

Theory of Demand

ECON 212 Lecture 7

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Queen's Univerisity

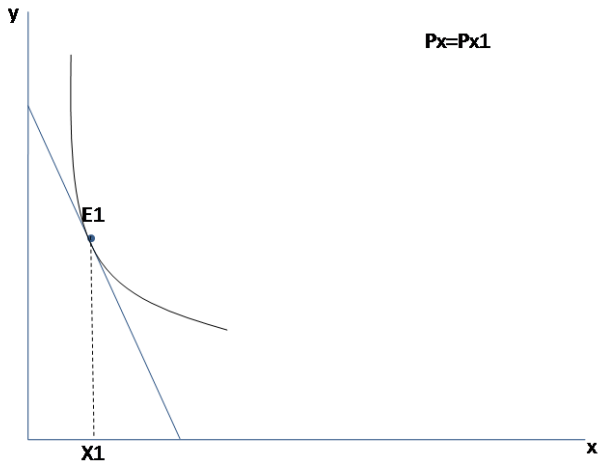
Winter 2013

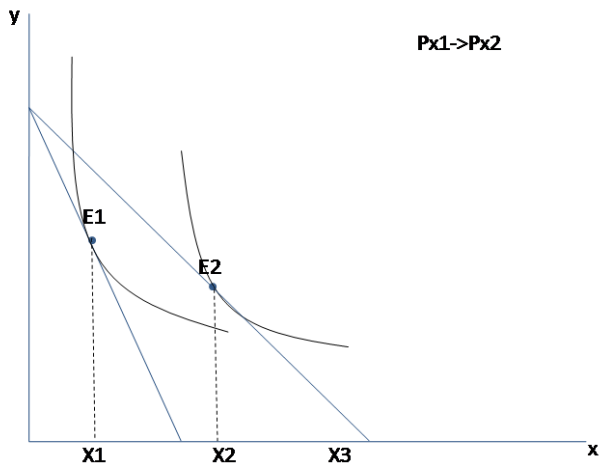
Intro

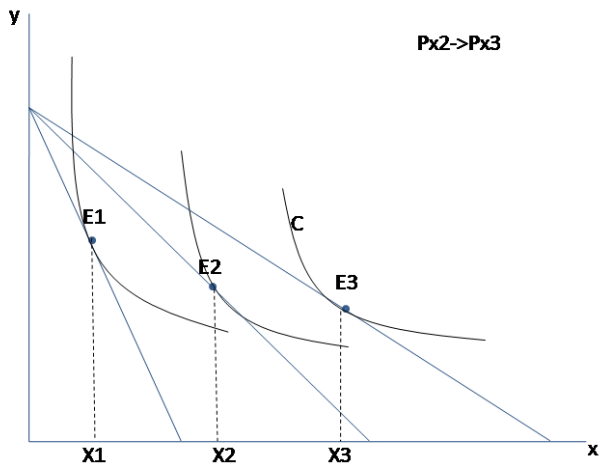
- Note: Quiz 1 can be picked up at Distribution Center.
Second Quiz covers: Preferences, Budget and Optimal Choices.
- Core of theory of demand: how does demand change in different environments.
- Can have many directions. We will look at:
 - ▶ effect of changes in price, and
 - ▶ effect of changes in income.

