Econometrics

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Course outline

- Office hours:Tuesday. 13.15pm-14.00pm room 302.
- course webpage:
  - slides and other materials:

    http:\\www.ekonometria.wne.edu.pl

- Problem sets: department photocopy service

Grading

- Written exam
  - only students who get credit for problem sessions are permitted to take the exam
  - exam takes 90 min. and consist of
    - 4 theoretical questions from the closed list of questions (but questions can be reformulated)
    - 2 problems similar to problems from problem set
    - 1 problem which is completely new
  - minimum requirements for exam
    - correct solution of 1 problem
    - correct answers to 2 theoretical questions
- Final grade:
  - 2/3 final exam grade, 1/3 problem session grade

Problem sessions

- registration only by USOS
- presence is obligatory
- problem sessions are starting with 10 min quizzes
- at the end of semester there is a final test (questions and problems similar to the ones on the exam)
- final grade from problem sessions: 40% final test, 40% model, 20% quizzes.
- the most important element of problem sessions - estimation an interpretations of econometric model.
- models are estimated in groups consisting of maximum 2 students
- authors best model are exempted from the exam if only they have at least 4 from the final test
- Computer packages: only models estimated with STATa are accepted.

Textbooks

- Goldberger (1972)
- Theil (1979)
- Chow (1995)
- **Greene** (2003) (graduate)
- Gujarati (1988)
- **Steward** (1991)
- Davidson (1993) (advanced)

Subject of econometrics

- Econometrics is concentrated on:
  - estimation of relationships between economic variables
  - verification/falsification of economic theories on the basis of empirical data
- Theory of econometrics: development of methods of estimation of economic relationships
- Applied econometrics: estimation of the economic relationships with econometric tools

What is the model?

- Building and estimation of models make possible to formulate general views on economic reality

Example (GUS data - December 2002)

- number of observations: 6717

gender	average wage
male	2515 zł
female	2022 zł

- number of estimated parameters: 2
- But experience can also influence wages:

gender	years of experience
male	18.79
female	18.35

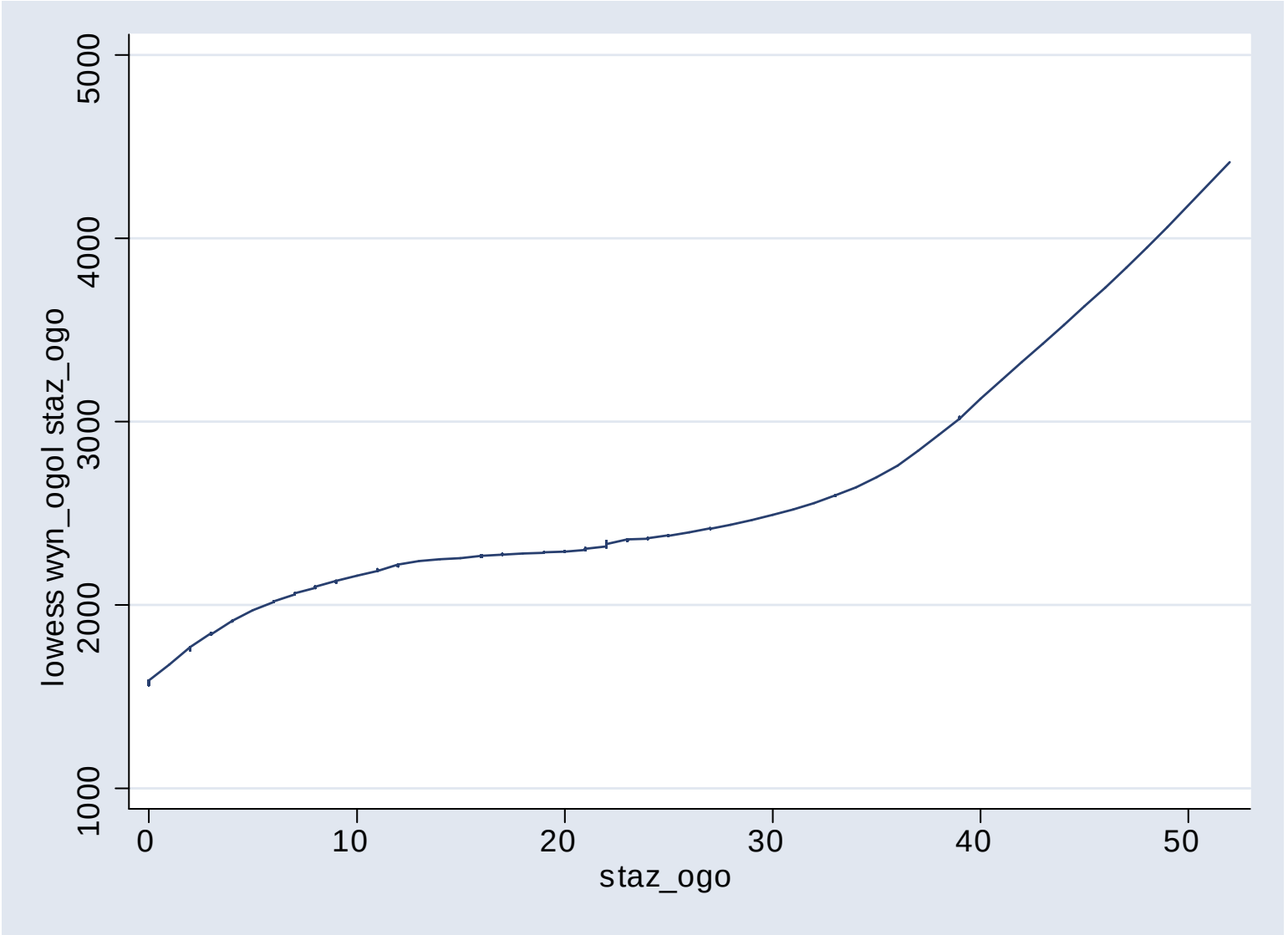
- impact of years experience and gender:

