

ECONOMICS OF EDUCATION

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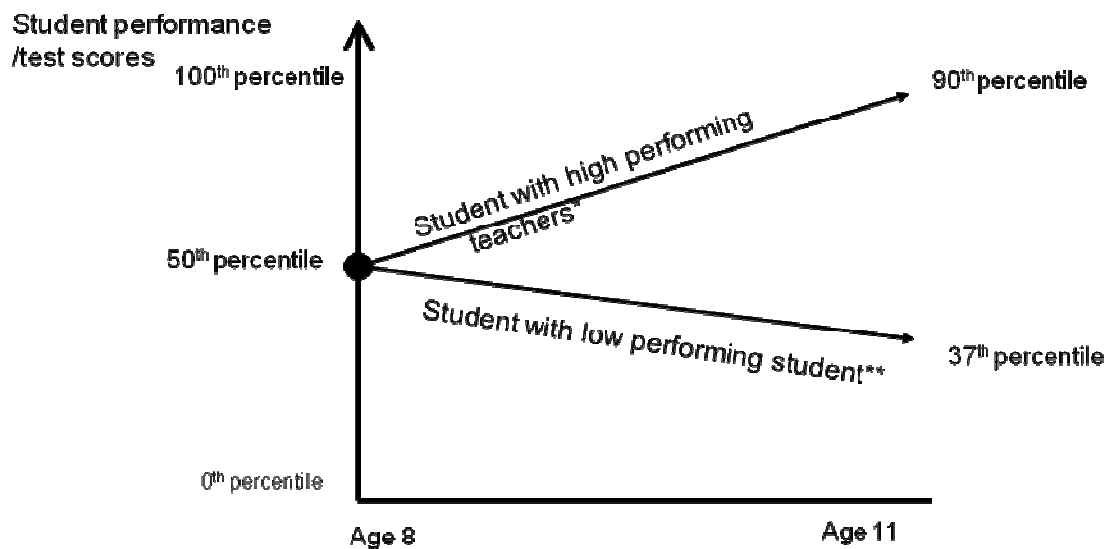
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Week 11

The labor market for teachers

Teachers' effects



* Among the top 20% of teachers;
** Among the bottom 20% of teachers

Source: Sanders & Rivers *Cumulative and Residual Effects on Future Student Academic Achievement*

Teacher labor market

Not perfectly competitive

- Dominant role of the government as a provider and regulator (near-monopolistic supplier of schooling, near monopsonistic buyer of teachers' services)
- Segmented and stratified nature of the market (by level of education, subject matter)
- Collective bargaining on wages
- Level of rewards mainly depends on qualification and seniority
- Teachers are often selected and recruited by levels of administration which do not define the reward structure

Demand for teachers

$$D_T = \frac{S}{C} \cdot \frac{L^S}{L^T}$$

D_T – demand for teachers
 S – aggregate student population
 C – average class size
 L^S – average number of required learning hours for students
 L^T – average teaching load for teachers

Determinants of student teacher ratio

$$r_T^S = \frac{S}{T} = C \cdot \frac{L^T}{L^S}$$

T – total number of teachers

S – aggregate student population

- size of school age population
- starting and ending age of compulsory schooling
- enrolment rates
- in-grade retention rates

