

Loss of Skill during Unemployment



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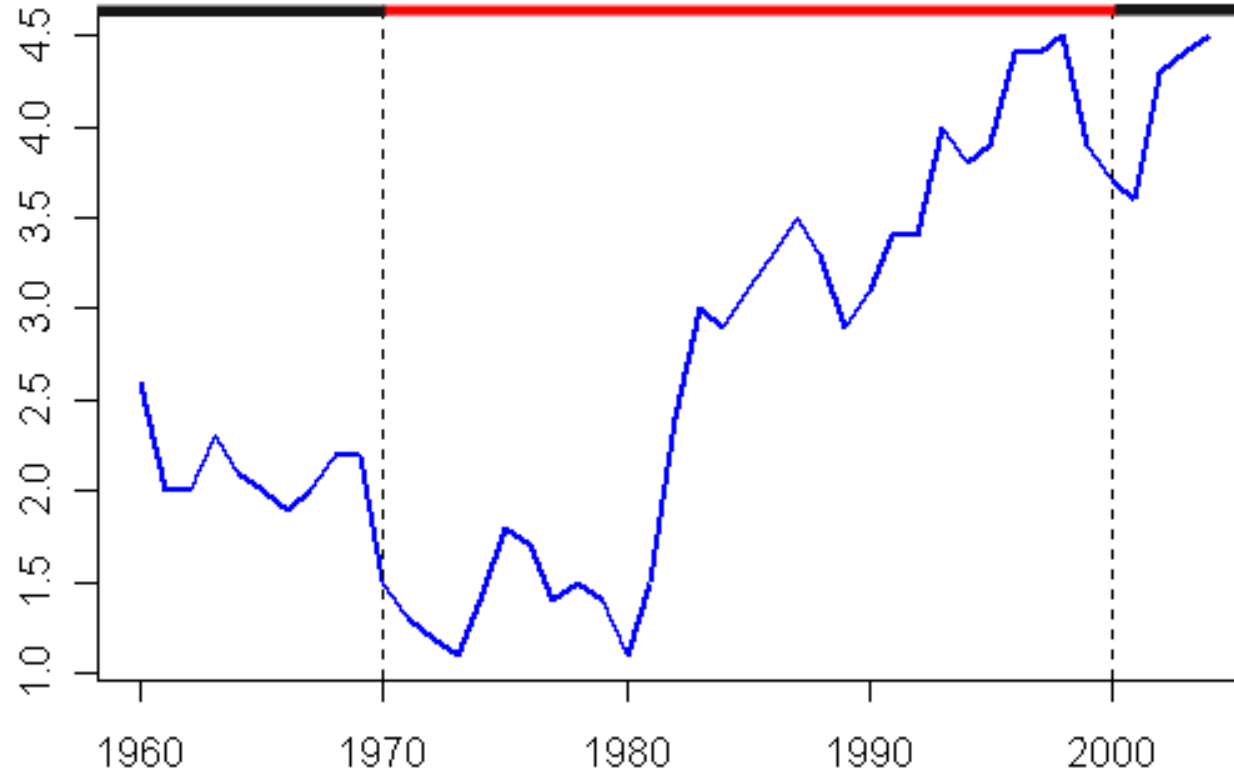
Facts

- Many European countries suffer from a **chronically high unemployment rate**. In major economies, such as Germany, France and Spain, around ten percent of the labour force is unemployed.
- Quite a lot of them are classified as **long-term unemployed**; i.e. they have been unemployed for twelve months or more.
- **Shocks** seem to have **effects** on employment **long after they have disappeared**.