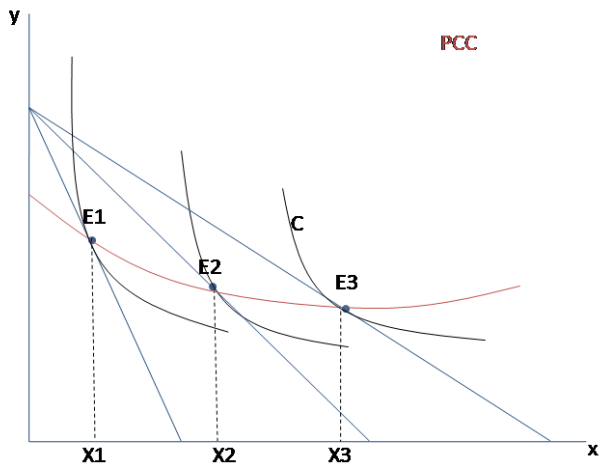
Effect of Changes in Price

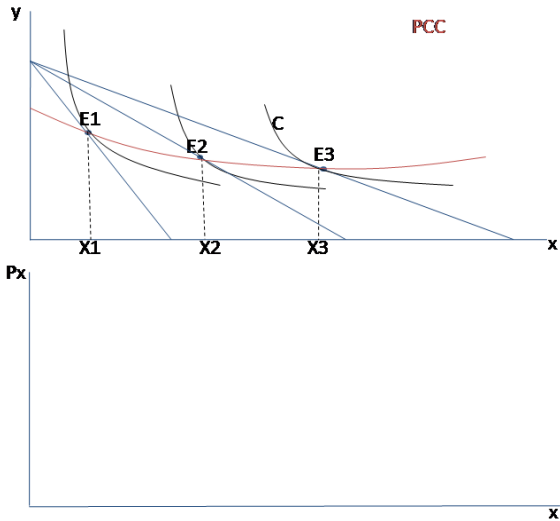
- What happens to optimal choices when price changes.
- Derive demand function from consumer's optimal choices.

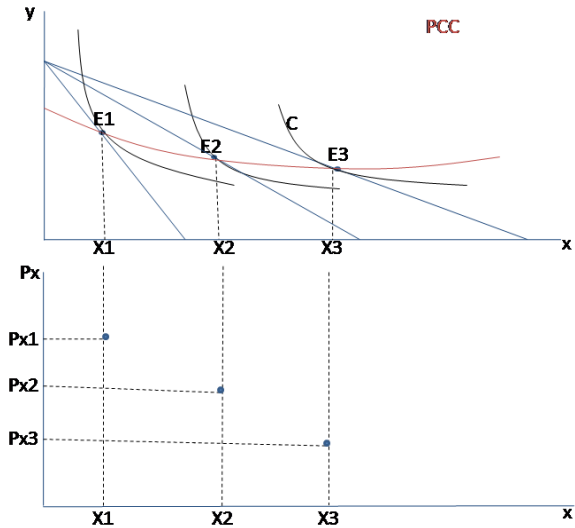


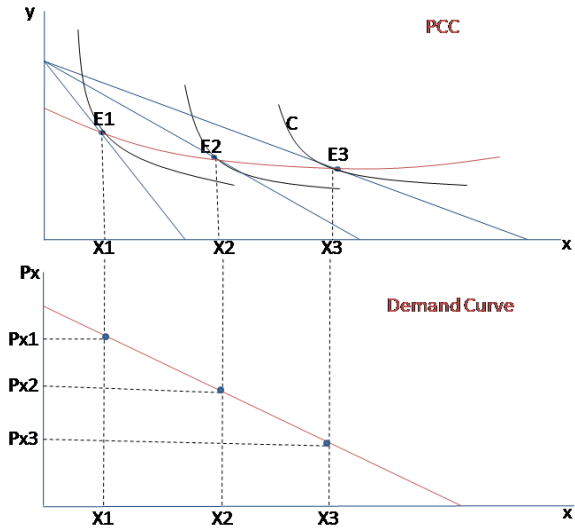












Demand Function

- Note, demand curve derived from definition: letting P_x changes while holding others constant.
- See class notes for examples.

Demand Function (Cont'd)

- Demand curve is also a "willingness to pay curve"
 - ▶ MRS says willness to substitute.
 - ▶ $MRS = \frac{P_x}{P_y}$, or willing to sacrifice $\frac{P_x}{P_y}$ unites of y .
 - ▶ To translate into value, $\frac{P_x}{P_y} * P_y = P_x$.
 - ▶ Willing to pay P_x for additional unit of x .

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- With Quasilinear utility function, both are vertical line. (Math and intuition?)

Market Demand

- Horizontal summation of individual demand.
- See class notes for examples.
- Usually assume identical individuals.

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- These ambiguities include:
 - the effect of wage rates on labor supply.
 - the effect of interest rates on savings.
- Price changes involve two separate effects:
 - Substitution effect: good 1 becomes cheaper, more attractive than good 2 (opp. cost changes)
 - Income effect: b/c good 1 is cheaper, can buy more of it with a given amount of income. Purchasing power increased.

