Fachbereich Rechts- und Wirtschaftswissenschaften

JOHANNES GUTENBERG UNIVERSITÄT MAINZ

Mainz School of Management and Economics

Lehrstuhl für Volkswirtschaftslehre, insbesondere Makroökonomik

Macroeconomics and Labor

Seminar (Summer Term 2011)

Organizers

Michael Lamprecht, JProf. Dr. Andrey Launov, Prof. Dr. Klaus Wälde

Important Dates (Preliminary)

Registration Deadline: 28/01/2011

Introductory Session: 18/04/2011 at 2:00 pm (RW 6)

1st office hour: 05/05/2011 to 06/05/2011

2nd office hour: 11/06/2011 to 12/06/2011

Deadline for turning in the thesis (by email): 27/06/2011

Deadline for turning in the thesis (in written form): 28/06/2011

Seminar: In the week from July 11, 2011 to July 15 2011

Target Audience

The seminar is for master students in the 2nd semester and diploma students in economics or business administration. Knowledge in the area of econometrics and macroeconomics is useful. Participants of the courses "Applied Intertemporal Optimization" and "Microeconometrics" are particularly encouraged to participate in the seminar.

Registration for Diploma students

To register for the seminar, please send an e-mail to Michael Lamprecht (lamprecht@uni-mainz.de). Besides your student ID number and field of study, you should enclose a list of two preferred topics. The registration deadline is Friday, 28 January 2011. A list of admitted students (including a waiting list) will be posted on our webpage by 4 February 2011. Participation will have to be confirmed by Friday, 11 February 2011, 12 p.m. Students whose seminar participation has been confirmed, but who subsequently withdraw from seminar participation will fail the course.

Contact

For further information please contact Michael Lamprecht (lamprecht@uni-mainz.de).

Topics

---

1 Macroeconomics

1.1 Models of Firm Dynamics

In his early work, Lucas (1978) claimed that *"[...]in wealthy economies, "bigness" is widely viewed as a menace against which government activity should perhaps, be directed; in poor economies, "littleness" is often viewes as a sign of backwardness to be dealt with by government policy."* This has initiated several studies which analyzed this differences in views. They have analyzed why are firms heterogeneous and what are the effects of heterogeneity on firm behavior. In a first step we want to understand why firms differ in firm sizes.

- Topic 1: Lucas (1978) explained this type of firm heterogeneity by differences in mangerial ability. The student is expected to present this paper.

This theoretical framwork lacked to explain the dynamics of firms. In his static model firms do not grow. But why some firms become bigger and bigger, wheras other firms shrink and finally leave the market. The following two papers which are expected to present by a student, used different approaches to explain firm dynamics.

- Topic 2: In Hopenhayn (1992) there is process innovation which causes fluctuation in the size of firms. It is exptected that the student present this paper.
- Topic 3: Jovanovic (1982) used a different approach. In his model firms have to learn to evaluate their own productivity. The student is expected to present the model.

In both papers firms cannot influence their dynamics. In the following two papers there are two different approaches are presented in which firms can accelerate their growth level.

- Topic 4: In the paer of Klette and Kortum (2004) firms can invest in R&D, which accelerate the development of new products. The student is expected to present the paper.
- Topic 5: Rossi-Hansberg and Wright (2007) explained industry-specifice heterogeneity by difference in human capital. Each industry can endogenously decide how much they invest in human capital. The student is expected to present this paper.

Based on this result researcher could identify different channels of aggregate productivity growth.

- Topic 6: A model which distinguish between some of these channels is presented in paper of Luttmer (2010). The student is expected to present this paper.
- Topic 7: In their empirical study, Lentz and Mortensen (2008) tried to identify the effects of these different channels on aggregate growth.