C – average class size

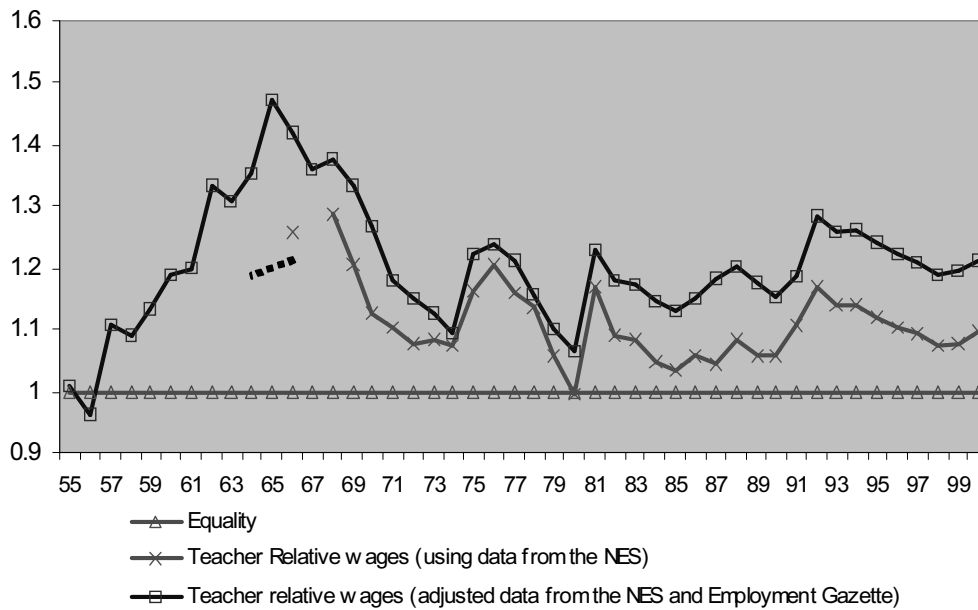
LT – average teaching load for teachers

LS – average number of required learning hours for students

Determinants of teacher supply

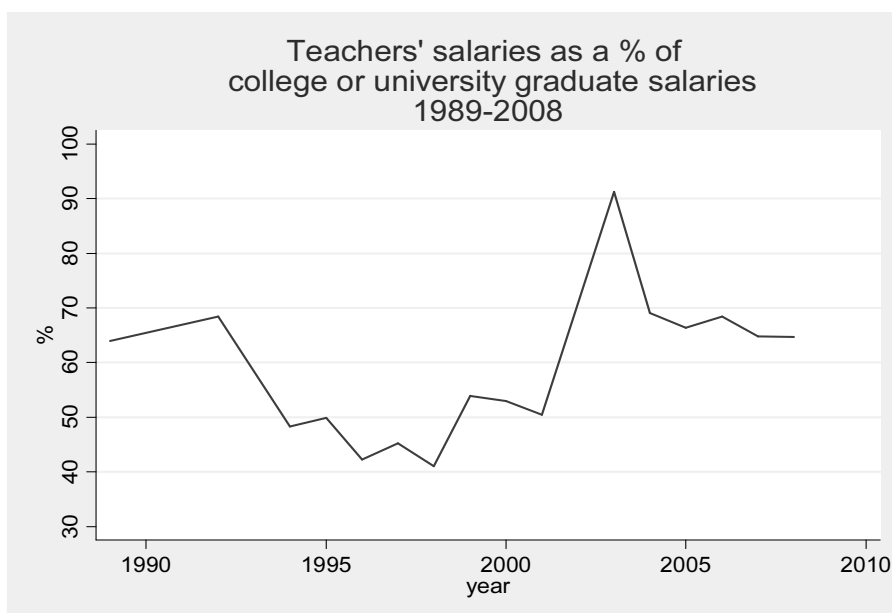
- Relative salaries and alternative opportunities
- Salary structure
- Merit-based incentives
- Working conditions
- Teacher education and certification

