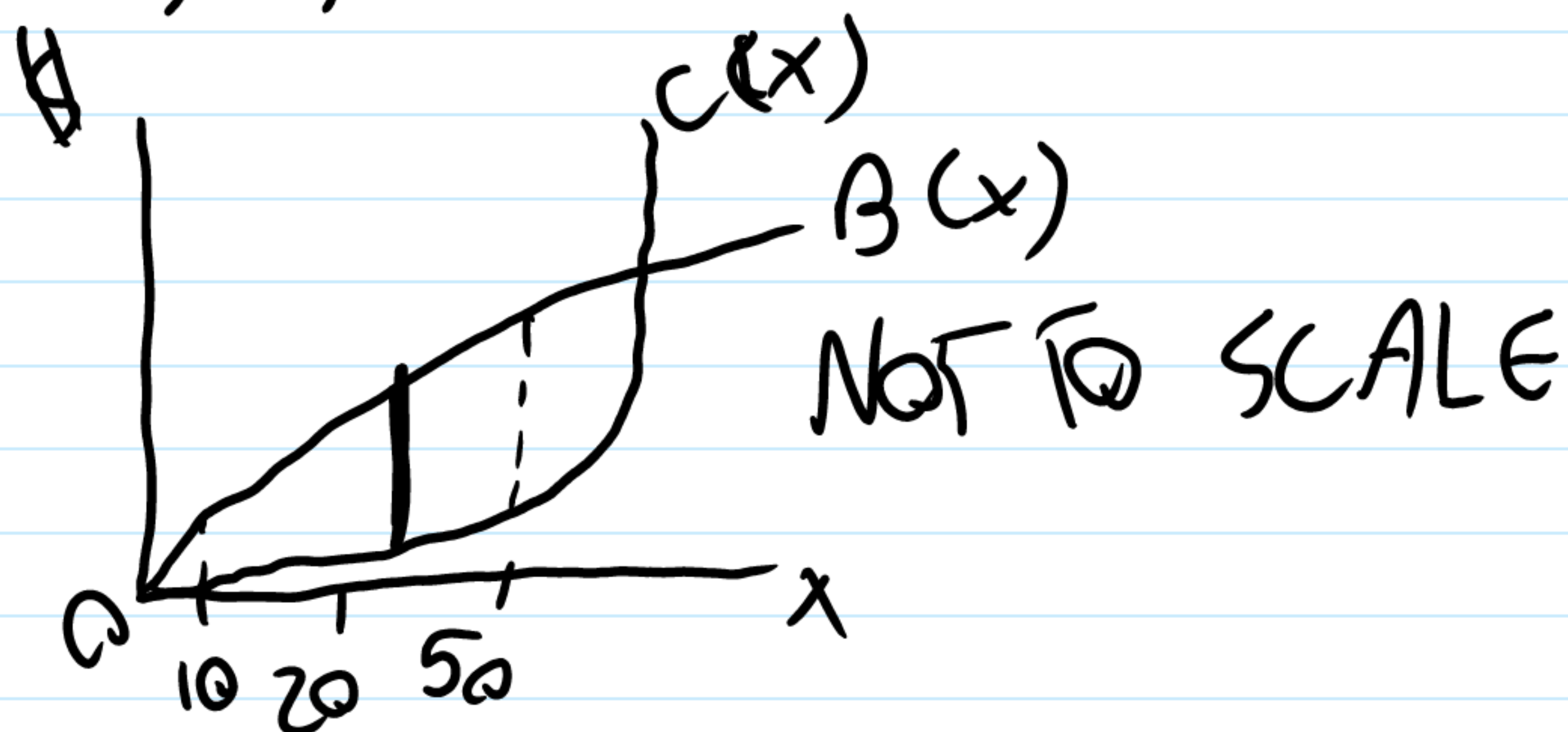
Arrow's Impossibility theorem

- Depends on wealth distribution
- Standing

Optimum may not be under consideration

$$NB = B(x) - C(x)$$

0, 10, 50 acres



Passed Solution review

city doesn't require helmets. I ride without a helmet

a. What are the benefits/costs of an ordinance to require helmets?

