



Determinants of unemployment, hourly wage rates and private returns to education in Greece (with emphasis on tertiary education graduates)

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ADAPT–UNAM Conference

YOUTH UNEMPLOYMENT AND JOBLESSNESS: CAUSES, CONSEQUENCES, RESPONSES

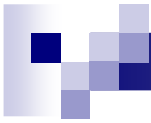
Mexico City, 29-30 August 2011



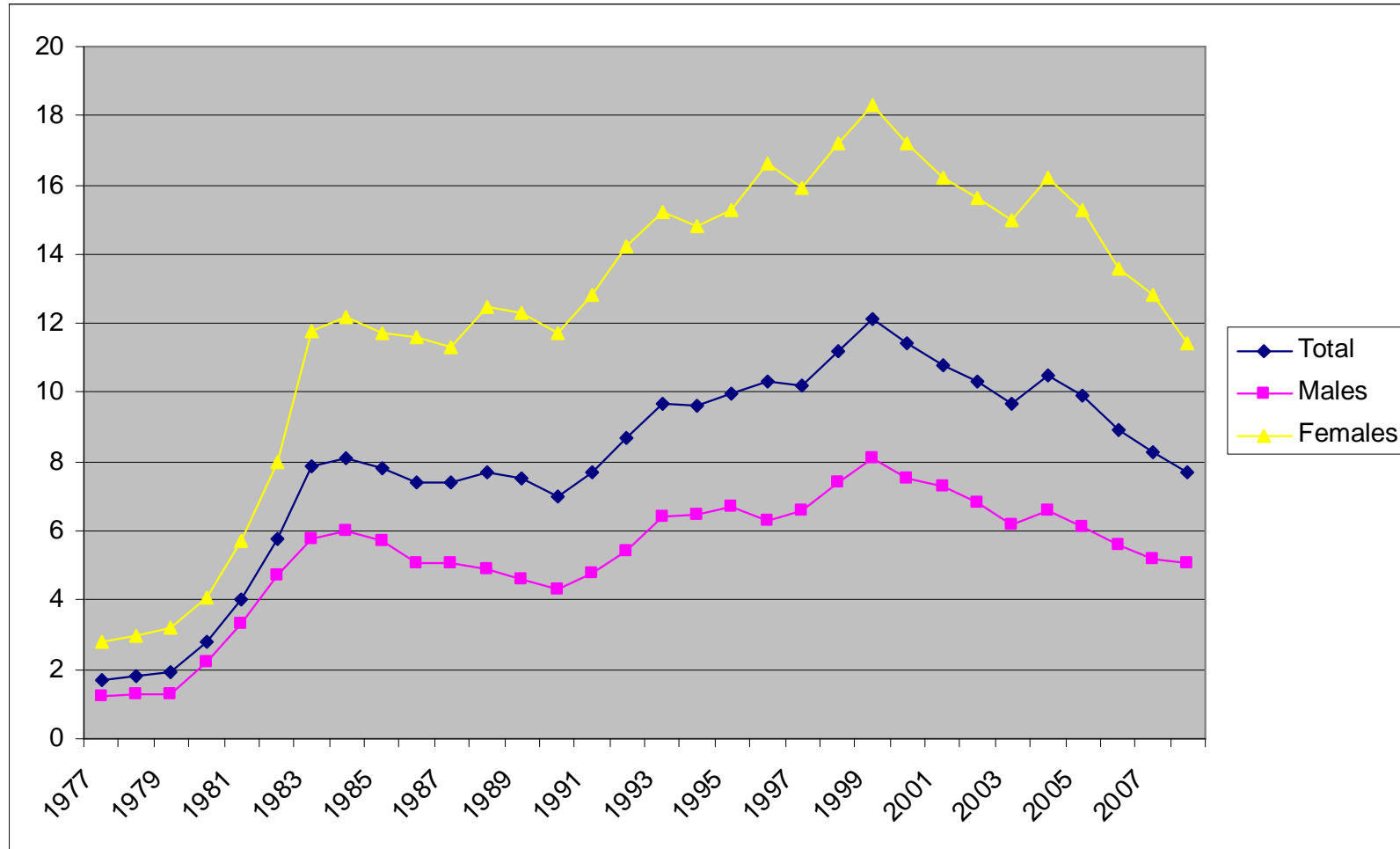
Greece (until the crisis):

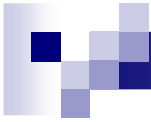
- (a) Strong demand for tertiary education
- (b) Rapid expansion of tertiary education since the early 1990s
- (c) Worries about graduate unemployment and low wages

(and, then, the crisis came)

