

# Labor economics

4 module, academic year 2019-2020

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NES

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## **Course information**

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**Course Website:** <http://my.nes.ru/>

**Instructor's Office Hours:** Tuesday

**Class Time:**

**Room Number:**

**TAs:**

## **Course description**

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The course will cover the main topics in labor economics. The stress will be given to empirical approaches to answer basic questions in the area, with the theoretical frameworks serving to lay grounds for empirical models. In particular, the first part of the course is devoted to labor supply models and their empirical estimates, and to discussion of determinants of earnings. Empirical models of labor demand are discussed in the second part. Search and matching models as the basis for empirical studies of unemployment is in the focus of the third part. Economic analysis of immigration concludes the course.

As a result of the course, students are supposed to master the major models, theoretical and empirical, that help to understand labor market behavior of individuals and firms. The course will give special attention to sample selection issues and the methods to overcome the related estimation problems, and to the survival analysis to study duration of unemployment. Problem sets and research projects will accompany lectures and will provide opportunities to master the estimation techniques introduced during lectures.

## **Course requirements, grading, and attendance policies**

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Students are assumed to have a background in intermediate microeconomics and basic empirical analysis methods.

There will be 2 problem sets, distributed in the end of week and to be handed in to the teaching assistant in sections a week later.

Additionally, there will be two projects aimed to master your knowledge on theory as applied to empirical estimation using data on Russian labor market. Everybody will have to choose a topic from a list of 9-10 topics, create a team of 2-3 people, conduct a short research, describe results in a written form and present them on one of the seminars.

There will be a final written closed-book exam given at the end of the module. Problem sets will comprise 20% of the final grade, research projects – another 20%, and the exam will account for 60%.

## **Course contents**

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### 1. Introduction to Labor Economics. Basic definitions. Data and Empirical Strategies in Labor Economics. [1 lecture]

- Angrist, Joshua D. and Alan B. Krueger (1999) “Empirical Strategies in Labor Economics” /in Ashenfelter, O. and D.Card (eds.) *Handbook of Labor Economics*, Vol.3A (Amsterdam: North Holland).
- Angrist, Joshua (1990) “Lifetime Earnings and the Vietnam Era Draft Lottery: Evidence from Social Security Administrative Records” *American Economic Review*, Vol.80, No.3, 313-336.

### 2. Survey of Basic Static and Dynamic Labour Supply Models. Empirical Analysis. [3 lectures]

- Pencavel, John (1986), “Labor Supply of Men: A Survey” /in Ashenfelter, O. and Layard P.R.G. (eds.) *Handbook of Labor Economics*, Vol.1 (Amsterdam: North Holland).
- Killingsworth, Mark R. and James J.Heckman (1986), “Female Labor Supply: A Survey” /in Ashenfelter, O. and Layard P.R.G. (eds.) *Handbook of Labor Economics*, Vol.1 (Amsterdam: North Holland).
- Blundell, Richard and Thomas Macurdy (1999), “Labor Supply: A Review of Alternative Approaches” / in Ashenfelter, O. and D.Card (eds.) *Handbook of Labor Economics*, Vol.3A (Amsterdam: North Holland).
- Becker, Gary (1965) “A Theory of Allocation of Time”, *Economic Journal*, September, pp.493-517
- Gronau, Reuben (1977) “Leisure, Home Production, and Work - the Theory of the Allocation of Time Revisited,” *Journal of Political Economy*, Vol.85, No.6, pp.1099-1123
- Crawford, Vincent P., and Juanjuan Meng.(2011) "New York city cab drivers' labor supply revisited: Reference-dependent preferences with rational expectations targets for hours and income." *The American Economic Review* 101.5: 1912-1932.
- Farber, Henry S. (2005) "Is tomorrow another day? The labor supply of New York City cabdrivers." *Journal of political Economy* 113.1: 46-82

