

Pure-exchange economy

Def A pure-exchange economy with N goods and household set H consists of

- * a utility function $u_h: \mathbb{R}_+^N \rightarrow \mathbb{R}$ for each household $h \in H$, and
- * an endowment $e_h \in \mathbb{R}_+^N$ for each household $h \in H$.

Def An allocation of resources to households $\{x_h\}_{h \in H}$ is feasible if

$$\sum_{h \in H} x_h = \sum_{h \in H} e_h$$

vector equality



Δ only

sees (m, y) NOT (M, Y)

$$u(m, y) = \max_{M, Y} U(M, Y)$$

$$\text{s.t. } f(m-M) + y = Y$$

Def A production economy with N goods, household set H , and firm set I consists of:

* a utility function $u_h: \mathbb{R}_+^N \rightarrow \mathbb{R}$

* endowments $e_h \in \mathbb{R}_+^N$

* a production technology set $Y_i \subseteq \mathbb{R}^N$

for each firm $i \in I$,

* firm ownership $s_{hi} \in [0, 1]$ where

$$\sum_{h \in H} s_{hi} = 1 \text{ for all firms } i.$$

An allocation $(\{x_h\}, \{y_i\})$ is feasible if

$$\sum_{h \in H} x_h = \sum_{h \in H} e_h + \sum_{i \in I} y_i$$