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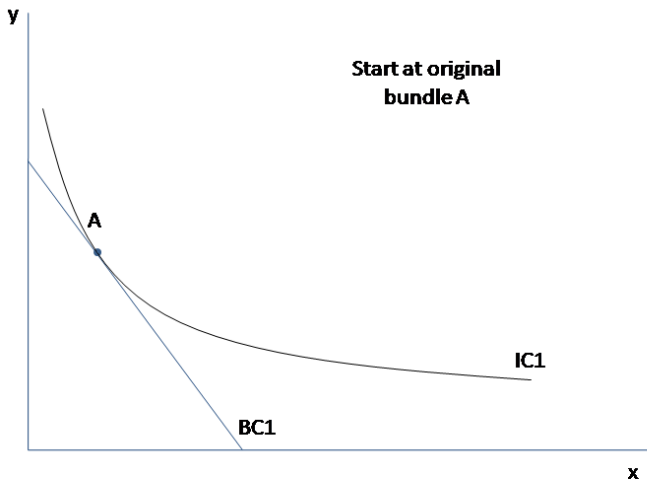
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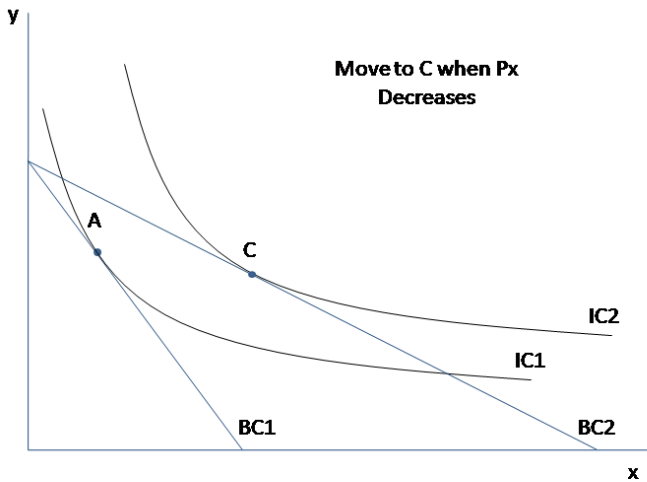
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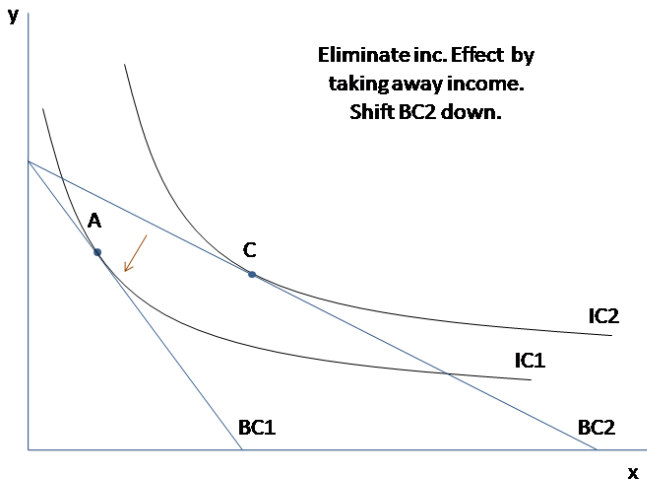
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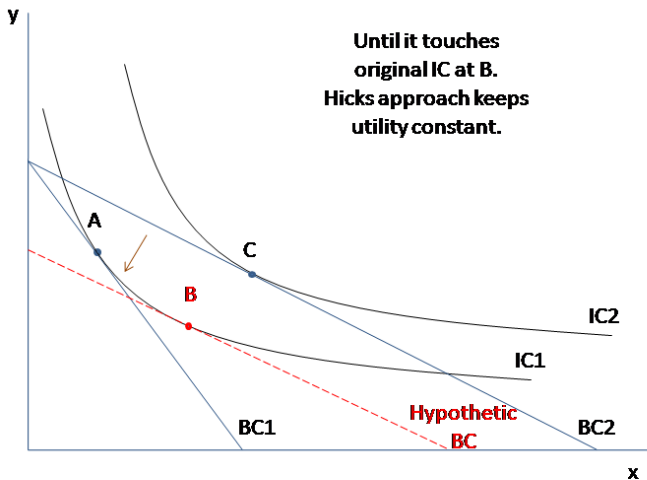
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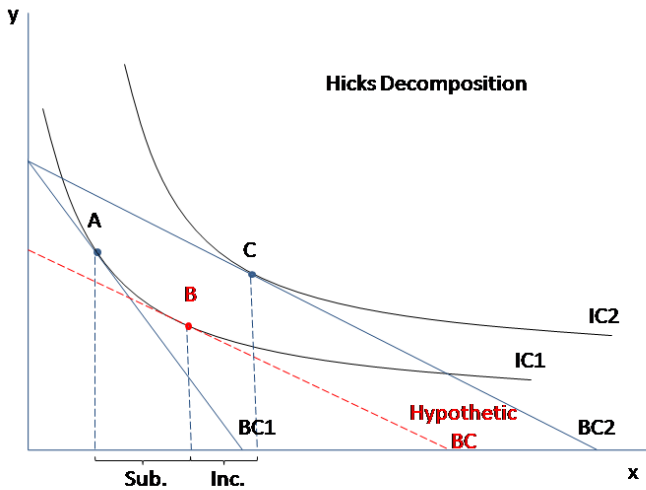
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- We will use Hicks below (clean intuition).
 - how much consumer would require in payment to accept a change.