### 3. Wages and Earnings. Returns to Education and to Experience. Discrimination and Segmentation [2 lectures]

- Willis, Robert J. (1986), “Wage Determinants: A Survey and Reinterpretation of Human Capital Earnings Function” /in Ashenfelter, O. and Layard P.R.G. (eds.) *Handbook of Labor Economics*, Vol.1, pp.45-50 (Amsterdam: North Holland)
- Weiss, Yoram (1986), “The Determination of Life Cycle Earnings: A Survey” /in Ashenfelter, O. and Layard P.R.G. (eds.) *Handbook of Labor Economics*, Vol.1 (Amsterdam: North Holland).
- Rosen, Sherwin (1986), “The Theory of Equalizing Differences” /in Ashenfelter, O. and Layard P.R.G. (eds.) *Handbook of Labor Economics*, Vol.1 (Amsterdam: North Holland).
- Mincer, Jacob, and Haim Ofek (1982) “Interrupted Work Careers: Depreciation and Restoration of Human Capital” *Journal of Human Resources*, Vol. 17, No. 1, pp. 3-24

- Jacob Mincer and Solomon Polachek (1974) "Family Investments in Human Capital: Earnings of Women", *Journal of Political Economy*, Vol. 82, pp. S76-S108
- Oettinger, Gerald S. (1996) "Statistical Discrimination and the Early Career Evolution of the Black-White Wage Gap", *Journal of Labor Economics*, Vol.14, No.1, pp.52-78
- Bertrand, Marianne and Sendhil Mullainathan "Are Emily and Greg More Employable than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination" *American Economic Review*, Vol. 94, No. 4 (Sep., 2004), pp. 991-1013

#### 4. Labor Demand: the Basic Theory; Some Extensions; Empirical Evidence [1 lecture]

- Hamermesh, Daniel S. (1993), "*Labor Demand*": Chapters 2, 3 (Princeton University Press)
- Nickell, Stephen, and James Symons (1990) "The Real Wage-Employment Relationship in the United States," *Journal of Labor Economics*, Vol.8, No.1, pp.1-15
- Grant, James H., and Daniel S. Hamermesh (1981) "Labor Market Competition Among Youths, White Women and Others," *Review of Economics and Statistics*, Vol.63, pp.354-60

#### 5. Unemployment: Incidence and Duration. Search Models. Matching Models. [3 lectures]

- Mortensen, Dale T. (1986), "Job Search and Labor Market Analysis" /in Ashenfelter, O. and Layard P.R.G. (eds.) *Handbook of Labor Economics*, Vol.2 (Amsterdam: North Holland)
- Mortensen, Dale T. and Christopher A. Pissarides (1999) "New Developments in Models of Search in the Labor Market" /in Ashenfelter, O. and D.Card (eds.) *Handbook of Labor Economics*, Vol.3B (Amsterdam: North Holland).
- Stigler, George (1962) "Information in the Labor Market," *Journal of Political Economy*, No.5, pp.94-105
- Petrongolo, Barbara, and Christopher Pissaridis (2001) "Looking into the Black Box: A Survey of the Matching Function" *Journal of Economic Literature*, Vol.39, No.2, pp.390-431.

#### 6. Empirical Estimation of Unemployment. Duration analysis. [2 lectures]

- Kiefer, N.M. (1988) "Economic Duration Data and Hazard Functions," *Journal of Economic Literature*, Vol. 26, June, pp. 646-79
- Meyer, Bruce D. (1990) "Unemployment Insurance and Unemployment Spells", *Econometrica*, Vol.58, No.4, pp.757-82
- Hunt, Jennifer (1995) "The Effect of Unemployment Compensation on Unemployment Duration in Germany", *Journal of Labor Economics*, Vol.13, No1, pp.88-120
- Van den Berg, Gerard (1990) "Search Behavior, Transitions to Non-participation and the Duration of Unemployment" *Economic Journal*, Vol.100, No.402, pp.842-865.
- Nickell, Stephen (1997) "Unemployment and Labor Market Rigidities: Europe versus North America," *Journal of Economic Perspectives*, Vol.11, No.3, pp.55-74
- Svejnar, Jan (1999) "*Labor Markets in the Transitional Central and Eastern European Economies*" /in Ashenfelter, O. and D.Card (eds.) *Handbook of Labor Economics*, Vol.3B (Amsterdam: North Holland).
- Anderson, Patricia, and Simon Burgess (2000) "Empirical Matching Functions: Estimation and Interpretation Using State-Level Data" *Review of Economics and Statistics*, Vol.82, No.1, pp.93-102.