Teachers' relative wages in the UK



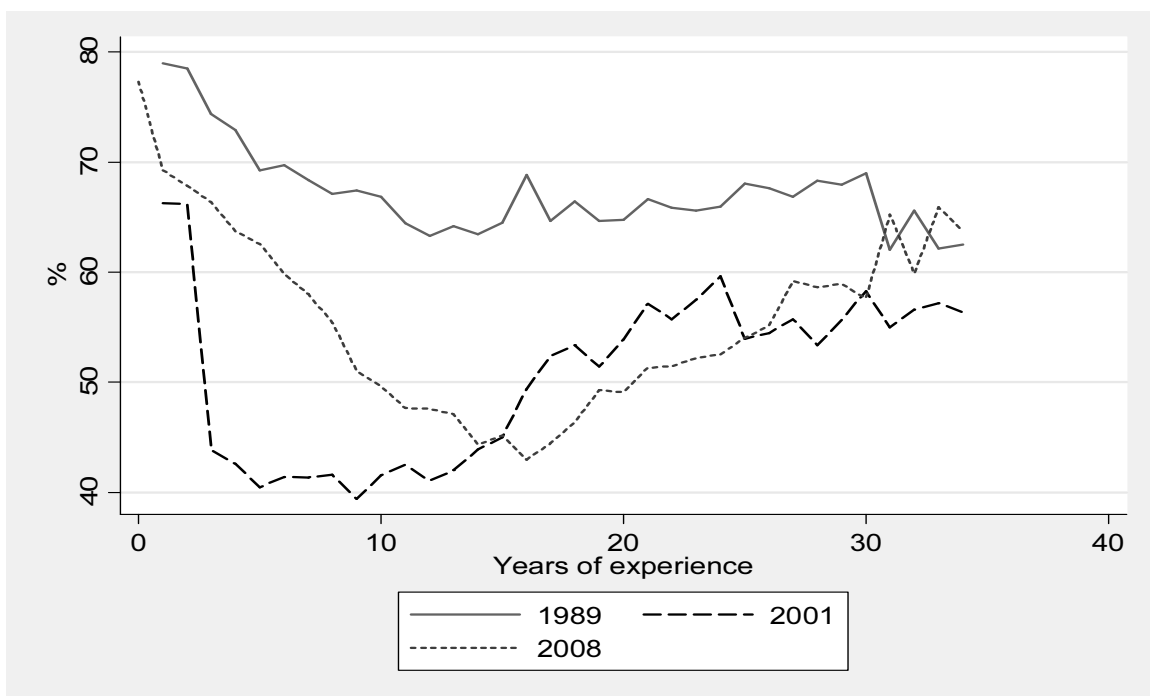
Source: Dolton, 1990

Teachers' relative wages in Hungary



Teachers' relative wages in Hungary

Teachers' wages as a % of graduates wages by years of experience

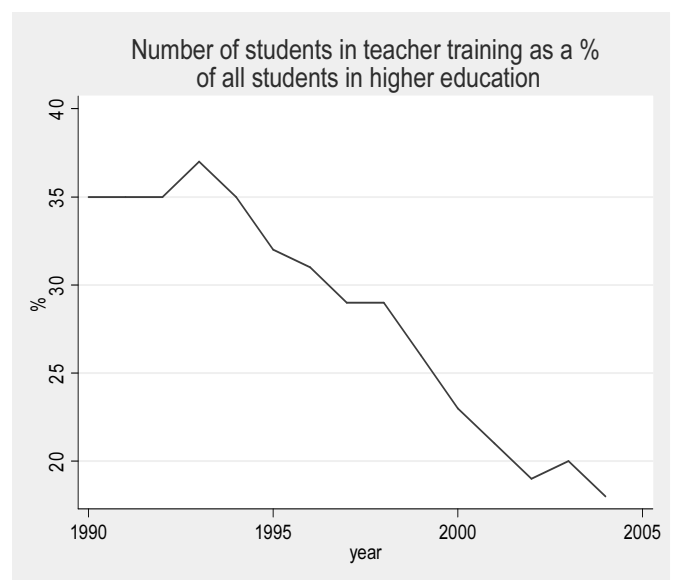
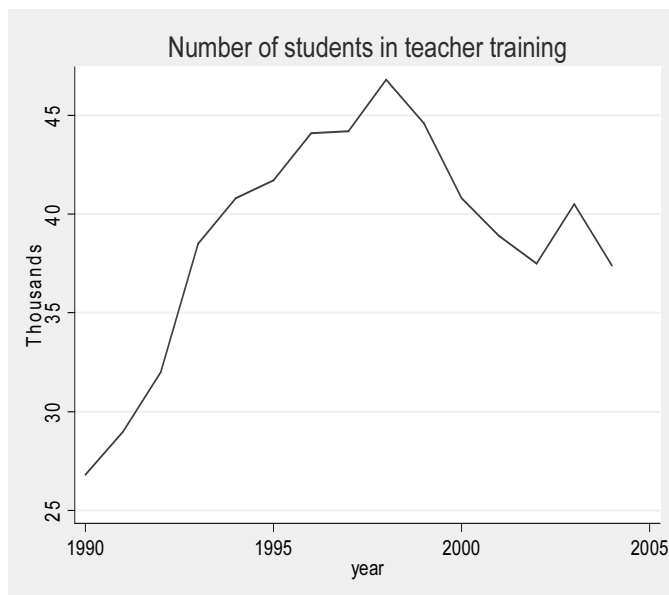


Source: *Estimations of Varga, (2009) based on data og Hungarian Wage Tariff Surveys*

Alternative opportunities

Growing labor market opportunities for woman outside teaching (*Corcoran et al. 2004; Murnane et al. 1991; Bacolod 2002; Stoddard 2003; Temin 2002; Corcoran et al. 2004.*)

Higher education expansion – changing possibilities for higher education studies in Hungary



Source: Based on data of National Admission Office

Salary structures

Teacher salaries

- degree level and experience
- little link between pay and performance
- no differentials based on job difficulty
- uniform salaries across academic subjects

