JOHANNES GUTENBERG UNIVERSITÄT MAINZ

April 4-8, 2011.

Applied Job Search Models and the Analysis of Individual Wage Data

Fabien Postel-Vinay, University of Bristol

Fabien.Postel-Vinay@bristol.ac.uk

Overview

The main objective pursued in this course will be to provide an introduction to microeconometric

applications of job search theories with a specific focus on understanding the sources of wage

dispersion across workers, wage dynamics across dates and and wage profiles over a worker's life

cycle.

Special emphasis will be placed on methods to combine worker-, firm-, and matched worker/firm

panel data with structural job search models to address describe and explain real-life phenomena

and to provide structural tools for quantitative policy analysis.

The course will consist of the following lectures:

1. Wages: Facts to be Explained

1. Worker Heterogeneity, Firm Heterogeneity and Wage Inequality

2. Individual Careers: How Wages Evolve Over Time

2. Why Are Similar Workers Paid Differently?

1. The Bare Bones of Job Search Models

2. Data and Estimation Procedure

3. On-the-job Search and Wage Posting

1. The Canonical Equilibrium Search and Wage Posting Model

2. Assessing the Fit: Do we Have a Good Model (and if not, where does it go wrong)?

4. Sequential Auctions and Individual Bargaining

1. A Model of Individual Wage Bargaining

1

2. Estimation: The wage-productivity relationship and the Source of Worker Rents

5. Why Do Wages Move Over Time the Way they Do?

- 1. Wage Dynamics in the Sequential Auction Model
- 2. Fit Analysis Once Again: Do we Have a Good Model (and if not, where does it go wrong)?
- 3. A Notable Absentee (So Far): Human Capital

Practicalities

Downloadable course material will be posted on my teaching website www.efm.bris.ac.uk/www/ecfybpv/fabsteaching.html Please check for regular updates.

Finally, before attending this course, you should make sure that you are reasonably comfortable with the following:

- Intermediate (undergraduate-level) microeconomics;
- Basic probability and distribution theory;
- Basic discrete- and continuous-time stochastic processes;
- Basic estimation and inference.

I am available by email (Fabien.Postel-Vinay@bristol.ac.uk) for any question relating to this course.

Reading list

Notes: Some references appear more than once. This happens when a reference is relevant to more than one question addressed in the course. Starred (*) references are especially recommended. Finally, although no single reference will cover the entire course, the one that comes closest to doing that is Dale Mortensen's (2003) book, Wage Dispersion: Why Are Similar Workers Paid Differently?, published by the MIT Press. The survey by Jean-Marc Robin and myself ("Microeconometric Search-Matching Models and Matched Employer-Employee Data", see below) also provides a potentially useful overview of these lectures.

Lecture 1: Wages: Facts to be Explained

- *Abowd, J. M., F. Kramarz, and D. N. Margolis (1999), "High Wage Workers and High Wage Firms", *Econometrica*, 67, 251-333.
- Guiso, L., L. Pistaferri and F. Schivardi (2005), "Insurance Within the Firm", *Journal of Political Economy*.
- Jolivet, G., F. Postel-Vinay and J.-M. Robin (2005), "The Empirical Content of the Job Search Model: Labor Mobility and Wage Distributions in Europe and the US", *European Economic Review*, 50(4), 877-907.
- Meghir, C. and L. Pistaferri (2004), "Income Variance Dynamics and Heterogeneity", Econometrica, 72, 1-32.
- Mortensen, D. T. (2003), Wage Dispersion: Why Are Similar Workers Paid Differently?, MIT Press. (Chapter 1.)
- *Postel-Vinay, F. and J.-M. Robin (2006), "Microeconometric Search-Matching Models and Matched Employer-Employee Data", in R. Blundell, W. Newey and T. Persson, editors, Advances in Economics and Econometrics, Theory and Applications: Ninth World Congress, Cambridge: Cambridge University Press.
- Rubinstein, Y. and Y. Weiss (2005), "Post-Schooling Wage Growth: Investment, search and Learning", Tel-Aviv University *mimeo*.

Lecture 2: Why Are Similar Workers Paid Differently?

- Jolivet, G., F. Postel-Vinay and J.-M. Robin (2005), "The Empirical Content of the Job Search Model: Labor Mobility and Wage Distributions in Europe and the US", *European Economic Review*, 50(4), 877-907.
- Ridder, G. and G. J. van den Berg (2003) "Measuring Labor Market Frictions: A Cross-Country Comparison", Journal of the European Economic Association, 1(1), 224-44.