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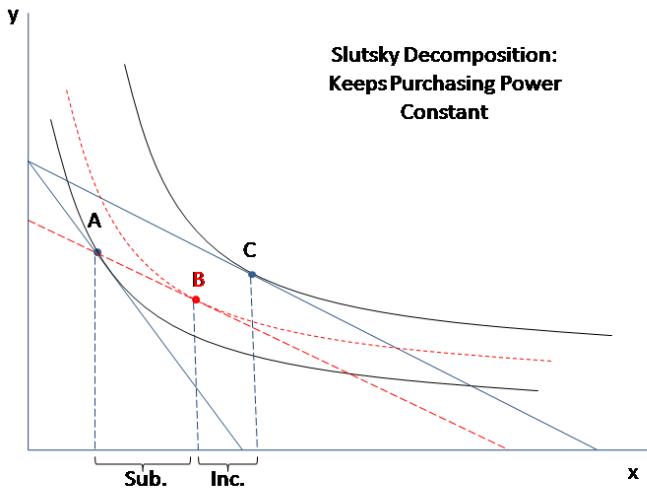
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- See class note for examples.

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- Sign of income effect can be positive or negative (normal v.s. inferior)
- Therefore Giffen good must be inferior good.



- Slutsky defines substitution effect by keeping purchasing power constant.
 - ▶ both original BC and hypothetical BC go through A.
 - ▶ Note incomes are different.