Costs

Barrier to entry
Enforcement
Pushback
decreased Comforts

Benefits

Increased Safety
stylishness

b. Societies costs/benefits?

Costs

Enforcement
Pushback

Benefits

Less medical debt

a) Personal...

Costs

- helmet Cost
- reduced Comfort
- helmet hair

benefits

- reduced risk of injury

b) Society...

costs

- enforcement
- increased pollution

benefits

- decreased healthcare costs

Tariffs on kumquats!

a. Growers are the focus. How is net benefit calculated as a spender?

Costs:

Tariff revenues (8m)
Production (6m)
Reduced consumption (13m)

$$4 - 8 - 6 - 13 = \boxed{-23m}$$

Benefits:
Profits (4m)

b. Treasury behaves as a guardian. How would net benefit be calculated if profit taxes are 20%.

Costs:

Production (6m)
Consumption (13m)

$$4 + 8 - 6 - 13 = \boxed{-7m}$$

Benefits:
Profits (4m)
Revenues (8m)

Passed Solution review

TEMPLATE	PV (million dollars)		3.b Municipal standing	PV (million dollars)	
National government grant	2.2		National government grant	2.2	B +
Construction and maintenance costs	12.5		Construction and maintenance costs	12.5	C -
Personnel costs	8.2		Personnel costs	8.2	C -
Revenue from municipal residents	8.6		Revenue from municipal residents	8.6	C Q
Revenue from non-residents	2.2		Revenue from non-residents	2.2	B +
Use value benefit to municipal residents	16.6		Use value benefit to municipal residents	16.6	B +
Use value benefit to non-residents	3.1		Use value benefit to non-residents	3.1	- Q
Scrap value	0.8		Scrap value	0.8	B +
			NSB	-7.5	1.1
3.a National standing	PV (million dollars)	C	3.c Municipal guardian	PV (million dollars)	
National government grant	2.2	- Q	National government grant	2.2	B +
Construction and maintenance costs	12.5	- -	Construction and maintenance costs	12.5	C -
Personnel costs	8.2	B -	Personnel costs	8.2	C -
Revenue from municipal residents	8.6	B Q	Revenue from municipal residents	8.6	B +
Revenue from non-residents	2.2	B Q	Revenue from non-residents	2.2	B +
Use value benefit to municipal residents	16.6	B +	Use value benefit to municipal residents	16.6	- Q
Use value benefit to non-residents	3.1	B +	Use value benefit to non-residents	3.1	- Q
Scrap value	0.8	+ +	Scrap value	0.8	- +
NSB	29.1	-0.2	NSB	-7.7	-6.9
3.d Municipal spender	PV (million dollars)				
National government grant	2.2	B +			
Construction and maintenance costs	12.5	C -			
Personnel costs	8.2	B +			
Revenue from municipal residents	8.6	B -			
Revenue from non-residents	2.2	B +			
Use value benefit to municipal residents	16.6	B +			
Use value benefit to non-residents	3.1	B Q			
Scrap value	0.8	B +			
NSB	29.2	2.9			

3.5 Incorporating the social cost of raising revenue through taxation

Excise tax on a good results in deadweight loss
SS is reduced w/ taxes

leakage or excess tax burden = proportion of tax or subsidy that results in deadweight loss

Increase in DL from raising tax \$1 = METB

METB = marginal excess tax burden

$METB + 1 = MCPE$

↳ marginal cost of public funds

$SS = CS + PS + (MCPE)GS$

3.6 Measuring changes in welfare

3.7 Conclusions

CBA aims to efficiently allocate resources

Appendix 3A CS and WTP

Compensating Variation

Indifference Curves

Income + substitution effects

Demand Curves

Marshallian Demand uses Income + substitution effects

Utility Compensated

Hicksian Compensated Variation demand Curve

Equivalence of CS + compensating variation

Equivalent variation as an alternative to compensating variation