1.2 Distribution of consumption expenditures

Steady increase in inequality of labour income in the industrialized countries over the last three decades has lead economists to a hypothesis that the distribution of consumption in these countries must also increase, however to a lesser extent. The reason behind this is the intertemporal consumption smoothing, such that only permanent income shocks lead to consumption inequality, whereas transitory shocks are neutralized by the optimal choice of consumption path in an uncertain environment. Blundell and Preston (1998) and Blundell, Pistaferri, and Preston (2008) address this hypothesis from different perspectives.

- Topic 8: Labour earnings and consumption inequality

  The student is expected to work through Blundell, Duncan, and Meghir (1998) or/and Blundell, Pistaferri, and Preston (2008) to explain the empirical procedure and the main result.

Further References:

Attanasio, O., Berloffa, G., Blundell, R., and I., Preston, "From earnings inequality to consumption inequality", *Economic Journal*, 2002, Vol.112, p.C52-C59.

2 Labor Economics

2.1 Sample Selection and Treatment Effects

Labor economists are often interested in identifiying the effect of a certain policy. Examples include effects of taxes on labour supply, effects of labour market regulation and minimum wages on wages and employment and evaluation of job training programs.

Suppose we want to identify the effect of participating in a job training program on future earnings. At the individual level, we observe the labour market outcomes of those who attend the job training program and we also observe the labour market outcomes of those who do not attend. However in order to truly identify the effect of the program on a participating individual, we would need to compare the observed outcome with the outcome that would have resulted had that person not participated in the training program. Obviously this is not possible. So one needs to find an estimate of the counterfactual (for example by using a control group) to identify the effect of the job training program. The principal econometric problem in the estimation of these treatment effects is selection bias. Considering for example that people who participate in a job training program may be on average higher motivated to find a new job compared to the untreated, it becomes obvious that identifiying the causal effect of the treatment is a difficult task to undertake, because selection into the program may be nonrandom.

- Topic 9: The estimation of wages is a prominent example for the sample selection problem. The student is expected to discuss the sample selection bias and to present the two step apporach to the selection problem following Heckman (1979).

- Topic 10: Different econometric methods are available to evaluate treatment effects (see e.g. Cameron and Trivedi, 2005, chap. 25). The student is expected to summarize these methods briefly and explain their differences. However, the focal point of the work should be a detailed explanation of the matching and propensity score estimators.

Regression discontinuity design is one of the most recent methods for evaluation of treatment effects that has become increasingly popular in empirical applications due to its' relative simplicity. The method relates to evaluation of discontinuously implemented programmes (e.g. programmes enrollment into which depends on age, such that below a

given threshold the person is not enrolled and above this threshold the person is enrolled). It utilizes that fact that observations immediately to the left and to the right of the discontinuity point contain the majority of information about the effect of the programme. Theory is summarized in a simple fashion by Imbens and Lemieux (2008), with Hahn, Todd, and Klaauw (2001) providing more advanced discussion. Lalive (2008) presents one of the most successful recent empirical examples applying regression discontinuity design to study reemployment incentives after prolongation of the entitlement to unemployment benefits in Austria.

- Topic 11: Regression discontinuity estimation of incentive effects of unemployment benefits

  The student is expected to work through the three papers, explaining both the theory and the empirical application.

  Hahn, J., Todd, P., and W., van der Klaauw, "Identification and estimation of treatment effects within a regression discontinuity design", *Econometrica*, 2001, Vol.69, p.201-209.

  Imbens, G., and T., Lemieux, "Regression discontinuity designs: A guide to practice", *Journal of Econometrics*, 2008, Vol.142, p.615-635.

  Lalive, R., "Do extended benefits affect unemployment duration? A regression discontinuity approach", *Journal of Econometrics*, 2008, Vol.142, p.785-608.

2.2 Determinants of Wages

There exist many studies exploring the direct causal relationship between schooling and earnings (see e.g. Card, 1999). It is also obvious to believe that returns to schooling vary with with other characteristics, e.g. what are the effects of family background characteristics on the returns of education? Do father's and mother's education play a role?