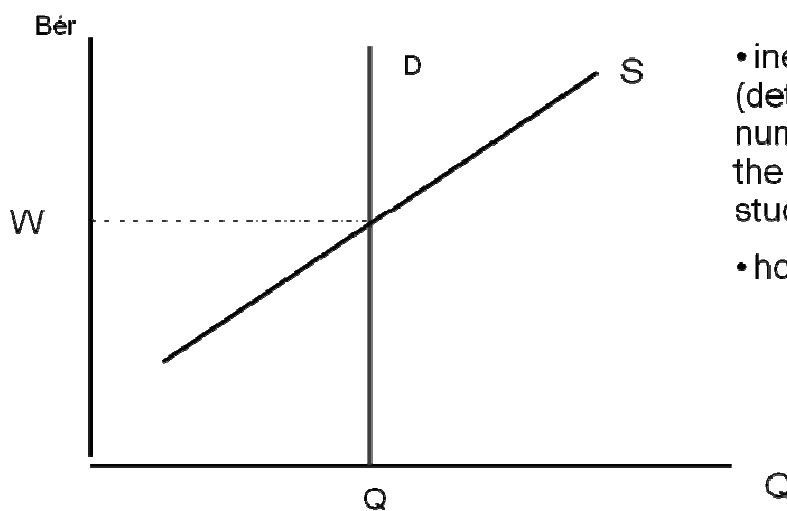
- uniform salaries across geographic regions
- wage compression

Non-teacher salaries

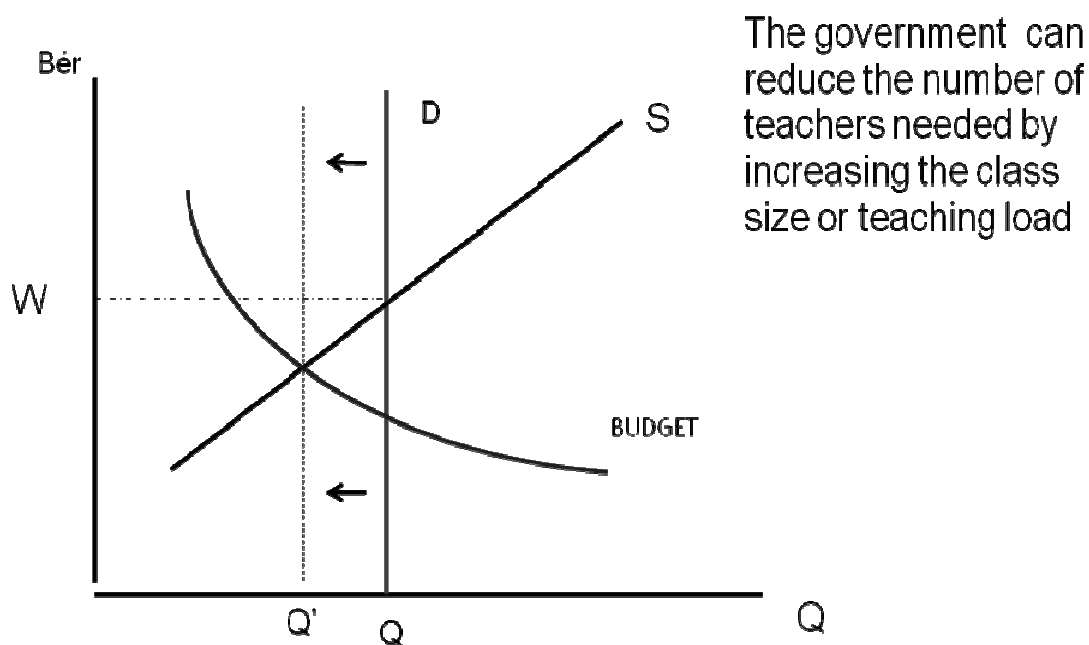
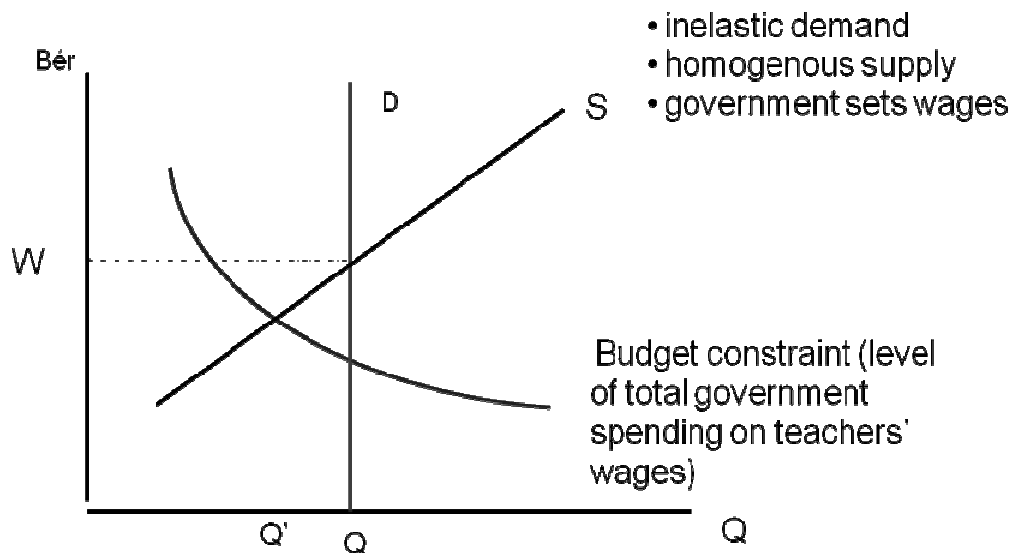
significant (and increasing) returns to