7. Governmental Interventions: Evaluation of Active Labor Market Programs [1 lecture]

- Heckman, James J., Robert J. LaLonde and Jeffrey A. Smith (1999) "The Economic and Econometrics of Active Labor Market Programs" /in Ashenfelter, O. and D. Card (eds.) *Handbook of Labor Economics*, Vol.3A (Amsterdam: North Holland).
- Card, David and Alan Krueger (1994) "Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania", *American Economic Review*, Vol. 84, No. 4, pp. 772-793.
- Card, David E. (1990), "The Impact of Mariel Boatlift on Miami Labor Market", *Industrial and Labor Relations Review* 43:245-257
- Angrist, Joshua (1990) "Lifetime Earnings and the Vietnam Era Draft Lottery: Evidence from Social Security Administrative Records" *American Economic Review*, Vol.80, No.3, 313-336.

7. Economic Analysis of Immigration [1 lecture]

- Borjas, George J. (1999) "The Economic Analysis of Immigration" /in Ashenfelter, O. and D. Card (eds.) *Handbook of Labor Economics*, Vol.3A (Amsterdam: North Holland).
- Card, David (2001) "Immigrant Inflows, Native Outflows, and the Local Market Impacts of Higher Immigration", *Journal of Labor Economics*, Vol.19, No.1, pp.22-64
- Borjas, George J. (2001) "Does Immigration Grease the Wheels of the Labor Market?" *Brookings Papers on Economic Activity*, Vol.2001, No.1, pp.69-119
- Hanson, Gordon H., and Antonio Spilimbergo (1999) "Illegal Immigration, Border Enforcement, and Relative Wages: Evidence from Apprehensions at the U.S.-Mexico Border" *The American Economic Review*, Vol.89, No.5, pp.1337-1357

**Description of course methodology**

Problem sets and research projects will accompany lectures and will provide opportunities to master the estimation techniques introduced during lectures. The research projects are based on the actual data on Russian households (the 1<sup>st</sup> project) and unemployed (the 2<sup>nd</sup> project).

**Sample tasks for course evaluation**

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1. Suppose a researcher estimates the following system of labor-supply equations describing the behavior of hours worked (H) in a sample of two-earner families (husband, h, and wife, w):

$$H_h = \alpha_0 + \alpha_1 W_h + \alpha_2 W_w + \alpha_3 V$$

$$H_w = \beta_0 + \beta_1 W_h + \beta_2 W_w + \beta_3 V,$$

where W is a wage rate, and V is the family's non-labor income.

(a) Write down a model of constrained utility maximization from which this pair of estimating equations could be derived.

(b) Show how to infer substitution and income effects from the estimated parameters.

(c) What biases might arise from using data only on households in which both partners are currently working?

2. In a study of labor supply of married women a researcher estimated three OLS regression functions:

Equation 1 was estimated for the whole sample of married women (753 observations), and equations 2 and 3 were estimated in a sample consisting only of women who were employed (428 observations). The three equations are described in the following table (t-statistics in parenthesis):

Equations	1	2	3
Dependent variable	WHRS	WHRS	WHRS
Explanatory variables			
Constant	1383 (4.82)	2114 (6.22)	2634 (7.70)
KL6	-498 (-7.78)	-343 (-3.42)	-301 (-3.12)
K618	-79 (-3.16)	-115 (-3.73)	-76 (-2.50)
WA	-20 (-4.48)	-8 (-1.40)	-15 (-2.73)
WE	44 (2.83)	-14 (-0.80)	-181 (-5.26)
WW	111 (1.94)	-17 (-0.32)	1486 (5.45)
INC	-10 (-3.88)	-42 (-1.16)	-17 (-0.47)
Adj R <sup>2</sup>	0.12	0.07	0.13

where WHRS (the dependent variable) denotes the wives' annual hours of work, KL6 - the number of children less than 6, K618 - the number of children 6-18 years old, WA - the wife's age, WE - the wife's schooling, WW - the wife's hourly earnings (in logs), INC - the family's income (wife's earnings excluded, in ths of dollars). The wife's hourly earnings (WW) are defined in three different fashions: it is the actual (log) wage in equation 2, the fitted (predicted) value from the (log) wage equation in equation 3, and a combination of the two in equation 1 (the actual value for the employed and the fitted values for the not employed).

