Workshop: Theory + Data + Policy

Start:  Jun 19 2014  
Description: A workshop for work that combines models and estimation to study policy

**Dates:** Thursday June 19, 2014 - Sunday June 22, 2014

**Location:** Queen's University  
**Organizers:** Christopher Ferrall  
**Submissions:** Closed  
**Day and Time:** Jun 19 2014 (All day) - Jun 22 2014 (All day)

**Theme:** To promote work that combines an economic model and estimation of model parameters from data to produce a coherent policy analysis.

To support the theme, the number of attendees will be limited, and the schedule will encourage informal discussions and interactions as well as more seminar presentations.

Junior researchers and PhD students very near the job market are encouraged to submit an abstract of on-going work rather than completed work. Invitations to participate will be based on the abstract, and then the schedule of formal versus informal presentations will be based on the draft paper submitted a few weeks before the workshop.

A limited number of spots are available to senior researchers, and they will present only preliminary work informally.

**Session 1**

Start:  Jun 19 2014 13:00  
**Location:** Hand-Purvis Conference Room, Dunning Hall Rm 213  
**Day and Time:** Jun 19 2014 - 13:00 - 17:00  
**Presentations:** Matching, Sorting and Wages
Matching, Sorting and Wages

In this paper we analyze the allocation of workers to firms in an economy with production complementarities and search frictions. We develop a model with two sided heterogeneity, training costs, on-the-job search and vacancy creation. We provide a constructive proof for the non-parametric identification of the production function from matched employer-employee data. We evaluate the properties of the associated estimator with a Monte-Carlo simulation. We estimate the model using GMM on the matched employer-employee data from Sweden to decompose the sources of income inequality and quantify the output loss due to search frictions.

**Presentation**

**presenter:** Jeremy Lise

**Day and Time:** Jun 19 2014 - 13:00 - 15:00

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Maternal employment, fertility, child care use, and cognitive outcomes of children: Evidence from a Norwegian Reform

In 1998, Norway implemented the cash-for-care reform (“kontant stoette”), which provided cash to families with young children who did not use government-subsidized child care facilities. The reform resulted in a sizable exogenous change in the relative price of child care facilities, which interacted with pre-existing regional variations in the child care system. Using administrative data from 1995 to 2010, we examine the effects of the reform by estimating a dynamic structural model of maternal employment, fertility, and child care use for multiple children. We investigate the effects of such behavioral changes on the long-run cognitive outcomes of children, by estimating a cognitive ability production function with data on national test scores. Numerical results from several counterfactual exercises, including budget analysis, are presented. In particular, we compare the effects of existing and alternative child care polices with the maternity leave system.

**Presentation**

**presenter:** Kai Liu

**Day and Time:** Jun 19 2014 - 15:15 - 17:15

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Session 2

**Start:** Jun 20 2014 09:00

**Location:** Sutherland Hall Room 334

**Day and Time:** Jun 20 2014 - 09:00 - 12:00

**Presentations:** Ability Tracking, School and Parental Effort, and Student Achievement: A Structural Model and Estimation

**College Choice, Credit Constraints and Educational Attainment**

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Ability Tracking, School and Parental Effort, and Student
Achievement: A Structural Model and Estimation

We develop and estimate an equilibrium model of ability tracking. In the model, a school chooses how to allocate students into tracks based on their ability and chooses track-specific inputs. Parents choose parental effort in response. We estimate the model using data from the ECLS-K. We use the estimated model to first examine the effects of eliminating tracking on school and parental inputs and student achievement. We then examine how policies that hold schools more accountable for students with unsatisfactory achievement and policies that increase proficiency standards affect equilibrium tracking, school inputs, parental efforts and student achievement.

Presentation presenter: Nirav Mehta
Day and Time: Jun 20 2014 - 09:00 - 11:00

College Choice, Credit Constraints and Educational Attainment

This paper formulates and estimates a dynamic model of borrowing, schooling and work decisions with highschool graduates choosing between colleges of differing quality and tuition profiles. To understand the role of credit constraints in determining the quality of college attended, I perform several several counterfactual experiments on college tuition, government sponsored loans limits, as well as student loan repayment structure. Structural parameters of the model are estimated using the 1997 cohort of the National Longitudinal Survey of Youth (NLSY97).

Presentation presenter: Michael Barber
Day and Time: Jun 20 2014 - 11:15 - 12:15

Session 3

Start: Jun 20 2014 13:30
Location: Hand-Purvis Conference Room, Dunning Hall Rm 213

Presentations:
Selective Schools and the effect of Class Composition: Evaluation of the Bicentenario Schools in Chile
Instrument-free Identification and Estimation of Differentiated Products Models using Cost Data
Welfare Dependence and Self-Control: An Empirical Analysis

Instrument-free Identification and Estimation of Differentiated Products Models using Cost Data

Attachment tracking_paper_May2014.pdf Size 378.09 KB
This paper proposes a methodology for jointly estimating the demand and cost functions of differentiated goods oligopoly models when demand and cost data are available. The method deals with the endogeneity of prices to unobserved product quality in the demand function, as well as the endogeneity of output to unobserved cost shocks in firms’ cost functions. Our method does not, however, require instruments to do so. We establish identification, consistency and asymptotic normality of our estimator. Using Monte-Carlo experiments, we demonstrate that it works well in situations where instruments are correlated with the error term in the demand and cost functions, and where the standard IV approach results in bias.