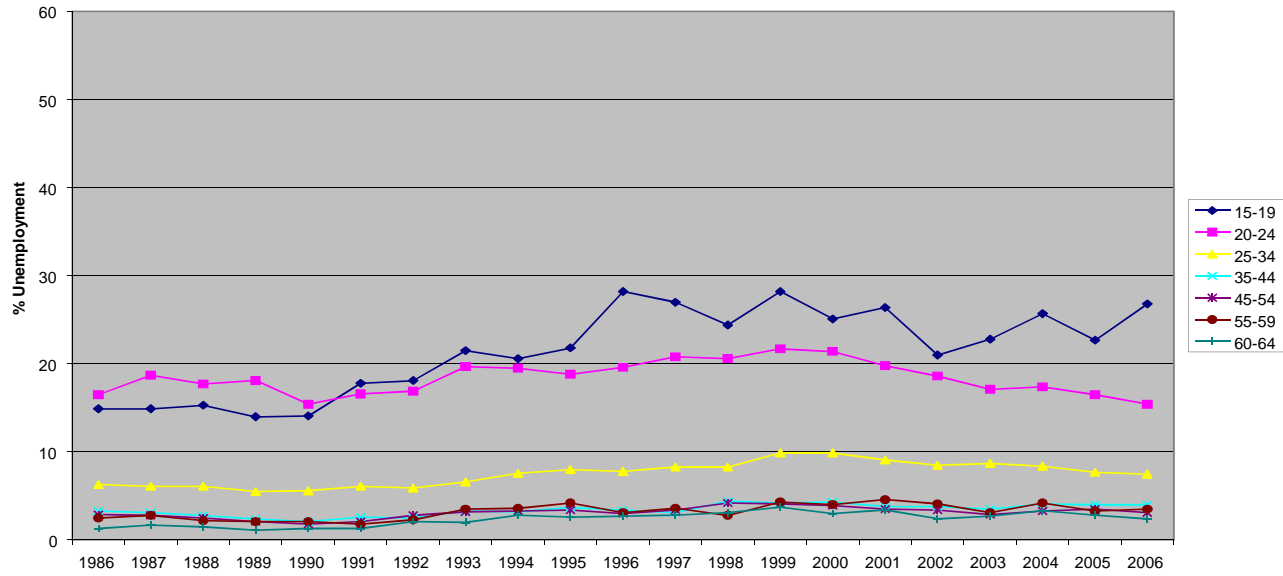


Graph 1. Unemployment rate by sex, Greece: 1977-2008

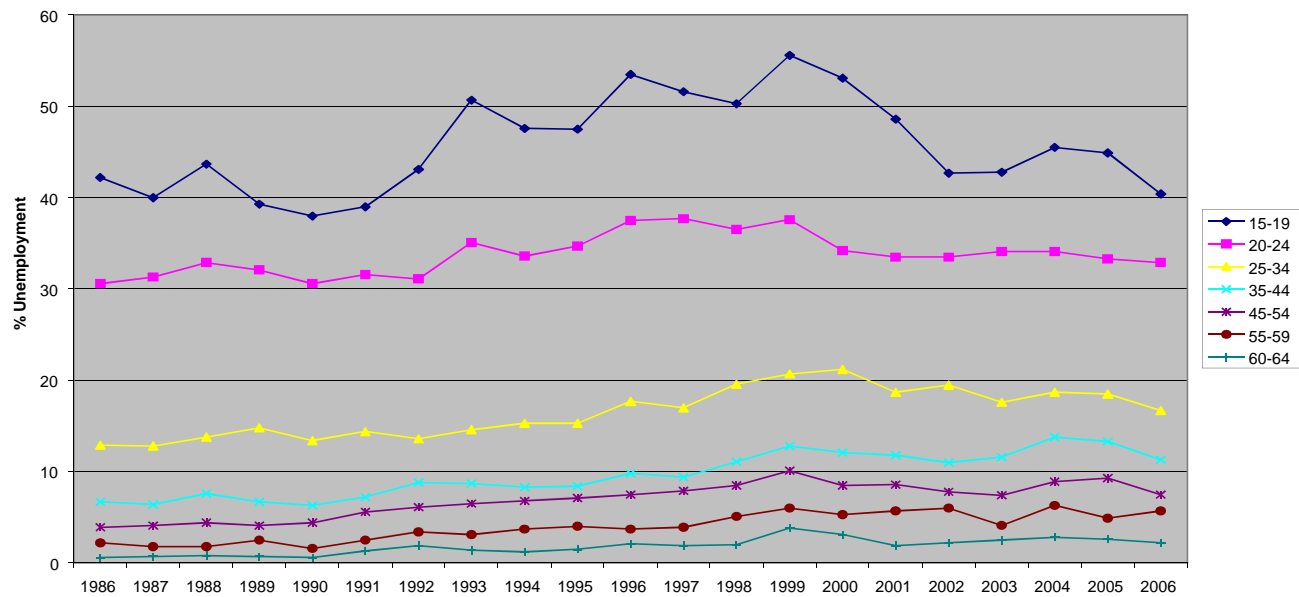


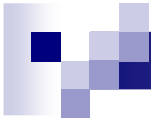


Graph 2a. Unemployment rate by age group: Greece, 1986-2006 (Males)

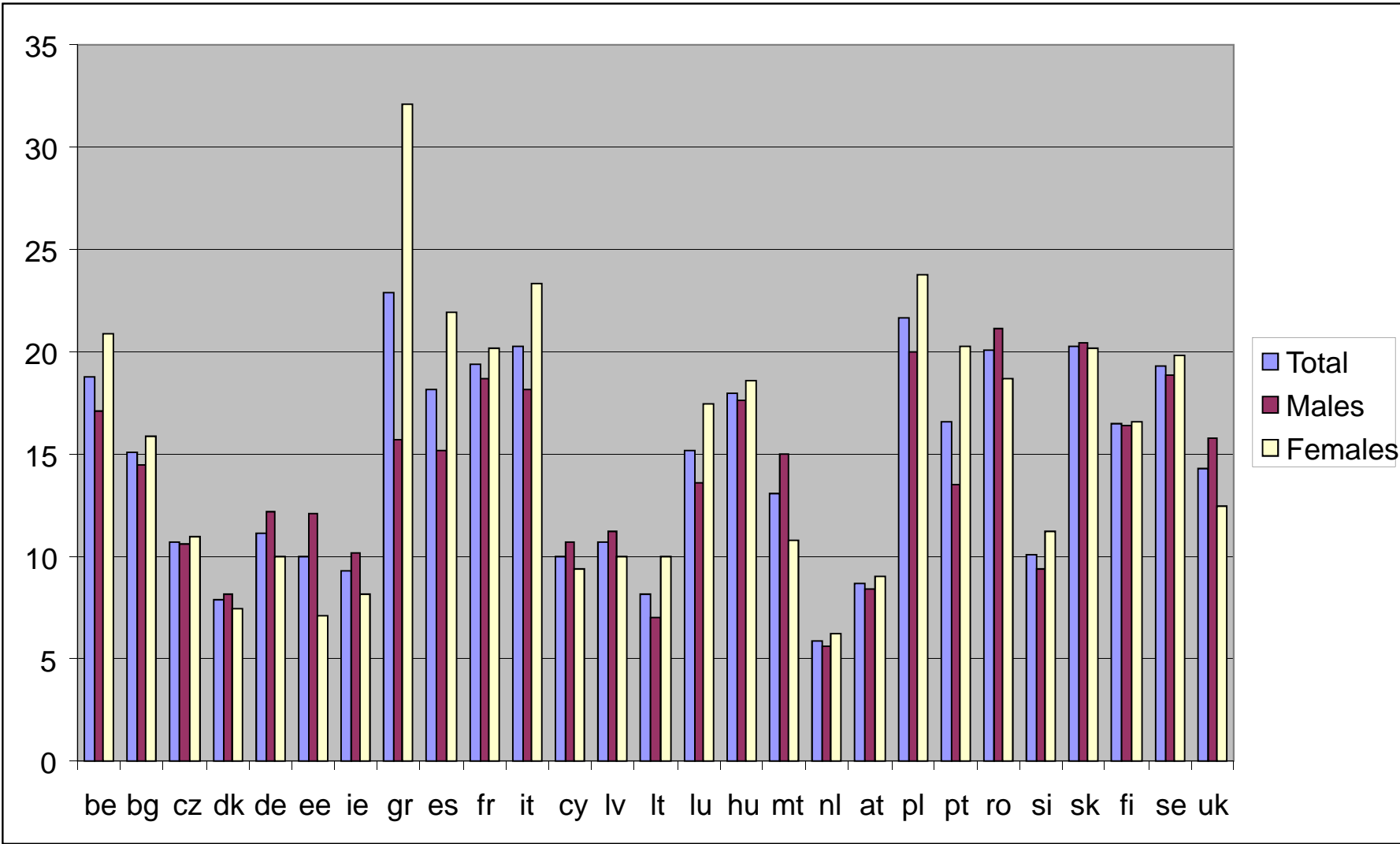


Graph 2b. Unemployment rate by age group Greece, 1986-2006 (Females)





Graph 3. Unemployment rate of persons aged below 25 in EU27 (2007)