- individual test scores
- college quality (*Brewer et al, 1999*)
 - technical skills (*Grogger and Eide, 1995*)
 - pay for performance plans

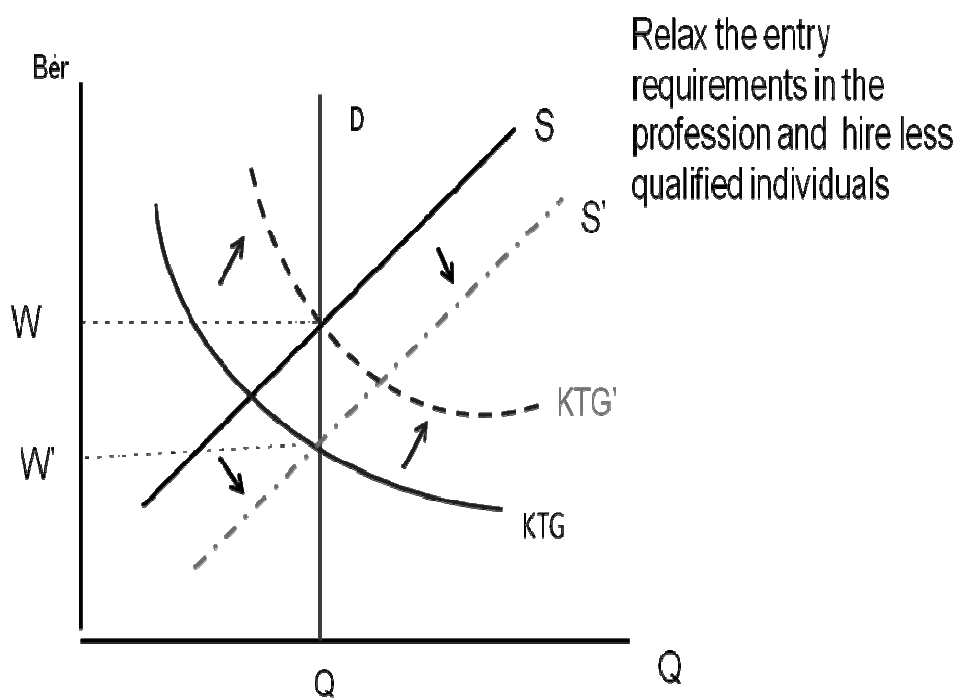
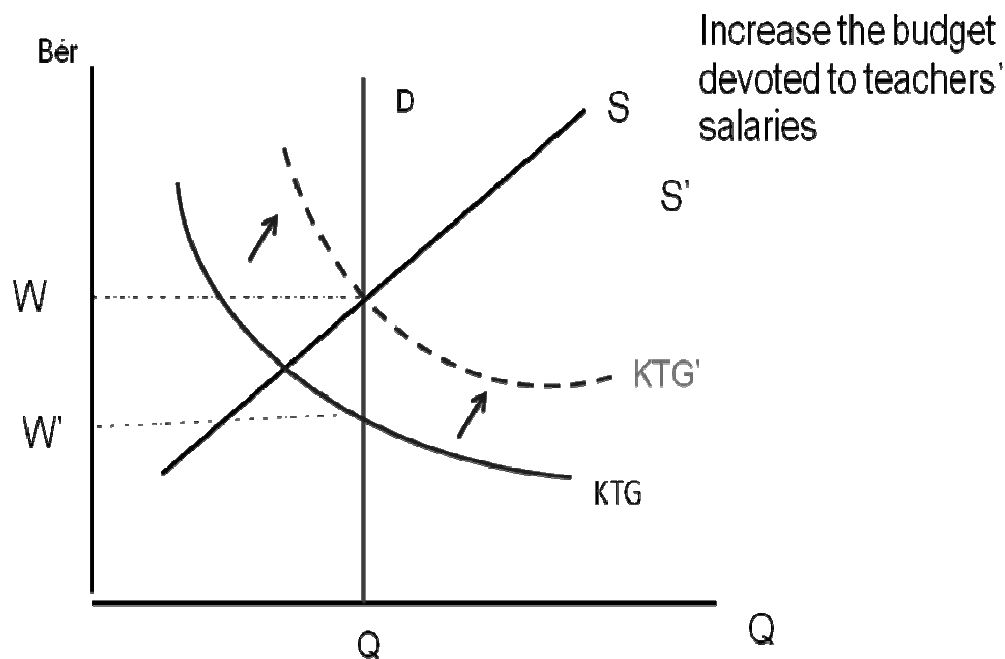
Teacher supply and demand