Unemployment Rate for Austria

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Unemployment Rate for Austria





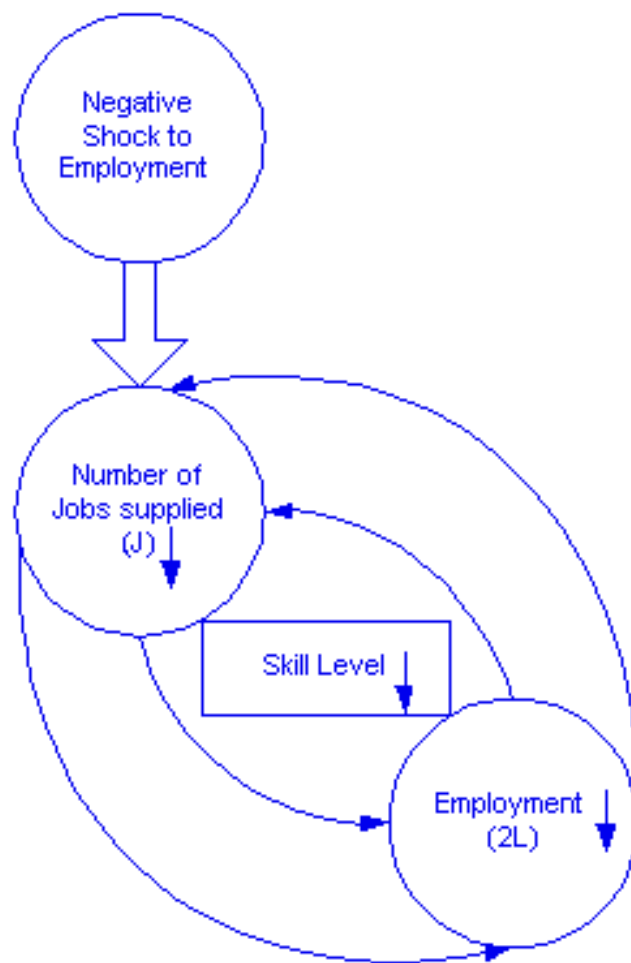
Pissarides' Paper

The **central idea** of the paper is that **unemployed workers lose skills** while unemployed, which gives rise to a '**thin market externality**'.

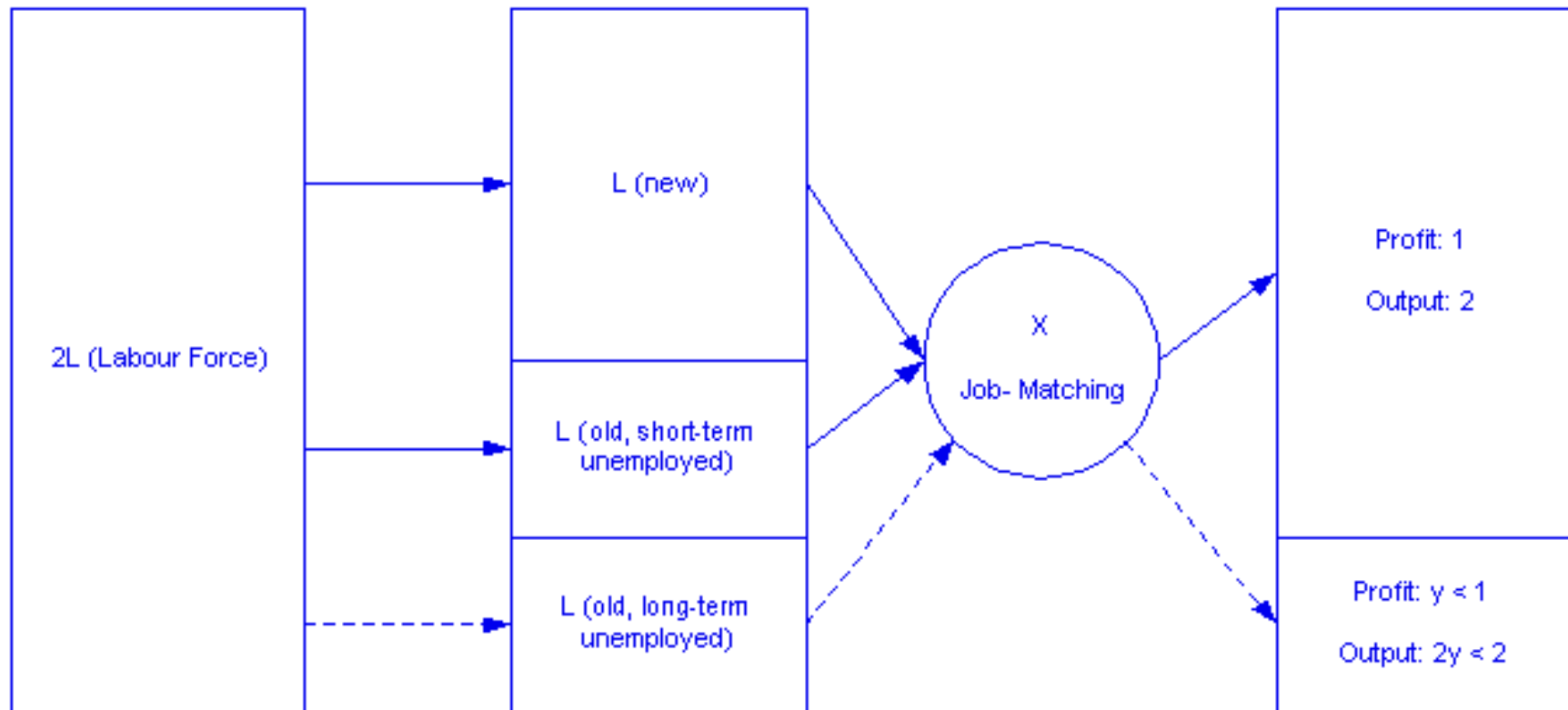
A **shock** which increases unemployment makes the **average skill level of the pool of available workers drop**, this **lowers the expected profits** of hiring a worker, which in turn leads **firms to decrease their job supply** and the original shock to unemployment to persist.

