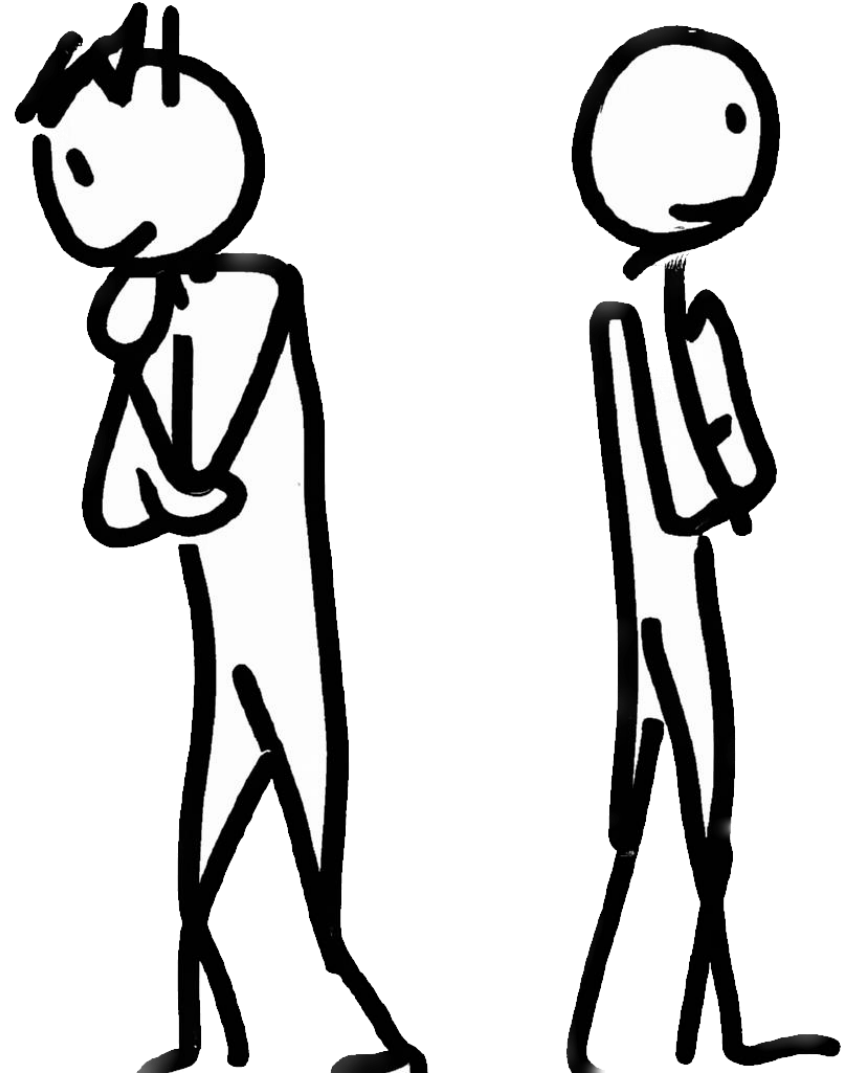


Auxiliary axioms for expected utility theory

Notes on Behavioural Economics

Jason Collins



Auxiliary axioms

- Utility is calculated over total wealth
- Non-satiation
- Monotonicity
- Convexity
- Diminishing marginal utility