(a) Explain the choice of the explanatory variables (specifically, why are WA and WE in the equation)?

(b) What explains the different definition of WW in each of the equations? What variables would you use in the wage function? Why is it in the log form?

- (c) What is the implicit assumption behind the definition of INC? Why are the wife's earnings excluded?
- (d) The mean value of the dependent variable is 740 in equation 1 and 1303 in equations 2 and 3. What is the estimated wage elasticity at the mean point in each of these samples? What explains the differences in the wage effect between the three equations?
- (e) What are the problems associated with each of the three equations?

## **Course materials**

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### **Required textbooks and materials**

#### Books

1. *Handbook of Labor Economics (1986)* Ashenfelter, O. and Layard P.R.G. (eds.), Vol.1-2
2. *Handbook of Labor Economics (1999)* Ashenfelter, O. and D.Card (eds.), Vol.3a-3c
3. *Handbook of Labor Economics (2011)* Ashenfelter, O. and D.Card (eds.), Vol.4a-4b
4. Killingsworth, Mark R. (1983), "*Labor Supply*": Chapters 1- 4 (Cambridge University Press).

#### Surveys and articles

1. Abowd, John M. and Francis Kramarz (1999) "The Analysis of Labor Markets Using Matched Employer-Employee Data" /in Ashenfelter, O. and D.Card (eds.) *Handbook of Labor Economics*, Vol.3B (Amsterdam: North Holland).
2. Anderson, Patricia M., and Simon M. Burgess (2000) "Empirical Matching Functions: Estimation and Interpretation Using State-Level Data", *Review of Economics and Statistics*, Vol.82, No.1, pp.93-102
3. Almond, Douglas, Janet Currie (2011) "Human Capital Development before Age Five" Chapter 15 in Ashenfelter, O. and D.Card (eds.) *Handbook of Labor Economics*, Vol.4B
4. Angrist, Joshua D. and Alan B. Krueger (1999) "*Empirical Strategies in Labor Economics*" /in Ashenfelter, O. and D.Card (eds.) *Handbook of Labor Economics*, Vol.3A (Amsterdam: North Holland).
5. Angrist, Joshua D.(1990) "Lifetime Earnings and the Vietnam Era Draft Lottery: Evidence from Social Security Administrative Records", *American Economic Review*, Vol.80, No.3, pp.313-336
6. Ben-Porath, Yoram. (1967) "The Production of Human Capital and the Life Cycle Earnings," *Journal of Political Economy*, pp.352-65
7. Bertrand, Marianne (2011) "New Perspectives on Gender" Chapter 17 in *Handbook of Labor Economics*, Vol.4B
8. Bertrand, Marianne and Sendhil Mullainathan "Are Emily and Greg More Employable than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination" *American Economic Review*, Vol. 94, No. 4 (Sep., 2004), pp. 991-1013
9. Blundell, Richard, and Thomas MaCurdy (1999) "*Labor Supply: A Review of Alternative Approaches*" /in Ashenfelter, O. and D.Card (eds.) *Handbook of Labor Economics*, Vol.3A (Amsterdam: North Holland).
10. Borjas, George J. (1999) "The Economic Analysis of Immigration " /in Ashenfelter, O. and D.Card (eds.) *Handbook of Labor Economics*, Vol.3A (Amsterdam: North Holland).
11. Borjas, George J. (2001) "Does Immigration Grease the Wheels of the Labor Market?" *Brookings Papers on Economic Activity*, Vol.2001, No.1, pp.69-119