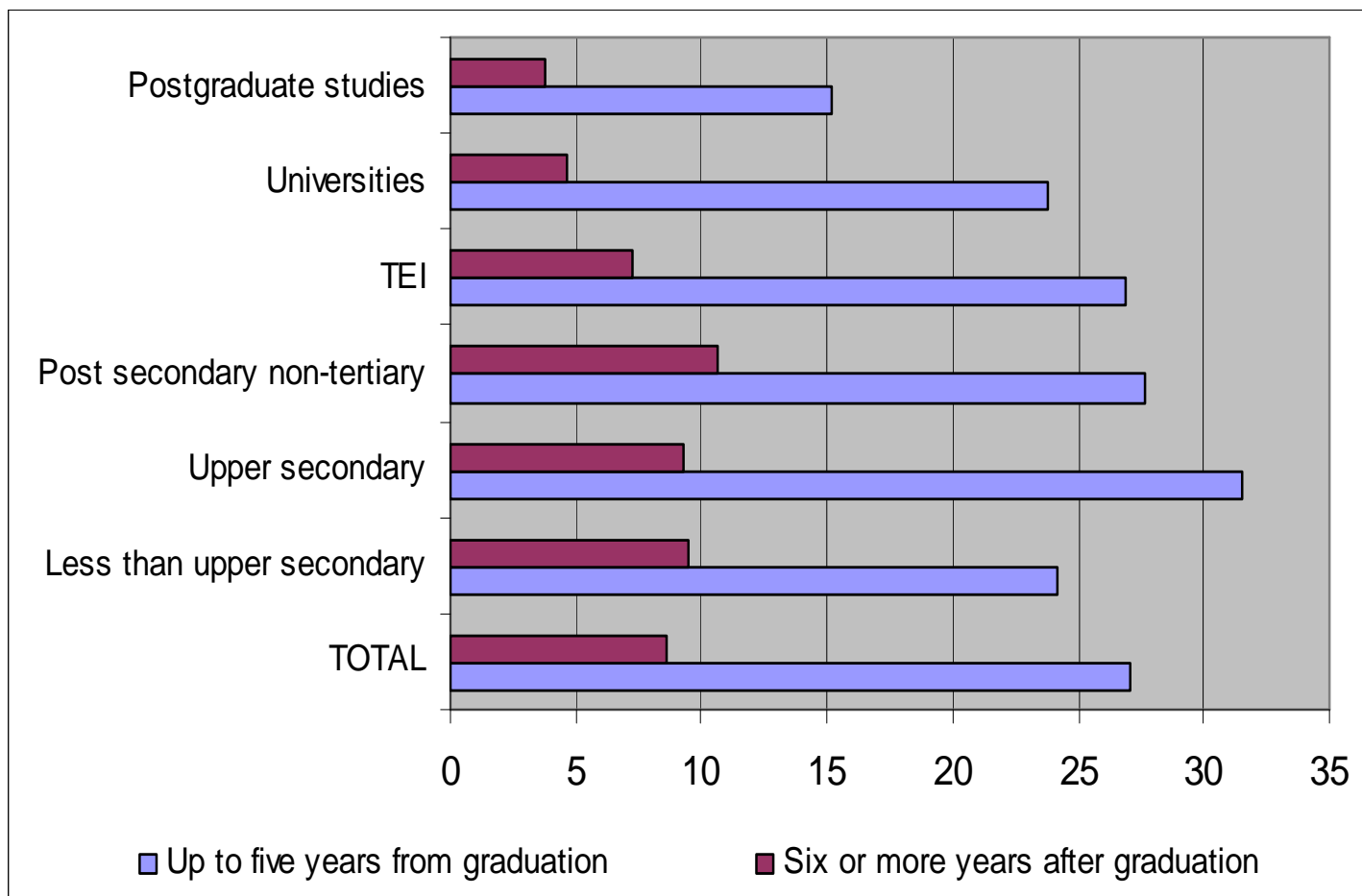
What do the data show

(Labour Force Surveys 2004-2007):

- Problem of transition to the labour market
not problem of youth unemployment *per se*



Unemployment rate by educational level





What do the data show

(Labour Force Surveys 2004-2007):

- Problem of transition to the labour market
not problem of youth unemployment per se
- This is evident in the estimated probability of
unemployment after graduation
- But there are large differences between male and female
graduates



Two-stage econometric estimation

(with selectivity correction a-la-Heckman)

Separate sets of estimates for males and females

Cross sectional estimation (not panel)

Other explanatory variables, apart from education, years from graduation and multiplicative interaction terms