Reference point of zero wealth



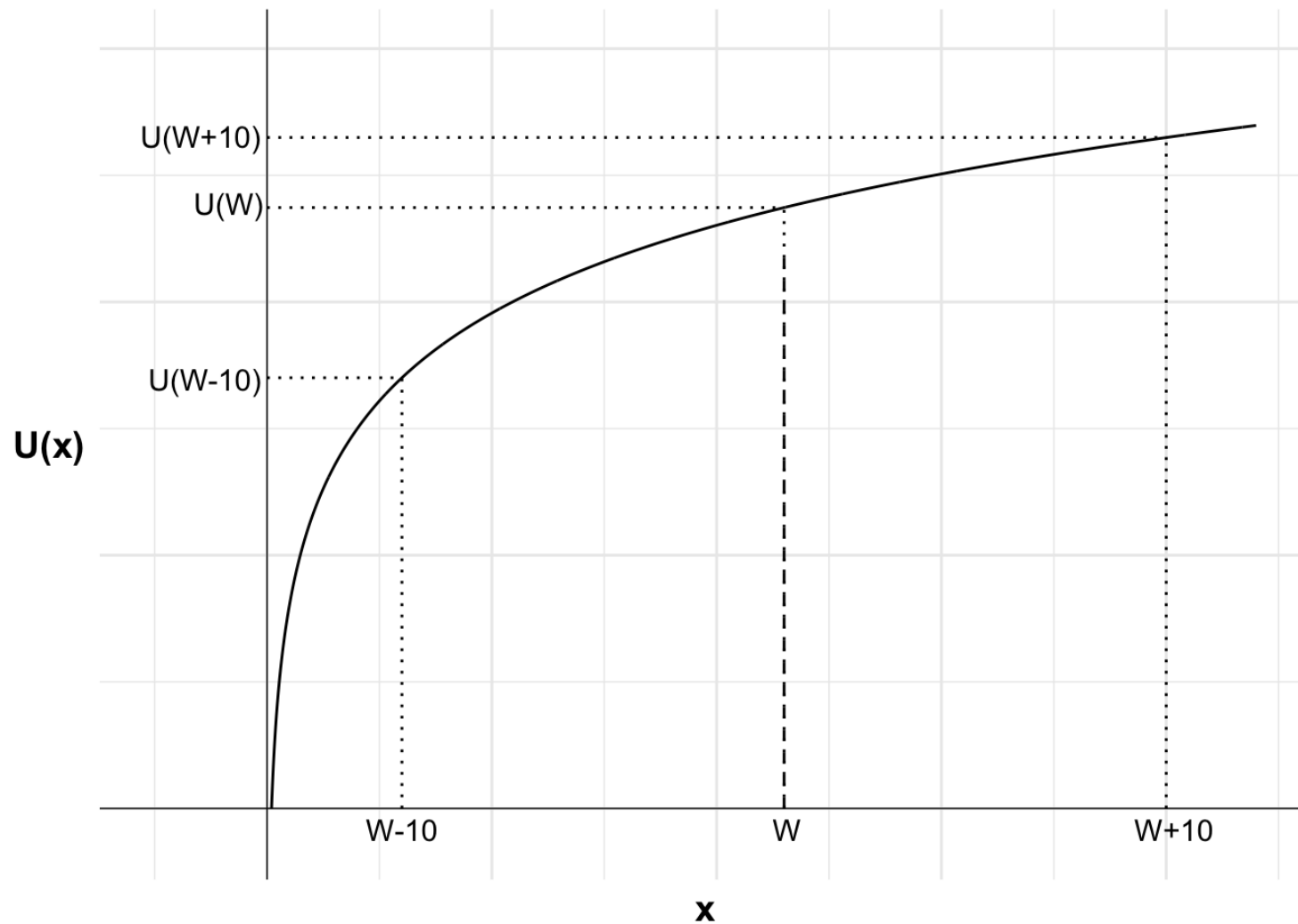
Reference point of zero wealth

$$U(\$10) \quad U(-\$10)$$

Reference point of zero wealth

$$U(W + \$10) \quad U(W - \$10)$$