- Topic 12: The role of parental education is empirically investigated by Altonji and Dunn (1996) and the student is expected to present this paper.

Talking about inequality, Martinsa and Pereirab (2004) address the link between schooling and within-levels wage inequality by using a quantile regression approach for 16 countries.

- Topic 13: Quantile regression models are an important tool to analyze the conditional distribution of the dependent variable. Before presenting the paper by Martinsa and Pereirab (2004), the student is expected to present a brief introduction into the methodology of quantile regression models.

- Topic 14: Endogenous wage distributions for identical workers Burdett and Mortensen (1998).

This is one of the papers, Dale Mortensen obtained the Nobel Prize for in 2010. It is one of the most influential papers in labour economics.

2.3 Search and Matching

It is well known that the neoclassical theory postulates an economy without frictions implying that the labor market would clear instantaneously, because workers can immediately choose to work for as many hours as they want at a given market wage. While this theory fails to describe the causes for unemployment in a satisfactory way, search and matching models are able to explain the coexistence of job vacancies and unemployed workers as an equilibrium phenomenon. The fundamental idea is that it takes time and other resources for unemployed workers and vacancies to find each other. Thus unlike the neoclassical theory postulates, trade in the labor market is time-consuming and uncoordinated. One can generally differ between two distinct strands in the literature.

2.3.1 Empirical Application

In terms of the empirical implementation of search and matching models, there exist two distinct approaches: A reduced form approach and a structural estimation approach. In his essay Wolpin (1995) explains the difference as follows:

"[...] structural estimation refers to estimation that has as its intent recovery of the fundamental parameters of the theoretical optimization problem. Estimation methods that recover parameters that are (often unspecified) functions of the fundamental parameters, such as linear approximations of the decision functions not explicitly derived from the decision functions themselves, fall into the reduced form category. Empirical work that is conducted absent an explicit optimization problem is by definition reduced form."

A distinctive feature of structural estimation is therefore its heavy dependence on economic theory and implicitly on the reliability of the underlying assumptions. Consequently empirical results may not be robust with respect to departures form these assumptions in general. In other words, the structural approach may impose restrictions on agents' behavior that are unjustified. On the other hand, reduced form estimation methods reveal no information about the structural parameters of the underlying theoretical model.

Reduced Form Approach: Duration Models Typical reduced form approaches used in the literature are duration models (see Lancaster, 1990). Good examples of parametric reduced-form type duration analysis in the light of search theory is given by Lancaster (1979).

- Topic 15: The student is expected to give a brief overview of basic concepts from survival analysis (see e.g. Cameron and Trivedi, 2005 or Wooldridge, 2001) and is expected to present the paper by Lancaster (1979).

A popular reduced form approach in labor economics is the so called mixed proportional hazard model (see van den Berg, 2001). The mixed proportional hazard model specifies the hazard rate as a multiplication of three determinants. First, a regression function called "systematic part" captures the effect of observed explanatory variables. Second, a function called "baseline hazard" captures the variation of the hazard over time and third, a random variable accounts for unobserved heterogeneity.

- Topic 16: The student is expected to present the mixed proportional hazard model (see van den Berg, 2001).

Structural Estimation Approach Search and matching models postulate that certain events occur randomly from an individual's point of view. In general search and matching models generate probability distributions for observed labor market outcomes like employment and unemployment durations. By using microdata on individual labor market outcomes one can then estimate the structural parameters of these models by applying the Maximum Likelihood principle.

- Topic 17: The student is expected to present the way of structurally estimating the classical job search model as shown in Eckstein and van den Berg (2007).

Structural models have the nice feature that they allow for a careful policy evaluation. Launov and Wälde (2009) analyze welfare effects of the recent labor market in Germany (Hartz IV). They formulate a matching model with endogenous search effort and non-stationary unemployment benefits. The theoretical model is then structurally estimated by Maximum Likelihood using a German micro data set (SOEP). The structural estimates then allow for evaluating the recent labor market reform.

