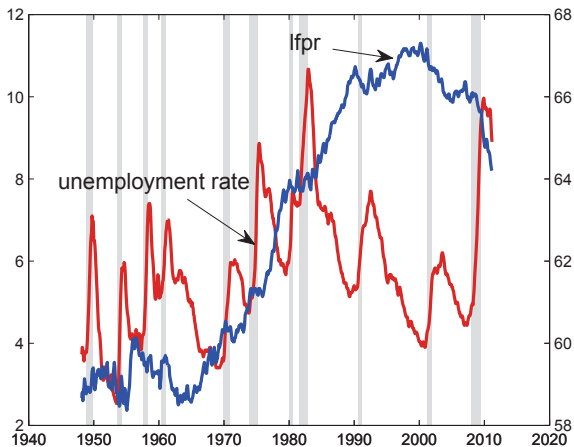


Earlier approaches looked at these stocks.

$$\text{Labor force participation rate} = \frac{E+U}{E+U+N}$$

Stocks and business cycles



We will look at **gross flows**.

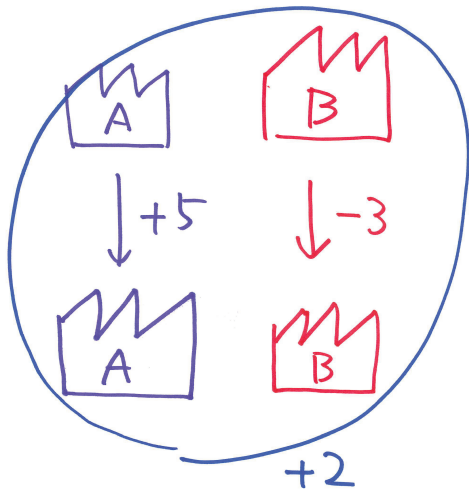
Looking at the net flow is the same as looking at stocks.

$$(\text{Net gain of } E)_t = E_t - E_{t-1}.$$

Flow approach to labor markets

- ▶ More recent research look at the **gross flows**, explicitly looking at the “ins and outs” to the stocks that we are interested in. This is called the “flow approach to labor markets.”
- ▶ Gross flows contain more information than stocks (or net flows).

A digression: job flows



Gross:

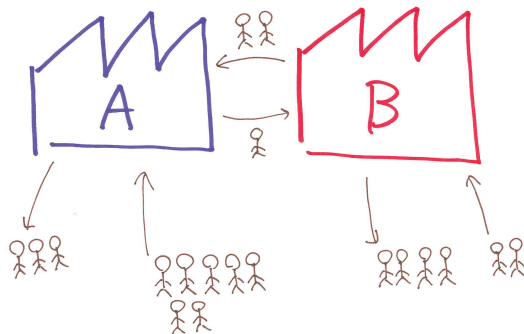
5 job creation

3 job destruction

Net:

+2 gain.

We will look at the worker flows.

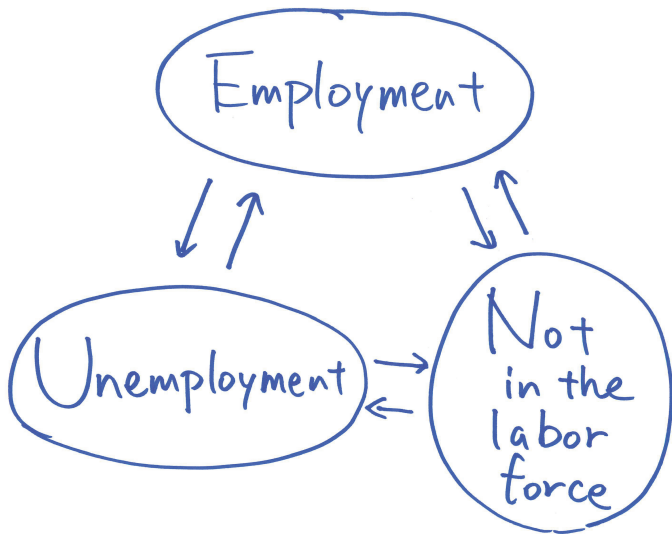


We will look at the worker flows.