Marital status

Nationality

Region of residence

Locality

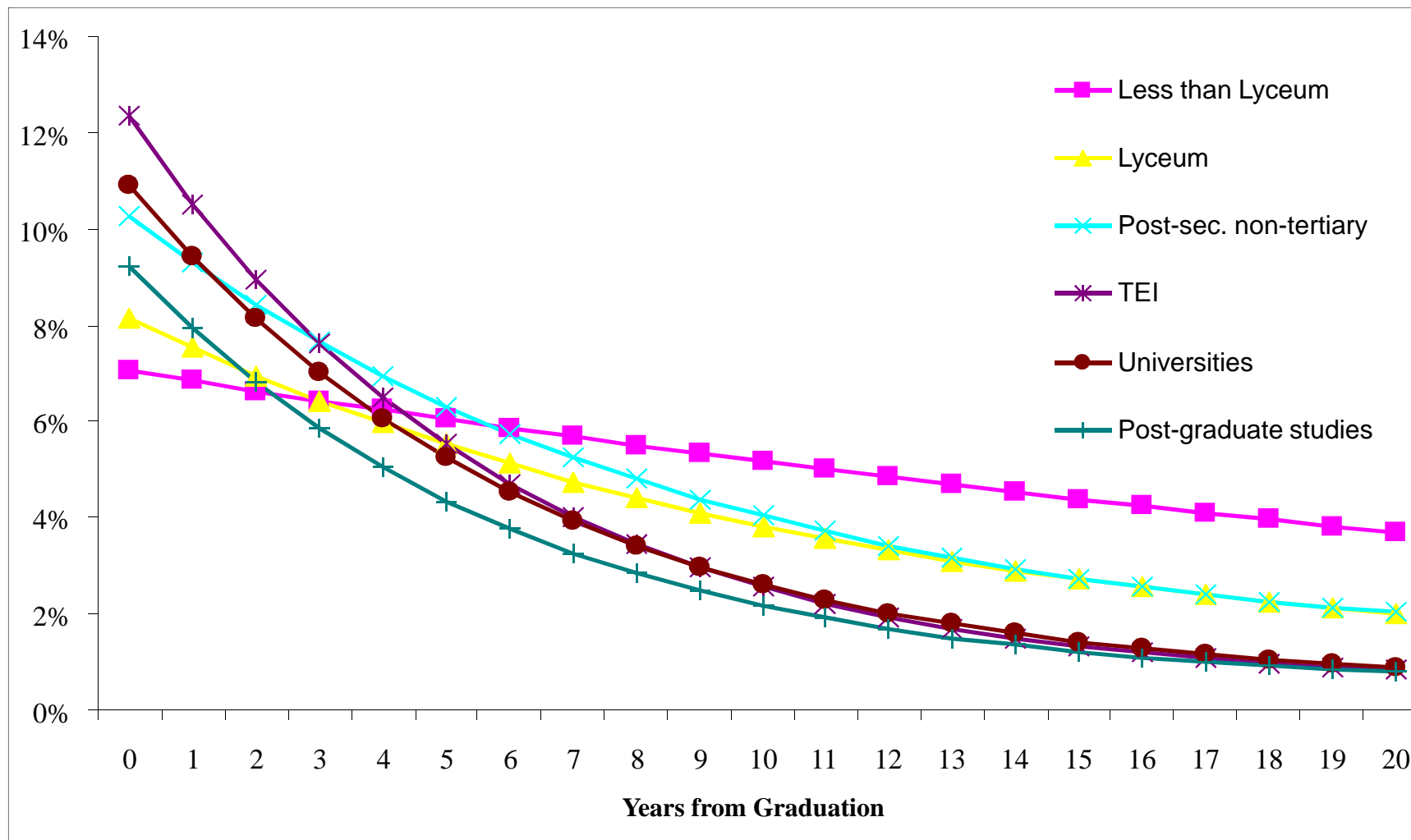
Local unemployment rate

Year

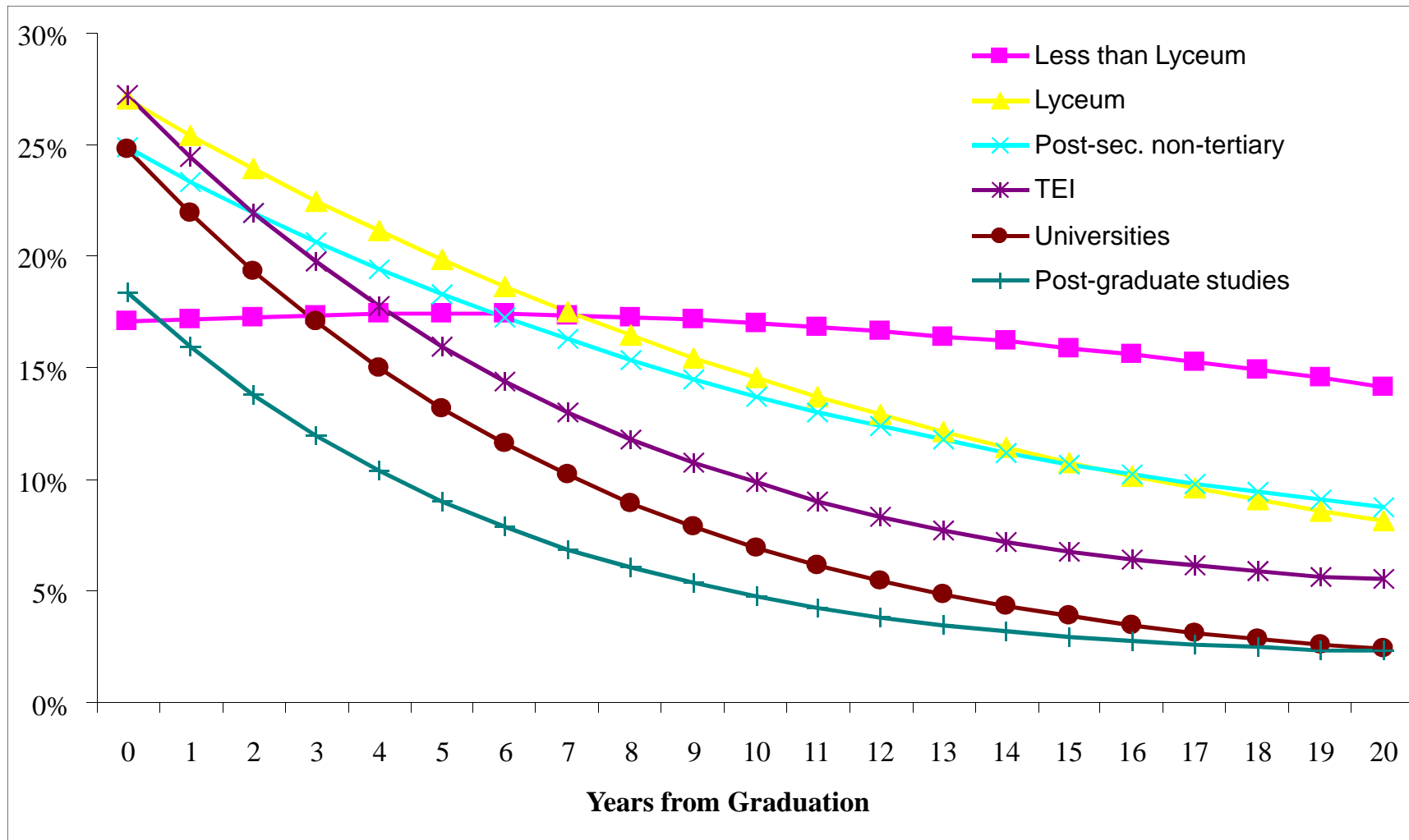
Quarter



Estimated unemployment rates for broad educational groups: Males



Estimated unemployment rates for broad educational groups: Females



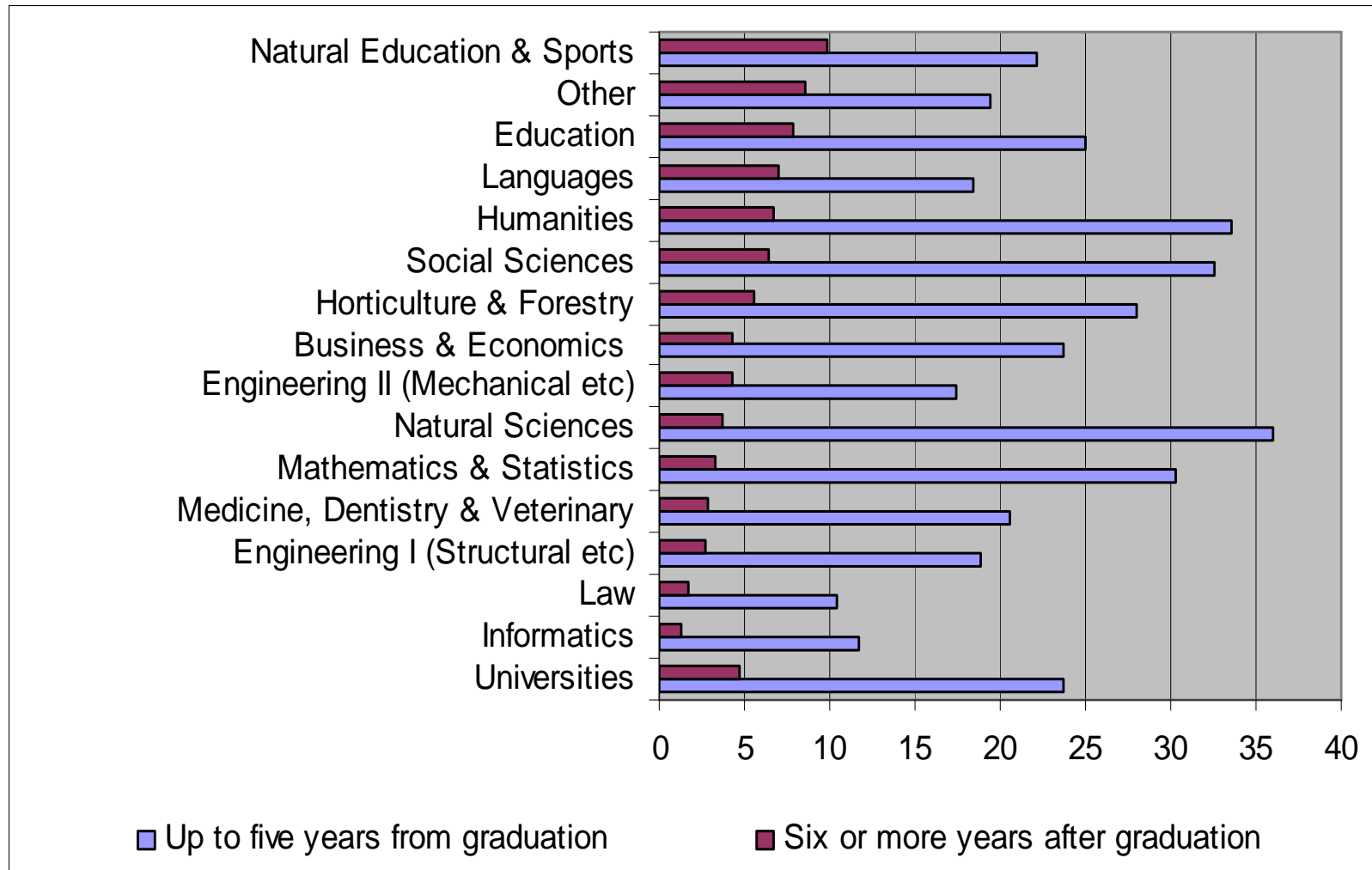


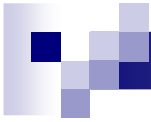
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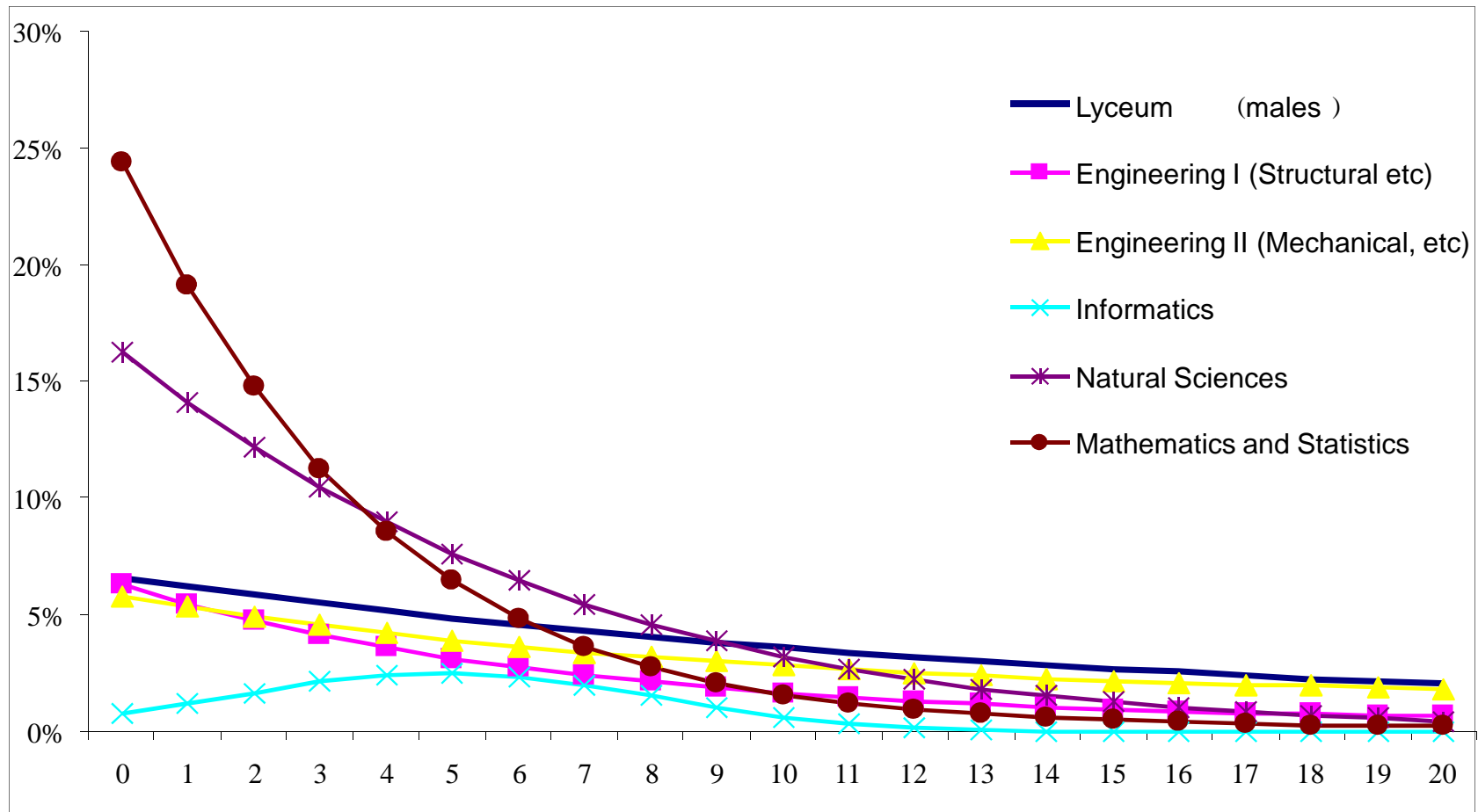