12. Bound, John, Charles Brown, Greg J. Duncan and Willard L. Rodgers (1994), "Evidence on the Validity of Cross-Sectional and Longitudinal Labor Market Data" *Journal of Labor Economics, Vol.12, No.3, pp.345-68*
13. Card, David (2001) "Immigrant Inflows, Native Outflows, and the Local Market Impacts of Higher Immigration", *Journal of Labor Economics, Vol.19, No.1, pp.22-64*
14. Crawford, Vincent P., and Juanjuan Meng.(2011) "New York city cab drivers' labor supply revisited: Reference-dependent preferences with rational expectations targets for hours and income." *American Economic Review* 101.5: 1912-1932
15. Farber, Henry S. (2005) "Is tomorrow another day? The labor supply of New York City cabdrivers." *Journal of Political Economy* 113.1: 46-82
16. Gould, Eric (2002) "Rising Wage Inequality, Comparative Advantage, and the Growing Importance of General Skills in the United States," *Journal of Labor Economics, Vol.20, No.1*
17. Fortin, Nicole, Thomas Lemieux, Sergio Firpo (2011) "Decomposition Methods in Economics" Chapter 1 in *Handbook of Labor Economics, Vol.4A*
18. French, Eric, Christopher Taber (2011) "Identification of Models of the Labor Market" Chapter 6 in *Handbook of Labor Economics, Vol.4A*
19. Fryer, Roland G. Jr. (2011) "Racial Inequality in the 21st Century: The Declining Significance of Discrimination " Chapter 10 in *Handbook of Labor Economics, Vol.4B*
20. Ham, John C., Jan Svejnar and Katherine Terrell (1998) "Unemployment and Social Safety Net during Transitions to a Market Economy: Evidence from the Czech and Slovak Republics", *American Economic Review, Vol.88, No.5, pp.1117-1142*
21. Hanson, Gordon H., and Antonio Spilimbergo (1999) "Illegal Immigration, Border Enforcement, and Relative Wages: Evidence from Apprehensions at the U.S.-Mexico Border" *The American Economic Review, Vol.89, No.5, pp.1337-1357*
22. Heckman, James J., Robert J. LaLonde and Jeffrey A. Smith (1999) "The Economic and Econometrics of Active Labor Market Programs " /in Ashenfelter, O. and D.Card (eds.) *Handbook of Labor Economics, Vol.3A* (Amsterdam: North Holland).
23. Hunt, Jennifer (1995) "The Effect of Unemployment Compensation on Unemployment Duration in Germany", *Journal of Labor Economics, Vol.13, No1, pp.88-120*
24. Imbens, Guido W., Donald B. Rubin and Bruce I. Sacerdote (2001) "Estimating the Effect of Unearned Income on Labor Earnings, Savings, and Consumption: Evidence from a Survey of Lottery Players" – *American Economic Review, Vol.91, No.4, pp.778-94*
25. Kiefer, N.M. (1988) "Economic Duration Data and Hazard Functions," *Journal of Economic Literature, Vol. 26, June, pp. 646-79*
26. Killingsworth, Mark R., and James J. Heckman (1986), "Female Labor Supply: A Survey" /in Ashenfelter, O. and Layard P.R.G. (eds.) *Handbook of Labor Economics, Vol.1*(Amsterdam: North Holland).
27. Kluge, Jochen, Lehmann, Hartmut, and Schmidt, Cristoph M., (1999) "Active Labor Market Policies in Poland: Human Capital Enhancement, Stigmatization, or Benefit Churning?" *Journal of Comparative Economics* 27: 61-89
28. Lindeboom, Maarten, Jan Van Ours, and Gusta Renes (1994) "Matching Employers and Workers: an Empirical Analysis of the Effectiveness of Search", *Oxford Economic Papers, Vol.46, No.1, pp.45-67*
29. List, John A., Imran Rasul (2011) "Field Experiments in Labor Economics" Chapter 2 in *Handbook of Labor Economics, Vol.4A*
30. Machin, Stephen, and Alan Manning (1999) "The Causes and Consequences of Long-term Unemployment in Europe " /in Ashenfelter, O. and D.Card (eds.) *Handbook of Labor Economics, Vol.3C* (Amsterdam: North Holland).
31. MaCurdy, Thomas (1981) "An Empirical Model of Labor Supply in a Life-Cycle Setting," *Journal of Political Economy, Vol.89, No.6, pp.1059-1085*