Workers :

- Stay at A or B
 - Switch $A \leftrightarrow B$
- } Stay at E
- Hired to A
 - Hired to B
- } U (or N)
to E
- Separated from A
 - Separated from B
- } E to
U (or N)

We will look at the worker flows, in particular the movements across E , U , and N .



Why do we care about gross flows?

- ▶ “Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses.” Lionel Robbins

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- ▶ Labor is one of the most important “scarce means which have alternative uses” in an economy. We want the labor to be put in the “best” use among many alternative uses.
- ▶ The economy evolves over time, and it requires the constant reallocation of productive resources to new firms. It matters a lot from the perspective of allocating talents, and also how the economy reacts to the external shocks.

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- ▶ Labor is one of the most important “scarce means which have alternative uses” in an economy. We want the labor to be put in the “best” use among many alternative uses.
- ▶ The economy evolves over time, and it requires the constant reallocation of productive resources to new firms. It matters a lot from the perspective of allocating talents, and also how the economy reacts to the external shocks.
- ▶ Gross flows are very important from individual perspective too—in the economy with the same net flows, it can be the case one is staying at the same job forever, or switching the jobs constantly. Having a large flow across firms, for example, can mean high mobility from an un-desired job to a desired job. Having a large flow from U to E means that the duration of unemployment is short.

Flows accounting

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$$E_{t+1} = (1 - \sigma)E_t + \lambda U_t.$$

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- ▶ It is easy to show that E_t (and U_t) converges to a constant value (call it a “steady state”) and the unemployment rate u at the steady state is

$$u = \frac{\sigma}{\lambda + \sigma}.$$

Flows accounting

- ▶ Think of two economies—one with a high λ and a high σ , and one with a low λ and a low σ . They might have a similar steady-state unemployment rate,

$$u = \frac{\sigma}{\lambda + \sigma},$$

but the experience of an individual is very different. The average duration of unemployment is

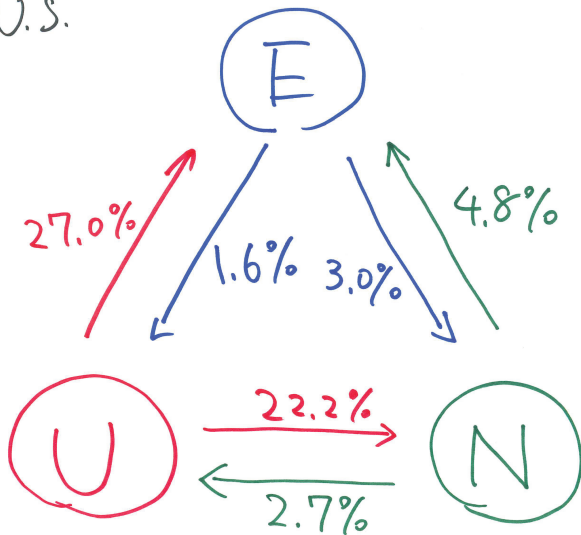
$$d = \frac{1}{\lambda},$$

which is decreasing in λ .

Numbers

Worker flows (monthly transition probabilities)

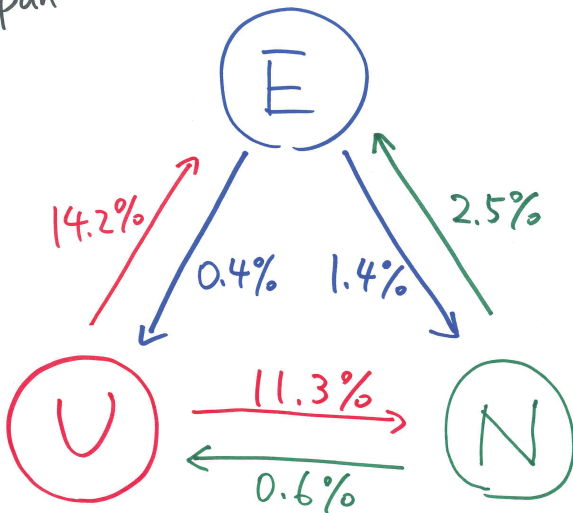
U.S.



Source: Krusell et al.