- Problem of transition to the labour market
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- This is evident in the estimated probability of
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- But there are large differences between male and female
graduates
- As well as across graduates of different disciplines

Unemployment rates of University graduates



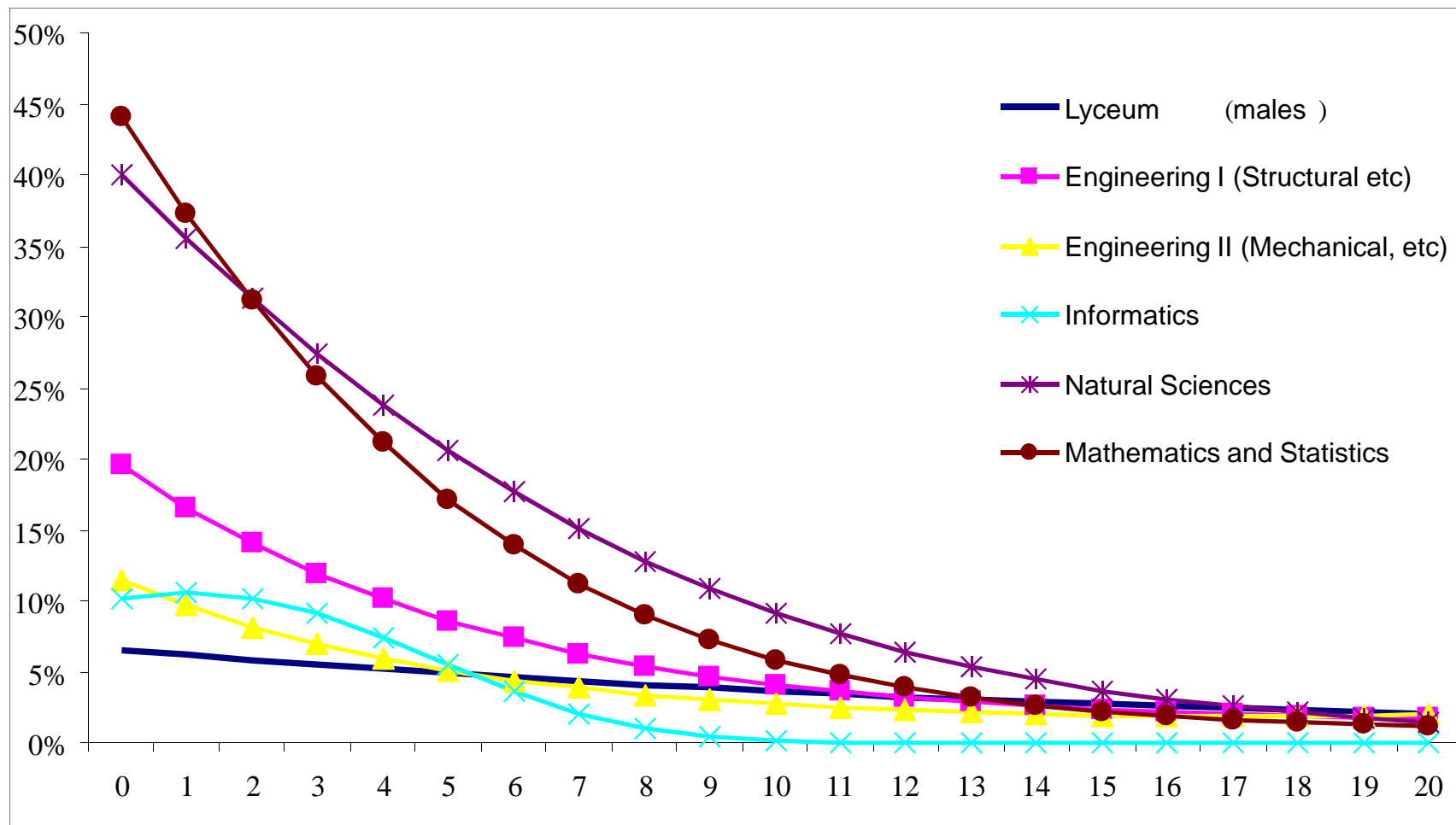


Estimated unemployment rates of male University graduates (example)