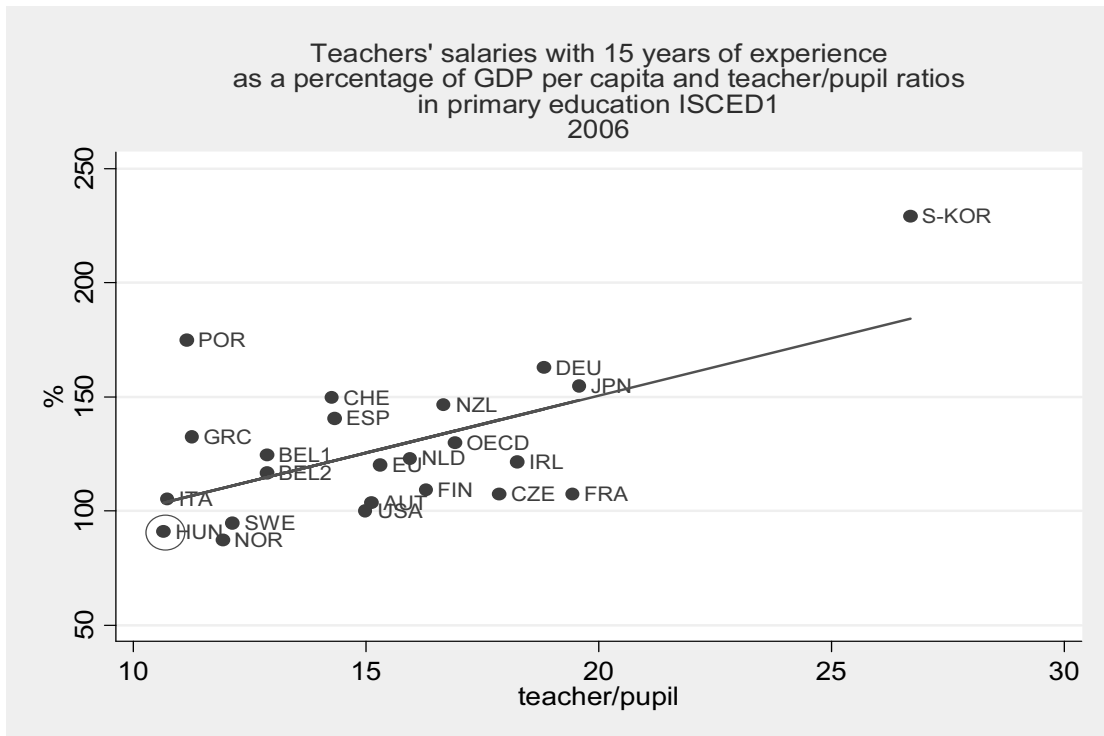
- inelastic demand (determined by the number of children and the desired teacher student ratio)
- homogenous supply



Facing teacher shortage



Trade-off between employment and wages



Source: Based on data of OECD Education at a Glance, 2008

Single salary schedule

