

1. Unemployment

March 12, 2007

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1.1. Basic (non cyclical) facts

Goals: Understand determination of wage and employment in labor market. And incorporate in macroeconomic model.

Facts (much progress due to new large panel data sets on firms and workers):

- Large job creation/destruction. Net flows relative to gross.
- Even larger flows of workers.
- Unemployment. Flows/duration.
- Heterogeneity across age groups, skills.
- Heterogeneity across countries: US versus Europe. Within Europe.
- Large continental European countries. Unemployment then low, now high

1. Job flows

(For the moment, US-centric. Later, look at other countries)

- Job creation, destruction (Davis Haltiwanger Schuh). Define $\bar{N}_t \equiv (N_{t-1} + N_t)/2$. Then

$$JC \equiv \left(\sum_{\Delta N_{it} > 0} \Delta N_{it} \right) / \bar{N}_t, \quad JD \equiv \left(\sum_{\Delta N_{it} < 0} \Delta N_{it} \right) / \bar{N}_t$$

- From DH (LRD, plant based): Job creation/destruction rates in manufacturing around 5-6% per quarter
- From Faberman, building on LRD up to 1990, BED since 1990. (Figure 3) Job creation/destruction rates in manufacturing around 4-7% per quarter. Note surprising decline since early 1960s, and more so late 1990s.
- From Faberman (Davis, Figure 2). JC/JD rates around 7-8% per quarter. (Note the decline since 1999. Why? Debate on micro-volatility)

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Figure 3. Quarterly Job Flows in Manufacturing, 1947-2005. p. 33.

Davis, S. J., R. J. Faberman, and J. Haltiwanger. "The Flow Approach to Labor Markets: New Data Sources and Micro-Macro Links." NBER Working Paper No. 12167, April 2006. pp. 1-41. (<http://www.nber.org/papers/w12167>)

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Figure 2. Quarterly Job Flows in the Private Sector, 1990-2005. p. 32.

Davis, S. J., R. J. Faberman, and J. Haltiwanger. "The Flow Approach to Labor Markets: New Data Sources and Micro-Macro Links." NBER Working Paper No. 12167, April 2006. pp. 1-41. (<http://www.nber.org/papers/w12167>)

2. Workers flows.

Worker flows exceed job flows: workers and firms look for better matches for existing jobs.

- Total hires and separations for continuing establishments. (JOLTS), since 2001. Figure 4, from Davis

Hires/separations around 3% per month. Note how close the two gross flows are.

Quits > layoffs around 1.8%, layoffs around 1.5%

- Worker flows from CPS. Figure 1, from Fallick/Fleischman, 1996-2003. Note:

(U+E+N) flow to E: 6.2% per month: reconciling with hires numbers?

N to E > U to E. Non-participation? (pool of workers not searching, but “willing to take a job”: about 6% of LF)

E to E > U to E. On the job search? Relevant pool of workers searching for jobs?

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Figure 4. Monthly Worker Flow Rates, December 2000 to March 2005. p. 34.

Davis, S. J., R. J. Faberman, and J. Haltiwanger. "The Flow Approach to Labor Markets: New Data Sources and Micro-Macro Links." NBER Working Paper No. 12167, April 2006. pp. 1-41. (<http://www.nber.org/papers/w12167>)

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Figure 1. Average Monthly Worker Flows, Current Population Survey, 1996-2003. p. 31.
Davis, S. J., R. J. Faberman, and J. Haltiwanger. "The Flow Approach to Labor Markets: New Data Sources and Micro-Macro Links."
NBER Working Paper No. 12167, April 2006. pp. 1-41. (<http://www.nber.org/papers/w12167>)

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3. Looking more closely at unemployment. Flows/duration

- Definition of unemployment. Survey-based (not registrations at the unemployment office. Sometimes (in some countries) quite different.
- Inflows and outflows from CPS. 1976-2005 (Davis, Figure 5). Note:
- Large gross flows/small net flows. Gross: 2-3% per month
- Implied duration. In SS, $u \text{ rate} = \text{duration} * \text{flows}$. Today: $4.5\% = 2.5 \text{ months times } 1.8\%$. Low duration, large flows.
- Decrease in flows over time, since early 1980s. (Aging, decreasing job flows)
- A peek at cyclical behavior. Both inflows and outflows up in recessions. But exit rate (outflows/unemployment) goes down.