Lecture 3: On-the-job Search and Wage Posting

- Bontemps, C., J.-M. Robin, and G.-J. Van den Berg (1999), "An Empirical Equilibrium Search Model with Continuously distributed Heterogeneity of workers' Opportunity Costs of Employment and Firm productivities, and Search on the Job", *International Economic Review*, 40 (4), 1039-74.
- *Burdett, K. and D. T. Mortensen (1998), "Wage Differentials, Employer Size and Unemployment", *International Economic Review*, 39, 257-73.

- Jolivet, G., F. Postel-Vinay and J.-M. Robin (2005), "The Empirical Content of the Job Search Model: Labor Mobility and Wage Distributions in Europe and the US", *European Economic Review*, 50(4), 877-907.
- *Mortensen, D. T. (2003), Wage Dispersion: Why Are Similar Workers Paid Differently?, MIT Press. (Chapters 2, 3 and 4.)
- Ridder, G. and G. J. van den Berg (1998) "An Empirical Equilibrium Search Model of the Labor Market", *Econometrica*, 66(5), 1183-1223.

Lecture 4: Sequential Auctions and Individual Bargaining

- Cahuc, P., F. Postel-Vinay and J.-M. Robin (2006), "Wage Bargaining with On-the-job Search: Theory and Evidence", *Econometrica*, 74(2), 323-64.
- Dey, M. S. and C. J. Flinn (2005), "An Equilibrium Model of Health Insurance Provision and Wage Determination", *Econometrica*, 73(2), 571-627.
- *Postel-Vinay, F. and J.-M. Robin (2002), "Equilibrium Wage Dispersion with Worker and Employer Heterogeneity", *Econometrica*, 70 (6), 2295-350.

Lecture 5: Why Do Wages Move Over Time the Way they Do?

- Bagger, J., F. Fontaine, F. Postel-Vinay and J.-M. Robin (2007) "A Feasible Equilibrium Search Model with Experience Accumulation", University of Bristol *mimeo*.
- Barlevy, G. (2008), "Identification of Search Models using Record Statistics", *Review of Economic Studies*, 75(1), 29-64.
- *Postel-Vinay, F. and H. Turon (2010) "On-the-job Search, Productivity Shocks, and the Individual Earnings Process", *International Economic Review*, 51(3), 599-629.

Further reading...

On the wage-tenure relation:

- Burdett, K. and M. Coles (2003), "Equilibrium Wage-Tenure Contracts", *Econometrica*, 71(5), 1377-1404.
- *Mortensen, D. T. (2003), Wage Dispersion: Why Are Similar Workers Paid Differently?, MIT Press. (Final chapter.)

• Stevens, M. (2004), "Wage-Tenure Contracts in a Frictional Labour Market: Firms' Strategies for Recruitment and Retention", *Review of Economic Studies*, 71, 535-551.

On wage dynamics and learning:

- Moscarini, G. (2005), "Job Matching and the Wage Distribution", *Econometrica*, 73(2), 481-516.
- *Flinn, C. J. (1986), "Wages and Job Mobility of Young Workers", *Journal of Political Economy*, 94(3), S88-S109.

On human capital:

• *Kambourov, G. and I. Manovskii (2005), "Accounting for the Changing Life-Cycle Profile of Earnings", University of Pennsylvania *mimeo*.

On Early and Alternative Theories of Wage Dispersion, and Empirical Applications Thereof:

- Albrecht, J. W. and B. Axell (1982), "An Equilibrium Model of Search Unemployment", Journal of Political Economy, 92(5), 824-40.
- *Eckstein, Z. and K. I. Wolpin (1990), "Estimating a Market Equilibrium Search Model from Panel Data on Individuals", *Econometrica*, 58(4), 783-808.
- Lucas, R. E. Jr. and E. C. Prescott (1974), "Equilibrium Search and Unemployment", *Journal of Economic Theory*, 7(2), 188-209.
- *Rogerson, R., R. Shimer and R. D. Wright (2005), "Search-Theoretic Models of the Labor Market: A Survey", *Journal of Economic Literature*, XLIII (December), 959-88.

On sorting:

• Shimer, R. and L. Smith (2000), "Assortative Matching and Search", *Econometrica*, 68(2), 343-370.

$On\ inequality:$

• *Bowlus, A. and J.-M. Robin (2004), "Twenty Years of Rising Inequality in US Lifetime Labor Income Values", *Review of Economic Studies*, 71(3), pp. 709-742.