32. Meghir, Costas, Luigi Pistaferri (2011) "Earnings, Consumption and Life Cycle Choices" Chapter 9 in *Handbook of Labor Economics, Vol.4B*
33. Meyer, Bruce D. (1990) "Unemployment Insurance and Unemployment Spells", *Econometrica, Vol.58, No.4, pp.757-82*
34. Mincer, Jacob (1962) "Labor Force Participation of Married Women," in NBER, *Aspects of Labor Economics*.
35. Mincer, Jacob, and Solomon Polachek (1974) "Family Investment in Human Capital: Earnings of Women", *Journal of Political Economy, Vol.82, No.2, Part 2, pp.S76-S108*
36. Mortensen, Dale T. (1986), "Job Search and Labor Market Analysis" /in Ashenfelter, O. and Layard P.R.G. (eds.) *Handbook of Labor Economics, Vol.2* (Amsterdam: North Holland)
37. Mortensen, Dale T. and Christopher A. Pissarides (1999) "New Developments in Models of Search in the Labor Market" /in Ashenfelter, O. and D.Card (eds.) *Handbook of Labor Economics, Vol.3B* (Amsterdam: North Holland).
38. Nickell, Stephen (1997) "Unemployment and Labor Market Rigidities: Europe Versus North America", *Journal of Economic Perspectives, Vol.11, No.3, pp.55-74*
39. Oettinger, Gerald S. (1996) "Statistical Discrimination and the Early Career Evolution of the Black-White Wage Gap", *Journal of Labor Economics, Vol.14, No.1, pp.52-78*
40. Oettinger, Gerald S. (1999) "An Empirical Analysis of the Daily Labor Supply of Stadium Vendors" – *Journal of Political Economy, Vol.107, No.2, pp.360-92*
41. Pencavel, John (1986), "Labor Supply of Men: A Survey" /in Ashenfelter, O. and Layard P.R.G. (eds.) *Handbook of Labor Economics, Vol.1* (Amsterdam: North Holland).
42. Petrongolo, Barbara, and Christopher A. Pissarides (2001) "Looking into the Black Box: A Survey of the Matching Function", *Journal of Economic Literature, Vo.39, No.2, pp.390-431*
43. Rosen, Sherwin (1986), "The Theory of Equalizing Differences" /in Ashenfelter, O. and Layard P.R.G. (eds.) *Handbook of Labor Economics, Vol.1* (Amsterdam: North Holland).
44. Stigler, George (1962) "Information in the Labor Market," *Journal of Political Economy, No.5, pp.94-105*
45. Topel, Robert (1991) "Specific Capital, Mobility and Wages: Wages Rise with Seniority," *Journal of Political Economy, Vol. 99, No.1, pp.145-76*
46. Van den Berg, Gerard J. (1990) "Search Behavior, Transitions to Non-Participation and the Duration of Unemployment", *Economic Journal, Vol.100, No.402, pp.842-865*
47. Weiss, Yoram (1986), "The Determination of Life Cycle Earnings: A Survey" /in Ashenfelter, O. and Layard P.R.G. (eds.) *Handbook of Labor Economics, Vol.1* (Amsterdam: North Holland).
48. Willis, Robert J. (1986), "Wage Determinants: A Survey and Reinterpretation of Human Capital Earnings Function" /in Ashenfelter, O. and Layard P.R.G. (eds.) *Handbook of Labor Economics, Vol.1, pp.45-50* (Amsterdam: North Holland)

### **Additional materials**

RLMS-HSE database will be used in one of the projects

<http://www.cpc.unc.edu/rlms>

### **Academic integrity policy**

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Cheating, plagiarism, and any other violations of academic ethics at NES are not tolerated.