

The Compensating Variation: The Basics

Two states of the world

$$(m^0, p^0) \text{ and } (m^1, p^1).$$

What is the compensation variation associated with the Δ from

$$(m^0, p^0) \text{ to } (m^1, p^1)?.$$

It is the amount of money that must be subtracted from m in the new state to make one indifference between the original state and the new state with CV subtracted from m^1 ; that is

$$(m^0, p^0) \sim (m^1 - CV, p^1).$$

In terms of the indirect utility function

$$u^0 = v(p^0, m^0) = v(p^1, m^1 - CV)$$

where

u^0 is maximum utility given

p^0 and m^0 .

Note if you take

$u^0 = v(p^1, m^1 - CV)$ and solve for $(m^1 - CV)$ one gets

$$(m^1 - CV) = E(u^0, p^1)$$

\Rightarrow

$$m^1 - E(u^0, p^1) = CV$$

but

$$m^1 = E(u^1, p^1)$$

where u^1 is maximum utility given m^1 and p^1 .