The paper shows that different patterns of persistence and multiple equilibria are possible.

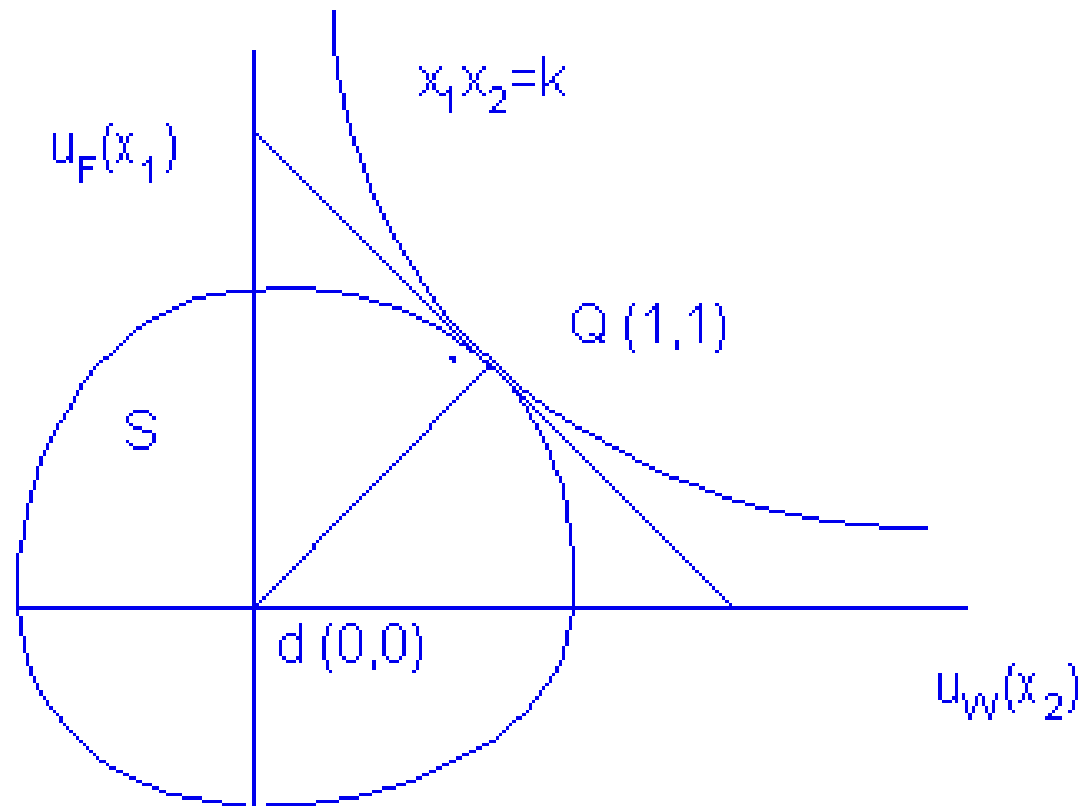
Graphically:



