

# Notes from MWG's *Microeconomic Theory*

Ariel Boyarsky  
aboyarsky@uchicago.edu

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## Ch. 1 Preference and Choice

### 0.1 Preference Relations

Axioms of Preference:

- i.  $x \succ y$ .  $x$  is "strictly" preferred to  $y$  if and only if (iff)  $x \succeq y$  but  $y \not\succeq x$ . Note:  $x \succeq y$  is an at least as good as relation. That is,  $x$  is at least as good as  $y$ .
- ii.  $x \sim y$ . Then,  $x$  is indifferent to  $y$ . Thus,  $x \succeq y$  and  $y \succeq x$ .

**Definition:** We call a relation *rational* if it is both **complete** and **transitive**. Consider the set of goods,  $X$ .

- i. Completeness:  $\forall x, y \in X$  either  $x \succeq y$  or  $y \succeq x$  or both.
- ii. Transitivity:  $\forall x, y, z \in X$  if  $x \succeq y$  and  $y \succeq z$  then  $x \succeq z$ .

**Proposition:** It follows, that if  $\succeq$  is rational then:

- i.  $\succ$  is irreflexive

## Ch. 2 Consumer Choice

Walrasian budget set,  $X = \mathbb{R}_+^L$