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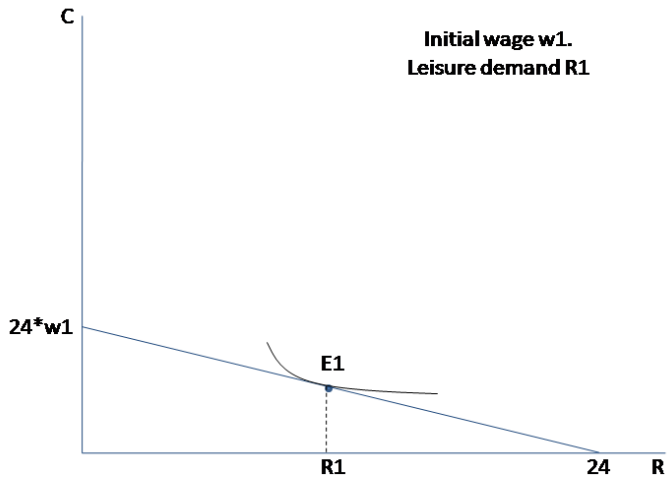
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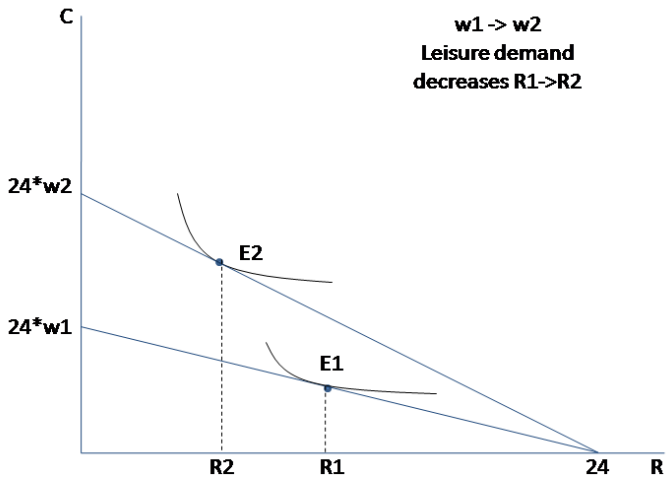
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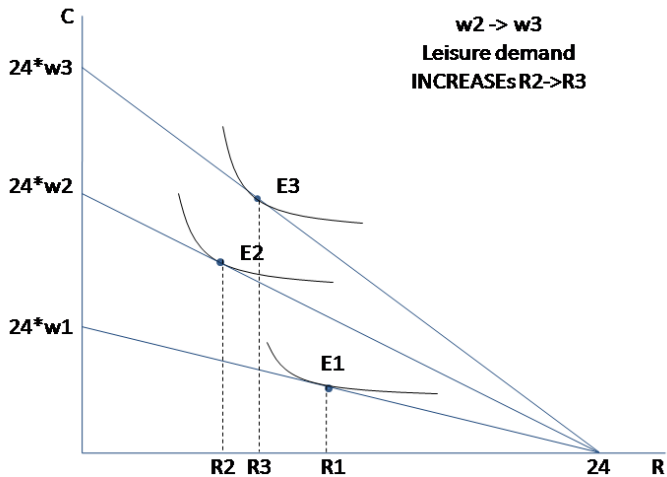
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- Formulate consumer's problem, see class notes for example.

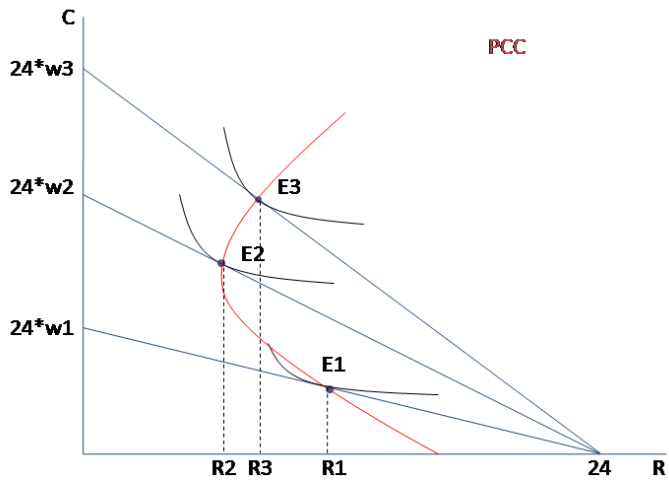
Backward bending labour supply

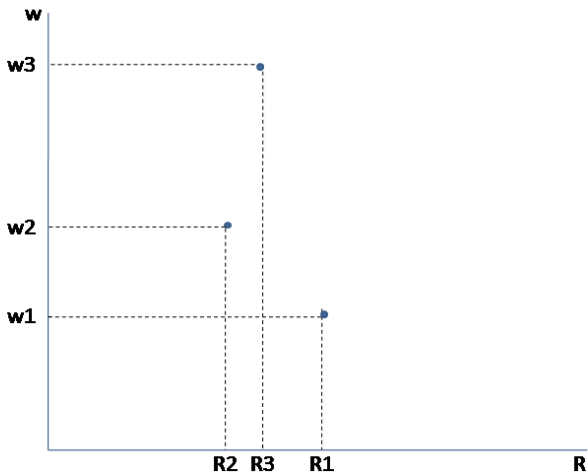
- We can find demand for leisure from optimal choices, by varying wage rate (see graph below).
- Since: supply of labour + demand for leisure = 24 hours.
- $L = T - R$. (See graph below).