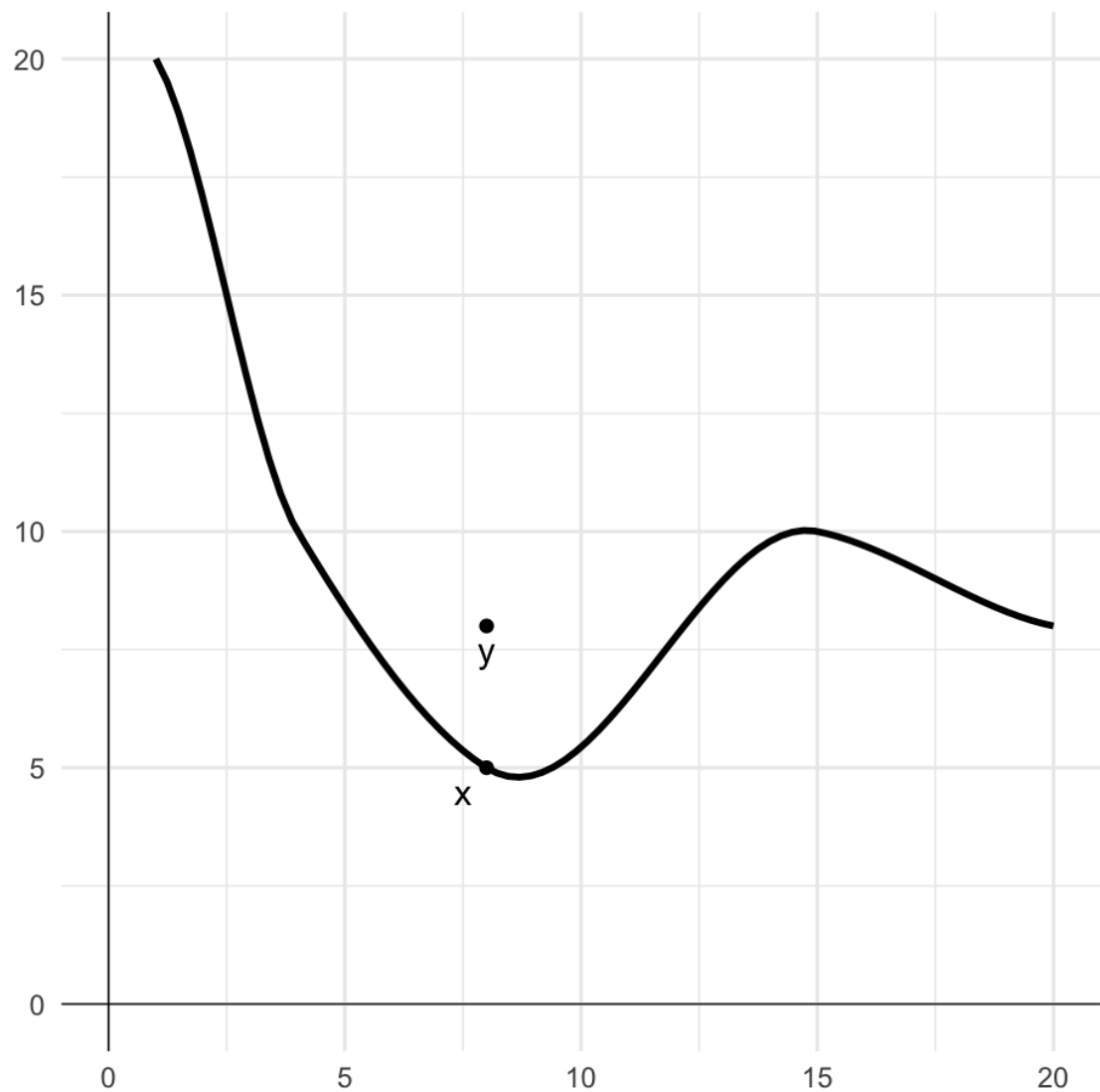
Reference
point of
zero wealth



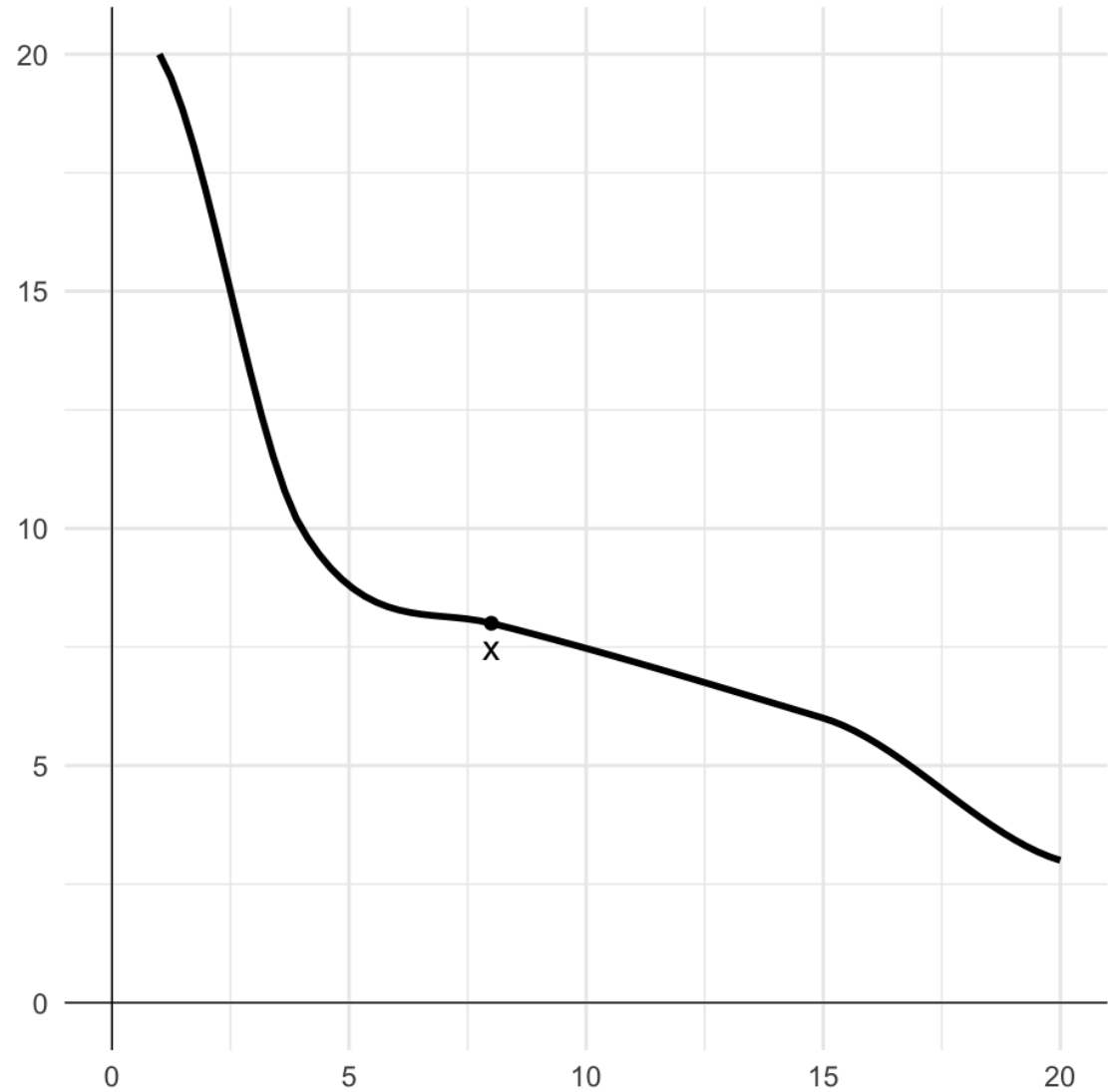
Non-satiation



Non-satiation



Monotonicity