Worker flows (monthly transition probabilities)

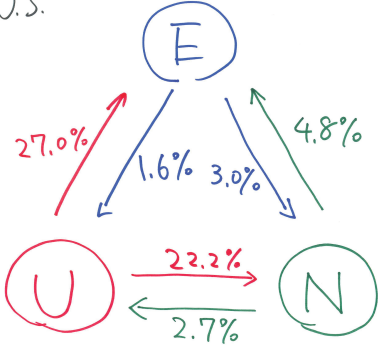
Japan



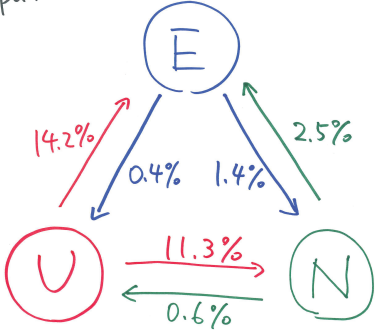
Source: Lin and Miyamoto

Comparison

U.S.



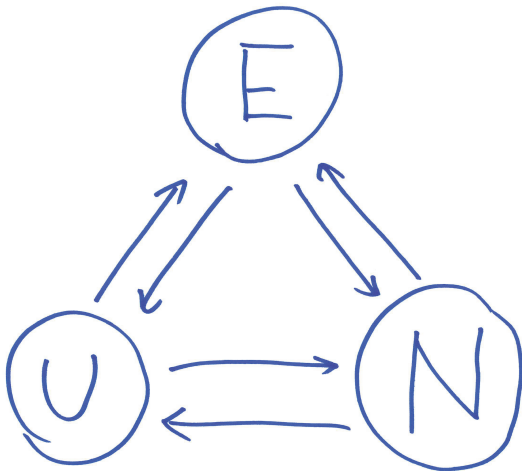
Japan



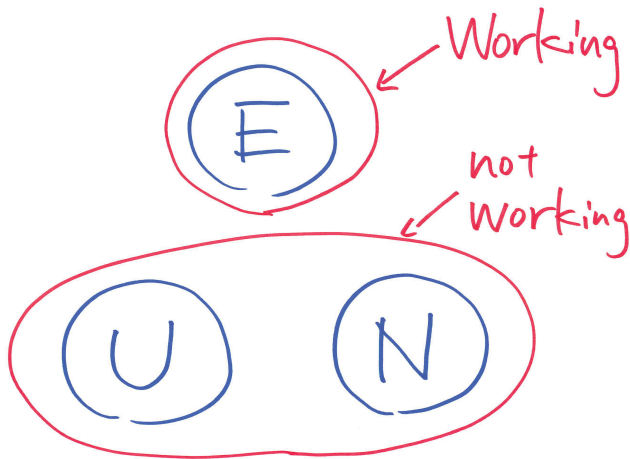
- ▶ Gross worker flows are much larger than net changes of stocks.
- ▶ Gross worker flows are smaller in Japan compared to the United States.

Understanding worker flows: Theory

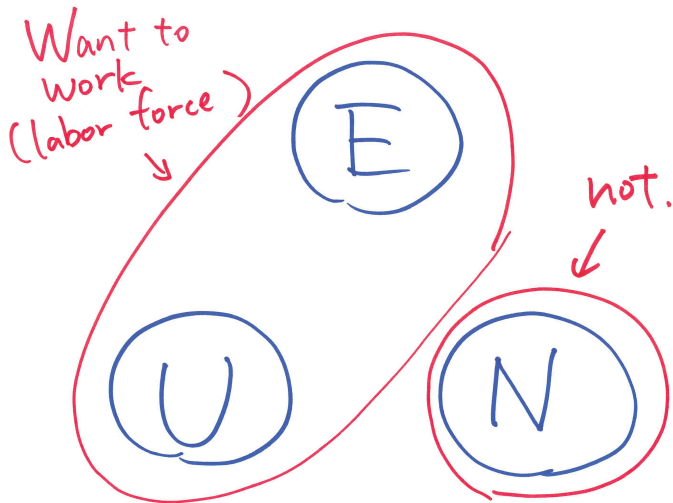
There are a lot of flows



One way of organizing thoughts



Another way of organizing thoughts



How I think about it (at this point)

- ▶ Flows between (E and U) and N is driven by the **choice** of the workers (**labor supply**).
- ▶ Flows between E and U is driven by the **frictions** in the labor market (**chance**, from the workers' point of view).