impact	coefficient
additional year of experience	21.6
being female	−435.4

- impact of gender and education and years of experience and :

impact	coefficient
additional year of experience	32.1
being female	−746.0
education	(etimates of parameters omitted)

Wage and years of experience



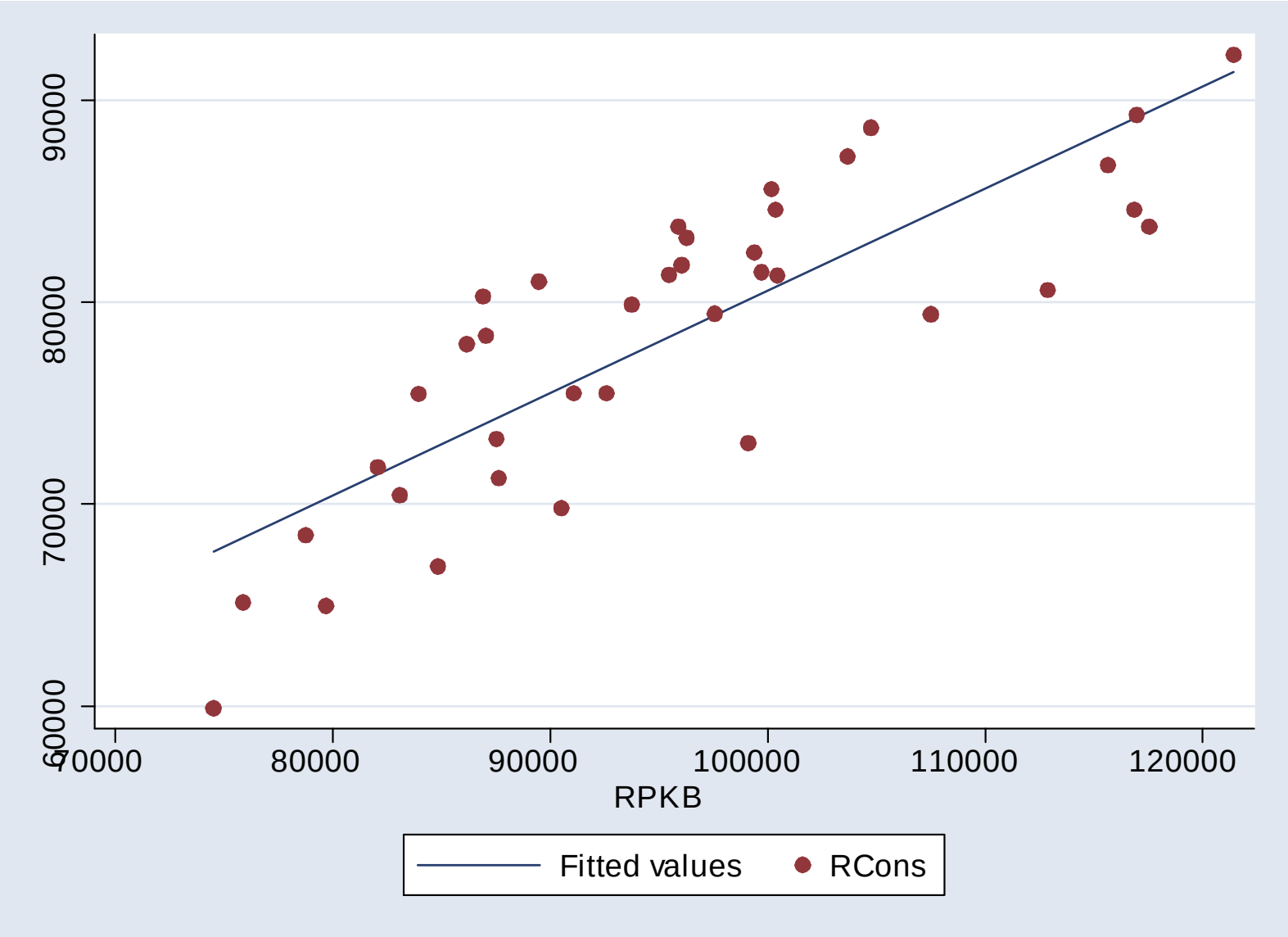
Econometric model (role of theory)

- Keynesian consumption function
- linear functional form:

$$C = \beta_0 + \beta_1 Y$$

- $0 < MPC < 1 \Longrightarrow 0 < \beta_1 < 1$
- $APC \searrow \Longrightarrow \beta_0 > 0$
- Interpretation of the parameter β_1 - MPC

Polish data 1995-2004, CPI deflator



Estimates (GDP in mln zł from year 1995):

$$C = \beta_0 + \beta_1 Y + u$$

Coefficient	Estimate
b_0 (constant)	29967.15
b_1 (MPC)	.51