Demand & Supply



Wage Determination – Nash Bargain





Transition out of Unemployment

Modelled as **a trading process**, with unemployed workers and firms with job vacancies wanting to trade labour service.

Unlike Walrasian theory, trade in this approach to unemployment is an economic activity that requires the input of time and other resources.

The job **matching technology** is assumed to be Cobb-Douglas.

Job Supply Equation

$$J_t = Lk[1 + y + (1 - y)q_{t-1}]q_t$$

Supply of jobs is higher when:

- Workers are more likely to find jobs
- When the previous period's employment level is higher
- When the long term unemployed are more productive
- And when the cost of operating a job is less

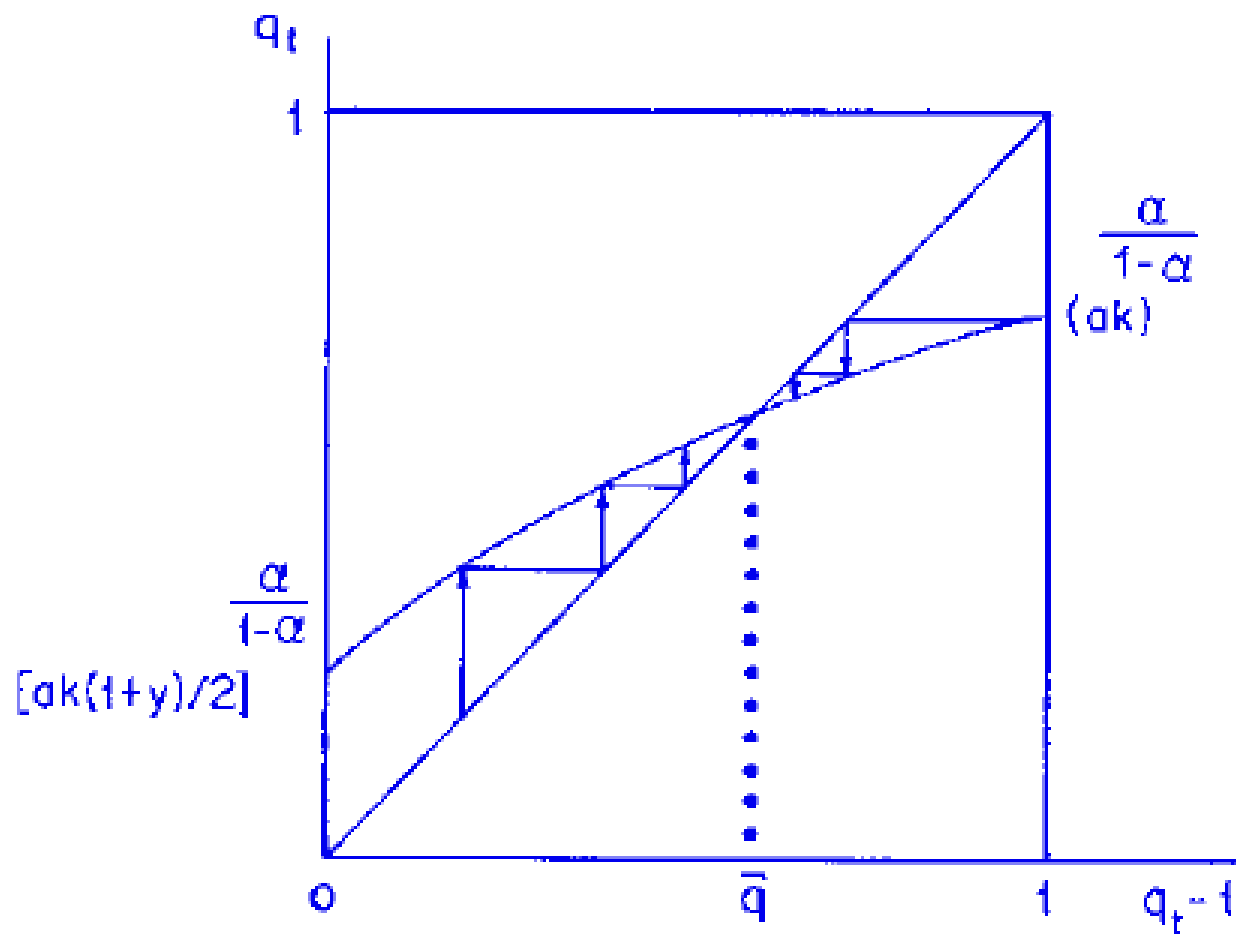
Transition Probability

$$q_t = \left(\frac{ak}{2}\right)^{\frac{\alpha}{1-\alpha}} [1 + y + (1-y)q_{t-1}]^{\frac{\alpha}{1-\alpha}}$$

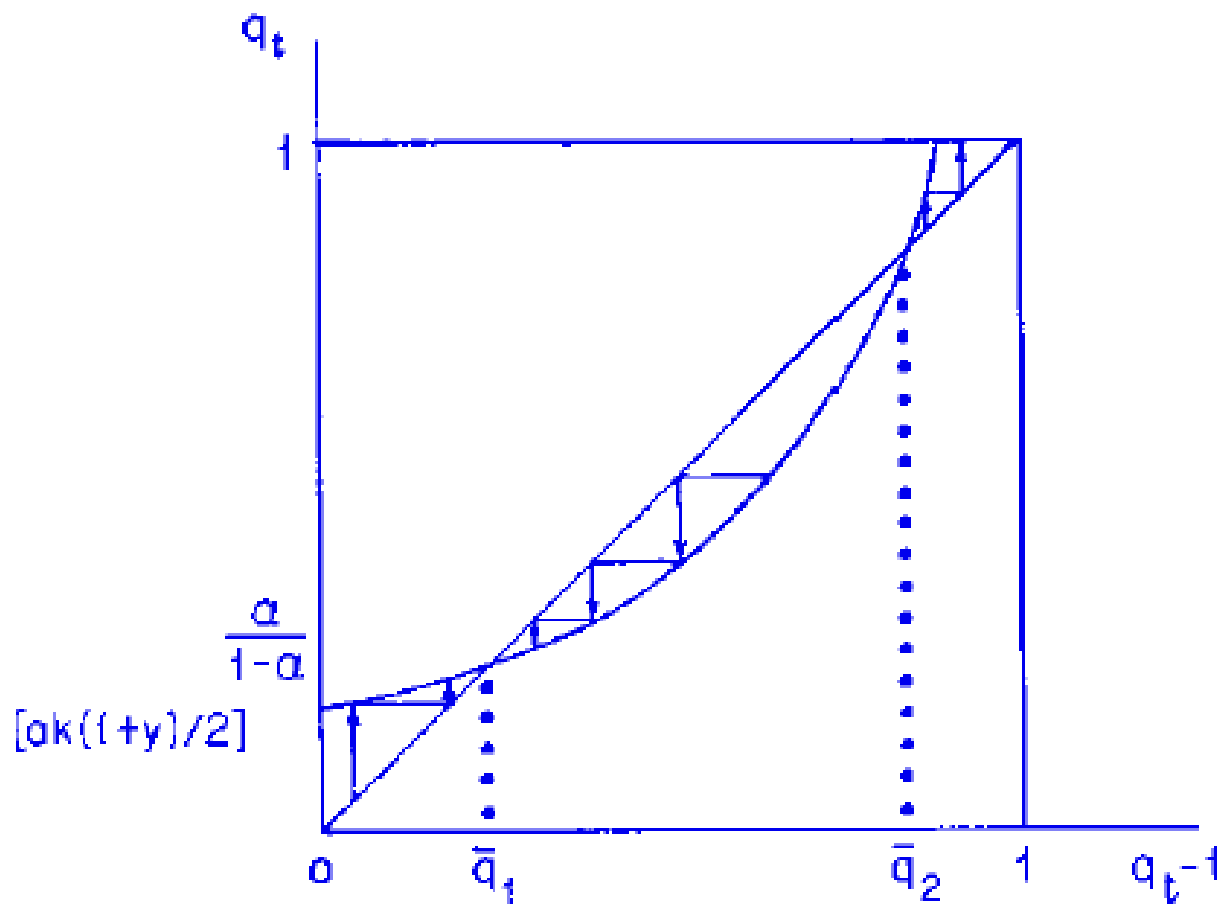
$$q_t = \left(\frac{ak}{2}\right)(1+y) + \left(\frac{ak}{2}\right)(1-y)q_{t-1} \quad \text{for } \alpha = \frac{1}{2}$$