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Figure 5. Monthly Unemployment Inflows and Outflows, 1976-2005. p. 35.

Davis, S. J., R. J. Faberman, and J. Haltiwanger. "The Flow Approach to Labor Markets: New Data Sources and Micro-Macro Links." NBER Working Paper No. 12167, April 2006. pp. 1-41. (<http://www.nber.org/papers/w12167>)

4. Heterogeneity

- By age. Larger flows for the young. (Table 3, Fallick-Fleischman. Flows versus stocks, for different age groups)

Also, higher unemployment rates: 2006:4. 10.5% for 16-24, 3.5% for 25-54, 3% for 55+.

- By race: 2006:4. 3.9% for whites, 8.5% for blacks.
- By education level (interacting with race). u rates for less than high school education: 7% for whites, 15% for blacks. with bachelor degree: 2% for whites, 3.5% for blacks.

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Table 3. Contributions to Monthly Employment Transitions by Age.
Fallick-Fleischman.

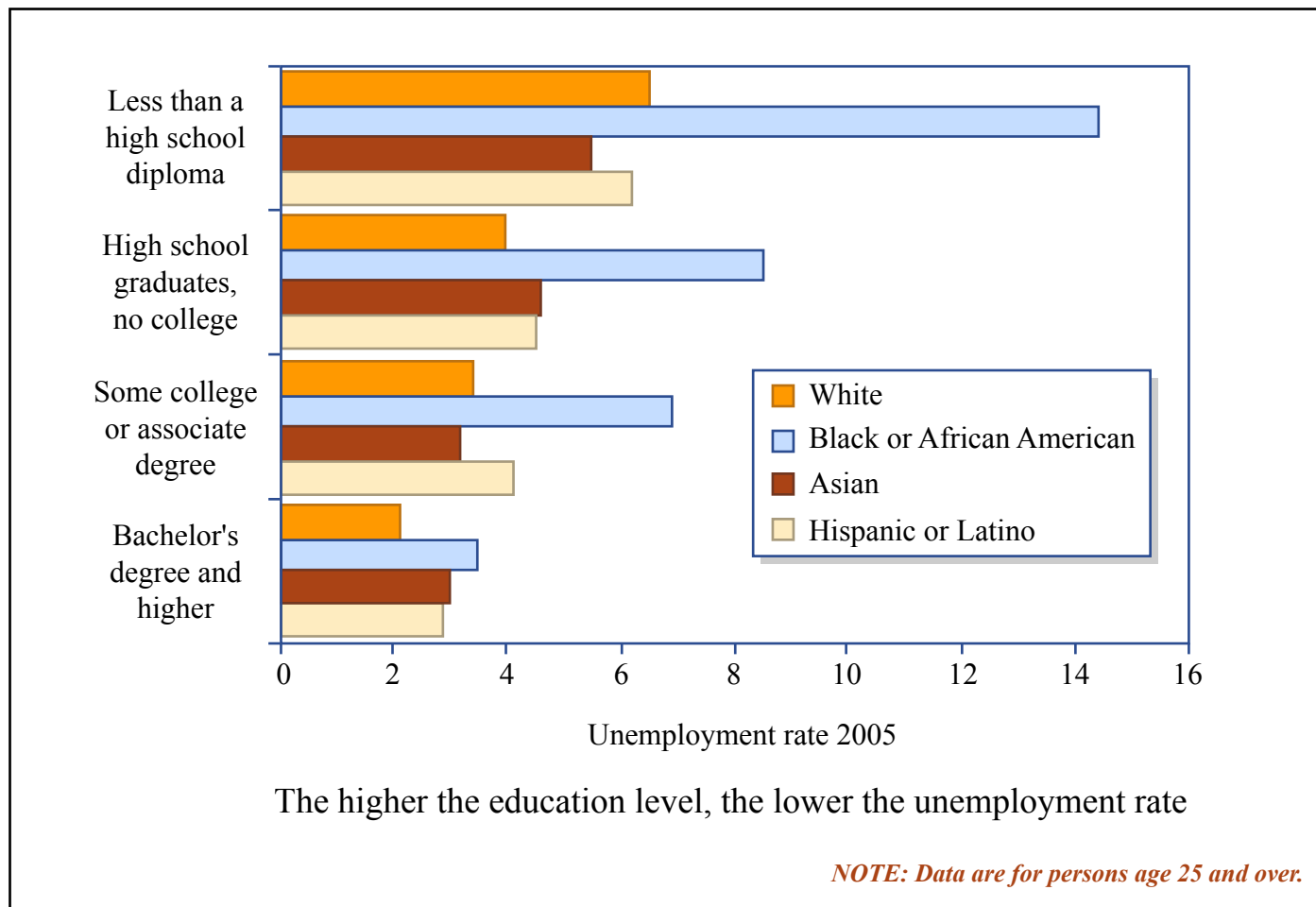


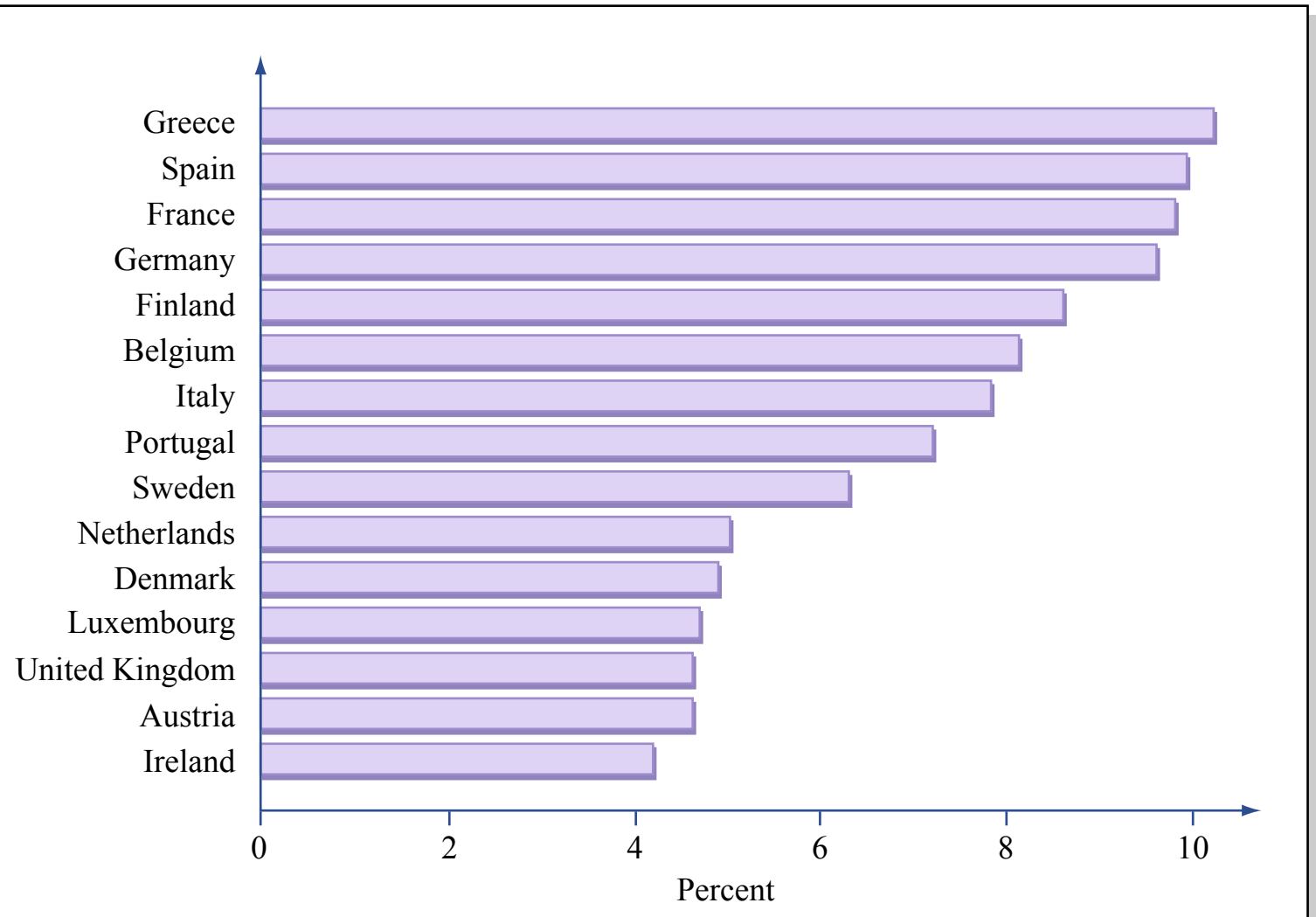
Figure by MIT OCW.