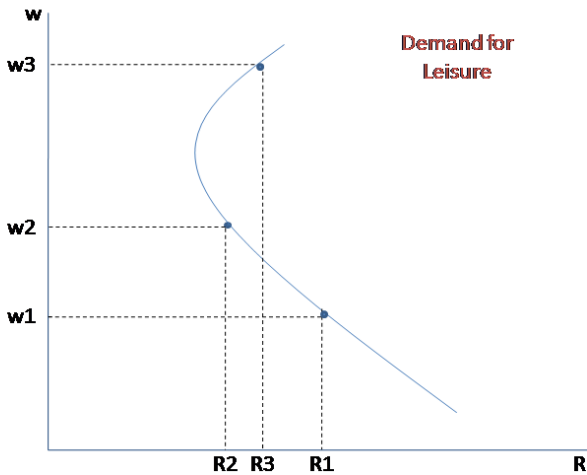


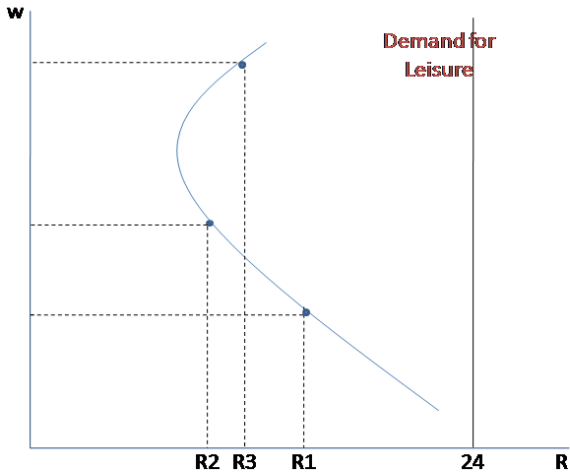


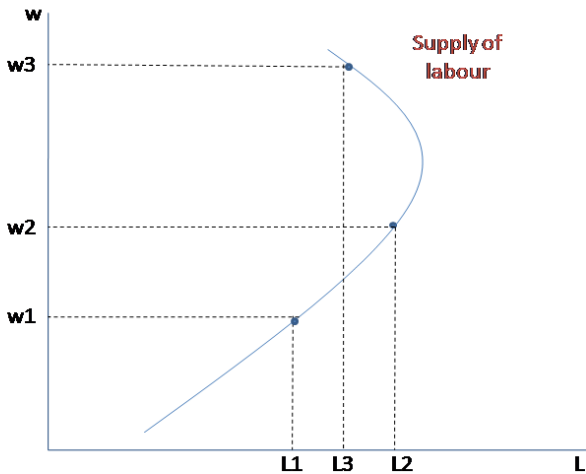


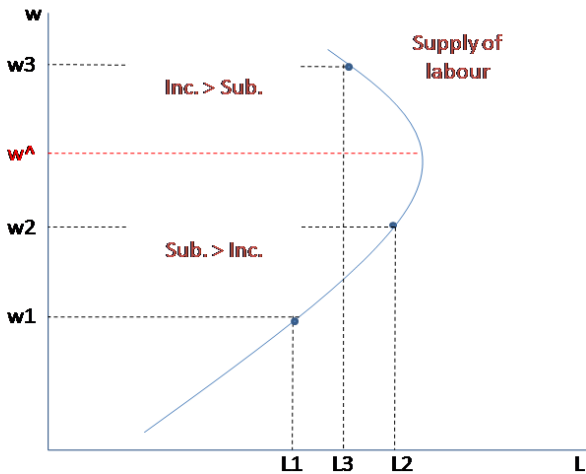












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- Labour supply curve bends backward.