$$\frac{\partial^2 q_t}{\partial q_{t-1}^2} = \frac{(2\alpha - 1)(1-y)^2 \alpha}{(1-\alpha)^2 [1 + y + (1-y)q_{t-1}]^2} q_t.$$

Equilibrium if $\alpha < 1/2$



Equilibrium if $\alpha > 1/2$





Conclusion

High values of α increase the matching effectiveness of jobs relative to that of workers, so they maximize the effects of the thin market externality on job entry and the possibility of multiplicity arises.

Multiplicity in this context has the appealing property that the economy fluctuates near full employment or around a high-unemployment equilibrium in response to small shocks, but may move from one equilibrium to the other in response to bigger shocks.



Duration Dependence and Persistence

In the models explored so far
the short-term and long-term
unemployed have the same matching
probabilities.

This is unrealistic since the **evidence shows a sharp fall in the employment probabilities of the unemployed as duration increases.**

Duration Dependence and Persistence

Employment probabilities may fall for two reasons:

- Employers may discriminate against the long-term unemployed worker when one is available (⇒ doesn't offset mechanism since waiting cost)
- the intensity of search may fall with duration. (⇒ employment in period t also depends on employment in period $t-1$ the matching probability in period $t-1$).

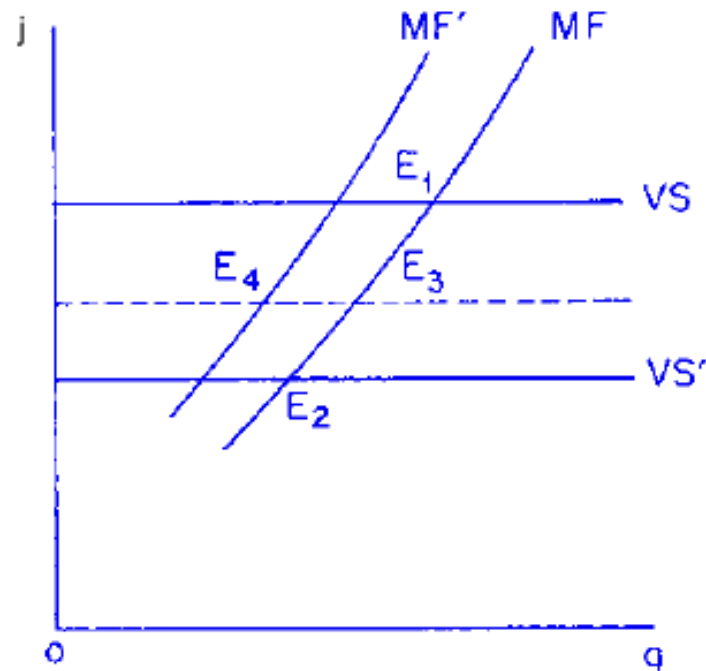


Sketch of an Empirical Model

$$j = F(\phi, \omega, s, d)$$

$$q = G(j, s, c, \sigma)$$

Dynamics



Effect of a Temporary Fall in the Supply of Jobs
on Job Vacancies and Job Matchings