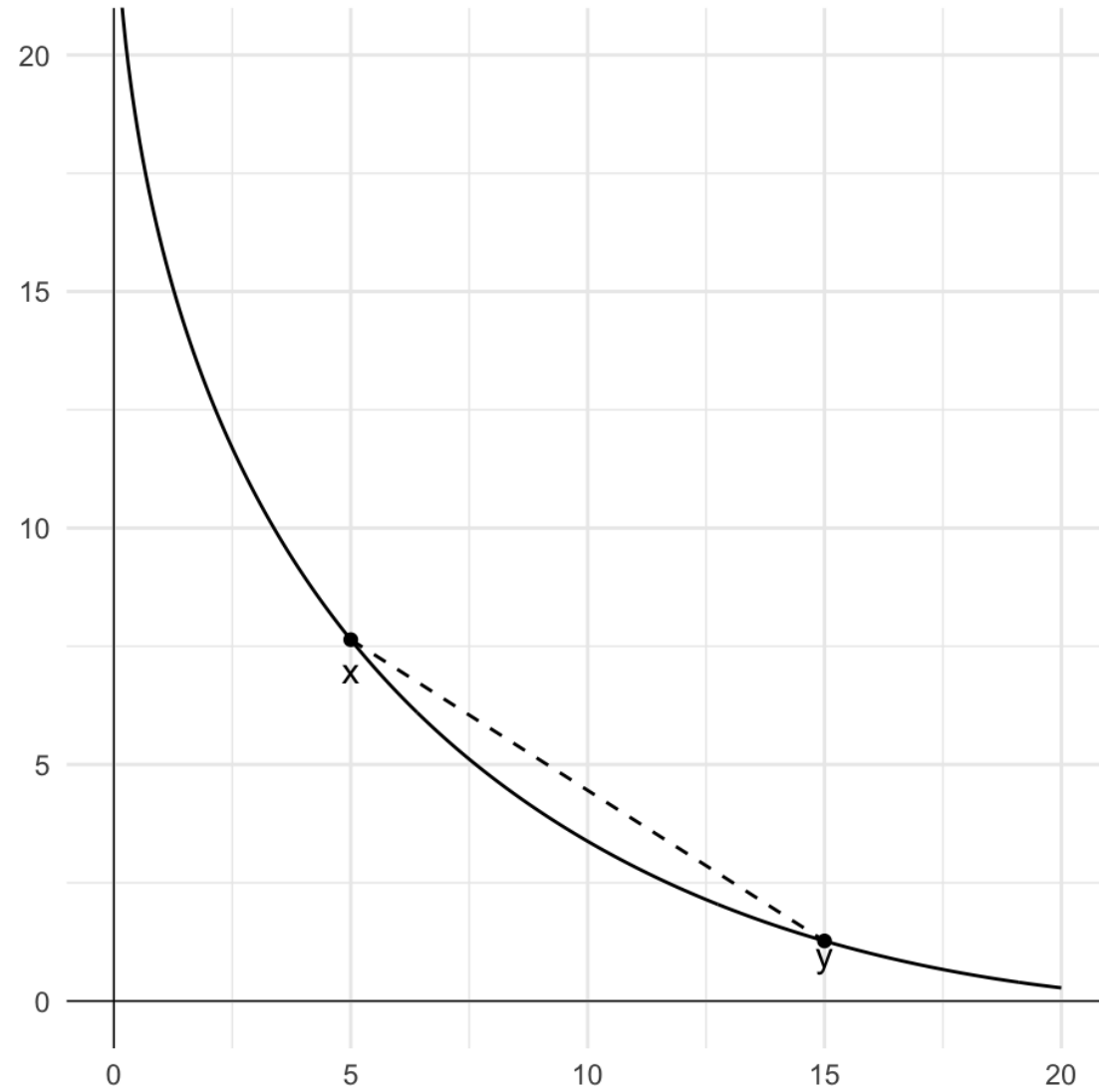


Convexity

For any $x \succcurlyeq y$ and for every $\theta \in [0,1]$:

$$\theta x + (1 - \theta)y \succcurlyeq y$$

Convexity



Strict convexity

For any $x \sim y$, $x \neq y$ and for every $\theta \in [0,1]$:

$$\theta x + (1 - \theta)y \succcurlyeq y$$

$$\theta x + (1 - \theta)y \succcurlyeq x$$

Diminishing marginal utility