Compensating Variation and Equivalent Variation

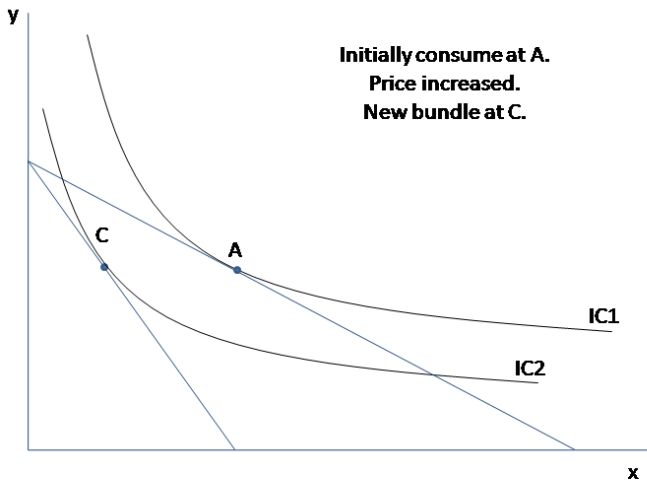
- Two ways to measure consumer welfare.
 - ▶ Price changes result in welfare change.
 - ▶ Rather than describe welfare in utility terms, we would like to describe it in terms of dollars.
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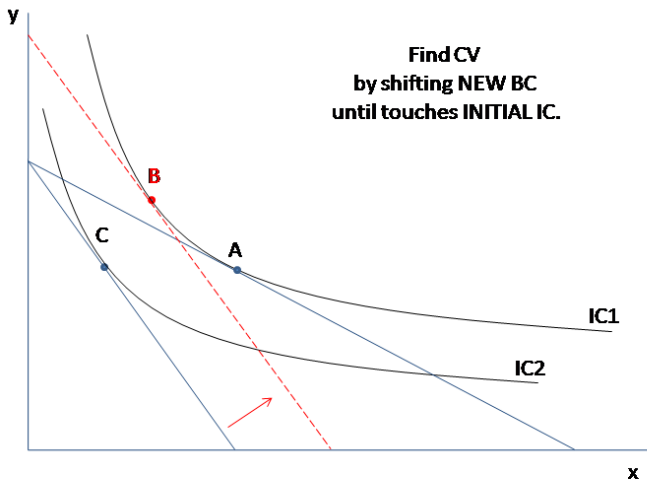
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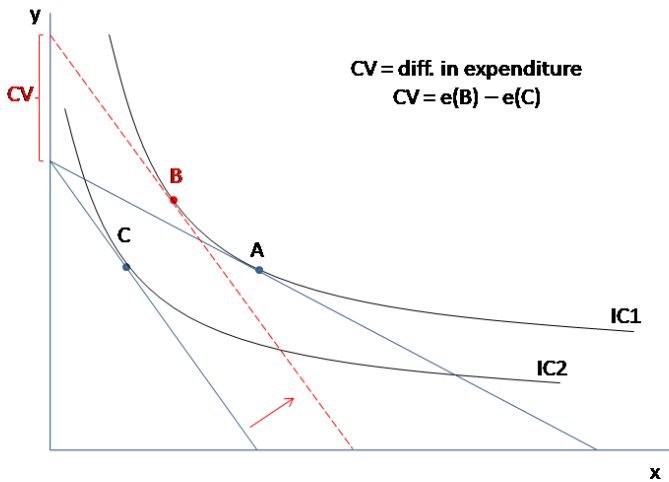
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 - This is Compensating Variation.