**Presentation**

**presenter:** David Byrne  
**Day and Time:** Jun 20 2014 - 16:30 - 17:30

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**Selective Schools and the effect of Class Composition: Evaluation of the Bicentenario Schools in Chile**

This paper evaluates the success of the Bicentenario Schools Program - a selective school program in Chile - in raising the test scores of their students. Critics argue that the higher test scores observed for these schools may be explained by the higher ability or better background of their students. But the evaluation of the effect of school productivity is complicated by two confounding factors: selection of high ability students and peer effects.

Because of these confounding factors, the most traditional or popular methods have difficulty isolating the true causal effect of selective school participation, and usually find no effect of selective school participation. Standard regressions and instrumental variable methods provide biased estimates of the effect of school productivity on achievement. Additionally, experimental and quasi-experimental methods usually do not deliver the true effect of attending a selective school, because they solve the selection of high ability students but cannot separate between peer effects and school productivity for the students that are in the treatment group.

This project proposes an evaluation that relies on structural models. Using a model of student selection, behavior and peer effects, it is possible to separate these confounding factors from the effects of school productivity.  

The model will be estimated using a Simulated Maximum Likelihood algorithm, and data from Chile’s SIMCE (Education Quality Measurement System), both for 8th and 10th grade.

**Presentation**

**presenter:** Pilar Alcalde  
**Day and Time:** Jun 20 2014 - 13:15 - 14:15

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**Welfare Dependence and Self-Control: An Empirical Analysis**
We use data from Florida Transition Program, a welfare reform experiment in the 1990s, to estimate a discrete choice dynamic programming model of labor supply and welfare participation with potentially time-inconsistent individuals. The time preference parameters are identified through exclusion restrictions generated by welfare time limits. Around one-fourth of the individuals can be regarded as present-biased, and they exhibit a low degree of naivety. Time-inconsistency reduces income by 15 percent and the net tax contribution by almost half. Present-biased individuals are generally more responsive to policy changes than time-consistent individuals. By aggravating the commitment problem, an increase in welfare benefits reduces utility from a time-consistent perspective. An expansion of Earned Income Tax Credit (EITC) can be revenue-neutral due to cross-subsidization between present-biased and time-consistent individuals. A "prowork time limit" is proposed as a more incentivizing policy than standard time limits. A dynamic nonwork tax that is triggered by past employment can generate strong commitment-related incentives and increase utility from a time-consistent perspective. The nonwork tax can be implemented as a targeting intervention, as an estimated 70 percent of present-biased individuals will adopt the policy as a commitment device.

**Presentation**

**Presenter:** Marc Chan

**Day and Time:** Jun 20 2014 - 14:30 - 16:15

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**Session 4**

**Start:** Jun 21 2014 09:00

**Location:** Hand-Purvis Conference Room, Dunning Hall Rm 213

**Day and Time:** Jun 21 2014 - 09:00 - 12:00

**Presentations:**
- Computation of dynamic capacity games
- Assessing Welfare Effects of Active Labor Market Programs: Combining Structural Models and Experimental Data

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**Assessing Welfare Effects of Active Labor Market Programs: Combining Structural Models and Experimental Data**

The primary objective by which we assess the favorability of a particular labor market programme is whether the programme is successful in reducing unemployment and improving/or not reduce the “quality” of future employment. The benefit side of the programmes are determined as the potential gains of increased production and the saved income transfers whereas the costs are the money spent on caseworkers/teachers and others. Absent from this calculation is the potential costs internalized by the programme participants a part of these costs is the lost non-market time. In this paper we will use a structural economic model and experimental variation to learn more about this important component of costs of ALMPs.

The model will enable us to get a much deeper understanding of program elements and how they affect individual behaviour, and it will also enable us to make several counterfactual analysis and assess an overall
question about welfare of the unemployed individuals which is often neglected in the programme evaluation literature. The model is set in a framework very similar to that of Ferrall (2011) and for estimation we use Danish register data combined with information regarding participation in a social experiment conducted in 2008.

Presentation presenter: Jonas Maibom  
Day and Time: Jun 21 2014 - 11:15 - 12:15

**Computation of dynamic capacity games**

This paper develops computational methods for capacity games. We propose a natural model of capacity investment and characterize Markov perfect equilibria. Based on the equilibrium characterization, we propose an efficient method to compute equilibrium investment strategies. We illustrate the industry dynamics in our model and contrast them with existing approaches to modeling capacity dynamics in oligopoly.

Presentation presenter: Claudio Lucarelli  
Day and Time: Jun 21 2014 - 09:00 - 11:00