Estimated unemployment rates of female University graduates (example)



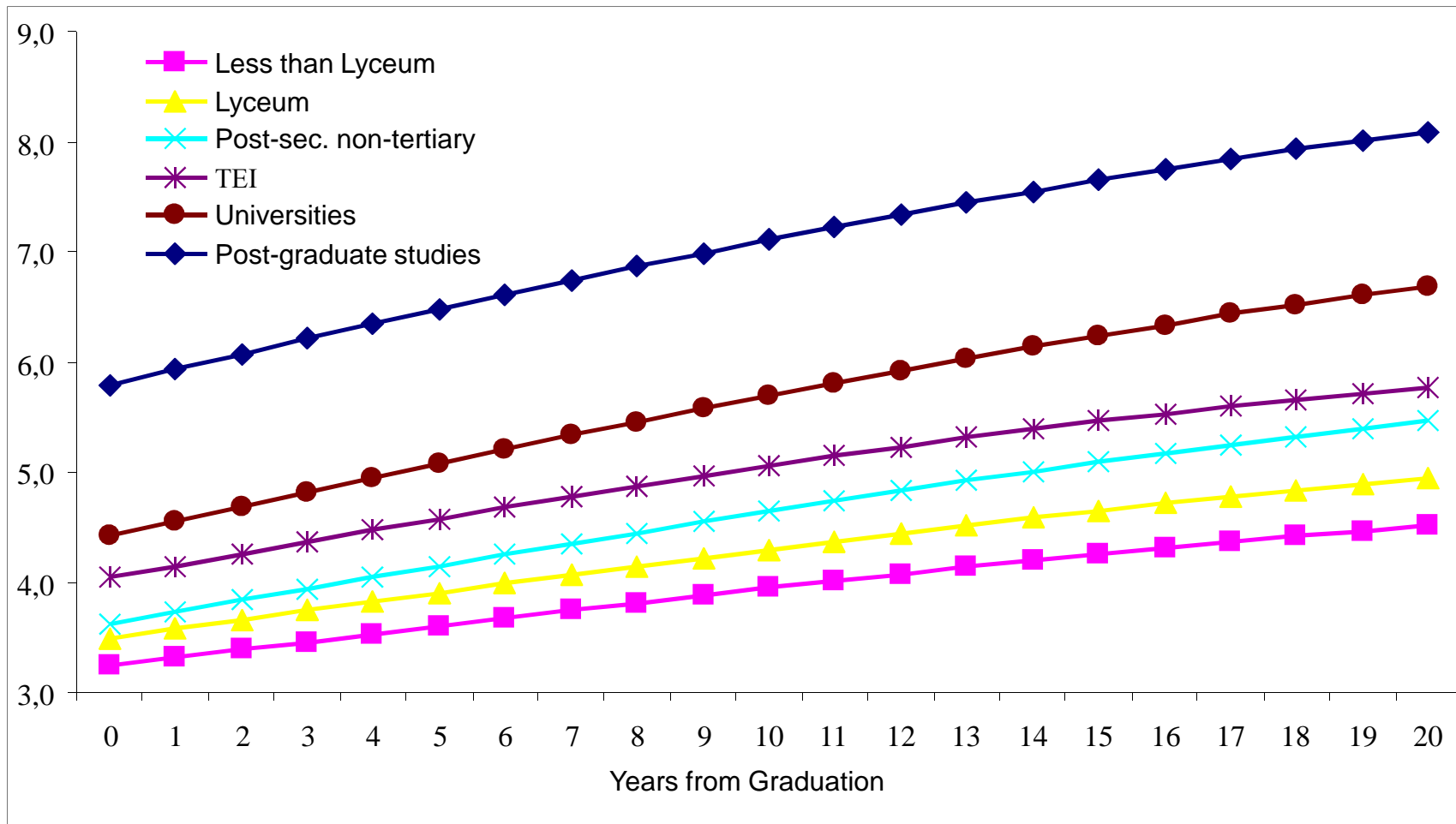


What do the data show

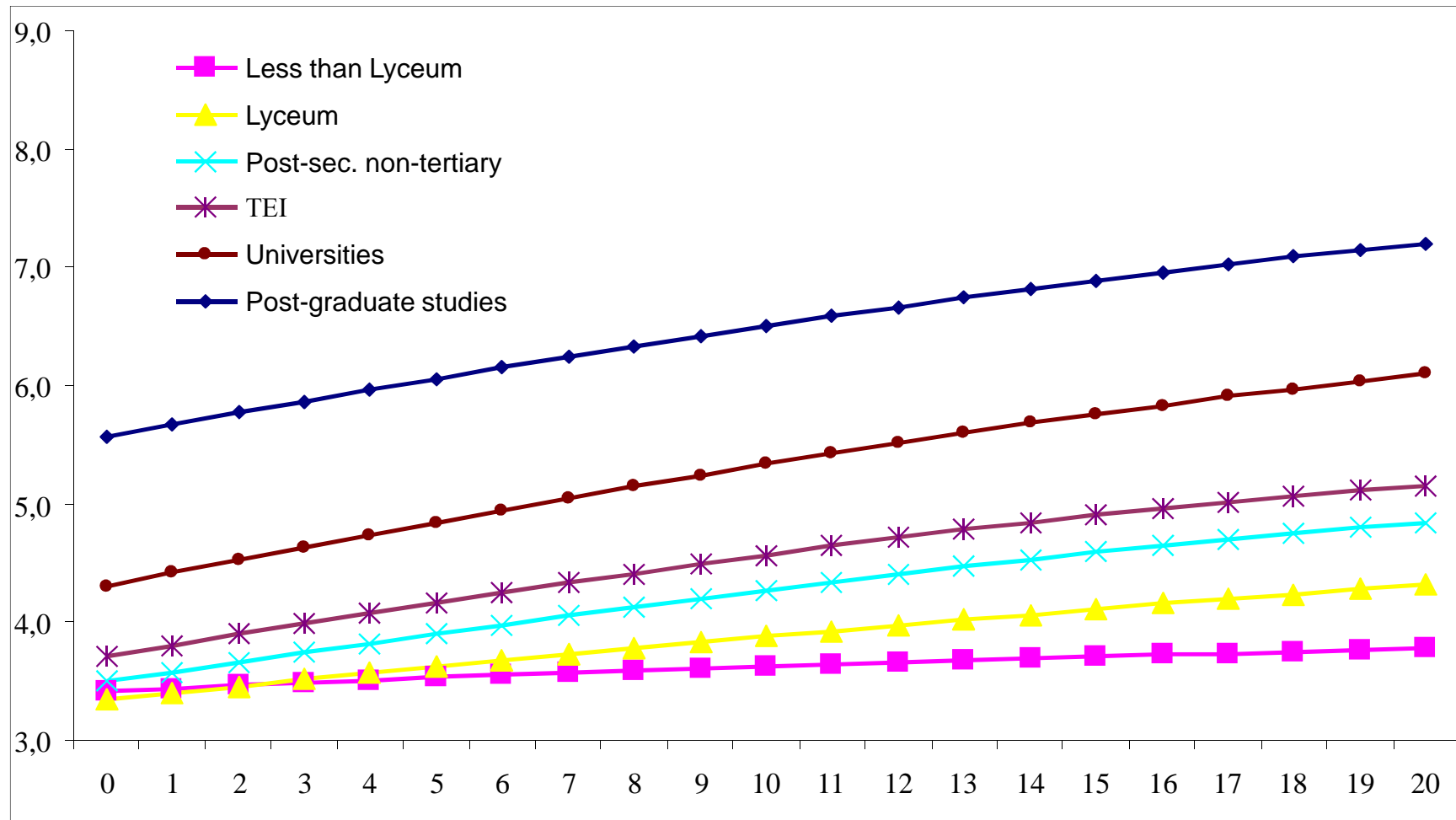
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- This is evident in the estimated probability of
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- As well as across graduates of different disciplines
- Positive relationship between hourly earnings and
education level – but large differences across sexes