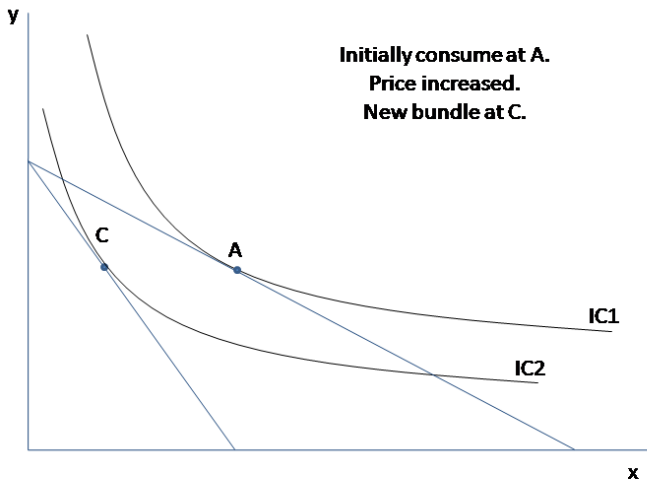
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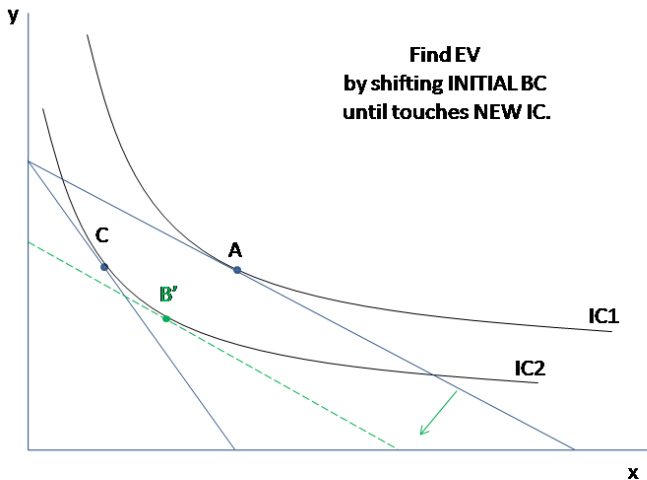
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— This is Compensating Variation.
 - 2 Ask how much money to take away from a consumer, at the initial price, such that the effect is equivalent to the price change.
— This is Equivalent Variation.

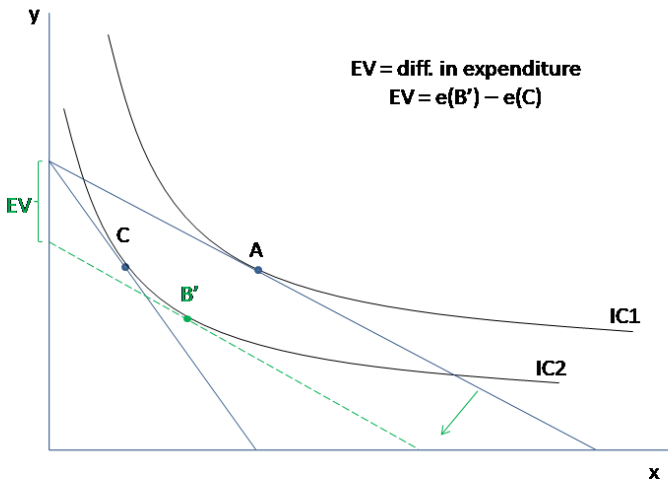


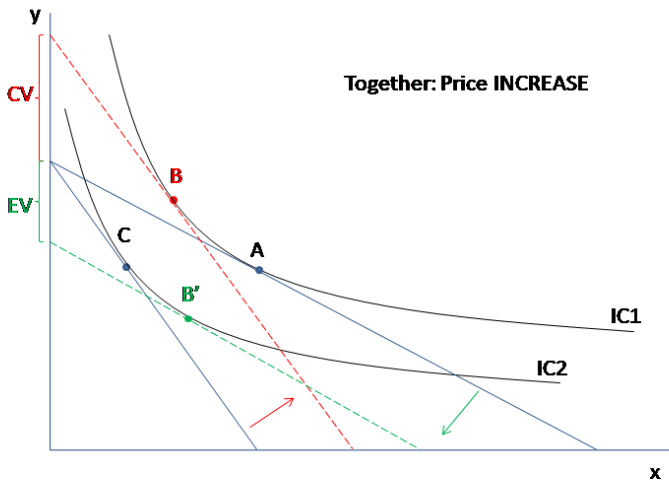












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- Note: Change in consumer surplus includes both inc. effect and sub. effect.
- Which measure is higher depends on income elasticity.
- However as the budget share of most goods are small, they are virtually identical.