- Topic 18: The student is expected to give a brief overview of the theoretical model of Launov and Wälde (2009). He then should present the econometric model and its results.

2.4 Taxation at the labour market

2.4.1 Optimal taxation

Speaking about taxation of labour income, from the society point of view optimal is the tax schedule that sets right incentives for individuals with heterogeneous abilities such

that more able workers exert more work effort and/or devote more hours to work, whereas the ability level as such is never observable to the government. The original result on such an incentive design is due to Sir James Mirrlees (Mirrlees, 1971), which has paved him a way to winning the Nobel Prize in Economics in 1996. In a later contribution Saez (2001) offers a simpler representation of this design.

- Topic 19: Optimal taxation of labour income

  The student is expected to present and explain the logic of the optimal taxation scheme using either Saez (2001) or Mirrlees (1971), where dealing with both papers is of advantage.

Speaking further about optimality of a labour income tax schedule, the workers may always take a decision on the intensive (work effort or supply of hours) or the extensive (labour force participation) margins. Depending on the prevalent kind of response Saez (2002) shows that optimal tax and transfers programmes have different designs. Kleven, Kreiner, and Saez (2009) extend the result of Saez (2002) from an individual setting to an optimal tax programme of a couple.

- Topic 20: Optimal tax and labour supply

  The student is expected to present either of the papers, explaining the argument and providing the main result.

  Saez, E., "Optimal income transfer programs: Intensive versus extensive labor supply responses", *Quarterly Journal of Economics*, 2002, Vol.117, p.1039-1073.

  Kleven, H., Kreiner, C., and E., Saez, "Optimal income taxation of couples", *Econometrica*, 2009, Vol.77, p.537-560.

2.4.2 Empirical Applications

Since optimal tax and transfer programmes as described in Topics 19-20 are just the theoretical constructs, the real world may not necessarily look the same. Neither may look the same the tax reforms, even if designed for increasing efficiency of an already existing tax schedule. Blundell, Duncan, and Meghir (1998) and Ziliak and Kniesner (1999) are two prominent examples of empirical evaluation of the actual tax reforms and their true influence on the labour supply decisions on both extensive and intensive margins.

- Topic 21: Taxation and labour supply decisions

  The student is expected to present one of the paper, explaining the logic of the reform, the econometric toolbox applied in the paper and the alignment of the

empirical results with the predictions of the theory on optimal tax and transfer schedules.

Blundell, R., Duncan, A., and C., Meghir, "Estimating labor supply responses using tax reforms", *Econometrica*, 1998, Vol.66, p.827-861.

Ziliak, J., and T., Kniesner, "Estimating life cycle labor supply tax effects", *Journal of Political Economy*, 1999, Vol.107, p.326-359.

References

Altonji, J. G., and T. A. Dunn (1996): "The Effects of Family Characteristics on the Return to Education," *The Review of Economics and Statistics*, 78, 692–704.

Attanasio, O., G. Berloffa, R. Blundell, and I. Preston (2002): "From Earnings Inequality to Consumption Inequality," *Economic Journal*, 112(478), C52–C59.

Blundell, R., A. Duncan, and C. Meghir (1998): "Estimating Labor Supply Responses Using Tax Reforms," *Econometrica*, 66(4), 827–862.

Blundell, R., L. Pistaferri, and I. Preston (2008): "Consumption Inequality and Partial Insurance," *American Economic Review*, 98(5), 1887–1921.

Blundell, R., and I. Preston (1998): "Consumption Inequality And Income Uncertainty," *The Quarterly Journal of Economics*, 113(2), 603–640.

Burdett, K., and D. T. Mortensen (1998): "Wage Differentials, Employer Size and Unemployment," *International Economic Review*, 39, 257–273.