Estimated hourly earnings of broad educational groups: Males



Estimated hourly earnings of broad educational groups: Females



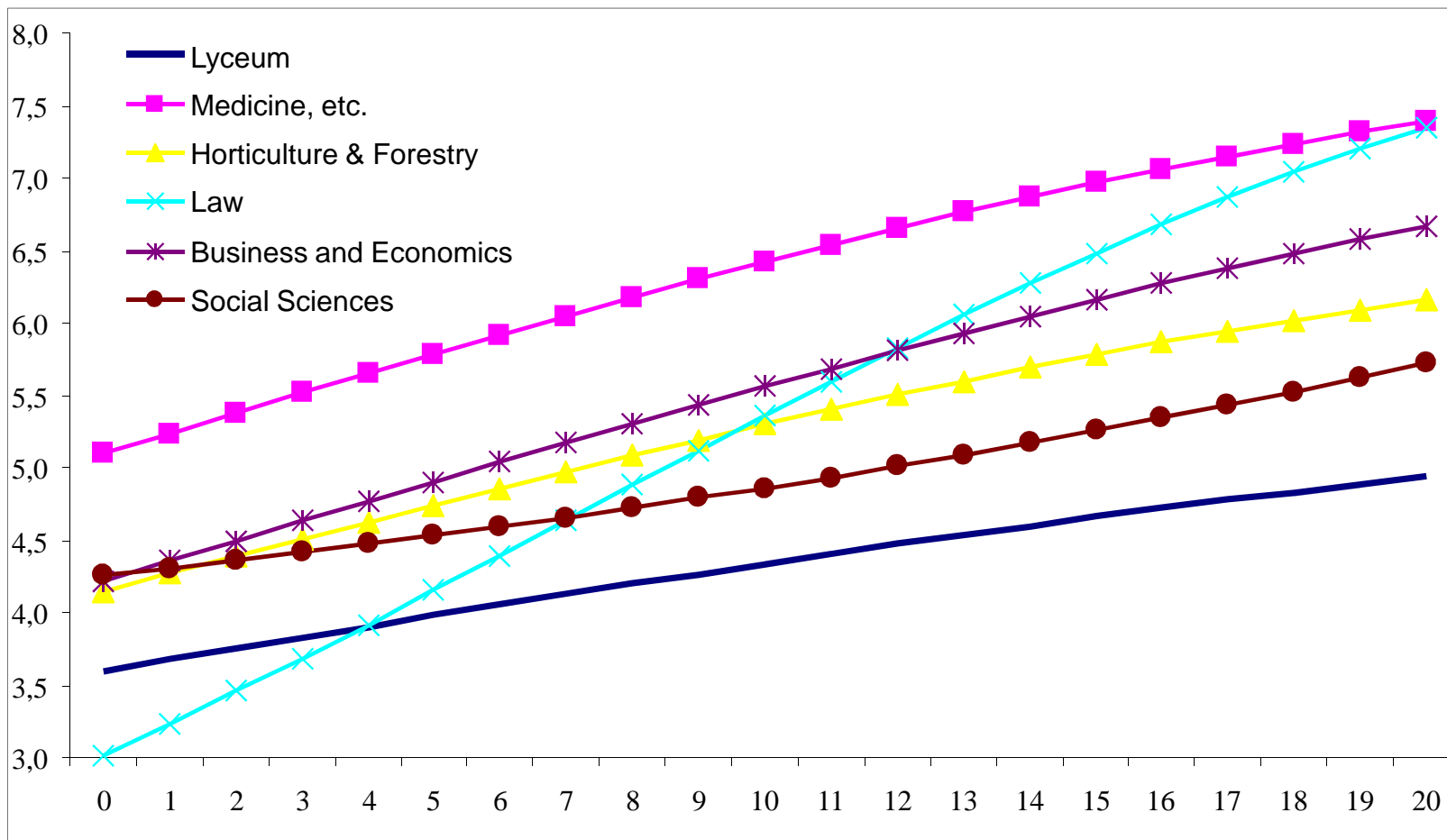


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- Positive relationship between hourly earnings and
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- And, particularly, across graduates of different disciplines

Estimated hourly earnings for particular groups of male graduates (example)

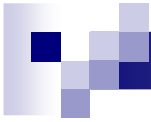




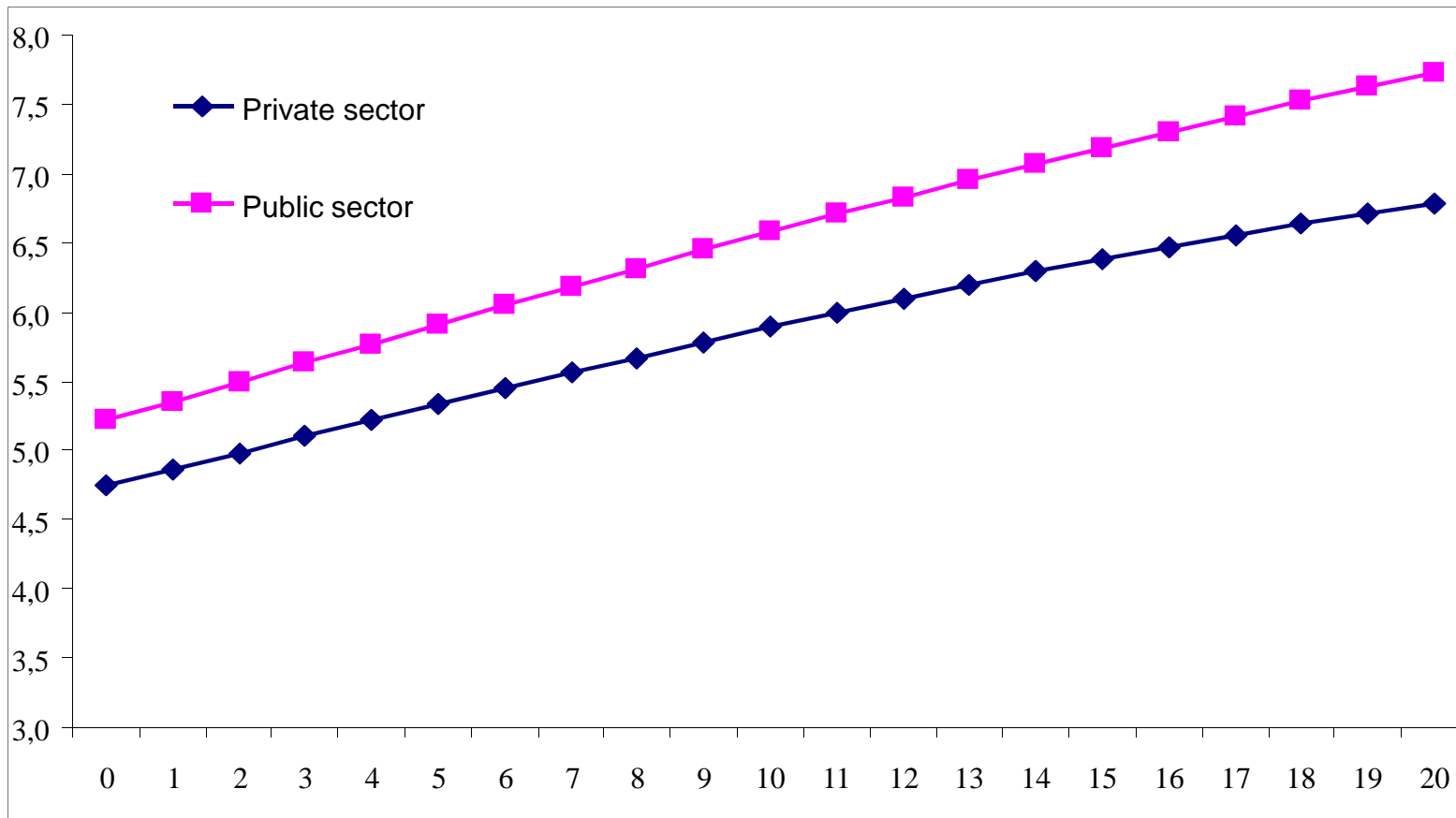
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- As well as across graduates of different disciplines
- Positive relationship between hourly earnings and
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- And, particularly, across graduates of different disciplines
- With large differentials in favour of the public sector
(esp. for females)