5. Low frequency movements and heterogeneity across countries

- At high frequency: business cycle movements. A different beast. Focus on “the natural rate” (rate consistent with constant inflation; equivalently rate without nominal rigidities).
- The increase in the unemployment rate in Europe. (EU15.) Lower than the US in the 1960s.
- The heterogeneity across European countries. Many have low rates. The large continental 4 have high rates.
- Measurement error, or hidden in non-participation, disability? Sometimes relevant, but does not change the overall picture. Example of Spain.



EU15 unemployment rate, since 1960



EU15 unemployment rates, 2005

Figure by MIT OCW.

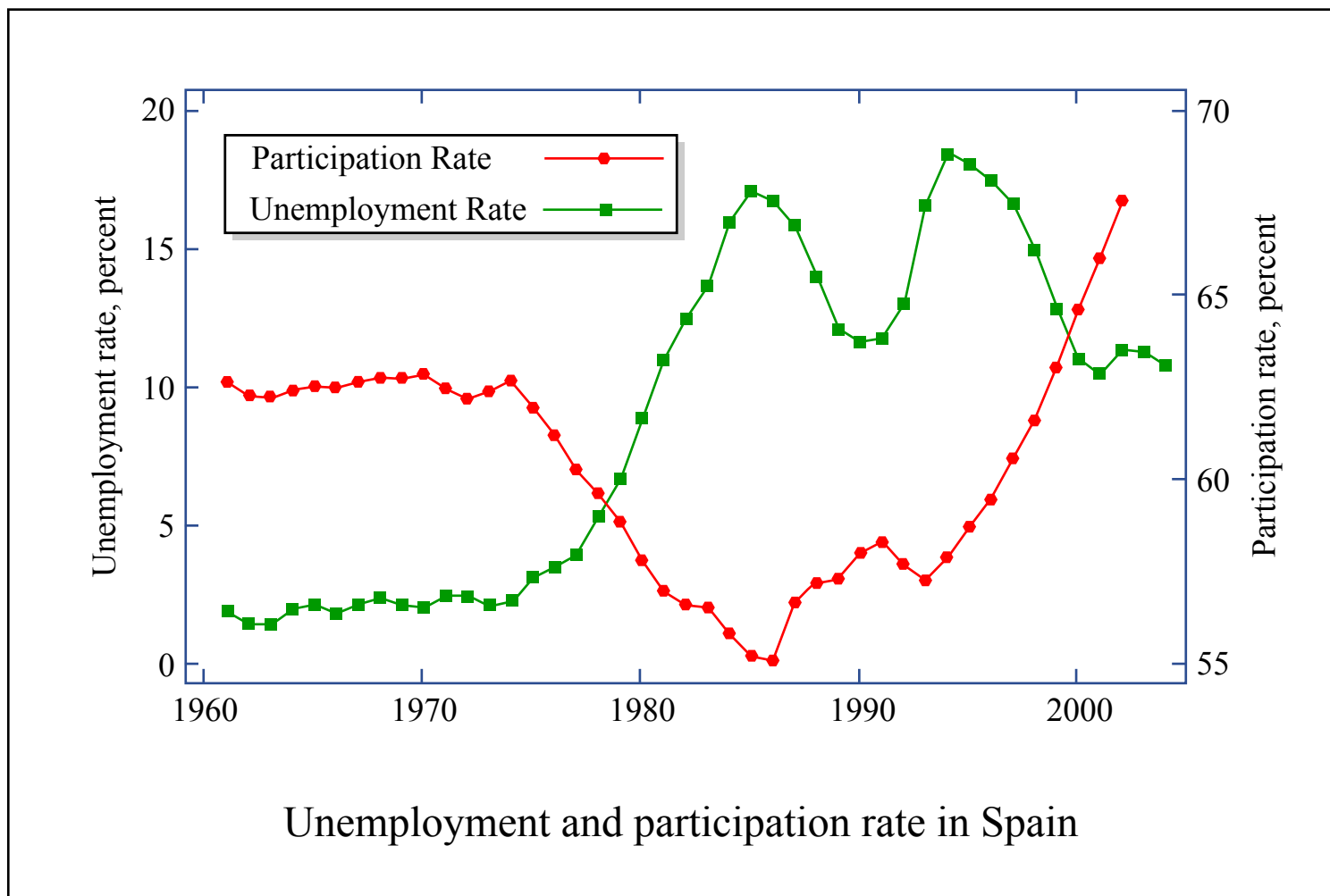


Figure by MIT OCW.

Proximate causes behind heterogeneity

- Job flows. Surprisingly similar.

Comparing across countries. Bartelsman Figure 1. (Difficult: different methodologies, data sets). Still: no obvious difference.

A more detailed comparison. The US versus Portugal. Nearly comparable data sets.

- Unemployment duration:

Over time: France. Unemployment rate from 2 to 10%. Duration from 5 months to 15 months. (so some increase in flow rates as well)

Across countries. (OECD Employment Outlook 2006). Longer duration than US, even in countries with similar u rates.

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Table 1. Annual Job Creation and Destruction in Manufacturing, Portugal and the United States. p. 189.

Blanchard, O., and P. Portugal. "What Hides Behind an Unemployment Rate: Comparing Portuguese and U.S. Labor Markets."

American Economic Review 91, no. 1 (Mar. 2001): 187-207.

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Table 2. Quarterly Job Creation and Destruction in Manufacturing, Portugal and the United States. p. 190.

Blanchard, O., and P. Portugal. "What Hides Behind an Unemployment Rate: Comparing Portuguese and U.S. Labor Markets."
American Economic Review 91, no. 1 (Mar. 2001): 187-207.