Cameron, C. A., and P. K. Trivedi (2005): *Microeconometrics : Methods and Applications*. Cambridge University Press.

Card, D. (1999): "The causal effect of education on earnings," 3, 1801–1863.

Eckstein, Z., and G. J. van den Berg (2007): "Empirical Labor Search: A Survey," *Journal of Econometrics*, 136(2), 531–564.

Hahn, J., P. Todd, and W. V. d. Klaauw (2001): "Identification and Estimation of Treatment Effects with a Regression-Discontinuity Design," *Econometrica*, 69(1), pp. 201–209.

Heckman, J. J. (1979): "Sample Selection Bias as a Specification Error," *Econometrica*, 47(1), 153–61.

Hopenhayn, H. A. (1992): "Entry, Exit, and Firm Dynamics in Long Run Equilibrium," *Econometrica*, 60(5), 1127–50.

Imbens, G. W., and T. Lemieux (2008): "Regression discontinuity designs: A guide to practice," *Journal of Econometrics*, 142(2), 615–635.

Jovanovic, B. (1982): "Selection and the Evolution of Industry," *Econometrica*, 50(3), 649–70.

Klette, T. J., and S. Kortum (2004): "Innovating Firms and Aggregate Innovation," *Journal of Political Economy*, 112(5), 986–1018.

Kleven, H. J., C. T. Kreiner, and E. Saez (2009): "The Optimal Income Taxation of Couples," *Econometrica*, 77(2), 537–560.

Lalive, R. (2008): "How do extended benefits affect unemployment duration A regression discontinuity approach," *Journal of Econometrics*, 142(2), 785–806.

Lancaster, T. (1979): "Econometric Methods for the Duration of Unemployment," *Econometrica*, 47(4), 939–956.

——— (1990): *The Econometric Analysis of Transition Data*. Cambridge University Press.

Launov, A., and K. Wälde (2009): "Estimating incentive and welfare effects of nonstationary unemployment benefits," *working paper, see www.waelde.com*.

Lentz, R., and D. T. Mortensen (2008): "An Empirical Model of Growth through Product Innovation," *Econometrica*, 76(6), pp. 1317–1373.

Lucas, R. E. (1978): "On the Size Distribution of Business Firms," *Bell Journal of Economics*, 9(2), 508–523.

Luttmer, E. G. (2010): "On the mechanics of firm growth," Staff Report 440, Federal Reserve Bank of Minneapolis.

Martinsa, P. S., and P. T. Pereirab (2004): "Does education reduce wage inequality? Quantile regression evidence from 16 countries," *Labour Economics*, 11, 355–371.

Mirrlees, J. A. (1971): "An Exploration in the Theory of Optimum Income Taxation," *Review of Economic Studies*, 38(114), 175–208.

Rossi-Hansberg, E., and M. L. J. Wright (2007): "Establishment Size Dynamics in the Aggregate Economy," *American Economic Review*, 97(5), 1639–1666.

Saez, E. (2001): "Using Elasticities to Derive Optimal Income Tax Rates," *The Review of Economic Studies*, 68(1), pp. 205–229.

——— (2002): "Optimal Income Transfer Programs: Intensive versus Extensive Labor Supply Responses," *The Quarterly Journal of Economics*, 117(3), pp. 1039–1073.

van den Berg, G. J. (2001): *"Duration Models: Specification, Identification, and Multiple Durations" in Handbook of Econometrics*, vol. 5. Amsterdam: Elsevier Science/North-Holland.

Wolpin, K. I. (1995): *Empirical Methods for the Study of Labor Force Dynamics*. Harwood Academic Publ.

Wooldridge, J. M. (2001): *Econometric Analysis of Cross Section and Panel Data*. MIT Press.

Ziliak, J. P., and T. J. Kniesner (1999): "Estimating Life Cycle Labor Supply Tax Effects," *Journal of Political Economy*, 107(2), 326–359.