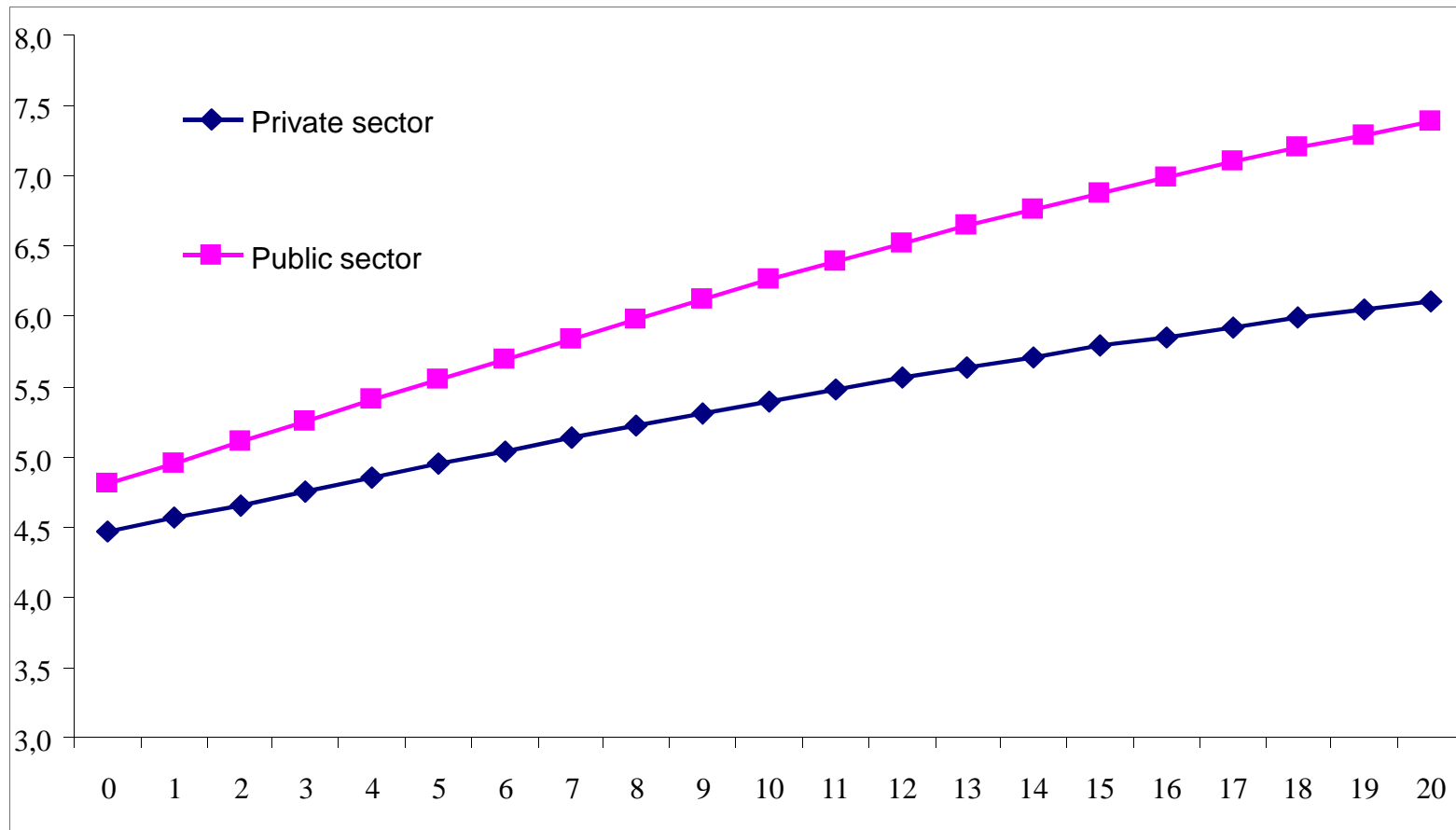


Estimated hourly earnings for University graduates by sector of employment: Males





Estimated hourly earnings for University graduates by sector of employment: Females





What do the data show

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- As well as across graduates of different disciplines
- Positive relationship between hourly earnings and
education level – but large differences across sexes
- And, particularly, across graduates of different disciplines
- With large differentials in favour of the public sector
(esp. for females)
- High(?) but very differentiated private returns to education

Private rates of return to an additional year of education

Educational Group	Male	Female
TEI		
Engineering & Electronics	7.0	8.4
Agricultural and Food Technologies	3.6	1.0
Business & Economics	5.5	6.9
Nursing & Paramedical	5.8	7.8
<i>Other</i>	3.7	9.2
Universities		
Engineering I (Structural, Architecture, etc)	5.5	7.9
Engineering II (Mechanical, Electrical, etc)	7.1	6.9
Natural Sciences	7.4	7.3
Mathematics & Statistics	5.3	7.0
Medicine, Dentistry & Veterinary	7.9	8.0
Horticulture & Forestry	4.2	3.9
Law	6.2	8.1
Business & Economics	6.5	6.9
Social Sciences	3.8	6.2
Humanities	5.7	8.3
Languages	9.9	9.8
Natural Education & Sports	4.8	6.8
Education	8.9	9.9
<i>Other</i>	7.9	7.1
Postgraduate Studies		
MA/MSc	9.3	11.5
Phd	8.0	8.0



Therefore,

- Strong private demand for tertiary education perfectly rational
 - Lower unemployment
 - Higher wage rates
 - High private rates of return
- Could these results be projected to the future even before the crisis?
 - Probably not – very large increases in supply. Demand?
- Do high private rates of return of tertiary education imply high social benefits?
 - Not necessarily. Social rates of return?



And, then, the crisis came

- Declining GDP for four years in a row
- Drastic wage cuts in the public sector
- Unemployment shot up in the private sector
 - Currently 16%
 - Over 40% for those below 25
 - Large “Brain drain”
- Do the results of the paper hold?
 - First indications: Yes
 - Unemployment hit almost proportionately all education groups
 - Wages declined more in the public sector
(but the combined effect still there)
 - Men hit more than women