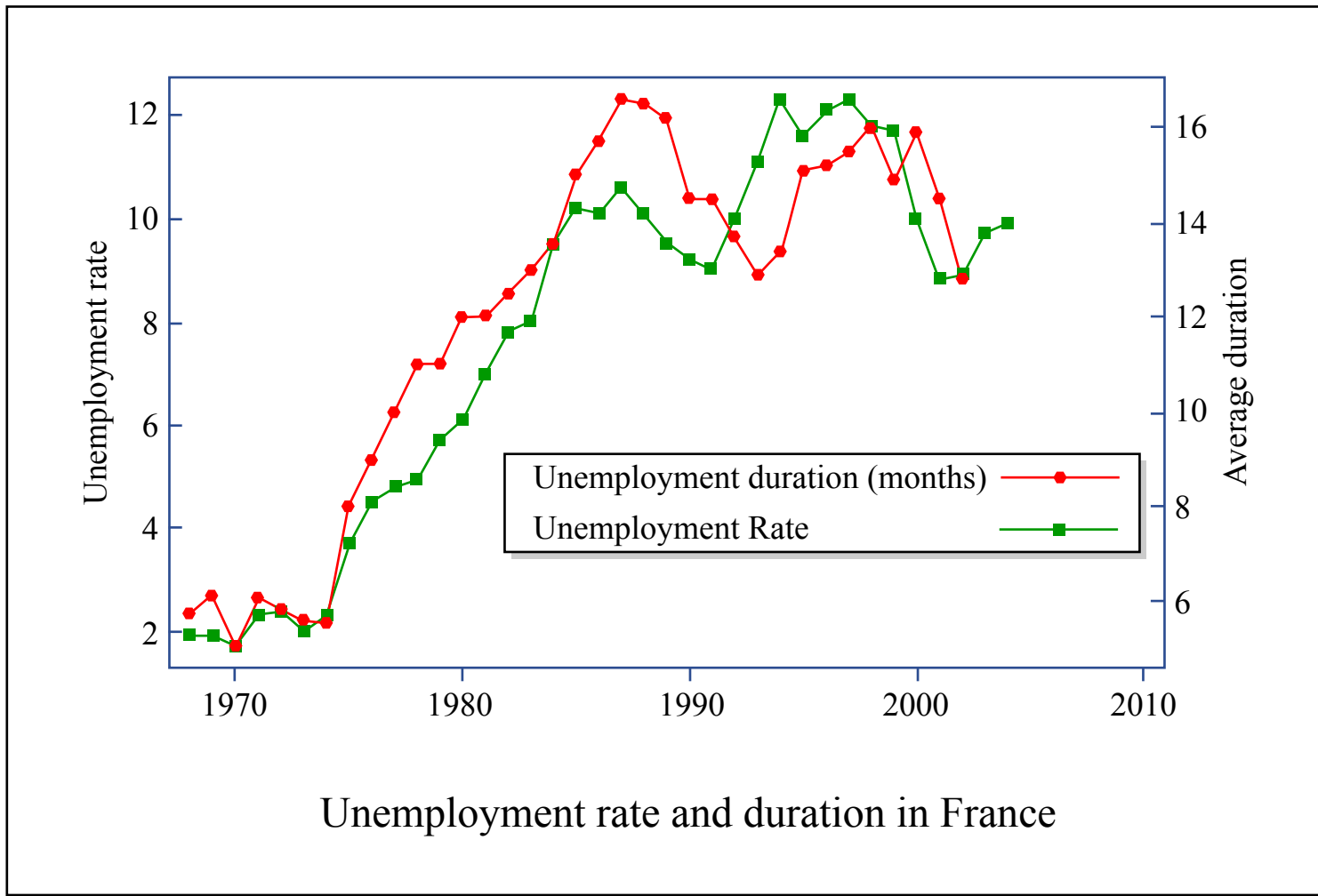


Figure by MIT OCW.

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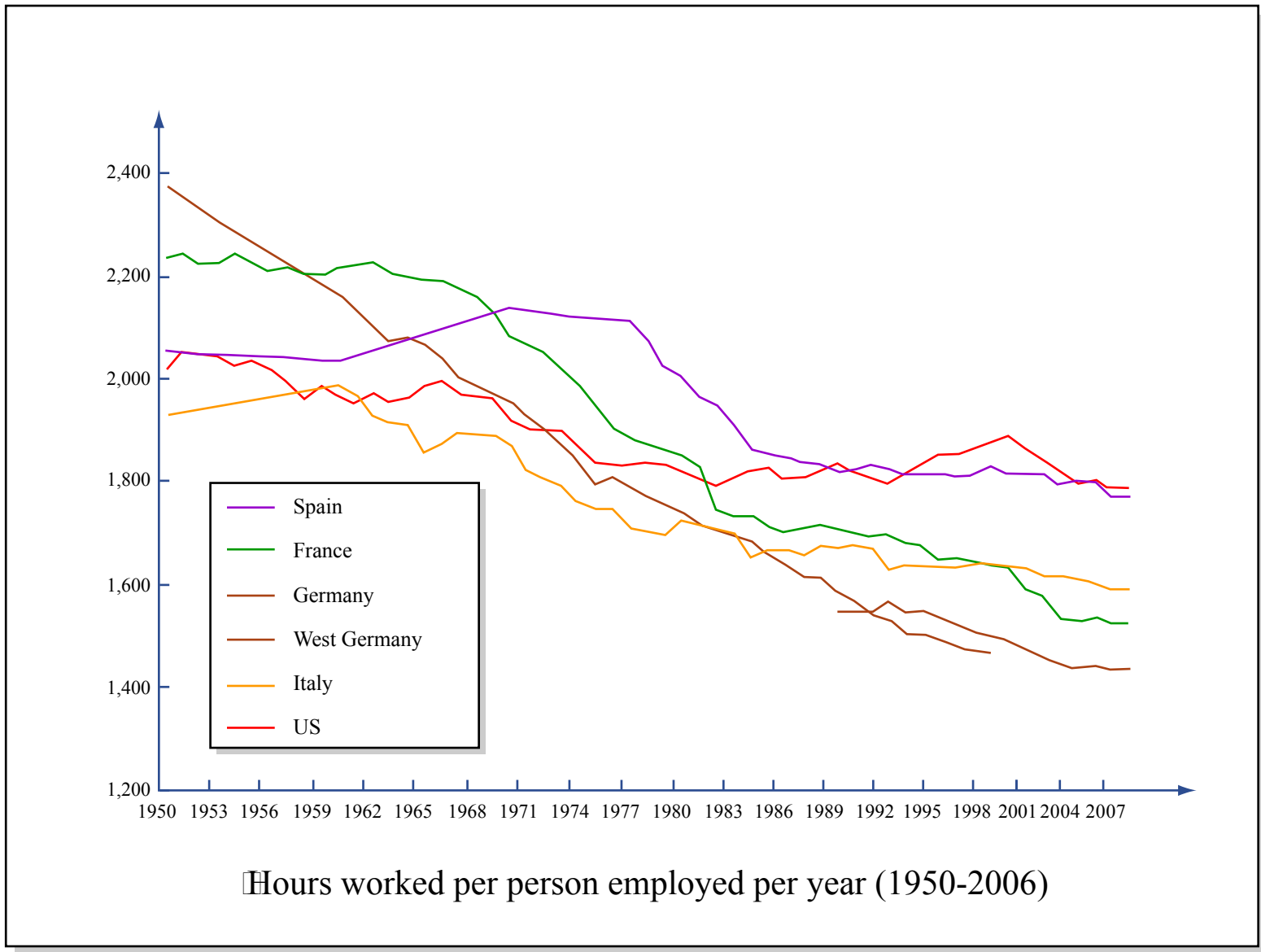
Table G. Incidence of Long-term Unemployment. p. 267.

OECD Employment Outlook 2006. Statistical Annex. OECD, 2006. pp. 245-276. ISBN: 9264023844.

(<http://www.oecd.org/dataoecd/53/15/36900060.pdf>)

Other margins, other differences across countries.

- Hours worked. Larger decline in Europe. A debate: Preferences? Taxes? Union policies and work sharing.
- Participation rates. Often up in Europe, reflecting increased participation of women.
- Labor share. (Blanchard, Caballero-Hammour). Large increase in continental Europe in the 1970s, with a larger decrease since.



Hours worked per person employed per year (1950-2006)

Figure by MIT OCW.